Shawna Senko

From: Shawna Senko
Sent: Wednesday, March 26, 2014 8:47 AM
To: 'Diana Csank'
Subject: RE: Revised Copy of Comments for Docket No. 13031-EI

Per this message, the Sierra Club has been added as an interested person for Docket No. 130301-EI

Shawna Senko
Florida Public Service Commission
Office of Commission Clerk
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850
850-413-6770

From: Diana Csank [mailto:diana.csank@sierraclub.org]
Sent: Wednesday, March 26, 2014 8:40 AM
To: Shawna Senko
Subject: Re: Revised Copy of Comments for Docket No. 13031-EI

Good morning, Shawna:

Thank you for the email below. Yes, please list me as an interested person using the contact information in my signature block.

Best regards,
Diana

On Wednesday, March 26, 2014, Shawna Senko <SSenko@psc.state.fl.us> wrote:

Good morning Mrs. Csank,

Per this message, your comments are being placed in *Docket Correspondence - Parties and Interested Persons*, DN 01311-14, in Docket 130301-EI.

I also noticed that the Sierra Club is not actually listed as an interested person for Docket No. 130301-EI. If you would like me to add the Sierra Club, please confirm that I may use the information in your signature block below.

Have a great day,

Shawna Senko

Florida Public Service Commission

Office of Commission Clerk

2540 Shumard Oak Boulevard

Tallahassee, Florida 32399-0850

850-413-6770

From: Diana Csank [mailto:diana.csank@sierraclub.org]
Sent: Tuesday, March 25, 2014 6:25 PM
To: Records Clerk
Cc: Bradley Marshall
Subject: Revised Copy of Comments for Docket No. 13031-EI

Attached please find a revised copy of comments from Sierra Club and Earthjustice, interested persons in Docket No. 13031-EI. Should you have any questions, my contact information is below.

Best regards,

Diana

Diana Csank

Associate Attorney

Sierra Club

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Diana

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Diana.Csank@sierraclub.org

Shawna Senko

From: Diana Csank <diana.csank@sierraclub.org>
Sent: Tuesday, March 25, 2014 6:25 PM
To: Records Clerk
Cc: Bradley Marshall
Subject: Revised Copy of Comments for Docket No. 13031-EI
Attachments: 2014 03 25 NGO Comments - Revised Copy.pdf

Attached please find a revised copy of comments from Sierra Club and Earthjustice, interested persons in Docket No. 13031-EI. Should you have any questions, my contact information is below.
Best regards,

Diana

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March 25, 2014

Ms. Carlotta S. Stauffer
Director, Office of Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, Florida 32399-0850

Re: Docket No. 130301-EI, Petition To Modify Scope Of Existing Environmental Program By Duke Energy Florida, Inc.

Earthjustice and Sierra Club, on behalf of Sierra Club's over twenty-nine thousand Florida members, file these comments to reiterate that Duke Energy Florida, Inc. (Duke) should retire Crystal River units 1 and 2 (CR South) by 2016 because additional Mercury and Air Toxics Standards (MATS) compliance expenditures are not prudent. As we have shown in a series of filings before the Commission in recent years, Duke has yet to submit a plan for providing customers low-cost, low-risk power. *See* 2012 and 2013 Ten-Year Site Plan Comment Letters, attached as Exhibits A, B, and C ("TYSP Comments"). Duke continues this pattern here by failing to give the Commission—and the public—a full accounting of the costs associated with Duke's plan to temporarily comply with MATS while continuing to operate CR South. By presenting merely two options—continued operation of CR South or purchasing power—Duke offers a myopic and an unduly narrow account of what is possible over the next five years, until Duke's binding commitment to stop burning coal at CR South takes effect in 2020. Clean, low-cost, low-risk alternatives would allay concerns regarding Duke's over-reliance on natural gas. They would also continue to serve Duke's load requirements long after 2020. Yet Duke's plan for CR South would forgo any serious effort to advance such alternatives, instead opting to sink millions of dollars into old coal units that must go offline in six years to comply with the Regional Haze Rule. This is far from prudent.

The Commission should deny Duke's Petition for three key reasons: First, Duke has not fully accounted for the costs of continuing operations at CR South, especially the additional, reasonably foreseeable environmental compliance costs that arise within the next six years. Second, in the Petition and publicly available filings in Docket No. 130301-EI, Duke fails to account for how energy efficiency—the lowest-cost, lowest-risk resource—could help meet load requirements in the absence of CR South. Third, Duke has given short shrift to renewable resources, another low-cost, low-risk alternative, which could take the form of short or long-term power purchase agreements, expanded distributed generation, and even utility-scale renewable systems built by Duke to serve load requirements by 2018 and beyond.

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For these three reasons, detailed below, Earthjustice and Sierra Club maintain that Duke should retire CR South in 2016 and the Commission should deny Duke's petition. Section I discusses why additional MATS compliance expenditures are imprudent and liable to run up CR South's environmental compliance tab. Sections II and III show that to protect customers from any risk associated with retiring CR South and the possible over-dependence on natural gas which this retirement may promote, it is incumbent on Duke to emphasize efficiency and renewable energy options as alternatives to coal- and gas-burning capacity in resource planning.

I. Duke's Proposed Retrofit Is Imprudent and Duke Should Retire CR South Given The Hundreds of Millions of Additional Costs And Other Risks Associated With Continued Operation That Duke Has Failed to Disclose.

The continued operation of CR South is uneconomic for many reasons. Earthjustice and Sierra Club have repeatedly voiced our chief concern that new environmental rules will be taking effect and rendering CR South uneconomic. Compliance costs of EPA rules expected to take effect in the next six years alone will easily cost over $1 billion for CR South, dwarfing the estimated regulatory cost submitted by Duke in this docket. Units 1 and 2 were originally brought online in the late 1960s, and are operating without major pollution controls, including smokestack scrubbers. These units are an increasingly bad deal for Duke's customers: In addition to posing a serious threat to public health, as discussed in our earlier comments, they would require hundreds of millions of dollars more in compliance costs to operate—even in the short term. *See* 2012 TYSP Comments, Ex. A

Further, utilities and regulators around the country are recognizing that rising pollution control and fuel costs make coal power uneconomic. The Energy Information Administration (EIA) reports that since November 2013 utilities and generators have announced the planned retirement of 5,360 MW of coal-burning generation. *See* EIA, *Planned coal-fired power plant retirements continue to increase* (Mar. 20, 2014), http://www.eia.gov/todayinenergy/ detail.cfm?id=1549 ("EIA Coal Forecast"). Duke has a responsibility to address this industry trend favoring retirement over retrofit in Duke's plans surrounding CR South. Instead, through a piece-meal approach that only acknowledges two out of the possible six or more EPA rules that will impact CR South's continued operation over the relevant planning horizon, through 2020 and beyond, Duke has failed to substantiate the prudency of the proposed MATS and BART-only compliance expenditures. As detailed below, the upcoming EPA rules will impact CR South over the next few years, with some rules possibly impacting the units as early as this year. The resulting multi-million dollar life-extension projects that the aging units 1 and 2 would require to operate over the next six years—and that Duke has failed to disclose here—render these units uneconomic, consistent with the industry trend.

a. Impacts Of Dry Sorbent Injection On Electrostatic Precipitator (ESP) Performance – Approximately $125 Million More in Compliance Costs

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To show that the proposed MATS compliance measures will actually result in MATS compliance, Duke performed several test burns at CR South, monitoring emissions under several test conditions. The test burn results suggest—but Duke has failed to disclose—that Duke would have to spend approximately $125 million for baghouses to comply with MATS, even for just the few years CR South would operate beyond April 2016.

Recall that Duke's test conditions included the use of coal from a different source (West Elk Colorado coal as opposed to the normal Central Appalachian coal), and the addition of hydrated lime and activated carbon as injectants at varying rates. While these test results demonstrate that Duke *may* be able to meet the MATS emissions limitations using a combination of West Elk Coal, hydrated lime injection, *and* activated carbon injection, these test results also include very worrying data regarding the performance of the ESP in its ability to remove particulate matter (PM) from the emissions of CR South.

As shown in attached Exhibit D, the MATS test burn results show a marked increase in PM emissions over the baseline emissions established during the first test runs. Further, the test burn results show that PM emissions more than doubled during the test trials using hydrated lime and/or activated carbon. No surprise here; DSI can inhibit the efficiency of ESPs. Although Duke claims that Duke will make changes to CR South's ESP, such changes would likely be insufficient for Duke to avoid New Source Review, or to avoid going over PM emission limits (currently set at 0.1 lb/MMBtu). New Source Review is triggered by the addition of a "significant" increase of a criteria pollutant, defined as 25 tons per year, including PM, due to any kind of modification. As the test burn results show, New Source Review will be triggered by Duke's current MATS compliance plan, which will require the installation of the best available control technology. 42 U.S.C. § 7475. Based on the MATS test burn results, for example, for Crystal River unit 1, PM emissions for the baseline averaged approximately 0.05 lb/MMBtu (this baseline is not necessarily the baseline the utility would use in New Source Review calculations, but is illustrative of the approximate baseline Duke Energy would need to use). At 92% load, using the West Elk coal and the hydrated lime and activated carbon, PM was emitted at a rate of 0.119 lb/MMBtu, more than double the baseline rate under the same loading conditions. Heat input at the time was about 3,400 MMBtu per hour. PM was emitted at a rate of 0.069 lb/MMBtu in excess of baseline conditions. At that rate of excess emissions, Crystal River unit 1 will emit over 1,000 pounds of extra PM a year over baseline, well over significance thresholds. Crystal River unit 2 produced almost identical MATS test burn results.

To control the increased PM emissions due to the inhibited ESP performance, comply with current permit limits, and comply with New Source Review, Duke will have to install baghouses under the current MATS compliance plan for CR South. This retrofit will cost Duke—and Duke's customers—approximately $125 million. *See* attached Exhibit E (showing approximate costs of baghouse retrofit on coal unit). This is not the only area where Duke has grossly underestimated the environmental compliance costs of continuing to operate CR South.

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b. <u>1-Hour SO_2 National Ambient Air Quality Standards – Approximately $445 Million More in Compliance Costs</u>

MATS compliance aside, CR South will require a scrubber to comply with the SO_2 National Ambient Air Quality Standards ("NAAQS"), *see* 40 C.F.R. § 50.17, which would cost Duke—and Duke's customers—approximately $445 million. *See* Exhibit F, BART documentation at 47. The NAAQS are public health protections that aim to maintain the air quality at the minimum standard needed to protect public health. The new 1-hour annual ambient air quality standard for SO_2 is 7 parts per billion. As shown in the attached Exhibit G, Crystal River SO_2 emissions cause gross violations of this standard that Duke will be forced to correct.

More specifically, emissions at Crystal River will have to be reduced by 79.1%, with an average SO_2 emission rate of 0.25 lbs/MMBtu. *See* Exhibit G at 4. Based on the test burn results provided by Duke regarding MATS compliance, switching to lower sulfur coal for units 1 and 2 for MATS compliance will aid with NAAQS compliance, but not nearly enough to achieve full compliance. According to the Continuous Emissions Monitoring data during the test burn time period, and excluding when Appalachian coal was used (as SO_2 emissions were significantly higher during this time period, thus making the following analysis more conservative, assuming *arguendo* that Duke will switch to a lower sulfur coal), *see* Exhibit D, Crystal River unit 1 emissions for SO_2 averaged 0.739 lbs/MMBtu while burning low sulfur coal, and had an average heat input of 2954 MMBtu/hour. Notably, this average heat input rate is lower than normal for Crystal River unit 1, as Duke performed the test burn with loads as low as 70%, and only as high as 92% (see Exhibit D, test burn results). Crystal River unit 2 averaged 0.710 lbs/MMBtu for SO_2, and had an average heat input of 3851 MMBtu/hour. Unit 4, as a basis for comparison and because the NAAQS compliance will have to be accomplished on a facility wide basis, averaged 0.120 lbs/MMBtu for SO_2, with an average heat input of 5709 MMBtu/hour. Unit 5 averaged 0.105 lbs/MMBtu for SO_2, with an average heat input of 5108 MMBtu/ hour while operational. Even with the lower emissions rates from Crystal River units 4 and 5, the facility average for the plant was still 0.348 lbs/MMBtu for SO_2. Because of the conservative assumptions of these calculations, and the artificially lower loading at units 1 and 2 because of the nature of the MATS testing, in actual operation, this emissions rate is likely to be significantly higher, even assuming that Duke Energy will use low sulfur coal at units 1 and 2 as they did for most of the MATS compliance testing. In any case, this testing demonstrates that the Crystal River facility, because of units 1 and 2, is well in excess of the SO_2 emissions rate of 0.25 lbs/MMBtu needed for compliance with the NAAQS standard, even if Duke Energy switches to low sulfur coal (for the Continuous Emissions Monitoring Data used to calculate these averages, *see* Exhibit H).

This means that it is likely that a scrubber will be required for NAAQS compliance as long as CR South is operational. The installation of a scrubber at Crystal River will cost Duke Energy, and ultimately its ratepayers, approximately $445 million. *See* Exhibit F, BART documentation at 47. As is clear by now, any investments in the

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continued operation of CR South cannot be prudently incurred when such necessary and expensive environmental compliance measures are at hand.

c. Cross-State Air Pollution Rule – Approximately $182 Million More in Compliance Costs

The Cross-State Air Pollution Rule, also known as the Good Neighbor Rule, is designed to prevent upwind states from causing violations of the NAAQS in downwind states. Complying with this Rule would require Duke to spend significant sums on NOx allowances for CR South, if such allowances are even available on the market, or, more likely, Duke will have to retrofit CR South with selective catalytic reduction (SCR) at a cost of approximately $182 million.

The Cross-State Air Pollution Rule, 76 Fed. Reg. 48 (Aug. 8, 2011) is currently before the United States Supreme Court. *See Environmental Protection Agency v. EME Homer City Generation*, No. 12-1182 (2013). Under this version of the Good Neighbor Rule, the historic baseline of NO_x emissions for ozone season for the entire Crystal River facility is 17,881 tons per ozone season each year. With the installation of selective catalytic reduction (SCR) on Crystal River units 4 and 5, NO_x emissions have fallen on a facility-wide basis for Crystal River, but have not decreased enough. Crystal River will get allocations to emit 2,850 tons of NO_x per ozone season per year, but in 2013, emitted 3,940.6 tons of NO_x during the ozone season. *See* Exhibit I. CR South, on its own, emitted a total of 2,706 tons of NO_x during the ozone season. Under the Cross-State Air Pollution Rule, CR South will only be allocated 892 tons of NO_x to emit during the ozone season. Therefore, Duke would have to spend significant sums on buying the allowances, needed to make up the shortfall, if available, or, more likely, Duke would have to retrofit CR South with SCR at a cost of approximately $182 million. *See* Exhibit F at 49. Moreover, the Cross-State Air Pollution Rule could come into effect shortly after the Supreme Court renders a decision, which is expected this year. In other words, Duke—and Duke's customers—would likely face this cost by 2015 if CR South continues to operate.

d. Cooling Water Intake Structure Rule – Approximately $45 to $780 Million More in Compliance Costs

Another rule that will have a costly impact on CR South—likely between $45 million and $780 million—is the Cooling Water Intake Structure Rule, set to be finalized by April 17, 2014, *see* Exhibit J. This rule is intended to establish requirements under section 316(b) of the Clean Water Act. *See* 76 Fed. Reg. 22174 (Apr. 20, 2011). The Rule would establish national requirements regarding the location, design, construction, and capacity of existing cooling water intake structures with a technology standard reflecting the best technology available for minimizing adverse environmental impact. The purpose of this is to minimize adverse environmental impacts by substantially reducing the harmful effects of impingement and entrainment that currently occurs at cooling intake structures. Large coal plants with once through cooling water, including CR South, cause the greatest harm. The environmental harm these structures cause is

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immense, and thus, so are the proposed solutions by EPA. EPA proposed several options for addressing this problem. As shown in Duke's ten-year site plan, depending on which option EPA chooses, compliance costs for CR South would run between $45 million and $780 million. *See* Exhibit K at 42. EPA's decision should be published by the time the Commission makes a decision on this docket. Therefore, the Commission should include the expected environmental compliance costs of this rule in its consideration of Duke's Petition; there is absolutely no excuse for Duke's omission of such costs.

e. Coal Ash Residuals Rule

In 2010, EPA issued a proposed rule for regulating the disposal of coal combustion residuals under the Resource Conservation and Recovery Act. 75 Fed. Reg. 35,128 (June 21, 2010). Coal combustion residuals contain many harmful toxins, including mercury and arsenic. Coal ash spills around the country, most recently in the Dan River, illustrate the danger presented by coal combustion residuals which turn water into toxic sludge. Depending on the approach EPA adopts in the final rule, this could significantly increase the cost of disposal of coal combustion residuals, including for CR South. The final rule should be issued by December 2014.

f. Effluent Limitations Rule

EPA has also recently proposed an effluent limitations rule for existing power plants. 78 Fed. Reg. 34432 (June 7, 2013). Compliance will be required by July 2017. As noted by EPA, power plants alone contribute 50-60 percent of all toxic pollutants discharged to surface waters by all industrial categories currently regulated. EPA is considering 8 different regulatory options for establishing different technology standards that could include significant new treatment requirements to ensure coal power plants stop destroying our water. The costs for CR South to comply with this rule will certainly be millions of dollars, although an exact estimate is difficult considering it is unknown which option EPA will choose.

These new environmental compliance rules show that it will cost hundreds of millions of dollars, probably over $1 billion, just to bring CR South into compliance with environmental regulations. Considering that CR South is already mandated to retire by the end of 2020, investments of such large sums of money cannot be considered to be prudently incurred. Duke Energy's ratepayers are already on the hook for the failed Crystal River unit 3 nuclear power plant, and for the proposed and now indefinitely postponed Levy Nuclear project. These ratepayers should not be on the hook for hundreds of millions of more dollars spent on a power plant that will not be able to produce power because of a mandatory retirement. As described in more detail in sections II and III, Duke should be investing its money in energy efficiency and renewable energy to meet the energy needs of Floridians, instead of wasting money on two aging coal units that have no future and must go offline by 2020 to comply with the Regional Haze Rule.

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II. Energy Efficiency Is The Least-Cost, Least-Risk Resource, And The Commission Should Require Duke To Show To What Extent Energy Efficiency Investments Could Obviate The Need For The Proposed Expenditures.

Energy efficiency can rapidly produce hundreds of megawatts in savings; savings that are sufficient to replace, at least in part, load requirements now met by CR South. Notably, through utility-sponsored energy-saving measures Florida has already reduced total electric energy consumption by an estimated 8,937 gigawatt-hours (GWh), and achieved demand savings that have deferred the need for up to 60 typical 150 MW combustion turbine units. *See* FPSC, Annual Report on Activities Pursuant to FEECA (Sept. 2014), at 1 ("2014 FEECA Report"). The cost-effectiveness of such measures is beyond dispute. *See, e.g.*, Galligan et al., *Evaluation of Florida's Energy Efficiency and Conservation Act* (Dec. 7, 2012) at 9 (concluding "Florida's DSM program costs per unit of energy saved and capacity avoided are cost-effective compared with Florida's average costs for electricity, and are in line with costs in similarly situated states."); *see also* Billingsley et al., *The Program Administrator Cost of Saved Energy for Utility Customer-Funded Energy Efficiency Programs*, Lawrence Berkeley National Laboratory (Mar. 2014), at xi, attached as Exhibit L (reporting on energy efficiency program cost data from more than 100 program administrators in 31 states, primarily for the years 2009–2011 and finding that the national average levelized cost of energy savings is 2.1 cents per kilowatt-hour, cheaper than any generation and most purchased power.).

Yet Duke's Petition and the publicly available filings are virtually silent on efficiency. This omission is inexcusable because Earthjustice and Sierra Club have repeatedly called on Duke to fully incorporate efficiency into resource planning, including the plans for CR South, as required by Florida law and recommended by industry best practice. *See* TYSP Comments, Ex. A–C.

Efficiency is a viable option here. Recall that units 1 and 2 are currently rated to produce 370 MW and 499 MW net, in the summer months. *See* Document No. 00692-14, CR South Environmental Compliance Study (Dec. 2013), at 3. Further, Duke estimates that continued operation would reduce the nominal full output of the units by 15%, but the changes needed to the electrostatic precipitators may drive down output even further. *Id*. In sum, Duke needs less than 740 MW to replace the capacity from the two units.

Potentially, Duke could cost-effectively replace this capacity with energy efficiency, if Duke were to match other utilities—including Duke's very own sister subsidiaries—and move to incremental annual energy savings of 1% to 2% relative to sales over the next five or six years. As Table 1 below shows, if Duke were to expand its DSM program in Florida to the levels achieved by Duke in North Carolina or Duke in Ohio, Duke would provide peak load savings close to 740 MW or exceed 740 MW within 5 to 6 years.

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Table 1. Comparison of Potential Summer Peak Load Savings[1]

Year	Duke OH Level		Duke NC Level	
	Incremental MW	Cumulative MW	Incremental MW	Cumulative MW
1	62	62	62	62
2	111	173	76	138
3	159	332	90	228
4	207	539	104	331
5	255	794	118	449
6	303	1,097	131	580

Also, while Duke's subsidiaries in North Carolina and Ohio are more than doubling and quadrupling the incremental annual energy savings rates of Duke's Florida arm, they are generating greater benefits for Duke's customers in those states as summarized in Table 2 below.

Table 2. Comparison of Job Growth, Net Benefits, and Participant Counts for Duke[2]

Scenario	Savings level by Duke Ohio	Savings level by Duke NC	Current Duke in Florida
Annual energy savings as a percent of sales (%)	1.50%	0.65%	0.31%
Annual energy savings estimates (GWh)	546	236	112
Annual summer peak reduction (MW)	303	131	62
Annual energy savings relative to Duke Florida (%)	485%	210%	100%
Potential net job creation in the first year (# of jobs)	273	118	56
Net benefits (lifetime) ($000)	3,023	1,310	623
Program participants	623,868	270,343	128,555

[1] This analysis is primarily based on the analysis presented in Table 2. Annual incremental peak load savings were assumed to increase linearly from the current level of 62 MW to the scales achieved by Duke Ohio or Duke North Carolina.

[2] Synapse Energy Economics estimated potential DSM program impacts, excluding solar pilot programs, for Duke Florida regarding net job growth, net benefits, and program participants by scaling the current program impacts by Duke Florida to the levels currently achieved by Duke Ohio and Duke North Carolina. The summary of this analysis is presented in the table. Data source: Progress Energy "Progress Energy DSM Annual Report for Calendar Year 2012", May 1, 2013; ACEEE, "Positive Returns: State Energy Efficiency Analyses Can Inform U.S. Energy Policy Assessments," June 2008; and US EIA 861 database.

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Given these disparate levels of energy savings and related benefits, the Commission should hold Duke to account for adding more energy efficiency to its power network as an alternative to CR South's continued operation. To do so, Duke may need to purchase power for some time after retiring units 1 and 2 in 2016 to allow Duke's Florida DSM program to ramp up to point where it can fully make-up these units' capacity. Then again, again efficiency—the lowest-cost, lowest-risk resource—should be able to make-up the capacity in as little as five years.

Earthjustice and Sierra Club also urge Duke to evaluate the potential for efficiency to address the transmission concerns cited in this docket. Utilities around the country are deferring expensive transmission and distribution system upgrades through geographically-targeted energy efficiency programs. For example, Con Edison has dispatched demand-side efficiency measures to improve grid reliability in New York City and has effectively deferred upgrades in more than one third of its distribution networks. *See* Neme et al., *US Experience with Efficiency as a Transmission and Distribution System Resource*, Regulatory Assistance Project (Feb. 2012), at ii, iii, attached as Exhibit M. Notably, Con Edison's resulting savings were very close to forecast needs and provided more than $300 million in net benefits to customers. *Id.* As another example, in 2008, NV Energy in Nevada used targeted demand-side management programs such as rebates on Energy Star Appliances, commercial retrofit incentives, and low-income weatherization to avoid new transmission lines to growing parts of the state, which saved customers money on their bills through end-use efficiency and through the avoidance of costly transmission upgrades. *Id.* at 16–17. Here, in addition to accounting for efficient transmission and distribution investments options, Duke should investigate targeted non-wires alternatives, which could create immediate reductions in peak demand, decreases in congestion, and actively defer some of the costly transmission investments that Duke is currently considering.

The time is particularly ripe for Duke to advance energy efficiency due to the sweeping changes in Duke's power network, as discussed in our previous comment letters, including: closure of Crystal River unit 3, the finalization of long-delayed public health and environmental rules, flattening load requirements, and risky over-reliance on natural gas. Fortunately, Florida's comprehensive resource planning processes—namely Ten-Year Site Planning and the Florida Energy Efficiency and Conservation Act goal-setting—require Duke to fully assess the potential demand-side and supply-side energy efficiency advancements in Duke's Florida power network. Therefore, Duke should already be modeling the viability of energy efficiency as a resource option throughout its power network, and have the results readily available to present to the Commission here.

III. Renewable Resources Are Low-Risk, Low-Cost Alternatives And There Is No Excuse For Omitting Them As An Option Here.

Florida has some of the best potential for solar power in the country, yet only a small portion of Duke's power network relies on solar generation or other renewable resources. By comparison, utilities around the country are opting to purchase renewable resources like solar power—even over natural gas—citing their low costs and risk-

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hedging value against fossil fuel-burning generation. Neighboring Georgia offers a good example: Within four years (2012–2016), Georgia Power Company will add over 700 MW of solar to its network. *See* Advanced Solar Initiative, http://www.georgiapower.com/about-energy/energy-sources/solar/asi/advanced-solar-initiative.cshtml; *see also*, Ivan Penn, *Georgia utility regulator: Sunshine State to lose solar race along with football title*, Tampa Bay Times (Nov. 19. 2013) http://www.tampabay.com/news/business/energy/ georgia-utility-regulator-sunshine-state-to-lose-solar-race-along-with/2153172. The following table shows other recent examples of renewable power purchase agreements:

Table 3. 2013–2014 Examples of Renewable Power Purchase Agreements

Date	State	Utility	Resource	MW	Cost	Source
11/8/13	NM	El Paso Electric Company	Solar	35	$57.90/MWh	NM Public Regulation Commission Case No. 12-00386-UT
11/8/13	NM	Southwestern Public Service Company	Wind	199	$19.18/MWh	NM Public Regulation Commission Case No. 12-00233-UT
11/8/13	NM	Southwestern Public Service Company	Wind	249	$21.20/MWh	NM Public Regulation Commission Case No. 12-00233-UT
11/8/13	NM	Southwestern Public Service Company	Wind	250	$20.15/MWh	NM Public Regulation Commission Case No. 12-00233-UT
12/10/13	CO	Public Service Company of Colorado	Solar	170	Bids for PV solar were the least cost resource in the portfolio	CO Public Utilities Commission Decision No. C13-1566
1/2/14	MN	Geronimo Energy	Solar	20 large arrays	Solar won out against natural gas in a head to head price comparison, without state subsidy	http://www.eenews.net/greenwire/stories/1059992330/print
3/10/14	TX	Austin Energy	Solar	150	5 cents/KWh	https://www.greentechmedia.com/articles/read/Cheapest-Solar-Ever-Austin-Energy-Buys-PV-From-SunEdison-at-5-Cents-Per-Ki
3/20/14	CA	Palo Alto	Solar	398 KW	4 cents/KWh	http://www.greentechmedia.com/articles/read/Anatomy-of-a-PPA-4-Cent-Per-Kilowatt-Hour-Solar-in-Palo-Alto-CA.

Despite these industry trends, Duke has failed to account for the option of adding solar and other renewable resources more rapidly to its network. Duke has no excuse.

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Sierra Club urged in comments last year that, at a minimum, Duke should test the market and disclose the results by issuing an RFP for renewable power like GPC did. *See* 2012 TYSP Supplemental Comments, Ex. C. Further, distributed generation and self-built utility-scale solar systems are also options that Duke must explore under the FEECA goal-setting and TYSP processes, and should present here—at least as an option to serve load requirements by 2018 given the additional time potentially needed to ramp up these types of renewable resources.

IV. Conclusion

For all the reasons reiterated in this Comment Letter, Earthjustice and Sierra Club respectfully request that the Commission deny Duke's Petition. Duke's proposed expenditures to temporarily comply with MATS and keep CR South operating are imprudent. Further, to protect Duke's customers from any risk associated with retiring these units and the possible over-dependence on natural gas which they may promote, the Commission should emphasize efficiency and renewable energy options as alternatives to coal- and natural gas-burning capacity. We look forward to continuing to working with the Commission to ensure that Florida ratepayers secure healthier air and a more reliable and efficient electricity system. Should Staff or Commissioners have any questions or wish to discuss this matter, please contact one of the undersigned.

Sincerely,

/s/

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Exhibit A

July 2, 2012

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CC: Traci Matthews
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Re: Comments on Progress Energy's Ten-Year Plan Submittal

Dear Mr. Ellis and Ms Matthews:

Thank you for accepting these comments on behalf of the Sierra Club and its more than 27,000 Florida members, and on behalf of Earthjustice. We look forward to participating in the Public Service Commission (PSC)'s Ten-Year Plan review process. We are writing to help inform the Commission of serious regulatory risks which should be addressed in this Ten-Year Plan.

As you know, Ten-Year Plans are designed to provide a broad overview of a utility's "power-generating needs and the general location of its proposed power plant sites;" accordingly, plans must be "suitable" for planning purposes. F.S. § 186.801; *see also* F.A.C. §§ 25-22.070 & 25-22.071. These plans are among the many tools used by the Commission as it fulfills its statutory responsibilities to maintain "sufficient, adequate, and efficient service" and "fair and reasonable rates" for all Floridians. *See, e.g.*, F.S. § 366.03.

To do so, the Commission will have to address the implications of substantial new environmental compliance obligations at several aging coal-fired units. A recent report for state utility commissioners, primarily authored by former Colorado PSC Chair Ron Binz, puts the problem succinctly, reminding regulators that "[t]he U.S. electric utility industry, which has remained largely stable and predictable during its first century of existence now faces tremendous challenges," including the prospect of substantial retirements of coal-fired power plants. *See* Ron Binz & CERES, *Practicing Risk-Aware Electricity Regulation: What Every State Regulator Needs to Know* (2012) at 5.[1] These "retrofit or retire" decisions will lead to significant changes in the Florida coal fleet, and the PSC will be charged with managing these shifts. As Commissioner Binz writes:

> The question for regulators is whether to approve coal plant closures in the face of new and future EPA regulations, or to approve utility investments in costly pollution controls to keep the plants running. Regulators should treat this much like an IRP proceeding: utilities

[1] Attached as Ex. 1.

> should be required to present multiple scenarios differing in their disposition of the coal plants. The cost and risk of each scenario should be tested using sensitivities for fuel costs, environmental requirements, cost of capital, and so forth. In the end, regulators should enter a decision that addresses all of the relevant risks.

Id. at 9.

These comments highlight some of these important risks. The Commission should use the Ten-Year Plan informational docket to fully investigate them. We have submitted similar comments addressing plans filed by several different utilities; this filing focuses on coal-fired power plants operated by Progress Energy.

I. Progress Energy's Crystal River Plant Face Substantial Environmental Compliance Costs

Units 1 and 2 at Progress Energy's Crystal River plant were put into service in the late 1960s, and are operating without major pollution controls, including smokestack scrubbers. *See* FL DEP Air Operation Permit No. 0170004-025-AV (2011) at 6. These units are an increasingly bad deal for ratepayers: In addition to posing a serious threat to public health, they are not economic to operate. As utilities and PSCs around the country are increasingly recognizing, rising pollution control and fuel costs make coal power an unattractive proposition, especially as energy efficiency, demand-side resources, and renewable power become ever more available and as natural gas prices continue at record lows. Multi-million dollar life-extension projects for aging coal plants are not prudent in these circumstances. Progress has already told FL DEP that it will consider retiring units 1 and 2 within the next decade. *See* Progress Energy BART Implementation Plan for Crystal River Units 1 and 2 (June 2012) at 3.[2] Yet, Progress's Ten-Year Plan does not even mention these units, much less address their retirements.

Because of this striking gap, Progress's plan is not "suitable" for planning purposes. *See* F.S. § 186.801. The likely retirement of the Crystal River units has important implications for the "need … for electrical power" in its service territory, and for how that need is to be met, as well on "fuel diversity within the state," the "environmental impact" of any proposed replacement power, and the state "comprehensive plan." *See* F.S. § 186.801. The Commission should therefore ensure that Progress submits a corrected plan which discloses its intentions as fully as possible. It is particularly important to do so because Progress will face compliance obligations within the next few years that will lead to retirement decisions. The Commission can best protect Floridians by beginning the planning process for these likely retirements now.

Crystal River Units 1 and 2 are likely retirement targets because both units lack "scrubbers," the flue-gas desulfurization systems required to remove SO_2, which can cause deadly respiratory damage, from their emissions. Scrubber systems for these plants would cost tens of millions of dollars. Such an investment, and corresponding rate increase, would not be prudent

[2] Attached as Ex. 2.

when much cheaper sources of power are available. Accordingly, the Commission should work with Progress Energy to investigate retirement options for these plants.

In the discussion below, we explain the likely sources of scrubber liability for Crystal River, before briefly highlighting the many other environmental compliance costs which Progress is likely to face.

A. Likely Scrubber Liability for Crystal River Units 1 and 2

Three separate environmental and public health protection programs are likely to drive scrubber installation requirements, and hence "retire or retrofit" decisions, at Crystal River: the SO_2 National Ambient Air Quality Standards ("NAAQS"), 40 C.F.R. § 50.17, the Mercury and Air Toxics Standards ("MATS"), 40 C.F.R. Subpt. UUUUU, and the Regional Haze Rule, 40 C.F.R. § 51.308.

i. The SO_2 NAAQS

Just five minutes of exposure to SO_2 can make people sick; in fact, the causal link between this pollution and asthma attacks and other respiratory problems is the "strongest" such link which the EPA's scientific advisory board can identify. 75 Fed. Reg. 35,520, 35,525 (June 22, 2010). To protect the public from such pollutants, EPA is required to set NAAQS specifying the safe level of public exposure; states then develop state implementation plans (SIPs) to ensure that those standards are attained. *See* 42 U.S.C. §§ 7409 & 7410. EPA's decision to protect public health by lowering the NAAQS for SO_2 to a maximum allowable exposure of 75 ppb (a concentration equivalent to 196.2 $\mu g/m^3$) over an hour, *see* 75 Fed. Reg. 35,520 (June 22, 2010), thus obliges Florida to update its SIP to ensure that its citizens are protected from this dangerous air pollution.

States are generally required to submit updated SIPs "within 3 years" after EPA updates a NAAQS; because EPA finalized its NAAQS in 2010, Florida's plan is due in 2013. 42 U.S.C. § 7410(a)(1). The plan must "provide[] for implementation, maintenance, and enforcement of" the standard throughout Florida. *Id.* Although EPA's approval and review process may delay plan implementation for a year or two after submission, the Commission can reasonably expect Florida's SIP to be operating by 2015 or before.

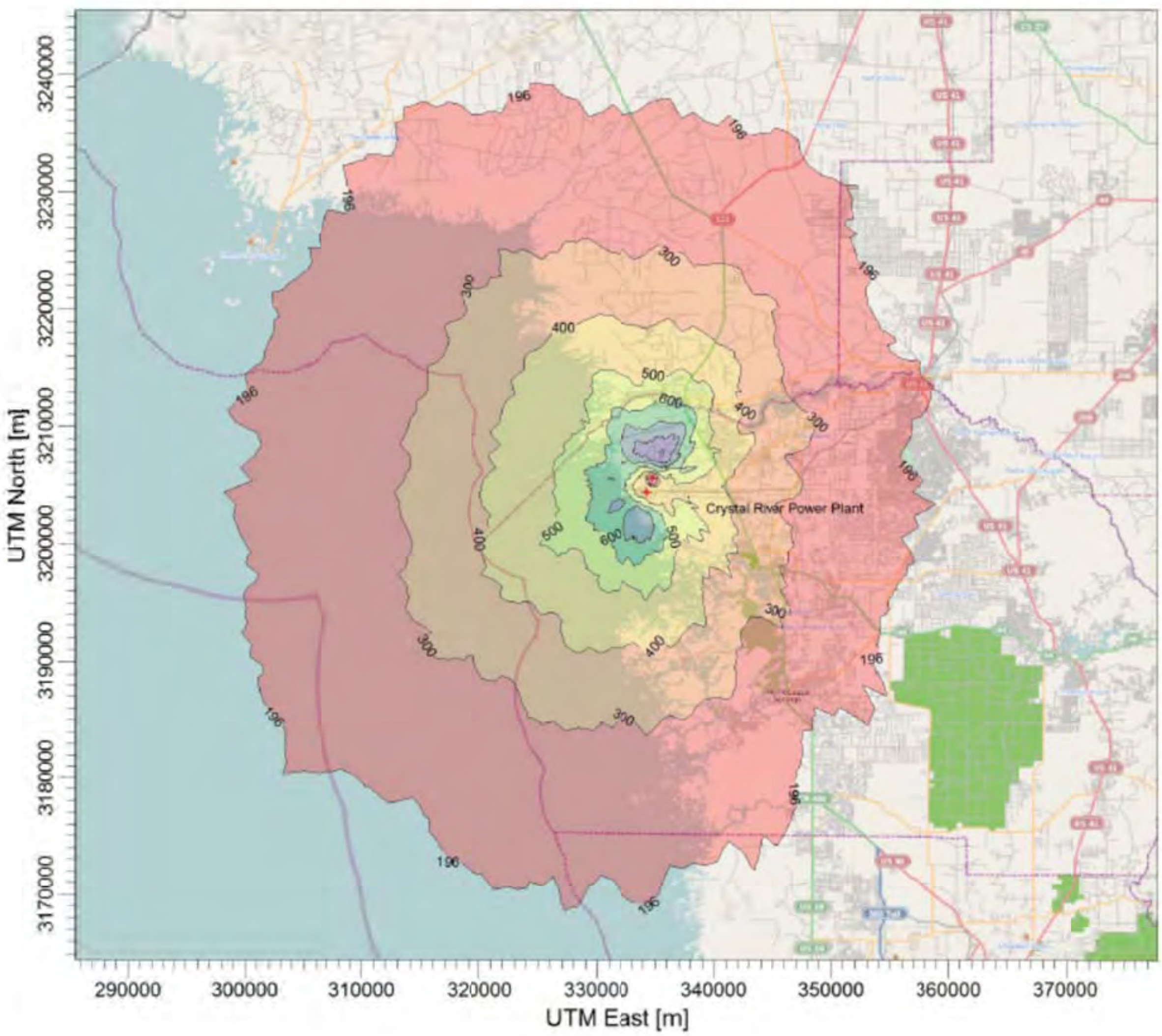
This tight timeline is directly relevant to the Commission's review of Progress Energy's plans because the Crystal River plant is causing violations of the NAAQS, and so will have to install controls under any legal SIP. Sierra Club engaged an expert air modeler, Steve Klafka of Wingra Engineering, to evaluate the plant's compliance with the NAAQS, using EPA's models and methodology.[3] We modeled both the plant's allowable emissions – those authorized by its Title V Air Operation Permit, No. 017000–025-AV, and its maximum emissions in 2011, the most recent year with complete data in EPA's Air Pollution Markets Database. Whether measured by

[3] The methodology is described in detail in the attached report, Ex. 3.

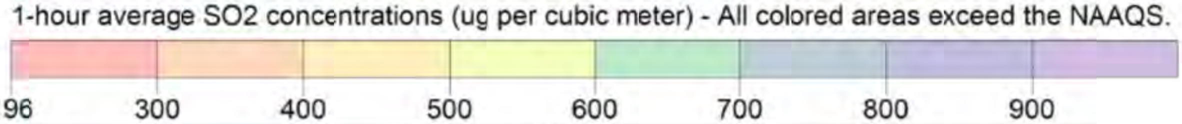
its permit or by its most recent maximum emissions, the plant causes pollutants in the air near Crystal River to reach dangerous levels.

The figure below shows the SO_2 pollution plume the plant would create when operating at its permit limits. All colored areas violate the NAAQS. While the NAAQS is set at 196.2 $\mu g/m^3$, Crystal River's permit allows pollution levels to soar to a maximum of 921.0 $\mu g/m^3$, over 460% of the safe value; even a bit further away from the plant, the pollution in the air directly over residential areas and over Crystal Bay is well above safe levels.

Crystal River Power Plant - Crystal River, Florida
Evaluation of Compliance with the 1-hour NAAQS for SO2



1-hour average SO2 concentrations (ug per cubic meter) - All colored areas exceed the NAAQS.



All concentrations include a background of 5.2 ug/m3. This figure is based on allowable emissions.	Total Sources **6**	**Conducted on behalf of the Sierra Club**	
	Total Receptors **22083**	**by Wingra Engineering, S.C.**	
	Output Type **Concentration**	SCALE: 1:580,926 0 20 km	
	Maximum **921.02714 ug/m^3**	DATE: **6/25/2012**	

Importantly, Crystal River causes NAAQS violations even when operating below its permitted maximums. Last year, the plant's highest operating hour emissions saw SO_2 concentrations reach 534.6 $\mu g/m^3$, which is nearly three times the safe value. *See* Ex. 2 at Table 1.

To reduce this illegal pollution, Crystal River would have to cut total facility emissions by 79.1% from its current permit. *Id.* at Table 3. To do so, it is highly likely to have to install a scrubber, thereby confronting hundreds of millions in control costs, which we document more fully below. Importantly, these costs will be far outweighed by public health benefits. EPA determined that the NAAQS will produce on the order of $36 billion in *net* benefits once safe levels of SO_2 have been attained. 75 Fed. Reg. at 35,588. Crystal River residents will secure a substantial portion of these benefits – in the form of fewer asthma attacks, emergency room visits, and premature deaths – once the plant's pollution has been controlled.

In short, the SO_2 NAAQS, a pollution control requirement which Progress Energy does not even acknowledge in its Ten-Year Plan, is highly likely to require Crystal River Units 1 and 2 to retrofit or retire. It is not the only requirement to do so, as we next discuss.

ii. MATS Requirements

In the Clean Air Act of 1990, Congress ordered EPA to investigate hazardous air pollutants emitted by power plants, and to promulgate emissions standards for these pollutants if they threatened public health. 42 U.S.C. § 7412(n)(1). Because coal power plants are dominant sources of mercury, acid gases, and other highly toxic pollutants, EPA was obligated to issue such standards, and finally did so in 2012, 22 years later. *See* 77 Fed. Reg. 9,304 (Feb. 16, 2012).

The final MATS rule issued in response to this Congressional mandate requires operators to control mercury and acid gases. A smoke stack scrubber can be required to comply with EPA's control requirements. In EPA's analysis of compliance options, it presumed that coal plants emitting more than 2 lbs/MMBtu of SO_2 would have to install scrubbers to comply with the standard. 77 Fed. Reg. at 9,412. Crystal River's air operation permit allows it to emit 2.1 lbs/MMBtu of SO_2, meaning that the MATS rule will likely drive scrubbers installation at the facility. *See* FL DEP Air Operation Permit 0170003-025-AV at 7. Notably, Crystal River is also the single largest source of mercury in Florida, dumping more than 300 kg of mercury a year into the air around the plant.[4] On both counts, MATS compliance will, accordingly, be a major focus for the facility.

[4] *See* Laura S. Sherman *et al.*, *Investigation of Local Mercury Deposition from a Coal-Fired Power Plant Using Mercury Isotopes*, Environment Science & Technology (2012), attached as Ex. 4.

The Clean Air Act requires that existing sources comply with MATS "as expeditiously as practicable, but in no event later than 3 years after the effective date" of the standard. 42 U.S.C. § 7412(i)(3). Because MATS was promulgated and effective on February 16, 2012, plants must comply by that date in 2015. Although limited compliance extension of up to 1-2 additional years may be available in some limited circumstances, *see id.*, these extensions are disfavored. Accordingly, Progress Energy will have to scrub Crystal River by 2015, or shortly thereafter, or retire the facility, yet it entirely fails to acknowledge this major shift in its operations in its Ten-Year Plan.

iii. Regional Haze Requirements

Since 1977, the Clean Air Act has required EPA and the states to make "reasonable progress" towards restoring natural visibility in Class I areas – which are, essentially, national parks and wildernesses. *See* 42 U.S.C. § 7491. EPA has been very slow to implement this mandatory duty, but its rule to address regional haze, promulgated in 1999, are now being implemented, and Florida is the process of a SIP revision intended to protect Class I areas affected by sources in the state. *See* FL DEP, *Regional Haze Plan for Florida Class I Areas* (Draft as amended May 2012).[5]

The regional haze rule requires that Florida impose controls at all sources of visibility-impairing pollutants to the extent such controls will be needed to make reasonable progress towards restoring natural visibility by 2064. *See* 40 C.F.R. § 51.308(d)(3). The Act and the Rule also require sources which were in existence by August 7, 1977, but which had not been in operation before August 7, 1962, to install "the best available retrofit technology" (BART) to control visibility-impairing pollutants. 42 U.S.C. § 7491(b)(2)(A) & 40 C.F.R. § 51.308(e). FL DEP has determined that the Crist facility is subject to BART. *See* FL Draft Regional Haze Plan at 102.

FL DEP had planned to rely upon a separate EPA SO_2 trading program, the Clean Air Interstate Rule ("CAIR") to address these requirements, but CAIR has been replaced with a new program which does not control SO_2 in Florida. *See* 77 Fed. Reg. 31,240, 31,248 (May 25, 2012). As such, FL DEP is reanalyzing control options and will have to propose source-specific control requirements for Crystal River Units 1 and 2.

These controls are likely to drive scrubber requirements because, according to FL DEP, SO_2 is the dominant source of visibility-impairing pollution in Florida. *See, e.g.*, FL Draft Regional Haze Plan at 91-92. Progress Energy has indicated as much to FL DEP. In a 2009 BART permit, Progress Energy agreed to retire the Crystal River units by December 31, 2020, as long as the second unit of its proposed Levy County nuclear facility was operating by that time.[6] Just a few weeks ago, Progress submitted an updated BART implementation plan to FL DEP indicating that, whether or not the Levy County facility comes online, it would either install a

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[5] Available at http://www.dep.state.fl.us/air/rules/regulatory/regional_haze_imp.htm.
[6] *See* Air Permit No. 0170004-017-AC (Feb. 26, 2009) at 6, attached as Ex. 5.

scrubber (by 2018 or 5 years after Florida's haze SIP is approved), retire the units by December 31, 2020, or limit operations to keep the plant's operations below BART limits.[7] Because BART determinations will be approved within the next year, it is not at all clear how Progress expects to run its plants until 2020. Retirement within the next few years is the more likely option.

iv. Scrubber Costs

We have calculated the approximate cost of installing and running scrubbers (at 90% efficiency, a level which would likely be required, at a minimum, to meet the requirements of all three relevant rules) at Crystal River Units 1 and 2, based upon the EPA's Integrated Planning Model and a scrubber-focused appendix developed by Sargent & Lundy.[8] This model predicts that the capital costs for fitting these units with scrubbers as $486 million. The result (including operational costs) would be a $36.6/MWh spike in incremental costs. Progress Energy would no doubt seek to pass these costs on to rate-payers if it opted to continue to run the plant, rather than to retire it. These expenditures are extraordinarily high simply in order to extend the lives of these decades-old, expensive, coal-fired power plants.

B. Other Environmental Liabilities

Scrubber costs are not the only liabilities Crystal River faces. There are also pending rules requiring upgrades to coal plant cooling water systems, *see* 76 Fed. Reg. 22,174 (Apr. 20, 2011), better handling and disposal practices for coal combustion waste, *see* 75 Fed. Reg. 35,128 (June 21, 2010), and new treatment systems for liquid effluent discharges,[9] all of which are likely to be finalized in the next two years. EPA is also updating the NAAQS for particulate matter and for ozone. Moreover, EPA has recently proposed carbon controls for new electricity generating units. *See* 77 Fed. Reg. 22,39 (Apr. 13, 2012). Once finalized, these rules will obligate EPA to extend carbon controls to existing facilities, including Crystal River. *See* 42 U.S.C. § 7411(d). The cumulative impact of these liabilities on Progress Energy will be large and are likely to lend further weight to retirement decisions.

C. Likely Retirements

The cumulative compliance costs from all the rules which apply to Progress Energy's Crystal River units are substantial. Upon reviewing them, and considering the wide availability of more inexpensive power sources, Progress is highly likely to follow industry trends towards coal retirement.

Coal use is falling quickly, in response both to the cost of pollution controls and to national economic trends, including the growth of inexpensive wind power and the boom in shale gas production. As EPA has recently documented, "all indications suggest that very few new coal-

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[7] *See* Ex. 2, *supra*.
[8] All modeling parameters can be found at http://www.epa.gov/airmarkt/progsregs/epa-ipm/BaseCasev410.html.
[9] *See* EPA's plans for this rule at http://water.epa.gov/scitech/wastetech/guide/steam_index.cfm

fired power plants will be constructed in the foreseeable future." 77 Fed. Reg. at 22,413, and the Energy Information Administration (EIA) is documenting increasing retirements of existing plants. In particular, the EIA's Annual Energy Outlook for 2012 forecasts no new unplanned coal capacity through 2020. RIA at 5-5. EIA's most recent Electric Power Monthly report confirms that this trend continues. Thus far this year, *none* of the 5,627 MW of new units to come online are coal-fired; instead, new capacity additions are largely in renewable power or natural gas. EIA, *Electric Power Monthly June 2012* at Table ES3.[10] Conversely, retirements to date have been predominantly coal-fired units. *See id.* at Table ES4. Utilities across the country have announced thousands of megawatts worth of coal retirements over the last few years.[11]

Industry-wide levelized cost figures compiled by independent analysts demonstrate why these retirements are occurring. The most recent (2011) edition of Lazard's Levelized Cost of Energy Analysis,[12] a widely-used reference, shows that energy efficiency, wind, and natural gas combined cycle levelized costs are already below those of coal, as the figure below demonstrates.

Under these circumstances, prudent operators are increasingly deciding not to impose additional costs on their ratepayers by running coal-fired units with costly new pollution technology. Instead, they are opting to retire older units and pursue cleaner, cheaper, energy options. Progress Energy could, and should, decide to follow the same course.

D. Recommended Commission Action

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[10] Available at: http://205.254.135.7/electricity/monthly/pdf/epm.pdf.

[11] *See, e.g.*, Progress Energy Press Release, "Progress Energy Carolinas to retire coal power plant ahead of schedule" (Apr. 1, 2011) (recording the retirement of four North Carolina coal plants), available at https://www.progress-energy.com/company/media-room/news-archive/press-release.page?title=Progress+Energy+Carolinas+to+retire+coal+power+plant+ahead+of+schedule&pubdate=04-01-2011; FirstEnergy Press Release, "FirstEnergy, Citing Impact of Environmental Regulations, Will Retire Six Coal-Fired Power Plants" (Jan. 29, 2012) (announcing the retirement of six coal plants in Ohio), available at https://www.firstenergycorp.com/content/fecorp/newsroom/news_releases/firstenergy_citingimpactofenvironmentalregulationswillretiresixc.html; Environment News Service, "Dominion Virginia to Replace Coal Plants with Gas, Nuclear" (Sept. 7, 2011) (documenting retirement of two Virginia coal plants), available at http://www.ens-newswire.com/ens/sep2011/2011-09-07-091.html.

[12] Attached as Ex. 6.

Progress Energy has entirely failed to address these environmental compliance issues, and the impacts of retirements at Crystal River upon its system and upon ratepayers. The failure renders the draft plan "unsuitable" as a planning document. *See* F.S. §186.801. The Commission, "may suggest alternatives to the plan," *id.*, however, and may classify a plan as suitable upon the submission of "additional data," *see* F.A.C. § 25-22.071(5). We respectfully request that the PSC exercise its authority to ensure that Progress's plan provides adequate data to allow the PSC and the public to address these plant retirements.

Specifically, we submit that the Commission should seek the following information from Progress and require resubmission of a complete plan addressing these submissions:

1. The utility should provide an analysis of all environmental compliance obligations which it will experience at the Crystal River plant. For each requirement, the utility should cite the relevant rule, explain how it is likely to apply to the plant, the likely costs of compliance to the utility and to ratepayers, and the timeline on which compliance will be required. The utility should also document any steps it has taken to address these compliance obligations, and alternative steps it might take. For instance, if the utility anticipates that it will have to install a scrubber to comply with MATS, it should report to the Commission on scrubber installation and operation costs, whether it has contracted to purchase a scrubber and on what timeline, and what other options it has considered. *See* F.S. § 186.801 (requiring utilities to document "[p]ossible alternatives to the proposed plan").

2. The utility should provide a comparative analysis of compliance costs and the cost costs of replacing the plant's power through energy efficiency, demand response, power purchase agreements, new generation facilities, or other means. *See* F.S. §186.801 (requiring utilities to explain the impact of their plans on fuel diversity and on the need for electric power in their regions). In light of this analysis, the utility should indicate whether it intends to retire any facility, and on what timeline, and the relative costs of retirement versus those of other options. If retirement has not been selected but is being considered, the utility should indicate when the decision will be made.

3. For any facility where retirement is possible, the utility should discuss how it intends to address any reliability issues which may be caused by the retirement. The Commission should play an active role in this regard, as it must maintain reliability of the electric grid. *See* F.S. § 366.05(7)-(8) (authorizing the Commission to "require reports from all electric utilities to assure the development of adequate and reliable energy grids" and to order "installation and repair of necessary facilities" to address reliability issues"). The Commission has determined that "[r]eserve margins in Florida typically remain well above" relevant minimums through 2020, so system-wide resource adequacy problems are unlikely, but the Commission may still need to address localized reliability issues. If such problems appear to be present, the

Commission should work proactively and transparently with the Florida Reliability Coordinating Council to address them well in advance of any planned retirement.

We appreciate this careful consideration of Progress Energy's environmental compliance options, and any resulting plant retirements, and remind the Commission that such thorough analysis is required to ensure that the Ten-Year Plan complies with legal requirements. We request that the Commission share the results of its inquiry with us and with the public, and request formal notice of the Commission's next steps.

Please contact the undersigned with any concerns or questions.

Sincerely,
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Exhibit B

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Re: Comments on 2013 Ten-Year Plan Submittals

Dear Mr. Ellis and Ms Matthews:

Thank you for accepting these comments on behalf of the Sierra Club and its nearly 27,000 Florida members and on behalf of Earthjustice. We appreciated the opportunity to participate in the Public Service Commission (PSC)'s Ten-Year Plan review process in 2012, and are happy to continue our participation this year.

In last year's comments,[1] we asked that the PSC consider the implications of the retirement of Duke (then Progress) Energy's Crystal River Units 1 & 2, and of Gulf Power's Lansing Smith Units 1 & 2. We advised the PSC that the units had significant environmental compliance obligations which rendered them noneconomic to run in the near-term, but that neither company had included full analysis of that possibility in its submittal.

We appreciate that the PSC addressed these retirement issues in its review of the 2012 plans. *See, e.g.*, PSC, *Review of the 2012 Ten-Year Site Plans* ("*2012 Review*") at 3. We respectfully submit that that analysis should continue in further depth this year because both utilities have now confirmed our retirement predictions from last year. Duke has committed to retiring Crystal River 1 & 2 for economic reasons and Gulf, though it has not made a final decision, has deferred further environmental compliance work on Lansing Smith and has requested PSC approval for transmission upgrades which would allow for Lansing Smith 1 & 2 to shut down.

In its review, the PSC assumed that the capacity of these retiring units would be replaced by natural gas, which would increase natural gas's share in Florida's electric generation to 62.9% by 2022 (up from 56.7% without the retirements, and from 57.7% in 2011). *Id.* The PSC states that it views "the growing lack of fuel diversity" within Florida as a "major strategic concern." *Id.* at 39. Although we certainly welcome the retirements of these dangerous coal plants, we share this fuel diversity concern: Undue dependence on natural gas leaves the state overly vulnerable to fuel price volatility, even as potential LNG exports and other shifts in the gas market seem likely to increase gas prices in the medium term. For this reason, we strongly suggest that the PSC consider planning scenarios which employ other, less risky, resources to make up some or all of the share of generation now served by the retiring plants.

[1] Attached as Exhibits 1 & 2, for your reference.

In particular, we believe that demand-side management measures, including energy efficiency, other demand response programs, and demand-side renewable energy, can make up a significant portion of any resource gap left by the likely retirements. Increased supply side renewable energy can also increase the diversity of the state's resource mix. Because the PSC will be considering new goals for both Duke and Gulf under the Florida Energy Efficiency and Conservation Act (FEECA) this year, this is a particularly good time to develop the data needed for sensible planning.

I. Coal Retirements

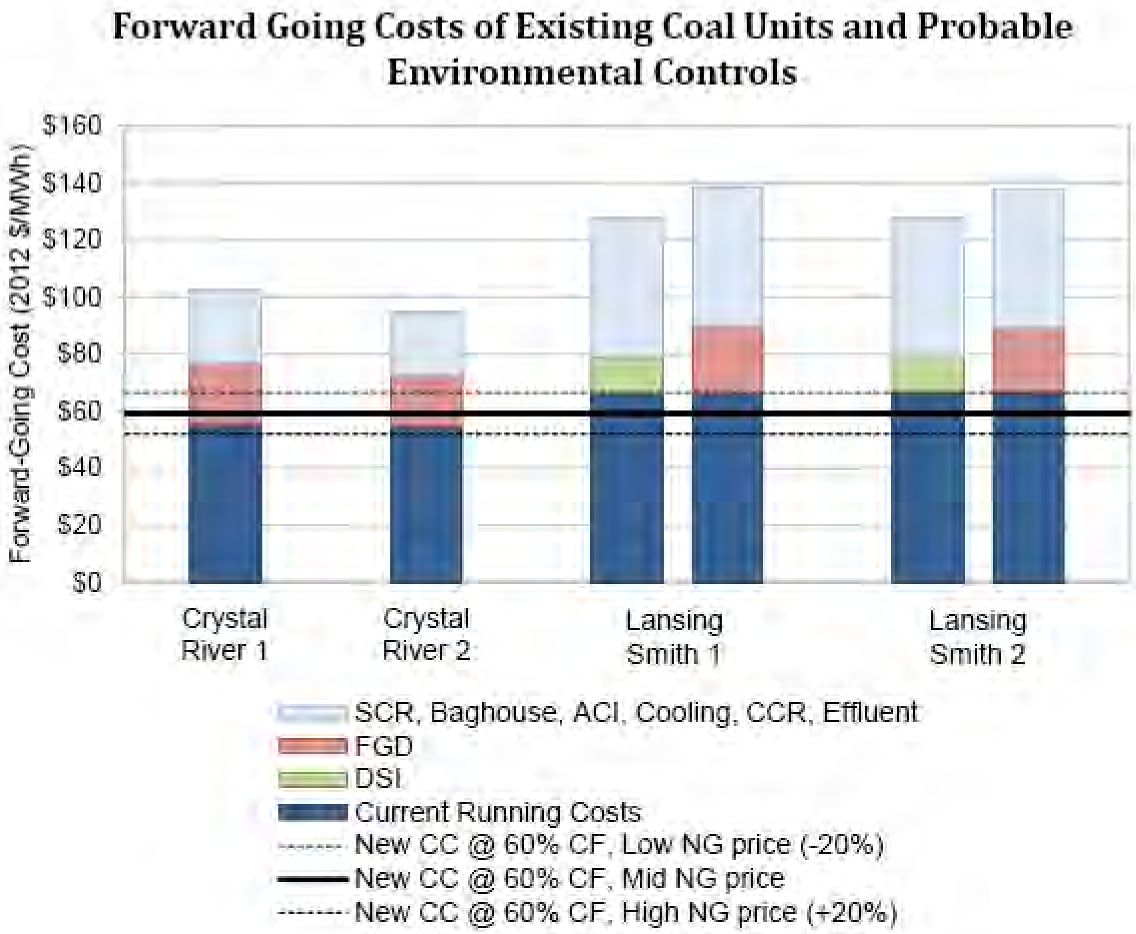
Both Duke and Gulf have confirmed that retirement is likely in the cards for their economically vulnerable plants, though Duke has gone further and confirmed that Crystal River 1 & 2 will certainly retire. Duke appears to be planning to address these retirements largely through adding new generating capacity. Gulf intends to rely on power imports in the near term.

Duke/Progress

Duke has confirmed "expected retirement of Crystal River 1 & 2 in 2016." Duke TYSP at 3-2. As Duke explains in testimony filed in the Environmental Cost Recovery Docket, the lifecycle projected system cost for retiring units 1 & 2 is far lower than the cost of retrofitting the units to comply with environmental compliance obligations: The difference between the retirement and retrofit scenarios is $ 1.32 billion in Duke's base case analysis; retrofit is unfavorable only in the extremely unlikely case of very high gas prices and no CO_2 regulation. Direct Testimony of Benjamin M. H. Borsch on Behalf of Progress Energy Florida (Apr. 1, 2013) at 4, Docket No. 130007-EI; *see also* Progress Energy Florida, *Review of Integrated Clean Air Compliance Plan* (Apr. 1, 2013) ("*Duke Compliance Plan*") at 25-26.

To be sure, Duke has held out the option of making short-term fuel mix adjustments which might allow the units to continue operating, perhaps as long as 2020. *Duke Compliance Plan* at 21. Continued operation would plainly be economically imprudent. As we demonstrated in our comments and workshop presentation on last year's plan, and as the figure below shows, the Crystal River units already verge on noneconomic when compared even against the substantial expense of constructing a new combined cycle natural gas plant to replace their capacity, much less against more sensible options, including demand side programs.[2]

[2] This figure is drawn from our 2012 workshop presentation and is based on work by Synapse Energy Economics, using public cost estimates from the Energy Information Administration's cost reporting forms and the EPA's Integrated Planning Model, developed by Sargent & Lundy.



Because Crystal River 1 & 2 are uneconomic by almost any measure (as Duke acknowledges), the pertinent question is how best to replace any portion of their 965 MW in nameplate capacity which will be required going forward. (In practice, this lost capacity is smaller: both units have been relatively little used in recent years.) Lost capacity from the 860 MW Crystal River 3, the retired nuclear unit at the site, will also play a substantial role in system planning, of course.

Over the period from 2013 to 2022, Duke expects its firm summer peak demand to grow by 1287 MW, TYSP at 3-7, and increase of just shy of 15% over the next decade, or about 1.5% per year. At present, Duke reports that it intends to make up necessary capacity to match this growth through "planned power purchases from 2016 through 2020 and planned installation of combined cycle facilities in 2018 and 2020 at undesignated sites." *Id.* at 3-2. According to Duke, these energy imports are likely to grow an additional 1470 MW above its current ~ 1900 MW of imported capacity, *id.* at Schedule 7.1. The addition of a 1307 MW (winter capacity) combined cycle facility in 2018, and a second 1307 MW facility in 2020 then replaces these imports. *See id.* at 3-7, 3-10 – 3-11. This additional capacity is 764 MW greater than the capacity which Duke is losing, leading to a 21% reserve margin by 2022.

As we discuss below, Duke's strategy of increasing its built generating capacity substantially in response to projected growth, and relying on natural gas generation to do so, is not the prudent one for either the company or for Florida.

Gulf Power

As the figure above indicates, Lansing Smith 1 & 2 are even less economically attractive to operate than the uncontrolled Crystal River coal units. Gulf has not yet committed to retirement publicly, but its filings in this docket and in the Environmental Cost Recovery docket make clear that it is preserving that option.

Specifically, Gulf has requested the PSC approve a $77 million transmission upgrade project, which it explains is necessary to ensure that Lansing Smith is not a must run unit. Gulf Power, *Third Supplemental Petition of Gulf Power Company Regarding its Environmental Compliance Program*, Docket No. 13007-EI (Mar. 29, 2013) at 8. According to Gulf, these upgrades will allow Plant Smith to run at lower levels or to close, and would be "required if these units retire or are controlled as a result of [the mercury and air toxics rule]." *Id.* at 8. Gulf, thus, maintains that it intends to "reserve the decision to install … controls or to retire the two units for a future time when more is known with regard to costs of compliance requirements associated with additional environmental regulations." *Id.*

Because Gulf Power – unlike Duke – has not shared cost information with the public comparing the cost of controlling versus retiring the plant, *see* Gulf Power, Environmental Compliance Program Update, Docket No. 13007-EI (Mar, 29, 2013) at 22-27, it is clear that it anticipates considerable additional compliance obligations at Plant Smith, including additional air, water, and waste rules. *Id.* at 22. Although Gulf has not provided economic analysis of a retirement option, it is clear that operating costs from the mercury rule alone would "greatly increase the variable operating cost of Smith Units 1 and 2," *id.* at 23, enough so that spending $77 million on transmission to reduce the operating need for the plant is more economic than continuing to run it, *id.* at 26.

We certainly agree that it is better to run Plant Smith less. The truth, however, is that Plant Smith is not economic to run *at all* under current conditions. It is certainly not economic to run going forward as environmental compliance costs increase. The appropriate course for Gulf Power is to retire the facility, rather than simply building transmission which will allow it to operate the costly plant somewhat less. Its transmission project, apparently, will enable that retirement, which remains an option. We urge the PSC to continue to analyze retirement possibilities.

In this regard, Gulf's Ten Year Site Plan submission does not clearly discuss all the implications of Plant Smith. It acknowledges, again, that "potential incremental capital expenditures for compliance may be substantial," Gulf TYSP at 3, but does not yet appear to provide a straightforward retirement analysis. Gulf anticipates 575 MW in summer peak demand growth by 2022 (about 20% growth over that period, or, according to Gulf, a 1.9% annual increase over the next decade). *See* Gulf TYSP at Schedule 3.1.

Gulf's plan indicates that capacity additions are not necessary to manage this projected growth. Gulf reports that a power purchase agreement (PPA) which it has signed with Shell Energy for use of 885 MW of capacity from an existing gas combined cycle plant will meet its needs through 2023, after which it will construct additional in-system capacity. *Id.* at 2-3. For this reason, the PSC's projection last year that Lansing Smith's retirement will lead to gas generation increases in Florida appears to be incorrect in the near term. As with Crystal River's retirement, however, we believe that demand-side options and other non-gas resources should be emphasized to meet any capacity needs that eventually arise.

II. Implications for the Ten-Year Plan and FEECA Goal-Setting Processes

Because the PSC will shortly move fully into the FEECA goal-setting process for the next five years, this is a particularly appropriate time to consider alternate futures for the Duke and Gulf power networks, with an emphasis on resources which the Legislature designed FEECA to encourage. The cost of adding new fossil capacity will almost always be higher than the cost of demand-side measures. The savings possible through an efficiency-focused strategy, coupled with efficiency's potential to help Florida avoid the undue dependence on natural gas which the PSC is seeking to avoid, argue strongly for a careful analysis of these questions in this year's Ten-Year Site Plan Review.

The Legislature has determined that it is "critical to utilize the most efficient and cost-effective demand-side renewable energy systems and conservation systems in order to protect the health, prosperity, and general welfare of the state and its citizens." Section 366.81, F.S. A study commissioned by the Legislature this past year confirmed these findings, concluding that "FEECA appears to provide a positive net benefit to ratepayers." Galligan *et al.*, *Evaluation of Florida's Energy Efficiency and Conservation Act* (Dec. 7, 2012) ("*FEECA Study*") at 9.

Despite these benefits, the PSC has, in the past, opted to suspend further program expansion for Duke and FPL, on cost grounds. *See*, e.g.*, Re: Progress Energy Florida, Inc.*, Docket No. 1000160-EG, 2001 WL 3659327 (Aug. 6, 2011). The PSC should revisit this position during this year's goal-setting process in view of the positive findings of the legislative study, and the pressing need to address the retirements of vulnerable coal units in ways that best protect the ratepayers from further risk from fossil fuel price shifts and regulatory uncertainty. Ratepayers will face costs associated with new capacity and loss of fuel supply diversity which are far greater than those imposed by demand-side programs --- programs which the legislative study have determined have net *benefits*.

In particular, the PSC should view with skepticism Duke's proposal to construct 2614 MW of natural gas generation in just the next few years in order to cope with a 1.5% annual average growth rate in its predicted demand. Initially, Duke has a history of significant positive errors in its forecasts. As the PSC explained in its 2012 Ten Year Site Plan Review, Duke overestimated net energy for load forecasts by 11.36% on average between 2007 and 2011, and by 6.17% between 2006 and 2010. *2012 Review at 19*. Certainly the recession contributed to some of this overage, but the size of the error should give the PSC pause.

More importantly, however, the 1.6% demand growth rate which Duke forecasts, even if accurate, is within the range of load growth rates which demand-side management can address. According to the legislative FEECA study, many states require annual reductions far greater. *See FEECA Study* at 177-180. States requiring savings of at least 1% a year, according to that study, include Arizona, Indiana, Maine, Maryland, Michigan, Minnesota, New York, Ohio, and Texas, with many other states not far behind (still other states, including California, are listed as having very large reduction goals, but a percentage reduction is not specified). *See id.* Such reduction rates would entirely offset Duke's projected load growth, obviating the need for much, if not all, of its projected capacity needs in light of the Crystal River retirements.

Duke plainly has the potential to greatly expand its programs. It reports that only 25% (405,000 customers out of 1.6 million) take part in its demand response program, for instance. Duke TYSP at 1-1. This low participation is likely one reason that Duke is well below its FEECA goals for summer MW and annual GWh reductions – missing the annual target by more than 60%. *See* PSC, *Annual Report on Activities Pursuant to [FEECA]* (Feb. 2013) at 19. Duke has told the PSC that it was unable to reach its performance levels because "of the Commission decision to not approve a new DSM plan" for the company. *Id.* at 20. Thus, if the PSC engages with Duke to approve an improved plan, Duke may well be able to increase efficiency programs sufficiently to greatly decrease its capacity needs.

This analysis also applies to Gulf. Although Gulf does not plan new capacity for the next decade, it, too, has potential for further improvements, failing to meet even its modest existing FEECA goal by 12%. *Id.* at 19. If Gulf were performing at the level of nationally leading utilities – saving more than 1.5% of its demand per year – it could likely avoid those projected capacity additions.

Such enhanced performance could help Florida, as a whole, to meet the Legislature's directive in FEECA. At present, Florida ranks in the bottom half of the states with regard to energy efficiency. *See* American Council for an Energy-Efficient Economy, *State Scorecard 2012* (ranking Florida #29).[3] The coal retirements before the PSC provide a strong incentive to do better.

We understand that the PSC will be conducting substantial analysis on this front during its FEECA goal-setting process, *see* Section 366.82, F.S., which requires careful consideration of the "full technical potential" of demand-side programs. We suggest that the PSC conduct that analysis in tandem with its Ten-Year Site Plan review, valuing demand-side programs as a resource which can be used to address capacity and energy issues arising from the coal retirements announced or likely in the site plan docket. Thus, in its 2013 Ten-Year Site Plan Review, the PSC could profitably evaluate the several different scenarios post-retirement, including scenarios in which capacity is replaced with more aggressive demand side measures. Other scenarios should also, of course, explore the potential of other energy sources, including enhanced in-state renewables, including solar, and out-of-state PPAs for renewable (and hence zero fuel cost) energy. In the FEECA process, meanwhile, the PSC can consider the costs and benefits of such measures, especially as compared with costly and risky new gas capacity. The two processes can and should reinforce each other as the PSC works to find ways to minimize risks and costs to ratepayers.

III. Conclusion

Last year, we cautioned that a significant amount of coal-fired capacity in Florida was set for retirement. That process has continued. To manage any ratepayer risk from these retirements and the possible over-dependence on natural gas which they may promote, the PSC should emphasize demand-side management options as alternatives to gas-fired capacity. We look forward to working with the Commission to ensure that Florida ratepayers secure healthier air and a more reliable and efficient electricity system.

Sincerely,

[3] Available at: http://aceee.org/energy-efficiency-sector/state-policy/aceee-state-scorecard-ranking.

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Exhibit C

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Re: Supplemental Information Following 2013 Ten-Year Site Plan Workshop

Dear Mr. Ellis and Ms. Matthews:

Thank you for the opportunity to present to the Commission at the September 25, 2013, Ten-Year Site Plan Workshop. At the Workshop the Commissioners raised a number of questions in response to our presentation and we agreed to provide supplemental information to more fully address those questions. This letter transmits and explains that supplemental information.

As discussed at the Workshop, the information supports deferring plan approval until the utilities provide a comparative analysis of the costs and quantified risks of all relevant energy resources, including supply side and demand side. Substantiating the cost-effectiveness of planned investments in this way is squarely within the utilities' ten-year site plan data requirements. See F.A.C. § 25-22.072 (incorporating by reference Form PSC/RAD 43-E (11/97), requiring evidence of "lowest cost possible" planned energy). Yet the utilities' plans lack the requisite comparative analysis of the costs and risks of the various energy resources available to Florida. Without this analysis by the utilities, the Commission cannot meaningfully review the plans for enumerated statutory criteria, such as "possible alternatives to the proposed plan," nor can the Commission evaluate and plan for risks like "disrupted energy supplies or unexpected prices surges." F.S. § 186.801 (citing State Comprehensive Plan, F. S. § 187.201). For these reasons, the information herein supports the Commission deferring plan approval, including approval of planned new gas-burning capacity, until the utilities provide the missing comparative cost-risk analysis to substantiate the cost-effectiveness of their proposed investments.

Moreover, the Sierra Club urges the Commission to follow the regulatory best practice of making the comparative cost-risk analysis available for public comment. Doing so would provide the Commission with a fuller critique of the options for addressing pressing issues, including the need to: (1) plan for significant coal and nuclear retirements; (2) appropriately minimize Florida's exposure to natural gas price shocks and supply disruptions; (3) evaluate and seize opportunities to pursue cost competitive energy resources; and 4) hedge against the costs and risks of fossil fuel-burning generation capacity.

I. A Comparative Analysis of Costs and Quantified Risks of All Relevant Resources (Supply Side and Demand Side) Is Critical for Prudent Resource Planning.

Prudent resource planning minimizes costs and risks. To minimize not just the present value of revenue requirements—alone, a limited focus of resource planning—but also risk, planners generally evaluate a wide range of scenarios (not just the scenario deemed most likely, the "reference case"). Planners do this through a number of different methods. Many planners use probabilistic modeling and sensitivity analyses for inputs including but not limited to: load growth, fuel prices, electricity spot prices, market structure, environmental regulations, and other risk factors. In addition, some planners also rely on other analytic aids, including market reports, requests for proposals, and stakeholder feedback. This section addresses the Commissioners' questions about planning for cost and risk with examples and explanations of emerging best practices.

a. CERES Report—Guidance Primarily for Commissions

Practicing Risk-Aware Electricity Regulation: What Every State Regulator Needs to Know offers guidance that is especially relevant to states like Florida that are "facing substantial coal generation retirements and evaluating a spectrum of resource investment options." Ron Binz & CERES, *Practicing RiskAware Electricity Regulation: What Every State Regulator Needs to Know* (2012)("*Risk- Aware*") at iii, Ex. 1. Like other reports discussed below, this report reviews existing practices and makes recommendations for valuing and selecting plans to minimize risk. What sets this report apart, and why the Sierra Club has highlighted it, is its focus on the role of state regulatory utility commissions in the planning process.

Risk-Aware urges commissions to proactively identify and address risks. *See, e.g., id.* at 14. This includes gathering information on all relevant future conditions and investment alternatives, not only the conditions and investments identified by the utilities. *Id.* at 46. Further, by fostering transparency and stakeholder engagement throughout the planning processes, commissions are able to build trust and enhance understanding of energy options among all interested parties. *Id.* at 11.

During the Workshop, Commissioner Graham expressed interest in risk assessment methodology. *Risk-Aware* shows one way that planners can systematically assess risk. The report draws on decades of relevant energy regulation and finance experience to develop a composite cost-risk analysis showing the relative cost and relative risk among a wide range of investment alternatives (e.g., nuclear, natural gas combined cycle, solar, efficiency programs). *See id.* at iii, Figures 14 and 15. Spurring commissions to develop tailored assessments like this for their respective jurisdictions, *see id.* at 34, *Risk-Aware* describes its risk assessment methodology in a step-by-step fashion. First, *Risk-Aware* examines twenty-two resources across seven risk categories, wherein the report describes and then quantifies the risks associated with each resource. *See id.* at 30 – 34; *see also id.* at Figures 13, 16. Next, *Risk-Aware* establishes composite risk indices for each resource. *Id.* at 34 – 36. Finally, *Risk-Aware* compares relative risk and relative cost. *Id.* at Figure 17.

b. Nicholas Institute Report—Risk Assessment Made Easier

Least-Risk Planning for Electric Utilities, recently published by the Nicholas Institute for Environmental Policy Solutions at Duke University, presents another relatively easy way to address risks in resource plans. *See* David Hoppock & Patrick Bean, *Least-Risk Planning for Electric Utilities* (2013) ("*Least-Risk Planning*"), Ex. 2. *Least-Risk Planning* emphasizes that "**evaluating a wide range of potential scenarios [such as 10 to 15] that fully capture the realistic range of all relevant sources of uncertainty is critical**." *Id.* at 11 (emphasis added). Picking up where traditional scenario analysis leaves off, *Least-Risk Planning* suggests that modeling outputs like production costs and fixed costs can be used to compare the costs and quantified risks of investment alternatives. *Id.* at 14. *Least-Risk Planning* illustrates how, with three, then four investment alternatives (deliberately simplified examples), it reviews the steps by which a utility would identify trends, risks, and the hedge value of energy efficiency programs and renewable resources like wind and solar. *Id.* at 8, 14. *Least-Risk Planning* maintains that utility planners and state regulators would find this method "attractive" (no new tools or modeling required), "sensible" (not too pessimistic or too optimistic about risks), and complementary to traditional scenario analysis. *Id.* at 5, 6. Indeed, some utilities like the Tennessee Valley Authority have adopted a similar risk assessment method already. *Id.* at 6 (citing 2011 TVA Integrated Resource Plan).

c. Regulatory Assistance Project & Synapse Report—A Survey of Several States

Best Practices in Electric Utility Integrate Resource Planning, recently commissioned by the Regulatory Assistance Project and prepared by Synapse Energy Economics, reviews emerging best practices in several states' resource planning processes. *See* Bruce Biewald & Rachel Wilson, *Best Practices in Electric Utility Integrate Resource Planning* (2013) ("*Best Practices*"), Ex. 3. To be sure, many other reports examine resource planning best practices, and *Best Practices* cites some of these reports. However, the strength of *Best Practices* is its breadth and depth of coverage, as it reviews the practices of several states from across the Nation and prepares case studies on three states in particular—Arizona, Colorado, and Oregon.

Overall, *Best Practices* recommends active commission oversight, stakeholder engagement, and transparency. *See id.* at 26, 27. For example, commissions in Arkansas and Hawaii promote transparency and robust stakeholder engagement through their planning rules. *Id.* at 26, 27. The Kentucky and Colorado commissions also allow interveners to file, and require utilities to respond to, written interrogatories and comments. *Id.* at 21, 27. In turn, the supplemental information from the interveners and utilities supports these commissions' planning oversight. *Id.*

Best Practices stresses transparent modeling because "[m]odeling in general is only as good as the *input assumptions* used to generate the portfolios." *Id.* at 25. Specifically, the report suggests: "A proper [resource plan] will include discussion of the inputs and results, and appendices with full technical details. Only items that are truly sensitive business information should be treated as confidential, because such treatment can hinder important stakeholder input processes." *Id.* at 32. Further, the best practice for commissions is to "take an active role in assessing the validity of inputs used by the utilities in their filings, the resulting outcomes, and whether these are consistent with both the [relevant state] rules and the state's energy policies and goals." *Id.* at 27. Limiting transparency hinders a commission's ability to perform this oversight. *See, e.g., id.* at 25.

Best Practices also offers several insights on how to optimize modeling results. The first insight is to avoid "inadvertently exclud[ing] combinations of options that deserve consideration." *Id.* at 31. This could happen when utilities define (potentially biased) future resource portfolios, rather than deferring to models to select the portfolios. *See id.* Alternatively, this could happen when "users constrain optimization models so that a model may not, given the cost, select the quantity of a specific resource that [the user] may want," such as where a utility may limit the amount of a resource that a model can consider—for instance, limiting investments in energy efficiency to the minimum level that a state policy may require, rather than allowing the model to consider larger investments in energy efficiency that the model may otherwise identify as the least-cost, least-risk means of addressing energy needs. *Id.* at 27. Against such defects, the report offers this cure:

> **The best [resource plans] create levelized cost curves for demand-side resources that are comparable to the levelized cost curves for supply-**

side resources. … By developing cost curves for demand-side options, planners allow the model to choose an optimum level of investment. So if demand-side resources can meet customer demand for less cost than supply-side resources, as is frequently the case, this approach may result in more than the minimum investment levels required under other policies.

Id. at 29 (emphasis added) (quoting State and Local Energy Efficiency Action Network, *Using Integrated Resource Planning to Encourage Investment in Cost-Effective Energy Efficiency Measures* (2011), at 6, Ex. 4).

Best Practices also identifies the risks that are commonly addressed by scenario or sensitivity analyses in resource plans. These include: "fuel prices (coal, oil, and natural gas), load growth, electricity spot prices, variability of hydro resources, market structure, environmental regulations, and regulations on carbon dioxide (CO2) and other emissions." *Best Practices* at 5. The case studies on Arizona, Colorado, and Oregon illustrate how resource plans incorporate risk, as discussed below.

- ◊ **Arizona**: During the state's 2012 planning process, the Arizona utility modeled low and high scenarios for what it deemed to be "major cost inputs," including: natural gas prices, CO2 prices, production and investment tax credits for renewable resources, energy efficiency costs, and monetization of SO2, NOx, PM, and water. *See id.* at 16. During the modeling, the utility monitored certain metrics to compare and evaluate potential resource investment alternatives. *Id.* at 16-17. In addition to revenue requirements, these metrics included: fuel diversity, capital expenditures, natural gas burn, water use, and CO2 emissions. *Id.* at 16. Arizona's final 2012 resource plan and materials from five stakeholder meetings are available at www.aps.com/en/ourcompany/ratesregulationsresources/resourceplanning/Pages/resource-planning.aspx.

- ◊ **Colorado**: During the state's 2011 planning process, the Colorado utility evaluated its baseline case and eight alternative cases under several sensitivity scenarios, altering the price of CO2 emissions, renewable tax incentives, natural gas prices, and level of sales. *See Best Practices* at 19-22. Notably, per an intervener's recommendation the Colorado Public Utilities Commission asked the utility to adopt higher energy efficiency goals. *Id.* at 27 (citing Colorado Public Utilities Commission, Decision No. C11-0442; Docket No. 10A-554EG (2011)). The utility incorporated the new goals into its calculation of resource need in subsequent modeling. *See* Public Service Company of Colorado, *2011 Electric Resource Plan* (2011), available at www.xcelenergy.com/About_Us/Rates_&_Regulations/Resource_Plans/PSCo_2011_Electric_Resource_Plan.

- ◊ **Oregon**: Of the three case studies, Oregon's planning process was the most comprehensive. *Best Practices* at 23. During the state's 2012 planning process, the Oregon utility defined 67 input scenarios including: alternative transmission configurations, CO2 price levels and regulation types, natural gas prices, and renewable resource policies. *Id.* at 24. Sensitivity cases examined additional incremental costs for coal plants, alternative load forecasts, renewable generation costs and incentives, and demand-side management resource availability. *Id.* Top resource portfolios were identified through a combination of lowest average portfolio cost and worst-case portfolio cost resulting from 100 simulation runs. *Id.* Final portfolios were selected after considering such criteria as risk-adjusted portfolio cost, 10-year customer rate impact, CO2 emissions, supply reliability, resource diversity, and uncertainty and risk surrounding greenhouse gas and renewable portfolio standard policies. *Id.*; *see also* PacifiCorp, *2011 Integrated Resource Plan*, available at www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2011IRP/2011IRP-MainDocFinal_Vol1-FINAL.pdf.

II. The Commission Should Not Approve the Utilities' Ten-Year Site Plans: The Commission Cannot Determine What the Reliable, Least-Cost Energy Mix Is Because the Utilities' Plans Are Missing the Requisite Comparative Analysis of Costs and Quantified Risks of All Relevant Energy Resources, Including Supply Side and Demand Side.

Commissioner Brown requested clarification of the Sierra Club's recommendations for further action by the Commission. In short, we recommended that the Commission defer approval of the plans until the utilities provide the requisite comparative analysis of the costs and quantified risks of all relevant energy resources, including supply side and demand side. As discussed below, the missing analysis is legally required, and it will put the Commission—and the public—in a better position to ensure low-cost, low-risk power for Florida, and to understand the reasoning behind the investments that are ultimately selected. Moreover, subjecting such analysis to public notice and comment will provide the Commission with a fuller critique of the strengths and weaknesses of the plans.

a. The Utilities' Ten-Year Site Plans Must Provide an Analysis of the Relative Cost and Relative Risk of All Relevant Energy Resources that is Sufficient to Allow the Commission to Classify the Plans as Suitable or Unsuitable, Suggest Alternatives to the Plans, and Ensure a Reliable, Least Cost Power Supply for Florida.

Ten-year site plans are Florida's primary vehicle for collecting information about, and preparing for future conditions related to, the state's power supply. The Commission established the legally required data requirements in Form PSC/RAD 43-E (11/97), "Electric Utility Ten-Year Site Plan Information and Data Requirements" ("Form"). *See also* F.A.C. § 25-22.072 (incorporating the Form by reference). Notably, the Form requires utilities to describe their planning assumptions, modeling methods, and outcomes. *See* Form at 4-6 (enumerating these requirements in the section titled "Other Planning Assumptions and Information"). Moreover, each plan must "provide sufficient information to assure the Commission that an adequate and reliable supply of electricity at the lowest cost possible is planned for the state's electric needs." *Id.* at 4. Here, cost should be considered over the life of the investment, and to ensure at a robust understanding of potential costs, the plans should quantify the risks that could materially affect the costs, including factors identified above that are routinely considered by other commissions, such as fuel price surges and regulatory risks.

This reading of cost is supported by the governing Florida statutory provisions, F. S. § 186.601 (Ten-Year Site Plans) and § 187.201(11)(b)(10) (State Comprehensive Plan), which call for such circumspect planning. Under mandatory statutory criteria, the Commission must reviews each utilities' ten-year site plan for, among other things, "possible alternatives to the proposed plan," and must evaluate and prepare for risks like "disrupted energy supplies or unexpected prices surges." *See* F.S. § 186.801 (citing State Comprehensive Plan, F.S. § 187.201). Without a comparative cost-risk analysis, the Commission lacks the prerequisite information to perform this statutorily required planning oversight. Moreover, as discussed at the Workshop and in our comments, the missing analysis hinders the Commission's ability to fulfill its over-arching statutory duty to maintain "sufficient, adequate, and efficient service" and "fair and reasonable rates" for all Floridians. *See, e.g.*, F.S. § 366.03; *see also* Sierra Club, Comments on 2013 Ten-Year Plan Submittals Comments (2013) ("Sierra Club Comments"), Ex. 5.

b. The Utilities' Ten-Year Site Plans Fail to Provide the Required Analysis of the Relative Cost and Relative Risk Among the Relevant Energy Resources Available to Florida.

Our comments and Workshop presentation demonstrated how two utilities in particular have failed to include sufficient cost and risk information in their plans. To recap, Gulf Power and Duke Energy Florida's plans do not show the following:

◊ Alternative load forecasts, accounting for significant positive errors in historic forecasts;
◊ Implications, costs, and expected timelines of upcoming retirement/retrofit decisions;
◊ Alternative investment scenarios beyond the selected "reference case" or "base expansion case";
◊ A sensitivity analysis of fuel price, carbon price, supply disruptions, and other risks;
◊ A direct comparison of levelized cost curves for demand-side and supply-side resources;
◊ A direct comparison of the relative risk among all potential energy resource investment; and
◊ A full accounting of energy efficiency and renewable resource options, including (but not limited to) renewable energy contracts and self-build options for utility scale solar systems.

Without the missing analysis, the Commission cannot meaningfully verify whether the proposed investments—such as Duke's "planned power purchases from 2016 through 2020 and planned installation of combined cycle facilities in 2018 (1,307 MW, winter capacity) and 2020 (another 1,307 MW) at undesignated sites," Progress (now Duke) Energy Florida TYSP at 3-2—do in fact provide reliable, least-cost power.

c. The Commission Should Require the Utilities to Conduct a Comparative Cost-Risk Analysis and Subject the Analysis to a Public Comment Period.

As discussed at the Workshop, Florida's energy system is at a crossroads and planning presents a critical opportunity to enhance the understanding of energy options among all interested parties. The Sierra Club urges the Commission to require the utilities to conduct a comparative cost-risk analysis and invite interveners' comments on this analysis. Doing so now would help the Commission address pressing issues, including the need to: (1) plan for significant coal and nuclear retirements; (2) appropriately minimize Florida's exposure to natural gas price shocks and supply disruptions; (3) evaluate and seize opportunities to pursue cost competitive energy resources; and 4) hedge against the costs and risks of fossil fuel-burning generation capacity.

i. The Utilities Should Provide a Full Retirement/Retrofit Analysis of Existing Generation Capacity to Ensure an Accurate and Meaningful Cost-Risk Comparison of Energy Options Going Forward.

While Gulf Power and Duke Energy Florida have confirmed the Sierra Club's retirement predictions from last year, we expect (but have not seen plans that address) more coal-burning unit retirements within the planning horizon, such as Lansing Smith 1 and 2. As we have seen, the Federal

Government has and may well continue to ratchet down power plant emissions under the Clean Air Act to address public health and welfare concerns. These regulations could impact the economic viability of certain fossil-fuel burning capacity in Florida. Indeed, the Florida Reliability Coordinating Council (FRCC) has acknowledged "potential multiple generation retirements from the same site, starting as early as April 2015." FRCC, 2013 Load & Resource Reliability Assessment Report (2013). In any event, we continue to urge the Commission to require the utilities to provide a straightforward retirement/retrofit analysis, including decommissioning costs and timelines for existing generating capacity, as well as their implications for the utilities' generating needs. This information is critical for developing an accurate cost-risk comparison of all relevant energy resources available to Florida going forward.

ii. The Utilities Should Identify and Analyze Options to Minimize Florida's Exposure to Natural Gas Price Shocks and Supply Disruptions.

One of the utilities' plans most troubling defects is their unwarranted reliance on more natural gas imports—channeling money out-of-state and worsening Florida's exposure to natural gas price shocks and supply disruptions. As the Sierra Club has stressed, nowhere do the plans substantiate that proceeding this way is cost effective or necessary. For example, Duke and Gulf Power forecasted load growth near 1% per year over the planning horizon, which is well within the range that demand-side management could address at a lower cost. *See* Sierra Club Comments.

Moreover, natural gas-burning capacity is risky in ways that alternative (zero fuel cost) energy is not. Here, we recap three sources of risk. First, the U.S. Energy Information Administration (EIA) dramatically revised downward its estimates of the domestic shale gas reserves, by 42% nationally, and by 66% in the Marcellus. *See* EIA, *Advanced Energy Outlook 2012 Early Release Overview* (2012) at 9. Second, the natural gas industry is moving quickly to export liquefied natural gas. *See, e.g.,* Federal Energy Regulatory Commission, *Proposed/Potential North America LNG Import/Export Terminals*, available at www.ferc.gov/industries/gas/indus-act/lng/lng-proposed-potential.pdf (last visited October 11, 2013). Both of these factors—declining supply and increasing demand at international market prices—create a risk of materially higher natural gas prices in the future. To be sure, numerous studies examine the implications of natural gas exports, and at the Workshop we highlighted EIA's higher risk case predicting that rapid expansion of gas exports could drive up domestic natural gas prices at the wellhead by as much as 54% ($3.23/Mcf) by 2018. Whether or not this particular rate of price increase comes to pass, it certainly suggests that the Commission would benefit from a transparent analysis of price shock risks before it approves further natural gas generation in Florida—an analysis which is lacking in the plans.

Third, Florida's limited natural gas transport infrastructure raises the specter of supply disruptions. Planning should address such risks and should include the costs of building additional infrastructure, such as additional natural gas pipelines, in evaluating energy investment options. For all these reasons, the Commission should instruct the utilities to identify in their cost-risk comparisons all relevant energy resource investment options that minimize Florida's exposure to natural gas prices shocks and supply disruptions.

iii. The Utilities Should Identify and Justify How They Value and Select Alternative Energy Resources, Including the Value that Renewable Energy And Energy Efficiency Provide For Capacity and Energy Needs,

and As A Hedge Against the Risks and Costs of Further Natural Gas Generation.

As we identified at the Workshop, alternative energy investments are low-cost, low-risk, and compare favorably to conventional generation. The Commission would benefit from a full analysis of such resources in the utilities' ten-year site plans. Duke Energy Florida's plan has served as our example of just how little information the utilities have provided on alternative energy investments. This dearth of information prevents the Commission from verifying that cost-effective alternative energy investments (demand side and supply side) have been appropriately valued and incorporated into the plans. Duke's plan states that by March 2013 the utility's ongoing Request for Renewables logged over 310 responses—responses that are not disclosed or described in Duke's plan. *See* Duke TYSP at 3-21. Duke's plan also omits the option of self-building renewable energy projects. The plan plainly lacks the requisite comparative cost-risk analysis, and even lacks the statutorily required "statement describing how the production and purchase of renewable energy resources impact the utility's present and future capacity and energy needs." *See* F.S. § 186.801(2)(j).

The Commission should not approve such defective plans, especially since the 2012 legislative study determined that Florida has a track record of cost-effective alternative energy investments that have yielded net benefits to Florida's ratepayers. *See* Galligan et al., *Evaluation of Florida's Energy Efficiency and Conservation Act* (Dec. 7, 2012) ("*FEECA Study*") at 9, 10. Instead, we continue to strongly recommend that the Commission instruct the utilities to provide analyses that identify: (1) how they valued and selected alternative energy resources, (2) how these resources impact the utilities' capacity and generation needs, and (3) how the utilities have captured the hedge value of alternative energy resources against the risks associated with further expansion of fossil fuel-burning generation, especially of natural gas.

III. The Commission Should Demand a Clear and Thorough Analysis of the Comparative Costs and Risks of Energy Resources, Including Enhanced Energy Efficiency and Renewable Energy Investments, Because in Today's Market, the Analysis May Well Show that it is More Prudent to Invest in Energy Efficiency and Renewable Energy than Natural Gas.

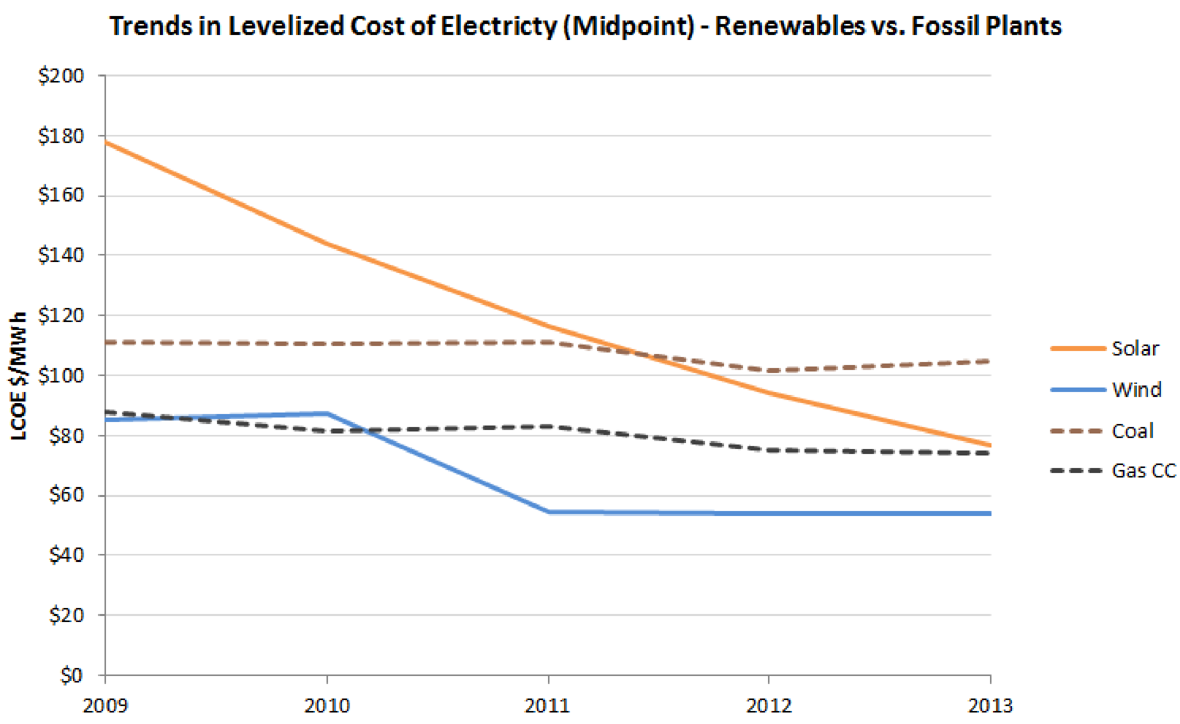
Although at the Workshop we spent a considerable amount of time addressing risks of further natural gas development, the other half of a cost and risk analysis is cost. As discussed at the Workshop, energy markets—and the costs of various types of energy resources, both supply and demand—are rapidly changing. Renewable energy generation continues to plummet in price, while coal and nuclear generation continue to increase, and natural gas is showing clear and increasing signs of significant upward pressure. In this mix, energy efficiency continues to be by far the cheapest energy resources in the market today.

As we noted at the Workshop, there are any number of ways to evaluate such costs. Below we identify some of the more common means of evaluating costs, and reiterate information indicating what those costs are in today's market.

a. Levelized Cost of Electricity Is One Common Comparative Metric of The Costs of Energy Resources.

Levelized cost of electricity (LCOE) is one key metric for comparing resource costs, and one commonly cited source of LCOE data is the international advisory and asset management firm Lazard Ltd, *Lazard's Levelized Cost of Energy Analysis—Version 7.0* (2013) ("*Lazard's Analysis*"). At the Workshop we emphasized that national LCOE data can reveal cost trends, while resource planning best practice is for utilities to create (generally using models) levelized cost curves for demand-side resources that are comparable to the levelized cost curves for supply-side resources available within the context of the regional grid. *See, e.g.*, State and Local Energy Efficiency Action, *Using Integrated Resource Planning to Encourage Investment in Cost-Effective Energy Efficiency Measures* (2011) at 7.

Since we have not seen evidence of such side-by-side levelized cost comparisons in the ten-year site plans, we have cited *Lazard's Analysis*: Energy efficiency programs average $0-$50 MWh, or better, since these figures do not fully account for the opportunity cost of foregone consumption due to demand response. *See Lazard's Analysis* at 4. Renewable resources are becoming increasingly cost competitive. Utility-scale solar photovoltaic systems are approaching "grid parity" without tax subsidies and may currently reach "grid parity" under certain conditions. *Id.* As discussed at the Workshop, the graph reproduced below plots Lazard's levelized cost of electricity data from 2009 to 2013 to show cost trends of renewable resources like solar and wind versus conventional fossil fuel-burning resources like coal and natural gas.



Source: Lazard 2009-2013.

The trends shown in this graph favor investments in renewable resources like wind and solar because they are already cost-competitive with conventional generation resources like coal and gas, and their prices keep falling fast—thanks largely to technological advances, such as larger wind turbines and cheaper components for solar-power arrays. As we have noted, the opposite is true for fossil fuel-burning generation; costs are generally increasing due to increasingly stringent pollution controls, fuel price volatility, and supply disruption risks.

a. Given Rapidly Changing Electricity Markets, Requests for Proposals are a Common, But Not Exclusive, Way of Identifying Resource Costs.

Commissioner Balbis requested clarification of the Sierra Club's suggestion of using requests for proposals (RFPs) to test resource costs for ten-year site planning purposes. In short, we suggested that, as an initial step, the Commission should obtain from the utilities more information about the renewable energy bids that they received in response to existing RFPs. Duke's plan, for example, states that the utility's ongoing Request for Renewables returned over 310 bids by March 2013. Bids like these are a potential trove of cost information that would enhance the understanding of energy options among all interested parties. *See* Duke TYSP at 3021. Indeed, the 2012 legislative study found that Florida jurisdictional utilities are missing opportunities to share information and best practices on saving energy. *See FEECA Study* at 13. Ten-year site planning is where the utilities can start to remedy this, and the Commission should instruct the utilities to make the bid information, other than the truly sensitive business information, available to the public.

Further, at the Workshop we suggested that a review of existing RFPs and responsive bids may well reveal opportunities for further market testing, perhaps through RFPs, to identify the cost-effective resources available to Florida. For instance, Connecticut recently issued an RFP to identify cost-effective resources for meeting that state's energy policy goals. *See* Connecticut Department of Energy and Environmental Protection, *Request for Proposals for Long Term Energy Contracts* (2013), available at www.ct.gov/deep/cwp/view.asp?a=4405&Q=527812&deepNav_GID=2121. Notably, *Power Purchase Agreement Checklist for States and Locals Governments*, produced by that National Renewable Energy Laboratory, offers guidance on developing RFPs for solar photovoltaic (PV) power purchase agreements in particular. *See* National Renewable Energy Laboratory, *Power Purchase Agreement Checklist for States and Locals Governments* (2009), Ex. 6.

Alternatively, as we discussed at the Workshop, the Commission could identify resource costs by reviewing examples of recent electricity purchase or production decisions, such as the new solar photovoltaic generation in Georgia and Colorado. *See* Georgia Public Service Commission, *PSC Approves Agreement to Resolve Georgia Power 2013 Integrated Resource Plan and Expands the Use of Solar Energy* (Aug. 2013); Xcel Energy, *Xcel Energy Proposes Adding Economic Solar, Wind to Meet Future Customer Energy Demands* (Sept. 2013). Additional cost data—especially from local or regional electricity markets—is essential for prudent planning, and the Commission should require the utilities to include sufficient cost data in their plans to substantiate the cost-effectiveness of their proposed investments.

IV. Conclusion

For all these reasons, the Commission should defer ten-year site plan approval, including approval of planned new gas-burning capacity, until the utilities provide the missing comparative cost-risk analysis. Moreover, the Sierra Club urges the Commission to follow the best practice of making the comparative cost-risk analysis available for public comment.

Sincerely,

/s/

Diana Csank
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Exhibit D

DUKE ENERGY.

Robby A. Odom
Station Manager, Crystal River
Steam Plant & Fuel Operations

January 21, 2014

Submitted via email:
Erin.DiBacco@dep.state.fl.us
SWD_AIR@dep.state.fl.us
ftp://ftp.dep.state.fl.us/pub/incoming

Erin Anthony DiBacco
Compliance and Enforcement
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637

Dear Mr. DiBacco:

Re: Crystal River Energy Complex Units 1 and 2
Permit No.: 0170004-040-AC
Test Report for Coal Blend Testing / Post Combustion Controls

Please find attached the information to be submitted per the requirements of Air Permit No. 0170004-040-AC (Coal Blend Testing/Post Combustion Controls). The testing was conducted from September 16 through October 3, 2013 on Crystal River Unit 1 and from November 4 through November 21, 2013 on Crystal River Unit 2. Please note that no testing of sub-bituminous (Powder River Basin) coal blends occurred during the test burn, only various types of bituminous coal were tested, with and without hydrated lime and/or activated carbon injection.

Please contact Ron Johnson at (352) 501-5170 or Jamie Hunter at (727) 820-5764 if you have any questions.

Sincerely,

Mark Gillespie

for Robby A. Odom
Station Manager/Responsible Official

Enclosures

Appendix 1

(Schedule and Overall Description of each Test Burn Run)

Crystal River Unit 1 September Test Burn Results

Start Time	End Time	Load	Coal	Sootblowing?	Reagent Injection (lb/hr) Hydrated Lime	Reagent Injection (lb/hr) Activated Carbon	Unit 1 PM (lb/Mbtu)	Unit 1 HCl (lb/Mbtu)	Unit 1 Mercury (lb/Tbtu)	Unit 1 Opacity (%)	Notes
9/16/13 0:00	9/16/13 0:00	92%	CAPP		0	0	0.047			15	
9/16/13 12:30	9/16/13 13:39	(363 MW)	CAPP		0	0					Run Void due to Rail Issue
9/16/13 19:10	9/16/13 20:20		CAPP	Yes	0	0	0.056			21	
9/18/13 11:30	9/18/13 12:32	70%	West Elk		0	0	0.030	0.007	1.715	7	
9/18/13 13:20	9/18/13 14:32	(277 MW)	West Elk		0	0	0.019	0.009	1.716	8	
9/18/13 15:10	9/18/13 16:22		West Elk	Yes	0	0	0.022	0.008	1.557	10	
9/19/13 8:30	9/19/13 9:42	85%	West Elk		0	0	0.045	0.012	1.794	15	
9/19/13 10:10	9/19/13 11:22	(335 MW)	West Elk		0	0	0.042	0.007	1.773	15	
9/19/13 12:00	9/19/13 13:12		West Elk	Yes	0	0	0.057	0.005	1.498	16	
9/20/13 9:00	9/20/13 10:12	92%	West Elk		0	0	0.057	0.003	1.145	20	
9/20/13 10:30	9/20/13 11:42	(363 MW)	West Elk		0	0	0.095	0.004	1.163	23	
9/20/13 12:05	9/20/13 13:17		West Elk	Yes	0	0	0.110	0.004	1.154	24	
9/23/13 9:00	9/23/13 10:12	70%	West Elk		75	150	0.053	0.005	0.893	14	
9/23/13 12:20	9/23/13 13:32	(277 MW)	West Elk		75	75	0.042	0.004	0.895	15	
9/23/13 14:00	9/23/13 15:12		West Elk	Yes	75	75	0.041	0.003	0.861	14	
9/24/13 9:35	9/24/13 10:47	85%	West Elk		75	75	0.074	0.003	1.040	21	
9/24/13 11:25	9/24/13 12:37	(335 MW)	West Elk		75	75	0.073	0.003	1.029	23	
9/24/13 13:05	9/24/13 14:17		West Elk	Yes	75	75	0.080	0.003	0.916	25	
9/30/13 9:35	9/30/13 10:47	92%	CAPP		50	75	0.102	0.079	2.995	16	High Ash CAPP
9/30/13 11:35	9/30/13 12:47	(363 MW)	CAPP		50	75	0.093	0.090	3.026	18	
9/30/13 13:15	9/30/13 14:27		CAPP	Yes	50	75	0.139	0.088	2.601	21	
10/1/13 8:10	10/1/13 9:22	85%	West Elk		50	75	0.105	0.002	0.776	19	
10/1/13 10:05	10/1/13 11:17	(335 MW)	West Elk		50	75	0.079	0.002	0.704	20	
10/1/13 12:00	10/1/13 13:12		West Elk	Yes	50	75	0.088	0.002	0.749	22	
10/2/13 8:35	10/2/13 9:42	85%	West Elk		50	0	0.080	0.002	1.037	20	
10/2/13 10:10	10/2/13 11:10	(335 MW)	West Elk		50	0			0.986		HCl & PM Run void due to filter temperature issue
10/2/13 12:10	10/2/13 13:22		West Elk	Yes	50	0	0.079	0.002	0.875	22	
10/2/13 14:10	10/2/13 15:22		West Elk		50	0	0.113	0.002	0.974	26	
10/3/13 7:25	10/3/13 8:37	92%	West Elk		50	75	0.119	0.004	0.858	28	
10/3/13 9:35	10/3/13 10:47	(365 MW)	West Elk		50	75		0.003	0.731		No PM run
10/3/13 13:50	10/3/13 15:02		West Elk		0	0		0.002	1.131		No PM run

Crystal River Unit 2 November Test Burn Results

					Reagent Injection (lb/hr)		Unit 2					
Start Time	End Time	Load	Coal	Sootblowing?	Hydrated Lime	Activated Carbon	PM (lb/Mbtu)	HCl (lb/Mbtu)	Mercury (lb/Tbtu)	SO_3 (lb/MMBtu)	Opacity (%)	Notes
11/4/13 10:05	11/4/13 11:14	92% (480 MW)	CAPP		0	0	0.015	0.089	3.014	0.0013	5	
11/4/13 12:10	11/4/13 13:18		CAPP		0	0	0.012	0.085	3.578	0.0008	6	
11/4/13 13:55	11/4/13 15:03		CAPP	Yes	0	0	0.021	0.081	3.339	0.0011	6	
11/6/13 12:00	11/6/14 13:08	70% (365 MW)	West Elk		0	0	0.033	0.006	1.323		12	Unit 2 tripped the previous night, 11/5. Build-up of residual light oil on ESP plates appears to have adversely impacted collection performance.
11/6/13 13:35	11/6/14 15:03		West Elk		0	0	0.037	0.006	1.211		13	
11/6/13 15:10	11/6/14 15:18		West Elk	Yes	0	0	0.048	0.007	1.281		15	
11/7/13 9:00	11/7/14 9:30		West Elk		0	0	0.013				3	
11/7/13 11:15	11/7/13 12:23	85% (440 MW)	West Elk		0	0	0.062	0.011	1.267		16	
11/7/13 12:50	11/7/13 13:58		West Elk		0	0	0.056	0.012	1.127		16	
11/7/13 14:30	11/7/13 15:38		West Elk	Yes	0	0	0.071	0.010	1.185		17	
11/11/13 11:50	11/11/13 12:58	92% (480 MW)	West Elk		0	0	0.017	0.004	1.241	0.0002	9	
11/11/13 13:25	11/11/13 14:33		West Elk		0	0	0.038	0.003	1.140	0.0003	12	
11/11/13 15:10	11/11/13 16:23		West Elk	Yes	0	0	0.040	0.002	0.875	0.0012	13	
11/12/13 10:25	11/12/13 11:33	70% (365 MW)	West Elk		48	75	0.022	0.002	0.587		8	
11/12/13 12:00	11/12/13 13:08		West Elk		48	75	0.015	0.002	0.511		9	
11/12/13 13:30	11/12/13 14:38		West Elk	Yes	48	75	0.016	0.002	0.280		10	
11/13/13 10:30	11/13/13 11:38	85% (440 MW)	West Elk		48	75	0.061	0.002	0.422		16	
11/13/13 12:10	11/13/13 12:45		West Elk		48	75	0.045	0.002	0.371		17	30 minute run
11/14/13 10:15	11/14/13 11:23	85% (440 MW)	West Elk		0	0	0.063	0.002	1.027		16	
11/14/13 11:45	11/14/13 12:18		West Elk		0	0	0.040	0.002	0.975		16	Dropped 10MW during test
11/14/13 15:45	11/14/13 16:53	70%	West Elk		0	0	0.037	0.003	1.006		12	ID Fan biased flow to C ESP
11/14/13 17:25	11/14/13 17:58	85%	West Elk		0	0	0.048	0.011	0.974		17	
11/18/13 10:15	11/18/13 11:23	92% (480 MW)	West Elk		50	50	0.044	0.009	0.961	0.0017	13	
11/18/13 11:45	11/18/13 12:53		West Elk		50	50	0.072	0.005	0.722	0.0004	15	
11/18/13 13:15	11/18/13 14:23		West Elk		50	50	0.048	0.004	0.670	0.0005	16	
11/21/13 9:30	11/21/13 10:38	92% (480 MW)	West Elk		0	0	0.049	0.004	0.607	0.0007	12	
11/21/13 11:00	11/21/13 12:08		West Elk		0	0	0.029	0.004	0.398	0.0002	12	
11/21/13 12:30	11/21/13 13:38		West Elk		0	0	0.026	0.004	0.413	0.0003	9	
11/21/13 14:30	11/21/13 15:38		West Elk		0	0	0.029	0.004	0.450	0.0003	10	

Exhibit E

IPM Model – Revisions to Cost and Performance for APC Technologies

Particulate Control Cost Development Methodology

FINAL

March 2011

Project 12301-009

Systems Research and Applications Corporation

Prepared by

Sargent & Lundy LLC

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This work was funded and reviewed by the U.S. Environmental Protection Agency under the supervision of William A. Stevens, Senior Advisor – Power Technologies. Additional input and review was provided by Dr. Jim Staudt, President of Andover Technology Partners.

Particulate Control Cost Development Methodology – Final

Technology Description

There are two main particulate capture unit operations employed in the utility industry:

- Electrostatic Precipitator (ESP)
- Fabric Filter (FF)

ESPs have been implemented in the utility industry since the 1960's; there have been a great number of installations in the U.S. and around the world. The ESP collects PM in a three step process: charging, collecting, and cleaning the collected ash off the electrodes. The ESP relies on fly as resistivity to charge and collect the particles. ESPs can reduce PM emissions to below 0.015 lb/MMBtu and opacity below 10% depending on the ash characteristics and particulate loading. However, it is difficult to collect fly ash when burning low sulfur coal because of high fly ash resistivity requiring large ESP. ESPs are not well suited for processes that are highly variable because the collection efficiency is sensitive to fluctuations in gas stream conditions.

Recently fabric filters (specifically pulse-jet type or PJFF) have become the preferred choice for new and retrofit utility particulate capture. PJFFs have been utilized commercially for over 25 years and are considered a mature technology. Modern PJFFs are reliable, versatile and cost effective. In a PJFF, particulate matter is collected on a fabric bag; then the particles are cleaned off the bag surfaces with a pulse of air. During cleaning, the collected particulate falls into hoppers and is removed via an ash handling system to a silo. PJFF suppliers provide guarantees as low as 0.010 lb/MMBtu depending on the application.

Co-Benefits

Due to the filter cake inherent in PJFFs, PJFF units have additional benefits that are not available in ESPs:

- Mercury removal is enhanced by a PJFF by contacting the flue gas with the unburned carbon in the fly ash;
- Collection of injected activated carbon with a PJFF can dramatically increase the mercury removal from the flue gas versus an ESP particulate collector;
- With in-duct dry sorbent injection, the SO_2 removal can be greatly increased when an PJFF is used versus an ESP for the sorbent capture; and
- Acid gases are removed when the flue gas is passed through the filter cake in a PJFF.

Particulate Control Cost Development Methodology – Final

Establishment of Cost Basis

The major cost driver for a baghouse is the required gross air-to-cloth (A/C) ratio. When the baghouse is installed in a retrofit situation following another collection device, such as an ESP, then an A/C of 6.0 would be appropriate if activated carbon injection is applied for mercury removal.

If the baghouse will be used as the sole particulate capture unit operation, an A/C of 4.0 should be specified. The lower A/C ratio will provide better bag life with the high inlet particulate loading expected for the single particulate capture device in the process.

Cost data from the S&L current database of projects, for several different baghouse installations, was reviewed and a relationship was developed for the capital costs of the system on a flue gas rate basis. The capital costs include:

- Duct work modifications,
- Foundations,
- Structural steel,
- ID fan modifications or new booster fans, and
- Electrical modifications.

Methodology

Inputs

Several input variables are required in order to predict the total future retrofit costs:

- Type of coal,
- Unit size,
- Unit heat rate, and
- Baghouse required size.

A retrofit factor that equates to difficulty in construction of the system must be defined.

Outputs

Total Project Costs (TPC)

A base installed cost for the baghouse is calculated (BM). The base installed cost is then increased by:

- Engineering and construction management costs at 10% of the BM cost;
- Labor adjustment for 6 x 10 hour shift premium, per diem, etc., at 5% of the BM cost; and
- Contractor profit and fees at 5% of the BM cost.

A capital, engineering, and construction cost subtotal (CECC) is established as the sum of the BM and the additional engineering and construction fees.

Additional costs and financing expenditures for the project are computed based on the CECC. Financing and additional project costs include:

- Owner's home office costs (owner's engineering, management, and procurement) at 5% of the CECC; and
- Allowance for Funds Used During Construction (AFUDC) at 6% of the CECC is added to account for AFUDC based on a complete project duration of 2 years.

The total project cost is based on a multiple lump sum contract approach. Should a turnkey engineering procurement construction (EPC) contract be executed, the total project cost would be 10 to 15% higher than what is currently estimated.

Escalation is not included in the estimate. The total project cost (TPC) is the sum of the CECC and the additional costs and financing expenditures.

Fixed O&M (FOM)
The fixed operating and maintenance (O&M) cost is a function of the additional operations staff (FOMO), maintenance labor and materials (FOMM), and administrative labor (FOMA) associated with the baghouse installation. The FOM is the sum of the FOMO, FOMM, and FOMA.

The following factors and assumptions underlie calculations of the FOM:

- All of the FOM costs were tabulated on a per kilowatt-year (kW-yr) basis.
- In general, 0 additional operators are required for a baghouse.
- The fixed maintenance materials and labor is a direct function of the process capital cost (BM).
- The administrative labor is a function of the FOMO and FOMM.

Variable O&M (VOM)
Variable O&M is a function of:

- Bag and cage replacement.

The following factors and assumptions underlie calculations of the VOM:

- All of the VOM costs were tabulated on a per megawatt-hour (MWh) basis.
- Bag and cage replacement every 3 and 9 years respectively for unit operations with 6.0 A/C.
- Bag and cage replacement every 5 and 10 years respectively for unit operations with 4.0 A/C.

Input options are provided for the user to adjust the variable O&M costs per unit. Average default values are included in the base estimate. The variable O&M costs per unit options are:

- Bag and cage costs in $/item.

The variables that contribute to the overall VOM are:

VOMB = Variable O&M costs for bags and cage replacement

The total VOM is the VOMB. The additional auxiliary power requirement is reported as a percentage of the total gross power of the unit.

Table 1 contains an example of the complete capital and O&M cost estimate worksheet for a baghouse installation.

Particulate Control Cost Development Methodology – Final

Table 1. Example Complete Cost Estimate for a 4.0 A/C Baghouse Installation (Costs are all based on 2009 dollars)

Variable	Designation	Units	Value	Calculation
Unit Size (Gross)	A	(MW)	500	<--- User Input
Retrofit Factor	B		1	<--- User Input (An "average" retrofit has a factor = 1.0)
Gross Heat Rate	C	(Btu/kWh)	9500	<--- User Input
Type of Coal	D		Bituminous	<--- User Input
Baghouse Air-to-Cloth Ratio	E		4.0 A/C Ratio	<--- User Input
Heat Input	F	(Btu/hr)	4.75E+09	= A*C*1000
Flue Gas Rate	G	(acfm)	2,068,502	Downstream of an air preheater For Bituminous Coal = A*C*0.435 For PRB Coal = A*C*0.400 For Lignite Coal = A*C*0.362
Aux Power	**H**	**(%)**	**0.60**	0.6 default value **Should be used for model input.**
Aux Power Cost	J	($/kWh)	0.06	
Bag Cost	K	($/bag)	80	
Cage Cost	L	($/cage)	30	
Operating Labor Rate	M	($/hr)	60	Labor cost including all benefits

		Example	Comments
Capital Cost Calculation			
Includes - Equipment, installation, buildings, foundations, electrical, and retrofit difficulty			
BM ($) =	if(E = 6.0 Air-to-Cloth then 422, E = 4.0 Air-to-Cloth then 476)*B*G^0.81	$ 62,128,000	Base module for an additional baghouse including: ID or booster fans, piping, ductwork, etc...
BM ($/KW) =		124	Base module cost per kW
Total Project Cost			
A1 = 10% of BM		$ 6,213,000	Engineering and Construction Management costs
A2 = 5% of BM		$ 3,106,000	Labor adjustment for 6 x 10 hour shift premium, per diem, etc...
A3 = 5% of BM		$ 3,106,000	Contractor profit and fees
CECC ($) = BM+A1+A2+A3		**$ 74,553,000**	Capital, engineering and construction cost subtotal
CECC ($/kW) =		**149**	Capital, engineering and construction cost subtotal per kW
B1 = 5% of CECC		$ 3,728,000	Owners costs including all "home office" costs (owners engineering, management, and procurement activities)
B2 = 6% of CECC + B1		$ 4,697,000	AFUDC for baghouse: 6% for a 2 year engineering and construction cycle
TPC ($) = CECC + B1 + B2 + C1 + C2		**$ 82,978,000**	Total project cost
TPC ($/kW) =		**166**	Total project cost per kW
Fixed O&M Cost			
FOMO ($/kW yr) = (0 additional operators)*2080*M/(A*1000)		$ -	Fixed O&M additional operating labor costs
FOMM ($/kW yr) = BM*0.005/(B*A*1000)		$ 0.62	Fixed O&M additional maintenance material and labor costs
FOMA ($/kW yr) = 0.03*(FOMO+0.4*FOMM)		$ 0.01	Fixed O&M additional administrative labor costs
FOM ($/kW yr) = FOMO + FOMM + FOMA		**$ 0.63**	Total Fixed O&M costs
Variable O&M Cost			
VOMB ($/MWh) = if(E = 6.0 Air-to-Cloth then 0.004, E = 4.0 Air-to-Cloth then 0.005)*(K/3+L/9)		$ 0.15	Variable O&M costs for bags and cages.
VOM ($/MWh) = VOMB		**$ 0.15**	

Table 2. Example Complete Cost Estimate for a 6.0 A/C Baghouse Installation (Costs are all based on 2009 dollars)

Variable	Designation	Units	Value	Calculation
Unit Size (Gross)	A	(MW)	500	<--- User Input
Retrofit Factor	B		1	<--- User Input (An "average" retrofit has a factor = 1.0)
Gross Heat Rate	C	(Btu/kWh)	9500	<--- User Input
Type of Coal	D		Bituminous	<--- User Input
Baghouse Air-to-Cloth Ratio	E		6.0 A/C Ratio	<--- User Input
Heat Input	F	(Btu/hr)	4.75E+09	= A*C*1000
Flue Gas Rate	G	(acfm)	2,068,502	Downstream of an air preheater For Bituminous Coal = A*C*0.435 For PRB Coal = A*C*0.400 For Lignite Coal = A*C*0.362
Aux Power	**H**	**(%)**	**0.60**	0.6 default value **Should be used for model input.**
Aux Power Cost	J	($/kWh)	0.06	
Bag Cost	K	($/bag)	80	
Cage Cost	L	($/cage)	30	
Operating Labor Rate	M	($/hr)	60	Labor cost including all benefits

Capital Cost Calculation	**Example**		**Comments**
Includes - Equipment, installation, buildings, foundations, electrical, and retrofit difficulty			
BM ($) = if(E = 6.0 Air-to-Cloth then 422, E = 4.0 Air-to-Cloth then 476)*B*G^0.81	$	55,080,000	Base module for an additional baghouse including: ID or booster fans, piping, ductwork, etc...
BM ($/KW) =		110	Base module cost per kW
Total Project Cost			
A1 = 10% of BM	$	5,508,000	Engineering and Construction Management costs
A2 = 5% of BM	$	2,754,000	Labor adjustment for 6 x 10 hour shift premium, per diem, etc...
A3 = 5% of BM	$	2,754,000	Contractor profit and fees
CECC ($) = BM+A1+A2+A3	**$**	**66,096,000**	Capital, engineering and construction cost subtotal
CECC ($/kW) =		**132**	Capital, engineering and construction cost subtotal per kW
B1 = 5% of CECC	$	3,305,000	Owners costs including all "home office" costs (owners engineering, management, and procurement activities)
B2 = 6% of CECC + B1	$	4,164,000	AFUDC for baghouse: 6% for a 2 year engineering and construction cycle
TPC ($) = CECC + B1 + B2 + C1 + C2	**$**	**73,565,000**	Total project cost
TPC ($/kW) =		**147**	Total project cost per kW
Fixed O&M Cost			
FOMO ($/kW yr) = (0 additional operators)*2080*M/(A*1000)	$	-	Fixed O&M additional operating labor costs
FOMM ($/kW yr) = BM*0.005/(B*A*1000)	$	0.55	Fixed O&M additional maintenance material and labor costs
FOMA ($/kW yr) = 0.03*(FOMO+0.4*FOMM)	$	0.01	Fixed O&M additional administrative labor costs
FOM ($/kW yr) = FOMO + FOMM + FOMA	**$**	**0.56**	Total Fixed O&M costs
Variable O&M Cost			
VOMB ($/MWh) = if(E = 6.0 Air-to-Cloth then 0.004, E = 4.0 Air-to-Cloth then 0.005)*(K/3+L/9)	$	0.12	Variable O&M costs for bags and cages.
VOM ($/MWh) = VOMB	**$**	**0.12**	

D. Progress Energy – Crystal River

Florida Department of Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Sent by Electronic mail – Received Receipt Requested

Mr. Robby Odom, Plant Manager
Progress Energy Florida, Inc
299 First Avenue, North
St. Petersburg, Florida 3370

Re: Project No. 0170004-036-AC
Progress Energy Florida, Crystal River Power Plant
Regional Haze Implementation

Dear Mr Odom:

On June 15, 2012, you submitted an application requesting a sulfur dioxide (SO_2) emissions standard of 0.15 lb/MMBtu heat input on a 30-day rolling average basis from Units 1 and 2. The application also requested the installation of SO_2 control technologies to meet the Florida Regional Haze Implementation Plan. The second alternative in the application was a shutdown date of December 31, 2020 for firing coal in Crystal River Power Plant's Units 1 and 2. The third option requested was an emission limit to exempt out of the Florida Regional Haze Implementation Plan for Units 1 and 2. The existing facility is located in Citrus County at 15760 West Power Line Street in Crystal River, Florida. Enclosed are the following documents: the Written Notice of Intent to Issue Air Permit; the Public Notice of Intent to Issue Air Permit; the Technical Evaluation and Preliminary Determination; and the Draft Permit with Appendices. The Public Notice of Intent to Issue Air Permit is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project. If you have any questions, please contact the project engineer, Leigh-Ann Pell at 850-717-9033.

Sincerely,

Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

Enclosures

JFK/al/lp

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

In the Matter of an
Application for Air Permit by:

Progress Energy Florida, Inc
299 First Avenue, North
St. Petersburg, Florida 3370

Authorized Representative:
Robby Odom, Plant Manager

Project No. 0170004-036-AC
Minor Air Construction Permit

Crystal River Power Plant
Regional Haze Implementation
Citrus County, Florida

Facility Location: Progress Energy Florida proposes to operate the existing Crystal River Power Plant, which is located in Citrus County at 15760 West Power Line Street in Crystal River, Florida.

Project: The project establishes a sulfur dioxide (SO_2) emission standard of 0.15 pounds per million Btu of heat input or 95 percent (%) reduction, whichever is less stringent, for coal-fired Units 1 and 2. The limit will be accomplished by a combination of dry flue gas desulfurization (FGD) and changes to the electrostatic precipitators and/or addition of baghouses to capture the reacted sorbent. This condition shall become effective upon the effective date of EPA's approval of these specific requirements in the Florida Regional Haze State Implementation Plan. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Division of Air Resource Management's (DARM) Office of Permitting and Compliance is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/717-9000.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a final permit in accordance with the conditions of the draft permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the draft permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the draft permit, the Permitting Authority shall revise the draft permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.

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Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intent to Issue Air Permit package (including the Written Notice of Intent to Issue Air Permit, the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination and the Draft Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Robby Odom, Plant Manager, PEF: robby.odom@PGNmail.com
Scott Osbourn, P.E., Golder Associates, Inc: sosbourn@golder.com
Robert Wong, Administrator, DEP SWD: robert.wong@dep.state.fl.us
Anne Harvey, Earth Justice: aharvey@earthjustice.org
Heather Ceron, US EPA Region 4: ceron.heather@epa.gov
Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us
Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

PERMITTEE

Florida Power Corporation
d/b/a Progress Energy Florida, Inc.
299 First Avenue, North
St. Petersburg, Florida 33701

Authorized Representative:
Robby Odom, Plant Manager

Air Permit No. 0170004-036-AC
Crystal River Power Plant Units 1 and 2
Standard Industrial Classification Code No. 4911
Expiration Date: December 31, 2018

Sulfur Dioxide Emission Standards/Controls
Citrus County

PROJECT

This is the final air construction permit, which establishes an additional sulfur dioxide (SO_2) emission standard for Units 1 and 2, authorizes installation of dry flue gas desulfurization (FGD) systems and authorizes physical changes to the electrostatic precipitators and plant components or installation of baghouses to facilitate installation of the dry FGD systems. The proposed work will be conducted at the existing Crystal River Power Plant, located in Citrus County at 15760 West Power Line Street in Crystal River, Florida. The UTM coordinates are Zone 17, 334.3 km East and 3204.5 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

(DRAFT)

____

Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Robby Odom, Plant Manager PEF: robby.odom@pgnmail.com
Scott Osbourn, P.E., Golder Associates, Inc: sosbourn@golder.com
Robert Wong, Air Program Administrator, DEP SWD: robert.wong@dep.state.fl.us
Anne Harvey, Earth Justice: aharvey@earthjustice.org
Heather Ceron, US EPA Region 4: ceron.heather@epa.gov
Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us
Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

(DRAFT)

FACILITY DESCRIPTION

The existing facility consists of the following emissions units (E.U.).

E.U. No.	Brief Description
Regulated Emission Units	
001	Fossil Fuel Steam Generator, Unit 1
002	Fossil Fuel Steam Generator, Unit 2
004	Fossil Fuel Steam Generator, Unit 4
003	Fossil Fuel Steam Generator, Unit 5
006	Fly ash transfer (Source 1) from FFSG Unit 1
008	Fly ash storage silo (Source 3) for FFSG Units 1 and 2
009	Fly ash transfer (Source 4) from FFSG Unit 2
010	Fly ash transfer (Source 5) from FFSG Unit 2
014	Bottom ash storage silo for FFSG Units 1 and 2
012	Relocatable diesel generators
013	Cooling towers for FFSG Units 1, 2, and 3
015	Cooling towers for FFSG Units 4 and 5
016	Material handling activities for coal-fired steam units
020	Portable Cooling Towers for Fossil Fuel Steam Generators Units 1 and 2
028	3500 kW diesel generator associated with Unit 3
029	Diesel fire pump, south yard
030	Emergency generator (meteorological weather station)
Unregulated Emissions Units and/or Activities	
017	Fuel and lube oil tanks and vents
018	Sewage treatment, water treatment, lime storage
019	Two 3,500 kW diesel generators associated with Unit 3

PROPOSED PROJECT

This project addresses coal-fired Units 1 and 2. The project supplements permit No. 0170004-017-AC (issued February 26, 2009) by providing additional options for complying with Florida's Regional Haze State Implementation Plan. The three emission reduction scenarios authorized by this project include:

A) Discontinuation of operation of Units 1 and 2 as coal-fired units by December 31, 2020;

B) Installation and operation of a Dry Flue Gas Desulfurization (DFGD) system before January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze SIP, whichever is later, and establishment of emissions standards of 95 percent (%) sulfur dioxide SO_2 removal efficiency or 0.15 pounds per million Btu heat input (lb/MMBtu); or

C) Agree to a permit limit for SO_2 applicable on January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze State Implementation Plan, whichever is later, at a level sufficient to exempt out of Best Available Retrofit Technology (BART) requirements.

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the DEP Southwest District Office at: 13051 N. Telecom Parkway Temple Terrace, Florida 33637-0926.

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); and Appendix C (Common Conditions).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification.
[Rules 62-210.300(1) & 62-212.300(1)(a), F.A.C.]

7. New Permit Specific Conditions: The applicant has proposed three emission reduction scenarios to satisfy the Florida Regional Haze Implementation Plan for the eligible emissions units at the Crystal River Power Plant. The applicant shall make a decision regarding the scenario that will be pursued and shall notify the Department of this decision no later than January 1, 2015, at which time the scenarios (and corresponding permit conditions) which were not selected will become obsolete. The applicant shall comply with one of the following three scenarios:

   a. Discontinuation of operation of Crystal River Units 1 and 2 as coal-fired units by December 31, 2020. Refer to Section 3, Scenario A. This scenario is currently in effect pursuant to Permit No. 0170004-AV with certain contingencies related to other projects planned by the applicant.

   b. Install and operate a sulfur dioxide (SO_2) Dry Flue Gas Desulfurization (DFGD) system before January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later, and establish additional emissions standards of 95 percent sulfur dioxide SO_2 removal efficiency or 0.15 pounds per million Btu heat input (lb/MMBtu), whichever is less stringent, for Crystal River Units 1 and 2 as presumptive Best Available Retrofit Technology (BART). Refer to Section 3, Scenario B.

   c. Agree to and demonstrate compliance with a permit limit for SO_2 by January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later, at a level sufficient to exempt out of BART. Refer to Section 3, Scenario C.

[Application No. 0170004-036-AC; Rule 62-296.340(5)(c), F.A.C.; and, Rules 62-4.070(1)&(3), and 62-213.440(1), F.A.C.]

8. Application for Title V Permit: This permit establishes optional emissions reduction scenarios as detailed in Section 3. A Title V air operation permit is required for regular operation of the permitted emissions unit. If Scenario A is chosen, an application to revise the facility's Title V air operation permit shall be submitted by January 1, 2015. If Scenario B is chosen, an application to incorporate the conditions of Scenario B of this permit into the facility's Title V air operation permit shall be submitted within 180 days after completing the physical changes authorized by this permit, but no later than 90 days prior to the expiration date shown above. If Scenario C is chosen, a Title V revision application shall be submitted as specified in the air construction permit that will issued pursuant to this option. To apply for a Title V air operation permit, the applicant shall submit the appropriate application form and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

Emission Units 1 and 2

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
001	Fossil Fuel Steam Generator, Unit 1 - 3,750 MMBtu/hour
002	Fossil Fuel Steam Generator, Unit 2 - 4,795 MMBtu/hour

SCENARIO A: CEASE OPERATION OF UNITS 1 & 2 AS COAL-FIRED UNITS BY 12/31/2020.

A.1. Compliance With Permit No. 0170004-017-AC. If the chosen emission reduction scenario is to cease operating Units 1 and 2 as coal fired units by December 31, 2020, then PEF shall comply with the existing emissions and operation limitations contain in Permit No. 0170004-017-AC, except that Condition 3.C.16. is changed as follows (~~strike through~~ indicates deleted text, double underline indicates added text):

Shut Down of Units 1 and 2. Units 1 and 2 shall cease to be operated as coal-fired units by December 31, 2020. ~~This date assumes timely licensing, construction and commencement of commercial operation of PEF's proposed new nuclear units (Levy County Units 1 and 2). The shutdown (or repowering) of Units 1 and 2 coal-fired units is contingent upon completion of the first fuel cycle for Levy County Unit 2. PEF shall timely advise the Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond the completion of the first fuel cycle for Levy County Unit 2. [Rule 62-296.340 (BART), F.A.C. and Applicant Request]~~ [Application No. 0170004-036-AC]

SCENARIO B: INSTALL DRY FLUE GAS DESULFURIZATION (DFGD) SYSTEM.

Authorized Construction

B.1. Previous Permits: The conditions of this section supplement all previously issued air construction permits and regulations affecting Units 1 and 2. Relevant provisions of these permits are incorporated in the Facility Title V Operation Permit No. 0170004-025-AV.

B.2. Sulfur Dioxide (SO_2) Control Project: For Units 1 and 2, the permittee is authorized to install a dry flue gas desulfurization (FGD) system including vessels, pumps, metering equipment, slaking equipment, bins, silos and other equipment required to store, feed and contact lime or similar sorbent with exhaust gas. [Application 0170004-036-AC]

B.3. Particulate Matter (PM) Control: If the permittee actually conducts the SO_2 Control Project on Units 1 and 2, then the permittee is required to make physical or operational changes to the PM control systems to avoid significantly increasing PM emissions caused by use of the dry FGD. The changes may include but are not limited to:

a. Replacement or addition of wires, collection plates, transformer/rectifier sets, rappers, dust hoppers, conveyors and duct work on the existing electrostatic precipitators (ESPs);

b. Conversion of ESPs or portions of ESPs to baghouses;

c. Addition of baghouses, hoppers and conveyance equipment; and

d. Installation of modern micro-processor controls.

[Application 0170004-036-AC]

B.4. Coal and Ash Handling Equipment: The permittee is authorized to make changes and improvements to the coal and ash handling equipment to facilitate the use of lower or higher sulfur coal blends and facilitate removal of dry FGD reaction products while achieving the SO_2 emission standard specified in Condition 6, below. [Application 0170004-036-AC]

Performance Restrictions

B.5. Emission Increases: This permit does not authorize major modifications or increases in capacity. [Rule 62-210.200, F.A.C. (Definitions: Major Modification, Potential-to-Emit, Actual Baseline Emissions; Projected Actual Emissions and Significant Emissions Rate)]

B.6. Sulfur Dioxide (SO_2) Emission Standard: When combusting coal in Units 1 and 2, the owner or operator shall not cause to be discharged into the atmosphere from either unit any gases that contain SO_2 in excess of 0.15 pounds per million of heat input (lb/MMBtu) or 5 percent of the potential combustion concentration (95 percent reduction) on a 30-day rolling average basis, whichever is less stringent. Compliance with the emission standard shall be determined on a 30-day rolling average basis in accordance with the procedures contained in 40 Code of Federal Regulation (CFR), Part 60, Subpart Da. This condition shall become effective no later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later. [Application No. 0170004-036-AC]

{Note: This condition will apply in addition to other SO_2 requirements contained in Facility Title V Air Operation Permit 0170004-025-AV, its renewals and its revisions. Reference is made to certain procedures contained in 40 CFR 60, Subpart Da strictly for convenience. Units 1 and 2 are not affected facilities under this subpart.}

B.7. Particulate Matter (PM) Emissions: No later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later, PM emissions shall not exceed 0.015 lb/MMBtu, as determined by EPA Method 5. [Rule 62-4.070, F.A.C.; avoidance of Rule 62-212.400 (PSD), F.A.C.]

B.8. Visible Emissions: No later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later, visible emissions shall not exceed 15% opacity under normal operations and 20% opacity under soot blowing and load change operations, as determined by data collected from the existing COMS. [Rule 62-4.070, F.A.C.; avoidance of Rule 62-212.400 (PSD), F.A.C.]

B.9. SO_2 Continuous Emissions Monitoring Systems (CEMS): The permittee shall use data collected from each of the previously installed and certified Acid Rain SO_2 CEMS to demonstrate compliance with the emissions standards specified in this permit. An additional SO_2 CEMS shall be installed prior to the new DFGD and shall be calibrated and certified to record pre-control SO_2 emissions in order to demonstrate the SO_2 removal efficiency of the DFGD. The SO_2 CEMS shall be operated and data recorded during all periods of operation including periods of startup, shutdown, malfunction, or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments. [40 CFR 60 Appendix A; 40 CFR 75]

Testing Requirements

B.10. Initial Compliance Tests. Following installation of the control devices authorized by Conditions B.2. and B.3., compliance tests shall be conducted for particulate matter and visible emissions to demonstrate compliance with the emissions standards specified in Conditions B.7. and B.8. Compliance with the PM standard shall be demonstrated on the average of the 3 required 1-hour test runs. [Rule 62-297.310, F.A.C.]

Design Details and Projected Actual Emission Update

B.11. Preliminary Design: The permittee shall as soon as practicable and no later than January 1, 2015, submit to the Department updated project details including the selection of implementation strategies including but not limited to: the capacity and location of the DFGD systems and associated silos; approximate fuel sulfur specifications; contemplated improvements to the electrostatic precipitators, reorientation of components; and contemplated modifications and improvements to coal, ash and any new coal combustion products handling systems. [Rule 62-4.070, F.A.C. (Reasonable Assurance)]

B.12. Estimates of Projected Actual Emissions: The permittee shall as soon as practicable and no later than January 1, 2015, submit to the Department updated estimates of baseline actual emissions and future actual emissions of SO_2, Nitrogen oxides (NO_X), carbon monoxide (CO), PM, PM smaller than 10 microns (PM_{10}) and ($PM_{2.5}$) in accordance with the procedures specified in Rule 62-210.200, F.A.C. [Rules 62-4.070, F.A.C. (Reasonable Assurance) and Rule 62-210.200, F.A.C. (Definitions: Potential-to-Emit, Actual Baseline Emissions; Projected Actual Emissions and Significant Emissions Rate)]

SCENARIO C: ESTABLISH A PERMIT LIMIT TO EXEMPT OUT OF BART.

C.1. Submission of Permit Application: If PEF chooses to establish permit conditions sufficient to exempt out of BART, an application for an air construction permit containing a complete 5-factor BART determination clearly indicating control strategies and necessary emissions limits shall be submitted to the Department no later than January 1, 2015. This application shall be submitted along with the notification required in Condition 2.7, above, indicating that exempting out of BART is the chosen emission reduction scenario. [Rules 62-4.070 & 62-296.340, F.A.C.; and, Application No. 0170004-036-AC]

C.2. Physical Changes Authorized by Exemption Permit: The authority to make any necessary physical changes pursuant to emissions reduction Scenario C shall be effective upon the effective date of the air construction permit issued according to that chosen scenario. The emissions limitations established by that permit shall become effective as soon as practicable following completion of the physical changes authorized by that permit, but no later than 5 years after the effective date of EPA's approval of these specific requirements in the Florida Regional Haze State Implementation Plan. [Rule 62-4.070, F.A.C. and Application No. 0170004-036-AC]

C.3. Compliance With Chosen BART Exemption Conditions: PEF shall complete all necessary physical changes and shall comply with the proposed BART exemption emissions limits no later than January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze SIP, whichever is later. [Rules 62-4.070 & 62-296.340, F.A.C.; and, Application No. 0170004-036-AC]

TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Florida Power Corporation d/b/a
Progress Energy Florida, Inc.
299 First Avenue, North
St. Petersburg, Florida 33701

Crystal River Energy Complex
Facility ID No. 0170004

PROJECT

Project No. 0170004-036-AC
Sulfur Dioxide Emission Standards/Controls for Boilers 1 and 2

COUNTY

Citrus County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

July 31, 2012

1. GENERAL PROJECT INFORMATION

1.1. Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Chapters 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations in Rule 62-204.800, F.A.C.

1.2. Facility Description and Location

The Progress Energy Crystal River Energy Complex is an existing power plant, which is categorized under Standard Industrial Classification Code No. 4911. Refer to Figures 1 and 2. The existing Crystal River Power Plant is located in Citrus County at 15760 West Power Line Street in Crystal River, Florida.

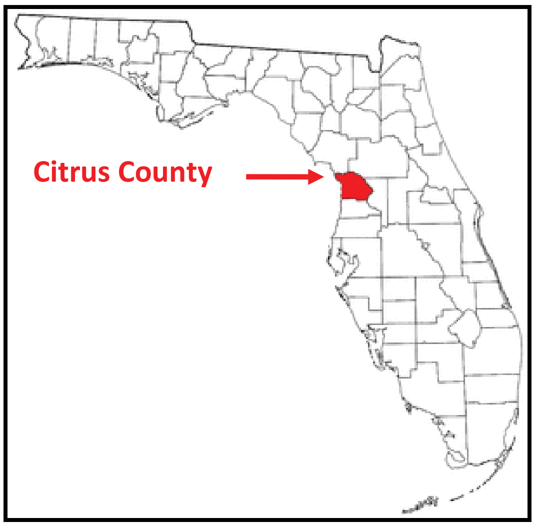


Figure 1. Citrus County, Florida **Figure 2. Location of Crystal River Energy Complex**

The UTM coordinates of the existing facility are Zone 17, 334.3 km East and 3204.5 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to Ambient Air Quality Standards (AAQS).

Table 1 is a summary of Emissions Units (E.U.) from the Facility Title V Air Operation Permit 0170004-036-AV. Units 1 and 2 are the subject of the present permit application. Units 1 and 2 are tangentially-fired, dry bottom pulverized coal-fueled boilers with gross capacity ratings of 440.5 and 523.8 megawatts (MW), respectively. The units commenced commercial operation in 1966 and 1969, respectively.

Table 1. Summary of Emissions Units

E.U. No.	Brief Description
Regulated Emission Units	
001	Fossil Fuel Steam Generator, Unit 1
002	Fossil Fuel Steam Generator, Unit 2
004	Fossil Fuel Steam Generator, Unit 4
003	Fossil Fuel Steam Generator, Unit 5
006	Fly ash transfer (Source 1) from Unit 1
008	Fly ash storage silo (Source 3) for Units 1 and 2
009	Fly ash transfer (Source 4) from Unit 2
010	Fly ash transfer (Source 5) from Unit 2
014	Bottom ash storage silo for Units 1 and 2
012	Relocatable diesel generators
013	Cooling towers for Units 1, 2, and 3
015	Cooling towers for Units 4 and 5
016	Material handling activities for coal-fired steam units
020	Portable Cooling Towers for Units 1 and 2
028	3500 kW diesel generator associated with Unit 3
023	Limestone and Gypsum Material Handling Activities
029	Diesel fire pump, south yard
030	Emergency generator (meteorological weather station)
Unregulated Emissions Units and/or Activities	
017	Fuel and lube oil tanks and vents
018	Sewage treatment, water treatment, lime storage
019	Two 3500 kW diesel generators associated with Unit 3

Unit 1 is equipped with a 499 foot stack and Unit 2 has a 502 foot stack. Each has an electrostatic precipitator (ESP) to control particulate matter (PM) and Low NO_X burners to control nitrogen oxides (NO_X). Each is equipped with Continuous emissions monitoring systems (CEMS) to measure and record NO_X and sulfur dioxide (SO_2) emissions and a continuous opacity monitoring system (COMS) to measure and record the opacity of the exhaust gas.

1.3. Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

1.4. Application

On June 15, 2012, Progress Energy Florida submitted an air construction permit application for Crystal River Power Plant Units 1 and 2. Link to Application The application includes the three options listed below.

1. Commit to cease operation of Crystal River Units 1 and 2 as coal-fired units by December 31, 2020.
2. Install and operate a sulfur dioxide (SO_2) Flue Gas Desulfurization (FGD) system before January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze SIP, whichever is later, and establish emissions standards of 95 percent sulfur dioxide SO_2 removal efficiency or 0.15 pounds per million Btu heat input (lb/MMBtu) from Crystal River Units 1 and 2 as presumptive Best Available Retrofit Technology (BART).
3. Agree to a permit limit for SO_2 by January 1, 2018 or within 5 years of EPA's final approval of Florida's final Regional Haze State Implementation Plan, whichever is later, at a level sufficient to exempt out of BART.

Details on the SO_2 project are available in a separate document submitted to the Department on May 30, 2012 as the Best Available Retrofit Technology (BART) proposal for Units 1 and 2.

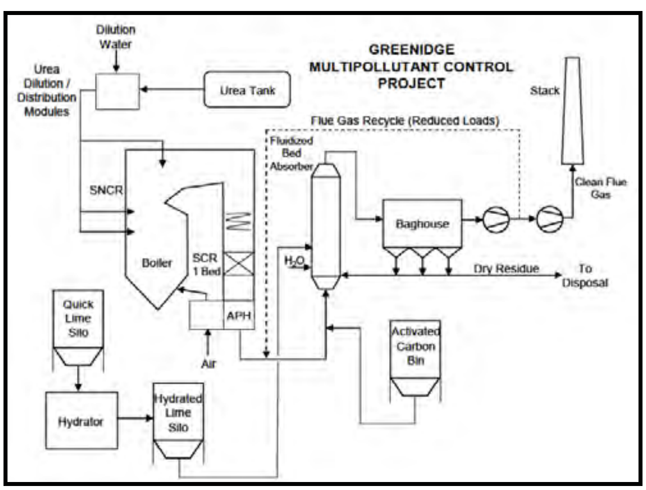
1.5. Project Description

If Crystal River Units 1 and 2 continue to operate as coal-fueled units beyond 2020, the company will install FGD technology. The supplementary information included analyses of wet FGD and dry FGD options. However, the document indicated a preference by the applicant towards the latter due to lower impacts related to water use, volume of coal combustion products (calcium sulfite sludge or gypsum product), and lower capital costs (e.g. less expensive carbon steel).

Fabric filters are often used in conjunction with dry FGD technologies, especially when high efficiency SO_2 removal is required. The reason is that the filter cake (e.g. lime) that builds up in the bags provides additional contact between exhaust gases and reagent compared with an ESP. The Department infers from the information reviewed to-date that a dry FGD technology, including fabric filters is the most likely scenario for the second option listed above.

Refer to Figures 3 and 4. There are various types of dry and semi-dry FGD designs. The discussion below features one of dozens of possible arrangements possible for dry FGD installations at coal-fueled power plants. It is shown here for convenience to explain principles of dry scrubbing. It is not a design proposed by the company or an arrangement specifically recommended by the Department.

The arrangement in Figure 3 was installed at the small AES Greenidge Unit 4 in New York. It features a hydrated lime [$Ca(OH)_2$] based scrubber and a fabric filter (baghouse) associated with the scrubber to optimize use of the hydrated lime sorbent. The circulating fluidized bed (CFB) scrubber (called TurboSorp®) shown in Figure 4 was used within AES Greenidge project.



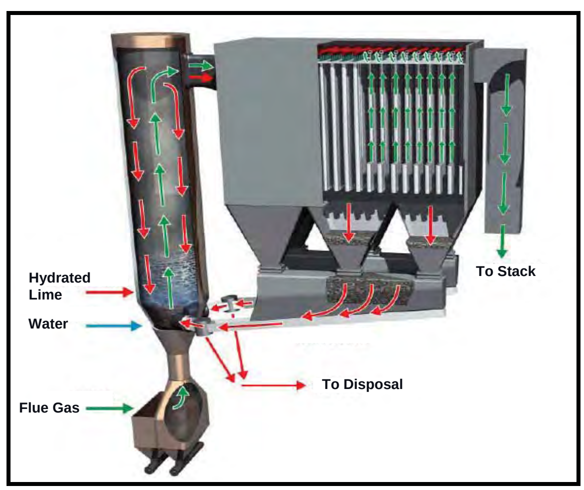


Figure 3. Control System at AES Greenidge Figure 4. Circulating Fluidized Bed Dry Scrubber

To achieve 95% efficiency with a dry scrubber will require a baghouse. To achieve 0.15 lb SO_2/MMBtu without a baghouse will likely require use of lower sulfur coal and require substantial upgrades to the existing ESPs.

1.6. Processing Schedule

May 30, 2012 Received control options document in advance of application.

June 15, 2012 Received application.

July 31, 2012 Issued Draft Permit Package.

2. PSD APPLICABILITY FOR DRY SCRUBBING OPTION

2.1. General PSD Applicability

The Department regulates major stationary sources in accordance with Florida's PSD program pursuant to Rule 62-212.400(PSD), F.A.C. PSD preconstruction review is required in areas that are currently in attainment with the state and federal ambient air quality standards (AAQS) or areas designated as "unclassifiable" for these regulated pollutants.

Commonly addressed PSD pollutants in the power industry include: CO, SO_2, NO_X, PM, PM smaller than 10 micrometers (µm) (PM_{10}), PM smaller than 2.5 µm ($PM_{2.5}$), volatile organic compounds (VOC), sulfuric acid mist (SAM), lead (Pb), fluorides (F), and mercury (Hg).

Additional PSD pollutants that are more common to certain other industries include: hydrogen sulfide (H_2S), TRS including H_2S, reduced sulfur compounds (RSC) including H_2S, municipal waste combustor (MWC) organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans (dioxin/furan), MWC metals measured as PM; MWC acid gases measured as SO_2 and HCl, and municipal solid waste (MSW) landfill emissions as non-methane organic compounds (NMOC).

As defined in Rule 62-210.200(Definitions), F.A.C., a stationary source is a "major stationary source" (major PSD source) if it emits or has the potential to emit (PTE):

- 250 tons per year (tons/year) or more of any PSD pollutant; or
- 100 tons/year or more of any PSD pollutant and the facility belongs to one of the 28 listed PSD major facility categories.

The list given in the citation includes the category of "fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input". The given category applies to the Crystal River Energy Complex. The Crystal River Energy Complex is a major stationary source based on actual emissions of and potential to emit 100 tons/year or more of several individual PSD pollutants.

For major stationary sources such as the Crystal River Energy Complex, PSD applicability for modification projects is based on thresholds known as the significant emission rates (SER) as defined in Rule 62-210.200 (Definitions), F.A.C. Any "net emissions increase" as defined in Rule 62-210.200 (Definitions), F.A.C. of a PSD pollutant from the project that equals or exceeds the respective SER is considered "significant".

SER also means any emissions rate or any net emissions increase of a PSD pollutant associated with a major stationary source or major modification which would construct within 10 km of a Class I area and have an impact on such area equal to or greater than 1 gram per cubic meter, 24-hour average. Although a facility may be "major" (i.e. emits or has the potential to emit 100 or 250 tons/year as applicable) for only one PSD pollutant, a project must include Best Available Control Technology (BACT) for any PSD pollutant increase in that equals or exceeds the corresponding significant emission rate given in Table1.

Table 1. List of Significant Emission Rates by PSD-Pollutant Relevant to the Facility [2]

Pollutant	SER (tons/year)	Pollutant	SER (tons/year)
PM	25	PM_{10}	15
$PM_{2.5}$	10	$PM_{2.5}$ (NO_X) [1]	40
$PM_{2.5}$ (SO_2) [1]	40	CO	100
SO_2		NO_X	40
Ozone (NO_X) [1]	40	Ozone (VOC) [1]	40
Sulfuric acid mist (SAM)	7	fluoride	3
mercury	0.1	lead	0.6

1. $PM_{2.5}$ is also regulated through precursors (NO_X and SO_2); Ozone (O_3) is regulated through precursors (VOC and NO_X).
2. There is federal SER of 75,000 tons/year for Greenhouse Gases (GHG) as carbon dioxide equivalent (CO_2e) that has not been incorporated into Department rules.

According to 40 CFR 52.21, six greenhouse gases (GHG), are also subject to regulation at new stationary sources According to 40 CFR 52.21, six greenhouse gases (GHG), are also subject to regulation at new stationary sources that will emit or have the potential to emit 100,000 tons/year (SER equal to 75,000 tons/year) expressed as the carbon dioxide equivalent emissions (CO_2e). This requirement has not been incorporated into Department rules but is a separate requirement of the EPA.

2.2. PSD Applicability for Project

The project is located in Citrus County, which is in an area that is currently in attainment with the state and federal AAQS or otherwise designated as unclassifiable.

Methodology for Calculations of Baseline Actual Emissions and Projected Actual Emissions

To determine whether the project causes net emissions increases equal to or greater than the respective SER (triggering PSD) requires a comparison of recent "baseline actual emissions" with future "projected actual emissions". According to Rule 62-210.200(Definitions), F.A.C., for any existing electric utility steam generating unit:

"Baseline actual emissions" means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the date a complete permit application is received by the Department. The Department shall allow the use of a different time period upon a determination that it is more representative of normal source operation".

1. The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups and shutdowns.
2. The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the consecutive 24-month period.
3. For a PSD pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period can be used for each PSD pollutant.
4. The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by subparagraph 2., above.

According to Rule 62-210.200(Definitions), F.A.C., for an existing unit (other than an electric steam generating unit):

"Projected Actual Emissions" means the maximum annual rate, in tons/year, at which an existing emissions unit is projected to emit a PSD pollutant in any one of the 5 years following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that PSD pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source. One year is one 12-month period. In determining the projected actual emissions, the Department:

(a) Shall consider all relevant information, including historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans or orders, including consent orders; and

(b) Shall include fugitive emissions to the extent quantifiable and emissions associated with startups and shutdowns; and

(c) Shall exclude that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project including any increased utilization due to product demand growth; or

(d) In lieu of using the method set out in paragraphs (a) through (c) above, may be directed by the owner or operator to use the emissions unit's potential to emit, in tons per year.

Department's Assessment of PSD Applicability

Figure 5 is a summary of information derived from the EPA Air Markets Website pertinent to operation of Crystal River Units 1 and 2. During 2007-2008 the combined gross generation capacity of the two units was approximately 61.5% based on the annual gross electric generation reported for these units per EPA and the gross capacity descriptions in the recent permits. In 2011, the combined gross capacity factor was only 33%.

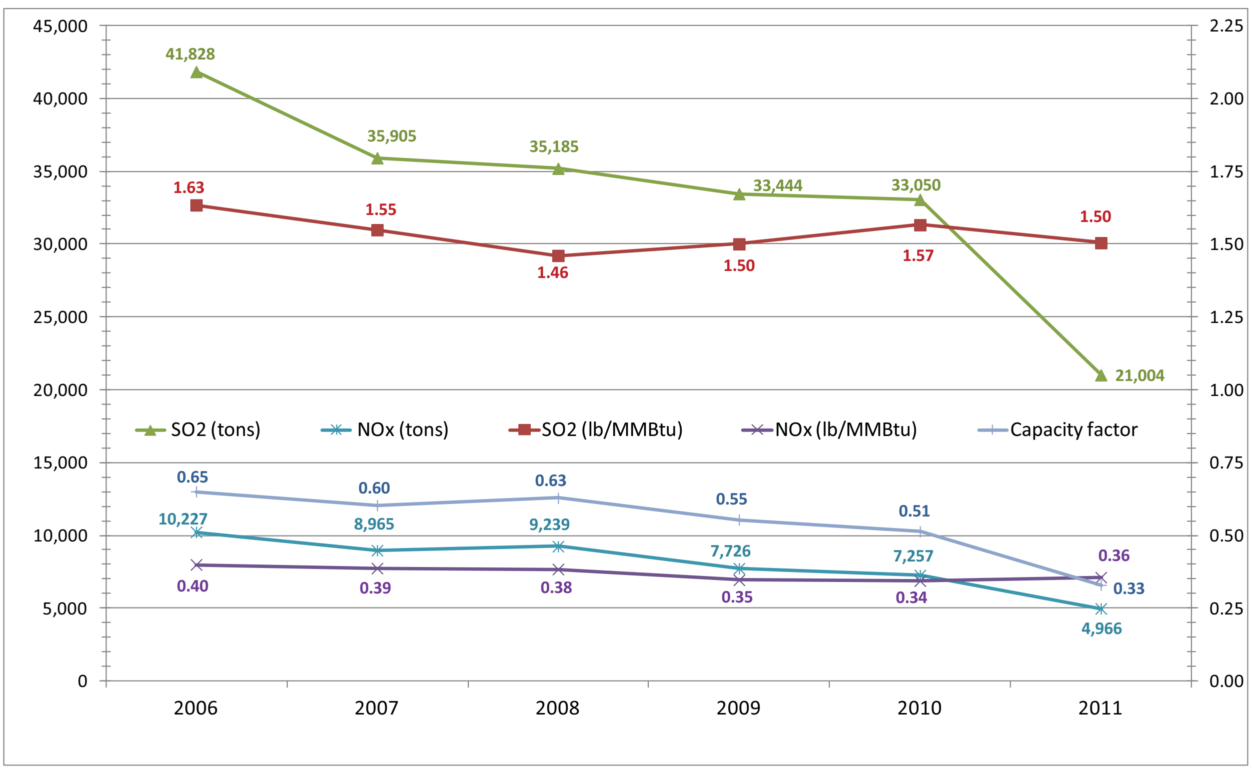


Figure 5. Combined Units 1 and 2 NO_X, SO_2 Emissions and Gross Generation Capacity Factors

Average combined emissions of SO_2 and NO_X during 2007-2008 were 35,545 tons per year (tons/year) of SO_2 and 9,102 tons/year of NO_X. During 2011, SO_2 and NO_X emissions for 2011 were 21,004 and 4,966 tons/year, respectively.

During 2007-2008, the SO_2 and NO_X emissions factors were 1.5 and 0.385 pounds per million Btu per hour of heat input (lb/MMBtu/hr), respectively. During 2011, the values were 1.5 and 0.33 lb/MMBtu. The permitted SO_2 emission factor for Units 1 and 2 is 2.1 lb SO_2/MMBtu. The annual NO_X emission factor limit is 0.40 lb/MMBtu based on the Acid Rain Program (there is also an alternative limit based on company-wide averaging). Since 2006 emissions of SO_2 and NO_X from Units 1 and 2 have been reduced by approximately 50%.

Although not the subject of the present application, the emission trends at the adjacent Units 4 and 5 are relevant. Refer to Figure 6. Annual emissions and emission factors of both SO_2 and NO_X have been reduced by more than 90%. These reductions equate to 70,000 tons/year of SO_2 and NO_X combined. The reductions were achieved by installation of SCR and wet FGD scrubbers.

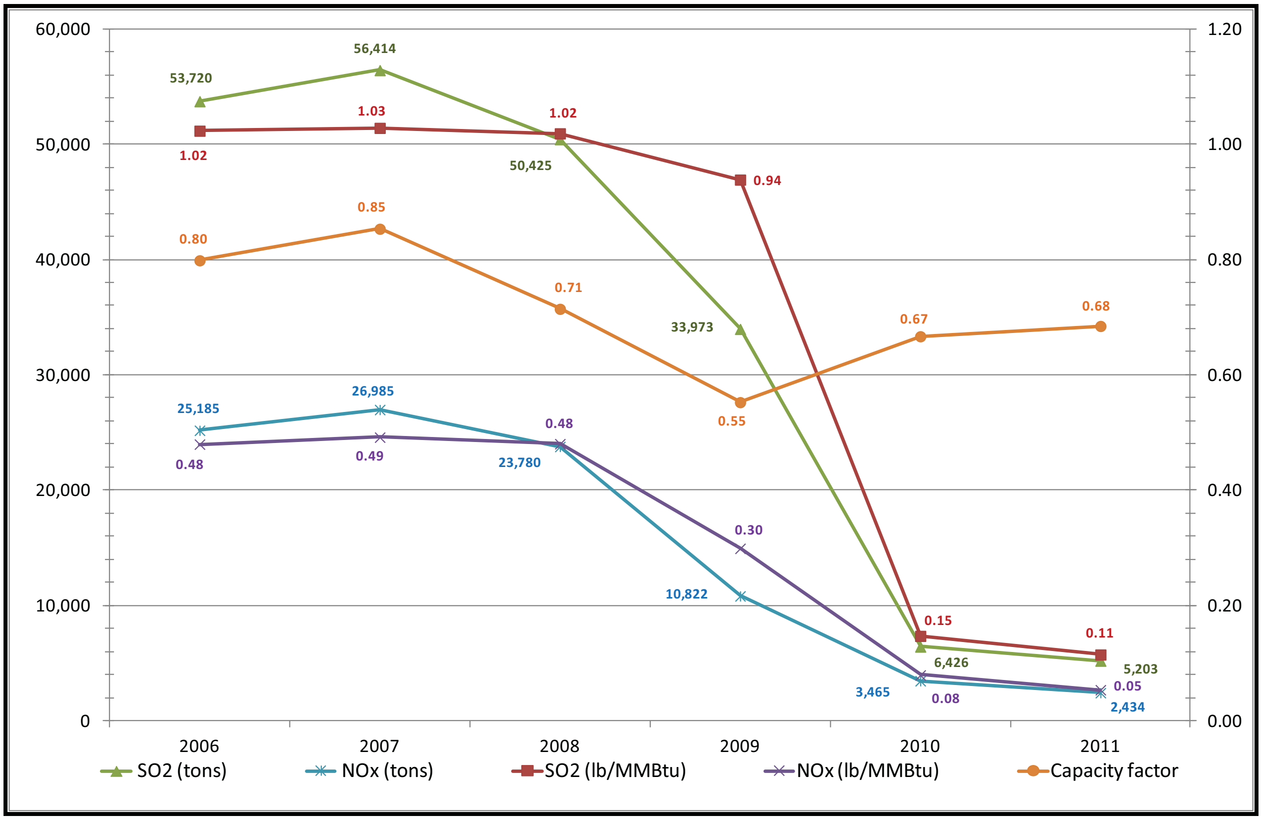


Figure 6. Combined Units 4 and 5 NO_X, SO_2 Emissions and Gross Generation Capacity Factors

Considering the four fossil fuel-fired units at the Crystal River Energy Complex, emissions of SO_2 and NO_X have been reduced by 72.5 and 79.2% since 2006. The reductions in total annual SO_2 and NO_X emissions are approximately 100,000 tons/year.

Because Progress Energy can take credit for the emission reductions to-date (by the PSD netting process) when considering future actual emissions, there is no reasonable scenario under which a future SO_2 control project ***including dry scrubbers and baghouses (or ESP improvements)*** on Units 1 and 2 can possibly trigger PSD.

On February 26, 2009 the Department issued a permit (0170004-017-AC) incorporating Best Available Retrofit Technology (BART) for Units 1 and 2. Link to BART Permit The permit includes PM limits for normal and soot blowing operations as follows:

3. Particulate Matter Emissions Standard – Steady State Operations. As determined by EPA Method 5 or 17, particulate matter emissions from Units 1 and 2 combined shall not exceed 0.04 lb/MMBtu, on a weighted average basis of the total heat input. Compliance shall be demonstrated on the average of the 3 required 1-hour test runs. [Rule 62-296.340 (BART), F.A.C.]
4. Particulate Matter Emissions Standard – Soot Blowing and Load Change Operations. As determined by EPA Method 5 or 17, particulate matter emissions from Units 1 and 2 combined shall not exceed 0.12 lb/MMBtu, on a weighted average basis of the total heat input. Compliance shall be demonstrated on the average of the 3 required 1-hour test runs. [Rule 62-296.340 (BART), F.A.C.]
5. Opacity Standard – Steady State Operations. As determined by data collected from the existing COMS or EPA 9, visible emissions during steady-state operations from: Unit 1 shall not exceed 30% opacity based on a 6-minute average except for one 6-minute average per hour not to exceed 35% opacity; Unit 2 shall not exceed 15% opacity based on a 6-minute average except for one 6-minute average per hour not to exceed 20% opacity. [Rule 62-296.340 (BART), F.A.C.]
6. Opacity Standard – Soot Blowing and Load Change Operations. As determined by data collected from the existing COMS or EPA 9, visible emissions resulting from soot-blowing and load change operations shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized. In no case shall the duration of such emissions exceed 3 hours in any 24-hour period and visible emissions from: Unit 1 shall not exceed 40% opacity based on a 6-minute average; Unit 2 shall not exceed 25% opacity based on a 6-minute average. A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.
[Rule 62-296.340 (BART), F.A.C.]

The foregoing conditions and described limitations would not be compatible with the purpose and actual function of new dry scrubbers, if actually installed, on Units 1 and 2. With these conditions, there is not reasonable assurance that increases in PM will not occur once the substantial additional reagent and reaction product loadings are added to the existing fly ash loading.

As an example, it would be reasonable to assume Crystal River Units 1 and 2 (after installing significant air pollution control equipment) will during some years operate at an annual gross capacity factor on the order of 61.5% (like baseline years 2007-2008). To remove on the order of 30,000 tons/year and achieve 0.15 lb SO_2/MMBtu requires formation of roughly 60,000 tons/year of coal combustion products of calcium sulfate or calcium sulfite excluding hydration water present in each species.

If the existing ESPs removed 99% of the additional solids, then the remaining 1% would equal 600 tons/year of PM. At 99.9% removal, the additional PM would equal 60 tons/year.

To provide reasonable assurance that PSD is not triggered for PM/PM_{10} under the dry FGD option, the Department will limit PM in this permit 0.015 lb PM/MMBtu at both units and limit visible emissions to 15% opacity at both units and 20% under soot blowing and load change operations.

If NO_X reductions such as by further combustion controls are implemented in the future, it is possible that PSD could be triggered for carbon monoxide (CO). Most likely the same combustion controls used for NO_X can be optimized to achieve low CO consistent with a Best Available Control Technology (BACT) determination.

3. RETIREMENT OPTION FOR UNITS 1 AND 2

In late 2008 Progress Energy announced that it planned to shut down Units 1 and 2 in conjunction with the construction of a 1,100 MW nuclear power plant in nearby Levy County. The previously mentioned permit includes the following relevant condition:

16. Shutdown of Units 1 and 2. Units 1 and 2 shall cease to operate as coal-fired units by December 31, 2020. This date assumes timely licensing, construction and commencement of commercial operation of PEF's proposed new nuclear units (Levy County Units 1 and 2). The shutdown of Units 1 and 2 coal-fired units is contingent upon completion of the first fuel cycle for Levy County Unit 2. PEF shall timely advise the Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond the completion of the first fuel cycle for Levy County Unit 2. [Rule 62-296.340 (BART), F.A.C. and Applicant Request].

The Department will in this permitting action supersede the contingent language under the shutdown option contemplated within the present application. The description of the option creates a possible new contingency put forward by the applicant based upon a "remaining useful life" cost-effectiveness evaluation. The procedures for the evaluation are not clear and the caveat will not be included in this condition as it is implicit in the other options.

4. ALTERNATIVE REQUEST

The applicant's third option is to agree a permit limit for SO_2 by January 1, 2018 or within 5 years of EPA's final approval of Florida's final Regional Haze State Implementation Plan, whichever is later, at a level sufficient to exempt out of BART.

This option will be included as a new condition with some minor rewording to clarify that the new permit limit will be effective on January 1, 2018 and that the agreement will occur well before that date. The Department would require additional information in the future to insure that PSD is not triggered or would require submittal of a PSD application for increases in foreseen or as-yet unforeseen collateral emission increases in PSD pollutants such as PM, PM_{10} and CO.

5. PRELIMINARY DETERMINATION

The permit will authorize the applicant to proceed with a DFGD project and will require improvements to the existing ESPs and/or installation of baghouses in conjunction with the DFGD systems. The Department will include the requested SO_2 emission standard of 95% SO_2 removal or 0.15 lb/MMBtu, whichever is less stringent. The emissions standard shall become effective upon the effective date of EPA's approval of these specific requirements in the Florida Regional Haze State Implementation Plan. Thereafter, the compliance date for the requested emission standards shall be no later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later.

Additional details of this analysis may be obtained by contacting the project engineer at leigh.pell@dep.state.fl.us, 850/717-9033, or the Department's Office of Permitting and Compliance, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400.

REPORT

BART DETERMINATION FOR CRYSTAL RIVER POWER PLANT UNITS 1 AND 2

Progress Energy Florida, Inc.

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May 2012 **123-89547**

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List of Tables

1.0 INTRODUCTION

This submission is made in a cooperative effort to address regional haze rule (RHR) implementation issues resulting from recent regulatory developments related to EPA's Clean Air Interstate Rule (CAIR) and its successor, the Cross-State Air Pollution Rule (CSAPR). CSAPR is currently stayed, and CAIR remains in effect, pending judicial review of CSAPR. Depending on the court's decision on CSAPR, Progress may revisit, revise, or withdraw this proposal.

Progress Energy Florida, Inc. (PEF) owns and operates the Crystal River Power Plant (Facility ID No. 0170004) located on Power Line Road, West of U.S. Highway 19, Crystal River, in Citrus County, Florida. A Best Available Retrofit Technology (BART) determination analysis for particulate matter (PM) emissions from the BART-eligible emissions units (i.e., Unit No. 1 and Unit No. 2) at the Crystal River Power Plant was previously submitted to the Florida Department of Environmental Protection (FDEP) in 2007. This current report presents a revised BART determination analysis, which includes BART determinations for nitrogen oxides (NO_x) and sulfur dioxide (SO_2) emissions from the BART-eligible emissions units at the Crystal River Plant.

Pursuant to Section 403.061(35), Florida Statutes, the federal Clean Air Act (CAA), and the regional haze regulations contained in Title 40, Part 51 of the Code of Federal Regulations (40 CFR 51), Subpart P – Protection of Visibility, the Florida Department of Environmental Protection (FDEP) is required to ensure that certain sources of visibility impairing pollutants in Florida use BART to reduce the impact of their emissions on regional haze in federal Prevention of Significant Deterioration (PSD) Class I areas. Requirements for individual source BART control technology determinations and for BART exemptions are contained in Rule 62-296.340 of the Florida Administrative Code (F.A.C.), which states that a BART-eligible source may demonstrate that it is exempt from the requirement for BART determination for all pollutants by performing an individual source attribution analysis in accordance with the procedures contained in 40 CFR 51, Appendix Y. A BART-eligible source is exempt from BART determination requirements if its contribution to visibility impairment, as determined below, does not exceed 0.5 deciview (dv) above natural conditions in any Class I area [Rule 62-296.340(5)(c), F.A.C.].

The previous BART analysis for PM was based on Rule 62-296.340(5)(c), F.A.C., which states that, for electric generating units subject to the Clean Air Interstate Rule (CAIR) Program, the source attribution analysis need only consider PM emissions (including primary sulfate) for comparison with the contribution threshold. A BART permit was issued on February 25, 2009 (permit No. 0170004-017-AC), which imposed a revised allowable PM emission limit. Specifically, PM emissions from Units 1 and 2 combined are not to exceed 0.04 lb/mmBtu on a weighted average basis of the total heat input during steady state operations and 0.12 lb/mmBtu on a weighted average basis of the total heat input (not to exceed 3 hours in any 24-hour period) during steady state operations. Compliance with these revised standards is to be demonstrated no later than December 31, 2013. Further, the permit assumes that Units 1 and 2 will cease to be operated as coal-fired units by December 31, 2020. The permit requires PEF to notify the

Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond this date.

On July 6, 2011, EPA finalized the Cross-State Air Pollution Rule (CSAPR), which was to replace CAIR starting in 2012. CSAPR has different emission requirements for NO_x and SO_2. Under CSAPR, the understanding under CAIR that compliance with CAIR requirements satisfied BART requirements for EGUs is no longer valid. EPA is developing a rule that would determine whether CSAPR is better than BART using a two-prong test and appropriate air quality modeling. The Federal Register notice for the final rule of CSAPR said that "EPA has not conducted any technical analysis to determine whether compliance with the Transport Rule would satisfy Reasonably Available Control Technology (RACT) requirements for EGUs in any nonattainment areas or Regional Haze BART-related requirements. For that reason, EPA is neither making determinations nor establishing any presumptions that compliance with the Transport Rule satisfies any RACT- or BART-related requirements for EGUs."

However, on December 30, 2011, the United States Court of Appeals for the D.C. Circuit issued its ruling to stay CSAPR pending judicial review. As a result, CAIR has been put back into effect. The court set a speedy path to hear the legal arguments in the case, which were presented to the U.S. Court of Appeals in Washington, D.C. on April 13, 2012. However, a final ruling on CSAPR may not come until later this year or possibly in 2013.

It is expected that CSAPR is most likely to be reinstated in principal with the similar provisions as currently promulgated. If CSAPR is determined to be an alternative program that may substitute for source-specific BART, then the same BART modeling analyses for the Crystal River Power Plant conducted in 2007 should still be valid. However, the current version of CSAPR has different requirements for different states. For example, in Florida, it does not regulate SO_2 emissions and only has ozone-season NO_x emissions requirements. As a result, the BART exemption analysis for the Crystal River Power Plant, which was previously based on visibility impacts due to PM emissions only, needs to be re-evaluated, including PM, NO_x and SO_2 and sulfate emissions.

A description of the BART-eligible emissions units, a description of the modeling methodology, and the results of the BART exemption analysis are presented in Section 2.0. Regulatory requirements for the BART determination (control options) analysis are presented in Section 3.0. The BART determination analysis is presented in Section 4.0.

The source information and methodologies used for the BART determination are the same as those presented in the document entitled "Air Modeling Protocol to Evaluate Best Available Retrofit Technology (BART) Options for Affected Progress Energy Florida Plants", commonly known as the "BART Protocol". The BART Protocol was previously submitted to FDEP in January 2007.

2.0 DESCRIPTION OF BART-ELIGIBLE EMISSIONS UNITS

The BART-eligible emissions units at the Crystal River Power Plant include two fossil fuel steam generators (FFSGs), further characterized as pulverized coal dry bottom, tangentially-fired boilers, designated as Unit No. 1 and Unit No. 2. Unit No. 1 is a nominal 440.5 megawatt (MW) class (electric) steam generator while Unit No. 2 is a nominal 523.8 MW class (electric) steam generator. The units may burn bituminous coal or a bituminous coal and bituminous coal briquette mixture. Distillate fuel oil may be burned as a startup fuel.

The Crystal River Power plant is located at Universal Transverse Mercator (UTM) coordinates: 334.3 kilometers (km) East, 3,204.5 km North in UTM Zone 17. An area map showing the Plant and PSD Class I areas located within 300 km of the plant is presented in Figure 1-1 of the BART Protocol. The PSD Class I areas which were evaluated include:

- Saint Marks NWA - 174 km
- Chassahowitzka National Wilderness Area (NWA) - 21 km
- Wolf Island NWA - 293 km
- Okefenokee NWA- 178 km

The PSD Class I of the Bradwell Bay NWA is located within 300 km of the Crystal River Power Plant; however visibility impairment is not required to be addressed for this area.

The stack, operating, and PM emission data, including PM speciation, for the BART-eligible emissions units were presented in detail in the BART Protocol previously submitted to FDEP. The emissions units are regulated under Acid Rain-Phase II, Fossil Fuel Steam Generators with more than 250 million Btu per Hour Heat Input (Rule 62-296.405, F.A.C.), Best Available Retrofit Technology (BART) requirements (Rule 62-296.340, F.A.C.) and the Clean Air Interstate Rule (CAIR) requirements under 62-296.470, F.A.C.

As noted in the BART protocol and based on discussions with FDEP, building downwash effects were considered for the Crystal River Power Plant as the facility is located within 50 km of the closest PSD Class I area.

2.1 EMISSION RATES

Emission rates used in the Crystal River BART analysis were presented in the BART Protocol previously submitted to FDEP (only PM emission rates were included). This revised BART analysis includes SO_2 and NO_x emissions in addition to the PM emissions.

The EPA BART guidelines indicate that the emission rate to be used for BART modeling is the highest 24-hour actual emission rate representative of normal operations for the modeling period. Depending on

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the availability of the source data, the source emissions information should be based on the following, in order of priority based on the BART common protocol:

- 24-hour maximum emissions based on continuous emission monitoring (CEM) data for the period 2001 to 2003
- Facility stack test emissions
- Potential to emit
- Allowable permit limits
- AP-42 emission factors

Table 1A presents the stack data, operating parameters, and emissions of SO_2, NO_x, and PM for the baseline (i.e., exemption) scenario. The SO_2 and NO_x emission rates are based on the maximum actual 24-hour average rate from the period 2001 to 2003 which were obtained from the CEM data.

The PM emissions rates are based on stack test data. Based on the latest regulatory guidance, PM emissions by size category are required to be considered in the appropriate species for the visibility analysis. The effect that each species has on visibility impairment is related to a parameter called the extinction coefficient. The higher the extinction coefficient, the greater the species' affect on visibility. Filterable PM is speciated into coarse (PMC), fine (PMF), and elemental carbon (EC), with default extinction efficiencies of 0.6, 1.0, and 10.0, respectively. PMC is PM with aerodynamic diameter between 10 microns and 2.5 microns. Both EC and PMF have aerodynamic diameters equal to or less than 2.5 microns. Condensable PM is comprised of inorganic PM such as sulfate (SO_4) and organic PM such as secondary organic aerosols (SOA).

The PM emissions from the BART-eligible units at the Crystal River plant were speciated into the recommended size and species categories using EPA's Compilation of Air Pollutant Emission Factors, AP-42 (fifth edition). The species categories for Crystal River Units 1 and 2 were determined from the speciation profile for a "dry bottom boiler burning pulverized coal with ESP" provided in Table 1.1-5 in AP-42. The different size categories were determined from particle size distribution for "dry bottom PC boilers with ESP" provided in Table 1.1-6 in AP-42. The PM speciation data for the exemption scenario are presented in Table 2A (also presented with the BART Protocol previously submitted to FDEP).

2.2 MODELING METHODOLOGY

The CALPUFF model, Version 5.756, also known as the "BART Version CALPUFF", was used to predict the maximum visibility impairment at each of the four PSD Class I areas located within 300 km of the Crystal River Power Plant identified above. This version of CALPUFF, together with the post-processing programs associated with the BART Version of CALPUFF (i.e., POSTUTIL, CALPOST), were also used in the current BART modeling which includes SO_2 and NO_x emissions.

The methods and assumptions used in the CALPUFF model were previously presented in the BART Protocol. The 4-km spacing Florida domain was used for the BART exemption. The refined CALMET domain used for the BART modeling analysis has been provided by FDEP. The major features used in preparing these CALMET data have also been described in Section 4.0 of the BART Protocol.

Based on FDEP guidelines, the 98th percentile, i.e., the 8th highest 24-hour average visibility impairment value in any year or the 22nd highest 24-hour average visibility impairment value over 3 years combined, whichever is higher, is compared to 0.5 dv in the source attribution analysis.

Based on the Visibility Improvement State and Tribal Association of the Southeast (VISTAS) recommendation, Visibility Method 6 was used in the BART-related modeling, which will compute extinction coefficients for hygroscopic species (modeled and background) using a monthly f(RH) in lieu of calculating hourly RH factors. Monthly RH values from Table A-3 of EPA's *Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule* (Haze Guideline) was used. Monthly f(RH) factors for the Class I areas within 300 km of the Crystal River Plant are as follows:

Month	Saint Marks NWA	Chassahowitzka NWA	Wolf Island NWA	Okefenokee NWA
January	3.7	3.8	3.4	3.5
February	3.4	3.5	3.1	3.2
March	3.4	3.4	3.0	3.1
April	3.4	3.2	3.0	3.0
May	3.5	3.3	3.3	3.6
June	4.0	3.9	3.7	3.7
July	4.1	3.9	3.7	3.7
August	4.4	4.2	4.1	4.1
September	4.2	4.1	4.0	4.0
October	3.8	3.9	3.7	3.8
November	3.7	3.7	3.5	3.5
December	3.8	3.9	3.5	3.6

Method 6 requires input of natural background (BK) concentrations of ammonium sulfate (BKSO4), ammonium nitrate (BKNO3), coarse particulates (BKPMC), organic carbon (BKOC), soil (BKSOIL), and elemental carbon (BKEC) in micrograms per cubic meter (µg/m^3). The model then calculates the natural background light extinction and haze index based on these values.

According to FDEP recommendations, the natural background light extinction may be based on haze index (HI) values (in dv) for either the annual average or the 20-percent best visibility days provided by EPA in Appendix B of the Haze Guideline document (using the 10th percentile HI value). For this BART analysis, the annual average HI values were used to determine natural background light extinction of the Class I areas. The light extinction coefficient in inverse megameters (Mm-1) is based on the concentration of the visibility impairing components and the extinction efficiency, in square meters per gram (m^2/g), for each component.

Per VISTAS and FDEP recommendations, the natural background light extinction that is equivalent to EPA-provided background HI values for each Class I area, based on the annual average, were estimated using the following background values:

- Rayleigh scattering = 10 Mm-1;
- Concentrations of $BKSO_4$, $BKNO_3$, BKPMC, BKEC, and BKEC = 0.0; and
- BKSOIL concentration, which is estimated from the extinction coefficient that corresponds to EPA's HI value (corresponding to the annual average) and then subtracting the Rayleigh scattering of 10 Mm-1 (assumes that the extinction efficiency of soil is 1 m^2/g). The BKSOIL concentration is estimated by subtracting the Rayleigh scattering of 10 Mm-1 from the extinction coefficient that corresponds to EPA's haze index value for the annual average light extinction coefficient, then dividing the remainder by the BKSOIL extinction efficiency of 1 m^2/g.

According to Appendix B of the Haze Guidance document, the annual average light extinction coefficients for each Class I area and corresponding calculated BKSOIL concentrations are as follows:

- Saint Marks NWA – 21.53 Mm-1 (equivalent to 7.67 dv); 11.53 µg/m^3;
- Chassahowitzka NWA – 21.45 Mm-1 (equivalent to 7.63 dv); 11.45 µg/m^3;
- Wolf Island – 21.33 Mm-1 (equivalent to 7.58 dv); 11.33 µg/m^3; and
- Okefenokee NWA – 21.40 Mm-1 (equivalent to 7.61 dv); 11.40 µg/m^3.

The atmospheric light extinction estimation technique using an algorithm developed by the Interagency Monitoring of Protected Visual Environments (IMPROVE) committee, which was adopted by the EPA under the 1999 Regional Haze Rule (RHR) and referred to as the "1999 IMPROVE" algorithm, was used in this revised analysis. This algorithm for estimating light extinction from particle speciation data tends to underestimate light extinction for the highest haze conditions and overestimate it for the lowest haze conditions, and does not include light extinction due to sea salt, which is important at sites near seacoasts. As a result of these limitations, the IMPROVE Steering Committee developed the “new IMPROVE algorithm” for estimating light extinction from particulate matter component concentrations, which provides a better correspondence between measured visibility and that calculated from particulate matter component concentrations. A detailed description of the new IMPROVE algorithm and its implementation was presented in Section 3.4 of the BART Protocol.

Visibility impacts were predicted at the PSD Class I areas using receptors provided by the National Park Service (NPS).

2.3 BART EXEMPTION MODELING RESULTS

Summaries of the maximum visibility impairment values for the Crystal River BART-eligible emission units estimated using the new IMPROVE algorithm, are presented in Tables 3A and 4A. The 98th percentile (i.e., 8th highest) 24-hour average visibility impairment values for the years 2001, 2002, and 2003, and the 22nd highest 24-average visibility impairment values over the three years, are presented in Table 3A. The 8th highest visibility impairment values predicted at each PSD Class I area for each year are presented in Table 4A.

As shown in Tables 3A and 4A, the 8th highest visibility impairment values predicted for each year at all of the PSD Class I areas using the 1999 IMPROVE algorithm are greater than 0.5 dv. The 22nd highest visibility impairment value predicted over the 3-year period at this PSD Class I area is also greater than 0.5 dv. As a result, the Crystal River Power Plant is subject to the BART requirements, and a BART determination analysis for PM, SO_2, and NO_x is required for each of the BART-eligible emissions units at the plant.

3.0 REQUIREMENTS FOR ANALYSIS OF BART CONTROL OPTIONS

The visibility regulations define BART as follows:

> *Best Available Retrofit Technology (BART) means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by . . . [a BART-eligible source]. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.*

The BART analysis identifies the best system of continuous emission reduction, taking into account:

(1) The available retrofit control options;

(2) Any pollution control equipment in use at the source (which affects the availability of options and their impacts);

(3) The costs of compliance with control options;

(4) The remaining useful life of the facility;

(5) The energy and non-air quality environmental impacts of control options; and

(6) The visibility impacts analysis.

Once it is determined that a source is subject to BART for a particular pollutant, then for each affected emission unit, BART must be established for that pollutant. The BART determination must address air pollution control measures for each emissions unit or pollutant emitting activity subject to review.

The five basic steps of a case-by-case BART analysis are:

STEP 1 – Identify All Available Retrofit Control Technologies

STEP 2 – Eliminate Technically Infeasible Options

STEP 3 – Evaluate Control Effectiveness of Remaining Control Technologies

STEP 4 – Evaluate Impacts and Document the Results

STEP 5 – Evaluate Visibility Impacts

Based on descriptions provided in 40 CFR 51 Appendix Y, Guidelines for BART Determinations Under the Regional Haze Rule, each of these steps is described briefly in the following sections.

STEP 1 – Identify All Available Retrofit Control Technologies

Available retrofit control options are those air pollution control technologies with a practical potential for application to the emissions unit and the regulated pollutant under evaluation. In identifying "all" options, the most stringent option and a reasonable set of options for analysis that reflects a comprehensive list of available technologies must be identified. It is not necessary to list all permutations of available control levels that exist for a given technology – the list is complete if it includes the maximum level of control each technology is capable of achieving.

Air pollution control technologies can include a wide variety of available methods, systems, and techniques for control of the affected pollutant. Technologies required as Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) are available for BART purposes and must be included as control alternatives. The control alternatives can include not only existing controls for the source category in question but also take into account technology transfer of controls that have been applied to similar source categories and gas streams. Technologies that have not yet been applied to (or permitted for) full scale operations do not need to be considered, and purchase or construction of a process or control device that has not already been demonstrated in practice is not expected.

Where a New Source Performance Standard (NSPS) exists for a source category (which is the case for most of the categories affected by BART), a level of control equivalent to the NSPS as one of the control options should be included. The NSPS standards are codified in 40 CFR 60.

Potentially applicable retrofit control alternatives can be categorized in three ways.

- Pollution prevention: use of inherently lower-emitting processes/practices, including the use of control techniques (e.g. low-NO_x burners) and work practices that prevent emissions and result in lower "production-specific" emissions
- Use of (and where already in place, improvement in the performance of) add-on controls, such as scrubbers, fabric filters, thermal oxidizers, and other devices that control and reduce emissions after they are produced
- Combinations of inherently lower-emitting processes and add-on controls

In the course of the BART review, one or more of the available control options may be eliminated from consideration because they are demonstrated to be technically infeasible or to have unacceptable energy, cost, or non-air quality environmental impacts on a case-by-case (or site-specific) basis.

EPA does not consider BART as a requirement to redesign the source when considering available control alternatives. For example, where the source subject to BART is a coal-fired electric generator, EPA does not require the BART analysis to consider building a natural gas-fired electric turbine although the turbine may be inherently less polluting on a per unit basis.

For emission units subject to a BART review, there will often be control measures or devices already in place. For such emission units, it is important to include control options that involve improvements to existing controls and not to limit the control options only to those measures that involve a complete replacement of control devices.

If a BART source has controls already in place that are the most stringent controls available (this means that all possible improvements to any control devices have been made), then it is not necessary to comprehensively complete each following step of the BART analysis. As long as these most stringent controls available are made federally enforceable for the purpose of implementing BART for that source, the remaining analyses may be skipped, including the visibility analysis in Step 5. Likewise, if a source commits to a BART determination that consists of the most stringent controls available, then there is no need to complete the remaining analyses.

STEP 2 – Eliminate Technically Infeasible Options

In Step 2, the source evaluates the technical feasibility of the control options identified in Step 1. The source should document a demonstration of technical infeasibility and should explain, based on physical, chemical, or engineering principles, why technical difficulties would preclude the successful use of the control option on the emissions unit under review. The source may then eliminate such technically infeasible control options from further consideration in the BART analysis.

Control technologies are technically feasible if either (1) they have been installed and operated successfully for the type of source under review under similar conditions, or (2) the technology could be applied to the source under review. Two key concepts are important in determining whether a technology could be applied: “availability” and “applicability.” A technology is considered “available” if the source owner may obtain it through commercial channels, or it is otherwise available within the common sense meaning of the term. An available technology is “applicable” if it can reasonably be installed and operated on the source type under consideration. A technology that is available and applicable is technically feasible.

Where it is concluded that a control option identified in Step 1 is technically infeasible, the source should demonstrate that the option is either commercially unavailable, or that specific circumstances preclude its application to a particular emission unit. Generally, such a demonstration involves an evaluation of the characteristics of the pollutant-bearing gas stream and the capabilities of the technology. Alternatively, a demonstration of technical infeasibility may involve showing that there are un-resolvable technical difficulties with applying the control to the source (e.g., size of the unit, location of the proposed site, operating problems related to specific circumstances of the source, space constraints, reliability, or adverse side effects on the rest of the facility). Where the resolution of technical difficulties is merely a matter of increased cost, the technology should be considered as technically feasible. The cost of a control alternative is considered later in the process.

STEP 3 – Evaluate Control Effectiveness of Remaining Control Technologies

Step 3 involves evaluating the control effectiveness of all the technically feasible control alternatives identified in Step 2 for the pollutant and emissions unit under review. Two key issues in this process include:

(1) Ensuring that the degree of control is expressed using a metric that ensures an "apples to apples" comparison of emissions performance levels among options

(2) Giving appropriate treatment and consideration of control techniques that can operate over a wide range of emission performance levels

This issue is especially important when comparing inherently lower-polluting processes to one another or to add-on controls. In such cases, it is generally most effective to express emissions performance as an average steady state emissions level per unit of product produced or processed, such as pounds of emissions per million British thermal units (lb/MMBtu) of heat input.

Many control techniques, including both add-on controls and inherently lower polluting processes, can perform at a wide range of levels. Scrubbers and high and low efficiency electrostatic precipitators (ESPs) are two of the many examples of such control techniques that can perform at a wide range of levels. It is important that in analyzing the technology one take into account the most stringent emission control level that the technology is capable of achieving. Recent regulatory decisions and performance data (e.g., manufacturer's data, engineering estimates and the experience of other sources) should be considered when identifying an emissions performance level or levels to evaluate.

For retrofitting existing sources in addressing BART, one should consider ways to improve the performance of existing control devices, particularly when a control device is not achieving the level of control that other similar sources are achieving in practice with the same device. For example, one should consider improving performance when sources with ESPs are performing below currently achievable levels.

STEP 4 – Evaluate Impacts and Document the Results

After identifying the available and technically feasible control technology options, the following analyses should be conducted when making the BART determination:

- Costs of compliance
- Energy impacts
- Non-air quality environmental impacts
- Remaining useful life

The source should discuss and, where possible, quantify both beneficial and adverse impacts. In general, the analysis should focus on the direct impact of the control alternative.

Costs of Compliance

To conduct a cost analysis, the following steps are used:

(1) Identify the emissions units being controlled

(2) Identify design parameters for emission controls

(3) Develop cost estimates based upon those design parameters

It is important to identify clearly the emission units being controlled, i.e., to specify a well-defined area or process segment within the plant. In some cases, multiple emission units can be controlled jointly. Then, the control system design parameters should be specified. The value selected for the design parameter should ensure that the control option will achieve the level of emission control being evaluated. The source should include documentation of the assumptions regarding design parameters. Examples of supporting references include the EPA Office of Air Quality Planning and Standards (OAQPS) Control Cost Manual and background information documents used for NSPS and hazardous pollutant emission standards.

Once the control technology alternatives and achievable emissions performance levels have been identified, the source must develop estimates of capital and annual costs. The basis for equipment cost estimates should also be documented, either with data supplied by an equipment vendor (i.e., budget estimates or bids) or by a referenced source (such as the OAQPS Control Cost Manual, Sixth Edition, February 2002). To maintain and improve consistency, cost estimates should be based on the OAQPS Control Cost Manual, where possible. The Control Cost Manual addresses most control technologies in sufficient detail for a BART analysis. The cost analysis should also take into account any site-specific design or other conditions identified above that affect the cost of a particular BART technology option.

Cost effectiveness, in general, is a criterion used to assess the potential for achieving an objective in the most economical way. For purposes of air pollutant analysis, “effectiveness” is measured in terms of tons of pollutant emissions removed, and “cost” is measured in terms of annualized control costs. EPA recommends two types of cost-effectiveness calculations – average cost effectiveness, and incremental cost effectiveness.

Average cost effectiveness means the total annualized costs of control divided by annual emissions reductions (the difference between baseline annual emissions and the estimate of emissions after controls). Because costs are calculated in (annualized) dollars per year ($/yr) and emission rates are calculated in tons per year (tons/yr), the result is an average cost-effectiveness number in (annualized) dollars per ton ($/ton) of pollutant removed.

The baseline emissions rate should represent a realistic depiction of anticipated annual emissions for the source. In general, for the existing sources subject to BART, the anticipated annual emissions will be estimated based upon actual emissions from a baseline period.

When future operating parameters (e.g., limited hours of operation or capacity utilization, type of fuel, raw materials or product mix or type) are projected to differ from past practice, and if this projection has a deciding effect in the BART determination, then these parameters or assumptions are to be translated into enforceable limitations. In the absence of enforceable limitations, baseline emissions are calculated based upon continuation of past practice.

In addition to the average cost effectiveness of a control option, the incremental cost effectiveness should also be calculated. The incremental cost effectiveness calculation compares the costs and performance level of a control option to those of the next most stringent option, as shown in the following formula (with respect to cost per emissions reduction):

Incremental Cost Effectiveness (dollars per incremental ton removed) =
[(Total annualized costs of control option) − (Total annualized costs of next control option)] ÷
[(Control option annual emissions) − (Next control option annual emissions)]

Energy Impacts

The energy requirements of the control technology should be analyzed to determine whether the use of that technology results in energy penalties or benefits. If such benefits or penalties exist, they should be quantified to the extent practicable. Because energy penalties or benefits can usually be quantified in terms of additional cost or income to the source, the energy impact analysis can, in most cases, simply be factored into the cost impacts analysis.

The energy impact analysis should consider only direct energy consumption and not indirect energy impacts. The energy requirements of the control options should be shown in terms of total (and in certain cases, also incremental) energy costs per ton of pollutant removed. Then these units can be converted into dollar costs and, where appropriate, can be factored into the control cost analysis. Indirect energy impacts (such as energy to produce raw materials for construction of control equipment) are generally not considered.

The energy impact analysis may also address concerns over the use of locally scarce fuels. The designation of a scarce fuel may vary from region to region. However, in general, a scarce fuel is one that is in short supply locally and can be better used for alternative purposes, or one that may not be reasonably available to the source either at the present time or in the near future.

Non-Air Quality Environmental Impacts

In the non-air quality related environmental impacts portion of the BART analysis, environmental impacts other than air quality due to emissions of the pollutant in question are addressed. Such environmental impacts include solid or hazardous waste generation and discharges of polluted water from a control device.

Any significant or unusual environmental impacts associated with a control alternative that have the potential to affect the selection or elimination of a control alternative should be identified. Some control technologies may have potentially significant secondary environmental impacts. Scrubber effluent, for example, may affect water quality and land use. Alternatively, water availability may affect the feasibility and costs of wet scrubbers. Other examples of secondary environmental impacts could include hazardous waste discharges, such as spent catalysts or contaminated carbon.

In general, the analysis need only address those control alternatives with any significant or unusual environmental impacts that have the potential to affect the selection of a control alternative, or elimination of a more stringent control alternative. Thus, any important relative environmental impacts (both positive and negative) of alternatives can be compared with each other.

Remaining Useful Life

The requirement to consider the "remaining useful life" of the source for BART determinations may be treated as one element of the overall cost analysis. The "remaining useful life" of a source, if it represents a relatively short time period, may affect the annualized costs of retrofit controls. For example, the methods for calculating annualized costs in EPA's OAQPS Control Cost Manual require the use of a specified time period for amortization that varies based upon the type of control. If the remaining useful life will clearly not exceed this time period, the remaining useful life has an effect on control costs and on the BART determination process. Where the remaining useful life is less than the time period for amortizing costs, this shorter time period should be considered in the cost calculations.

The remaining useful life is the difference between:

(1) The date that controls will be put in place (capital and other construction costs incurred before controls are put in place can be rolled into the first year, as suggested in EPA's OAQPS Control Cost Manual); and

(2) The date the facility permanently stops operations. Where this affects the BART determination, this date should be assured by a federally- or State-enforceable restriction preventing further operation.

EPA recognizes that there may be situations where a source operator intends to shut down a source by a given date, but wishes to retain the flexibility to continue operating beyond that date in the event, for example, that market conditions change. Where this is the case, the BART analysis may account for this, but it must maintain consistency with the statutory requirement to install BART within 5 years. Where the source chooses not to accept a federally enforceable condition requiring the source to shut down by a given date, it is necessary to determine whether a reduced time period for the remaining useful life changes the level of controls that would have been required as BART.

STEP 5 – Evaluate Visibility Impacts

The following is an approach EPA suggests to determine visibility impacts (the degree of visibility improvement for each source subject to BART) for the BART determination. Once it is determined that a source is subject to BART, a visibility improvement determination for the source must be conducted as part of the BART determination.

The permitting agency has flexibility in making this determination, i.e., in setting absolute thresholds, target levels of improvement, or *de minimis* levels, since the deciview improvement must be weighed among the five factors, and the agency is free to determine the weight and significance to be assigned to each factor. For example, a 0.3-dv improvement may merit a stronger weighting in one case versus another, so one "bright line" may not be appropriate.

CALPUFF or another appropriate dispersion model must be used to determine the visibility improvement expected at a Class I area from the potential BART control technology applied to the source. Modeling should be conducted for SO_2, NO_x, and direct PM emissions ($PM_{2.5}$ and/or PM_{10}). There are several steps for determining the visibility impacts from an individual source using a dispersion model:

- Develop a modeling protocol.
- For each source, run the model at pre-control and post-control emission rates according to the accepted methodology in the protocol. Use the 24-hour average actual emission rate from the highest emitting day of the meteorological period modeled (for the pre-control scenario). Calculate the model results for each receptor as the change in dv compared against natural visibility conditions. Post-control emission rates are calculated as a percentage of pre-control emission rates. For example, if the 24-hour pre-control emission rate is 100 pounds per hour (lb/hr) of SO_2 and the control efficiency being evaluated is 95 percent, then the post-control rate is 5 lb/hr.
- Make the net visibility improvement determination. Assess the visibility improvement based on the modeled change in visibility impacts for the pre-control and post-control emission scenarios. The assessment of visibility improvements due to BART controls is flexible and can be done by one or more methods. The frequency, magnitude, and duration components of impairment may be considered. Suggestions for making the determination are:
  - Use of a comparison threshold, as is done for determining if BART-eligible sources should be subject to a BART determination. Comparison thresholds can be used in a number of ways in evaluating visibility improvement (e.g., the number of days or hours that the threshold was exceeded, a single threshold for determining whether a change in impacts is significant, or a threshold representing a given percentage change in improvement).
  - Compare the 98th percentile days for the pre- and post-control runs.

Each of the modeling options may be supplemented with source apportionment data or source apportionment modeling.

Selecting the "Best" Alternative

From the alternatives evaluated in Step 3, EPA recommends developing a chart (or charts) displaying for each of the alternatives the following:

(1) Expected emission rate (tons per year, lb/hr)

(2) Emissions performance level (e.g., percent pollutant removed, emissions per unit product, lb/MMBtu, parts per million)

(3) Expected emissions reductions (tons per year)

(4) Costs of compliance – total annualized costs ($), cost effectiveness ($/ton), incremental cost effectiveness ($/ton), and/or any other cost-effectiveness measures (such as $/dv)

(5) Energy impacts

(6) Non-air quality environmental impacts

(7) Modeled visibility impacts

The source has the discretion to determine the order in which control options for BART should be evaluated. The source should provide a justification for adopting the technology selected as the "best" level of control, including an explanation of the CAA factors that led to the choice of that option over other control levels.

In the case where the source is conducting a BART determination for two regulated pollutants on the same source, if the result is two different BART technologies that do not work well together, then a different technology or combination of technologies can be substituted.

Even if the control technology is cost effective, there may be cases where the installation of controls would affect the viability of continued plant operations. There may be unusual circumstances that justify taking into consideration the conditions of the plant and the economic effects of requiring the use of a given control technology. These effects would include effects on product prices, the market share, and profitability of the source. Where there are such unusual circumstances that are judged to affect plant operations, the conditions of the plant and the economic effects of requiring the use of a control technology may be taken into consideration. Where these effects are judged to have a severe impact on plant operations, they may be considered in the selection process, but an economic analysis that demonstrates, in sufficient detail for public review, the specific economic effects, parameters, and reasoning may have to be provided. Any analysis may also consider whether other competing plants in the same industry have been required to install BART controls if this information is available.

4.0 BART ANALYSIS

4.1 SO_2 Emissions

As shown in Table 3A, the highest 8th highest visibility impact due to Units 1 and 2 is 7.93 dv, more than 90 percent of which is due to sulfate particles. Since sulfate particles are formed due to SO_2 and sulfuric acid mist (SAM) emissions, reduction of SO_2 emissions from Units 1 and 2 is the most effective way to reduce visibility impacts due to the BART-eligible emissions units at the site. The SO_2 emissions from the two boilers are currently not controlled.

The BART control analysis, which is similar to the BACT analysis under PSD regulations, is presented in the following sections for SO_2 emissions from the two units. The analysis includes consideration of the available retrofit control technologies, analyzing the feasibility of these technologies, evaluating control effectiveness of the feasible control technologies, evaluating the impacts from cost of compliance, energy, non air-quality environmental, remaining useful life, and finally evaluating the improvement in visibility that may result from the control technology.

4.1.1 Available Retrofit Control Technologies

As part of the BART analysis, a review of previous SO_2 BACT determinations for coal-fired utility and large industrial-sized boilers was performed using the RACT/BACT/LAER Clearinghouse (RBLC) on EPA's webpage. Numerous examples are available in the RBLC database for large coal-fired boilers, which typically use flue gas desulfurization (FGD) as the BACT for SO_2 emissions. However, it should be noted that this database does not reflect the use of FGD systems as a retrofit to existing units. For existing units, the use of lower sulfur fuels is much more cost-effective than the retrofit of an FGD system. These determinations are presented in Table 5.

4.1.2 Control Technology Feasibility

The following control technologies were analyzed:

Low Sulfur Fuel

Units 1 and 2 currently burn bituminous coal. Sulfur content of bituminous coal can range from 0.3 percent to more than 3 percent. Switching to a lower-sulfur coal can reduce SO_2 emissions; however, the cost of compliance depends on the following:

- Cost difference of low sulfur coal and the coal currently used
- Difference in delivery cost for the lower-sulfur coal
- Costs associated with modifications to the units to enable use of lower sulfur coals

Use of low sulfur fuel is considered to be a technically feasible option to reduce SO_2 emissions.

Flue Gas Desulfurization

FGD systems are post-combustion control technologies that rely on chemical reactions within the control device to reduce the concentration of SO_2 in the flue gas. The chemical reaction with an alkaline chemical, which can be performed in a wet or dry contact system, converts SO_2 to sulfite or sulfate salts. In a wet FGD system, a reagent is slurried with water and sprayed into the flue gas stream in an absorber vessel. The SO_2 is removed from the flue gas by sorption and reaction with the slurry. The by-products of the sorption and reaction are in a wet form upon leaving the system and must be dewatered prior to transport/disposal.

The most widely used system for large-scale SO_2 removal is the calcium-based wet lime/limestone FGD system. SO_2 control efficiencies for wet limestone FGD range from 50 to 98 percent, depending on the type of device and design, with an average of 90 percent.

In a dry FGD system, SO_2-containing flue gas comes into contact with an alkaline sorbent such as lime. The sorbent can be delivered to flue gas in an aqueous slurry form (lime spray drying process) or as a dry powder (sorbent injection process). After the sorption and reaction process, a dry waste is produced which is similar to fly ash. The by-product is subsequently captured in a downstream particulate collection device, typically an ESP or a baghouse.

A dry scrubber can use either lime or sodium carbonate as reagent. A typical dry scrubber will use lime as the reagent because it is more readily available than sodium carbonate and the sodium-based reactions produce a soluble by-product that requires special handling.

Lime spray drying efficiency ranges from 70 to 96 percent, with an average of 90 percent. The use of a PM control device after the dry scrubber differs from the wet scrubber system, in which the slurry leaving the wet system must be dewatered and the gas cooled to adiabatic saturation temperature, which requires the particulate control device to be located upstream of the scrubber. The dry byproduct from the dry scrubber system is generally not marketable, since the byproducts includes fly ash and reacted SO_2 and calcium compounds. In contrast, the wet limestone FGD system can produce a marketable byproduct (i.e., gypsum).

Because the dry scrubber absorber construction material is usually carbon steel, the capital costs are usually less expensive as compared with wet scrubbers. However, the necessary use of lime in the process increases its annual operational costs. Based on the EPA Fact Sheet on FGD systems, typical industrial applications of FGD systems are stationary coal and oil-fired combustion units such as utility and industrial boilers.

The RBLC database review also shows that post-combustion controls are typically applied to coal-fired boilers. The EPA Fact Sheet mentions the high capital cost of an FGD system as a disadvantage.

4.1.3 Control Effectiveness of Options

The effectiveness of SO_2 emissions control by the use of an FGD system is assumed to result in approximately 95 percent control. PEF has preliminary estimates of the costs to retrofit dry FGD (DFGD) systems on Units 1 and 2, based on a Worley Parsons (WP) study conducted in 2010. The effectiveness of SO_2 emissions control by the use of low sulfur coal depends on the sulfur content of the lower sulfur coal that is available and economically feasible.

4.1.4 Impacts of Control Technology Options

LOW SULFUR FUELS

To achieve SO_2 emissions below current levels, Units 1 and 2 would require use of lower sulfur coal. The annual average fuel sulfur level for Crystal River Units 1 and 2 during the baseline years was approximately 1.02 percent. Based on the highest average fuel sulfur of 1.02 percent and an average fuel heating value of approximately 12,000 Btu/lb, an average baseline SO_2 emission rate of 1.7 lb/mmBtu was achieved. PEF has indicated that commercially available coal sulfur contents are as follows:

- 0.68 percent sulfur (equivalent to 1.2 lb/mmBtu, based on a fuel heating value of 12,000 Btu/lb)
- 0.35 percent sulfur (equivalent to 0.8 lb/mmBtu, based on a fuel heating value of 8,500 Btu/lb)

However, it is important to note that the 0.35 percent sulfur coal is representative of sub-bituminous coal, also referred to as Powder River Basin (PRB) coal. This coal requires special handling and modifications to existing equipment. While lower sulfur coal is potentially available from the Powder River Basin (PRB), PRB coal is sub-bituminous coal that has unique combustion characteristics requiring specific boiler designs and modifications to existing coal transport, handling and storage equipment. Moreover, the transportation of this coal from Wyoming to Florida would not only add significant cost but involve considerable secondary environmental impacts from unit trains travelling such a distance.

Based on information provided by PEF, the current delivered fuel (1.02 percent sulfur) cost is $4.25 per mmBtu of heating value. The cost of compliance to use reduced sulfur coal is represented by the additional cost of the lower sulfur coal versus the current 1.02 percent sulfur coal used in the boilers, plus any other capital costs that may be associated with the conversion to a different coal. According to PEF, reduced sulfur coal with 0.68 percent and 0.35 percent sulfur costs $4.37 per mmBtu and $4.04 per mmBtu, respectively, excluding additional capital and operating costs.

The cost analysis for the lower sulfur fuel options was prepared following EPA's Control Cost Manual, and is presented in Table 6 for Units 1 and 2. There are additional equipment costs and indirect capital costs for using the lower sulfur bituminous coal (i.e., the 0.68 percent sulfur case), that could be required due to the anticipated reduction in control efficiency of the ESPs while burning lower sulfur coal. It is unknown at this time if ESP upgrades will be required to meet the current BART PM limit of 0.04 lb/mmBtu normal operation and 0.12 lb/mmBtu limit for soot blowing operation after a switch to compliance coal. The high-level cost estimates provided are based on previous analyses to meet the lowered PM BART limit while burning coal with the current sulfur content. Additional analyses would be required to determine unit-specific modifications needed to maintain reliable ESP operation at this same PM BART limit, but taking into account the reduced efficiency expected while burning a lower sulfur coal.

Given the above qualifications on the cost estimates, Table 6 presents the total capital and annualized costs of switching Units 1 and 2 from the coal currently used to 0.68 percent sulfur coal. Annualized operating costs are estimated at more than $97 million, resulting in an average cost effectiveness of approximately $8,665 per ton of SO_2 removed if 0.68 percent sulfur fuel is used instead of the current coal.

To calculate the emissions reduction due to the control options, an apples-to-apples comparison of baseline emissions and controlled emissions were calculated based on future projected actual fuel usage. For the remaining useful life of these units, PEF has estimated annual fuel usage to be approximately 45,000,000 mmBtu/yr for both units combined. This represents a capacity factor of approximately 60 percent for these units.

Regarding the PRB coal option, there would be additional equipment costs and indirect capital costs for using the lower sulfur sub-bituminous coal (i.e., the 0.35 percent sulfur case), that could be required due to the anticipated reduction in control efficiency of the ESPs while burning lower sulfur coal, as well as the additional capital costs required for other equipment modifications. This cost estimate is based on a 2005 Sargent and Lundy Crystal River 4 & 5 study on costs of converting to 100 percent PRB. Significant increased scope is not included in this estimate, as an engineering evaluation would have to be completed to accurately define the required scope. Excluded scope includes, but is not limited to, pressure part modifications, ESP modifications, electrical system upgrades, and fan modifications. The 2005 costs were escalated to 2012 costs using the Global Insight Ash and Coal Handling cost category. In addition this cost estimate does not include any O&M, reagent, byproduct or fuel cost impacts, nor does it include a risk adjustment for potential safety hazards and associated issues related to the use of PRB coal at the Crystal River site.

Given the above qualifications and exclusions from the cost estimates, Table 6 presents the capital and annualized costs of switching Units 1 and 2 from the coal currently used to 0.35 percent sulfur coal.

Annualized operating costs are estimated at more than $296 million, resulting in an average cost effectiveness of approximately $14,652 per ton of SO_2 removed from the current base case and an incremental cost effectiveness of approximately $22,137 per ton of SO_2 removed when compared to the 0.68 percent sulfur case.

However, it should be noted that the Mercury and Air Toxics Standards (MATS) or Utility MACT, was issued with an effective date of April 16, 2012 and requires the installation of maximum achievable control technology (MACT). For existing EGUs, MATS contains an alternative, surrogate emission limit for PM with a compliance deadline of April 16, 2015, and an optional possibility of two one-year extensions. Relating MATS to BART, EPA has stated in 40 CFR Part 51, Appendix Y that facilities may rely on the MACT standards for purposes of BART. Ultimately, MATS will require the installation of controls on Crystal River Units 1 & 2 or force their retirement.

Energy Impacts

There are energy impacts associated with using lower sulfur coals, such as PRB coal, since the heating value of the PRB coal is much lower than the current coals being used (e.g., 8,500 Btu/lb versus 12,000 Btu/lb).

Non-Air Quality Environmental Impacts

Use of low or reduced sulfur coal does not result in any non-air quality environmental impacts.

Remaining Useful Life

A BART permit was issued for these units on February 25, 2009 (permit No. 0170004-017-AC), which imposed a revised allowable PM emission limit. The permit assumes that Units 1 and 2 will cease to be operated as coal-fired units by December 31, 2020. The permit requires PEF to notify the Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond this date.

For the low sulfur fuel control options, it is assumed that some level of capital improvement will be required for ESP upgrades to accommodate the 0.68 percent sulfur coal, and that replacement of the ESPs with baghouses and other equipment modifications would be required for the firing of PRB coal. For this analysis, it is assumed that ESP upgrades or replacements and other equipment modifications would not be complete until 2018. Since the proposed unit retirement date is the end of 2020, this would result in a useful control option equipment life of two years.

FLUE GAS DESULFURIZATION

PEF has preliminary estimates of the costs to retrofit dry FGD (DFGD) systems on Units 1 and 2, based on a Worley Parsons (WP) study conducted in 2010. This estimate is characterized as a Class 5 estimate with an approximate accuracy rate of +/- 30 percent. The study also has several qualifications on the cost estimates, which are not included in this report, as follows:

- Based on the location at Crystal River for construction (i.e. site constraints, conditions of the current units, etc), a 20 percent productivity factor is recommended to be added to the EPC
- Estimate does not provide funds for transformers
- Reasonable Progress Energy owner's cost would be approximately 2.5 percent
- Add owner's contingency on the EPC contract at 5 percent
- This estimate does not factor in any escalation - assume 5 percent per year
- This estimate is project view and does not include any AFUDC, burdens or allocations. A rough estimate for financial view (AFUDC, burdens, allocations) costs would be approximately 8 percent

It is estimated that the capital costs for installation of DFGD systems are approximately $445 million for Units 1 and 2 combined. As shown in Table 7, the total annualized cost for installation and operation of the DFGD systems is $364 million for Units 1 and 2 combined. These annualized costs represent the annualized capital cost, as well as recurring annual operating costs for each unit.

To calculate the emissions reduction due to the DFGD control option, an apples-to-apples comparison of baseline emissions and controlled emissions were calculated based on future projected actual fuel usage. For the remaining useful life of these units, PEF has estimated annual fuel usage to be approximately 45,000,000 mmBtu/yr for both units combined. This represents a capacity factor of approximately 60 percent for these units. In addition, it is assumed that the baseline sulfur coal will continue to be fired and that the design DFGD control efficiency will be 95 percent.

As shown in Table 7, the average cost effectiveness is calculated to be approximately $10,034 per ton of SO_2 removed for Units 1 and 2 combined.

Energy Impacts

There are energy impacts associated with operation of DFGD systems. These additional energy impacts, due to use of auxiliary power and additional pressure drop in the system, are factored into the control cost analysis.

Non-Air Quality Environmental Impacts

Non-air quality impacts would potentially include increased energy use, increased water use and generation of additional solid wastes.

Remaining Useful Life

A BART permit was issued for these units on February 25, 2009 (permit No. 0170004-017-AC), which imposed a revised allowable PM emission limit. The permit assumes that Units 1 and 2 will cease to be operated as coal-fired units by December 31, 2020. The permit requires PEF to notify the Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond this date.

Installation of DFGD controls for Units 1 and 2 would require time for project design and construction, as well as consideration for scheduling that allows for the continued operation to allow PEF to supply reliable electric power to its customers. For this analysis, it is assumed that these upgrades would not be complete until 2018. This would result in a useful control option equipment life of two years.

4.1.5 Visibility Impacts

To calculate the visibility improvement due to the lower sulfur content fuel and the DFGD control options, first the baseline visibility impacts were estimated based on the maximum 8th highest 24-hour average visibility impacts presented in Table 3A, which is 7.93 dv. Since sulfate particles contributed to more than 90-percent of the total visibility impact, instead of using just the sulfate contribution, the total impact (due to all pollutants) was used as a baseline.

Future or controlled visibility impacts were estimated based on modeling the reduced SO_2 emissions rates, which will result from the burning of lower sulfur coal and the installation of FGD systems of 95 percent control efficiency. These emission rates were calculated by multiplying the SO_2 emissions rates used in the baseline impact analysis by the ratio of: 1) the specific sulfur content (0.68 percent or 0.35 percent) and the baseline sulfur content (estimated to be 1.02 percent) for the fuel sulfur option and 2) by the uncontrolled baseline and the estimated control efficiency of the add on control equipment for the FGD option. The SO_2, NO_x and PM emission rates for the 0.68 percent sulfur coal, 0.35 percent sulfur coal and FGD systems scenarios are provided in Tables 1B, 1C and 1D, respectively. The PM speciation profiles for the 0.68 percent sulfur coal, 0.35 percent sulfur coal and FGD unit scenarios are shown in Tables 1B, 1C and 1D, respectively. Visibility improvements were determined by subtracting future dv impacts from the baseline dv impacts. Tables 3B, 3C and 3D provide a summary of the BART modeling results, including the relative contributions of SO2, NOx and PM, for the 0.68 percent sulfur coal, 0.35 percent sulfur coal and FGD systems cases, respectively. Tables 4B, 4C and 4D show the visibility rankings at each Class I area for 0.68 percent sulfur coal, 0.35 percent sulfur coal and FGD unit scenarios, respectively.

The visibility cost effectiveness numbers were calculated from the annual costs and the visibility improvement in dv. Visibility cost effectiveness numbers for the two units together are also presented in Table 6. As shown, visibility cost effectiveness for switching from the approximate 1.02 percent sulfur currently used to 0.68 percent sulfur is more than $40.4 million/dv for a total visibility improvement of 2.41 dv. Incremental visibility cost effectiveness for switching to 0.35 percent sulfur fuel is $145 million/dv for an additional improvement of 1.37 dv. Finally, the visibility cost effectiveness for installation of an DFGD system on Units 1 and 2 combined is $79.4 million/dv for an additional improvement of 4.59 dv. This visibility improvement is extremely small for a very large cost.

4.1.6 Selection of BART

As the pollutant and visibility cost effectiveness values above indicate, the cost of improvement is extremely high for switching from the current coal to 0.68 or 0.35 percent sulfur coal. As a result, switching to either of these lower sulfur coals has been determined to be cost prohibitive. Further, the capital cost and annual operating costs associated with retrofitting FGD systems on Units 1 and 2 was also demonstrated to be prohibitive.

In addition, it should be noted that the Mercury and Air Toxics Standards (MATS) or Utility MACT, was issued with an effective date of April 16, 2012 and requires the installation of maximum achievable control technology (MACT). For existing EGUs, MATS contains an alternative, surrogate emission limit for PM with a compliance deadline of April 16, 2015, and an optional possibility of two one-year extensions. Relating MATS to BART, EPA has stated in 40 CFR Part 51, Appendix Y that facilities may rely on the MACT standards for purposes of BART. Ultimately, MATS will require the installation of controls on Crystal River Units 1 & 2 or force their retirement.

4.2 NO_x Emissions

PEF has actual capital and annual operating costs for the SCR systems that were installed at Crystal River for Units 4 and 5. These are actual costs for retrofit SCR systems at existing coal-fired units at Crystal River and are considered representative, when scaled to MW capacity, of the costs to install and operate SCR systems for Units 1 and 2. It is estimated that the capital costs for installation of SCR systems are approximately $83 MM and $99 MM for Units 1 and 2, respectively. These are significant costs and cannot be justified for an approximate two years of useful control equipment life (i.e., 2018 until retirement in 2020).

Further, due to recent regulatory developments related to EPA's Clean Air Interstate Rule (CAIR) and its successor, the Cross-State Air Pollution Rule (CSAPR), CSAPR is currently stayed, and CAIR remains in effect, pending judicial review of CSAPR. PEF believes that compliance with CAIR (and CSAPR, depending on the court's decision) will serve to demonstrate compliance with applicable NOx standards under the BART program.

In addition, as shown in Table 3A, the visibility contribution of nitrate particles (which are formed by NO_x emissions) corresponding to the maximum 8^{th} highest 24-hour average visibility impact is only 7.0 percent. Therefore, control of NO_x emissions will provide minimal effect in reducing visibility impacts due to Units 1 and 2 at the receptor corresponding to the maximum 8^{th} highest visibility impact at the nearest Class I area (i.e., Chassohowitzka NRA).

Additional add-on control technologies, such as a selective catalytic reduction (SCR) system, will require a direct capital investment, as well as continuing annual operating costs for each unit, which will not result in any meaningful reduction in visibility. As demonstrated by modeling, the visibility contribution of nitrate particles is not significant. Further, PEF believes that compliance with CAIR (and CSAPR, depending on the court's decision) will serve to demonstrate compliance with applicable NOx standards under the BART program. As a result, PEF proposes that existing combustion processes, low NO_x burners, and good combustion practices be considered as BART for NO_x emissions for Units 1 and 2.

TABLE 1A
BART MODELING DATA INPUT
CRYSTAL RIVER POWER PLANT, UNITS 1 & 2
BASELINE (EXEMPTION) SCENARIO

Parameter	Units	Value			
Emission Unit		Unit 1		Unit 2	
Location					
UTM Coordinates[a]					
East	km	334.30		334.30	
North	km	3,204.50		3,204.50	
Zone		17		17	
Lambert Conformal Coordinates [a]					
x	km	1,398.50		1,398.50	
y	km	-1,116.10		-1,116.10	
Stack Data					
Height	ft (m)	499	(152.1)	502	(153.0)
Diameter	ft (m)	15	(4.57)	16.0	(4.88)
Base elevation	ft (m)	3.3	(1.00)	3.3	(1.00)
Hourly heat input[b]	MMBtu/hr	3630.0	-	4390.0	-
Operating Data					
Exit gas temperature	^{o}F (K)	291	(417)	300	(422)
Exit gas velocity	ft/s (m/s)	132.7	(40.5)	160.0	(48.8)
Emission Data[c,d,e,f]					
SO_2	lb/hr (g/s)	7,238.4	(912.0)	8,968.1	(1130.0)
NO_x	lb/hr (g/s)	1,601.2	(201.7)	2,913.0	(367.0)
PM Filterable	lb/hr (g/s)	140.8	(17.7)	115.2	(14.5)
SO_4	lb/hr (g/s)	50.4	(6.4)	61.0	(7.7)

Notes:

a. Based on common location using UTM coordinates of: East 567.4 km; North 2,813.5 km

b. Hourly heat input for each unit corresponds to the maximum hourly PM emissions for 2001 - 2006.

c. SO_2 emissions data based on CEMS data for 2001 - 2003.

d. NO_x emissions data based on CEMS data for 2001 - 2003.

e. PM filterable emissions data based on monitoring data from 2001 - 2006.

f. SO_4 emissions data calculated based on 0.8% conversion of sulfur to H_2SO_4 and 37% removal of H_2SO_4 in electrostatic precipitator (Southern Company methodology).

TABLE 2A
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 1
BASELINE (EXEMPTION) SCENARIO

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	140.8	78.23	60.27	2.32	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	283.14	NA	NA	NA	50.4	232.7
		%	100%	NA	NA	NA	18%	82%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	424.0	78.23	60.27	2.32	50.43	232.7
		%	100%	18.5%	14.2%	0.5%	11.9%	54.9%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	373.5	78.23	60.27	2.32	0.0	232.7
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	20.9%	16.1%	0.6%	0.0%	62.3%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						140.8	232.7	373.5
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	46.9	116.4	163.2
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	116.4	116.4
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	18.7	0.0	18.7
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	75.2	0.0	75.2
Totals				100.0%	100.0%	140.8	232.7	373.5

Total Modeled PM_{10} 373.5

[a] Heat input rate for unit and fuel heat content 3,630 MMBtu/hr 3,630 Unit 1
1.08 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
Total 0.1 x S - 0.03
0.08

Golder Associates

TABLE 2A (CONTINUED)
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 2
BASELINE (EXEMPTION) SCENARIO

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	115.2	64.00	49.31	1.89	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	342.42	NA	NA	NA	61.0	281.4
		%	100%	NA	NA	NA	18%	82%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	457.6	64.00	49.31	1.89	61.0	281.4
		%	100%	14.0%	10.8%	0.4%	13.3%	61.5%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	396.6	64.00	49.31	1.89	0.0	281.44
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	16.1%	12.4%	0.5%	0.0%	71.0%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						115.2	281.4	396.6
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	38.3	140.7	179.0
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	140.7	140.7
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	15.3	0.0	15.3
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	61.5	0.0	61.5
Totals				100.0%	100.0%	115.2	281.4	396.6

Total Modeled PM_{10} 396.6

[a] Heat input rate for unit and fuel heat content 4,390 MMBtu/hr 4,390 Unit 1
1.08 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
Total 0.1 x S - 0.03
0.08

TABLE 3A
SUMMARY OF BART BASELINE (EXEMPTION) MODELING RESULTS WITH NEW IMPROVE ALGORITHM
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2 - COAL FIRING

Class I Area	Distance (km) of Source to Nearest Class I Area Boundary	Visibility Impact >0.5 dv 2001		2002		2003		22nd Highest Impact (dv) Over 3-Yr Period
			8th Highest Impact (dv)		8th Highest Impact (dv)		8th Highest Impact (dv)	
Saint Marks NWA	174		4.08		3.40		3.99	3.96
Pollutant Contribution		Sulfate	88.1%	Sulfate	89.8%	Sulfate	85.2%	
		Nitrate	9.2%	Nitrate	7.5%	Nitrate	10.1%	
		Particulate Matter	2.7%	Particulate Matter	2.6%	Particulate Matter	4.8%	
Chassahowitzka NWA	21		7.93		7.18		6.43	6.97
Pollutant Contribution		Sulfate	90.4%	Sulfate	47.8%	Sulfate	42.6%	
		Nitrate	7.0%	Nitrate	23.8%	Nitrate	29.5%	
		Particulate Matter	2.7%	Particulate Matter	28.4%	Particulate Matter	27.9%	
Wolf Island NWA	293		1.23		1.22		1.78	1.52
Pollutant Contribution		Sulfate	96.7%	Sulfate	96.2%	Sulfate	94.4%	
		Nitrate	2.2%	Nitrate	2.3%	Nitrate	1.8%	
		Particulate Matter	1.1%	Particulate Matter	1.5%	Particulate Matter	3.7%	
Okefenokee NWA	178		2.50		2.82		2.14	2.70
Pollutant Contribution		Sulfate	95.3%	Sulfate	83.4%	Sulfate	95.0%	
		Nitrate	3.3%	Nitrate	13.1%	Nitrate	3.0%	
		Particulate Matter	1.4%	Particulate Matter	3.5%	Particulate Matter	2.0%	

TABLE 4A
VISIBILITY IMPACT RANKINGS AT PSD CLASS I AREAS
WITH NEW IMPROVE ALGORITHM, BASELINE (EXEMPTION) ANALYSIS
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2

Class I Area	Rank	2001	2002	2003
		Predicted Impact (dv)	Predicted Impact (dv)	Predicted Impact (dv)
Saint Marks NWA	1	8.14	7.93	5.09
	2	6.13	5.75	4.99
	3	5.57	4.26	4.98
	4	5.27	4.14	4.69
	5	4.74	3.63	4.64
	6	4.46	3.50	4.56
	7	4.24	3.42	4.44
	8	4.08	3.40	3.99
Chassahowitzka NWA	1	10.59	9.82	9.21
	2	9.85	9.29	9.19
	3	9.58	8.21	8.26
	4	9.56	7.84	7.65
	5	8.79	7.84	6.97
	6	8.62	7.56	6.66
	7	8.36	7.56	6.47
	8	7.93	7.18	6.43
Wolf Island NWA	1	3.31	3.59	2.62
	2	2.26	2.90	2.51
	3	2.14	2.14	2.39
	4	1.54	1.80	2.35
	5	1.52	1.54	2.16
	6	1.43	1.48	1.94
	7	1.38	1.34	1.81
	8	1.23	1.22	1.78
Okefenokee NWA	1	4.66	4.53	4.57
	2	3.99	4.37	3.98
	3	3.55	3.29	3.96
	4	2.98	3.15	3.44
	5	2.83	3.02	3.35
	6	2.83	2.90	2.81
	7	2.55	2.85	2.78
	8	2.50	2.82	2.14

TABLE 1B
BART MODELING DATA INPUT
CRYSTAL RIVER POWER PLANT, UNITS 1 & 2
COMPLIANCE COAL, 0.68 WEIGHT % SULFUR

Parameter	Units	Value			
Emission Unit		Unit 1		Unit 2	
Location					
UTM Coordinates[a]					
East	km	334.30		334.30	
North	km	3,204.50		3,204.50	
Zone		17		17	
Lambert Conformal Coordinates [a]					
x	km	1,398.50		1,398.50	
y	km	-1,116.10		-1,116.10	
Stack Data					
Height	ft (m)	499	(152.1)	502	(153.0)
Diameter	ft (m)	15	(4.57)	16.0	(4.88)
Base elevation	ft (m)	3.3	(1.00)	3.3	(1.00)
Hourly heat input[b]	MMBtu/hr	3630.0	-	4390.0	-
Operating Data					
Exit gas temperature	^oF (K)	291	(417)	300	(422)
Exit gas velocity	ft/s (m/s)	132.7	(40.5)	160.0	(48.8)
Emission Data[c,d,e,f]					
SO_2	lb/hr (g/s)	4,356.0	(548.9)	5,268.0	(663.8)
NO_x	lb/hr (g/s)	1,601.2	(201.7)	2,913.0	(367.0)
PM Filterable	lb/hr (g/s)	140.8	(17.7)	115.2	(14.5)
SO_4	lb/hr (g/s)	33.6	(4.2)	40.7	(5.1)

Notes:

a. Based on common location using UTM coordinates of: East 567.4 km; North 2,813.5 km

b. Hourly heat input for each unit corresponds to the maximum hourly PM emissions for 2001 - 2006.

c. SO_2 emissions calculated based on vendor SO_2 emission factor and hourly heat input

d. NO_x emissions data based on CEMS data for 2001 - 2003.

e. PM filterable emissions data based on monitoring data from 2001 - 2006.

f. SO_4 emissions data calculated based on 0.8% conversion of sulfur to H_2SO_4 and 37% removal of H_2SO_4 in electrostatic precipitator (Southern Company methodology).

TABLE 2B
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 1
COMPLIANCE COAL, 0.68 WT% SULFUR

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	140.8	78.23	60.27	2.32	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	137.94	NA	NA	NA	33.6	104.3
		%	100%	NA	NA	NA	24%	76%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	278.8	78.23	60.27	2.32	33.62	104.3
		%	100%	28.1%	21.6%	0.8%	12.1%	37.4%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	245.1	78.23	60.27	2.32	0.0	104.3
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	31.9%	24.6%	0.9%	0.0%	42.6%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						140.8	104.3	245.1
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	46.9	52.2	99.0
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	52.2	52.2
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	18.7	0.0	18.7
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	75.2	0.0	75.2
Totals				100.0%	100.0%	140.8	104.3	245.1

Total Modeled PM_{10} 245.1

[a] Heat input rate for unit and fuel heat content — 3,630 MMBtu/hr — 3,630 Unit 1
0.68 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon — lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) — PM2.5 0.24 lb/ton — Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) — PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon — 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon — 0.43 PM soil/PM10
PM2.5 — 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) — lb/MMBtu
Total — 0.1 x S - 0.03
0.04

TABLE 2B (CONTINUED)
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 2
COMPLIANCE COAL, 0.68 WT% SULFUR

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	115.2	64.00	49.31	1.89	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	166.82	NA	NA	NA	40.7	126.2
		%	100%	NA	NA	NA	24%	76%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	282.0	64.00	49.31	1.89	40.7	126.2
		%	100%	22.7%	17.5%	0.7%	14.4%	44.7%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	241.4	64.00	49.31	1.89	0.0	126.16
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	26.5%	20.4%	0.8%	0.0%	52.3%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						115.2	126.2	241.4
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	38.3	63.1	101.4
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	63.1	63.1
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	15.3	0.0	15.3
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	61.5	0.0	61.5
Totals				100.0%	100.0%	115.2	126.2	241.4

Total Modeled PM_{10}: 241.4

[a] Heat input rate for unit and fuel heat content 4,390 MMBtu/hr 4,390 Unit 1
0.68 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
Total 0.1 x S - 0.03
0.04

TABLE 3B
SUMMARY OF COMPLIANCE COAL MODELING RESULTS WITH NEW IMPROVE ALGORITHM
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2 - COAL FIRING

Class I Area	Distance (km) of Source to Nearest Class I Area Boundary	Visibility Impact >0.5 dv						22nd Highest Impact (dv) Over 3-Yr Period
		2001		2002		2003		
			8th Highest Impact (dv)		8th Highest Impact (dv)		8th Highest Impact (dv)	
Saint Marks NWA	174		2.89		2.22		2.67	2.66
Pollutant Contribution		Sulfate	64.1%	Sulfate	95.6%	Sulfate	80.0%	
		Nitrate	33.6%	Nitrate	2.7%	Nitrate	16.1%	
		Particulate Matter	2.2%	Particulate Matter	1.7%	Particulate Matter	3.8%	
Chassahowitzka NWA	21		5.52		5.22		4.62	4.97
Pollutant Contribution		Sulfate	86.3%	Sulfate	81.4%	Sulfate	78.8%	
		Nitrate	11.5%	Nitrate	11.8%	Nitrate	16.3%	
		Particulate Matter	2.2%	Particulate Matter	6.8%	Particulate Matter	4.8%	
Wolf Island NWA	293		0.76		0.79		1.11	0.95
Pollutant Contribution		Sulfate	95.5%	Sulfate	81.2%	Sulfate	63.5%	
		Nitrate	3.7%	Nitrate	17.3%	Nitrate	34.6%	
		Particulate Matter	0.8%	Particulate Matter	1.5%	Particulate Matter	1.9%	
Okefenokee NWA	178		1.64		1.81		1.39	1.71
Pollutant Contribution		Sulfate	66.5%	Sulfate	90.2%	Sulfate	81.1%	
		Nitrate	27.4%	Nitrate	6.4%	Nitrate	16.5%	
		Particulate Matter	6.1%	Particulate Matter	3.4%	Particulate Matter	2.4%	

TABLE 4B
VISIBILITY IMPACT RANKINGS AT PSD CLASS I AREAS
WITH NEW IMPROVE ALGORITHM, COMPLIANCE COAL ANALYSIS
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2

Class I Area	Rank	2001 Predicted Impact (dv)	2002 Predicted Impact (dv)	2003 Predicted Impact (dv)
Saint Marks NWA	1	5.61	5.63	3.46
	2	4.33	4.00	3.33
	3	4.01	2.74	3.24
	4	3.62	2.68	3.05
	5	3.10	2.32	3.02
	6	2.94	2.24	2.97
	7	2.91	2.23	2.91
	8	2.89	2.22	2.67
Chassahowitzka NWA	1	7.51	7.08	6.49
	2	6.94	6.96	6.41
	3	6.80	6.03	5.75
	4	6.68	6.00	5.31
	5	6.13	5.81	4.95
	6	5.95	5.36	4.95
	7	5.94	5.27	4.63
	8	5.52	5.22	4.62
Wolf Island NWA	1	2.11	2.36	1.66
	2	1.50	1.83	1.63
	3	1.34	1.35	1.59
	4	0.96	1.15	1.49
	5	0.93	1.04	1.34
	6	0.88	1.04	1.23
	7	0.87	0.82	1.18
	8	0.76	0.79	1.11
Okefenokee NWA	1	3.00	3.14	2.96
	2	2.74	2.94	2.66
	3	2.27	2.13	2.51
	4	1.93	2.09	2.29
	5	1.85	1.90	2.12
	6	1.84	1.89	1.78
	7	1.71	1.82	1.78
	8	1.64	1.81	1.39

TABLE 1C
BART MODELING DATA INPUT
CRYSTAL RIVER POWER PLANT, UNITS 1 & 2
POWDER RIVER BASIN COAL, 0.35 WEIGHT % SULFUR

Parameter	Units	Value			
Emission Unit		Unit 1		Unit 2	
Location					
UTM Coordinates[a]					
East	km	334.30		334.30	
North	km	3,204.50		3,204.50	
Zone		17		17	
Lambert Conformal Coordinates [a]					
x	km	1,398.50		1,398.50	
y	km	-1,116.10		-1,116.10	
Stack Data					
Height	ft (m)	499	(152.1)	502	(153.0)
Diameter	ft (m)	15	(4.57)	16.0	(4.88)
Base elevation	ft (m)	3.3	(1.00)	3.3	(1.00)
Hourly heat input[b]	MMBtu/hr	3630.0	-	4390.0	-
Operating Data					
Exit gas temperature	^{o}F (K)	291	(417)	300	(422)
Exit gas velocity	ft/s (m/s)	132.7	(40.5)	160.0	(48.8)
Emission Data[c,d,e,f]					
SO_2	lb/hr (g/s)	2,904.0	(365.9)	3,512.0	(442.5)
NO_x	lb/hr (g/s)	1,601.2	(201.7)	2,913.0	(367.0)
PM Filterable	lb/hr (g/s)	140.8	(17.7)	115.2	(14.5)
SO_4	lb/hr (g/s)	23.1	(2.9)	27.9	(3.5)

Notes:

a. Based on common location using UTM coordinates of: East 567.4 km; North 2,813.5 km

b. Hourly heat input for each unit corresponds to the maximum hourly PM emissions for 2001 - 2006.

c. SO_2 emissions calculated based on vendor SO_2 emission factor and hourly heat input

d. NO_x emissions data based on CEMS data for 2001 - 2003.

e. PM filterable emissions data based on monitoring data from 2001 - 2006.

f. SO_4 emissions data calculated based on 0.8% conversion of sulfur to H_2SO_4 and 37% removal of H_2SO_4 in electrostatic precipitator (Southern Company methodology).

TABLE 2C
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 1
POWDER RIVER BASIN (PRB) COAL, 0.35 WEIGHT % SULFUR

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	140.8	78.23	60.27	2.32	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	36.30	NA	NA	NA	23.1	13.2
		%	100%	NA	NA	NA	64%	36%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	177.1	78.23	60.27	2.32	23.07	13.2
		%	100%	44.2%	34.0%	1.3%	13.0%	7.5%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	154.0	78.23	60.27	2.32	0.0	13.2
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	50.8%	39.1%	1.5%	0.0%	8.6%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						140.8	13.2	154.0
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	46.9	6.6	53.5
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	6.6	6.6
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	18.7	0.0	18.7
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	75.2	0.0	75.2
Totals				100.0%	100.0%	140.8	13.2	154.0

Total Modeled PM_{10} 154.0

[a] Heat input rate for unit and fuel heat content — 3,630 MMBtu/hr — 3,630 Unit 1
0.35 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon — lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) — PM2.5 0.24 lb/ton — Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) — PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon — 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon — 0.43 PM soil/PM10
PM2.5 — 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) — lb/MMBtu
0.010 for sulfur content =< 0.4% wt

TABLE 2C (CONTINUED)
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 2
POWDER RIVER BASIN (PRB) COAL, 0.35 WEIGHT % SULFUR

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	115.2	64.00	49.31	1.89	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	43.90	NA	NA	NA	27.9	16.0
		%	100%	NA	NA	NA	64%	36%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	159.1	64.00	49.31	1.89	27.9	16.0
		%	100%	40.2%	31.0%	1.2%	17.5%	10.1%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	131.2	64.00	49.31	1.89	0.0	16.00
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	48.8%	37.6%	1.4%	0.0%	12.2%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						115.2	16.0	131.2
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	38.3	8.0	46.3
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	8.0	8.0
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	15.3	0.0	15.3
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	61.5	0.0	61.5
Totals				100.0%	100.0%	115.2	16.0	131.2

Total Modeled PM_{10} 131.2

[a] Heat input rate for unit and fuel heat content — 4,390 MMBtu/hr; 0.35 sulfur content (%) — 4,390 Unit 1

[b] PM fine consists of PM soil and PM elemental carbon — lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) — PM2.5 0.24 lb/ton — Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) — PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon — 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon — 0.43 PM soil/PM10
PM2.5 — 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) — lb/MMBtu
0.010 for sulfur content =< 0.4% wt

TABLE 3C
SUMMARY OF PRB COAL MODELING RESULTS WITH NEW IMPROVE ALGORITHM
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2 - COAL FIRING

Class I Area	Distance (km) of Source to Nearest Class I Area Boundary	Visibility Impact >0.5 dv						22nd Highest Impact (dv) Over 3-Yr Period
		2001		2002		2003		
			8th Highest Impact (dv)		8th Highest Impact (dv)		8th Highest Impact (dv)	
Saint Marks NWA	174		2.17		1.60		1.95	1.90
Pollutant Contribution		Sulfate	45.0%	Sulfate	81.4%	Sulfate	75.3%	
		Nitrate	53.7%	Nitrate	17.6%	Nitrate	22.9%	
		Particulate Matter	1.3%	Particulate Matter	1.0%	Particulate Matter	1.8%	
Chassahowitzka NWA	21		4.15		3.79		3.43	3.92
Pollutant Contribution		Sulfate	78.6%	Sulfate	79.7%	Sulfate	74.3%	
		Nitrate	20.4%	Nitrate	17.0%	Nitrate	23.5%	
		Particulate Matter	1.0%	Particulate Matter	3.3%	Particulate Matter	2.3%	
Wolf Island NWA	293		0.59		0.56		0.85	0.66
Pollutant Contribution		Sulfate	42.7%	Sulfate	94.9%	Sulfate	72.3%	
		Nitrate	54.8%	Nitrate	4.7%	Nitrate	26.1%	
		Particulate Matter	2.5%	Particulate Matter	0.4%	Particulate Matter	1.6%	
Okefenokee NWA	178		1.23		1.25		1.01	1.23
Pollutant Contribution		Sulfate	60.1%	Sulfate	92.6%	Sulfate	75.8%	
		Nitrate	37.3%	Nitrate	6.6%	Nitrate	23.2%	
		Particulate Matter	2.5%	Particulate Matter	0.8%	Particulate Matter	1.0%	

TABLE 4C
VISIBILITY IMPACT RANKINGS AT PSD CLASS I AREAS
WITH NEW IMPROVE ALGORITHM, PRB COAL ANALYSIS
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2

Class I Area	Rank	2001 Predicted Impact (dv)	2002 Predicted Impact (dv)	2003 Predicted Impact (dv)
Saint Marks NWA	1	4.13	4.32	2.56
	2	3.31	3.03	2.40
	3	3.14	1.90	2.25
	4	2.69	1.89	2.13
	5	2.29	1.76	2.12
	6	2.24	1.62	2.09
	7	2.18	1.60	2.07
	8	2.17	1.60	1.95
Chassahowitzka NWA	1	5.63	5.56	4.87
	2	5.16	5.21	4.72
	3	5.15	4.76	4.29
	4	4.95	4.43	3.94
	5	4.57	4.38	3.92
	6	4.55	4.11	3.55
	7	4.30	3.93	3.49
	8	4.15	3.79	3.43
Wolf Island NWA	1	1.46	1.69	1.29
	2	1.11	1.26	1.11
	3	0.93	0.93	1.11
	4	0.66	0.82	1.02
	5	0.63	0.82	0.91
	6	0.60	0.79	0.87
	7	0.60	0.57	0.86
	8	0.59	0.56	0.85
Okefenokee NWA	1	2.09	2.39	2.08
	2	2.08	2.16	1.95
	3	1.59	1.60	1.73
	4	1.37	1.45	1.68
	5	1.37	1.40	1.47
	6	1.34	1.29	1.26
	7	1.32	1.26	1.22
	8	1.23	1.25	1.01

TABLE 1D
BART MODELING DATA INPUT
CRYSTAL RIVER POWER PLANT, UNITS 1 & 2
WITH FLUE GAS DESULFURIZATION (FGD) UNIT

Parameter	Units	Value			
Emission Unit		Unit 1		Unit 2	
Location					
UTM Coordinates[a]					
East	km	334.30		334.30	
North	km	3,204.50		3,204.50	
Zone		17		17	
Lambert Conformal Coordinates [a]					
x	km	1,398.50		1,398.50	
y	km	-1,116.10		-1,116.10	
Stack Data					
Height	ft (m)	499	(152.1)	502	(153.0)
Diameter	ft (m)	15	(4.57)	16.0	(4.88)
Base elevation	ft (m)	3.3	(1.00)	3.3	(1.00)
Hourly heat input[b]	MMBtu/hr	3630.0 -		4390.0 -	
Operating Data					
Exit gas temperature	^{o}F (K)	291	(417)	300	(422)
Exit gas velocity	ft/s (m/s)	132.7	(40.5)	160.0	(48.8)
FGD unit control efficiency	%	95.0 -		95.0 -	
Emission Data[c,d,e,f]					
SO_2	lb/hr (g/s)	361.9	(45.6)	448.4	(56.5)
NO_x	lb/hr (g/s)	1,601.2	(201.7)	2,913.0	(367.0)
PM Filterable	lb/hr (g/s)	140.8	(17.7)	115.2	(14.5)
SO_4	lb/hr (g/s)	50.4	(6.4)	61.0	(7.7)

Notes:

a. Based on common location using UTM coordinates of: East 567.4 km; North 2,813.5 km

b. Hourly heat input for each unit corresponds to the maximum hourly PM emissions for 2001 - 2006.

c. SO_2 emissions calculated based on vendor SO_2 emission factor, hourly heat input and FGD control efficiency

d. NO_x emissions data based on CEMS data for 2001 - 2003.

e. PM filterable emissions data based on monitoring data from 2001 - 2006.

f. SO_4 emissions data calculated based on 0.8% conversion of sulfur to H_2SO_4 and 37% removal of H_2SO_4 in electrostatic precipitator (Southern Company methodology).

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TABLE 2D
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 1
FLUE GAS DESULFURIZATION UNIT SCENARIO, 95% SO_2 EMISSIONS CONTROL

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	140.8	78.23	60.27	2.32	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	283.14	NA	NA	NA	50.4	232.7
		%	100%	NA	NA	NA	18%	82%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	424.0	78.23	60.27	2.32	50.43	232.7
		%	100%	18.5%	14.2%	0.5%	11.9%	54.9%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	373.5	78.23	60.27	2.32	0.0	232.7
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	20.9%	16.1%	0.6%	0.0%	62.3%

PM Particle Size Distribution for CALPUFF Assessment

Species Name	Size Distribution by Category (%): AP-42 (Table 1.1-6) Particle Size (microns)	AP-42 (Table 1.1-6) Cumulative (%)	Cumulative Normalized PM10 (%)	Individual Categories Filterable (%)	Individual Categories Organic Condensable	Emission Rate (lb/hr) Filterable	Emission Rate (lb/hr) Organic Condensable	Emission Rate (lb/hr) Total
Total PM_{10}						140.8	232.7	373.5
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	46.9	116.4	163.2
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	116.4	116.4
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	18.7	0.0	18.7
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	75.2	0.0	75.2
Totals				100.0%	100.0%	140.8	232.7	373.5

Total Modeled PM_{10} 373.5

[a] Heat input rate for unit and fuel heat content 3,630 MMBtu/hr 3,630 Unit 1
1.08 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
Total 0.1 x S - 0.03
0.08

TABLE 2D (CONTINUED)
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 2
FLUE GAS DESULFURIZATION UNIT SCENARIO, 95% SO_2 EMISSIONS CONTROL

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	115.2	64.00	49.31	1.89	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	342.42	NA	NA	NA	61.0	281.4
		%	100%	NA	NA	NA	18%	82%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	457.6	64.00	49.31	1.89	61.0	281.4
		%	100%	14.0%	10.8%	0.4%	13.3%	61.5%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	396.6	64.00	49.31	1.89	0.0	281.44
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	16.1%	12.4%	0.5%	0.0%	71.0%

PM Particle Size Distribution for CALPUFF Assessment

Species Name	AP-42 (Table 1.1-6) Particle Size (microns)	AP-42 (Table 1.1-6) Cumulative (%)	Cumulative Normalized PM10 (%)	Individual Categories Filterable (%)	Individual Categories Organic Condensable	Emission Rate (lb/hr) Filterable	Emission Rate (lb/hr) Organic Condensable	Emission Rate (lb/hr) Total
Total PM_{10}						115.2	281.4	396.6
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	38.3	140.7	179.0
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	140.7	140.7
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	15.3	0.0	15.3
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	61.5	0.0	61.5
Totals				100.0%	100.0%	115.2	281.4	396.6

Total Modeled PM_{10} 396.6

[a] Heat input rate for unit and fuel heat content 4,390 MMBtu/hr 4,390 Unit 1
1.08 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon — lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) — PM2.5 0.24 lb/ton — Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) — PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon — 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon — 0.43 PM soil/PM10
PM2.5 — 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) — lb/MMBtu
Total — 0.1 x S - 0.03
0.08

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TABLE 3D
SUMMARY OF BART FGD UNIT MODELING RESULTS WITH NEW IMPROVE ALGORITHM
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2 - COAL FIRING

Class I Area	Distance (km) of Source to Nearest Class I Area Boundary	Visibility Impact >0.5 dv 2001		2002		2003		22nd Highest Impact (dv) Over 3-Yr Period
			8th Highest Impact (dv)		8th Highest Impact (dv)		8th Highest Impact (dv)	
Saint Marks NWA	174		1.18		0.81		0.98	0.98
Pollutant Contribution		Sulfate	25.3%	Sulfate	16.0%	Sulfate	28.7%	
		Nitrate	63.9%	Nitrate	73.1%	Nitrate	54.9%	
		Particulate Matter	10.8%	Particulate Matter	10.9%	Particulate Matter	16.4%	
Chassahowitzka NWA	21		3.34		4.22		4.29	3.88
Pollutant Contribution		Sulfate	25.4%	Sulfate	25.2%	Sulfate	25.3%	
		Nitrate	42.9%	Nitrate	45.6%	Nitrate	42.4%	
		Particulate Matter	31.6%	Particulate Matter	29.2%	Particulate Matter	32.2%	
Wolf Island NWA	293		0.24		0.29		0.31	0.30
Pollutant Contribution		Sulfate	13.7%	Sulfate	38.9%	Sulfate	29.0%	
		Nitrate	75.8%	Nitrate	50.3%	Nitrate	57.9%	
		Particulate Matter	10.5%	Particulate Matter	10.9%	Particulate Matter	13.1%	
Okefenokee NWA	178		0.55		0.58		0.51	0.55
Pollutant Contribution		Sulfate	66.3%	Sulfate	48.4%	Sulfate	20.3%	
		Nitrate	15.5%	Nitrate	16.0%	Nitrate	67.9%	
		Particulate Matter	18.1%	Particulate Matter	35.6%	Particulate Matter	11.8%	

TABLE 4D
VISIBILITY IMPACT RANKINGS AT PSD CLASS I AREAS
WITH NEW IMPROVE ALGORITHM, FGD UNIT ANALYSIS
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2

Class I Area	Rank	2001 Predicted Impact (dv)	2002 Predicted Impact (dv)	2003 Predicted Impact (dv)
Saint Marks NWA	1	1.96	2.15	1.37
	2	1.91	1.48	1.24
	3	1.83	1.34	1.16
	4	1.67	1.11	1.10
	5	1.46	0.86	1.10
	6	1.41	0.82	1.05
	7	1.35	0.82	1.04
	8	1.18	0.81	0.98
Chassahowitzka NWA	1	5.44	7.21	5.54
	2	4.96	6.97	5.25
	3	3.94	6.75	5.23
	4	3.92	6.52	4.88
	5	3.88	5.81	4.42
	6	3.75	5.11	4.41
	7	3.57	4.40	4.32
	8	3.34	4.22	4.29
Wolf Island NWA	1	0.55	0.78	0.88
	2	0.50	0.54	0.54
	3	0.42	0.42	0.49
	4	0.31	0.42	0.37
	5	0.31	0.39	0.32
	6	0.30	0.37	0.32
	7	0.29	0.31	0.32
	8	0.24	0.29	0.31
Okefenokee NWA	1	1.04	1.19	0.94
	2	0.93	1.11	0.71
	3	0.90	1.03	0.71
	4	0.67	0.80	0.65
	5	0.66	0.74	0.58
	6	0.66	0.64	0.55
	7	0.61	0.59	0.53
	8	0.55	0.58	0.51

TABLE 5
SUMMARY OF SO_2 BACT DETERMINATIONS FOR COAL FUEL FIRED LARGE INDUSTRIAL BOILERS (>250 MMBTU/HR) (2007-2012)

Facility Name	State	Permit Issued	Process Info	Fuel	Heat Input	Control Method	SO_2 Limit	Basis
John W. Turk Jr. Power Plant	AR	11/5/2008	PC Boiler	PRB Sub-Bit Coal	6,000 MMBtu/hr	Dry Flue Gas Desulfurization (Spray Dry Absorber)	0.08 LB/MMBTU	BACT-PSD
Ottumwa Generating Station	IA	2/27/2007	Boiler #1	Coal	6,370 MMBtu/hr	Low Sulfur Coal	1.2 LB/MMBTU	BACT-PSD
J.K. Smith Generating Station	KY	4/9/2010	Circulating Fluidized Bed Boiler Cfb1 And CFB2	Coal	3,000 MMBtu/hr	Limestone Injection (CFB) and a Flash Dryer Absorber with Fresh Lime Injection	0.075 LB/MMBTU	BACT-PSD
Karn Weadock Generating Complex	MI	12/29/2009	Boiler	PRB Coal Or 50/50 Blend	8,190 MMBtu/hr	Limestone Forced Oxidation, Wet Fluidized Gas Desulfurization (Fgd) and Low Sulfur Coal.	0.06 LB/MMBTU	BACT-PSD
Spiritwood Station	ND	9/14/2007	Atmospheric Circulating Fluidized Bed Boiler	Lignite	1,280 MMBtu/hr	Limestone injection into the unit with a Spray Dryer following.	0.06 LB/MMBTU	BACT-PSD
Smart Papers Holdings, Llc	OH	1/31/2008	Pulverized Dry Bottom Boiler	Coal	420 MMBtu/hr		1.7 LB/MMBTU	BACT-PSD
Hugo Generating Sta	OK	2/9/2007	Coal-Fired Steam EGU Boiler (HU-Unit 2)		2,561 MMBtu/hr	Wet Limestone Flue Gas Desulfurization	0.065 LB/MMBTU	BACT-PSD
Sunnyside Ethanol,Llc	PA	5/7/2007	CFB Boiler	Coal	497 MMBtu/hr	Limestone Injection and add on Dry Flue Gas Desulfedrization, CEM	0.2 LB/MMBTU	BACT-PSD
Coleto Creek Unit 2	TX	5/3/2010	Coal-Fired Boiler Unit 2	PRB Coal	6,670 MMBtu/hr	Spray Dry Adsorber/Fabric Filter	0.06 LB/MMBTU	BACT-PSD
White Stallion Energy Center	TX	12/16/2010	CFB Boiler	Coal & Pet Coke	3,300 MMBtu/hr	"Limestone Bed CFB and Lime Spray Dryer Permit Design Sulfur Content of Ill Basin Coal is 3.9 Wt% and of Pet Coke 4.3 Avg/6.0 Max	0.114 LB/MMBTU	BACT-PSD
Tenaska Trailblazer Energy Center	TX	12/30/2010	Coal-Fired Boiler	Sub-Bituminous Coal	8,307 MMBtu/hr	HI Weighting of Limits Used for Fuel Blending"	0.06 LB/MMBTU	BACT-PSD
Bonanza Power Plant Waste Coal Fired Unit	UT	8/30/2007	Circulating Fluidized Bed Boiler, 1445 MMbtu/Hr Waste Coal Fired	Waste Coal/Bituminous Blend	-- --	Wet Limestone Scrubber	0.055 LB/MMBTU	BACT-PSD
Virginia City Hybrid Energy Center	VA	6/30/2008	2 Circulating Fluidized Bed Boilers	Coal And Coal Refuse	3,132 MMBtu/hr		0.035 LB/MMBTU	BACT-PSD
Western Greenbrier Co-Generation, Llc	WV	4/26/2006	Circulating Fluidized Bed Boiler (CFB)	Waste Coal	1,070 MMBtu/hr	Dry SO2 Scrubber (Spray Dry Absorber)"	0.14 LB/MMBTU	BACT-PSD
Wygen 3	WY	2/5/2007	PC Boiler	Subbituminous Coal	1,300 MMBtu/hr	Good Combustion Practices Low Sulfur Content Coal and CEM System	0.09 LB/MMBTU	BACT-PSD
Dry Fork Station	WY	10/15/2007	PC Boiler (ES1-01)	Coal	-- --	Limestone Injection and Flue Gas Desulfurization and CEM System	0.07 LB/MMBTU	BACT-PSD

Source: EPA 2012 (RBLC database)

TABLE 6
COST EFFECTIVENESS OF FUEL SWITCHING
PEF CRYSTAL RIVER POWER PLANT, UNITS 1 AND 2

Cost Items	Cost Factors	Baseline Current Fuel Cost ($)	Projected Future 0.68% S Fuel Cost ($)	Projected Future 0.35% S Fuel Cost ($)
DIRECT CAPITAL COSTS (DCC):				
(1a) Equipment Cost - Upgrade ESP for 0.68%S Coal			100,000,000	
(1b) Equipment Cost - Performance, Coal Handling Performance, Safety for 0.35% Coal [(a)]				82,500,000
(1c) Equipment Cost - Replace ESP with Baghouse for 0.35%S Coal				250,000,000
(3) Sales Tax	NA	0.0	0.0	0.0
Subtotal: Total Equipment Cost (TEC)		0.0	100,000,000	332,500,000
(4) Direct Installation Costs	NA	0.0	0.0	0.0
Total DCC:		0.0	100,000,000	332,500,000
INDIRECT CAPITAL COSTS (ICC): [(b)]				
(1) Indirect Installation Costs				
(a) Engineering	10% of TEC	0.0	10,000,000	33,250,000
(b) Construction & Field Expenses	10% of TEC	0.0	10,000,000	33,250,000
(c) Construction Contractor Fee	10% of TEC	0.0	10,000,000	33,250,000
(d) Contingencies	3% of TEC	0.0	3,000,000	9,975,000
(2) Other Indirect Costs				
(a) Startup	1% of TEC	0.0	1,000,000	3,325,000
(b) Performance Test'	1% of TEC	0.0	1,000,000	3,325,000
Total ICC:		0.0	35,000,000	116,375,000
PROJECT CONTINGENCY	15% of (DCC+ICC)	0.0	20,250,000	67,331,250
TOTAL CAPITAL INVESTMENT (Total Plant Cost) (TCI):	DCC + ICC+Project Contingency	0.0	155,250,000	516,206,250
DIRECT OPERATING COSTS (DOC):				
(1) Variable Operation & Maintenance Cost	Progress Energy Data	0	0	0
(3) Fuels				
Existing Fuel Cost (Coal with 1.0%S)	$4.25/mmBtu coal; 45,000,000 mmBtu/yr; 12,000 Btu/lb	191,250,000	--	--
Proposed Fuel Cost (Coal with 0.68%S)	$4.37/mmBtu coal; 45,000,000 mmBtu/yr; 12,000 Btu/lb	--	196,650,000	--
Proposed Fuel Cost (Coal with 0.35%S)	$4.04/mmBtu coal; 45,000,000 mmBtu/yr; 8,800 Btu/lb	--	--	181,800,000
Differential Fuel Cost (Proposed - Existing)	Proposed fuel cost - existing fuel cost		5,400,000	-9,450,000
Total DOC:			5,400,000	-9,450,000
INDIRECT OPERATING COSTS (IOC): [(b)]				
(1) Overhead	60% of oper. labor & maintenance, CCM Chapter 2	0.0	0.0	0.0
(2) Property Taxes	1% of total capital investment, CCM Chapter 2	0.0	1,552,500	5,162,063
(3) Insurance	1% of total capital investment, CCM Chapter 2	0.0	1,552,500	5,162,063
(4) Administration	2% of total capital investment, CCM Chapter 2	0.0	3,105,000	10,324,125
Total IOC:	(1) + (2) + (3) + (4)	0.0	6,210,000	20,648,250
CAPITAL RECOVERY COSTS (CRC):	CRF of 0.55309 times TCI (2 yrs @ 7%)	0.0	85,867,223	285,508,515
ANNUALIZED COSTS (AC):	DOC + IOC + CRF	0.0	97,477,223	296,706,765
Baseline Emissions:	Based on projected operation for Units 1 & 2	38,250	38,250	38,250
Projected Future Emissions:	1.2 lb/mmBtu and 0.8 lb/mmBtu; 45,000,000 mmBtu/yr	--	27,000	18,000
Emissions Reduction (TPY)(AC):	Baseline - Future Projected (TPY)	--	11,250	20,250
Average Cost Effectiveness ($/ton):	AC/Emissions Reduction	--	8,665	14,652
Incremental Cost ($)	Incremental Cost for using 0.35% S instead of 0.68% S coal	--	--	199,229,542
Incremental Emissions Reduction (TPY):	Emissions Reduction 0.35% S coal - 0.68% S coal	--	--	9,000
Incremental Cost Effectiveness ($/ton):	Incremental Cost/Incremental Emissions Reduction	--	--	22,137
Modeled Baseline Visibility Impact - Haze Index (HI) (dv):	8th Highest Visibility Impact for Both Units 1 and 2	7.93	--	--
Modeled Visibility Impact w 0.68% & 0.35% S Coal - HI (dv	8th Highest Visibility Impact for Both Units 1 and 2	--	5.52	4.15
Improvement in Visibility (dv)	Future - Baseline	--	2.41	3.78
Average Visibility Improvement Cost Effectiveness ($/dv):	AC/Visibility Improvement	--	40,446,980	78,493,853
Incremental Visibility Improvement (dv):	Visibility Improvement 0.35% S coal - 0.68% S coal	--	--	1.37
Incremental Visibility Improvement Cost Effectiveness ($/dv	Incremental Cost/Incremental Visibility Improvement	--	--	145,423,024

Notes:

[(a)] This estimate is based on a 2005 Sargent and Lundy Crystal River 4 & 5 study on costs of converting to 100% PRB. Significant increased scope is not included in this estimate, as an engineering evaluation would have to be completed to accurately define the required scope. Excluded scope includes, but is not limited to, pressure part modifications, ESP modifications, electrical system upgrades, and fan modifications. The 2005 costs were escalated to 2012 costs using the Global Insight ash and coal handling cost category. In addition this cost estimate does not include any O&M, reagent, byproduct or fuel cost impacts, nor does it include a risk adjustment for potential safety hazards and associated issues related to the use of PRB coal at the Crystal River site.

[(b)] Factors and cost estimates reflect OAQPS Cost Manual, 6th Edition, January 2002.

TABLE 7
COST EFFECTIVENESS OF FUEL GAS DESULFURIZATION (FGD) SYSTEMS
PEF CRYSTAL RIVER POWER PLANT, UNITS 1 AND 2

Cost Items	Cost Factors	Baseline Uncontrolled Cost ($)	Projected Future FGD Systems Cost ($)
DIRECT CAPITAL COSTS (DCC):			
(1) Equipment Cost			286,653,406
(3) Sales Tax	NA	0.0	0.0
Subtotal: Total Equipment Cost (TEC)		0.0	286,653,406.0
(4) Direct Installation Costs	NA	0.0	0.0
Total DCC:		0.0	286,653,406.0
INDIRECT CAPITAL COSTS (ICC): [a]			
(1) Indirect Installation Costs			
(a) Engineering	10% of TEC	0.0	28,665,340.6
(b) Construction & Field Expenses	10% of TEC	0.0	28,665,340.6
(c) Construction Contractor Fee	10% of TEC	0.0	28,665,340.6
(d) Contingencies	3% of TEC	0.0	8,599,602.2
(2) Other Indirect Costs			
(a) Startup	1% of TEC	0.0	2,866,534.1
(b) Performance Test'	1% of TEC	0.0	2,866,534.1
Total ICC:		0.0	100,328,692.1
PROJECT CONTINGENCY	15% of (DCC+ICC)	0.0	58,047,314.7
TOTAL CAPITAL INVESTMENT (Total Plant Cost) (TCI):	DCC + ICC+Project Contingency	0.0	445,029,412.8
DIRECT OPERATING COSTS (DOC): [a],[b]			
(1) Limestone	133,000 tpy x $32.8 per ton	0	4,362,400
(2) Filtered water	315 Mgal x $0.82 per 1000 gal	0	258,300
(3) Electrical power	1.9% of gross power production of Units 1 & 2 x 8760 hours x $0.05 per KWhr	0	71,111,490
(4) By-product disposal	380,000 tpy by-product x $65.6 per ton	0	24,928,000
Total DOC:		0	100,660,190
INDIRECT OPERATING COSTS (IOC): [c]			
(1) Overhead	60% of oper. labor & maintenance, CCM Chapter 2	0.0	0.0
(2) Property Taxes	1% of total capital investment, CCM Chapter 2	0.0	4,450,294.1
(3) Insurance	1% of total capital investment, CCM Chapter 2	0.0	4,450,294.1
(4) Administration	2% of total capital investment, CCM Chapter 2	0.0	8,900,588.3
Total IOC:	(1) + (2) + (3) + (4)	0.0	17,801,176.5
CAPITAL RECOVERY COSTS (CRC):	CRF of 0.55309 times Total Capital Cost (2 yrs @ 7%)	0.0	246,141,318
ANNUALIZED COSTS (AC):	DOC + IOC + CRF	0.0	364,602,684
Baseline Emissions:	Based on projected operation for Units 1 & 2	38,250	38,250
Projected Future Emissions:	Assumes 95% control	--	1,913
Emissions Reduction (TPY)(AC):	Baseline - Future Projected (TPY)	--	36,338
Average Cost Effectiveness ($/ton):	AC/Emissions Reduction	--	10,034
Incremental Cost ($)	Incremental Cost for using FGD instead of 0.68% S coal	--	--
Incremental Emissions Reduction (TPY):	Emissions Reduction 0.35% S coal - 0.68% S coal	--	--
Incremental Cost Effectiveness ($/ton):	Incremental Cost/Incremental Emissions Reduction	--	--
Modeled Baseline Visibility Impact - Haze Index (HI) (dv):	8th Highest Visibility Impact for Both Units 1 and 2	7.93	--
Modeled Visibility Impact w FGD System - HI (dv):	8th Highest Visibility Impact for Both Units 1 and 2	--	3.34
Improvement in Visibility (dv)	Future - Baseline	--	4.59
Average Visibility Improvement Cost Effectiveness ($/dv):	AC/Visibility Improvement	--	79,434,136
Incremental Visibility Improvement (dv):		--	--
Incremental Visibility Improvement Cost Effectiveness ($/dv):	Incremental Cost/Incremental Visibility Improvement	--	--

Notes:

[a] Direct operating costs include primary cost elements only.

[b]Direct operating costs estimated based on "Dry Flue Gas Desulfurization (DFGD)/Puff Jet Fabric Filter (PJFF) and Selective Catalytic Reduction (SCR) System Retrofit and Conceptual Design and Cost Estimate" for Crystal River Units 1 & 2, Progress Energy Florida, July 2010; CRCA-0-LI-022-0006.

[c] Factors and cost estimates reflect OAQPS Cost Manual, 6th Edition, January 2002.

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Exhibit G

Crystal River Power Plant

Crystal River, Florida

Sierra Club Evaluation of Compliance with 1-hour SO_2 NAAQS

June 25, 2012

Conducted by:

Steven Klafka, P.E., BCEE

Wingra Engineering, S.C.

Madison, Wisconsin

1. Introduction

The Sierra Club prepared an air modeling impact analysis to help USEPA, state and local air agencies identify facilities that are likely causing violations of the 1-hour sulfur dioxide (SO_2) national ambient air quality standard (NAAQS). This document describes the results and procedures for an evaluation conducted for the Crystal River Power Plant located in Crystal River, Florida.

The dispersion modeling analysis predicted ambient air concentrations for comparison with the one hour SO_2 NAAQS. The modeling was performed using the most recent version of AERMOD, AERMET, and AERMINUTE, with data provided to the Sierra Club by regulatory air agencies and through other publicly-available sources as documented below. The analysis was conducted in adherence to all available USEPA guidance for evaluating source impacts on attainment of the 1-hour SO_2 NAAQS via aerial dispersion modeling, including the AERMOD Implementation Guide; USEPA's Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard, August 23, 2010; modeling guidance promulgated by USEPA in Appendix W to 40 CFR Part 51; and, USEPA's March 2011 Modeling Guidance for SO_2 NAAQS Designations, available at http://www.epa.gov/ttn/scram/SO2%20Designations%20Guidance%202011.pdf.

2. Compliance with the 1-hour SO_2 NAAQS

2.1 1-hour SO_2 NAAQS

The 1-hour SO_2 NAAQS takes the form of a three-year average of the 99th-percentile of the annual distribution of daily maximum 1-hour concentrations, which cannot exceed 75 ppb.[1] Compliance with this standard was verified using USEPA's AERMOD air dispersion model, which produces air concentrations in units of $\mu g/m^3$. The 1-hour SO_2 NAAQS of 75 ppb equals 196.2 $\mu g/m^3$, and this is the value used for determining whether modeled impacts exceed the NAAQS.[2] The 99th-percentile of the annual distribution of daily maximum 1-hour concentrations corresponds to the fourth-highest value at each receptor for a given year.

2.2 Modeling Results

Modeling results for Crystal River Power Plant are summarized in Table 1. It was determined that based on either currently permitted emissions or measured actual emissions, the Crystal River Power Plant is estimated to create downwind SO_2 concentrations which exceed the 1-hour NAAQS.

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[1] USEPA, Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard, August 23, 2010.
[2] The ppb to $\mu g/m^3$ conversion is found in the source code to AERMOD v. 11103, subroutine Modules. The conversion calculation is $75/0.3823 = 196.2\ \mu g/m^3$.

The currently permitted emissions and measured actual emissions used for the modeling analysis are summarized in Table 2. Based on the modeling results, emission reductions from current rates considered necessary to achieve compliance with the 1-hour NAAQS were calculated and presented in Table 3.

Predicted exceedences of the 1-hour NAAQS for SO_2 extend throughout the region to a maximum distance of 40 kilometers.

Figure 1 provided at the end of this report shows the extent of NAAQS violations throughout the entire 50 kilometer modeling domain.

Figure 2 provides a close-up local view of NAAQS violations.

Air quality impacts in Florida are based on a background concentration of 5.2 $\mu g/m^3$. This is the 2008-10 design value for Miami - Dade County, Florida - the lowest measured background concentration in the state. This is the most recently available design value.

2.3 Conservative Modeling Assumptions

A dispersion modeling analysis requires the selection of numerous parameters which affect the predicted concentrations. For the enclosed analysis, several parameters were selected which under-predict facility impacts.

Assumptions used in this modeling analysis which likely under-estimate concentrations include the following:

- Allowable emissions are based on a limitation with an averaging period which is greater than the 1-hour average used for the SO_2 air quality standard. Emissions and impacts during any 1-hour period may be higher than assumed for the modeling analysis.
- No consideration of facility operation at less than 100% load. Stack parameters such as exit flow rate and temperature are typically lower at less than full load, reducing pollutant dispersion and increasing predicted air quality impacts.
- No consideration of building or structure downwash. These downwash effects typically increase predicted concentrations near the facility.
- No consideration of off-site sources. These other sources of SO_2 will increase the predicted impacts.

Table 1 - SO_2 Modeling Results for Crystal River Power Plant Modeling Analysis

Emission Rates	Averaging Period	99th Percentile 1-hour Daily Maximum (μg/m³)				Complies with NAAQS?
		Impact	Background	Total	NAAQS	
Allowable	1-hour	915.8	5.2	921.0	196.2	No
Maximum	1-hour	529.4	5.2	534.6	196.2	No

Table 2 - Modeled SO_2 Emissions from Crystal River Power Plant[3,4]

Stack ID	Unit ID	Allowable Emissions 24-hour Average (lbs/hr)	Maximum Emissions 1-hour Average (lbs/hr)
S01	Unit 1	7,875.0	4,319.0
S02	Unit 2	10,069.5	5,092.0
S45	Units 4 and 5	17,280.0	10,531.0
Stack Total	All Units	32,224.5	19,942.0

Table 3 - Required Emission Reductions for Compliance with 1-hour SO_2 NAAQS

Acceptable Impact (NAAQS - Background) 99th Percentile 1-hour Daily Max (μg/m³)	Required Total Facility Reduction Based on Allowable Emissions (%)	Required Total Facility Emission Rate (lbs/hr)	Required Total Facility Emission Rate (lbs/mmbtu)
191.0	79.1%	6,720.8	0.25

[3] Florida Department of Environmental Protection, Division of Air Resource Management, Title V Air Operation Permit No. 0170004-025-AV, April 11, 2011. All units have an emission limitation of 1.2 lbs/mmbtu.
[4] Maximum emissions are measured hourly rates reported for 2011 in USEPA, Clean Air Markets - Data and Maps.

3. Modeling Methodology

3.1 Air Dispersion Model

The modeling analysis used USEPA's AERMOD program, version 12060. AERMOD, as available from the Support Center for Regulatory Atmospheric Modeling (SCRAM) website, was used in conjunction with a third-party modeling software program, *AERMOD View*, sold by Lakes Environmental Software.

3.2 Control Options

The AERMOD model was run with the following control options:

- 1-hour average air concentrations
- Regulatory defaults
- Flagpole receptors

To reflect a representative inhalation level, a flagpole height of 1.5 meters was used for all modeled receptors. This parameter was added to the receptor file when running AERMAP, as described in Section 4.4.

An evaluation was conducted to determine if the modeled facility was located in a rural or urban setting using USEPA's methodology outlined in Section 7.2.3 of the Guideline on Air Quality Models.[5] For urban sources, the URBANOPT option is used in conjunction with the urban population from an appropriate nearby city and a default surface roughness of 1.0 meter. Methods described in Section 4.1 to determine whether rural or urban dispersion coefficients were used.

3.3 Output Options

The AERMOD analysis was based on five years of recent meteorological data. The modeling analyses used one run with five years of sequential meteorological data from 2007-2011. Consistent with USEPA's Modeling Guidance for SO_2 NAAQS Designations, AERMOD provided a table of fourth-high 1-hour SO_2 impacts concentrations consistent with the form of the 1-hour SO_2 NAAQS.[6]

Please refer to Table 1 for the modeling results.

---

[5] USEPA, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions, Appendix W to 40 CFR Part 51, November 9, 2005.
[6] USEPA, Area Designations for the 2010 Revised Primary Sulfur Dioxide National Ambient Air Quality Standards, Attachment 3, March 24, 2011, pp. 24-26.

4. Model Inputs

4.1 Geographical Inputs

The “ground floor” of all air dispersion modeling analyses is establishing a coordinate system for identifying the geographical location of emission sources and receptors. These geographical locations are used to determine local characteristics (such as land use and elevation), and also to ascertain source to receptor distances and relationships.

The Universal Transverse Mercator (UTM) NAD83 coordinate system was used for identifying the easting (x) and northing (y) coordinates of the modeled sources and receptors. Stack locations were obtained from facility permits and prior modeling files provided by the state regulatory agency. The stack locations were then verified using aerial photographs.

The facility was evaluated to determine if it should be modeled using the rural or urban dispersion coefficient option in AERMOD. A GIS was used to determine whether rural or urban dispersion coefficients apply to a site. Land use within a three-kilometer radius circle surrounding the facility was considered. USEPA guidance states that urban dispersion coefficients are used if more than 50% of the area within 3 kilometers has urban land uses. Otherwise, rural dispersion coefficients are appropriate.[7]

USEPA’s AERSURACE model Version 08009 was used to develop the meteorological data for the modeling analysis. This model was also used to evaluate surrounding land use within 3 kilometers. Based on the output from the AERSURFACE, approximately 20.2% of surrounding land use around the airport was of urban land use types including: 21 – Low Intensity Residential, 22 – High Intensity Residential, and 23 - Commercial/Industrial/Transportation.

This is less than the 50% value considered appropriate for the use of urban dispersion coefficients. Based on the AERSURFACE analysis, it was concluded that the rural option would be used for the modeling summarized in this report. Please refer to Section 4.5.3 for a discussion of the AERSURFACE analysis.

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[7] USEPA, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions, Appendix W to 40 CFR Part 51, November 9, 2005, Section 7.2.3.

4.2 Emission Rates and Source Parameters

The modeling analyses only considered SO_2 emissions from the facility. Off-site sources were not considered. Concentrations were predicted for two scenarios shown in Table 2:

1) approved or allowable emissions based on permits issued by the regulatory agency, and

2) measured actual hourly SO_2 emissions obtained from USEPA's Clean Air Markets Database. To assure realistic emission rates were used, emissions from all units at the facility were combined and the hour with the maximum total facility emissions was used to determine the actual emissions.

Stack parameters and emissions used for the modeling analysis are summarized in Table 4.

Table 4 – Facility Stack Parameters and Emissions [8]

Stack	S01	S02	S45
Description	Unit 1	Unit 2	Units 4 and 5
X Coord. [m]	334265.16	334329.64	334783.6
Y Coord. [m]	3204413.63	3204413.63	3205565.58
Base Elevation [m]	2.74	2.96	2.89
Release Height [m]	152.1	153.01	167.64
Gas Exit Temperature [°K]	417.039	422.039	327.594
Gas Exit Velocity [m/s]	40.473	48.796	15.333
Inside Diameter [m]	4.572	4.877	9.296
Allowable Emission Rate [g/s]	992.2	1,269.0	2,177.0
Maximum Emission Rate [g/s]	544.2	641.6	1,327.0

The above stack parameters and emissions were obtained from regulatory agency documents and databases identified in Section 2.3. The analysis was conducted based on 100% operating load using maximum exhaust flow rates and emission rates. Operation at less than full capacity loads was not considered. This assumption tends to under-predict impacts since stack parameters such as exit flow rate and temperature are typically lower at less than full load, reducing pollutant dispersion and increasing predicted air quality impacts. Stack location, height and diameter were verified using aerial photographs, and flue gas flow rate and temperature were verified using combustion calculations.

[8] Florida Department of Environmental Protection, Division of Air Resource Management, Title V Air Operation Permit No. 0170004-025-AV, April 11, 2011.

4.3 Building Dimensions and GEP

No building dimensions or prior downwash evaluations were available. Therefore this modeling analysis did not address the effects of downwash which may increase predicted concentrations.

4.4 Receptors

For Crystal River Power Plant, three receptor grids were employed:

1. A 100-meter Cartesian receptor grid centered on Crystal River Power Plant and extending out 5 kilometers.
2. A 500-meter Cartesian receptor grid centered on Crystal River Power Plant and extending out 10 kilometers.
3. A 1,000-meter Cartesian receptor grid centered on Crystal River Power Plant and extending out 50 kilometers. 50 kilometers is the maximum distance accepted by USEPA for the use of the AERMOD dispersion model.[9]

A flagpole height of 1.5 meters was used for all these receptors.

Elevations from stacks and receptors were obtained from National Elevation Dataset (NED) GeoTiff data. GeoTiff is a binary file that includes data descriptors and geo-referencing information necessary for extracting terrain elevations. These elevations were extracted from 1 arc-second (30 meter) resolution NED files. The USEPA software program AERMAP v. 11103 is used for these tasks.

4.5 Meteorological Data

To improve the accuracy of the modeling analysis, recent meteorological data for the 2007 to 2011 period were prepared using the USEPA's program AERMET which creates the model-ready surface and profile data files required by AERMOD. Required data inputs to AERMET included surface meteorological measurements, twice-daily soundings of upper air measurements, and the micrometeorological parameters surface roughness, albedo, and Bowen ratio. One-minute ASOS data were available so USEPA methods were used to reduce calm and missing hours.[10] The USEPA software program AERMINUTE v. 11325 is used for these tasks.

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[9] USEPA, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions, Appendix W to 40 CFR Part 51, Section A.1.(1), November 9, 2005.

[10] USEPA, Area Designations for the 2010 Revised Primary Sulfur Dioxide National Ambient Air Quality Standards, Attachment 3, March 24, 2011, p. 19.

This section discusses how the meteorological data was prepared for use in the 1-hour SO_2 NAAQS modeling analyses. The USEPA software program AERMET v. 11059 is used for these tasks.

4.5.1 Surface Meteorology

Surface meteorology was obtained for Hernando County Airport located near the Crystal River Power Plant. Integrated Surface Hourly (ISH) data for the 2007 to 2011 period were obtained from the National Climatic Data Center (NCDC). The ISH surface data was processed through AERMET Stage 1, which performs data extraction and quality control checks.

4.5.2 Upper Air Data

Upper-air data are collected by a "weather balloon" that is released twice per day at selected locations. As the balloon is released, it rises through the atmosphere, and radios the data back to the surface. The measuring and transmitting device is known as either a radiosonde, or rawindsonde. Data collected and radioed back include: air pressure, height, temperature, dew point, wind speed, and wind direction. The upper air data were processed through AERMET Stage 1, which performs data extraction and quality control checks.

For Crystal River Power Plant, the concurrent 2007 through 2011 upper air data from twice-daily radiosonde measurements obtained at the most representative location were used. This location was the Tampa Bay/Ruskin, Florida measurement station. These data are in Forecast Systems Laboratory (FSL) format and were downloaded in ASCII text format from NOAA's FSL website.[11] All reporting levels were downloaded and processed with AERMET.

4.5.3 AERSURFACE

AERSURFACE is a non-guideline program that extracts surface roughness, albedo, and daytime Bowen ratio for an area surrounding a given location. AERSURFACE uses land use and land cover (LULC) data in the U.S. Geological Survey's 1992 National Land Cover Dataset to extract the necessary micrometeorological data. LULC data was used for processing meteorological data sets used as input to AERMOD.

AERSURFACE v. 08009 was used to develop surface roughness, albedo, and daytime Bowen ratio values in a region surrounding the meteorological data collection site. AERSURFACE was used to develop surface roughness in a one kilometer radius surrounding the data collection site. Bowen ratio and albedo was developed for a 10 kilometer by 10 kilometer area centered on the meteorological data collection site. These micrometeorological data were processed for seasonal

[11] Available at: http://esrl.noaa.gov/raobs/

periods using 30-degree sectors. Seasonal moisture conditions were considered average with no months with continuous snow cover.

4.5.4 Data Review

Missing meteorological data were not filled as the data file met USEPA's 90% data completeness requirement.[12] The AERMOD output file shows there were 6.0% missing data.

The representativeness of airport meteorological data is a potential concern in modeling industrial source sites.[13] The surface characteristics of the airport data collection site and the modeled source location were compared. Since the Hernando County Airport is located close to Crystal River Power Plant, this meteorological data set was considered appropriate for this modeling analysis.

5. Background SO_2 Concentrations

Background concentrations were determined consistent with USEPA's Modeling Guidance for SO_2 NAAQS Designations.[14] To preserve the form of the 1-hour SO_2 standard, based on the 99th percentile of the annual distribution of daily maximum 1-hour concentrations averaged across the number of years modeled, the background fourth-highest daily maximum 1-hour SO_2 concentration was added to the modeled fourth-highest daily maximum 1-hour SO_2 concentration.[15]

Background concentrations were based on the 2008-10 design value measured by the ambient monitors located in Florida.[16]

6. Reporting

All files from the programs used for this modeling analysis are available to regulatory agencies. These include analyses prepared with AERSURFACE, AERMET, AERMAP, and AERMOD.

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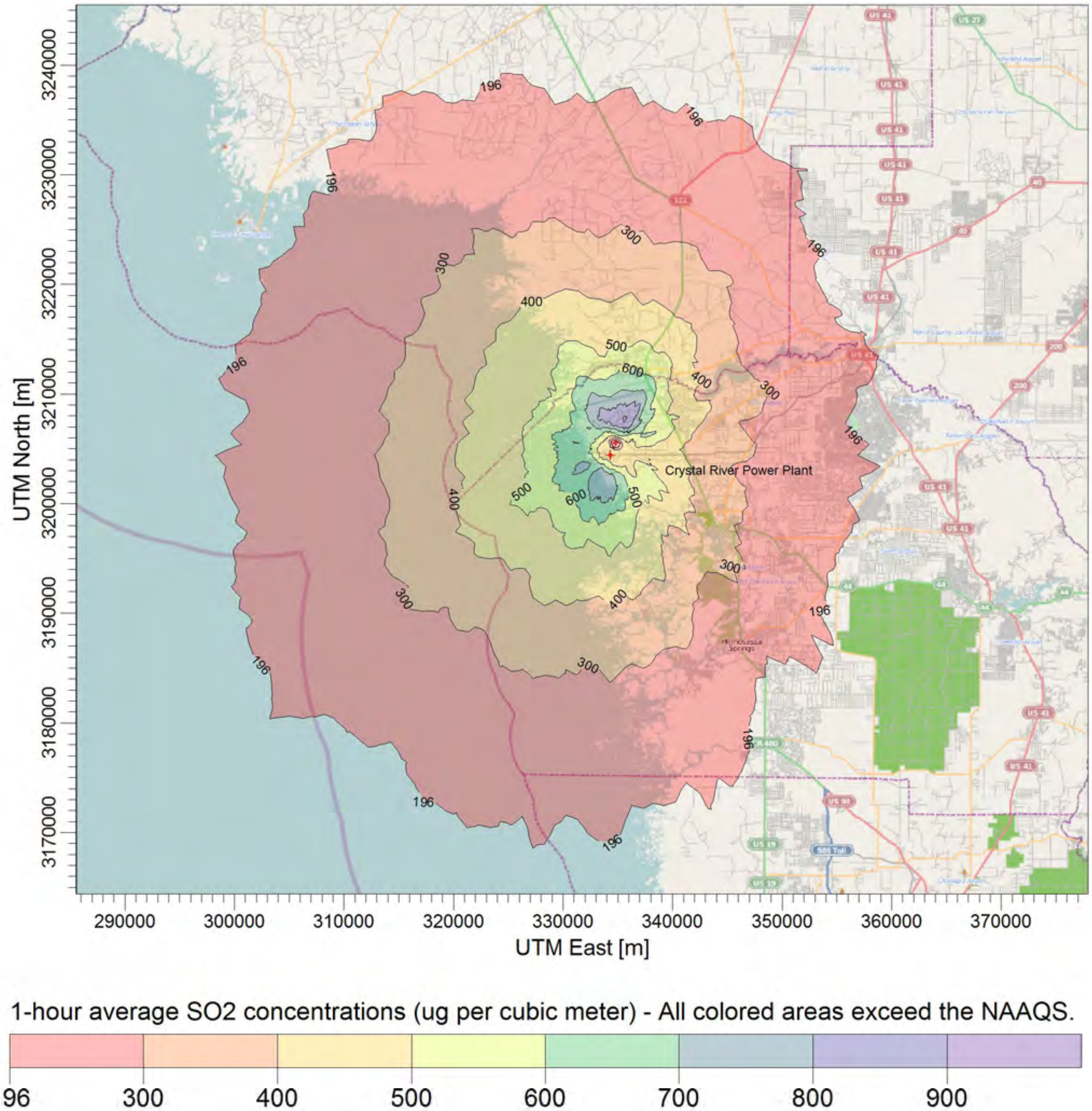
[12] USEPA, Meteorological Monitoring Guidance for Regulatory Modeling Applications, EPA-454/R-99-05, February 2000, Section 5.3.2, pp. 5-4 to 5-5.
[13] USEPA, AERMOD Implementation Guide, March 19, 2009, pp. 3-4.
[14] USEPA, Area Designations for the 2010 Revised Primary Sulfur Dioxide National Ambient Air Quality Standards, Attachment 3, March 24, 2011, pp. 20-23.
[15] USEPA, Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard, August 23, 2010, p. 3.
[16] http://www.epa.gov/airtrends/values.html

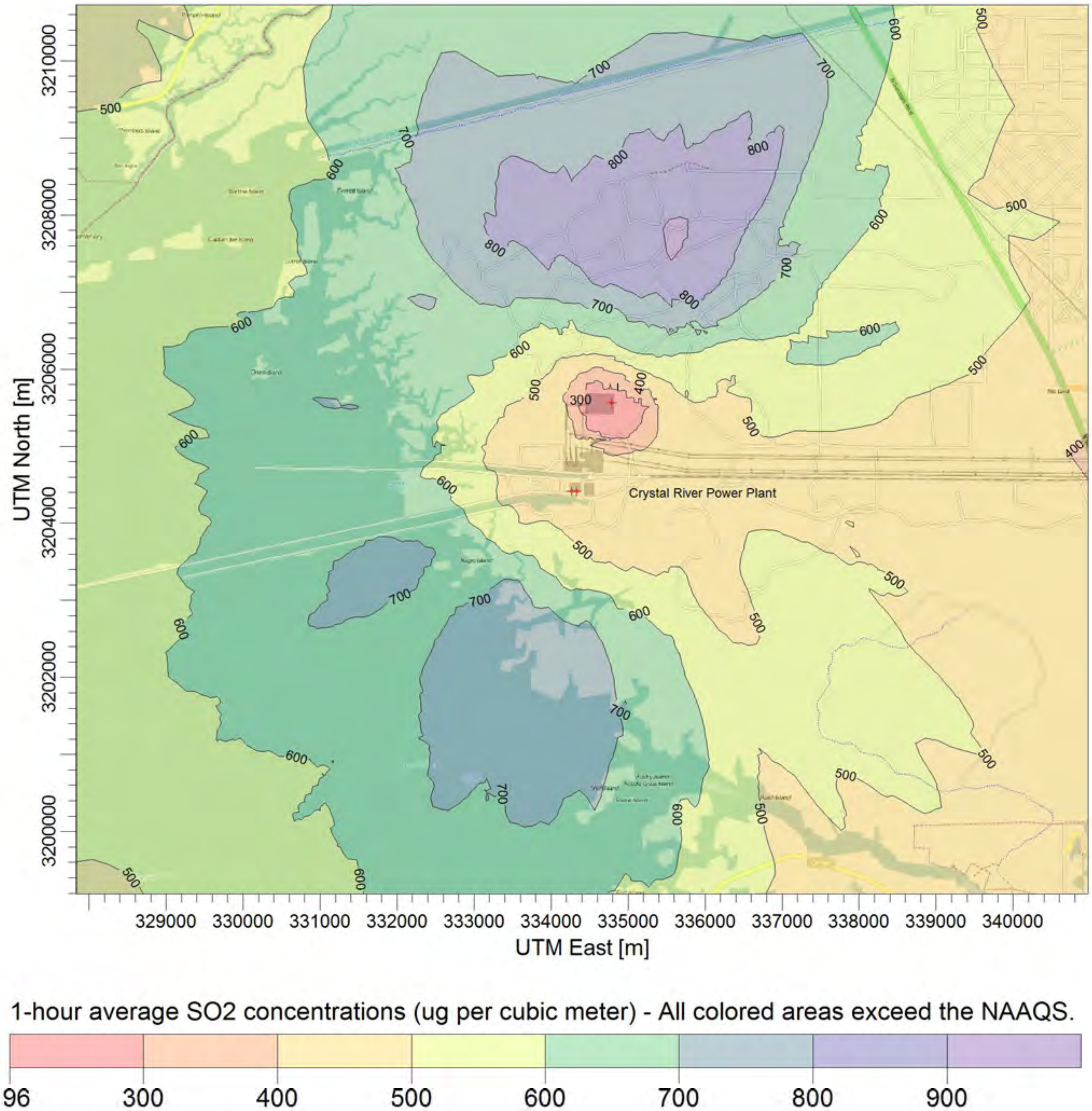
Crystal River Power Plant - Crystal River, Florida
Evaluation of Compliance with the 1-hour NAAQS for SO2



All concentrations include a background of 5.2 ug/m3. This figure is based on allowable emissions.	Total Sources **6**	**Conducted on behalf of the Sierra Club**	
	Total Receptors **22083**	**by Wingra Engineering, S.C.**	
	Output Type **Concentration**	SCALE: 1:580,926 0 ——— 20 km	
	Maximum **921.02714 ug/m^3**	DATE: **6/25/2012**	

AERMOD View - Lakes Environmental Software

Crystal River Power Plant - Crystal River, Florida
Evaluation of Compliance with the 1-hour NAAQS for SO2



All concentrations include a background of 5.2 ug/m3. This figure is based on allowable emissions.	Total Sources **6**	**Conducted on behalf of the Sierra Club**	
	Total Receptors **22083**	**by Wingra Engineering, S.C.**	
	Output Type **Concentration**	SCALE: 1:82,636 0 — 3 km	
	Maximum **921.02714 ug/m^3**	DATE: **6/25/2012**	

AERMOD View - Lakes Environmental Software

Exhibit H

State	Facility Name	Unit ID	Year	Date	Hour	SO2 (pounds)	SO2 Rate (lbs/MMBtu)	NOx (pounds)	CO2 (tons)	Heat Input (MMBtu)	Gross Load (MW)
FL	Crystal River	1	2013	9/1/2013	0	2267	1.649567052	511	141	1374.3	119
FL	Crystal River	1	2013	9/1/2013	1	2295	1.667756704	522	141	1376.1	119
FL	Crystal River	1	2013	9/1/2013	2	2313	1.673298126	507	141	1382.3	119
FL	Crystal River	1	2013	9/1/2013	3	2367	1.669605699	517	145	1417.7	119
FL	Crystal River	1	2013	9/1/2013	4	2351	1.673905304	523	144	1404.5	119
FL	Crystal River	1	2013	9/1/2013	5	2386	1.672977142	530	146	1426.2	119
FL	Crystal River	1	2013	9/1/2013	6	2307	1.663781913	522	142	1386.6	119
FL	Crystal River	1	2013	9/1/2013	7	2300	1.644384071	524	143	1398.7	120
FL	Crystal River	1	2013	9/1/2013	8	2409	1.614394853	544	153	1492.2	134
FL	Crystal River	1	2013	9/1/2013	9	2572	1.57791411	546	167	1630	150
FL	Crystal River	1	2013	9/1/2013	10	3074	1.577704783	627	199	1948.4	191
FL	Crystal River	1	2013	9/1/2013	11	5254	1.580150376	1123	341	3325	338
FL	Crystal River	1	2013	9/1/2013	12	6379	1.593913196	1500	410	4002.1	367
FL	Crystal River	1	2013	9/1/2013	13	6678	1.604285783	1536	427	4162.6	373
FL	Crystal River	1	2013	9/1/2013	14	5730	1.644897373	1281	357	3483.5	365
FL	Crystal River	1	2013	9/1/2013	15	5575	1.642362645	1262	348	3394.5	354
FL	Crystal River	1	2013	9/1/2013	16	5269	1.616108947	1232	334	3260.3	339
FL	Crystal River	1	2013	9/1/2013	17	4142	1.576943577	1050	269	2626.6	275
FL	Crystal River	1	2013	9/1/2013	18	2853	1.513849093	578	193	1884.6	189
FL	Crystal River	1	2013	9/1/2013	19	2040	1.486988848	474	140	1371.9	123
FL	Crystal River	1	2013	9/1/2013	20	2013	1.484513274	461	139	1356	119
FL	Crystal River	1	2013	9/1/2013	21	2026	1.490911767	468	139	1358.9	119
FL	Crystal River	1	2013	9/1/2013	22	2025	1.487985892	477	139	1360.9	119
FL	Crystal River	1	2013	9/1/2013	23	2018	1.479580614	477	139	1363.9	119
FL	Crystal River	1	2013	9/2/2013	0	2029	1.483837941	482	140	1367.4	119
FL	Crystal River	1	2013	9/2/2013	1	2085	1.480718699	497	144	1408.1	119
FL	Crystal River	1	2013	9/2/2013	2	2091	1.48392591	498	144	1409.1	119
FL	Crystal River	1	2013	9/2/2013	3	2110	1.496878547	483	144	1409.6	119
FL	Crystal River	1	2013	9/2/2013	4	2121	1.520212156	481	143	1395.2	119
FL	Crystal River	1	2013	9/2/2013	5	2179	1.530626581	495	146	1423.6	119
FL	Crystal River	1	2013	9/2/2013	6	2171	1.558171248	484	143	1393.3	119
FL	Crystal River	1	2013	9/2/2013	7	2132	1.560647098	479	140	1366.1	119
FL	Crystal River	1	2013	9/2/2013	8	2122	1.568018917	470	138	1353.3	121

FL	Crystal River	1	2013	9/2/2013	9	3211	1.573942454	579	209	2040.1	197
FL	Crystal River	1	2013	9/2/2013	10	3987	1.584910161	787	258	2515.6	256
FL	Crystal River	1	2013	9/2/2013	11	6496	1.600315333	1485	416	4059.2	366
FL	Crystal River	1	2013	9/2/2013	12	6646	1.577872745	1651	432	4212	378
FL	Crystal River	1	2013	9/2/2013	13	6558	1.544403363	1673	435	4246.3	379
FL	Crystal River	1	2013	9/2/2013	14	5573	1.544323441	1403	370	3608.7	372
FL	Crystal River	1	2013	9/2/2013	15	5604	1.56457647	1393	367	3581.8	372
FL	Crystal River	1	2013	9/2/2013	16	5628	1.585084211	1381	364	3550.6	369
FL	Crystal River	1	2013	9/2/2013	17	5595	1.636443405	1347	350	3419	356
FL	Crystal River	1	2013	9/2/2013	18	5488	1.666464229	1264	337	3293.2	342
FL	Crystal River	1	2013	9/2/2013	19	5591	1.696607392	1318	338	3295.4	341
FL	Crystal River	1	2013	9/2/2013	20	3351	1.653426753	871	207	2026.7	206
FL	Crystal River	1	2013	9/2/2013	21	2220	1.639828631	472	138	1353.8	121
FL	Crystal River	1	2013	9/2/2013	22	2236	1.605629757	466	142	1392.6	125
FL	Crystal River	1	2013	9/2/2013	23	2111	1.563935398	469	138	1349.8	119
FL	Crystal River	1	2013	9/3/2013	0	2073	1.528084918	477	139	1356.6	119
FL	Crystal River	1	2013	9/3/2013	1	2091	1.511056511	481	142	1383.8	119
FL	Crystal River	1	2013	9/3/2013	2	2090	1.496277205	490	143	1396.8	119
FL	Crystal River	1	2013	9/3/2013	3	2090	1.507066628	493	142	1386.8	119
FL	Crystal River	1	2013	9/3/2013	4	2084	1.511349627	493	141	1378.9	119
FL	Crystal River	1	2013	9/3/2013	5	2151	1.519175083	504	145	1415.9	121
FL	Crystal River	1	2013	9/3/2013	6	2037	1.492089071	466	140	1365.2	121
FL	Crystal River	1	2013	9/3/2013	7	2189	1.481356162	472	151	1477.7	132
FL	Crystal River	1	2013	9/3/2013	8	2521	1.47616817	488	175	1707.8	158
FL	Crystal River	1	2013	9/3/2013	9	3147	1.509569722	560	213	2084.7	206
FL	Crystal River	1	2013	9/3/2013	10	4442	1.58275432	934	287	2806.5	291
FL	Crystal River	1	2013	9/3/2013	11	6285	1.617885551	1429	398	3884.7	360
FL	Crystal River	1	2013	9/3/2013	12	6760	1.605243161	1490	432	4211.2	379
FL	Crystal River	1	2013	9/3/2013	13	6721	1.588025424	1549	434	4232.3	378
FL	Crystal River	1	2013	9/3/2013	14	6112	1.577086828	1422	397	3875.5	379
FL	Crystal River	1	2013	9/3/2013	15	5488	1.581966504	1245	355	3469.1	366
FL	Crystal River	1	2013	9/3/2013	16	5357	1.560351858	1201	352	3433.2	359
FL	Crystal River	1	2013	9/3/2013	17	5407	1.568746917	1237	353	3446.7	361
FL	Crystal River	1	2013	9/3/2013	18	5684	1.588685785	1252	367	3577.8	374
FL	Crystal River	1	2013	9/3/2013	19	5725	1.619839855	1198	362	3534.3	370

FL	Crystal River	1	2013	9/3/2013	20	4372	1.646890421	910	272	2654.7	278
FL	Crystal River	1	2013	9/3/2013	21	2321	1.667385057	444	142	1392	120
FL	Crystal River	1	2013	9/3/2013	22	2393	1.727797834	423	142	1385	119
FL	Crystal River	1	2013	9/3/2013	23	2464	1.797228301	431	140	1371	119
FL	Crystal River	1	2013	9/4/2013	0	2465	1.795731041	435	140	1372.7	119
FL	Crystal River	1	2013	9/4/2013	1	2382	1.726462274	441	141	1379.7	119
FL	Crystal River	1	2013	9/4/2013	2	2269	1.700644581	444	136	1334.2	119
FL	Crystal River	1	2013	9/4/2013	3	2250	1.686656672	442	136	1334	119
FL	Crystal River	1	2013	9/4/2013	4	2320	1.710536017	447	139	1356.3	122
FL	Crystal River	1	2013	9/4/2013	5	2470	1.738212526	476	145	1421	125
FL	Crystal River	1	2013	9/4/2013	6	2337	1.722689076	459	139	1356.6	119
FL	Crystal River	1	2013	9/4/2013	7	2330	1.708336388	458	139	1363.9	121
FL	Crystal River	1	2013	9/4/2013	8	3116	1.689346706	461	189	1844.5	176
FL	Crystal River	1	2013	9/4/2013	9	4609	1.685500091	768	280	2734.5	284
FL	Crystal River	1	2013	9/4/2013	10	6680	1.666625084	1358	411	4008.1	372
FL	Crystal River	1	2013	9/4/2013	11	6868	1.646015578	1431	428	4172.5	375
FL	Crystal River	1	2013	9/4/2013	12	6796	1.642498067	1444	424	4137.6	377
FL	Crystal River	1	2013	9/4/2013	13	6036	1.653336255	1281	374	3650.8	377
FL	Crystal River	1	2013	9/4/2013	14	5954	1.691092933	1264	361	3520.8	375
FL	Crystal River	1	2013	9/4/2013	15	5729	1.70136311	1208	345	3367.3	357
FL	Crystal River	1	2013	9/4/2013	16	5645	1.707914801	1180	339	3305.2	350
FL	Crystal River	1	2013	9/4/2013	17	4494	1.667718113	821	276	2694.7	291
FL	Crystal River	1	2013	9/4/2013	18	4609	1.693924804	783	279	2720.9	290
FL	Crystal River	1	2013	9/4/2013	19	3433	1.757358587	588	200	1953.5	198
FL	Crystal River	1	2013	9/4/2013	20	2486	1.760623229	471	144	1412	123
FL	Crystal River	1	2013	9/4/2013	21	2415	1.757514009	445	141	1374.1	121
FL	Crystal River	1	2013	9/4/2013	22	2467	1.736956981	448	145	1420.3	125
FL	Crystal River	1	2013	9/4/2013	23	2349	1.676061363	454	143	1401.5	119
FL	Crystal River	1	2013	9/5/2013	0	2276	1.65190884	446	141	1377.8	119
FL	Crystal River	1	2013	9/5/2013	1	2252	1.64044289	442	140	1372.8	119
FL	Crystal River	1	2013	9/5/2013	2	2216	1.624871682	421	139	1363.8	119
FL	Crystal River	1	2013	9/5/2013	3	2259	1.642550716	430	141	1375.3	119
FL	Crystal River	1	2013	9/5/2013	4	2248	1.644236396	429	140	1367.2	119
FL	Crystal River	1	2013	9/5/2013	5	2281	1.641834017	439	142	1389.3	119
FL	Crystal River	1	2013	9/5/2013	6	2193	1.630362055	441	138	1345.1	119

FL	Crystal River	1	2013	9/5/2013	7	2261	1.629314693	457	142	1387.7	124
FL	Crystal River	1	2013	9/5/2013	8	3106	1.649845958	513	193	1882.6	193
FL	Crystal River	1	2013	9/5/2013	9	3820	1.698683742	647	230	2248.8	227
FL	Crystal River	1	2013	9/5/2013	10	4500	1.727646178	778	267	2604.7	274
FL	Crystal River	1	2013	9/5/2013	11	7199	1.738217114	1532	424	4141.6	373
FL	Crystal River	1	2013	9/5/2013	12	6968	1.71820289	1545	416	4055.4	367
FL	Crystal River	1	2013	9/5/2013	13	7138	1.715741653	1572	426	4160.3	377
FL	Crystal River	1	2013	9/5/2013	14	7159	1.716992445	1567	427	4169.5	378
FL	Crystal River	1	2013	9/5/2013	15	7207	1.725318395	1574	428	4177.2	378
FL	Crystal River	1	2013	9/5/2013	16	7020	1.718734698	1535	419	4084.4	377
FL	Crystal River	1	2013	9/5/2013	17	5710	1.70188668	1321	344	3355.1	352
FL	Crystal River	1	2013	9/5/2013	18	5477	1.684919707	1251	333	3250.6	345
FL	Crystal River	1	2013	9/5/2013	19	5906	1.711288827	1328	354	3451.2	367
FL	Crystal River	1	2013	9/5/2013	20	5365	1.715153453	1210	320	3128	333
FL	Crystal River	1	2013	9/5/2013	21	3193	1.689954483	566	193	1889.4	192
FL	Crystal River	1	2013	9/5/2013	22	2601	1.690278139	474	157	1538.8	147
FL	Crystal River	1	2013	9/5/2013	23	2199	1.6732613	445	134	1314.2	119
FL	Crystal River	1	2013	9/6/2013	0	2227	1.666666667	445	137	1336.2	119
FL	Crystal River	1	2013	9/6/2013	1	2234	1.671154997	446	137	1336.8	119
FL	Crystal River	1	2013	9/6/2013	2	2235	1.693951796	448	135	1319.4	119
FL	Crystal River	1	2013	9/6/2013	3	2226	1.698847592	445	134	1310.3	119
FL	Crystal River	1	2013	9/6/2013	4	2255	1.711445052	451	135	1317.6	119
FL	Crystal River	1	2013	9/6/2013	5	2283	1.717186912	450	136	1329.5	119
FL	Crystal River	1	2013	9/6/2013	6	2224	1.68881464	451	135	1316.9	119
FL	Crystal River	1	2013	9/6/2013	7	2322	1.695633124	447	140	1369.4	126
FL	Crystal River	1	2013	9/6/2013	8	4106	1.717847879	666	245	2390.2	244
FL	Crystal River	1	2013	9/6/2013	9	6303	1.746225239	1230	370	3609.5	347
FL	Crystal River	1	2013	9/6/2013	10	7366	1.74446418	1613	433	4222.5	385
FL	Crystal River	1	2013	9/6/2013	11	7367	1.748095769	1614	432	4214.3	387
FL	Crystal River	1	2013	9/6/2013	12	7383	1.74671146	1631	433	4226.8	387
FL	Crystal River	1	2013	9/6/2013	13	7355	1.733811084	1595	435	4242.1	384
FL	Crystal River	1	2013	9/6/2013	14	7315	1.730541755	1614	433	4227	386
FL	Crystal River	1	2013	9/6/2013	15	6833	1.723546475	1518	406	3964.5	382
FL	Crystal River	1	2013	9/6/2013	16	4811	1.703069135	1079	289	2824.9	305
FL	Crystal River	1	2013	9/6/2013	17	3340	1.682619647	625	203	1985	196

FL	Crystal River	1	2013	9/6/2013	18	2476	1.637674449	488	155	1511.9	129
FL	Crystal River	1	2013	9/6/2013	19	2443	1.636083579	476	153	1493.2	128
FL	Crystal River	1	2013	9/6/2013	20	2297	1.646713026	456	143	1394.9	120
FL	Crystal River	1	2013	9/6/2013	21	2283	1.656147987	453	141	1378.5	121
FL	Crystal River	1	2013	9/6/2013	22	2237	1.637148712	452	140	1366.4	121
FL	Crystal River	1	2013	9/6/2013	23	2280	1.634994622	463	143	1394.5	121
FL	Crystal River	1	2013	9/7/2013	0	2286	1.620701879	475	144	1410.5	121
FL	Crystal River	1	2013	9/7/2013	1	2317	1.613060429	489	147	1436.4	121
FL	Crystal River	1	2013	9/7/2013	2	2343	1.618988391	503	148	1447.2	121
FL	Crystal River	1	2013	9/7/2013	3	2386	1.620373514	516	151	1472.5	121
FL	Crystal River	1	2013	9/7/2013	4	2338	1.59764931	521	150	1463.4	121
FL	Crystal River	1	2013	9/7/2013	5	2402	1.599307544	534	154	1501.9	121
FL	Crystal River	1	2013	9/7/2013	6	2387	1.595588235	529	153	1496	121
FL	Crystal River	1	2013	9/7/2013	7	2297	1.579345435	516	149	1454.4	121
FL	Crystal River	1	2013	9/7/2013	8	2265	1.573463008	511	147	1439.5	123
FL	Crystal River	1	2013	9/7/2013	9	2665	1.587916344	527	172	1678.3	154
FL	Crystal River	1	2013	9/7/2013	10	4530	1.628266417	856	285	2782.1	286
FL	Crystal River	1	2013	9/7/2013	11	5951	1.675346978	1371	364	3552.1	378
FL	Crystal River	1	2013	9/7/2013	12	6643	1.681814729	1587	405	3949.9	386
FL	Crystal River	1	2013	9/7/2013	13	7172	1.689318102	1706	435	4245.5	388
FL	Crystal River	1	2013	9/7/2013	14	7142	1.678377553	1740	436	4255.3	388
FL	Crystal River	1	2013	9/7/2013	15	7050	1.657068986	1748	436	4254.5	388
FL	Crystal River	1	2013	9/7/2013	16	6180	1.652980983	1536	383	3738.7	388
FL	Crystal River	1	2013	9/7/2013	17	5496	1.675048002	1391	336	3281.1	351
FL	Crystal River	1	2013	9/7/2013	18	4520	1.653739207	1005	280	2733.2	291
FL	Crystal River	1	2013	9/7/2013	19	5238	1.677340848	1186	320	3122.8	328
FL	Crystal River	1	2013	9/7/2013	20	3422	1.665044764	696	210	2055.2	212
FL	Crystal River	1	2013	9/7/2013	21	2185	1.626228044	460	137	1343.6	119
FL	Crystal River	1	2013	9/7/2013	22	2214	1.631179548	453	139	1357.3	119
FL	Crystal River	1	2013	9/7/2013	23	2223	1.640227256	454	139	1355.3	119
FL	Crystal River	1	2013	9/8/2013	0	2235	1.641933588	457	139	1361.2	119
FL	Crystal River	1	2013	9/8/2013	1	2251	1.650172275	465	140	1364.1	119
FL	Crystal River	1	2013	9/8/2013	2	2266	1.648239744	468	141	1374.8	119
FL	Crystal River	1	2013	9/8/2013	3	2253	1.634148111	467	141	1378.7	119
FL	Crystal River	1	2013	9/8/2013	4	2255	1.627101522	479	142	1385.9	119

FL	Crystal River	1	2013	9/8/2013	5	2250	1.600739898	475	144	1405.6	119
FL	Crystal River	1	2013	9/8/2013	6	2217	1.583119109	478	143	1400.4	119
FL	Crystal River	1	2013	9/8/2013	7	2217	1.587199313	480	143	1396.8	119
FL	Crystal River	1	2013	9/8/2013	8	2237	1.591944207	491	144	1405.2	123
FL	Crystal River	1	2013	9/8/2013	9	3147	1.603566879	586	201	1962.5	190
FL	Crystal River	1	2013	9/8/2013	10	5521	1.684515637	1163	336	3277.5	344
FL	Crystal River	1	2013	9/8/2013	11	6111	1.719229146	1329	364	3554.5	381
FL	Crystal River	1	2013	9/8/2013	12	6895	1.731237603	1493	408	3982.7	387
FL	Crystal River	1	2013	9/8/2013	13	7089	1.728813559	1537	420	4100.5	386
FL	Crystal River	1	2013	9/8/2013	14	6186	1.713383559	1364	370	3610.4	387
FL	Crystal River	1	2013	9/8/2013	15	6142	1.70006643	1409	370	3612.8	387
FL	Crystal River	1	2013	9/8/2013	16	6138	1.695111848	1408	371	3621	387
FL	Crystal River	1	2013	9/8/2013	17	5222	1.704196854	1182	314	3064.2	330
FL	Crystal River	1	2013	9/8/2013	18	4761	1.734363047	952	281	2745.1	294
FL	Crystal River	1	2013	9/8/2013	19	6179	1.788215547	1240	354	3455.4	366
FL	Crystal River	1	2013	9/8/2013	20	5115	1.791530945	1190	292	2855.1	304
FL	Crystal River	1	2013	9/8/2013	21	4108	1.802782288	811	233	2278.7	240
FL	Crystal River	1	2013	9/8/2013	22	2863	1.793634883	547	163	1596.2	154
FL	Crystal River	1	2013	9/8/2013	23	2365	1.737054719	480	139	1361.5	119
FL	Crystal River	1	2013	9/9/2013	0	2482	1.685568761	500	151	1472.5	124
FL	Crystal River	1	2013	9/9/2013	1	2335	1.643903126	542	145	1420.4	119
FL	Crystal River	1	2013	9/9/2013	2	2268	1.595273264	553	145	1421.7	119
FL	Crystal River	1	2013	9/9/2013	3	2220	1.554404145	561	146	1428.2	119
FL	Crystal River	1	2013	9/9/2013	4	2167	1.521235521	575	146	1424.5	119
FL	Crystal River	1	2013	9/9/2013	5	2206	1.496100373	573	151	1474.5	124
FL	Crystal River	1	2013	9/9/2013	6	2033	1.46734031	559	142	1385.5	120
FL	Crystal River	1	2013	9/9/2013	7	2258	1.470339259	563	157	1535.7	138
FL	Crystal River	1	2013	9/9/2013	8	2517	1.466185123	547	176	1716.7	162
FL	Crystal River	1	2013	9/9/2013	9	2743	1.472672608	542	191	1862.6	183
FL	Crystal River	1	2013	9/9/2013	10	2658	1.463414634	572	186	1816.3	178
FL	Crystal River	1	2013	9/9/2013	11	4407	1.56765794	851	288	2811.2	298
FL	Crystal River	1	2013	9/9/2013	12	5529	1.613694072	1305	351	3426.3	368
FL	Crystal River	1	2013	9/9/2013	13	6009	1.605568321	1414	384	3742.6	386
FL	Crystal River	1	2013	9/9/2013	14	5748	1.607652291	1330	366	3575.4	388
FL	Crystal River	1	2013	9/9/2013	15	5711	1.597840076	1336	366	3574.2	387

FL	Crystal River	1	2013	9/9/2013	16	5680	1.580851656	1333	368	3593	387
FL	Crystal River	1	2013	9/9/2013	17	5582	1.600252279	1322	357	3488.2	377
FL	Crystal River	1	2013	9/9/2013	18	5351	1.627383595	1285	337	3288.1	352
FL	Crystal River	1	2013	9/9/2013	19	5396	1.676088712	1281	330	3219.4	345
FL	Crystal River	1	2013	9/9/2013	20	4195	1.682239243	1017	255	2493.7	267
FL	Crystal River	1	2013	9/9/2013	21	2888	1.753810652	564	169	1646.7	161
FL	Crystal River	1	2013	9/9/2013	22	2403	1.768211921	540	139	1359	120
FL	Crystal River	1	2013	9/9/2013	23	2381	1.738844665	554	140	1369.3	119
FL	Crystal River	1	2013	9/10/2013	0	2363	1.710459645	560	141	1381.5	119
FL	Crystal River	1	2013	9/10/2013	1	2390	1.700704476	573	144	1405.3	119
FL	Crystal River	1	2013	9/10/2013	2	2391	1.711647219	581	143	1396.9	119
FL	Crystal River	1	2013	9/10/2013	3	2420	1.720216093	585	144	1406.8	119
FL	Crystal River	1	2013	9/10/2013	4	2484	1.755104925	593	145	1415.3	119
FL	Crystal River	1	2013	9/10/2013	5	2524	1.760357093	593	147	1433.8	119
FL	Crystal River	1	2013	9/10/2013	6	2486	1.791324398	588	142	1387.8	119
FL	Crystal River	1	2013	9/10/2013	7	2529	1.800128123	578	144	1404.9	120
FL	Crystal River	1	2013	9/10/2013	8	2920	1.822949182	567	164	1601.8	149
FL	Crystal River	1	2013	9/10/2013	9	3811	1.838309778	605	212	2073.1	208
FL	Crystal River	1	2013	9/10/2013	10	5225	1.779268542	992	301	2936.6	313
FL	Crystal River	1	2013	9/10/2013	11	6201	1.761197421	1327	361	3520.9	380
FL	Crystal River	1	2013	9/10/2013	12	6153	1.789026837	1303	352	3439.3	374
FL	Crystal River	1	2013	9/10/2013	13	6261	1.777027219	1324	361	3523.3	382
FL	Crystal River	1	2013	9/10/2013	14	6312	1.768612177	1349	366	3568.9	387
FL	Crystal River	1	2013	9/10/2013	15	6338	1.775897335	1352	366	3568.9	387
FL	Crystal River	1	2013	9/10/2013	16	6403	1.803560363	1352	364	3550.2	387
FL	Crystal River	1	2013	9/10/2013	17	6002	1.804678574	1247	341	3325.8	360
FL	Crystal River	1	2013	9/10/2013	18	5813	1.786526523	1106	333	3253.8	351
FL	Crystal River	1	2013	9/10/2013	19	6158	1.764419358	1305	358	3490.1	378
FL	Crystal River	1	2013	9/10/2013	20	4960	1.717392057	1074	296	2888.1	312
FL	Crystal River	1	2013	9/10/2013	21	2877	1.689967105	572	174	1702.4	165
FL	Crystal River	1	2013	9/10/2013	22	2494	1.66255583	507	153	1500.1	129
FL	Crystal River	1	2013	9/10/2013	23	2367	1.65408805	515	146	1431	119
FL	Crystal River	1	2013	9/11/2013	0	2353	1.649029364	519	146	1426.9	119
FL	Crystal River	1	2013	9/11/2013	1	2342	1.627858483	526	147	1438.7	119
FL	Crystal River	1	2013	9/11/2013	2	2292	1.628303495	526	144	1407.6	119

FL	Crystal River	1	2013	9/11/2013	3	2283	1.606954318	524	145	1420.7	119
FL	Crystal River	1	2013	9/11/2013	4	2282	1.611695741	526	145	1415.9	119
FL	Crystal River	1	2013	9/11/2013	5	2725	1.633007731	512	171	1668.7	151
FL	Crystal River	1	2013	9/11/2013	6	2351	1.634682242	545	147	1438.2	125
FL	Crystal River	1	2013	9/11/2013	7	2427	1.633133706	552	152	1486.1	128
FL	Crystal River	1	2013	9/11/2013	8	3184	1.647010139	566	198	1933.2	191
FL	Crystal River	1	2013	9/11/2013	9	5257	1.690190657	948	319	3110.3	333
FL	Crystal River	1	2013	9/11/2013	10	5949	1.698743575	1320	359	3502	379
FL	Crystal River	1	2013	9/11/2013	11	5829	1.666857306	1314	358	3497	380
FL	Crystal River	1	2013	9/11/2013	12	5352	1.692920858	1248	324	3161.4	345
FL	Crystal River	1	2013	9/11/2013	13	5235	1.711119827	1070	313	3059.4	335
FL	Crystal River	1	2013	9/11/2013	14	6019	1.726620769	1328	357	3486	382
FL	Crystal River	1	2013	9/11/2013	15	6074	1.705461182	1353	365	3561.5	384
FL	Crystal River	1	2013	9/11/2013	16	5982	1.704564883	1326	360	3509.4	383
FL	Crystal River	1	2013	9/11/2013	17	5703	1.686828951	1278	346	3380.9	371
FL	Crystal River	1	2013	9/11/2013	18	5790	1.706655662	1241	348	3392.6	370
FL	Crystal River	1	2013	9/11/2013	19	5966	1.715501625	1311	356	3477.7	377
FL	Crystal River	1	2013	9/11/2013	20	5408	1.70518682	1125	325	3171.5	344
FL	Crystal River	1	2013	9/11/2013	21	5337	1.711619255	1032	319	3118.1	337
FL	Crystal River	1	2013	9/11/2013	22	4636	1.680806323	979	283	2758.2	298
FL	Crystal River	1	2013	9/11/2013	23	2465	1.631477927	533	155	1510.9	135
FL	Crystal River	1	2013	9/12/2013	0	2292	1.616817156	548	145	1417.6	119
FL	Crystal River	1	2013	9/12/2013	1	2286	1.610085928	543	145	1419.8	119
FL	Crystal River	1	2013	9/12/2013	2	2277	1.62156388	533	144	1404.2	119
FL	Crystal River	1	2013	9/12/2013	3	2279	1.612081771	541	145	1413.7	119
FL	Crystal River	1	2013	9/12/2013	4	2258	1.604832978	543	144	1407	119
FL	Crystal River	1	2013	9/12/2013	5	2578	1.613872543	538	163	1597.4	143
FL	Crystal River	1	2013	9/12/2013	6	2250	1.60944206	580	143	1398	122
FL	Crystal River	1	2013	9/12/2013	7	2377	1.607275678	579	151	1478.9	130
FL	Crystal River	1	2013	9/12/2013	8	3161	1.627619587	607	199	1942.1	197
FL	Crystal River	1	2013	9/12/2013	9	4537	1.669672101	836	278	2717.3	294
FL	Crystal River	1	2013	9/12/2013	10	5152	1.660275209	1104	318	3103.1	333
FL	Crystal River	1	2013	9/12/2013	11	6129	1.645943551	1437	382	3723.7	366
FL	Crystal River	1	2013	9/12/2013	12	6846	1.647772402	1545	426	4154.7	385
FL	Crystal River	1	2013	9/12/2013	13	6470	1.648911769	1459	402	3923.8	360

FL	Crystal River	1	2013	9/12/2013	14	6678	1.652070655	1523	414	4042.2	377
FL	Crystal River	1	2013	9/12/2013	15	6659	1.66358549	1525	410	4002.8	383
FL	Crystal River	1	2013	9/12/2013	16	5891	1.644795622	1407	367	3581.6	372
FL	Crystal River	1	2013	9/12/2013	17	5431	1.647654875	1308	338	3296.2	355
FL	Crystal River	1	2013	9/12/2013	18	4878	1.634225602	1041	306	2984.9	324
FL	Crystal River	1	2013	9/12/2013	19	5347	1.642047723	1299	334	3256.3	351
FL	Crystal River	1	2013	9/12/2013	20	3702	1.622119008	791	234	2282.2	243
FL	Crystal River	1	2013	9/12/2013	21	2288	1.593536704	542	147	1435.8	124
FL	Crystal River	1	2013	9/12/2013	22	2239	1.603638447	552	143	1396.2	120
FL	Crystal River	1	2013	9/12/2013	23	2214	1.601678362	586	141	1382.3	119
FL	Crystal River	1	2013	9/13/2013	0	2185	1.592797784	581	140	1371.8	119
FL	Crystal River	1	2013	9/13/2013	1	2177	1.591723331	581	140	1367.7	119
FL	Crystal River	1	2013	9/13/2013	2	2208	1.589175184	591	142	1389.4	119
FL	Crystal River	1	2013	9/13/2013	3	2206	1.589108198	590	142	1388.2	119
FL	Crystal River	1	2013	9/13/2013	4	2217	1.589931153	596	143	1394.4	119
FL	Crystal River	1	2013	9/13/2013	5	2254	1.588890455	602	145	1418.6	119
FL	Crystal River	1	2013	9/13/2013	6	2206	1.607520222	590	140	1372.3	119
FL	Crystal River	1	2013	9/13/2013	7	2221	1.622707679	584	140	1368.7	119
FL	Crystal River	1	2013	9/13/2013	8	2323	1.650092343	547	144	1407.8	130
FL	Crystal River	1	2013	9/13/2013	9	2817	1.653654241	565	174	1703.5	171
FL	Crystal River	1	2013	9/13/2013	10	4820	1.662298248	919	297	2899.6	285
FL	Crystal River	1	2013	9/13/2013	11	7046	1.670380731	1548	432	4218.2	386
FL	Crystal River	1	2013	9/13/2013	12	7111	1.669248826	1589	437	4260	391
FL	Crystal River	1	2013	9/13/2013	13	7081	1.666784361	1686	435	4248.3	392
FL	Crystal River	1	2013	9/13/2013	14	7045	1.653911165	1729	437	4259.6	391
FL	Crystal River	1	2013	9/13/2013	15	6188	1.640291584	1520	387	3772.5	389
FL	Crystal River	1	2013	9/13/2013	16	5924	1.638410266	1435	371	3615.7	388
FL	Crystal River	1	2013	9/13/2013	17	5441	1.640337655	1346	340	3317	354
FL	Crystal River	1	2013	9/13/2013	18	4310	1.620666316	1047	272	2659.4	282
FL	Crystal River	1	2013	9/13/2013	19	4482	1.624030727	1040	283	2759.8	291
FL	Crystal River	1	2013	9/13/2013	20	2403	1.592761981	567	154	1508.7	144
FL	Crystal River	1	2013	9/13/2013	21	2077	1.574558411	534	135	1319.1	119
FL	Crystal River	1	2013	9/13/2013	22	2060	1.586934751	528	133	1298.1	119
FL	Crystal River	1	2013	9/13/2013	23	2067	1.582574075	523	134	1306.1	119
FL	Crystal River	1	2013	9/14/2013	0	2085	1.58002425	530	135	1319.6	119

FL	Crystal River	1	2013	9/14/2013	1	2082	1.579186893	530	135	1318.4	119
FL	Crystal River	1	2013	9/14/2013	2	2083	1.571601026	535	136	1325.4	119
FL	Crystal River	1	2013	9/14/2013	3	2117	1.577496274	547	137	1342	119
FL	Crystal River	1	2013	9/14/2013	4	2120	1.586588834	549	137	1336.2	119
FL	Crystal River	1	2013	9/14/2013	5	2145	1.575352526	558	139	1361.6	119
FL	Crystal River	1	2013	9/14/2013	6	2117	1.563400044	549	138	1354.1	119
FL	Crystal River	1	2013	9/14/2013	7	2091	1.567701305	549	136	1333.8	119
FL	Crystal River	1	2013	9/14/2013	8	2494	1.557971014	550	164	1600.8	152
FL	Crystal River	1	2013	9/14/2013	9	2627	1.554897899	581	173	1689.5	167
FL	Crystal River	1	2013	9/14/2013	10	3734	1.568841645	778	244	2380.1	242
FL	Crystal River	1	2013	9/14/2013	11	6559	1.607046602	1559	418	4081.4	369
FL	Crystal River	1	2013	9/14/2013	12	6266	1.602393617	1486	401	3910.4	367
FL	Crystal River	1	2013	9/14/2013	13	5899	1.610296727	1278	375	3663.3	369
FL	Crystal River	1	2013	9/14/2013	14	6805	1.600047026	1501	436	4253	389
FL	Crystal River	1	2013	9/14/2013	15	6902	1.625989446	1532	435	4244.8	391
FL	Crystal River	1	2013	9/14/2013	16	6453	1.62921632	1485	406	3960.8	391
FL	Crystal River	1	2013	9/14/2013	17	5800	1.62797878	1368	365	3562.7	381
FL	Crystal River	1	2013	9/14/2013	18	5437	1.617817717	1219	344	3360.7	357
FL	Crystal River	1	2013	9/14/2013	19	4861	1.612806901	1154	309	3014	322
FL	Crystal River	1	2013	9/14/2013	20	3269	1.584355159	662	211	2063.3	216
FL	Crystal River	1	2013	9/14/2013	21	2055	1.560957083	499	135	1316.5	124
FL	Crystal River	1	2013	9/14/2013	22	2057	1.539209817	493	137	1336.4	122
FL	Crystal River	1	2013	9/14/2013	23	2037	1.544703117	510	135	1318.7	119
FL	Crystal River	1	2013	9/15/2013	0	2057	1.532786885	540	137	1342	119
FL	Crystal River	1	2013	9/15/2013	1	2061	1.537142005	544	137	1340.8	119
FL	Crystal River	1	2013	9/15/2013	2	2078	1.540286117	547	138	1349.1	119
FL	Crystal River	1	2013	9/15/2013	3	2099	1.523664344	545	141	1377.6	120
FL	Crystal River	1	2013	9/15/2013	4	2151	1.532597079	734	144	1403.5	119
FL	Crystal River	1	2013	9/15/2013	5	2176	1.581395349	679	141	1376	119
FL	Crystal River	1	2013	9/15/2013	6	2152	1.580145385	649	139	1361.9	119
FL	Crystal River	1	2013	9/15/2013	7	2274	1.571201548	686	148	1447.3	127
FL	Crystal River	1	2013	9/15/2013	8	2661	1.578385432	748	173	1685.9	156
FL	Crystal River	1	2013	9/15/2013	9	2604	1.600491703	771	166	1627	158
FL	Crystal River	1	2013	9/15/2013	10	4975	1.650630392	1259	309	3014	316
FL	Crystal River	1	2013	9/15/2013	11	6197	1.656199054	1485	383	3741.7	362

FL	Crystal River	1	2013	9/15/2013	12	6771	1.665723634	1613	417	4064.9	368
FL	Crystal River	1	2013	9/15/2013	13	6758	1.655682681	1575	418	4081.7	369
FL	Crystal River	1	2013	9/15/2013	14	6651	1.671945701	1527	408	3978	369
FL	Crystal River	1	2013	9/15/2013	15	4792	1.652527761	1217	297	2899.8	310
FL	Crystal River	1	2013	9/15/2013	16	2930	1.62263942	678	185	1805.7	209
FL	Crystal River	1	2013	9/15/2013	17	2227	1.579768745	555	144	1409.7	122
FL	Crystal River	1	2013	9/15/2013	18	2391	1.57541016	499	155	1517.7	166
FL	Crystal River	1	2013	9/15/2013	19	2171	1.539388783	555	144	1410.3	126
FL	Crystal River	1	2013	9/15/2013	20	2196	1.530526903	586	147	1434.8	119
FL	Crystal River	1	2013	9/15/2013	21	2198	1.528405535	606	147	1438.1	119
FL	Crystal River	1	2013	9/15/2013	22	2189	1.529378886	601	146	1431.3	119
FL	Crystal River	1	2013	9/15/2013	23	2161	1.519690577	557	145	1422	119
FL	Crystal River	1	2013	9/16/2013	0	2080	1.514930808	483	140	1373	119
FL	Crystal River	1	2013	9/16/2013	1	2094	1.525127458	464	140	1373	119
FL	Crystal River	1	2013	9/16/2013	2	2113	1.522553682	453	142	1387.8	119
FL	Crystal River	1	2013	9/16/2013	3	2111	1.521112552	458	142	1387.8	119
FL	Crystal River	1	2013	9/16/2013	4	2074	1.526908636	468	139	1358.3	119
FL	Crystal River	1	2013	9/16/2013	5	2098	1.528040787	473	140	1373	119
FL	Crystal River	1	2013	9/16/2013	6	2060	1.516601634	476	139	1358.3	120
FL	Crystal River	1	2013	9/16/2013	7	2091	1.522942462	479	140	1373	122
FL	Crystal River	1	2013	9/16/2013	8	3742	1.547431974	645	248	2418.2	226
FL	Crystal River	1	2013	9/16/2013	9	5263	1.591328274	1144	339	3307.3	355
FL	Crystal River	1	2013	9/16/2013	10	5845	1.594424289	1708	376	3665.9	364
FL	Crystal River	1	2013	9/16/2013	11	5818	1.587059112	1352	376	3665.9	363
FL	Crystal River	1	2013	9/16/2013	12	5861	1.598788838	1253	376	3665.9	364
FL	Crystal River	1	2013	9/16/2013	13	5885	1.59148683	1242	379	3697.8	364
FL	Crystal River	1	2013	9/16/2013	14	6030	1.589561091	1198	389	3793.5	364
FL	Crystal River	1	2013	9/16/2013	15	5917	1.586454675	1305	382	3729.7	364
FL	Crystal River	1	2013	9/16/2013	16	5885	1.59148683	1327	379	3697.8	363
FL	Crystal River	1	2013	9/16/2013	17	5412	1.582594964	1231	350	3419.7	363
FL	Crystal River	1	2013	9/16/2013	18	5456	1.588632658	1243	352	3434.4	364
FL	Crystal River	1	2013	9/16/2013	19	5405	1.597222222	1177	347	3384	356
FL	Crystal River	1	2013	9/16/2013	20	3099	1.550120048	663	205	1999.2	204
FL	Crystal River	1	2013	9/16/2013	21	2103	1.519508671	474	142	1384	119
FL	Crystal River	1	2013	9/16/2013	22	2083	1.510624411	474	141	1378.9	119

FL	Crystal River	1	2013	9/16/2013	23	2063	1.490606936	488	142	1384	119
FL	Crystal River	1	2013	9/17/2013	0	2036	1.472481377	488	141	1382.7	119
FL	Crystal River	1	2013	9/17/2013	1	1883	1.394711503	472	138	1350.1	119
FL	Crystal River	1	2013	9/17/2013	2	1727	1.253811529	461	141	1377.4	119
FL	Crystal River	1	2013	9/17/2013	3	1522	1.088308902	444	143	1398.5	119
FL	Crystal River	1	2013	9/17/2013	4	1320	0.947663149	429	142	1392.9	119
FL	Crystal River	1	2013	9/17/2013	5	1215	0.854610677	436	145	1421.7	119
FL	Crystal River	1	2013	9/17/2013	6	1092	0.776229741	429	144	1406.8	119
FL	Crystal River	1	2013	9/17/2013	7	1097	0.763024275	435	147	1437.7	120
FL	Crystal River	1	2013	9/17/2013	8	1066	0.75618926	425	144	1409.7	123
FL	Crystal River	1	2013	9/17/2013	9	1892	0.856496152	567	226	2209	218
FL	Crystal River	1	2013	9/17/2013	10	3751	1.082914718	1208	355	3463.8	361
FL	Crystal River	1	2013	9/17/2013	11	3784	1.100928108	1223	352	3437.1	364
FL	Crystal River	1	2013	9/17/2013	12	3714	1.079745327	1155	352	3439.7	363
FL	Crystal River	1	2013	9/17/2013	13	3512	1.024055985	1124	351	3429.5	364
FL	Crystal River	1	2013	9/17/2013	14	3195	0.929616806	1110	352	3436.9	364
FL	Crystal River	1	2013	9/17/2013	15	2906	0.846243448	1095	352	3434	364
FL	Crystal River	1	2013	9/17/2013	16	2834	0.820070606	1078	354	3455.8	363
FL	Crystal River	1	2013	9/17/2013	17	2256	0.78856304	921	293	2860.9	301
FL	Crystal River	1	2013	9/17/2013	18	1108	0.755488886	491	150	1466.6	138
FL	Crystal River	1	2013	9/17/2013	19	1012	0.746312684	417	139	1356	119
FL	Crystal River	1	2013	9/17/2013	20	1008	0.74611399	425	138	1351	119
FL	Crystal River	1	2013	9/17/2013	21	1018	0.744750896	429	140	1366.9	119
FL	Crystal River	1	2013	9/17/2013	22	1022	0.737906137	430	142	1385	119
FL	Crystal River	1	2013	9/17/2013	23	1033	0.735859809	433	144	1403.8	119
FL	Crystal River	1	2013	9/18/2013	0	1038	0.733568905	438	145	1415	119
FL	Crystal River	1	2013	9/18/2013	1	1054	0.737630345	445	146	1428.9	119
FL	Crystal River	1	2013	9/18/2013	2	1064	0.737301642	448	148	1443.1	119
FL	Crystal River	1	2013	9/18/2013	3	1091	0.749673607	448	149	1455.3	119
FL	Crystal River	1	2013	9/18/2013	4	1110	0.75310401	458	151	1473.9	119
FL	Crystal River	1	2013	9/18/2013	5	1123	0.751874665	470	153	1493.6	119
FL	Crystal River	1	2013	9/18/2013	6	1100	0.755027799	464	149	1456.9	119
FL	Crystal River	1	2013	9/18/2013	7	1097	0.755821965	461	148	1451.4	119
FL	Crystal River	1	2013	9/18/2013	8	1437	0.766195681	504	192	1875.5	174
FL	Crystal River	1	2013	9/18/2013	9	1789	0.773822397	684	237	2311.9	230

FL	Crystal River	1	2013	9/18/2013	10	2108	0.791618161	836	273	2662.9	276
FL	Crystal River	1	2013	9/18/2013	11	2110	0.795745965	835	272	2651.6	275
FL	Crystal River	1	2013	9/18/2013	12	2134	0.805891239	823	271	2648	275
FL	Crystal River	1	2013	9/18/2013	13	2173	0.814834258	832	273	2666.8	275
FL	Crystal River	1	2013	9/18/2013	14	2150	0.816187078	819	270	2634.2	275
FL	Crystal River	1	2013	9/18/2013	15	2212	0.790056433	795	287	2799.8	287
FL	Crystal River	1	2013	9/18/2013	16	2436	0.792298185	876	315	3074.6	315
FL	Crystal River	1	2013	9/18/2013	17	2246	0.795917644	753	289	2821.9	296
FL	Crystal River	1	2013	9/18/2013	18	1740	0.796776262	565	224	2183.8	224
FL	Crystal River	1	2013	9/18/2013	19	1287	0.834792761	434	158	1541.7	138
FL	Crystal River	1	2013	9/18/2013	20	1359	0.951147816	415	146	1428.8	120
FL	Crystal River	1	2013	9/18/2013	21	1402	0.95037961	421	151	1475.2	124
FL	Crystal River	1	2013	9/18/2013	22	1317	0.890165596	430	151	1479.5	121
FL	Crystal River	1	2013	9/18/2013	23	1231	0.832994993	424	151	1477.8	121
FL	Crystal River	1	2013	9/19/2013	0	1226	0.806950569	446	155	1519.3	121
FL	Crystal River	1	2013	9/19/2013	1	1214	0.787034036	468	158	1542.5	121
FL	Crystal River	1	2013	9/19/2013	2	1240	0.798146241	469	159	1553.6	120
FL	Crystal River	1	2013	9/19/2013	3	1259	0.799822121	464	161	1574.1	121
FL	Crystal River	1	2013	9/19/2013	4	1328	0.833542556	474	163	1593.2	121
FL	Crystal River	1	2013	9/19/2013	5	1323	0.850639748	468	159	1555.3	121
FL	Crystal River	1	2013	9/19/2013	6	2268	0.892316166	622	260	2541.7	241
FL	Crystal River	1	2013	9/19/2013	7	2807	0.872335136	978	330	3217.8	334
FL	Crystal River	1	2013	9/19/2013	8	2647	0.828067322	994	328	3196.6	334
FL	Crystal River	1	2013	9/19/2013	9	2577	0.811960426	1904	325	3173.8	334
FL	Crystal River	1	2013	9/19/2013	10	2552	0.802389561	1036	326	3180.5	335
FL	Crystal River	1	2013	9/19/2013	11	2483	0.78226899	882	325	3174.1	334
FL	Crystal River	1	2013	9/19/2013	12	2543	0.796005885	936	327	3194.7	338
FL	Crystal River	1	2013	9/19/2013	13	2726	0.792395791	1004	353	3440.2	362
FL	Crystal River	1	2013	9/19/2013	14	2760	0.780609215	1028	362	3535.7	373
FL	Crystal River	1	2013	9/19/2013	15	2744	0.776874947	1027	362	3532.1	372
FL	Crystal River	1	2013	9/19/2013	16	2605	0.781460927	973	342	3333.5	352
FL	Crystal River	1	2013	9/19/2013	17	2405	0.780565382	927	316	3081.1	326
FL	Crystal River	1	2013	9/19/2013	18	2414	0.803247596	877	308	3005.3	313
FL	Crystal River	1	2013	9/19/2013	19	2099	0.776429681	873	277	2703.4	285
FL	Crystal River	1	2013	9/19/2013	20	1107	0.754344123	475	150	1467.5	127

FL	Crystal River	1	2013	9/19/2013	21	1073	0.745604892	434	147	1439.1	119
FL	Crystal River	1	2013	9/19/2013	22	1064	0.743276284	402	146	1431.5	119
FL	Crystal River	1	2013	9/19/2013	23	1058	0.738362761	382	147	1432.9	119
FL	Crystal River	1	2013	9/20/2013	0	1049	0.739096738	380	145	1419.3	119
FL	Crystal River	1	2013	9/20/2013	1	1129	0.739503504	377	156	1526.7	131
FL	Crystal River	1	2013	9/20/2013	2	1109	0.734777712	365	154	1509.3	130
FL	Crystal River	1	2013	9/20/2013	3	1047	0.741974346	365	144	1411.1	119
FL	Crystal River	1	2013	9/20/2013	4	1038	0.747300216	359	142	1389	119
FL	Crystal River	1	2013	9/20/2013	5	1060	0.747848173	368	145	1417.4	119
FL	Crystal River	1	2013	9/20/2013	6	1945	0.785192362	844	254	2477.1	244
FL	Crystal River	1	2013	9/20/2013	7	2702	0.786929171	1253	352	3433.6	359
FL	Crystal River	1	2013	9/20/2013	8	2662	0.775121568	937	352	3434.3	363
FL	Crystal River	1	2013	9/20/2013	9	2687	0.782834169	950	352	3432.4	363
FL	Crystal River	1	2013	9/20/2013	10	2706	0.791482641	953	350	3418.9	364
FL	Crystal River	1	2013	9/20/2013	11	2699	0.791379563	944	349	3410.5	364
FL	Crystal River	1	2013	9/20/2013	12	2558	0.789286926	901	332	3240.9	346
FL	Crystal River	1	2013	9/20/2013	13	2435	0.781902254	840	319	3114.2	328
FL	Crystal River	1	2013	9/20/2013	14	2441	0.776152623	858	322	3145	331
FL	Crystal River	1	2013	9/20/2013	15	2470	0.768991283	860	329	3212	337
FL	Crystal River	1	2013	9/20/2013	16	2439	0.766402715	872	326	3182.4	334
FL	Crystal River	1	2013	9/20/2013	17	2302	0.760639704	874	310	3026.4	319
FL	Crystal River	1	2013	9/20/2013	18	2308	0.76464352	863	309	3018.4	318
FL	Crystal River	1	2013	9/20/2013	19	2189	0.763888889	811	294	2865.6	303
FL	Crystal River	1	2013	9/20/2013	20	1437	0.788650458	552	186	1822.1	183
FL	Crystal River	1	2013	9/20/2013	21	1379	0.98338444	443	143	1402.3	122
FL	Crystal River	1	2013	9/20/2013	22	1595	1.140507687	450	143	1398.5	122
FL	Crystal River	1	2013	9/20/2013	23	1700	1.213678875	460	143	1400.7	121
FL	Crystal River	1	2013	9/21/2013	0	1806	1.276505513	474	145	1414.8	121
FL	Crystal River	1	2013	9/21/2013	1	1909	1.347402597	483	145	1416.8	121
FL	Crystal River	1	2013	9/21/2013	2	1834	1.289098194	490	146	1422.7	120
FL	Crystal River	1	2013	9/21/2013	3	1806	1.260821	505	147	1432.4	119
FL	Crystal River	1	2013	9/21/2013	4	1886	1.320266013	521	146	1428.5	120
FL	Crystal River	1	2013	9/21/2013	5	2015	1.384594242	538	149	1455.3	119
FL	Crystal River	1	2013	9/21/2013	6	2073	1.451782338	522	146	1427.9	119
FL	Crystal River	1	2013	9/21/2013	7	2105	1.440005473	535	150	1461.8	126

FL	Crystal River	1	2013	9/21/2013	8	2332	1.497271268	534	159	1557.5	145
FL	Crystal River	1	2013	9/21/2013	9	2322	1.570616883	456	151	1478.4	138
FL	Crystal River	1	2013	9/21/2013	10	2421	1.580080929	462	157	1532.2	145
FL	Crystal River	1	2013	9/21/2013	11	3994	1.457557842	770	281	2740.2	284
FL	Crystal River	1	2013	9/21/2013	12	5060	1.482262648	1048	350	3413.7	362
FL	Crystal River	1	2013	9/21/2013	13	5302	1.543477628	1088	352	3435.1	365
FL	Crystal River	1	2013	9/21/2013	14	5152	1.536626104	1015	344	3352.8	354
FL	Crystal River	1	2013	9/21/2013	15	5174	1.541762269	1003	344	3355.9	355
FL	Crystal River	1	2013	9/21/2013	16	5208	1.555880859	1010	343	3347.3	353
FL	Crystal River	1	2013	9/21/2013	17	4792	1.560048182	1124	315	3071.7	325
FL	Crystal River	1	2013	9/21/2013	18	5318	1.604949449	1173	340	3313.5	350
FL	Crystal River	1	2013	9/21/2013	19	4566	1.63914417	1089	285	2785.6	296
FL	Crystal River	1	2013	9/21/2013	20	2945	1.625365638	614	185	1811.9	180
FL	Crystal River	1	2013	9/21/2013	21	2243	1.624067772	515	141	1381.1	122
FL	Crystal River	1	2013	9/21/2013	22	2277	1.610780985	508	145	1413.6	127
FL	Crystal River	1	2013	9/21/2013	23	2207	1.606142202	523	141	1374.1	121
FL	Crystal River	1	2013	9/22/2013	0	2229	1.592825497	522	143	1399.4	123
FL	Crystal River	1	2013	9/22/2013	1	2284	1.592747559	532	147	1434	123
FL	Crystal River	1	2013	9/22/2013	2	2335	1.60657768	536	149	1453.4	120
FL	Crystal River	1	2013	9/22/2013	3	2297	1.616012382	520	145	1421.4	120
FL	Crystal River	1	2013	9/22/2013	4	2281	1.620143476	518	144	1407.9	120
FL	Crystal River	1	2013	9/22/2013	5	2302	1.614758698	521	146	1425.6	119
FL	Crystal River	1	2013	9/22/2013	6	2303	1.613649103	520	146	1427.2	119
FL	Crystal River	1	2013	9/22/2013	7	2372	1.596446359	521	152	1485.8	124
FL	Crystal River	1	2013	9/22/2013	8	2847	1.60042723	540	182	1778.9	169
FL	Crystal River	1	2013	9/22/2013	9	4546	1.618196704	868	288	2809.3	291
FL	Crystal River	1	2013	9/22/2013	10	5332	1.623234291	1143	337	3284.8	347
FL	Crystal River	1	2013	9/22/2013	11	5363	1.614826413	1232	340	3321.1	352
FL	Crystal River	1	2013	9/22/2013	12	4658	1.598764373	1002	298	2913.5	310
FL	Crystal River	1	2013	9/22/2013	13	4467	1.595072309	1039	287	2800.5	299
FL	Crystal River	1	2013	9/22/2013	14	4706	1.593040181	1087	303	2954.1	310
FL	Crystal River	1	2013	9/22/2013	15	5017	1.596855306	1102	322	3141.8	332
FL	Crystal River	1	2013	9/22/2013	16	4765	1.593645485	1136	306	2990	320
FL	Crystal River	1	2013	9/22/2013	17	4336	1.550786838	1006	286	2796	297
FL	Crystal River	1	2013	9/22/2013	18	5024	1.488504385	1171	346	3375.2	356

FL	Crystal River	1	2013	9/22/2013	19	3804	1.277796439	1149	305	2977	315
FL	Crystal River	1	2013	9/22/2013	20	1698	1.061913696	543	164	1599	149
FL	Crystal River	1	2013	9/22/2013	21	1257	0.872613676	479	147	1440.5	122
FL	Crystal River	1	2013	9/22/2013	22	1097	0.772317657	453	145	1420.4	121
FL	Crystal River	1	2013	9/22/2013	23	1013	0.728776978	439	142	1390	120
FL	Crystal River	1	2013	9/23/2013	0	1012	0.719823601	440	144	1405.9	120
FL	Crystal River	1	2013	9/23/2013	1	1020	0.717450939	446	145	1421.7	121
FL	Crystal River	1	2013	9/23/2013	2	1018	0.71119184	450	146	1431.4	121
FL	Crystal River	1	2013	9/23/2013	3	1026	0.712104386	456	147	1440.8	121
FL	Crystal River	1	2013	9/23/2013	4	1140	0.714643932	433	163	1595.2	138
FL	Crystal River	1	2013	9/23/2013	5	1300	0.719504096	404	185	1806.8	162
FL	Crystal River	1	2013	9/23/2013	6	1548	0.790199081	509	201	1959	185
FL	Crystal River	1	2013	9/23/2013	7	2191	0.809921632	697	277	2705.2	275
FL	Crystal River	1	2013	9/23/2013	8	2067	0.770463695	689	275	2682.8	276
FL	Crystal River	1	2013	9/23/2013	9	1991	0.746140009	683	273	2668.4	276
FL	Crystal River	1	2013	9/23/2013	10	2028	0.763180672	680	272	2657.3	275
FL	Crystal River	1	2013	9/23/2013	11	1971	0.753901469	669	268	2614.4	276
FL	Crystal River	1	2013	9/23/2013	12	1955	0.747981788	669	268	2613.7	276
FL	Crystal River	1	2013	9/23/2013	13	1958	0.748814441	661	268	2614.8	275
FL	Crystal River	1	2013	9/23/2013	14	1745	0.744422166	607	240	2344.1	238
FL	Crystal River	1	2013	9/23/2013	15	1028	0.716326388	460	147	1435.1	120
FL	Crystal River	1	2013	9/23/2013	16	1034	0.712219314	461	149	1451.8	119
FL	Crystal River	1	2013	9/23/2013	17	1042	0.712673552	467	150	1462.1	119
FL	Crystal River	1	2013	9/23/2013	18	1037	0.709690665	458	149	1461.2	119
FL	Crystal River	1	2013	9/23/2013	19	1037	0.707174032	460	150	1466.4	118
FL	Crystal River	1	2013	9/23/2013	20	1052	0.707464694	453	152	1487	119
FL	Crystal River	1	2013	9/23/2013	21	1096	0.732375543	454	153	1496.5	119
FL	Crystal River	1	2013	9/23/2013	22	1126	0.738748196	431	156	1524.2	119
FL	Crystal River	1	2013	9/23/2013	23	1126	0.720824531	432	160	1562.1	119
FL	Crystal River	1	2013	9/24/2013	0	1139	0.717435122	441	162	1587.6	119
FL	Crystal River	1	2013	9/24/2013	1	1138	0.717121432	442	162	1586.9	119
FL	Crystal River	1	2013	9/24/2013	2	1157	0.718722823	450	165	1609.8	120
FL	Crystal River	1	2013	9/24/2013	3	1190	0.737252958	471	165	1614.1	119
FL	Crystal River	1	2013	9/24/2013	4	1176	0.721738063	474	167	1629.4	119
FL	Crystal River	1	2013	9/24/2013	5	1207	0.752869261	463	164	1603.2	119

FL	Crystal River	1	2013	9/24/2013	6	2077	0.775781571	701	274	2677.3	258
FL	Crystal River	1	2013	9/24/2013	7	2525	0.775681986	999	334	3255.2	334
FL	Crystal River	1	2013	9/24/2013	8	2430	0.747922438	1000	333	3249	335
FL	Crystal River	1	2013	9/24/2013	9	2410	0.747541797	1015	330	3223.9	335
FL	Crystal River	1	2013	9/24/2013	10	2394	0.747470963	1012	328	3202.8	335
FL	Crystal River	1	2013	9/24/2013	11	2382	0.746170473	1008	327	3192.3	335
FL	Crystal River	1	2013	9/24/2013	12	2388	0.746833464	1013	328	3197.5	335
FL	Crystal River	1	2013	9/24/2013	13	2397	0.745776423	1015	329	3214.1	335
FL	Crystal River	1	2013	9/24/2013	14	2412	0.755804844	1030	327	3191.3	335
FL	Crystal River	1	2013	9/24/2013	15	2164	0.75937818	954	292	2849.7	297
FL	Crystal River	1	2013	9/24/2013	16	2030	0.754562688	882	276	2690.3	278
FL	Crystal River	1	2013	9/24/2013	17	2022	0.75097493	880	276	2692.5	279
FL	Crystal River	1	2013	9/24/2013	18	2466	0.7487248	1001	337	3293.6	338
FL	Crystal River	1	2013	9/24/2013	19	2147	0.749991267	1027	293	2862.7	300
FL	Crystal River	1	2013	9/24/2013	20	1586	0.742578893	779	219	2135.8	218
FL	Crystal River	1	2013	9/24/2013	21	1202	0.81524688	608	151	1474.4	124
FL	Crystal River	1	2013	9/24/2013	22	1497	0.941924118	599	163	1589.3	141
FL	Crystal River	1	2013	9/24/2013	23	1359	0.975662287	593	142	1392.9	119
FL	Crystal River	1	2013	9/25/2013	0	1411	1.010383101	571	143	1396.5	119
FL	Crystal River	1	2013	9/25/2013	1	1472	1.046569499	436	144	1406.5	119
FL	Crystal River	1	2013	9/25/2013	2	1615	1.137804706	452	145	1419.4	119
FL	Crystal River	1	2013	9/25/2013	3	1604	1.144161495	452	143	1401.9	120
FL	Crystal River	1	2013	9/25/2013	4	1761	1.148727984	449	157	1533	134
FL	Crystal River	1	2013	9/25/2013	5	2170	1.147298298	493	194	1891.4	179
FL	Crystal River	1	2013	9/25/2013	6	2377	1.195914671	481	203	1987.6	199
FL	Crystal River	1	2013	9/25/2013	7	2365	1.282329339	492	189	1844.3	172
FL	Crystal River	1	2013	9/25/2013	8	2012	1.356434976	528	152	1483.3	123
FL	Crystal River	1	2013	9/25/2013	9	2032	1.394646534	498	149	1457	122
FL	Crystal River	1	2013	9/25/2013	10	1978	1.394037635	490	145	1418.9	119
FL	Crystal River	1	2013	9/25/2013	11	1999	1.409135768	480	145	1418.6	122
FL	Crystal River	1	2013	9/25/2013	12	2107	1.463194444	504	147	1440	128
FL	Crystal River	1	2013	9/25/2013	13	2432	1.481301011	464	168	1641.8	155
FL	Crystal River	1	2013	9/25/2013	14	2772	1.504151066	495	189	1842.9	181
FL	Crystal River	1	2013	9/25/2013	15	2540	1.518957063	511	171	1672.2	159
FL	Crystal River	1	2013	9/25/2013	16	2279	1.511975055	697	154	1507.3	138

FL	Crystal River	1	2013	9/25/2013	17	2754	1.520958745	581	185	1810.7	173
FL	Crystal River	1	2013	9/25/2013	18	4752	1.437777979	1160	339	3305.1	344
FL	Crystal River	1	2013	9/25/2013	19	4819	1.457696845	1259	339	3305.9	351
FL	Crystal River	1	2013	9/25/2013	20	4434	1.464671489	1201	310	3027.3	323
FL	Crystal River	1	2013	9/25/2013	21	2700	1.422325238	880	194	1898.3	195
FL	Crystal River	1	2013	9/25/2013	22	1982	1.368028713	640	148	1448.8	128
FL	Crystal River	1	2013	9/25/2013	23	1937	1.398959988	624	142	1384.6	119
FL	Crystal River	1	2013	9/26/2013	0	1982	1.419567397	638	143	1396.2	121
FL	Crystal River	1	2013	9/26/2013	1	2046	1.451166749	648	144	1409.9	122
FL	Crystal River	1	2013	9/26/2013	2	1996	1.457359813	641	140	1369.6	119
FL	Crystal River	1	2013	9/26/2013	3	2069	1.503415201	652	141	1376.2	119
FL	Crystal River	1	2013	9/26/2013	4	2067	1.51617399	653	139	1363.3	119
FL	Crystal River	1	2013	9/26/2013	5	2048	1.497732924	656	140	1367.4	119
FL	Crystal River	1	2013	9/26/2013	6	2050	1.4856149	662	141	1379.9	123
FL	Crystal River	1	2013	9/26/2013	7	2108	1.480961079	680	146	1423.4	129
FL	Crystal River	1	2013	9/26/2013	8	2061	1.493478261	672	141	1380	123
FL	Crystal River	1	2013	9/26/2013	9	2032	1.524152415	647	136	1333.2	124
FL	Crystal River	1	2013	9/26/2013	10	2052	1.503847563	655	140	1364.5	125
FL	Crystal River	1	2013	9/26/2013	11	3180	1.544889234	876	211	2058.4	209
FL	Crystal River	1	2013	9/26/2013	12	5275	1.602758872	1382	337	3291.2	352
FL	Crystal River	1	2013	9/26/2013	13	5262	1.616838224	1311	333	3254.5	350
FL	Crystal River	1	2013	9/26/2013	14	5317	1.640441812	1303	332	3241.2	349
FL	Crystal River	1	2013	9/26/2013	15	5442	1.652144874	1314	338	3293.9	354
FL	Crystal River	1	2013	9/26/2013	16	4544	1.637536488	1218	284	2774.9	296
FL	Crystal River	1	2013	9/26/2013	17	3778	1.60998892	1107	240	2346.6	251
FL	Crystal River	1	2013	9/26/2013	18	3082	1.626385224	739	194	1895	198
FL	Crystal River	1	2013	9/26/2013	19	2723	1.624604737	558	172	1676.1	156
FL	Crystal River	1	2013	9/26/2013	20	2353	1.609659324	530	150	1461.8	119
FL	Crystal River	1	2013	9/26/2013	21	2419	1.599867725	539	155	1512	119
FL	Crystal River	1	2013	9/26/2013	22	2561	1.607355802	572	163	1593.3	119
FL	Crystal River	1	2013	9/26/2013	23	2748	1.600559147	618	176	1716.9	119
FL	Crystal River	1	2013	9/27/2013	0	2838	1.595906203	627	182	1778.3	119
FL	Crystal River	1	2013	9/27/2013	1	2883	1.591938156	641	185	1811	119
FL	Crystal River	1	2013	9/27/2013	2	2921	1.589919443	657	188	1837.2	119
FL	Crystal River	1	2013	9/27/2013	3	2866	1.574379257	653	186	1820.4	119

FL	Crystal River	1	2013	9/27/2013	4	2896	1.566590934	647	189	1848.6	119
FL	Crystal River	1	2013	9/27/2013	5	2990	1.56922431	659	195	1905.4	122
FL	Crystal River	1	2013	9/27/2013	6	2946	1.569609462	679	192	1876.9	120
FL	Crystal River	1	2013	9/27/2013	7	3004	1.57203412	665	196	1910.9	120
FL	Crystal River	1	2013	9/27/2013	8	2715	1.589578454	558	175	1708	132
FL	Crystal River	1	2013	9/27/2013	9	2588	1.593694193	553	166	1623.9	146
FL	Crystal River	1	2013	9/27/2013	10	2444	1.598430347	501	156	1529	140
FL	Crystal River	1	2013	9/27/2013	11	3951	1.627131208	672	249	2428.2	253
FL	Crystal River	1	2013	9/27/2013	12	5593	1.649365969	1203	347	3391	363
FL	Crystal River	1	2013	9/27/2013	13	5580	1.640549202	1282	349	3401.3	366
FL	Crystal River	1	2013	9/27/2013	14	5474	1.646315789	1250	341	3325	359
FL	Crystal River	1	2013	9/27/2013	15	5498	1.65184473	1248	341	3328.4	360
FL	Crystal River	1	2013	9/27/2013	16	5501	1.638372647	1249	344	3357.6	361
FL	Crystal River	1	2013	9/27/2013	17	5428	1.640523468	1220	339	3308.7	359
FL	Crystal River	1	2013	9/27/2013	18	5394	1.63370385	1198	338	3301.7	354
FL	Crystal River	1	2013	9/27/2013	19	5426	1.658819933	1171	335	3271	351
FL	Crystal River	1	2013	9/27/2013	20	4698	1.649868306	1047	292	2847.5	304
FL	Crystal River	1	2013	9/27/2013	21	3403	1.640711634	736	212	2074.1	213
FL	Crystal River	1	2013	9/27/2013	22	2338	1.626661101	485	147	1437.3	119
FL	Crystal River	1	2013	9/27/2013	23	2472	1.623858635	476	156	1522.3	119
FL	Crystal River	1	2013	9/28/2013	0	2574	1.618053809	486	163	1590.8	119
FL	Crystal River	1	2013	9/28/2013	1	2719	1.605171498	518	173	1693.9	119
FL	Crystal River	1	2013	9/28/2013	2	2781	1.595158885	538	178	1743.4	119
FL	Crystal River	1	2013	9/28/2013	3	2818	1.586979783	575	182	1775.7	119
FL	Crystal River	1	2013	9/28/2013	4	2771	1.553686571	576	183	1783.5	119
FL	Crystal River	1	2013	9/28/2013	5	2911	1.552781778	601	192	1874.7	122
FL	Crystal River	1	2013	9/28/2013	6	2821	1.541782806	631	187	1829.7	122
FL	Crystal River	1	2013	9/28/2013	7	2903	1.537931765	588	193	1887.6	144
FL	Crystal River	1	2013	9/28/2013	8	3174	1.55390189	584	209	2042.6	201
FL	Crystal River	1	2013	9/28/2013	9	5194	1.596385542	1119	333	3253.6	342
FL	Crystal River	1	2013	9/28/2013	10	5645	1.629148629	1337	355	3465	371
FL	Crystal River	1	2013	9/28/2013	11	5638	1.646275586	1356	351	3424.7	368
FL	Crystal River	1	2013	9/28/2013	12	5709	1.664382963	1327	351	3430.1	368
FL	Crystal River	1	2013	9/28/2013	13	5724	1.686306858	1310	348	3394.4	365
FL	Crystal River	1	2013	9/28/2013	14	5630	1.684872063	1279	342	3341.5	358

FL	Crystal River	1	2013	9/28/2013	15	5567	1.67812142	1270	340	3317.4	358
FL	Crystal River	1	2013	9/28/2013	16	4725	1.646398829	1257	294	2869.9	303
FL	Crystal River	1	2013	9/28/2013	17	4445	1.640402997	1186	278	2709.7	286
FL	Crystal River	1	2013	9/28/2013	18	5149	1.670505791	1223	316	3082.3	329
FL	Crystal River	1	2013	9/28/2013	19	5551	1.670478483	1259	340	3323	354
FL	Crystal River	1	2013	9/28/2013	20	4793	1.653328734	1214	297	2899	311
FL	Crystal River	1	2013	9/28/2013	21	4336	1.617306975	1179	275	2681	283
FL	Crystal River	1	2013	9/28/2013	22	3667	1.615347342	839	232	2270.1	240
FL	Crystal River	1	2013	9/28/2013	23	2392	1.558712368	604	157	1534.6	131
FL	Crystal River	1	2013	9/29/2013	0	2391	1.556336653	568	157	1536.3	119
FL	Crystal River	1	2013	9/29/2013	1	2452	1.549251279	561	162	1582.7	118
FL	Crystal River	1	2013	9/29/2013	2	2571	1.545629434	567	170	1663.4	119
FL	Crystal River	1	2013	9/29/2013	3	2623	1.557971014	572	172	1683.6	119
FL	Crystal River	1	2013	9/29/2013	4	2693	1.569073006	583	176	1716.3	119
FL	Crystal River	1	2013	9/29/2013	5	2774	1.577122065	601	180	1758.9	119
FL	Crystal River	1	2013	9/29/2013	6	2761	1.567325159	609	180	1761.6	119
FL	Crystal River	1	2013	9/29/2013	7	2844	1.56720119	566	186	1814.7	142
FL	Crystal River	1	2013	9/29/2013	8	3015	1.563958917	551	197	1927.8	184
FL	Crystal River	1	2013	9/29/2013	9	5038	1.610819798	972	320	3127.6	330
FL	Crystal River	1	2013	9/29/2013	10	5762	1.62186506	1328	364	3552.7	383
FL	Crystal River	1	2013	9/29/2013	11	5663	1.640403221	1301	354	3452.2	377
FL	Crystal River	1	2013	9/29/2013	12	5417	1.638783845	1213	339	3305.5	361
FL	Crystal River	1	2013	9/29/2013	13	5365	1.62600394	1197	338	3299.5	358
FL	Crystal River	1	2013	9/29/2013	14	5407	1.63437415	1214	339	3308.3	359
FL	Crystal River	1	2013	9/29/2013	15	5331	1.63127295	1205	335	3268	354
FL	Crystal River	1	2013	9/29/2013	16	5283	1.646409873	1180	329	3208.8	349
FL	Crystal River	1	2013	9/29/2013	17	5186	1.638650152	1161	324	3164.8	342
FL	Crystal River	1	2013	9/29/2013	18	5290	1.648951093	1171	329	3208.1	347
FL	Crystal River	1	2013	9/29/2013	19	4715	1.651720031	1070	292	2854.6	310
FL	Crystal River	1	2013	9/29/2013	20	4455	1.637145377	963	279	2721.2	295
FL	Crystal River	1	2013	9/29/2013	21	3824	1.628689467	828	240	2347.9	250
FL	Crystal River	1	2013	9/29/2013	22	2615	1.602917739	482	167	1631.4	145
FL	Crystal River	1	2013	9/29/2013	23	2403	1.603068712	479	153	1499	120
FL	Crystal River	1	2013	9/30/2013	0	2396	1.603319058	485	153	1494.4	119
FL	Crystal River	1	2013	9/30/2013	1	2409	1.590308952	501	155	1514.8	119

FL	Crystal River	1	2013	9/30/2013	2	2367	1.579158049	508	153	1498.9	119
FL	Crystal River	1	2013	9/30/2013	3	2358	1.562520708	505	154	1509.1	119
FL	Crystal River	1	2013	9/30/2013	4	2340	1.547823786	503	155	1511.8	119
FL	Crystal River	1	2013	9/30/2013	5	3016	1.544844542	538	200	1952.3	182
FL	Crystal River	1	2013	9/30/2013	6	5016	1.620678514	934	317	3095	323
FL	Crystal River	1	2013	9/30/2013	7	5588	1.643771143	1247	348	3399.5	363
FL	Crystal River	1	2013	9/30/2013	8	5509	1.639046741	1226	344	3361.1	364
FL	Crystal River	1	2013	9/30/2013	9	5410	1.624819798	1198	341	3329.6	363
FL	Crystal River	1	2013	9/30/2013	10	5373	1.614822829	1201	341	3327.3	364
FL	Crystal River	1	2013	9/30/2013	11	5349	1.60780306	1204	341	3326.9	363
FL	Crystal River	1	2013	9/30/2013	12	5347	1.61049366	1158	340	3320.1	363
FL	Crystal River	1	2013	9/30/2013	13	5266	1.593680961	1093	339	3304.3	355
FL	Crystal River	1	2013	9/30/2013	14	4443	1.586445762	1072	287	2800.6	302
FL	Crystal River	1	2013	9/30/2013	15	4807	1.577099738	1027	312	3048	330
FL	Crystal River	1	2013	9/30/2013	16	4493	1.443951665	1095	319	3111.6	334
FL	Crystal River	1	2013	9/30/2013	17	3733	1.241477934	1013	308	3006.9	322
FL	Crystal River	1	2013	9/30/2013	18	3297	1.025314094	1022	329	3215.6	343
FL	Crystal River	1	2013	9/30/2013	19	2583	0.826004925	994	320	3127.1	334
FL	Crystal River	1	2013	9/30/2013	20	2234	0.713806435	923	321	3129.7	330
FL	Crystal River	1	2013	9/30/2013	21	1496	0.690578406	645	222	2166.3	225
FL	Crystal River	1	2013	9/30/2013	22	980	0.663058187	379	151	1478	120
FL	Crystal River	1	2013	9/30/2013	23	984	0.672682527	383	150	1462.8	122
FL	Crystal River	1	2013	10/1/2013	0	977	0.673607281	390	148	1450.4	120
FL	Crystal River	1	2013	10/1/2013	1	984	0.674295895	395	149	1459.3	119
FL	Crystal River	1	2013	10/1/2013	2	1004	0.674142214	408	152	1489.3	119
FL	Crystal River	1	2013	10/1/2013	3	1006	0.672055582	411	153	1496.9	119
FL	Crystal River	1	2013	10/1/2013	4	992	0.668148447	405	152	1484.7	119
FL	Crystal River	1	2013	10/1/2013	5	1332	0.672150174	434	203	1981.7	182
FL	Crystal River	1	2013	10/1/2013	6	2154	0.680869895	974	324	3163.6	326
FL	Crystal River	1	2013	10/1/2013	7	2156	0.685227562	950	322	3146.4	333
FL	Crystal River	1	2013	10/1/2013	8	2133	0.679862306	934	321	3137.4	334
FL	Crystal River	1	2013	10/1/2013	9	2137	0.688266933	903	318	3104.9	334
FL	Crystal River	1	2013	10/1/2013	10	2125	0.683125985	902	319	3110.7	333
FL	Crystal River	1	2013	10/1/2013	11	2146	0.687445943	874	320	3121.7	333
FL	Crystal River	1	2013	10/1/2013	12	2153	0.68792536	857	321	3129.7	334

FL	Crystal River	1	2013	10/1/2013	13	2072	0.69316205	813	306	2989.2	316
FL	Crystal River	1	2013	10/1/2013	14	2033	0.70183312	898	297	2896.7	306
FL	Crystal River	1	2013	10/1/2013	15	2007	0.694247466	858	296	2890.9	309
FL	Crystal River	1	2013	10/1/2013	16	2051	0.692671395	861	303	2961	315
FL	Crystal River	1	2013	10/1/2013	17	2052	0.684319349	869	307	2998.6	320
FL	Crystal River	1	2013	10/1/2013	18	2003	0.676986514	899	303	2958.7	313
FL	Crystal River	1	2013	10/1/2013	19	1854	0.686209194	829	277	2701.8	286
FL	Crystal River	1	2013	10/1/2013	20	1528	0.681321621	782	230	2242.7	238
FL	Crystal River	1	2013	10/1/2013	21	959	0.656939307	407	149	1459.8	126
FL	Crystal River	1	2013	10/1/2013	22	927	0.652036295	375	145	1421.7	119
FL	Crystal River	1	2013	10/1/2013	23	926	0.647643027	386	146	1429.8	119
FL	Crystal River	1	2013	10/2/2013	0	932	0.644447518	394	148	1446.2	119
FL	Crystal River	1	2013	10/2/2013	1	960	0.641325406	399	153	1496.9	119
FL	Crystal River	1	2013	10/2/2013	2	965	0.640260085	414	154	1507.2	119
FL	Crystal River	1	2013	10/2/2013	3	965	0.639284531	415	154	1509.5	119
FL	Crystal River	1	2013	10/2/2013	4	960	0.638510143	415	154	1503.5	119
FL	Crystal River	1	2013	10/2/2013	5	1438	0.647106471	513	228	2222.2	211
FL	Crystal River	1	2013	10/2/2013	6	2142	0.671073655	970	327	3191.9	331
FL	Crystal River	1	2013	10/2/2013	7	2091	0.666008409	935	322	3139.6	334
FL	Crystal River	1	2013	10/2/2013	8	2062	0.665225667	905	318	3099.7	334
FL	Crystal River	1	2013	10/2/2013	9	2057	0.663783923	830	317	3098.9	333
FL	Crystal River	1	2013	10/2/2013	10	2044	0.655212207	889	320	3119.6	333
FL	Crystal River	1	2013	10/2/2013	11	2024	0.658511192	836	315	3073.6	333
FL	Crystal River	1	2013	10/2/2013	12	2048	0.65877509	833	319	3108.8	334
FL	Crystal River	1	2013	10/2/2013	13	2046	0.656168821	848	319	3118.1	334
FL	Crystal River	1	2013	10/2/2013	14	1805	0.659770451	804	280	2735.8	297
FL	Crystal River	1	2013	10/2/2013	15	850	0.638473672	387	136	1331.3	129
FL	Crystal River	1	2013	10/2/2013	16	812	0.634424564	336	131	1279.9	119
FL	Crystal River	1	2013	10/2/2013	17	814	0.635490671	342	131	1280.9	119
FL	Crystal River	1	2013	10/2/2013	18	825	0.63583815	350	133	1297.5	119
FL	Crystal River	1	2013	10/2/2013	19	854	0.639508761	364	137	1335.4	119
FL	Crystal River	1	2013	10/2/2013	20	881	0.643958775	387	140	1368.1	119
FL	Crystal River	1	2013	10/2/2013	21	904	0.649938888	402	142	1390.9	119
FL	Crystal River	1	2013	10/2/2013	22	939	0.650502251	410	148	1443.5	119
FL	Crystal River	1	2013	10/2/2013	23	978	0.650698603	420	154	1503	119

FL	Crystal River	1	2013	10/3/2013	0	1008	0.653908531	434	158	1541.5	119
FL	Crystal River	1	2013	10/3/2013	1	1030	0.661996272	445	159	1555.9	119
FL	Crystal River	1	2013	10/3/2013	2	1054	0.663226781	448	163	1589.2	119
FL	Crystal River	1	2013	10/3/2013	3	1105	0.678705239	455	167	1628.1	119
FL	Crystal River	1	2013	10/3/2013	4	1420	0.689286928	455	211	2060.1	179
FL	Crystal River	1	2013	10/3/2013	5	2180	0.694555071	765	322	3138.7	317
FL	Crystal River	1	2013	10/3/2013	6	2457	0.715075669	1099	352	3436	362
FL	Crystal River	1	2013	10/3/2013	7	2440	0.7082523	1074	353	3445.1	364
FL	Crystal River	1	2013	10/3/2013	8	2414	0.706157671	1063	350	3418.5	364
FL	Crystal River	1	2013	10/3/2013	9	2366	0.70251492	1030	345	3367.9	361
FL	Crystal River	1	2013	10/3/2013	10	1774	0.69473272	817	262	2553.5	275
FL	Crystal River	1	2013	10/3/2013	11	1615	0.692627697	701	239	2331.7	249
FL	Crystal River	1	2013	10/3/2013	12	2097	0.698278446	873	308	3003.1	319
FL	Crystal River	1	2013	10/3/2013	13	2348	0.70282567	1029	342	3340.8	357
FL	Crystal River	1	2013	10/3/2013	14	2047	0.69973337	927	300	2925.4	312
FL	Crystal River	1	2013	10/3/2013	15	2063	0.734738942	876	288	2807.8	299
FL	Crystal River	1	2013	10/3/2013	16	2600	0.933438644	891	285	2785.4	298
FL	Crystal River	1	2013	10/3/2013	17	3032	1.088064308	922	285	2786.6	298
FL	Crystal River	1	2013	10/3/2013	18	3428	1.229026244	951	286	2789.2	298
FL	Crystal River	1	2013	10/3/2013	19	3798	1.364616269	951	285	2783.2	299
FL	Crystal River	1	2013	10/3/2013	20	4145	1.497741644	954	283	2767.5	298
FL	Crystal River	1	2013	10/3/2013	21	4087	1.595985629	893	262	2560.8	278
FL	Crystal River	1	2013	10/3/2013	22	2640	1.621721236	501	167	1627.9	158
FL	Crystal River	1	2013	10/3/2013	23	2285	1.64034458	463	142	1393	119
FL	Crystal River	1	2013	10/4/2013	0	2285	1.646135005	456	142	1388.1	119
FL	Crystal River	1	2013	10/4/2013	1	2319	1.680678359	463	141	1379.8	119
FL	Crystal River	1	2013	10/4/2013	2	2375	1.716412517	474	142	1383.7	119
FL	Crystal River	1	2013	10/4/2013	3	2411	1.717358786	480	144	1403.9	119
FL	Crystal River	1	2013	10/4/2013	4	2392	1.71518715	485	143	1394.6	119
FL	Crystal River	1	2013	10/4/2013	5	2505	1.724731479	505	149	1452.4	123
FL	Crystal River	1	2013	10/4/2013	6	2453	1.723217422	495	146	1423.5	125
FL	Crystal River	1	2013	10/4/2013	7	2644	1.729461015	481	156	1528.8	138
FL	Crystal River	1	2013	10/4/2013	8	3587	1.747369447	541	210	2052.8	210
FL	Crystal River	1	2013	10/4/2013	9	5394	1.687048447	1042	328	3197.3	342
FL	Crystal River	1	2013	10/4/2013	10	5803	1.735658312	1106	343	3343.4	361

FL	Crystal River	1	2013	10/4/2013	11	6000	1.762632197	1143	349	3404	371
FL	Crystal River	1	2013	10/4/2013	12	5314	1.752349547	1028	311	3032.5	332
FL	Crystal River	1	2013	10/4/2013	13	5937	1.763238395	1117	345	3367.1	364
FL	Crystal River	1	2013	10/4/2013	14	6097	1.796193731	1147	348	3394.4	371
FL	Crystal River	1	2013	10/4/2013	15	6100	1.800100333	1165	347	3388.7	367
FL	Crystal River	1	2013	10/4/2013	16	5533	1.779442979	1088	319	3109.4	338
FL	Crystal River	1	2013	10/4/2013	17	4921	1.765951339	969	285	2786.6	304
FL	Crystal River	1	2013	10/4/2013	18	5374	1.758968316	1038	313	3055.2	330
FL	Crystal River	1	2013	10/4/2013	19	5191	1.688899011	1094	315	3073.6	332
FL	Crystal River	1	2013	10/4/2013	20	4551	1.594380605	1019	292	2854.4	309
FL	Crystal River	1	2013	10/4/2013	21	4305	1.544062265	995	286	2788.1	303
FL	Crystal River	1	2013	10/4/2013	22	4162	1.539599748	913	277	2703.3	293
FL	Crystal River	1	2013	10/4/2013	23	3057	1.548867609	637	202	1973.7	207
FL	Crystal River	1	2013	10/5/2013	0	2177	1.571727673	508	142	1385.1	121
FL	Crystal River	1	2013	10/5/2013	1	2172	1.566873467	493	142	1386.2	120
FL	Crystal River	1	2013	10/5/2013	2	2159	1.565627266	479	141	1379	120
FL	Crystal River	1	2013	10/5/2013	3	2184	1.579632576	470	141	1382.6	120
FL	Crystal River	1	2013	10/5/2013	4	2216	1.610114074	477	141	1376.3	120
FL	Crystal River	1	2013	10/5/2013	5	2264	1.634893125	486	142	1384.8	121
FL	Crystal River	1	2013	10/5/2013	6	2318	1.653824201	496	143	1401.6	121
FL	Crystal River	1	2013	10/5/2013	7	2569	1.664506933	497	158	1543.4	142
FL	Crystal River	1	2013	10/5/2013	8	3887	1.691029322	680	235	2298.6	238
FL	Crystal River	1	2013	10/5/2013	9	5408	1.678096006	1153	330	3222.7	344
FL	Crystal River	1	2013	10/5/2013	10	5750	1.679175306	1205	351	3424.3	370
FL	Crystal River	1	2013	10/5/2013	11	5706	1.653385877	1176	354	3451.1	373
FL	Crystal River	1	2013	10/5/2013	12	5630	1.628249993	1196	354	3457.7	375
FL	Crystal River	1	2013	10/5/2013	13	5564	1.609394886	1244	354	3457.2	373
FL	Crystal River	1	2013	10/5/2013	14	5583	1.614517062	1224	354	3458	374
FL	Crystal River	1	2013	10/5/2013	15	5530	1.603270324	1272	353	3449.2	374
FL	Crystal River	1	2013	10/5/2013	16	5461	1.572234698	1271	356	3473.4	374
FL	Crystal River	1	2013	10/5/2013	17	5380	1.557028333	1247	354	3455.3	373
FL	Crystal River	1	2013	10/5/2013	18	4299	1.525983246	1104	289	2817.2	304
FL	Crystal River	1	2013	10/5/2013	19	4009	1.516951718	1014	271	2642.8	285
FL	Crystal River	1	2013	10/5/2013	20	4548	1.528688111	1032	305	2975.1	318
FL	Crystal River	1	2013	10/5/2013	21	4083	1.542151382	812	271	2647.6	287

FL	Crystal River	1	2013	10/5/2013	22	3160	1.51022749	690	214	2092.4	218
FL	Crystal River	1	2013	10/5/2013	23	2098	1.47954866	517	145	1418	124
FL	Crystal River	1	2013	10/6/2013	0	2122	1.478333566	511	147	1435.4	124
FL	Crystal River	1	2013	10/6/2013	1	2072	1.480634558	516	143	1399.4	119
FL	Crystal River	1	2013	10/6/2013	2	2059	1.465793408	525	144	1404.7	120
FL	Crystal River	1	2013	10/6/2013	3	2065	1.464435146	568	144	1410.1	119
FL	Crystal River	1	2013	10/6/2013	4	2044	1.424390244	569	147	1435	120
FL	Crystal River	1	2013	10/6/2013	5	2048	1.417987953	570	148	1444.3	120
FL	Crystal River	1	2013	10/6/2013	6	1999	1.406656815	555	145	1421.1	120
FL	Crystal River	1	2013	10/6/2013	7	2123	1.415899693	557	153	1499.4	133
FL	Crystal River	1	2013	10/6/2013	8	2930	1.429756502	600	210	2049.3	204
FL	Crystal River	1	2013	10/6/2013	9	4992	1.486510631	1198	344	3358.2	354
FL	Crystal River	1	2013	10/6/2013	10	4986	1.500045128	1226	341	3323.9	357
FL	Crystal River	1	2013	10/6/2013	11	5248	1.511433673	1229	356	3472.2	373
FL	Crystal River	1	2013	10/6/2013	12	5243	1.520459357	1227	353	3448.3	370
FL	Crystal River	1	2013	10/6/2013	13	5237	1.527668388	1189	351	3428.1	368
FL	Crystal River	1	2013	10/6/2013	14	4965	1.539343957	1154	330	3225.4	345
FL	Crystal River	1	2013	10/6/2013	15	5128	1.591607437	1163	330	3221.9	345
FL	Crystal River	1	2013	10/6/2013	16	5129	1.641963057	1224	320	3123.7	336
FL	Crystal River	1	2013	10/6/2013	17	4430	1.66104237	1061	273	2667	289
FL	Crystal River	1	2013	10/6/2013	18	5520	1.700554529	1197	333	3246	347
FL	Crystal River	1	2013	10/6/2013	19	4433	1.713369149	1053	265	2587.3	281
FL	Crystal River	1	2013	10/6/2013	20	4071	1.743394287	758	239	2335.1	254
FL	Crystal River	1	2013	10/6/2013	21	4138	1.739020803	742	244	2379.5	259
FL	Crystal River	1	2013	10/6/2013	22	3025	1.711941143	622	181	1767	176
FL	Crystal River	1	2013	10/6/2013	23	2314	1.684869667	477	140	1373.4	120
FL	Crystal River	1	2013	10/7/2013	0	2345	1.679558802	481	143	1396.2	120
FL	Crystal River	1	2013	10/7/2013	1	2376	1.689059501	489	144	1406.7	119
FL	Crystal River	1	2013	10/7/2013	2	2433	1.707368421	494	146	1425	120
FL	Crystal River	1	2013	10/7/2013	3	2467	1.728559417	496	146	1427.2	120
FL	Crystal River	1	2013	10/7/2013	4	2554	1.725209403	503	151	1480.4	126
FL	Crystal River	1	2013	10/7/2013	5	3280	1.750360211	532	192	1873.9	180
FL	Crystal River	1	2013	10/7/2013	6	2838	1.762185657	581	165	1610.5	155
FL	Crystal River	1	2013	10/7/2013	7	3430	1.742886179	568	201	1968	194
FL	Crystal River	1	2013	10/7/2013	8	5356	1.745705811	981	314	3068.1	326

FL	Crystal River	1	2013	10/7/2013	9	6111	1.739241803	1279	360	3513.6	375
FL	Crystal River	1	2013	10/7/2013	10	6118	1.76626826	1243	355	3463.8	373
FL	Crystal River	1	2013	10/7/2013	11	5929	1.785897166	1178	340	3319.9	360
FL	Crystal River	1	2013	10/7/2013	12	5991	1.807839705	1166	340	3313.9	359
FL	Crystal River	1	2013	10/7/2013	13	6091	1.836740848	1173	340	3316.2	358
FL	Crystal River	1	2013	10/7/2013	14	6269	1.88507337	1197	341	3325.6	359
FL	Crystal River	1	2013	10/7/2013	15	6190	1.910611766	1195	332	3239.8	350
FL	Crystal River	1	2013	10/7/2013	16	6270	1.940455558	1192	331	3231.2	349
FL	Crystal River	1	2013	10/7/2013	17	6351	1.9614565	1214	332	3237.9	349
FL	Crystal River	1	2013	10/7/2013	18	6470	1.990156875	1225	333	3251	349
FL	Crystal River	1	2013	10/7/2013	19	6552	2.017676223	1208	333	3247.3	349
FL	Crystal River	1	2013	10/7/2013	20	6427	1.980341406	1204	333	3245.4	349
FL	Crystal River	1	2013	10/7/2013	21	5373	1.850652706	1094	297	2903.3	312
FL	Crystal River	1	2013	10/7/2013	22	3930	1.750478821	752	230	2245.1	236
FL	Crystal River	1	2013	10/7/2013	23	2369	1.702112372	496	142	1391.8	119
FL	Crystal River	1	2013	10/8/2013	0	2346	1.676792224	465	143	1399.1	119
FL	Crystal River	1	2013	10/8/2013	1	2326	1.651050539	463	144	1408.8	119
FL	Crystal River	1	2013	10/8/2013	2	2303	1.63067337	464	144	1412.3	119
FL	Crystal River	1	2013	10/8/2013	3	2285	1.603959006	471	146	1424.6	119
FL	Crystal River	1	2013	10/8/2013	4	2255	1.570553002	473	147	1435.8	123
FL	Crystal River	1	2013	10/8/2013	5	2470	1.55963882	478	162	1583.7	139
FL	Crystal River	1	2013	10/8/2013	6	2414	1.538265469	503	161	1569.3	140
FL	Crystal River	1	2013	10/8/2013	7	2261	1.542291951	482	150	1466	126
FL	Crystal River	1	2013	10/8/2013	8	2326	1.546953977	470	154	1503.6	134
FL	Crystal River	1	2013	10/8/2013	9	2698	1.57134537	473	176	1717	163
FL	Crystal River	1	2013	10/8/2013	10	2477	1.60802389	486	158	1540.4	143
FL	Crystal River	1	2013	10/8/2013	11	4974	1.683248731	877	303	2955	312
FL	Crystal River	1	2013	10/8/2013	12	5877	1.694978802	1192	355	3467.3	372
FL	Crystal River	1	2013	10/8/2013	13	5860	1.69178359	1181	355	3463.8	374
FL	Crystal River	1	2013	10/8/2013	14	5861	1.682406637	1187	357	3483.7	374
FL	Crystal River	1	2013	10/8/2013	15	5259	1.655491548	1140	325	3176.7	343
FL	Crystal River	1	2013	10/8/2013	16	5101	1.645271578	1023	318	3100.4	335
FL	Crystal River	1	2013	10/8/2013	17	5511	1.66626353	1167	339	3307.4	360
FL	Crystal River	1	2013	10/8/2013	18	5653	1.676850973	1190	345	3371.2	362
FL	Crystal River	1	2013	10/8/2013	19	5559	1.669519777	1178	341	3329.7	356

FL	Crystal River	1	2013	10/8/2013	20	4832	1.635415962	1108	303	2954.6	319
FL	Crystal River	1	2013	10/8/2013	21	3415	1.563358359	766	224	2184.4	228
FL	Crystal River	1	2013	10/8/2013	22	2196	1.495709031	481	150	1468.2	121
FL	Crystal River	1	2013	10/8/2013	23	2222	1.454664484	491	156	1527.5	120
FL	Crystal River	1	2013	10/9/2013	0	2323	1.419839863	513	167	1636.1	120
FL	Crystal River	1	2013	10/9/2013	1	2375	1.412009512	531	172	1682	120
FL	Crystal River	1	2013	10/9/2013	2	2432	1.405455386	567	177	1730.4	120
FL	Crystal River	1	2013	10/9/2013	3	2502	1.400033574	605	183	1787.1	119
FL	Crystal River	1	2013	10/9/2013	4	2556	1.406482144	617	186	1817.3	120
FL	Crystal River	1	2013	10/9/2013	5	2768	1.40357994	635	202	1972.1	130
FL	Crystal River	1	2013	10/9/2013	6	2669	1.403924044	646	195	1901.1	120
FL	Crystal River	1	2013	10/9/2013	7	2752	1.422369237	652	198	1934.8	119
FL	Crystal River	1	2013	10/9/2013	8	2479	1.411972433	600	180	1755.7	119
FL	Crystal River	1	2013	10/9/2013	9	2329	1.398630795	577	170	1665.2	120
FL	Crystal River	1	2013	10/9/2013	10	2138	1.396472894	531	157	1531	120
FL	Crystal River	1	2013	10/9/2013	11	1994	1.400969578	489	146	1423.3	121
FL	Crystal River	1	2013	10/9/2013	12	1974	1.404082794	476	144	1405.9	121
FL	Crystal River	1	2013	10/9/2013	13	2040	1.425178147	483	146	1431.4	123
FL	Crystal River	1	2013	10/9/2013	14	2174	1.421937341	469	156	1528.9	138
FL	Crystal River	1	2013	10/9/2013	15	2104	1.456256921	504	148	1444.8	127
FL	Crystal River	1	2013	10/9/2013	16	2233	1.480278422	523	154	1508.5	127
FL	Crystal River	1	2013	10/9/2013	17	2284	1.514588859	512	154	1508	128
FL	Crystal River	1	2013	10/9/2013	18	3412	1.557990868	556	224	2190	207
FL	Crystal River	1	2013	10/9/2013	19	3492	1.583529839	582	226	2205.2	196
FL	Crystal River	1	2013	10/9/2013	20	3260	1.564900154	670	213	2083.2	149
FL	Crystal River	1	2013	10/9/2013	21	3056	1.561813257	747	200	1956.7	121
FL	Crystal River	1	2013	10/9/2013	22	3118	1.536036258	726	208	2029.9	121
FL	Crystal River	1	2013	10/9/2013	23	3114	1.502388189	706	212	2072.7	122
FL	Crystal River	1	2013	10/10/2013	0	2970	1.47299509	691	206	2016.3	120
FL	Crystal River	1	2013	10/10/2013	1	2800	1.419878296	684	202	1972	119
FL	Crystal River	1	2013	10/10/2013	2	2595	1.348892816	698	197	1923.8	119
FL	Crystal River	1	2013	10/10/2013	3	2457	1.253955292	728	201	1959.4	119
FL	Crystal River	1	2013	10/10/2013	4	2367	1.208516287	738	201	1958.6	121
FL	Crystal River	1	2013	10/10/2013	5	2413	1.162779491	753	212	2075.2	128
FL	Crystal River	1	2013	10/10/2013	6	2215	1.097512635	791	207	2018.2	126

FL	Crystal River	1	2013	10/10/2013	7	2083	1.074486743	730	198	1938.6	122
FL	Crystal River	1	2013	10/10/2013	8	1852	1.072131527	613	177	1727.4	127
FL	Crystal River	1	2013	10/10/2013	9	1692	1.074899943	543	161	1574.1	132
FL	Crystal River	1	2013	10/10/2013	10	1707	1.07297756	512	163	1590.9	146
FL	Crystal River	1	2013	10/10/2013	11	3577	1.233320691	838	297	2900.3	308
FL	Crystal River	1	2013	10/10/2013	12	4375	1.325396104	1204	338	3300.9	359
FL	Crystal River	1	2013	10/10/2013	13	4441	1.326265492	1192	343	3348.5	365
FL	Crystal River	1	2013	10/10/2013	14	4453	1.328976035	1229	343	3350.7	365
FL	Crystal River	1	2013	10/10/2013	15	4425	1.336817619	1194	339	3310.1	359
FL	Crystal River	1	2013	10/10/2013	16	4492	1.356525941	1165	339	3311.4	359
FL	Crystal River	1	2013	10/10/2013	17	4589	1.391196265	1062	338	3298.6	358
FL	Crystal River	1	2013	10/10/2013	18	4403	1.408058842	991	320	3127	339
FL	Crystal River	1	2013	10/10/2013	19	4162	1.371018217	944	311	3035.7	329
FL	Crystal River	1	2013	10/10/2013	20	3908	1.29640073	937	309	3014.5	325
FL	Crystal River	1	2013	10/10/2013	21	2565	1.222651223	618	215	2097.9	226
FL	Crystal River	1	2013	10/10/2013	22	1946	1.169541439	592	170	1663.9	162
FL	Crystal River	1	2013	10/10/2013	23	1582	1.125978648	607	144	1405	118
FL	Crystal River	1	2013	10/11/2013	0	1590	1.096400496	604	148	1450.2	118
FL	Crystal River	1	2013	10/11/2013	1	1603	1.077284946	596	152	1488	119
FL	Crystal River	1	2013	10/11/2013	2	1552	1.075388027	578	148	1443.2	118
FL	Crystal River	1	2013	10/11/2013	3	1663	1.080852723	610	157	1538.6	118
FL	Crystal River	1	2013	10/11/2013	4	1776	1.088635528	660	167	1631.4	119
FL	Crystal River	1	2013	10/11/2013	5	1786	1.095772747	653	167	1629.9	119
FL	Crystal River	1	2013	10/11/2013	6	1686	1.101888765	622	157	1530.1	119
FL	Crystal River	1	2013	10/11/2013	7	1502	1.099480272	560	140	1366.1	119
FL	Crystal River	1	2013	10/11/2013	8	1463	1.106489185	542	135	1322.2	121
FL	Crystal River	1	2013	10/11/2013	9	1461	1.113567073	549	134	1312	124
FL	Crystal River	1	2013	10/11/2013	10	1751	1.115855213	566	161	1569.2	153
FL	Crystal River	1	2013	10/11/2013	11	2591	1.145142756	685	232	2262.6	238
FL	Crystal River	1	2013	10/11/2013	12	3803	1.189032016	997	328	3198.4	346
FL	Crystal River	1	2013	10/11/2013	13	3980	1.216604512	1046	335	3271.4	353
FL	Crystal River	1	2013	10/11/2013	14	3939	1.238796113	1011	326	3179.7	344
FL	Crystal River	1	2013	10/11/2013	15	3934	1.25214845	983	322	3141.8	339
FL	Crystal River	1	2013	10/11/2013	16	3941	1.254975639	989	322	3140.3	338
FL	Crystal River	1	2013	10/11/2013	17	3908	1.261296153	985	317	3098.4	336

FL	Crystal River	1	2013	10/11/2013	18	3267	1.259687681	907	266	2593.5	283
FL	Crystal River	1	2013	10/11/2013	19	2107	1.289473684	629	167	1634	163
FL	Crystal River	1	2013	10/11/2013	20	1788	1.316351322	487	139	1358.3	119
FL	Crystal River	1	2013	10/11/2013	21	1965	1.320298327	480	152	1488.3	137
FL	Crystal River	1	2013	10/11/2013	22	1821	1.350790001	485	138	1348.1	119
FL	Crystal River	1	2013	10/11/2013	23	1925	1.380324107	514	143	1394.6	119
FL	Crystal River	1	2013	10/12/2013	0	1958	1.376546682	520	145	1422.4	119
FL	Crystal River	1	2013	10/12/2013	1	2052	1.383495146	536	152	1483.2	119
FL	Crystal River	1	2013	10/12/2013	2	2026	1.374584436	530	151	1473.9	119
FL	Crystal River	1	2013	10/12/2013	3	1981	1.363573789	527	149	1452.8	119
FL	Crystal River	1	2013	10/12/2013	4	2036	1.347898047	543	155	1510.5	119
FL	Crystal River	1	2013	10/12/2013	5	2253	1.33701264	596	172	1685.1	119
FL	Crystal River	1	2013	10/12/2013	6	2156	1.341797361	568	164	1606.8	121
FL	Crystal River	1	2013	10/12/2013	7	1925	1.356111307	495	145	1419.5	126
FL	Crystal River	1	2013	10/12/2013	8	1959	1.356366406	478	148	1444.3	137
FL	Crystal River	1	2013	10/12/2013	9	2201	1.354628262	487	166	1624.8	156
FL	Crystal River	1	2013	10/12/2013	10	2090	1.333163233	509	160	1567.7	152
FL	Crystal River	1	2013	10/12/2013	11	2766	1.317770367	520	215	2099	219
FL	Crystal River	1	2013	10/12/2013	12	4077	1.300271089	1009	321	3135.5	336
FL	Crystal River	1	2013	10/12/2013	13	4231	1.288446312	1086	336	3283.8	355
FL	Crystal River	1	2013	10/12/2013	14	4321	1.302055083	1071	340	3318.6	359
FL	Crystal River	1	2013	10/12/2013	15	4150	1.313706869	998	324	3159	341
FL	Crystal River	1	2013	10/12/2013	16	4093	1.343332568	981	312	3046.9	330
FL	Crystal River	1	2013	10/12/2013	17	3380	1.363673041	815	254	2478.6	271
FL	Crystal River	1	2013	10/12/2013	18	2787	1.362036947	603	209	2046.2	216
FL	Crystal River	1	2013	10/12/2013	19	2370	1.380073371	518	176	1717.3	170
FL	Crystal River	1	2013	10/12/2013	20	1878	1.370602832	530	140	1370.2	121
FL	Crystal River	1	2013	10/12/2013	21	1953	1.359838463	610	147	1436.2	123
FL	Crystal River	1	2013	10/12/2013	22	1917	1.378541637	581	142	1390.6	119
FL	Crystal River	1	2013	10/12/2013	23	2025	1.435762904	605	144	1410.4	119
FL	Crystal River	1	2013	10/13/2013	0	2117	1.516584283	614	143	1395.9	119
FL	Crystal River	1	2013	10/13/2013	1	2222	1.60839667	618	141	1381.5	119
FL	Crystal River	1	2013	10/13/2013	2	2449	1.677971908	661	149	1459.5	119
FL	Crystal River	1	2013	10/13/2013	3	2601	1.719555732	701	155	1512.6	119
FL	Crystal River	1	2013	10/13/2013	4	3053	1.73584262	833	180	1758.8	119

FL	Crystal River	1	2013	10/13/2013	5	3194	1.755427315	855	186	1819.5	119
FL	Crystal River	1	2013	10/13/2013	6	3098	1.766248575	806	180	1754	119
FL	Crystal River	1	2013	10/13/2013	7	2841	1.786680083	729	163	1590.1	121
FL	Crystal River	1	2013	10/13/2013	8	2899	1.794268738	659	165	1615.7	148
FL	Crystal River	1	2013	10/13/2013	9	2531	1.808244624	655	143	1399.7	132
FL	Crystal River	1	2013	10/13/2013	10	2739	1.779149074	688	157	1539.5	147
FL	Crystal River	1	2013	10/13/2013	11	4083	1.779240021	876	235	2294.8	245
FL	Crystal River	1	2013	10/13/2013	12	5351	1.640857379	1072	334	3261.1	352
FL	Crystal River	1	2013	10/13/2013	13	5052	1.589428976	1096	326	3178.5	347
FL	Crystal River	1	2013	10/13/2013	14	4556	1.570330541	1053	297	2901.3	317
FL	Crystal River	1	2013	10/13/2013	15	4986	1.591496696	1058	321	3132.9	340
FL	Crystal River	1	2013	10/13/2013	16	4710	1.612682326	1045	299	2920.6	318
FL	Crystal River	1	2013	10/13/2013	17	5215	1.649585627	1160	324	3161.4	344
FL	Crystal River	1	2013	10/13/2013	18	5369	1.686349645	1197	326	3183.8	347
FL	Crystal River	1	2013	10/13/2013	19	4808	1.6994804	1168	290	2829.1	308
FL	Crystal River	1	2013	10/13/2013	20	2448	1.665532726	749	150	1469.8	138
FL	Crystal River	1	2013	10/13/2013	21	2280	1.675238795	691	139	1361	121
FL	Crystal River	1	2013	10/13/2013	22	2371	1.666901012	715	145	1422.4	120
FL	Crystal River	1	2013	10/13/2013	23	2540	1.652247447	787	157	1537.3	119
FL	Crystal River	1	2013	10/14/2013	0	2641	1.64538035	839	164	1605.1	119
FL	Crystal River	1	2013	10/14/2013	1	2666	1.628688374	890	167	1636.9	120
FL	Crystal River	1	2013	10/14/2013	2	2817	1.648525281	929	175	1708.8	118
FL	Crystal River	1	2013	10/14/2013	3	2907	1.643022664	999	181	1769.3	119
FL	Crystal River	1	2013	10/14/2013	4	2932	1.605783449	989	187	1825.9	120
FL	Crystal River	1	2013	10/14/2013	5	2997	1.606195402	1039	191	1865.9	118
FL	Crystal River	1	2013	10/14/2013	6	3010	1.579969555	1045	195	1905.1	119
FL	Crystal River	1	2013	10/14/2013	7	2851	1.557327798	988	187	1830.7	119
FL	Crystal River	1	2013	10/14/2013	8	2479	1.553452814	876	163	1595.8	120
FL	Crystal River	1	2013	10/14/2013	9	2248	1.556032394	774	148	1444.7	127
FL	Crystal River	1	2013	10/14/2013	10	2379	1.545005845	796	158	1539.8	142
FL	Crystal River	1	2013	10/14/2013	11	2867	1.613938302	934	182	1776.4	177
FL	Crystal River	1	2013	10/14/2013	12	5378	1.713393654	1330	322	3138.8	336
FL	Crystal River	1	2013	10/14/2013	13	5464	1.775813319	1280	315	3076.9	336
FL	Crystal River	1	2013	10/14/2013	14	6248	1.826046294	1348	351	3421.6	369
FL	Crystal River	1	2013	10/14/2013	15	6403	1.880193804	1321	349	3405.5	370

FL	Crystal River	1	2013	10/14/2013	16	6513	1.925271217	1282	347	3382.9	367
FL	Crystal River	1	2013	10/14/2013	17	6486	1.931046802	1246	344	3358.8	364
FL	Crystal River	1	2013	10/14/2013	18	6445	1.908837815	1232	346	3376.4	364
FL	Crystal River	1	2013	10/14/2013	19	5190	1.866772175	1059	285	2780.2	301
FL	Crystal River	1	2013	10/14/2013	20	4899	1.859203036	953	270	2635	283
FL	Crystal River	1	2013	10/14/2013	21	4319	1.84061368	896	240	2346.5	248
FL	Crystal River	1	2013	10/14/2013	22	2960	1.783454841	710	170	1659.7	127
FL	Crystal River	1	2013	10/14/2013	23	3296	1.841546542	735	183	1789.8	119
FL	Crystal River	1	2013	10/15/2013	0	3510	1.890552623	757	190	1856.6	119
FL	Crystal River	1	2013	10/15/2013	1	3684	1.914362918	796	197	1924.4	120
FL	Crystal River	1	2013	10/15/2013	2	3680	1.901022833	797	198	1935.8	120
FL	Crystal River	1	2013	10/15/2013	3	3688	1.888376856	789	200	1953	121
FL	Crystal River	1	2013	10/15/2013	4	3721	1.862828536	787	204	1997.5	125
FL	Crystal River	1	2013	10/15/2013	5	4303	1.854501573	740	238	2320.3	159
FL	Crystal River	1	2013	10/15/2013	6	3533	1.782093317	800	203	1982.5	127
FL	Crystal River	1	2013	10/15/2013	7	3418	1.763128031	785	198	1938.6	120
FL	Crystal River	1	2013	10/15/2013	8	3202	1.754616691	755	187	1824.9	121
FL	Crystal River	1	2013	10/15/2013	9	2872	1.74812831	662	168	1642.9	120
FL	Crystal River	1	2013	10/15/2013	10	2521	1.750816029	596	147	1439.9	120
FL	Crystal River	1	2013	10/15/2013	11	2568	1.757579906	606	149	1461.1	123
FL	Crystal River	1	2013	10/15/2013	12	2522	1.757368824	615	147	1435.1	122
FL	Crystal River	1	2013	10/15/2013	13	2619	1.74112485	628	154	1504.2	132
FL	Crystal River	1	2013	10/15/2013	14	3563	1.772460452	782	206	2010.2	200
FL	Crystal River	1	2013	10/15/2013	15	5338	1.85476025	1171	295	2878	302
FL	Crystal River	1	2013	10/15/2013	16	6020	1.840190744	1256	335	3271.4	347
FL	Crystal River	1	2013	10/15/2013	17	4270	1.809015421	1111	242	2360.4	250
FL	Crystal River	1	2013	10/15/2013	18	4105	1.739333079	899	242	2360.1	229
FL	Crystal River	1	2013	10/15/2013	19	4465	1.734182623	826	264	2574.7	244
FL	Crystal River	1	2013	10/15/2013	20	3039	1.699569375	717	183	1788.1	122
FL	Crystal River	1	2013	10/15/2013	21	3133	1.710432931	694	187	1831.7	120
FL	Crystal River	1	2013	10/15/2013	22	3133	1.741523068	678	184	1799	119
FL	Crystal River	1	2013	10/15/2013	23	3324	1.790658837	705	190	1856.3	119
FL	Crystal River	1	2013	10/16/2013	0	3388	1.833035763	704	189	1848.3	119
FL	Crystal River	1	2013	10/16/2013	1	3462	1.885929073	706	188	1835.7	119
FL	Crystal River	1	2013	10/16/2013	2	3513	1.909446679	719	188	1839.8	119

FL	Crystal River	1	2013	10/16/2013	3	3581	1.937036837	722	189	1848.7	119
FL	Crystal River	1	2013	10/16/2013	4	3689	1.970093458	730	192	1872.5	119
FL	Crystal River	1	2013	10/16/2013	5	3826	1.978078792	760	198	1934.2	119
FL	Crystal River	1	2013	10/16/2013	6	3805	2.010886798	751	194	1892.2	119
FL	Crystal River	1	2013	10/16/2013	7	3626	2.040288094	702	182	1777.2	119
FL	Crystal River	1	2013	10/16/2013	8	3376	1.955514365	842	177	1726.4	119
FL	Crystal River	1	2013	10/16/2013	9	2601	1.878520872	722	142	1384.6	119
FL	Crystal River	1	2013	10/16/2013	10	2458	1.863674274	641	135	1318.9	122
FL	Crystal River	1	2013	10/16/2013	11	3079	1.852587244	741	170	1662	162
FL	Crystal River	1	2013	10/16/2013	12	4714	1.905031319	1163	253	2474.5	264
FL	Crystal River	1	2013	10/16/2013	13	6664	1.981151708	1483	345	3363.7	364
FL	Crystal River	1	2013	10/16/2013	14	7278	2.042144841	1464	365	3563.9	387
FL	Crystal River	1	2013	10/16/2013	15	7475	2.06514532	1469	371	3619.6	390
FL	Crystal River	1	2013	10/16/2013	16	7561	2.114728422	1490	366	3575.4	385
FL	Crystal River	1	2013	10/16/2013	17	7545	2.143953171	1467	361	3519.2	380
FL	Crystal River	1	2013	10/16/2013	18	7610	2.140165364	1450	364	3555.8	380
FL	Crystal River	1	2013	10/16/2013	19	7680	2.165271082	1443	363	3546.9	381
FL	Crystal River	1	2013	10/16/2013	20	7571	2.127821028	1430	365	3558.1	381
FL	Crystal River	1	2013	10/16/2013	21	7338	2.079578303	1386	362	3528.6	381
FL	Crystal River	1	2013	10/16/2013	22	5307	1.954480168	1099	278	2715.3	294
FL	Crystal River	1	2013	10/16/2013	23	2466	1.740296401	566	145	1417	126
FL	Crystal River	1	2013	10/17/2013	0	2123	1.501626821	490	145	1413.8	119
FL	Crystal River	1	2013	10/17/2013	1	1840	1.26122421	482	149	1458.9	119
FL	Crystal River	1	2013	10/17/2013	2	1629	1.081816974	481	154	1505.8	119
FL	Crystal River	1	2013	10/17/2013	3	1482	0.954527889	478	159	1552.6	119
FL	Crystal River	1	2013	10/17/2013	4	1366	0.877271852	468	159	1557.1	119
FL	Crystal River	1	2013	10/17/2013	5	1369	0.828692494	490	169	1652	119
FL	Crystal River	1	2013	10/17/2013	6	1302	0.786231884	483	169	1656	119
FL	Crystal River	1	2013	10/17/2013	7	1203	0.758368531	469	162	1586.3	119
FL	Crystal River	1	2013	10/17/2013	8	1001	0.740275107	396	138	1352.2	121
FL	Crystal River	1	2013	10/17/2013	9	1452	0.788873194	450	188	1840.6	184
FL	Crystal River	1	2013	10/17/2013	10	3021	1.124511446	878	275	2686.5	284
FL	Crystal River	1	2013	10/17/2013	11	4176	1.279529369	1214	334	3263.7	337
FL	Crystal River	1	2013	10/17/2013	12	4931	1.20444553	1473	420	4094	379
FL	Crystal River	1	2013	10/17/2013	13	4359	1.168444754	1298	382	3730.6	372

FL	Crystal River	1	2013	10/17/2013	14	3718	1.109950145	1159	343	3349.7	359
FL	Crystal River	1	2013	10/17/2013	15	3678	1.098369468	1151	343	3348.6	359
FL	Crystal River	1	2013	10/17/2013	16	3831	1.146010949	1166	343	3342.9	356
FL	Crystal River	1	2013	10/17/2013	17	3979	1.203569268	1183	339	3306	352
FL	Crystal River	1	2013	10/17/2013	18	4205	1.266871535	1208	340	3319.2	354
FL	Crystal River	1	2013	10/17/2013	19	4469	1.339628297	1217	342	3336	354
FL	Crystal River	1	2013	10/17/2013	20	4753	1.42831385	1231	341	3327.7	354
FL	Crystal River	1	2013	10/17/2013	21	3911	1.460963765	1003	274	2677	290
FL	Crystal River	1	2013	10/17/2013	22	2070	1.547085202	524	137	1338	125
FL	Crystal River	1	2013	10/17/2013	23	1997	1.515404462	471	135	1317.8	119
FL	Crystal River	1	2013	10/18/2013	0	1979	1.514618093	471	134	1306.6	119
FL	Crystal River	1	2013	10/18/2013	1	2062	1.493986379	488	141	1380.2	119
FL	Crystal River	1	2013	10/18/2013	2	1985	1.510079878	465	134	1314.5	119
FL	Crystal River	1	2013	10/18/2013	3	1947	1.496771218	454	133	1300.8	119
FL	Crystal River	1	2013	10/18/2013	4	1958	1.514307811	452	132	1293	119
FL	Crystal River	1	2013	10/18/2013	5	2380	1.524175472	485	160	1561.5	152
FL	Crystal River	1	2013	10/18/2013	6	2614	1.539639534	536	174	1697.8	177
FL	Crystal River	1	2013	10/18/2013	7	2008	1.505811774	500	136	1333.5	124
FL	Crystal River	1	2013	10/18/2013	8	2699	1.525720746	523	181	1769	180
FL	Crystal River	1	2013	10/18/2013	9	4247	1.500600664	823	290	2830.2	301
FL	Crystal River	1	2013	10/18/2013	10	5230	1.492281793	1247	359	3504.7	376
FL	Crystal River	1	2013	10/18/2013	11	5300	1.509240539	1253	360	3511.7	380
FL	Crystal River	1	2013	10/18/2013	12	5141	1.531153205	1191	344	3357.6	359
FL	Crystal River	1	2013	10/18/2013	13	5361	1.556846232	1229	353	3443.5	370
FL	Crystal River	1	2013	10/18/2013	14	5352	1.561032522	1230	351	3428.5	367
FL	Crystal River	1	2013	10/18/2013	15	5343	1.574944731	1207	348	3392.5	364
FL	Crystal River	1	2013	10/18/2013	16	5316	1.574131651	1148	346	3377.1	362
FL	Crystal River	1	2013	10/18/2013	17	5066	1.593332285	1071	326	3179.5	341
FL	Crystal River	1	2013	10/18/2013	18	5112	1.608660079	1118	326	3177.8	340
FL	Crystal River	1	2013	10/18/2013	19	5036	1.62033462	1087	318	3108	334
FL	Crystal River	1	2013	10/18/2013	20	4931	1.636357603	1033	309	3013.4	322
FL	Crystal River	1	2013	10/18/2013	21	4396	1.627244124	967	277	2701.5	289
FL	Crystal River	1	2013	10/18/2013	22	2756	1.605125218	657	176	1717	175
FL	Crystal River	1	2013	10/18/2013	23	2087	1.577237001	471	135	1323.2	119
FL	Crystal River	1	2013	10/19/2013	0	2069	1.575540664	449	134	1313.2	120

FL	Crystal River	1	2013	10/19/2013	1	2089	1.57387177	442	136	1327.3	119
FL	Crystal River	1	2013	10/19/2013	2	2110	1.572514533	433	137	1341.8	119
FL	Crystal River	1	2013	10/19/2013	3	2109	1.561297009	440	138	1350.8	119
FL	Crystal River	1	2013	10/19/2013	4	2136	1.572901325	453	139	1358	119
FL	Crystal River	1	2013	10/19/2013	5	2382	1.583250249	484	154	1504.5	131
FL	Crystal River	1	2013	10/19/2013	6	2247	1.580391054	472	145	1421.8	122
FL	Crystal River	1	2013	10/19/2013	7	2492	1.58524173	429	161	1572	145
FL	Crystal River	1	2013	10/19/2013	8	3606	1.591420628	561	232	2265.9	236
FL	Crystal River	1	2013	10/19/2013	9	4365	1.61493211	827	277	2702.9	288
FL	Crystal River	1	2013	10/19/2013	10	4312	1.624901082	825	272	2653.7	285
FL	Crystal River	1	2013	10/19/2013	11	4685	1.611294538	959	298	2907.6	310
FL	Crystal River	1	2013	10/19/2013	12	5509	1.618104917	1195	349	3404.6	362
FL	Crystal River	1	2013	10/19/2013	13	5041	1.601029029	1161	323	3148.6	336
FL	Crystal River	1	2013	10/19/2013	14	5583	1.587432471	1206	360	3517	373
FL	Crystal River	1	2013	10/19/2013	15	5338	1.560590557	1231	350	3420.5	362
FL	Crystal River	1	2013	10/19/2013	16	4311	1.551277438	956	285	2779	298
FL	Crystal River	1	2013	10/19/2013	17	4430	1.579435254	956	287	2804.8	299
FL	Crystal River	1	2013	10/19/2013	18	5648	1.624996404	1195	356	3475.7	368
FL	Crystal River	1	2013	10/19/2013	19	5654	1.628503125	1256	356	3471.9	369
FL	Crystal River	1	2013	10/19/2013	20	5256	1.628051047	1194	331	3228.4	344
FL	Crystal River	1	2013	10/19/2013	21	4169	1.607790204	905	266	2593	279
FL	Crystal River	1	2013	10/19/2013	22	2303	1.561355932	482	151	1475	141
FL	Crystal River	1	2013	10/19/2013	23	2029	1.539336924	446	135	1318.1	119
FL	Crystal River	1	2013	10/20/2013	0	2034	1.560174887	439	133	1303.7	119
FL	Crystal River	1	2013	10/20/2013	1	2038	1.565524658	441	133	1301.8	119
FL	Crystal River	1	2013	10/20/2013	2	2072	1.554621849	451	136	1332.8	119
FL	Crystal River	1	2013	10/20/2013	3	2095	1.539083162	458	139	1361.2	120
FL	Crystal River	1	2013	10/20/2013	4	2155	1.516217547	464	145	1421.3	120
FL	Crystal River	1	2013	10/20/2013	5	2274	1.484915763	508	157	1531.4	119
FL	Crystal River	1	2013	10/20/2013	6	2245	1.447733282	525	159	1550.7	119
FL	Crystal River	1	2013	10/20/2013	7	2367	1.404831147	574	172	1684.9	119
FL	Crystal River	1	2013	10/20/2013	8	2474	1.397424311	524	181	1770.4	151
FL	Crystal River	1	2013	10/20/2013	9	2745	1.398013751	606	201	1963.5	184
FL	Crystal River	1	2013	10/20/2013	10	2036	1.378749915	518	151	1476.7	128
FL	Crystal River	1	2013	10/20/2013	11	2077	1.370957096	515	155	1515	136

FL	Crystal River	1	2013	10/20/2013	12	3950	1.442079515	819	281	2739.1	283
FL	Crystal River	1	2013	10/20/2013	13	5562	1.542942743	1304	369	3604.8	382
FL	Crystal River	1	2013	10/20/2013	14	5561	1.581806804	1293	360	3515.6	374
FL	Crystal River	1	2013	10/20/2013	15	5542	1.584198039	1280	358	3498.3	372
FL	Crystal River	1	2013	10/20/2013	16	5253	1.577524851	1232	341	3329.9	354
FL	Crystal River	1	2013	10/20/2013	17	4971	1.562519645	1158	326	3181.4	340
FL	Crystal River	1	2013	10/20/2013	18	5161	1.566217529	1159	338	3295.2	350
FL	Crystal River	1	2013	10/20/2013	19	5079	1.563346466	1163	333	3248.8	344
FL	Crystal River	1	2013	10/20/2013	20	4238	1.599064257	877	271	2650.3	281
FL	Crystal River	1	2013	10/20/2013	21	3353	1.639849367	635	209	2044.7	208
FL	Crystal River	1	2013	10/20/2013	22	2583	1.665377176	490	159	1551	128
FL	Crystal River	1	2013	10/20/2013	23	2641	1.677784131	516	161	1574.1	120
FL	Crystal River	1	2013	10/21/2013	0	2737	1.698839302	534	165	1611.1	120
FL	Crystal River	1	2013	10/21/2013	1	2794	1.694976947	557	169	1648.4	120
FL	Crystal River	1	2013	10/21/2013	2	2723	1.679930903	640	166	1620.9	111
FL	Crystal River	1	2013	10/21/2013	3	2586	1.666988977	705	159	1551.3	102
FL	Crystal River	1	2013	10/21/2013	4	2610	1.675439723	688	159	1557.8	103
FL	Crystal River	1	2013	10/21/2013	5	2581	1.654805411	684	160	1559.7	103
FL	Crystal River	1	2013	10/21/2013	6	2512	1.629581576	670	158	1541.5	103
FL	Crystal River	1	2013	10/21/2013	7	2313	1.603910963	624	148	1442.1	103
FL	Crystal River	1	2013	10/21/2013	8	2163	1.581834138	518	140	1367.4	112
FL	Crystal River	1	2013	10/21/2013	9	2605	1.5911312	501	168	1637.2	144
FL	Crystal River	1	2013	10/21/2013	10	3351	1.59275631	658	215	2103.9	201
FL	Crystal River	1	2013	10/21/2013	11	3306	1.557450417	870	217	2122.7	210
FL	Crystal River	1	2013	10/21/2013	12	3007	1.540866001	647	200	1951.5	186
FL	Crystal River	1	2013	10/21/2013	13	3033	1.539750228	693	202	1969.8	189
FL	Crystal River	1	2013	10/21/2013	14	3285	1.531682753	757	220	2144.7	214
FL	Crystal River	1	2013	10/21/2013	15	5559	1.560683905	1346	365	3561.9	371
FL	Crystal River	1	2013	10/21/2013	16	5754	1.579987918	1380	373	3641.8	384
FL	Crystal River	1	2013	10/21/2013	17	5619	1.563221589	1319	368	3594.5	378
FL	Crystal River	1	2013	10/21/2013	18	5485	1.546202853	1309	364	3547.4	374
FL	Crystal River	1	2013	10/21/2013	19	5074	1.523769483	1225	341	3329.9	349
FL	Crystal River	1	2013	10/21/2013	20	4337	1.507263502	992	295	2877.4	303
FL	Crystal River	1	2013	10/21/2013	21	3852	1.49186677	919	264	2582	272
FL	Crystal River	1	2013	10/21/2013	22	2424	1.38593482	531	179	1749	170

FL	Crystal River	1	2013	10/21/2013	23	1913	1.359340581	463	144	1407.3	120
FL	Crystal River	1	2013	10/22/2013	0	1899	1.370426499	460	142	1385.7	119
FL	Crystal River	1	2013	10/22/2013	1	1921	1.361542278	471	144	1410.9	119
FL	Crystal River	1	2013	10/22/2013	2	1888	1.349438925	498	143	1399.1	120
FL	Crystal River	1	2013	10/22/2013	3	1913	1.352039013	498	145	1414.9	120
FL	Crystal River	1	2013	10/22/2013	4	1943	1.337509465	462	149	1452.7	126
FL	Crystal River	1	2013	10/22/2013	5	2277	1.338466964	474	174	1701.2	150
FL	Crystal River	1	2013	10/22/2013	6	1956	1.316994344	494	152	1485.2	122
FL	Crystal River	1	2013	10/22/2013	7	1929	1.314122215	477	150	1467.9	119
FL	Crystal River	1	2013	10/22/2013	8	1975	1.319657891	462	153	1496.6	133
FL	Crystal River	1	2013	10/22/2013	9	3855	1.421040991	781	278	2712.8	275
FL	Crystal River	1	2013	10/22/2013	10	5066	1.484890231	1262	350	3411.7	358
FL	Crystal River	1	2013	10/22/2013	11	5331	1.482315649	1309	369	3596.4	379
FL	Crystal River	1	2013	10/22/2013	12	5213	1.460510464	1299	366	3569.3	375
FL	Crystal River	1	2013	10/22/2013	13	5091	1.439558886	1273	362	3536.5	369
FL	Crystal River	1	2013	10/22/2013	14	5152	1.450818056	1281	364	3551.1	369
FL	Crystal River	1	2013	10/22/2013	15	5111	1.458785249	1268	359	3503.6	364
FL	Crystal River	1	2013	10/22/2013	16	5040	1.477442617	1275	350	3411.3	358
FL	Crystal River	1	2013	10/22/2013	17	5042	1.469413925	1273	352	3431.3	359
FL	Crystal River	1	2013	10/22/2013	18	4983	1.454338499	1284	351	3426.3	359
FL	Crystal River	1	2013	10/22/2013	19	4850	1.447631555	1266	343	3350.3	354
FL	Crystal River	1	2013	10/22/2013	20	4259	1.436715693	1123	304	2964.4	314
FL	Crystal River	1	2013	10/22/2013	21	3822	1.427024605	969	274	2678.3	284
FL	Crystal River	1	2013	10/22/2013	22	2119	1.39352887	533	156	1520.6	138
FL	Crystal River	1	2013	10/22/2013	23	1969	1.412887486	480	143	1393.6	119
FL	Crystal River	1	2013	10/23/2013	0	2121	1.435532995	515	151	1477.5	119
FL	Crystal River	1	2013	10/23/2013	1	2275	1.460674157	548	159	1557.5	119
FL	Crystal River	1	2013	10/23/2013	2	2568	1.475777254	600	178	1740.1	119
FL	Crystal River	1	2013	10/23/2013	3	2682	1.496317786	652	183	1792.4	119
FL	Crystal River	1	2013	10/23/2013	4	2826	1.497774009	692	193	1886.8	127
FL	Crystal River	1	2013	10/23/2013	5	3543	1.515851624	670	239	2337.3	174
FL	Crystal River	1	2013	10/23/2013	6	3052	1.511115512	807	207	2019.7	143
FL	Crystal River	1	2013	10/23/2013	7	2637	1.456101601	807	185	1811	121
FL	Crystal River	1	2013	10/23/2013	8	2364	1.445429532	796	167	1635.5	123
FL	Crystal River	1	2013	10/23/2013	9	2229	1.46770264	757	155	1518.7	121

FL	Crystal River	1	2013	10/23/2013	10	2075	1.475293281	697	144	1406.5	119
FL	Crystal River	1	2013	10/23/2013	11	2491	1.498886816	714	170	1661.9	158
FL	Crystal River	1	2013	10/23/2013	12	2469	1.51305307	703	167	1631.8	150
FL	Crystal River	1	2013	10/23/2013	13	2334	1.516864886	661	157	1538.7	143
FL	Crystal River	1	2013	10/23/2013	14	3379	1.518719942	1054	228	2224.9	230
FL	Crystal River	1	2013	10/23/2013	15	4717	1.530350712	1192	316	3082.3	322
FL	Crystal River	1	2013	10/23/2013	16	4248	1.518987342	1331	286	2796.6	301
FL	Crystal River	1	2013	10/23/2013	17	2805	1.507416165	671	190	1860.8	187
FL	Crystal River	1	2013	10/23/2013	18	3199	1.495069402	554	219	2139.7	214
FL	Crystal River	1	2013	10/23/2013	19	2728	1.49832482	588	186	1820.7	173
FL	Crystal River	1	2013	10/23/2013	20	2521	1.4737519	715	175	1710.6	120
FL	Crystal River	1	2013	10/23/2013	21	2862	1.4550816	767	201	1966.9	125
FL	Crystal River	1	2013	10/23/2013	22	2980	1.462863875	802	209	2037.1	122
FL	Crystal River	1	2013	10/23/2013	23	2990	1.45103368	797	211	2060.6	119
FL	Crystal River	1	2013	10/24/2013	0	3007	1.436556469	791	214	2093.2	119
FL	Crystal River	1	2013	10/24/2013	1	3004	1.438421758	799	214	2088.4	119
FL	Crystal River	1	2013	10/24/2013	2	2890	1.430126683	790	207	2020.8	119
FL	Crystal River	1	2013	10/24/2013	3	2855	1.425789053	784	205	2002.4	119
FL	Crystal River	1	2013	10/24/2013	4	2877	1.431628185	775	206	2009.6	119
FL	Crystal River	1	2013	10/24/2013	5	2932	1.431221322	778	210	2048.6	119
FL	Crystal River	1	2013	10/24/2013	6	2900	1.44739469	795	205	2003.6	119
FL	Crystal River	1	2013	10/24/2013	7	2967	1.44830616	813	210	2048.6	119
FL	Crystal River	1	2013	10/24/2013	8	2994	1.453256965	811	211	2060.2	119
FL	Crystal River	1	2013	10/24/2013	9	3065	1.451643459	836	216	2111.4	121
FL	Crystal River	1	2013	10/24/2013	10	3114	1.446152417	848	220	2153.3	120
FL	Crystal River	1	2013	10/24/2013	11	2833	1.449475569	775	200	1954.5	121
FL	Crystal River	1	2013	10/24/2013	12	2593	1.450548221	716	183	1787.6	120
FL	Crystal River	1	2013	10/24/2013	13	2605	1.442094774	720	185	1806.4	121
FL	Crystal River	1	2013	10/24/2013	14	2612	1.444210992	714	185	1808.6	121
FL	Crystal River	1	2013	10/24/2013	15	2809	1.446372483	765	199	1942.1	121
FL	Crystal River	1	2013	10/24/2013	16	2901	1.44839982	795	205	2002.9	119
FL	Crystal River	1	2013	10/24/2013	17	3128	1.459363628	827	219	2143.4	128
FL	Crystal River	1	2013	10/24/2013	18	3642	1.459368489	801	256	2495.6	165
FL	Crystal River	1	2013	10/24/2013	19	3020	1.464597478	930	211	2062	119
FL	Crystal River	1	2013	10/24/2013	20	3125	1.466103683	895	218	2131.5	121

FL	Crystal River	1	2013	10/24/2013	21	3325	1.478566346	877	230	2248.8	132
FL	Crystal River	1	2013	10/24/2013	22	3195	1.475069252	937	222	2166	120
FL	Crystal River	1	2013	10/24/2013	23	3227	1.479257392	951	223	2181.5	119
FL	Crystal River	1	2013	10/25/2013	0	3196	1.444715668	1061	227	2212.2	121
FL	Crystal River	1	2013	10/25/2013	1	3278	1.466929204	1224	229	2234.6	123
FL	Crystal River	1	2013	10/25/2013	2	3259	1.460976375	1073	228	2230.7	123
FL	Crystal River	1	2013	10/25/2013	3	3254	1.459781975	1074	228	2229.1	123
FL	Crystal River	1	2013	10/25/2013	4	3330	1.457968476	1075	234	2284	129
FL	Crystal River	1	2013	10/25/2013	5	3184	1.449644873	1131	225	2196.4	123
FL	Crystal River	1	2013	10/25/2013	6	3138	1.442427028	1129	223	2175.5	123
FL	Crystal River	1	2013	10/25/2013	7	2942	1.451406019	1043	208	2027	121
FL	Crystal River	1	2013	10/25/2013	8	2881	1.437122762	890	205	2004.7	155
FL	Crystal River	1	2013	10/25/2013	9	2487	1.436907788	813	177	1730.8	149
FL	Crystal River	1	2013	10/25/2013	10	1980	1.41783029	695	143	1396.5	126
FL	Crystal River	1	2013	10/25/2013	11	1597	1.416533617	573	115	1127.4	121
FL	Crystal River	1	2013	10/25/2013	12	1657	1.409732857	595	120	1175.4	122
FL	Crystal River	1	2013	10/25/2013	13	2066	1.418663737	687	149	1456.3	142
FL	Crystal River	1	2013	10/25/2013	14	3230	1.446419775	937	229	2233.1	231
FL	Crystal River	1	2013	10/25/2013	15	2852	1.46414087	697	199	1947.9	204
FL	Crystal River	1	2013	10/25/2013	16	1823	1.449586514	554	129	1257.6	122
FL	Crystal River	1	2013	10/25/2013	17	1968	1.445889354	577	139	1361.1	119
FL	Crystal River	1	2013	10/25/2013	18	2509	1.436669721	724	179	1746.4	119
FL	Crystal River	1	2013	10/25/2013	19	2795	1.441985245	810	198	1938.3	119
FL	Crystal River	1	2013	10/25/2013	20	2981	1.434345378	864	213	2078.3	119
FL	Crystal River	1	2013	10/25/2013	21	3083	1.442339181	863	219	2137.5	119
FL	Crystal River	1	2013	10/25/2013	22	3111	1.432650242	862	222	2171.5	119
FL	Crystal River	1	2013	10/25/2013	23	3079	1.434160883	858	220	2146.9	119
FL	Crystal River	1	2013	10/26/2013	0	3039	1.436064644	846	217	2116.2	119
FL	Crystal River	1	2013	10/26/2013	1	2996	1.432670237	836	214	2091.2	119
FL	Crystal River	1	2013	10/26/2013	2	2961	1.429260993	830	212	2071.7	119
FL	Crystal River	1	2013	10/26/2013	3	2863	1.420632164	832	206	2015.3	119
FL	Crystal River	1	2013	10/26/2013	4	2756	1.430202387	805	197	1927	119
FL	Crystal River	1	2013	10/26/2013	5	2768	1.429678219	813	198	1936.1	119
FL	Crystal River	1	2013	10/26/2013	6	2740	1.430435918	800	196	1915.5	119
FL	Crystal River	1	2013	10/26/2013	7	2829	1.425404343	811	203	1984.7	123

FL	Crystal River	1	2013	10/26/2013	8	2984	1.412745005	832	216	2112.2	130
FL	Crystal River	1	2013	10/26/2013	9	2920	1.40014385	848	214	2085.5	120
FL	Crystal River	1	2013	10/26/2013	10	2624	1.403433706	755	191	1869.7	119
FL	Crystal River	1	2013	10/26/2013	11	2252	1.393133313	651	165	1616.5	120
FL	Crystal River	1	2013	10/26/2013	12	1850	1.386806597	567	136	1334	129
FL	Crystal River	1	2013	10/26/2013	13	1894	1.379461034	568	140	1373	122
FL	Crystal River	1	2013	10/26/2013	14	2439	1.35839599	721	184	1795.5	127
FL	Crystal River	1	2013	10/26/2013	15	2346	1.347501436	739	178	1741	122
FL	Crystal River	1	2013	10/26/2013	16	2500	1.320097159	808	194	1893.8	119
FL	Crystal River	1	2013	10/26/2013	17	2736	1.302299015	890	215	2100.9	120
FL	Crystal River	1	2013	10/26/2013	18	3555	1.31069572	819	278	2712.3	188
FL	Crystal River	1	2013	10/26/2013	19	2706	1.309143687	940	212	2067	121
FL	Crystal River	1	2013	10/26/2013	20	2802	1.317410315	893	218	2126.9	120
FL	Crystal River	1	2013	10/26/2013	21	3016	1.362055729	885	227	2214.3	132
FL	Crystal River	1	2013	10/26/2013	22	2938	1.365431984	875	220	2151.7	123
FL	Crystal River	1	2013	10/26/2013	23	2912	1.377874515	862	216	2113.4	119
FL	Crystal River	1	2013	10/27/2013	0	2951	1.390931373	878	217	2121.6	119
FL	Crystal River	1	2013	10/27/2013	1	2978	1.409103814	866	216	2113.4	120
FL	Crystal River	1	2013	10/27/2013	2	2955	1.409693732	855	215	2096.2	119
FL	Crystal River	1	2013	10/27/2013	3	2945	1.401580049	851	215	2101.2	119
FL	Crystal River	1	2013	10/27/2013	4	2919	1.383805822	837	216	2109.4	119
FL	Crystal River	1	2013	10/27/2013	5	2944	1.394005398	849	216	2111.9	120
FL	Crystal River	1	2013	10/27/2013	6	2910	1.393344506	847	214	2088.5	120
FL	Crystal River	1	2013	10/27/2013	7	2992	1.415594247	847	216	2113.6	120
FL	Crystal River	1	2013	10/27/2013	8	3015	1.421097285	848	217	2121.6	121
FL	Crystal River	1	2013	10/27/2013	9	2763	1.418377823	790	199	1948	120
FL	Crystal River	1	2013	10/27/2013	10	2555	1.410511207	735	185	1811.4	120
FL	Crystal River	1	2013	10/27/2013	11	2354	1.411609499	665	171	1667.6	124
FL	Crystal River	1	2013	10/27/2013	12	2292	1.415688697	660	166	1619	122
FL	Crystal River	1	2013	10/27/2013	13	2069	1.412961825	534	150	1464.3	125
FL	Crystal River	1	2013	10/27/2013	14	2279	1.440490487	607	162	1582.1	136
FL	Crystal River	1	2013	10/27/2013	15	2080	1.448871552	608	147	1435.6	124
FL	Crystal River	1	2013	10/27/2013	16	2040	1.43783479	603	145	1418.8	121
FL	Crystal River	1	2013	10/27/2013	17	2351	1.426750819	693	169	1647.8	123
FL	Crystal River	1	2013	10/27/2013	18	3548	1.454396393	702	250	2439.5	193

FL	Crystal River	1	2013	10/27/2013	19	2844	1.445342278	852	201	1967.7	126
FL	Crystal River	1	2013	10/27/2013	20	2928	1.448429384	847	207	2021.5	119
FL	Crystal River	1	2013	10/27/2013	21	3311	1.461229534	849	232	2265.9	143
FL	Crystal River	1	2013	10/27/2013	22	3083	1.45014111	890	218	2126	119
FL	Crystal River	1	2013	10/27/2013	23	3163	1.486721504	887	218	2127.5	119
FL	Crystal River	1	2013	10/28/2013	0	3158	1.483464863	887	218	2128.8	119
FL	Crystal River	1	2013	10/28/2013	1	3145	1.476525822	886	218	2130	119
FL	Crystal River	1	2013	10/28/2013	2	3158	1.470204842	867	220	2148	119
FL	Crystal River	1	2013	10/28/2013	3	3158	1.48061325	878	218	2132.9	119
FL	Crystal River	1	2013	10/28/2013	4	3147	1.47850599	874	218	2128.5	119
FL	Crystal River	1	2013	10/28/2013	5	3138	1.474970623	880	218	2127.5	119
FL	Crystal River	1	2013	10/28/2013	6	3085	1.465001425	867	216	2105.8	119
FL	Crystal River	1	2013	10/28/2013	7	3067	1.472042237	858	213	2083.5	119
FL	Crystal River	1	2013	10/28/2013	8	2995	1.469145492	827	209	2038.6	120
FL	Crystal River	1	2013	10/28/2013	9	2629	1.449922788	741	186	1813.2	123
FL	Crystal River	1	2013	10/28/2013	10	2294	1.441769845	652	163	1591.1	121
FL	Crystal River	1	2013	10/28/2013	11	1960	1.451314328	545	138	1350.5	132
FL	Crystal River	1	2013	10/28/2013	12	2532	1.462822809	526	177	1730.9	179
FL	Crystal River	1	2013	10/28/2013	13	3958	1.497937403	795	271	2642.3	281
FL	Crystal River	1	2013	10/28/2013	14	5216	1.531010596	1264	349	3406.9	367
FL	Crystal River	1	2013	10/28/2013	15	5273	1.519290057	1322	356	3470.7	379
FL	Crystal River	1	2013	10/28/2013	16	5208	1.517438303	1287	352	3432.1	373
FL	Crystal River	1	2013	10/28/2013	17	4155	1.505325701	960	283	2760.2	302
FL	Crystal River	1	2013	10/28/2013	18	5004	1.531118047	1127	335	3268.2	349
FL	Crystal River	1	2013	10/28/2013	19	4351	1.519575315	964	293	2863.3	308
FL	Crystal River	1	2013	10/28/2013	20	3616	1.506415597	691	246	2400.4	214
FL	Crystal River	1	2013	10/28/2013	21	3057	1.472472424	795	213	2076.1	130
FL	Crystal River	1	2013	10/28/2013	22	3185	1.476519401	811	221	2157.1	131
FL	Crystal River	1	2013	10/28/2013	23	3079	1.481713186	845	213	2078	119
FL	Crystal River	1	2013	10/29/2013	0	3129	1.485613902	844	216	2106.2	120
FL	Crystal River	1	2013	10/29/2013	1	3168	1.507781638	840	215	2101.1	119
FL	Crystal River	1	2013	10/29/2013	2	3189	1.515756452	835	215	2103.9	119
FL	Crystal River	1	2013	10/29/2013	3	3228	1.528988253	844	216	2111.2	120
FL	Crystal River	1	2013	10/29/2013	4	3213	1.524844573	836	216	2107.1	120
FL	Crystal River	1	2013	10/29/2013	5	3467	1.53570163	799	231	2257.6	135

FL	Crystal River	1	2013	10/29/2013	6	3398	1.530975445	816	227	2219.5	130
FL	Crystal River	1	2013	10/29/2013	7	3190	1.541137253	817	212	2069.9	120
FL	Crystal River	1	2013	10/29/2013	8	3240	1.53663742	757	216	2108.5	131
FL	Crystal River	1	2013	10/29/2013	9	2726	1.551684882	655	180	1756.8	125
FL	Crystal River	1	2013	10/29/2013	10	2336	1.576886729	576	152	1481.4	121
FL	Crystal River	1	2013	10/29/2013	11	2276	1.591831025	517	146	1429.8	138
FL	Crystal River	1	2013	10/29/2013	12	4154	1.599353174	766	266	2597.3	271
FL	Crystal River	1	2013	10/29/2013	13	5574	1.602276647	1301	356	3478.8	373
FL	Crystal River	1	2013	10/29/2013	14	5758	1.607078065	1361	367	3582.9	388
FL	Crystal River	1	2013	10/29/2013	15	5750	1.600467615	1358	368	3592.7	392
FL	Crystal River	1	2013	10/29/2013	16	5183	1.601421288	1239	332	3236.5	356
FL	Crystal River	1	2013	10/29/2013	17	4060	1.57132905	922	265	2583.8	284
FL	Crystal River	1	2013	10/29/2013	18	5585	1.60010314	1249	358	3490.4	375
FL	Crystal River	1	2013	10/29/2013	19	5429	1.595075802	1293	349	3403.6	366
FL	Crystal River	1	2013	10/29/2013	20	3095	1.544873715	783	205	2003.4	182
FL	Crystal River	1	2013	10/29/2013	21	3034	1.533329964	831	203	1978.7	119
FL	Crystal River	1	2013	10/29/2013	22	3300	1.540544326	824	219	2142.1	130
FL	Crystal River	1	2013	10/29/2013	23	3222	1.543251269	858	214	2087.8	119
FL	Crystal River	1	2013	10/30/2013	0	3230	1.534441805	865	216	2105	119
FL	Crystal River	1	2013	10/30/2013	1	3206	1.528413425	851	215	2097.6	119
FL	Crystal River	1	2013	10/30/2013	2	3211	1.52657602	851	215	2103.4	119
FL	Crystal River	1	2013	10/30/2013	3	3240	1.537804357	857	216	2106.9	119
FL	Crystal River	1	2013	10/30/2013	4	3244	1.546529367	849	215	2097.6	120
FL	Crystal River	1	2013	10/30/2013	5	3792	1.544602851	758	251	2455	159
FL	Crystal River	1	2013	10/30/2013	6	3334	1.516143702	859	225	2199	136
FL	Crystal River	1	2013	10/30/2013	7	3085	1.492429007	849	212	2067.1	120
FL	Crystal River	1	2013	10/30/2013	8	2858	1.464214355	769	200	1951.9	124
FL	Crystal River	1	2013	10/30/2013	9	2362	1.448635388	647	167	1630.5	123
FL	Crystal River	1	2013	10/30/2013	10	2847	1.467979788	591	199	1939.4	200
FL	Crystal River	1	2013	10/30/2013	11	5188	1.536092852	1158	346	3377.4	364
FL	Crystal River	1	2013	10/30/2013	12	4009	1.531965302	1010	268	2616.9	289
FL	Crystal River	1	2013	10/30/2013	13	4779	1.567090766	1058	312	3049.6	332
FL	Crystal River	1	2013	10/30/2013	14	5455	1.577182178	1342	354	3458.7	375
FL	Crystal River	1	2013	10/30/2013	15	5572	1.57387792	1377	363	3540.3	386
FL	Crystal River	1	2013	10/30/2013	16	5383	1.556500116	1348	354	3458.4	376

FL	Crystal River	1	2013	10/30/2013	17	4836	1.543322164	1137	321	3133.5	342
FL	Crystal River	1	2013	10/30/2013	18	5597	1.549814476	1361	370	3611.4	390
FL	Crystal River	1	2013	10/30/2013	19	5462	1.553823396	1332	360	3515.2	378
FL	Crystal River	1	2013	10/30/2013	20	4788	1.570247934	1234	312	3049.2	330
FL	Crystal River	1	2013	10/30/2013	21	2767	1.536112807	727	184	1801.3	162
FL	Crystal River	1	2013	10/30/2013	22	2651	1.538595473	713	176	1723	119
FL	Crystal River	1	2013	10/30/2013	23	2906	1.540745454	762	193	1886.1	119
FL	Crystal River	1	2013	10/31/2013	0	3029	1.549281367	787	200	1955.1	119
FL	Crystal River	1	2013	10/31/2013	1	3049	1.559032571	792	200	1955.7	119
FL	Crystal River	1	2013	10/31/2013	2	3019	1.571904613	779	197	1920.6	119
FL	Crystal River	1	2013	10/31/2013	3	3037	1.590468709	771	195	1909.5	119
FL	Crystal River	1	2013	10/31/2013	4	2995	1.602461209	755	191	1869	119
FL	Crystal River	1	2013	10/31/2013	5	3085	1.598362779	774	198	1930.1	119
FL	Crystal River	1	2013	10/31/2013	6	3097	1.60300207	763	198	1932	119
FL	Crystal River	1	2013	10/31/2013	7	2963	1.582968266	724	192	1871.8	119
FL	Crystal River	1	2013	10/31/2013	8	2462	1.57005293	611	160	1568.1	119
FL	Crystal River	1	2013	10/31/2013	9	3190	1.576710162	582	207	2023.2	208
FL	Crystal River	1	2013	10/31/2013	10	5407	1.603879924	1132	345	3371.2	360
FL	Crystal River	1	2013	10/31/2013	11	5643	1.63149069	1331	354	3458.8	375
FL	Crystal River	1	2013	10/31/2013	12	5028	1.642439486	1129	314	3061.3	333
FL	Crystal River	1	2013	10/31/2013	13	4303	1.642303729	969	268	2620.1	288
FL	Crystal River	1	2013	10/31/2013	14	5703	1.676613259	1190	349	3401.5	367
FL	Crystal River	1	2013	10/31/2013	15	5951	1.68131092	1337	363	3539.5	386
FL	Crystal River	1	2013	10/31/2013	16	5364	1.65955077	1273	331	3232.2	350
FL	Crystal River	1	2013	10/31/2013	17	4542	1.643865364	967	283	2763	303
FL	Crystal River	1	2013	10/31/2013	18	3869	1.647153987	859	241	2348.9	255
FL	Crystal River	1	2013	10/31/2013	19	3539	1.680117736	697	216	2106.4	223
FL	Crystal River	1	2013	10/31/2013	20	3103	1.761566846	569	180	1761.5	182
FL	Crystal River	1	2013	10/31/2013	21	2293	1.807931877	528	130	1268.3	122
FL	Crystal River	1	2013	10/31/2013	22	2393	1.845596175	538	133	1296.6	121
FL	Crystal River	1	2013	10/31/2013	23	2600	1.897533207	564	140	1370.2	122
FL	Crystal River	1	2013	11/1/2013	0	2943	1.921645446	641	157	1531.5	120
FL	Crystal River	1	2013	11/1/2013	1	3032	1.937256405	648	160	1565.1	120
FL	Crystal River	1	2013	11/1/2013	2	3217	1.924043062	688	171	1672	120
FL	Crystal River	1	2013	11/1/2013	3	3452	1.901195131	739	186	1815.7	121

FL	Crystal River	1	2013	11/1/2013	4	3524	1.876664181	747	192	1877.8	126
FL	Crystal River	1	2013	11/1/2013	5	3781	1.860911507	709	208	2031.8	139
FL	Crystal River	1	2013	11/1/2013	6	3384	1.80692012	739	192	1872.8	121
FL	Crystal River	1	2013	11/1/2013	7	3255	1.791710244	737	186	1816.7	120
FL	Crystal River	1	2013	11/1/2013	8	3555	1.779724656	647	204	1997.5	176
FL	Crystal River	1	2013	11/1/2013	9	4815	1.721487308	878	287	2797	290
FL	Crystal River	1	2013	11/1/2013	10	6120	1.701512456	1420	369	3596.8	383
FL	Crystal River	1	2013	11/1/2013	11	6041	1.677030703	1440	369	3602.2	389
FL	Crystal River	1	2013	11/1/2013	12	4911	1.64148673	1238	307	2991.8	324
FL	Crystal River	1	2013	11/1/2013	13	6016	1.682938428	1415	366	3574.7	382
FL	Crystal River	1	2013	11/1/2013	14	6284	1.749881652	1447	368	3591.1	386
FL	Crystal River	1	2013	11/1/2013	15	6408	1.784809069	1446	368	3590.3	386
FL	Crystal River	1	2013	11/1/2013	16	6410	1.795518207	1453	366	3570	382
FL	Crystal River	1	2013	11/1/2013	17	6487	1.789319799	1461	372	3625.4	388
FL	Crystal River	1	2013	11/1/2013	18	6414	1.781369772	1447	369	3600.6	386
FL	Crystal River	1	2013	11/1/2013	19	5599	1.760581096	1399	326	3180.2	343
FL	Crystal River	1	2013	11/1/2013	20	5374	1.7663106	1317	312	3042.5	327
FL	Crystal River	1	2013	11/1/2013	21	4416	1.774491682	1035	255	2488.6	268
FL	Crystal River	1	2013	11/1/2013	22	2489	1.762123894	556	144	1412.5	140
FL	Crystal River	1	2013	11/1/2013	23	2253	1.770669601	507	130	1272.4	119
FL	Crystal River	1	2013	11/2/2013	0	2310	1.768488746	504	134	1306.2	119
FL	Crystal River	1	2013	11/2/2013	1	2329	1.773800457	498	134	1313	119
FL	Crystal River	1	2013	11/2/2013	2	2389	1.769891836	502	138	1349.8	119
FL	Crystal River	1	2013	11/2/2013	3	2854	1.762163497	578	166	1619.6	119
FL	Crystal River	1	2013	11/2/2013	4	2970	1.758124667	598	173	1689.3	119
FL	Crystal River	1	2013	11/2/2013	5	3200	1.72385929	699	190	1856.3	119
FL	Crystal River	1	2013	11/2/2013	6	3137	1.659876184	725	193	1889.9	119
FL	Crystal River	1	2013	11/2/2013	7	3102	1.630829084	722	195	1902.1	119
FL	Crystal River	1	2013	11/2/2013	8	3403	1.604658839	755	217	2120.7	137
FL	Crystal River	1	2013	11/2/2013	9	3152	1.576472942	761	205	1999.4	123
FL	Crystal River	1	2013	11/2/2013	10	3085	1.577843699	743	200	1955.2	119
FL	Crystal River	1	2013	11/2/2013	11	3054	1.587978369	734	197	1923.2	121
FL	Crystal River	1	2013	11/2/2013	12	3131	1.588614339	752	202	1970.9	120
FL	Crystal River	1	2013	11/2/2013	13	3112	1.592956593	734	200	1953.6	120
FL	Crystal River	1	2013	11/2/2013	14	3023	1.610634557	715	192	1876.9	120

FL	Crystal River	1	2013	11/2/2013	15	2899	1.617113851	684	183	1792.7	120
FL	Crystal River	1	2013	11/2/2013	16	2731	1.61837037	644	173	1687.5	120
FL	Crystal River	1	2013	11/2/2013	17	2764	1.619689423	660	175	1706.5	120
FL	Crystal River	1	2013	11/2/2013	18	3326	1.615347256	753	211	2059	138
FL	Crystal River	1	2013	11/2/2013	19	3100	1.599587203	759	198	1938	119
FL	Crystal River	1	2013	11/2/2013	20	3135	1.607362592	747	200	1950.4	119
FL	Crystal River	1	2013	11/2/2013	21	3199	1.599659966	761	205	1999.8	119
FL	Crystal River	1	2013	11/2/2013	22	3302	1.613880743	783	209	2046	119
FL	Crystal River	1	2013	11/2/2013	23	3364	1.635868508	785	211	2056.4	119
FL	Crystal River	1	2013	11/3/2013	0	3418	1.636189564	793	214	2089	119
FL	Crystal River	1	2013	11/3/2013	1	3510	1.650677201	820	218	2126.4	119
FL	Crystal River	1	2013	11/3/2013	2	3575	1.660473758	833	220	2153	119
FL	Crystal River	1	2013	11/3/2013	3	3612	1.681720831	824	220	2147.8	119
FL	Crystal River	1	2013	11/3/2013	4	3571	1.672051318	818	219	2135.7	119
FL	Crystal River	1	2013	11/3/2013	5	3565	1.682079834	809	217	2119.4	119
FL	Crystal River	1	2013	11/3/2013	6	3524	1.688386355	797	214	2087.2	119
FL	Crystal River	1	2013	11/3/2013	7	3571	1.688735458	807	217	2114.6	119
FL	Crystal River	1	2013	11/3/2013	8	3604	1.696159639	818	218	2124.8	119
FL	Crystal River	1	2013	11/3/2013	9	3513	1.707245954	798	211	2057.7	119
FL	Crystal River	1	2013	11/3/2013	10	3326	1.715140264	752	199	1939.2	119
FL	Crystal River	1	2013	11/3/2013	11	3250	1.720395956	731	193	1889.1	119
FL	Crystal River	1	2013	11/3/2013	12	3220	1.719350705	724	192	1872.8	119
FL	Crystal River	1	2013	11/3/2013	13	3259	1.736373808	732	192	1876.9	119
FL	Crystal River	1	2013	11/3/2013	14	3043	1.718723524	694	181	1770.5	119
FL	Crystal River	1	2013	11/3/2013	15	3026	1.725494668	691	179	1753.7	119
FL	Crystal River	1	2013	11/3/2013	16	3026	1.713573815	686	181	1765.9	119
FL	Crystal River	1	2013	11/3/2013	17	3300	1.693002257	756	200	1949.2	119
FL	Crystal River	1	2013	11/3/2013	18	3692	1.695366671	842	223	2177.7	123
FL	Crystal River	1	2013	11/3/2013	19	3621	1.691265764	839	219	2141	119
FL	Crystal River	1	2013	11/3/2013	20	3604	1.687265918	837	219	2136	119
FL	Crystal River	1	2013	11/3/2013	21	3574	1.6905539	824	216	2114.1	119
FL	Crystal River	1	2013	11/3/2013	22	3524	1.67961489	814	215	2098.1	119
FL	Crystal River	1	2013	11/3/2013	23	3497	1.655854917	819	216	2111.9	119
FL	Crystal River	1	2013	11/4/2013	0	3488	1.651593352	832	216	2111.9	119
FL	Crystal River	1	2013	11/4/2013	1	3555	1.668622389	1012	218	2130.5	119

FL	Crystal River	1	2013	11/4/2013	2	3555	1.688916338	1035	216	2104.9	119
FL	Crystal River	1	2013	11/4/2013	3	3618	1.687736157	1041	219	2143.7	119
FL	Crystal River	1	2013	11/4/2013	4	3658	1.712626996	1031	219	2135.9	119
FL	Crystal River	1	2013	11/4/2013	5	3714	1.730177956	1023	220	2146.6	119
FL	Crystal River	1	2013	11/4/2013	6	3668	1.754855995	997	214	2090.2	119
FL	Crystal River	1	2013	11/4/2013	7	3736	1.760105531	1008	217	2122.6	119
FL	Crystal River	1	2013	11/4/2013	8	3745	1.759207065	1019	218	2128.8	119
FL	Crystal River	1	2013	11/4/2013	9	3481	1.753917469	944	203	1984.7	119
FL	Crystal River	1	2013	11/4/2013	10	3167	1.740205506	857	186	1819.9	120
FL	Crystal River	1	2013	11/4/2013	11	2965	1.743604822	802	174	1700.5	123
FL	Crystal River	1	2013	11/4/2013	12	2676	1.72879385	732	158	1547.9	123
FL	Crystal River	1	2013	11/4/2013	13	2725	1.703125	756	164	1600	120
FL	Crystal River	1	2013	11/4/2013	14	2753	1.675083663	779	168	1643.5	120
FL	Crystal River	1	2013	11/4/2013	15	2847	1.639032815	816	178	1737	120
FL	Crystal River	1	2013	11/4/2013	16	2934	1.62117361	859	185	1809.8	119
FL	Crystal River	1	2013	11/4/2013	17	3554	1.589445438	977	229	2236	136
FL	Crystal River	1	2013	11/4/2013	18	4406	1.595740828	1107	283	2761.1	199
FL	Crystal River	1	2013	11/4/2013	19	3380	1.57114303	1088	220	2151.3	132
FL	Crystal River	1	2013	11/4/2013	20	3341	1.572235294	1005	218	2125	119
FL	Crystal River	1	2013	11/4/2013	21	3355	1.563300871	1008	220	2146.1	119
FL	Crystal River	1	2013	11/4/2013	22	3326	1.553915156	1008	219	2140.4	119
FL	Crystal River	1	2013	11/4/2013	23	3324	1.551168977	1009	219	2142.9	119
FL	Crystal River	1	2013	11/5/2013	0	3363	1.550484094	919	222	2169	119
FL	Crystal River	1	2013	11/5/2013	1	3403	1.590186916	1010	219	2140	119
FL	Crystal River	1	2013	11/5/2013	2	3475	1.620651059	1014	220	2144.2	119
FL	Crystal River	1	2013	11/5/2013	3	3545	1.651602684	1019	220	2146.4	119
FL	Crystal River	1	2013	11/5/2013	4	3554	1.6578039	1020	220	2143.8	119
FL	Crystal River	1	2013	11/5/2013	5	3614	1.682495345	1031	220	2148	119
FL	Crystal River	1	2013	11/5/2013	6	3613	1.687529192	1014	219	2141	121
FL	Crystal River	1	2013	11/5/2013	7	3692	1.669455121	1021	226	2211.5	125
FL	Crystal River	1	2013	11/5/2013	8	3563	1.631111518	1015	224	2184.4	122
FL	Crystal River	1	2013	11/5/2013	9	3493	1.589171975	945	225	2198	134
FL	Crystal River	1	2013	11/5/2013	10	2958	1.54958353	868	195	1908.9	134
FL	Crystal River	1	2013	11/5/2013	11	3310	1.584490187	666	214	2089	197
FL	Crystal River	1	2013	11/5/2013	12	3899	1.616366802	1092	247	2412.2	253

FL	Crystal River	1	2013	11/5/2013	13	3525	1.557873337	742	232	2262.7	241
FL	Crystal River	1	2013	11/5/2013	14	3418	1.572940635	671	222	2173	231
FL	Crystal River	1	2013	11/5/2013	15	3239	1.615380779	655	205	2005.1	211
FL	Crystal River	1	2013	11/5/2013	16	1993	1.540304506	644	132	1293.9	123
FL	Crystal River	1	2013	11/5/2013	17	2720	1.511951084	836	184	1799	134
FL	Crystal River	1	2013	11/5/2013	18	5240	1.555727095	1471	345	3368.2	284
FL	Crystal River	1	2013	11/5/2013	19	5065	1.562741045	1497	332	3241.1	284
FL	Crystal River	1	2013	11/5/2013	20	3245	1.49140546	1044	223	2175.8	150
FL	Crystal River	1	2013	11/5/2013	21	3189	1.475091355	1016	221	2161.9	130
FL	Crystal River	1	2013	11/5/2013	22	3172	1.47028831	1018	221	2157.4	124
FL	Crystal River	1	2013	11/5/2013	23	3076	1.456784277	1007	216	2111.5	120
FL	Crystal River	1	2013	11/6/2013	0	2989	1.388101983	1016	220	2153.3	120
FL	Crystal River	1	2013	11/6/2013	1	2978	1.384601079	1045	220	2150.8	120
FL	Crystal River	1	2013	11/6/2013	2	2974	1.37265762	1070	222	2166.6	119
FL	Crystal River	1	2013	11/6/2013	3	2940	1.356151114	1068	222	2167.9	120
FL	Crystal River	1	2013	11/6/2013	4	2779	1.29684073	1052	219	2142.9	119
FL	Crystal River	1	2013	11/6/2013	5	2809	1.29950037	1065	221	2161.6	120
FL	Crystal River	1	2013	11/6/2013	6	2764	1.28349199	1063	221	2153.5	122
FL	Crystal River	1	2013	11/6/2013	7	2889	1.297901972	1077	228	2225.9	133
FL	Crystal River	1	2013	11/6/2013	8	2569	1.293034025	985	203	1986.8	127
FL	Crystal River	1	2013	11/6/2013	9	2338	1.295434397	832	185	1804.8	147
FL	Crystal River	1	2013	11/6/2013	10	3071	1.348408342	908	233	2277.5	231
FL	Crystal River	1	2013	11/6/2013	11	4792	1.548854197	1333	317	3093.9	329
FL	Crystal River	1	2013	11/6/2013	12	4127	1.56545158	1115	270	2636.3	282
FL	Crystal River	1	2013	11/6/2013	13	4128	1.584523261	1052	267	2605.2	279
FL	Crystal River	1	2013	11/6/2013	14	4155	1.583339684	1036	269	2624.2	280
FL	Crystal River	1	2013	11/6/2013	15	4063	1.551414716	1018	268	2618.9	279
FL	Crystal River	1	2013	11/6/2013	16	3958	1.499242424	1063	270	2640	279
FL	Crystal River	1	2013	11/6/2013	17	3880	1.437143492	1074	277	2699.8	282
FL	Crystal River	1	2013	11/6/2013	18	4407	1.41422245	1165	319	3116.2	321
FL	Crystal River	1	2013	11/6/2013	19	3558	1.393599937	1090	262	2553.1	263
FL	Crystal River	1	2013	11/6/2013	20	4109	1.410331217	1223	298	2913.5	290
FL	Crystal River	1	2013	11/6/2013	21	3698	1.425762424	1159	266	2593.7	259
FL	Crystal River	1	2013	11/6/2013	22	3037	1.418032404	1047	219	2141.7	197
FL	Crystal River	1	2013	11/6/2013	23	2370	1.395841922	915	174	1697.9	118

FL	Crystal River	1	2013	11/7/2013	0	2690	1.393854604	1007	198	1929.9	119
FL	Crystal River	1	2013	11/7/2013	1	2817	1.389395808	1042	208	2027.5	119
FL	Crystal River	1	2013	11/7/2013	2	2928	1.407015858	1078	213	2081	119
FL	Crystal River	1	2013	11/7/2013	3	2935	1.412143957	1089	213	2078.4	119
FL	Crystal River	1	2013	11/7/2013	4	2898	1.415522884	1062	210	2047.3	119
FL	Crystal River	1	2013	11/7/2013	5	2963	1.437581874	1067	211	2061.1	119
FL	Crystal River	1	2013	11/7/2013	6	2938	1.450577664	1024	207	2025.4	119
FL	Crystal River	1	2013	11/7/2013	7	2988	1.44823575	1013	211	2063.2	119
FL	Crystal River	1	2013	11/7/2013	8	2894	1.442456263	961	205	2006.3	120
FL	Crystal River	1	2013	11/7/2013	9	2662	1.432877597	847	190	1857.8	131
FL	Crystal River	1	2013	11/7/2013	10	2199	1.423853924	627	158	1544.4	153
FL	Crystal River	1	2013	11/7/2013	11	1956	1.407295489	651	142	1389.9	139
FL	Crystal River	1	2013	11/7/2013	12	2959	1.40483312	922	216	2106.3	218
FL	Crystal River	1	2013	11/7/2013	13	3690	1.391402715	1363	272	2652	280
FL	Crystal River	1	2013	11/7/2013	14	3716	1.412229696	1315	270	2631.3	281
FL	Crystal River	1	2013	11/7/2013	15	3512	1.410271855	1272	255	2490.3	266
FL	Crystal River	1	2013	11/7/2013	16	2738	1.431259801	1040	196	1913	205
FL	Crystal River	1	2013	11/7/2013	17	2237	1.445557351	705	158	1547.5	155
FL	Crystal River	1	2013	11/7/2013	18	3834	1.451063508	1231	271	2642.2	270
FL	Crystal River	1	2013	11/7/2013	19	2204	1.513008856	611	149	1456.7	140
FL	Crystal River	1	2013	11/7/2013	20	2489	1.527556156	606	167	1629.4	119
FL	Crystal River	1	2013	11/7/2013	21	2593	1.555582218	611	171	1666.9	119
FL	Crystal River	1	2013	11/7/2013	22	2912	1.545565522	678	193	1884.1	126
FL	Crystal River	1	2013	11/7/2013	23	2807	1.520255633	673	189	1846.4	119
FL	Crystal River	1	2013	11/8/2013	0	2845	1.478075644	704	197	1924.8	119
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FL	Crystal River	1	2013	11/8/2013	3	3009	1.474566304	759	209	2040.6	119
FL	Crystal River	1	2013	11/8/2013	4	3161	1.485432331	795	218	2128	119
FL	Crystal River	1	2013	11/8/2013	5	3279	1.514969507	820	222	2164.4	119
FL	Crystal River	1	2013	11/8/2013	6	3465	1.576648314	848	225	2197.7	124
FL	Crystal River	1	2013	11/8/2013	7	3575	1.588959509	837	230	2249.9	124
FL	Crystal River	1	2013	11/8/2013	8	3517	1.594143777	845	226	2206.2	121
FL	Crystal River	1	2013	11/8/2013	9	3475	1.572825201	824	226	2209.4	123
FL	Crystal River	1	2013	11/8/2013	10	3288	1.554389448	789	217	2115.3	123

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FL	Crystal River	2	2013	9/1/2013	18	3981	1.553136704	428	263	2563.2	258

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FL	Crystal River	2	2013	9/2/2013	21	2775	1.632641054	365	174	1699.7	156
FL	Crystal River	2	2013	9/2/2013	22	2291	1.619882627	372	145	1414.3	120
FL	Crystal River	2	2013	9/2/2013	23	2272	1.613980251	374	144	1407.7	120
FL	Crystal River	2	2013	9/3/2013	0	2245	1.590731949	368	144	1411.3	119
FL	Crystal River	2	2013	9/3/2013	1	2208	1.561638022	364	145	1413.9	119
FL	Crystal River	2	2013	9/3/2013	2	2182	1.541940499	367	145	1415.1	119
FL	Crystal River	2	2013	9/3/2013	3	2132	1.525908961	371	143	1397.2	119
FL	Crystal River	2	2013	9/3/2013	4	2061	1.515441176	376	139	1360	119
FL	Crystal River	2	2013	9/3/2013	5	2139	1.50517205	378	145	1421.1	124

FL	Crystal River	2	2013	9/3/2013	6	2079	1.52441707	380	139	1363.8	120
FL	Crystal River	2	2013	9/3/2013	7	2324	1.512922336	374	157	1536.1	135
FL	Crystal River	2	2013	9/3/2013	8	3017	1.511068817	393	204	1996.6	192
FL	Crystal River	2	2013	9/3/2013	9	5145	1.528838439	858	345	3365.3	357
FL	Crystal River	2	2013	9/3/2013	10	6070	1.540843783	1296	404	3939.4	424
FL	Crystal River	2	2013	9/3/2013	11	6701	1.55371096	1522	442	4312.9	473
FL	Crystal River	2	2013	9/3/2013	12	5736	1.547676866	1067	380	3706.2	402
FL	Crystal River	2	2013	9/3/2013	13	6835	1.555742705	1528	450	4393.4	476
FL	Crystal River	2	2013	9/3/2013	14	6900	1.55538524	1574	455	4436.2	483
FL	Crystal River	2	2013	9/3/2013	15	6822	1.551124349	1578	451	4398.1	482
FL	Crystal River	2	2013	9/3/2013	16	6784	1.551834569	1551	448	4371.6	478
FL	Crystal River	2	2013	9/3/2013	17	6806	1.561689727	1542	447	4358.1	477
FL	Crystal River	2	2013	9/3/2013	18	6840	1.59648959	1503	439	4284.4	471
FL	Crystal River	2	2013	9/3/2013	19	6403	1.613252708	1282	407	3969	434
FL	Crystal River	2	2013	9/3/2013	20	5637	1.634244629	900	353	3449.3	374
FL	Crystal River	2	2013	9/3/2013	21	4828	1.659391648	547	298	2909.5	309
FL	Crystal River	2	2013	9/3/2013	22	2981	1.692788189	394	180	1761	165
FL	Crystal River	2	2013	9/3/2013	23	2456	1.719887955	425	146	1428	122
FL	Crystal River	2	2013	9/4/2013	0	2472	1.741826381	413	145	1419.2	122
FL	Crystal River	2	2013	9/4/2013	1	2434	1.709269663	420	146	1424	122
FL	Crystal River	2	2013	9/4/2013	2	2362	1.654061625	405	146	1428	122
FL	Crystal River	2	2013	9/4/2013	3	2321	1.628429103	400	146	1425.3	121
FL	Crystal River	2	2013	9/4/2013	4	2305	1.631280962	394	145	1413	121
FL	Crystal River	2	2013	9/4/2013	5	2507	1.656644419	361	155	1513.3	132
FL	Crystal River	2	2013	9/4/2013	6	2321	1.692307692	412	140	1371.5	120
FL	Crystal River	2	2013	9/4/2013	7	2449	1.699986117	387	147	1440.6	125
FL	Crystal River	2	2013	9/4/2013	8	4043	1.741396391	404	238	2321.7	221
FL	Crystal River	2	2013	9/4/2013	9	6171	1.713214881	976	369	3602	384
FL	Crystal River	2	2013	9/4/2013	10	7399	1.717821322	1567	441	4307.2	470
FL	Crystal River	2	2013	9/4/2013	11	7361	1.716330908	1526	440	4288.8	471
FL	Crystal River	2	2013	9/4/2013	12	7336	1.678411275	1551	448	4370.8	480
FL	Crystal River	2	2013	9/4/2013	13	7387	1.676196959	1577	452	4407	486
FL	Crystal River	2	2013	9/4/2013	14	7279	1.694051387	1491	440	4296.8	473
FL	Crystal River	2	2013	9/4/2013	15	6569	1.706411056	1174	395	3849.6	420
FL	Crystal River	2	2013	9/4/2013	16	6447	1.692659105	1157	390	3808.8	414

FL	Crystal River	2	2013	9/4/2013	17	5614	1.675120845	697	343	3351.4	360
FL	Crystal River	2	2013	9/4/2013	18	5695	1.672147513	742	349	3405.8	372
FL	Crystal River	2	2013	9/4/2013	19	4865	1.714174976	547	291	2838.1	300
FL	Crystal River	2	2013	9/4/2013	20	3015	1.781178	360	173	1692.7	163
FL	Crystal River	2	2013	9/4/2013	21	2448	1.74371394	404	144	1403.9	122
FL	Crystal River	2	2013	9/4/2013	22	2494	1.733509418	401	147	1438.7	126
FL	Crystal River	2	2013	9/4/2013	23	2313	1.693512959	405	140	1365.8	119
FL	Crystal River	2	2013	9/5/2013	0	2281	1.672532629	405	139	1363.8	119
FL	Crystal River	2	2013	9/5/2013	1	2236	1.619116582	400	141	1381	119
FL	Crystal River	2	2013	9/5/2013	2	2221	1.600028816	392	142	1388.1	119
FL	Crystal River	2	2013	9/5/2013	3	2189	1.595829992	371	140	1371.7	119
FL	Crystal River	2	2013	9/5/2013	4	2164	1.581177846	369	140	1368.6	119
FL	Crystal River	2	2013	9/5/2013	5	2184	1.592068815	369	140	1371.8	119
FL	Crystal River	2	2013	9/5/2013	6	2156	1.58692772	365	139	1358.6	119
FL	Crystal River	2	2013	9/5/2013	7	2296	1.595330739	365	147	1439.2	126
FL	Crystal River	2	2013	9/5/2013	8	3689	1.63948269	405	230	2250.1	219
FL	Crystal River	2	2013	9/5/2013	9	4678	1.653178782	594	290	2829.7	297
FL	Crystal River	2	2013	9/5/2013	10	5695	1.673523362	830	349	3403	368
FL	Crystal River	2	2013	9/5/2013	11	7374	1.702491169	1541	444	4331.3	482
FL	Crystal River	2	2013	9/5/2013	12	7139	1.69335136	1425	432	4215.9	467
FL	Crystal River	2	2013	9/5/2013	13	7765	1.703037614	1632	467	4559.5	507
FL	Crystal River	2	2013	9/5/2013	14	7810	1.699895525	1644	471	4594.4	507
FL	Crystal River	2	2013	9/5/2013	15	7847	1.695512197	1670	474	4628.1	511
FL	Crystal River	2	2013	9/5/2013	16	7855	1.697570885	1675	474	4627.2	512
FL	Crystal River	2	2013	9/5/2013	17	7878	1.707375219	1661	473	4614.1	511
FL	Crystal River	2	2013	9/5/2013	18	7911	1.717094982	1658	472	4607.2	511
FL	Crystal River	2	2013	9/5/2013	19	7689	1.716869488	1589	459	4478.5	499
FL	Crystal River	2	2013	9/5/2013	20	5461	1.713846347	774	326	3186.4	350
FL	Crystal River	2	2013	9/5/2013	21	4408	1.677065896	470	269	2628.4	276
FL	Crystal River	2	2013	9/5/2013	22	2926	1.652453832	421	181	1770.7	172
FL	Crystal River	2	2013	9/5/2013	23	2268	1.628374497	445	142	1392.8	122
FL	Crystal River	2	2013	9/6/2013	0	2240	1.633605601	455	140	1371.2	119
FL	Crystal River	2	2013	9/6/2013	1	2264	1.647623899	457	141	1374.1	119
FL	Crystal River	2	2013	9/6/2013	2	2274	1.648303856	467	141	1379.6	119
FL	Crystal River	2	2013	9/6/2013	3	2286	1.66460351	458	140	1373.3	119

FL	Crystal River	2	2013	9/6/2013	4	2269	1.669978656	448	139	1358.7	119
FL	Crystal River	2	2013	9/6/2013	5	2293	1.678132319	444	140	1366.4	119
FL	Crystal River	2	2013	9/6/2013	6	2259	1.672342316	422	138	1350.8	119
FL	Crystal River	2	2013	9/6/2013	7	2663	1.687900108	396	161	1577.7	144
FL	Crystal River	2	2013	9/6/2013	8	4399	1.716080206	512	263	2563.4	263
FL	Crystal River	2	2013	9/6/2013	9	6254	1.706784564	1000	375	3664.2	396
FL	Crystal River	2	2013	9/6/2013	10	7902	1.722394176	1587	470	4587.8	510
FL	Crystal River	2	2013	9/6/2013	11	8096	1.74761473	1579	475	4632.6	516
FL	Crystal River	2	2013	9/6/2013	12	8018	1.759606733	1499	467	4556.7	507
FL	Crystal River	2	2013	9/6/2013	13	7976	1.757563738	1488	465	4538.1	504
FL	Crystal River	2	2013	9/6/2013	14	7700	1.749642119	1403	451	4400.9	486
FL	Crystal River	2	2013	9/6/2013	15	7250	1.72569742	1289	431	4201.2	461
FL	Crystal River	2	2013	9/6/2013	16	5888	1.722796032	786	350	3417.7	377
FL	Crystal River	2	2013	9/6/2013	17	3419	1.690231362	349	207	2022.8	205
FL	Crystal River	2	2013	9/6/2013	18	2405	1.615069505	349	152	1489.1	133
FL	Crystal River	2	2013	9/6/2013	19	2884	1.629194441	359	181	1770.2	167
FL	Crystal River	2	2013	9/6/2013	20	2216	1.59873025	413	142	1386.1	120
FL	Crystal River	2	2013	9/6/2013	21	2260	1.595256582	386	145	1416.7	122
FL	Crystal River	2	2013	9/6/2013	22	2219	1.5973222	395	142	1389.2	119
FL	Crystal River	2	2013	9/6/2013	23	2210	1.613963339	386	140	1369.3	119
FL	Crystal River	2	2013	9/7/2013	0	2228	1.620953074	387	141	1374.5	119
FL	Crystal River	2	2013	9/7/2013	1	2230	1.609411085	374	142	1385.6	119
FL	Crystal River	2	2013	9/7/2013	2	2237	1.614113572	365	142	1385.9	119
FL	Crystal River	2	2013	9/7/2013	3	2241	1.618050542	360	142	1385	119
FL	Crystal River	2	2013	9/7/2013	4	2233	1.633145615	362	140	1367.3	119
FL	Crystal River	2	2013	9/7/2013	5	2191	1.620322438	367	138	1352.2	119
FL	Crystal River	2	2013	9/7/2013	6	2157	1.61827594	363	136	1332.9	119
FL	Crystal River	2	2013	9/7/2013	7	2169	1.615762813	362	137	1342.4	119
FL	Crystal River	2	2013	9/7/2013	8	2207	1.60754607	366	140	1372.9	122
FL	Crystal River	2	2013	9/7/2013	9	3071	1.615380569	340	195	1901.1	182
FL	Crystal River	2	2013	9/7/2013	10	4948	1.641890098	614	309	3013.6	319
FL	Crystal River	2	2013	9/7/2013	11	7198	1.654256297	1483	446	4351.2	480
FL	Crystal River	2	2013	9/7/2013	12	7573	1.675479546	1523	463	4519.9	505
FL	Crystal River	2	2013	9/7/2013	13	7687	1.675421198	1527	470	4588.1	507
FL	Crystal River	2	2013	9/7/2013	14	7664	1.674386088	1524	469	4577.2	507

FL	Crystal River	2	2013	9/7/2013	15	7671	1.6709142	1538	471	4590.9	507
FL	Crystal River	2	2013	9/7/2013	16	7686	1.686598934	1544	467	4557.1	507
FL	Crystal River	2	2013	9/7/2013	17	7177	1.690814427	1371	435	4244.7	474
FL	Crystal River	2	2013	9/7/2013	18	5856	1.681019635	843	357	3483.6	385
FL	Crystal River	2	2013	9/7/2013	19	6110	1.661771105	959	377	3676.8	405
FL	Crystal River	2	2013	9/7/2013	20	4624	1.66955517	504	284	2769.6	299
FL	Crystal River	2	2013	9/7/2013	21	3189	1.640516487	386	199	1943.9	190
FL	Crystal River	2	2013	9/7/2013	22	2335	1.637217782	373	146	1426.2	128
FL	Crystal River	2	2013	9/7/2013	23	2202	1.628939192	451	138	1351.8	119
FL	Crystal River	2	2013	9/8/2013	0	2214	1.632863781	444	139	1355.9	119
FL	Crystal River	2	2013	9/8/2013	1	2208	1.634465912	437	138	1350.9	119
FL	Crystal River	2	2013	9/8/2013	2	2206	1.643447813	429	137	1342.3	119
FL	Crystal River	2	2013	9/8/2013	3	2210	1.639465875	424	138	1348	119
FL	Crystal River	2	2013	9/8/2013	4	2188	1.626523937	406	138	1345.2	119
FL	Crystal River	2	2013	9/8/2013	5	2209	1.635932756	384	138	1350.3	119
FL	Crystal River	2	2013	9/8/2013	6	2161	1.628853546	379	136	1326.7	119
FL	Crystal River	2	2013	9/8/2013	7	2172	1.608888889	361	138	1350	119
FL	Crystal River	2	2013	9/8/2013	8	2220	1.592082616	359	143	1394.4	123
FL	Crystal River	2	2013	9/8/2013	9	3258	1.606112891	419	208	2028.5	199
FL	Crystal River	2	2013	9/8/2013	10	6248	1.633592177	1032	392	3824.7	412
FL	Crystal River	2	2013	9/8/2013	11	7677	1.680640995	1562	468	4567.9	510
FL	Crystal River	2	2013	9/8/2013	12	7909	1.702581103	1546	476	4645.3	516
FL	Crystal River	2	2013	9/8/2013	13	8057	1.727746446	1552	478	4663.3	517
FL	Crystal River	2	2013	9/8/2013	14	8053	1.733430915	1537	476	4645.7	513
FL	Crystal River	2	2013	9/8/2013	15	7731	1.697703017	1493	467	4553.8	502
FL	Crystal River	2	2013	9/8/2013	16	7208	1.67909057	1343	440	4292.8	472
FL	Crystal River	2	2013	9/8/2013	17	6345	1.666491569	1039	390	3807.4	418
FL	Crystal River	2	2013	9/8/2013	18	6138	1.716155008	890	367	3576.6	391
FL	Crystal River	2	2013	9/8/2013	19	7223	1.79582805	1190	412	4022.1	444
FL	Crystal River	2	2013	9/8/2013	20	6396	1.85246329	828	354	3452.7	384
FL	Crystal River	2	2013	9/8/2013	21	4173	1.8697912	450	229	2231.8	238
FL	Crystal River	2	2013	9/8/2013	22	2441	1.798953497	515	139	1356.9	119
FL	Crystal River	2	2013	9/8/2013	23	2411	1.768243491	505	139	1363.5	120
FL	Crystal River	2	2013	9/9/2013	0	2352	1.712288876	498	140	1373.6	120
FL	Crystal River	2	2013	9/9/2013	1	2303	1.683233445	504	140	1368.2	119

FL	Crystal River	2	2013	9/9/2013	2	2261	1.666912415	497	139	1356.4	119
FL	Crystal River	2	2013	9/9/2013	3	2215	1.627718989	480	139	1360.8	119
FL	Crystal River	2	2013	9/9/2013	4	2141	1.597165237	466	137	1340.5	119
FL	Crystal River	2	2013	9/9/2013	5	2183	1.571634269	454	142	1389	124
FL	Crystal River	2	2013	9/9/2013	6	2049	1.519691463	442	138	1348.3	120
FL	Crystal River	2	2013	9/9/2013	7	2576	1.505552309	359	175	1711	158
FL	Crystal River	2	2013	9/9/2013	8	3347	1.491931889	361	230	2243.4	221
FL	Crystal River	2	2013	9/9/2013	9	4139	1.528321394	457	277	2708.2	281
FL	Crystal River	2	2013	9/9/2013	10	5327	1.58089981	724	345	3369.6	366
FL	Crystal River	2	2013	9/9/2013	11	6307	1.61085996	1170	401	3915.3	430
FL	Crystal River	2	2013	9/9/2013	12	6576	1.60046729	1253	421	4108.8	455
FL	Crystal River	2	2013	9/9/2013	13	7305	1.597314849	1518	469	4573.3	507
FL	Crystal River	2	2013	9/9/2013	14	7353	1.60087958	1524	471	4593.1	507
FL	Crystal River	2	2013	9/9/2013	15	7340	1.596589302	1526	471	4597.3	507
FL	Crystal River	2	2013	9/9/2013	16	7230	1.583616252	1543	468	4565.5	507
FL	Crystal River	2	2013	9/9/2013	17	7046	1.570909415	1498	460	4485.3	496
FL	Crystal River	2	2013	9/9/2013	18	6052	1.595066154	1062	389	3794.2	419
FL	Crystal River	2	2013	9/9/2013	19	6121	1.669803857	956	376	3665.7	406
FL	Crystal River	2	2013	9/9/2013	20	5242	1.728492762	612	311	3032.7	328
FL	Crystal River	2	2013	9/9/2013	21	2672	1.724204685	458	159	1549.7	143
FL	Crystal River	2	2013	9/9/2013	22	2369	1.709852039	500	142	1385.5	121
FL	Crystal River	2	2013	9/9/2013	23	2349	1.712723296	500	140	1371.5	119
FL	Crystal River	2	2013	9/10/2013	0	2333	1.714936783	492	139	1360.4	119
FL	Crystal River	2	2013	9/10/2013	1	2299	1.714520098	492	137	1340.9	119
FL	Crystal River	2	2013	9/10/2013	2	2286	1.707499253	460	137	1338.8	119
FL	Crystal River	2	2013	9/10/2013	3	2273	1.682955723	428	138	1350.6	119
FL	Crystal River	2	2013	9/10/2013	4	2240	1.68130301	419	136	1332.3	119
FL	Crystal River	2	2013	9/10/2013	5	2298	1.668602963	418	141	1377.2	123
FL	Crystal River	2	2013	9/10/2013	6	2222	1.673192771	414	136	1328	120
FL	Crystal River	2	2013	9/10/2013	7	2294	1.6861448	400	139	1360.5	121
FL	Crystal River	2	2013	9/10/2013	8	3790	1.755848969	416	221	2158.5	215
FL	Crystal River	2	2013	9/10/2013	9	6138	1.804020691	768	349	3402.4	369
FL	Crystal River	2	2013	9/10/2013	10	6672	1.811419108	1049	377	3683.3	406
FL	Crystal River	2	2013	9/10/2013	11	7834	1.821775731	1406	441	4300.2	479
FL	Crystal River	2	2013	9/10/2013	12	8178	1.804143043	1523	465	4532.9	506

FL	Crystal River	2	2013	9/10/2013	13	8009	1.763630758	1530	465	4541.2	506
FL	Crystal River	2	2013	9/10/2013	14	7903	1.739944079	1539	466	4542.1	506
FL	Crystal River	2	2013	9/10/2013	15	8017	1.763295649	1545	466	4546.6	506
FL	Crystal River	2	2013	9/10/2013	16	8239	1.815957681	1515	465	4537	506
FL	Crystal River	2	2013	9/10/2013	17	8368	1.842319632	1512	466	4542.1	506
FL	Crystal River	2	2013	9/10/2013	18	7433	1.825079186	1250	417	4072.7	453
FL	Crystal River	2	2013	9/10/2013	19	7365	1.790184974	1291	422	4114.1	461
FL	Crystal River	2	2013	9/10/2013	20	5721	1.744686042	750	336	3279.1	361
FL	Crystal River	2	2013	9/10/2013	21	3320	1.71186965	347	199	1939.4	194
FL	Crystal River	2	2013	9/10/2013	22	2684	1.672795263	426	164	1604.5	147
FL	Crystal River	2	2013	9/10/2013	23	2271	1.658027305	526	140	1369.7	120
FL	Crystal River	2	2013	9/11/2013	0	2245	1.64940122	556	139	1361.1	120
FL	Crystal River	2	2013	9/11/2013	1	2256	1.651053864	547	140	1366.4	120
FL	Crystal River	2	2013	9/11/2013	2	2225	1.630633932	514	140	1364.5	119
FL	Crystal River	2	2013	9/11/2013	3	2216	1.622373527	499	140	1365.9	119
FL	Crystal River	2	2013	9/11/2013	4	2179	1.600088119	478	139	1361.8	119
FL	Crystal River	2	2013	9/11/2013	5	2853	1.629354654	432	179	1751	165
FL	Crystal River	2	2013	9/11/2013	6	2340	1.635563011	492	146	1430.7	137
FL	Crystal River	2	2013	9/11/2013	7	2461	1.6287227	433	155	1511	136
FL	Crystal River	2	2013	9/11/2013	8	4091	1.65246193	475	254	2475.7	252
FL	Crystal River	2	2013	9/11/2013	9	5930	1.666947771	775	365	3557.4	386
FL	Crystal River	2	2013	9/11/2013	10	6894	1.675334143	1201	422	4115	457
FL	Crystal River	2	2013	9/11/2013	11	6925	1.656500419	1291	428	4180.5	467
FL	Crystal River	2	2013	9/11/2013	12	6218	1.644103649	1055	388	3782	421
FL	Crystal River	2	2013	9/11/2013	13	6080	1.650693671	946	377	3683.3	405
FL	Crystal River	2	2013	9/11/2013	14	7198	1.68539852	1366	438	4270.8	477
FL	Crystal River	2	2013	9/11/2013	15	7339	1.69746733	1374	443	4323.5	485
FL	Crystal River	2	2013	9/11/2013	16	7296	1.703041479	1379	439	4284.1	484
FL	Crystal River	2	2013	9/11/2013	17	6447	1.678469149	1113	394	3841	434
FL	Crystal River	2	2013	9/11/2013	18	6389	1.686597503	1019	388	3788.1	423
FL	Crystal River	2	2013	9/11/2013	19	7033	1.693596937	1303	426	4152.7	468
FL	Crystal River	2	2013	9/11/2013	20	5566	1.691536241	756	337	3290.5	364
FL	Crystal River	2	2013	9/11/2013	21	3025	1.666942194	366	186	1814.7	175
FL	Crystal River	2	2013	9/11/2013	22	2615	1.644033698	397	163	1590.6	146
FL	Crystal River	2	2013	9/11/2013	23	2210	1.615260927	532	140	1368.2	120

FL	Crystal River	2	2013	9/12/2013	0	2201	1.605514625	504	140	1370.9	122
FL	Crystal River	2	2013	9/12/2013	1	2171	1.596793174	527	139	1359.6	120
FL	Crystal River	2	2013	9/12/2013	2	2167	1.612951247	519	137	1343.5	120
FL	Crystal River	2	2013	9/12/2013	3	2170	1.600885282	494	139	1355.5	120
FL	Crystal River	2	2013	9/12/2013	4	2136	1.608433735	482	136	1328	120
FL	Crystal River	2	2013	9/12/2013	5	2500	1.609476598	399	159	1553.3	144
FL	Crystal River	2	2013	9/12/2013	6	2138	1.59006396	493	138	1344.6	125
FL	Crystal River	2	2013	9/12/2013	7	2701	1.61601053	409	171	1671.4	158
FL	Crystal River	2	2013	9/12/2013	8	4394	1.631334695	503	276	2693.5	282
FL	Crystal River	2	2013	9/12/2013	9	5609	1.645929925	756	349	3407.8	378
FL	Crystal River	2	2013	9/12/2013	10	5842	1.646004733	926	364	3549.2	392
FL	Crystal River	2	2013	9/12/2013	11	6085	1.637777897	1006	381	3715.4	410
FL	Crystal River	2	2013	9/12/2013	12	6646	1.650237132	1212	413	4027.3	448
FL	Crystal River	2	2013	9/12/2013	13	6160	1.637513956	1045	386	3761.8	417
FL	Crystal River	2	2013	9/12/2013	14	6247	1.640579862	1051	390	3807.8	421
FL	Crystal River	2	2013	9/12/2013	15	6477	1.640079003	1153	405	3949.2	436
FL	Crystal River	2	2013	9/12/2013	16	6215	1.638199167	1077	389	3793.8	419
FL	Crystal River	2	2013	9/12/2013	17	6109	1.622188587	1054	386	3765.9	416
FL	Crystal River	2	2013	9/12/2013	18	5856	1.622834973	920	370	3608.5	399
FL	Crystal River	2	2013	9/12/2013	19	6057	1.627001182	1038	382	3722.8	416
FL	Crystal River	2	2013	9/12/2013	20	5307	1.621250076	707	335	3273.4	363
FL	Crystal River	2	2013	9/12/2013	21	4106	1.621771072	465	259	2531.8	270
FL	Crystal River	2	2013	9/12/2013	22	2130	1.592285266	529	137	1337.7	121
FL	Crystal River	2	2013	9/12/2013	23	2144	1.578211262	529	139	1358.5	119
FL	Crystal River	2	2013	9/13/2013	0	2147	1.587313322	528	138	1352.6	119
FL	Crystal River	2	2013	9/13/2013	1	2150	1.569686793	534	140	1369.7	119
FL	Crystal River	2	2013	9/13/2013	2	2138	1.567104009	521	140	1364.3	119
FL	Crystal River	2	2013	9/13/2013	3	2137	1.5669453	491	139	1363.8	119
FL	Crystal River	2	2013	9/13/2013	4	2108	1.561597155	463	138	1349.9	119
FL	Crystal River	2	2013	9/13/2013	5	2135	1.564446398	439	140	1364.7	120
FL	Crystal River	2	2013	9/13/2013	6	2089	1.561168821	440	137	1338.1	119
FL	Crystal River	2	2013	9/13/2013	7	2242	1.571348472	402	146	1426.8	126
FL	Crystal River	2	2013	9/13/2013	8	2585	1.58657092	382	167	1629.3	150
FL	Crystal River	2	2013	9/13/2013	9	3741	1.615564001	467	237	2315.6	231
FL	Crystal River	2	2013	9/13/2013	10	6204	1.645928952	1134	386	3769.3	410

FL	Crystal River	2	2013	9/13/2013	11	6601	1.65579692	1211	409	3986.6	439
FL	Crystal River	2	2013	9/13/2013	12	7039	1.648825279	1383	438	4269.1	471
FL	Crystal River	2	2013	9/13/2013	13	7179	1.659385618	1427	443	4326.3	478
FL	Crystal River	2	2013	9/13/2013	14	6201	1.660907995	1045	383	3733.5	411
FL	Crystal River	2	2013	9/13/2013	15	7058	1.661957238	1371	435	4246.8	465
FL	Crystal River	2	2013	9/13/2013	16	6272	1.64641029	1078	390	3809.5	417
FL	Crystal River	2	2013	9/13/2013	17	5531	1.632767528	796	347	3387.5	370
FL	Crystal River	2	2013	9/13/2013	18	5247	1.625112274	616	331	3228.7	351
FL	Crystal River	2	2013	9/13/2013	19	5357	1.62727825	651	337	3292	359
FL	Crystal River	2	2013	9/13/2013	20	3034	1.612371791	449	193	1881.7	186
FL	Crystal River	2	2013	9/13/2013	21	2184	1.579746835	503	141	1382.5	120
FL	Crystal River	2	2013	9/13/2013	22	2189	1.586002029	503	141	1380.2	119
FL	Crystal River	2	2013	9/13/2013	23	2173	1.569406327	509	142	1384.6	119
FL	Crystal River	2	2013	9/14/2013	0	2173	1.577724534	488	141	1377.3	119
FL	Crystal River	2	2013	9/14/2013	1	2182	1.574882714	468	142	1385.5	119
FL	Crystal River	2	2013	9/14/2013	2	2193	1.577811353	458	142	1389.9	119
FL	Crystal River	2	2013	9/14/2013	3	2188	1.581953583	442	141	1383.1	119
FL	Crystal River	2	2013	9/14/2013	4	2158	1.577831396	445	140	1367.7	119
FL	Crystal River	2	2013	9/14/2013	5	2169	1.56549982	406	142	1385.5	119
FL	Crystal River	2	2013	9/14/2013	6	2129	1.577037037	390	138	1350	119
FL	Crystal River	2	2013	9/14/2013	7	2165	1.573629888	416	141	1375.8	119
FL	Crystal River	2	2013	9/14/2013	8	3041	1.60086334	410	194	1899.6	179
FL	Crystal River	2	2013	9/14/2013	9	4063	1.601119168	464	260	2537.6	255
FL	Crystal River	2	2013	9/14/2013	10	6845	1.621884182	1392	433	4220.4	461
FL	Crystal River	2	2013	9/14/2013	11	6275	1.616185031	1172	398	3882.6	430
FL	Crystal River	2	2013	9/14/2013	12	5708	1.595750629	922	367	3577	391
FL	Crystal River	2	2013	9/14/2013	13	6778	1.607189434	1298	432	4217.3	464
FL	Crystal River	2	2013	9/14/2013	14	6896	1.609222225	1349	439	4285.3	472
FL	Crystal River	2	2013	9/14/2013	15	7233	1.617939828	1457	458	4470.5	494
FL	Crystal River	2	2013	9/14/2013	16	7551	1.619552162	1557	478	4662.4	512
FL	Crystal River	2	2013	9/14/2013	17	7339	1.633902531	1486	460	4491.7	499
FL	Crystal River	2	2013	9/14/2013	18	6196	1.616530564	1061	393	3832.9	421
FL	Crystal River	2	2013	9/14/2013	19	5784	1.620349619	899	366	3569.6	393
FL	Crystal River	2	2013	9/14/2013	20	4070	1.604130538	436	260	2537.2	263
FL	Crystal River	2	2013	9/14/2013	21	2486	1.56637893	373	162	1587.1	139

FL	Crystal River	2	2013	9/14/2013	22	2300	1.553004727	413	151	1481	122
FL	Crystal River	2	2013	9/14/2013	23	2199	1.551651143	463	145	1417.2	119
FL	Crystal River	2	2013	9/15/2013	0	2178	1.562634524	465	143	1393.8	119
FL	Crystal River	2	2013	9/15/2013	1	2174	1.555523755	465	143	1397.6	119
FL	Crystal River	2	2013	9/15/2013	2	2163	1.549648947	456	143	1395.8	119
FL	Crystal River	2	2013	9/15/2013	3	2158	1.555315315	438	142	1387.5	119
FL	Crystal River	2	2013	9/15/2013	4	2124	1.556614144	427	140	1364.5	119
FL	Crystal River	2	2013	9/15/2013	5	2142	1.549927641	409	141	1382	119
FL	Crystal River	2	2013	9/15/2013	6	2094	1.546528804	413	138	1354	119
FL	Crystal River	2	2013	9/15/2013	7	2264	1.545497986	391	150	1464.9	130
FL	Crystal River	2	2013	9/15/2013	8	4304	1.592894152	499	277	2702	273
FL	Crystal River	2	2013	9/15/2013	9	4872	1.581304771	727	316	3081	327
FL	Crystal River	2	2013	9/15/2013	10	6070	1.601878975	1110	388	3789.3	412
FL	Crystal River	2	2013	9/15/2013	11	6638	1.644249585	1243	414	4037.1	444
FL	Crystal River	2	2013	9/15/2013	12	6816	1.660899654	1235	421	4103.8	447
FL	Crystal River	2	2013	9/15/2013	13	6072	1.647761194	958	378	3685	401
FL	Crystal River	2	2013	9/15/2013	14	5805	1.640432927	845	363	3538.7	382
FL	Crystal River	2	2013	9/15/2013	15	5890	1.6440115	910	367	3582.7	392
FL	Crystal River	2	2013	9/15/2013	16	5506	1.625483423	721	347	3387.3	349
FL	Crystal River	2	2013	9/15/2013	17	4723	1.615695129	523	299	2923.2	318
FL	Crystal River	2	2013	9/15/2013	18	4643	1.602249983	481	297	2897.8	284
FL	Crystal River	2	2013	9/15/2013	19	4649	1.576680459	545	302	2948.6	321
FL	Crystal River	2	2013	9/15/2013	20	2499	1.529282174	428	167	1634.1	147
FL	Crystal River	2	2013	9/15/2013	21	1943	1.487862777	421	134	1305.9	119
FL	Crystal River	2	2013	9/15/2013	22	2024	1.495713863	445	138	1353.2	119
FL	Crystal River	2	2013	9/15/2013	23	1955	1.502690238	426	133	1301	119
FL	Crystal River	2	2013	9/16/2013	0	2156	1.501392758	389	147	1436	119
FL	Crystal River	2	2013	9/16/2013	1	2178	1.516713092	380	147	1436	119
FL	Crystal River	2	2013	9/16/2013	2	2169	1.510445682	392	147	1436	119
FL	Crystal River	2	2013	9/16/2013	3	2182	1.519498607	415	147	1436	119
FL	Crystal River	2	2013	9/16/2013	4	2153	1.534568781	430	143	1403	119
FL	Crystal River	2	2013	9/16/2013	5	2179	1.535047552	441	145	1419.5	119
FL	Crystal River	2	2013	9/16/2013	6	2143	1.527441197	429	143	1403	120
FL	Crystal River	2	2013	9/16/2013	7	2163	1.523775977	417	145	1419.5	121
FL	Crystal River	2	2013	9/16/2013	8	2452	1.547491322	353	162	1584.5	161

FL	Crystal River	2	2013	9/16/2013	9	2734	1.537855777	352	182	1777.8	169
FL	Crystal River	2	2013	9/16/2013	10	4524	1.560807314	495	297	2898.5	283
FL	Crystal River	2	2013	9/16/2013	11	6795	1.598259438	1254	436	4251.5	445
FL	Crystal River	2	2013	9/16/2013	12	6905	1.610608322	1384	439	4287.2	488
FL	Crystal River	2	2013	9/16/2013	13	7423	1.611978545	1505	472	4604.9	495
FL	Crystal River	2	2013	9/16/2013	14	7363	1.598948946	1533	472	4604.9	500
FL	Crystal River	2	2013	9/16/2013	15	6801	1.586350065	1410	439	4287.2	490
FL	Crystal River	2	2013	9/16/2013	16	6010	1.580040487	1015	390	3803.7	407
FL	Crystal River	2	2013	9/16/2013	17	5372	1.572461435	789	350	3416.3	352
FL	Crystal River	2	2013	9/16/2013	18	4622	1.567098393	516	302	2949.4	314
FL	Crystal River	2	2013	9/16/2013	19	6070	1.595814602	1030	390	3803.7	414
FL	Crystal River	2	2013	9/16/2013	20	3845	1.588908633	464	248	2419.9	240
FL	Crystal River	2	2013	9/16/2013	21	2101	1.546786424	532	139	1358.3	120
FL	Crystal River	2	2013	9/16/2013	22	2109	1.530034823	522	141	1378.4	119
FL	Crystal River	2	2013	9/16/2013	23	1995	1.52394775	484	134	1309.1	119
FL	Crystal River	2	2013	9/17/2013	0	2020	1.51118426	501	137	1336.7	119
FL	Crystal River	2	2013	9/17/2013	1	2043	1.505859807	484	139	1356.7	119
FL	Crystal River	2	2013	9/17/2013	2	1886	1.505067433	437	128	1253.1	119
FL	Crystal River	2	2013	9/17/2013	3	1705	1.508582552	363	116	1130.2	119
FL	Crystal River	2	2013	9/17/2013	4	1435	1.498068692	299	98	957.9	119
FL	Crystal River	2	2013	9/17/2013	5	1314	1.508957281	271	89	870.8	119
FL	Crystal River	2	2013	9/17/2013	6	2021	1.494822485	409	138	1352	119
FL	Crystal River	2	2013	9/17/2013	7	2049	1.497259773	427	140	1368.5	120
FL	Crystal River	2	2013	9/17/2013	8	2097	1.514079422	408	142	1385	126
FL	Crystal River	2	2013	9/17/2013	9	2217	1.509600981	440	150	1468.6	130
FL	Crystal River	2	2013	9/17/2013	10	3911	1.562962075	477	256	2502.3	255
FL	Crystal River	2	2013	9/17/2013	11	4803	1.564393199	749	315	3070.2	324
FL	Crystal River	2	2013	9/17/2013	12	5735	1.532275302	1111	384	3742.8	407
FL	Crystal River	2	2013	9/17/2013	13	6312	1.495486531	1375	433	4220.7	463
FL	Crystal River	2	2013	9/17/2013	14	6185	1.526105409	1199	415	4052.8	444
FL	Crystal River	2	2013	9/17/2013	15	6634	1.561345289	1363	435	4248.9	469
FL	Crystal River	2	2013	9/17/2013	16	6006	1.593441579	1119	386	3769.2	441
FL	Crystal River	2	2013	9/17/2013	17	5979	1.587836941	1009	386	3765.5	417
FL	Crystal River	2	2013	9/17/2013	18	5285	1.573666031	772	344	3358.4	366
FL	Crystal River	2	2013	9/17/2013	19	6008	1.55053164	1139	397	3874.8	429

FL	Crystal River	2	2013	9/17/2013	20	3333	1.503586412	443	227	2216.7	225
FL	Crystal River	2	2013	9/17/2013	21	2060	1.486613264	381	142	1385.7	120
FL	Crystal River	2	2013	9/17/2013	22	2072	1.474418274	371	144	1405.3	119
FL	Crystal River	2	2013	9/17/2013	23	2057	1.484019912	385	142	1386.1	119
FL	Crystal River	2	2013	9/18/2013	0	2053	1.471473624	379	143	1395.2	119
FL	Crystal River	2	2013	9/18/2013	1	2062	1.476654254	372	143	1396.4	119
FL	Crystal River	2	2013	9/18/2013	2	2046	1.480248879	367	141	1382.2	119
FL	Crystal River	2	2013	9/18/2013	3	2051	1.496315751	368	140	1370.7	119
FL	Crystal River	2	2013	9/18/2013	4	2031	1.498229566	359	139	1355.6	119
FL	Crystal River	2	2013	9/18/2013	5	2030	1.477653225	358	141	1373.8	119
FL	Crystal River	2	2013	9/18/2013	6	1958	1.442888725	344	139	1357	119
FL	Crystal River	2	2013	9/18/2013	7	1971	1.435333528	343	140	1373.2	119
FL	Crystal River	2	2013	9/18/2013	8	2025	1.446221968	331	143	1400.2	122
FL	Crystal River	2	2013	9/18/2013	9	2084	1.473728873	328	145	1414.1	123
FL	Crystal River	2	2013	9/18/2013	10	2110	1.491482293	331	145	1414.7	123
FL	Crystal River	2	2013	9/18/2013	11	2132	1.509487397	329	144	1412.4	123
FL	Crystal River	2	2013	9/18/2013	12	2167	1.527993231	330	145	1418.2	124
FL	Crystal River	2	2013	9/18/2013	13	3435	1.516288514	412	232	2265.4	214
FL	Crystal River	2	2013	9/18/2013	14	2769	1.554482681	395	182	1781.3	164
FL	Crystal River	2	2013	9/18/2013	15	3578	1.536281666	423	239	2329	228
FL	Crystal River	2	2013	9/18/2013	16	3702	1.559130728	396	243	2374.4	233
FL	Crystal River	2	2013	9/18/2013	17	3672	1.59575855	382	236	2301.1	223
FL	Crystal River	2	2013	9/18/2013	18	3786	1.622594608	350	239	2333.3	227
FL	Crystal River	2	2013	9/18/2013	19	3676	1.580259651	425	238	2326.2	236
FL	Crystal River	2	2013	9/18/2013	20	2079	1.544002971	472	138	1346.5	120
FL	Crystal River	2	2013	9/18/2013	21	2185	1.526690889	417	146	1431.2	127
FL	Crystal River	2	2013	9/18/2013	22	2146	1.539675707	444	143	1393.8	124
FL	Crystal River	2	2013	9/18/2013	23	2160	1.546170365	431	143	1397	124
FL	Crystal River	2	2013	9/19/2013	0	2176	1.552068474	437	143	1402	124
FL	Crystal River	2	2013	9/19/2013	1	2189	1.548747701	435	145	1413.4	124
FL	Crystal River	2	2013	9/19/2013	2	2191	1.562767475	437	143	1402	124
FL	Crystal River	2	2013	9/19/2013	3	2196	1.559991475	433	144	1407.7	124
FL	Crystal River	2	2013	9/19/2013	4	2172	1.562365127	433	142	1390.2	124
FL	Crystal River	2	2013	9/19/2013	5	2343	1.553919618	401	154	1507.8	136
FL	Crystal River	2	2013	9/19/2013	6	2105	1.562268072	447	138	1347.4	121

FL	Crystal River	2	2013	9/19/2013	7	2178	1.562858783	405	143	1393.6	125
FL	Crystal River	2	2013	9/19/2013	8	2176	1.548644225	413	144	1405.1	123
FL	Crystal River	2	2013	9/19/2013	9	2687	1.568501547	376	175	1713.1	156
FL	Crystal River	2	2013	9/19/2013	10	2909	1.557113799	394	191	1868.2	176
FL	Crystal River	2	2013	9/19/2013	11	4305	1.526433358	510	289	2820.3	291
FL	Crystal River	2	2013	9/19/2013	12	6677	1.569655367	1322	436	4253.8	472
FL	Crystal River	2	2013	9/19/2013	13	6897	1.570426704	1409	450	4391.8	490
FL	Crystal River	2	2013	9/19/2013	14	7027	1.5601341	1481	462	4504.1	502
FL	Crystal River	2	2013	9/19/2013	15	6995	1.552305712	1478	462	4506.2	502
FL	Crystal River	2	2013	9/19/2013	16	7087	1.574888889	1471	461	4500	502
FL	Crystal River	2	2013	9/19/2013	17	6544	1.583085371	1293	424	4133.7	465
FL	Crystal River	2	2013	9/19/2013	18	5408	1.572275846	736	352	3439.6	379
FL	Crystal River	2	2013	9/19/2013	19	6271	1.567162314	1132	410	4001.5	442
FL	Crystal River	2	2013	9/19/2013	20	4737	1.561665513	649	311	3033.3	331
FL	Crystal River	2	2013	9/19/2013	21	2603	1.520799252	407	175	1711.6	161
FL	Crystal River	2	2013	9/19/2013	22	2039	1.485177362	476	140	1372.9	121
FL	Crystal River	2	2013	9/19/2013	23	2012	1.486296816	503	138	1353.7	119
FL	Crystal River	2	2013	9/20/2013	0	2014	1.472114612	502	140	1368.1	119
FL	Crystal River	2	2013	9/20/2013	1	2007	1.474434323	488	139	1361.2	119
FL	Crystal River	2	2013	9/20/2013	2	1982	1.458210712	448	139	1359.2	119
FL	Crystal River	2	2013	9/20/2013	3	1951	1.447973876	447	138	1347.4	119
FL	Crystal River	2	2013	9/20/2013	4	1952	1.464475955	437	136	1332.9	119
FL	Crystal River	2	2013	9/20/2013	5	1978	1.460425281	430	139	1354.4	119
FL	Crystal River	2	2013	9/20/2013	6	1964	1.469839844	423	137	1336.2	119
FL	Crystal River	2	2013	9/20/2013	7	1999	1.47691171	419	138	1353.5	119
FL	Crystal River	2	2013	9/20/2013	8	2006	1.492781664	428	137	1343.8	119
FL	Crystal River	2	2013	9/20/2013	9	2032	1.495987632	463	139	1358.3	119
FL	Crystal River	2	2013	9/20/2013	10	2833	1.514568297	437	191	1870.5	177
FL	Crystal River	2	2013	9/20/2013	11	5205	1.535805966	725	347	3389.1	364
FL	Crystal River	2	2013	9/20/2013	12	6521	1.542738177	1369	433	4226.9	470
FL	Crystal River	2	2013	9/20/2013	13	6516	1.542175518	1330	433	4225.2	469
FL	Crystal River	2	2013	9/20/2013	14	6733	1.547424789	1353	446	4351.1	480
FL	Crystal River	2	2013	9/20/2013	15	7187	1.565761095	1491	470	4590.1	508
FL	Crystal River	2	2013	9/20/2013	16	6718	1.506075416	1422	457	4460.6	494
FL	Crystal River	2	2013	9/20/2013	17	5695	1.495417903	1032	390	3808.3	420

FL	Crystal River	2	2013	9/20/2013	18	6068	1.500902817	1148	414	4042.9	449
FL	Crystal River	2	2013	9/20/2013	19	5040	1.467206195	803	352	3435.1	379
FL	Crystal River	2	2013	9/20/2013	20	2797	1.429447539	393	200	1956.7	196
FL	Crystal River	2	2013	9/20/2013	21	1894	1.380969741	459	140	1371.5	121
FL	Crystal River	2	2013	9/20/2013	22	1971	1.403446312	443	144	1404.4	124
FL	Crystal River	2	2013	9/20/2013	23	1979	1.431050691	461	141	1382.9	122
FL	Crystal River	2	2013	9/21/2013	0	1999	1.445304027	475	141	1383.1	120
FL	Crystal River	2	2013	9/21/2013	1	2039	1.486368275	448	140	1371.8	121
FL	Crystal River	2	2013	9/21/2013	2	2044	1.49798461	436	140	1364.5	119
FL	Crystal River	2	2013	9/21/2013	3	2074	1.524663677	429	139	1360.3	120
FL	Crystal River	2	2013	9/21/2013	4	2123	1.569453685	446	138	1352.7	120
FL	Crystal River	2	2013	9/21/2013	5	2206	1.617539229	462	139	1363.8	121
FL	Crystal River	2	2013	9/21/2013	6	2294	1.696620072	443	138	1352.1	121
FL	Crystal River	2	2013	9/21/2013	7	2523	1.748804325	440	148	1442.7	129
FL	Crystal River	2	2013	9/21/2013	8	2899	1.762202906	383	168	1645.1	151
FL	Crystal River	2	2013	9/21/2013	9	3399	1.758861578	349	198	1932.5	185
FL	Crystal River	2	2013	9/21/2013	10	3560	1.707434053	364	213	2085	200
FL	Crystal River	2	2013	9/21/2013	11	5445	1.635872014	738	341	3328.5	356
FL	Crystal River	2	2013	9/21/2013	12	6742	1.611607783	1330	429	4183.4	464
FL	Crystal River	2	2013	9/21/2013	13	7110	1.637531956	1385	445	4341.9	484
FL	Crystal River	2	2013	9/21/2013	14	7460	1.650296434	1478	463	4520.4	503
FL	Crystal River	2	2013	9/21/2013	15	6983	1.638701805	1363	437	4261.3	477
FL	Crystal River	2	2013	9/21/2013	16	6063	1.649751027	933	377	3675.1	406
FL	Crystal River	2	2013	9/21/2013	17	5941	1.667274717	865	365	3563.3	394
FL	Crystal River	2	2013	9/21/2013	18	7002	1.688653081	1223	425	4146.5	461
FL	Crystal River	2	2013	9/21/2013	19	5918	1.681871146	890	361	3518.7	393
FL	Crystal River	2	2013	9/21/2013	20	4316	1.644378405	464	269	2624.7	276
FL	Crystal River	2	2013	9/21/2013	21	3127	1.627967514	380	197	1920.8	189
FL	Crystal River	2	2013	9/21/2013	22	2264	1.597516229	435	145	1417.2	127
FL	Crystal River	2	2013	9/21/2013	23	2141	1.563001898	479	140	1369.8	120
FL	Crystal River	2	2013	9/22/2013	0	2146	1.564367984	476	140	1371.8	121
FL	Crystal River	2	2013	9/22/2013	1	2244	1.569889464	424	146	1429.4	128
FL	Crystal River	2	2013	9/22/2013	2	2120	1.559511549	469	139	1359.4	120
FL	Crystal River	2	2013	9/22/2013	3	2129	1.566132117	456	139	1359.4	120
FL	Crystal River	2	2013	9/22/2013	4	2120	1.556763108	438	139	1361.8	120

FL	Crystal River	2	2013	9/22/2013	5	2152	1.574941452	456	140	1366.4	120
FL	Crystal River	2	2013	9/22/2013	6	2139	1.585854093	408	138	1348.8	120
FL	Crystal River	2	2013	9/22/2013	7	2230	1.595935018	415	143	1397.3	124
FL	Crystal River	2	2013	9/22/2013	8	3093	1.615312304	427	196	1914.8	184
FL	Crystal River	2	2013	9/22/2013	9	5100	1.631582315	722	320	3125.8	335
FL	Crystal River	2	2013	9/22/2013	10	5429	1.592782749	814	349	3408.5	377
FL	Crystal River	2	2013	9/22/2013	11	5377	1.587493726	765	347	3387.1	378
FL	Crystal River	2	2013	9/22/2013	12	5756	1.621911015	894	364	3548.9	394
FL	Crystal River	2	2013	9/22/2013	13	5455	1.569377715	855	356	3475.9	387
FL	Crystal River	2	2013	9/22/2013	14	5582	1.577816722	895	363	3537.8	394
FL	Crystal River	2	2013	9/22/2013	15	5676	1.571776695	946	370	3611.2	402
FL	Crystal River	2	2013	9/22/2013	16	5533	1.560525722	911	363	3545.6	394
FL	Crystal River	2	2013	9/22/2013	17	5404	1.552873563	866	357	3480	386
FL	Crystal River	2	2013	9/22/2013	18	6250	1.573435376	1144	407	3972.2	441
FL	Crystal River	2	2013	9/22/2013	19	5782	1.596972877	970	371	3620.6	403
FL	Crystal River	2	2013	9/22/2013	20	4249	1.609530664	464	270	2639.9	284
FL	Crystal River	2	2013	9/22/2013	21	2372	1.579543184	437	154	1501.7	137
FL	Crystal River	2	2013	9/22/2013	22	2185	1.565522677	471	143	1395.7	122
FL	Crystal River	2	2013	9/22/2013	23	2155	1.571616103	488	140	1371.2	120
FL	Crystal River	2	2013	9/23/2013	0	2127	1.557101025	479	140	1366	120
FL	Crystal River	2	2013	9/23/2013	1	2114	1.529445811	476	141	1382.2	120
FL	Crystal River	2	2013	9/23/2013	2	2112	1.529215842	461	141	1381.1	120
FL	Crystal River	2	2013	9/23/2013	3	2120	1.550954715	464	140	1366.9	120
FL	Crystal River	2	2013	9/23/2013	4	2564	1.571656246	383	167	1631.4	148
FL	Crystal River	2	2013	9/23/2013	5	3704	1.589290312	382	239	2330.6	227
FL	Crystal River	2	2013	9/23/2013	6	2305	1.571876705	456	150	1466.4	146
FL	Crystal River	2	2013	9/23/2013	7	2122	1.559262253	484	139	1360.9	121
FL	Crystal River	2	2013	9/23/2013	8	2339	1.563502674	426	153	1496	135
FL	Crystal River	2	2013	9/23/2013	9	3361	1.592966491	360	216	2109.9	203
FL	Crystal River	2	2013	9/23/2013	10	4093	1.552142586	456	270	2637	270
FL	Crystal River	2	2013	9/23/2013	11	5570	1.532746285	977	372	3634	399
FL	Crystal River	2	2013	9/23/2013	12	4336	1.530370946	617	290	2833.3	304
FL	Crystal River	2	2013	9/23/2013	13	4604	1.527132811	621	309	3014.8	321
FL	Crystal River	2	2013	9/23/2013	14	4924	1.543041584	651	327	3191.1	347
FL	Crystal River	2	2013	9/23/2013	15	5297	1.57344423	690	345	3366.5	372

FL	Crystal River	2	2013	9/23/2013	16	4899	1.580220631	601	318	3100.2	336
FL	Crystal River	2	2013	9/23/2013	17	4229	1.584844851	475	273	2668.4	278
FL	Crystal River	2	2013	9/23/2013	18	5153	1.599764056	628	330	3221.1	352
FL	Crystal River	2	2013	9/23/2013	19	4281	1.459697218	545	300	2932.8	316
FL	Crystal River	2	2013	9/23/2013	20	2038	1.354692901	424	154	1504.4	140
FL	Crystal River	2	2013	9/23/2013	21	1892	1.354039934	433	143	1397.3	124
FL	Crystal River	2	2013	9/23/2013	22	1931	1.386415853	442	142	1392.8	122
FL	Crystal River	2	2013	9/23/2013	23	2221	1.448415286	412	157	1533.4	138
FL	Crystal River	2	2013	9/24/2013	0	2246	1.500935579	425	153	1496.4	138
FL	Crystal River	2	2013	9/24/2013	1	2087	1.509911735	453	141	1382.2	121
FL	Crystal River	2	2013	9/24/2013	2	2165	1.532417894	404	145	1412.8	121
FL	Crystal River	2	2013	9/24/2013	3	2206	1.54970144	410	146	1423.5	121
FL	Crystal River	2	2013	9/24/2013	4	2416	1.56001808	384	158	1548.7	136
FL	Crystal River	2	2013	9/24/2013	5	2970	1.554241457	353	196	1910.9	176
FL	Crystal River	2	2013	9/24/2013	6	2103	1.482447483	421	145	1418.6	129
FL	Crystal River	2	2013	9/24/2013	7	3165	1.473395093	485	220	2148.1	208
FL	Crystal River	2	2013	9/24/2013	8	5772	1.528318373	1091	387	3776.7	412
FL	Crystal River	2	2013	9/24/2013	9	5719	1.551798991	998	378	3685.4	410
FL	Crystal River	2	2013	9/24/2013	10	5376	1.560884966	802	353	3444.2	383
FL	Crystal River	2	2013	9/24/2013	11	6269	1.574453123	1106	408	3981.7	441
FL	Crystal River	2	2013	9/24/2013	12	6913	1.593003963	1397	445	4339.6	487
FL	Crystal River	2	2013	9/24/2013	13	6644	1.579347723	1291	431	4206.8	469
FL	Crystal River	2	2013	9/24/2013	14	6252	1.541990381	1179	416	4054.5	452
FL	Crystal River	2	2013	9/24/2013	15	6319	1.537918614	1195	421	4108.8	457
FL	Crystal River	2	2013	9/24/2013	16	6418	1.542899728	1281	426	4159.7	465
FL	Crystal River	2	2013	9/24/2013	17	6953	1.574787099	1395	453	4415.2	493
FL	Crystal River	2	2013	9/24/2013	18	6479	1.593340383	1158	417	4066.3	453
FL	Crystal River	2	2013	9/24/2013	19	5839	1.596009293	925	375	3658.5	408
FL	Crystal River	2	2013	9/24/2013	20	5071	1.57123381	690	331	3227.4	354
FL	Crystal River	2	2013	9/24/2013	21	4233	1.581483972	471	274	2676.6	282
FL	Crystal River	2	2013	9/24/2013	22	4323	1.587762148	481	279	2722.7	283
FL	Crystal River	2	2013	9/24/2013	23	2321	1.550434202	411	153	1497	138
FL	Crystal River	2	2013	9/25/2013	0	2149	1.562454559	508	141	1375.4	120
FL	Crystal River	2	2013	9/25/2013	1	2142	1.559065434	519	141	1373.9	119
FL	Crystal River	2	2013	9/25/2013	2	2129	1.561079337	512	139	1363.8	119

FL	Crystal River	2	2013	9/25/2013	3	2152	1.568398805	498	140	1372.1	120
FL	Crystal River	2	2013	9/25/2013	4	2553	1.578752087	397	165	1617.1	148
FL	Crystal River	2	2013	9/25/2013	5	3696	1.602636372	389	236	2306.2	231
FL	Crystal River	2	2013	9/25/2013	6	3701	1.606545991	373	236	2303.7	236
FL	Crystal River	2	2013	9/25/2013	7	3726	1.605065909	366	238	2321.4	234
FL	Crystal River	2	2013	9/25/2013	8	3046	1.608321453	314	194	1893.9	184
FL	Crystal River	2	2013	9/25/2013	9	2281	1.592654657	432	146	1432.2	130
FL	Crystal River	2	2013	9/25/2013	10	2174	1.583394028	498	140	1373	120
FL	Crystal River	2	2013	9/25/2013	11	2613	1.600906752	355	167	1632.2	150
FL	Crystal River	2	2013	9/25/2013	12	3902	1.598983732	453	250	2440.3	245
FL	Crystal River	2	2013	9/25/2013	13	4493	1.563489578	566	294	2873.7	303
FL	Crystal River	2	2013	9/25/2013	14	5455	1.613094006	716	347	3381.7	370
FL	Crystal River	2	2013	9/25/2013	15	5353	1.623203348	679	338	3297.8	361
FL	Crystal River	2	2013	9/25/2013	16	5415	1.642601468	682	338	3296.6	363
FL	Crystal River	2	2013	9/25/2013	17	5924	1.665729389	775	364	3556.4	392
FL	Crystal River	2	2013	9/25/2013	18	7171	1.648051112	1435	446	4351.2	482
FL	Crystal River	2	2013	9/25/2013	19	7298	1.643841788	1562	455	4439.6	501
FL	Crystal River	2	2013	9/25/2013	20	5749	1.646523084	939	358	3491.6	393
FL	Crystal River	2	2013	9/25/2013	21	4427	1.649895647	520	275	2683.2	290
FL	Crystal River	2	2013	9/25/2013	22	2877	1.633081682	248	180	1761.7	165
FL	Crystal River	2	2013	9/25/2013	23	2194	1.606737459	456	140	1365.5	120
FL	Crystal River	2	2013	9/26/2013	0	2223	1.608887602	431	141	1381.7	121
FL	Crystal River	2	2013	9/26/2013	1	2297	1.609670638	419	146	1427	125
FL	Crystal River	2	2013	9/26/2013	2	2187	1.613069774	442	139	1355.8	119
FL	Crystal River	2	2013	9/26/2013	3	2186	1.606289955	430	139	1360.9	119
FL	Crystal River	2	2013	9/26/2013	4	2163	1.620467486	412	137	1334.8	119
FL	Crystal River	2	2013	9/26/2013	5	2163	1.609614526	419	137	1343.8	119
FL	Crystal River	2	2013	9/26/2013	6	2218	1.618623659	368	140	1370.3	123
FL	Crystal River	2	2013	9/26/2013	7	3050	1.646068325	392	190	1852.9	180
FL	Crystal River	2	2013	9/26/2013	8	4550	1.667827426	515	279	2728.1	280
FL	Crystal River	2	2013	9/26/2013	9	4447	1.655560106	467	275	2686.1	276
FL	Crystal River	2	2013	9/26/2013	10	4592	1.667513981	470	282	2753.8	286
FL	Crystal River	2	2013	9/26/2013	11	5883	1.682251008	800	358	3497.1	386
FL	Crystal River	2	2013	9/26/2013	12	6491	1.662909259	1194	400	3903.4	430
FL	Crystal River	2	2013	9/26/2013	13	6470	1.653716389	1122	401	3912.4	432

FL	Crystal River	2	2013	9/26/2013	14	6766	1.664903172	1320	417	4063.9	451
FL	Crystal River	2	2013	9/26/2013	15	6355	1.673249078	1055	389	3798	420
FL	Crystal River	2	2013	9/26/2013	16	5837	1.678504673	845	356	3477.5	386
FL	Crystal River	2	2013	9/26/2013	17	5731	1.659860399	845	354	3452.7	383
FL	Crystal River	2	2013	9/26/2013	18	5655	1.661378459	823	349	3403.8	380
FL	Crystal River	2	2013	9/26/2013	19	4823	1.650412346	616	299	2922.3	322
FL	Crystal River	2	2013	9/26/2013	20	2522	1.609547514	451	160	1566.9	148
FL	Crystal River	2	2013	9/26/2013	21	2100	1.575512041	373	136	1332.9	120
FL	Crystal River	2	2013	9/26/2013	22	2171	1.590126712	421	140	1365.3	120
FL	Crystal River	2	2013	9/26/2013	23	2165	1.601805268	427	138	1351.6	120
FL	Crystal River	2	2013	9/27/2013	0	2168	1.594469368	398	139	1359.7	120
FL	Crystal River	2	2013	9/27/2013	1	2157	1.600504563	378	138	1347.7	120
FL	Crystal River	2	2013	9/27/2013	2	2139	1.593889717	371	137	1342	120
FL	Crystal River	2	2013	9/27/2013	3	2158	1.579448145	401	140	1366.3	120
FL	Crystal River	2	2013	9/27/2013	4	2130	1.582466568	401	138	1346	120
FL	Crystal River	2	2013	9/27/2013	5	2214	1.585392052	400	143	1396.5	126
FL	Crystal River	2	2013	9/27/2013	6	2166	1.573327522	397	141	1376.7	123
FL	Crystal River	2	2013	9/27/2013	7	2735	1.581564795	399	177	1729.3	162
FL	Crystal River	2	2013	9/27/2013	8	3652	1.593994151	403	235	2291.1	229
FL	Crystal River	2	2013	9/27/2013	9	5091	1.63361571	638	319	3116.4	337
FL	Crystal River	2	2013	9/27/2013	10	4497	1.625460854	511	283	2766.6	292
FL	Crystal River	2	2013	9/27/2013	11	6031	1.64516217	912	376	3665.9	408
FL	Crystal River	2	2013	9/27/2013	12	6613	1.661724796	1205	408	3979.6	447
FL	Crystal River	2	2013	9/27/2013	13	7002	1.669726958	1341	430	4193.5	472
FL	Crystal River	2	2013	9/27/2013	14	7152	1.651846548	1363	444	4329.7	485
FL	Crystal River	2	2013	9/27/2013	15	7199	1.661128802	1391	444	4333.8	486
FL	Crystal River	2	2013	9/27/2013	16	7060	1.654441919	1344	437	4267.3	478
FL	Crystal River	2	2013	9/27/2013	17	6409	1.649126418	1115	398	3886.3	437
FL	Crystal River	2	2013	9/27/2013	18	6444	1.664256198	1091	397	3872	437
FL	Crystal River	2	2013	9/27/2013	19	6078	1.655454174	976	376	3671.5	415
FL	Crystal River	2	2013	9/27/2013	20	5838	1.673067003	844	358	3489.4	393
FL	Crystal River	2	2013	9/27/2013	21	5037	1.694704259	633	304	2972.2	331
FL	Crystal River	2	2013	9/27/2013	22	4580	1.690411161	490	278	2709.4	293
FL	Crystal River	2	2013	9/27/2013	23	3260	1.659117512	379	201	1964.9	196
FL	Crystal River	2	2013	9/28/2013	0	2178	1.63403106	477	136	1332.9	121

FL	Crystal River	2	2013	9/28/2013	1	2189	1.623164763	469	138	1348.6	121
FL	Crystal River	2	2013	9/28/2013	2	2175	1.605877141	471	139	1354.4	121
FL	Crystal River	2	2013	9/28/2013	3	2167	1.603047788	467	138	1351.8	121
FL	Crystal River	2	2013	9/28/2013	4	2127	1.584711667	428	137	1342.2	121
FL	Crystal River	2	2013	9/28/2013	5	2135	1.574599897	413	139	1355.9	121
FL	Crystal River	2	2013	9/28/2013	6	2137	1.552600988	379	141	1376.4	124
FL	Crystal River	2	2013	9/28/2013	7	3408	1.574206661	424	222	2164.9	215
FL	Crystal River	2	2013	9/28/2013	8	5168	1.592996733	707	332	3244.2	353
FL	Crystal River	2	2013	9/28/2013	9	6094	1.610635374	1131	388	3783.6	423
FL	Crystal River	2	2013	9/28/2013	10	6299	1.623202598	1168	398	3880.6	438
FL	Crystal River	2	2013	9/28/2013	11	6775	1.643699355	1331	422	4121.8	466
FL	Crystal River	2	2013	9/28/2013	12	7201	1.667747464	1407	443	4317.8	489
FL	Crystal River	2	2013	9/28/2013	13	7579	1.68827408	1508	460	4489.2	506
FL	Crystal River	2	2013	9/28/2013	14	7665	1.711013885	1447	459	4479.8	506
FL	Crystal River	2	2013	9/28/2013	15	7639	1.714856553	1412	457	4454.6	506
FL	Crystal River	2	2013	9/28/2013	16	7595	1.708738301	1422	456	4444.8	506
FL	Crystal River	2	2013	9/28/2013	17	7629	1.70778116	1438	458	4467.2	506
FL	Crystal River	2	2013	9/28/2013	18	7306	1.720718811	1346	435	4245.9	485
FL	Crystal River	2	2013	9/28/2013	19	6310	1.70840666	971	379	3693.5	420
FL	Crystal River	2	2013	9/28/2013	20	5792	1.682693704	802	353	3442.1	389
FL	Crystal River	2	2013	9/28/2013	21	5067	1.66387548	621	312	3045.3	338
FL	Crystal River	2	2013	9/28/2013	22	4728	1.630401048	530	297	2899.9	316
FL	Crystal River	2	2013	9/28/2013	23	3993	1.60761736	404	254	2483.8	261
FL	Crystal River	2	2013	9/29/2013	0	2528	1.614303959	388	160	1566	150
FL	Crystal River	2	2013	9/29/2013	1	2186	1.600878799	439	140	1365.5	122
FL	Crystal River	2	2013	9/29/2013	2	2149	1.604210212	466	137	1339.6	119
FL	Crystal River	2	2013	9/29/2013	3	2158	1.601603087	459	138	1347.4	119
FL	Crystal River	2	2013	9/29/2013	4	2122	1.580868658	417	137	1342.3	119
FL	Crystal River	2	2013	9/29/2013	5	2119	1.574411175	399	138	1345.9	119
FL	Crystal River	2	2013	9/29/2013	6	2071	1.559487952	385	136	1328	119
FL	Crystal River	2	2013	9/29/2013	7	3220	1.585113715	406	208	2031.4	202
FL	Crystal River	2	2013	9/29/2013	8	5207	1.581232918	711	337	3293	360
FL	Crystal River	2	2013	9/29/2013	9	6581	1.594582152	1308	423	4127.1	464
FL	Crystal River	2	2013	9/29/2013	10	6802	1.622266212	1345	430	4192.9	475
FL	Crystal River	2	2013	9/29/2013	11	7333	1.642586744	1459	458	4464.3	504

FL	Crystal River	2	2013	9/29/2013	12	7636	1.662747147	1547	471	4592.4	516
FL	Crystal River	2	2013	9/29/2013	13	7700	1.672168172	1538	472	4604.8	516
FL	Crystal River	2	2013	9/29/2013	14	7711	1.678457152	1539	471	4594.1	517
FL	Crystal River	2	2013	9/29/2013	15	7752	1.682839466	1538	472	4606.5	516
FL	Crystal River	2	2013	9/29/2013	16	7811	1.693221478	1545	473	4613.1	516
FL	Crystal River	2	2013	9/29/2013	17	7755	1.684880614	1546	472	4602.7	516
FL	Crystal River	2	2013	9/29/2013	18	7659	1.672891685	1533	469	4578.3	516
FL	Crystal River	2	2013	9/29/2013	19	7650	1.675170254	1525	468	4566.7	516
FL	Crystal River	2	2013	9/29/2013	20	6820	1.664551401	1253	420	4097.2	464
FL	Crystal River	2	2013	9/29/2013	21	5685	1.65026561	809	353	3444.9	385
FL	Crystal River	2	2013	9/29/2013	22	5659	1.647356777	831	352	3435.2	381
FL	Crystal River	2	2013	9/29/2013	23	4138	1.640175988	421	258	2522.9	266
FL	Crystal River	2	2013	9/30/2013	0	2575	1.620210155	403	163	1589.3	151
FL	Crystal River	2	2013	9/30/2013	1	2271	1.596036264	402	146	1422.9	124
FL	Crystal River	2	2013	9/30/2013	2	2215	1.594213329	432	142	1389.4	120
FL	Crystal River	2	2013	9/30/2013	3	2206	1.565094005	429	144	1409.5	121
FL	Crystal River	2	2013	9/30/2013	4	2425	1.550412378	351	160	1564.1	138
FL	Crystal River	2	2013	9/30/2013	5	3231	1.562076968	380	212	2068.4	202
FL	Crystal River	2	2013	9/30/2013	6	4235	1.58917783	506	273	2664.9	280
FL	Crystal River	2	2013	9/30/2013	7	4987	1.618840486	597	316	3080.6	337
FL	Crystal River	2	2013	9/30/2013	8	5336	1.618932039	685	338	3296	367
FL	Crystal River	2	2013	9/30/2013	9	6371	1.624384896	1149	402	3922.1	442
FL	Crystal River	2	2013	9/30/2013	10	6702	1.609471434	1303	427	4164.1	470
FL	Crystal River	2	2013	9/30/2013	11	6740	1.602282182	1274	431	4206.5	471
FL	Crystal River	2	2013	9/30/2013	12	7390	1.616607967	1513	469	4571.3	512
FL	Crystal River	2	2013	9/30/2013	13	7310	1.607724114	1491	466	4546.8	511
FL	Crystal River	2	2013	9/30/2013	14	7327	1.609268614	1484	467	4553	511
FL	Crystal River	2	2013	9/30/2013	15	7360	1.619183808	1472	466	4545.5	511
FL	Crystal River	2	2013	9/30/2013	16	7305	1.605741543	1487	466	4549.3	511
FL	Crystal River	2	2013	9/30/2013	17	7286	1.601002	1479	466	4550.9	511
FL	Crystal River	2	2013	9/30/2013	18	7307	1.605016913	1484	467	4552.6	511
FL	Crystal River	2	2013	9/30/2013	19	7122	1.608909773	1425	454	4426.6	499
FL	Crystal River	2	2013	9/30/2013	20	5810	1.617123135	880	368	3592.8	402
FL	Crystal River	2	2013	9/30/2013	21	4693	1.628383067	553	295	2882	312
FL	Crystal River	2	2013	9/30/2013	22	4132	1.62824605	433	260	2537.7	263

FL	Crystal River	2	2013	9/30/2013	23	2741	1.616060374	381	174	1696.1	160
FL	Crystal River	2	2013	10/1/2013	0	2194	1.584916564	465	142	1384.3	120
FL	Crystal River	2	2013	10/1/2013	1	2132	1.587845386	482	137	1342.7	119
FL	Crystal River	2	2013	10/1/2013	2	2122	1.574067206	486	138	1348.1	119
FL	Crystal River	2	2013	10/1/2013	3	2120	1.587420442	447	137	1335.5	119
FL	Crystal River	2	2013	10/1/2013	4	2109	1.586191336	418	136	1329.6	120
FL	Crystal River	2	2013	10/1/2013	5	3047	1.588965373	425	196	1917.6	194
FL	Crystal River	2	2013	10/1/2013	6	3579	1.58953633	394	231	2251.6	231
FL	Crystal River	2	2013	10/1/2013	7	5069	1.604824922	612	324	3158.6	342
FL	Crystal River	2	2013	10/1/2013	8	6655	1.609937828	1281	424	4133.7	463
FL	Crystal River	2	2013	10/1/2013	9	6838	1.616472034	1412	434	4230.2	477
FL	Crystal River	2	2013	10/1/2013	10	6854	1.605565837	1442	438	4268.9	478
FL	Crystal River	2	2013	10/1/2013	11	7074	1.58159501	1578	458	4472.7	502
FL	Crystal River	2	2013	10/1/2013	12	7092	1.56362995	1437	465	4535.6	506
FL	Crystal River	2	2013	10/1/2013	13	7142	1.57032607	1432	466	4548.1	507
FL	Crystal River	2	2013	10/1/2013	14	6975	1.547867383	1405	462	4506.2	499
FL	Crystal River	2	2013	10/1/2013	15	6778	1.52661096	1385	455	4439.9	495
FL	Crystal River	2	2013	10/1/2013	16	6551	1.512444013	1342	444	4331.4	484
FL	Crystal River	2	2013	10/1/2013	17	5249	1.503451436	834	358	3491.3	386
FL	Crystal River	2	2013	10/1/2013	18	6456	1.526890876	1293	433	4228.2	471
FL	Crystal River	2	2013	10/1/2013	19	5914	1.510716019	1103	401	3914.7	438
FL	Crystal River	2	2013	10/1/2013	20	5299	1.537858781	771	353	3445.7	385
FL	Crystal River	2	2013	10/1/2013	21	5205	1.557543839	748	342	3341.8	369
FL	Crystal River	2	2013	10/1/2013	22	3262	1.566537002	358	213	2082.3	211
FL	Crystal River	2	2013	10/1/2013	23	2815	1.560767354	238	185	1803.6	173
FL	Crystal River	2	2013	10/2/2013	0	2016	1.533779671	507	134	1314.4	119
FL	Crystal River	2	2013	10/2/2013	1	2003	1.518344451	496	135	1319.2	119
FL	Crystal River	2	2013	10/2/2013	2	1959	1.465549488	525	137	1336.7	119
FL	Crystal River	2	2013	10/2/2013	3	1941	1.424587156	512	139	1362.5	119
FL	Crystal River	2	2013	10/2/2013	4	1887	1.386990077	504	139	1360.5	119
FL	Crystal River	2	2013	10/2/2013	5	2038	1.38601741	452	150	1470.4	128
FL	Crystal River	2	2013	10/2/2013	6	1981	1.425179856	486	142	1390	124
FL	Crystal River	2	2013	10/2/2013	7	3177	1.479739171	461	220	2147	212
FL	Crystal River	2	2013	10/2/2013	8	4640	1.519418429	619	313	3053.8	327
FL	Crystal River	2	2013	10/2/2013	9	6365	1.546066215	1235	422	4116.9	462

FL	Crystal River	2	2013	10/2/2013	10	6504	1.537043602	1320	434	4231.5	475
FL	Crystal River	2	2013	10/2/2013	11	6857	1.49393233	1482	470	4589.9	516
FL	Crystal River	2	2013	10/2/2013	12	6617	1.434642153	1466	473	4612.3	516
FL	Crystal River	2	2013	10/2/2013	13	6584	1.447001165	1437	466	4550.1	506
FL	Crystal River	2	2013	10/2/2013	14	6705	1.471588789	1458	467	4556.3	507
FL	Crystal River	2	2013	10/2/2013	15	6766	1.486869575	1469	466	4550.5	506
FL	Crystal River	2	2013	10/2/2013	16	6872	1.513623048	1471	465	4540.1	506
FL	Crystal River	2	2013	10/2/2013	17	6751	1.595566165	1328	434	4231.1	473
FL	Crystal River	2	2013	10/2/2013	18	6442	1.701891578	1063	388	3785.2	424
FL	Crystal River	2	2013	10/2/2013	19	6561	1.74699116	984	385	3755.6	420
FL	Crystal River	2	2013	10/2/2013	20	6538	1.779967875	1028	376	3673.1	413
FL	Crystal River	2	2013	10/2/2013	21	3400	1.734870905	405	201	1959.8	195
FL	Crystal River	2	2013	10/2/2013	22	2303	1.679305819	453	140	1371.4	120
FL	Crystal River	2	2013	10/2/2013	23	2316	1.699691766	441	139	1362.6	120
FL	Crystal River	2	2013	10/3/2013	0	2343	1.699057288	438	141	1379	121
FL	Crystal River	2	2013	10/3/2013	1	2357	1.702050838	445	142	1384.8	120
FL	Crystal River	2	2013	10/3/2013	2	2339	1.703941138	443	140	1372.7	120
FL	Crystal River	2	2013	10/3/2013	3	2358	1.697379787	536	142	1389.2	120
FL	Crystal River	2	2013	10/3/2013	4	2390	1.722646677	453	142	1387.4	123
FL	Crystal River	2	2013	10/3/2013	5	2401	1.720037252	569	143	1395.9	122
FL	Crystal River	2	2013	10/3/2013	6	2822	1.776742429	551	163	1588.3	147
FL	Crystal River	2	2013	10/3/2013	7	3601	1.789050079	535	206	2012.8	195
FL	Crystal River	2	2013	10/3/2013	8	5949	1.799401107	929	339	3306.1	360
FL	Crystal River	2	2013	10/3/2013	9	7079	1.820028281	1166	399	3889.5	439
FL	Crystal River	2	2013	10/3/2013	10	7452	1.805057649	1259	423	4128.4	465
FL	Crystal River	2	2013	10/3/2013	11	8051	1.793255524	1459	460	4489.6	508
FL	Crystal River	2	2013	10/3/2013	12	8002	1.759106597	1446	466	4548.9	511
FL	Crystal River	2	2013	10/3/2013	13	8077	1.773839329	1443	467	4553.4	511
FL	Crystal River	2	2013	10/3/2013	14	8378	1.832739046	1481	469	4571.3	511
FL	Crystal River	2	2013	10/3/2013	15	8334	1.823113775	1490	469	4571.3	511
FL	Crystal River	2	2013	10/3/2013	16	8265	1.811348046	1478	468	4562.9	511
FL	Crystal River	2	2013	10/3/2013	17	8170	1.79916318	1480	465	4541	511
FL	Crystal River	2	2013	10/3/2013	18	8216	1.811287478	1478	465	4536	511
FL	Crystal River	2	2013	10/3/2013	19	8220	1.864368337	1432	452	4409	501
FL	Crystal River	2	2013	10/3/2013	20	7794	1.868034417	1293	428	4172.3	473

FL	Crystal River	2	2013	10/3/2013	21	6372	1.841724955	861	355	3459.8	389
FL	Crystal River	2	2013	10/3/2013	22	4880	1.800937373	493	278	2709.7	292
FL	Crystal River	2	2013	10/3/2013	23	3037	1.746606855	394	178	1738.8	164
FL	Crystal River	2	2013	10/4/2013	0	2373	1.727577169	489	140	1373.6	119
FL	Crystal River	2	2013	10/4/2013	1	2406	1.739067582	489	142	1383.5	119
FL	Crystal River	2	2013	10/4/2013	2	2417	1.766554597	502	140	1368.2	119
FL	Crystal River	2	2013	10/4/2013	3	2429	1.757597685	497	141	1382	119
FL	Crystal River	2	2013	10/4/2013	4	2406	1.774990778	478	139	1355.5	119
FL	Crystal River	2	2013	10/4/2013	5	3232	1.805284031	447	183	1790.3	179
FL	Crystal River	2	2013	10/4/2013	6	5151	1.816931217	575	290	2835	303
FL	Crystal River	2	2013	10/4/2013	7	5662	1.793134026	622	324	3157.6	349
FL	Crystal River	2	2013	10/4/2013	8	6429	1.781626715	851	370	3608.5	406
FL	Crystal River	2	2013	10/4/2013	9	7274	1.780922535	1245	419	4084.4	460
FL	Crystal River	2	2013	10/4/2013	10	7600	1.819357001	1269	428	4177.3	472
FL	Crystal River	2	2013	10/4/2013	11	7822	1.830906793	1328	438	4272.2	484
FL	Crystal River	2	2013	10/4/2013	12	8423	1.834956321	1487	471	4590.3	515
FL	Crystal River	2	2013	10/4/2013	13	8306	1.816035158	1477	469	4573.7	513
FL	Crystal River	2	2013	10/4/2013	14	8372	1.844337233	1457	465	4539.3	512
FL	Crystal River	2	2013	10/4/2013	15	8363	1.839194212	1459	466	4547.1	512
FL	Crystal River	2	2013	10/4/2013	16	8210	1.811602198	1468	465	4531.9	512
FL	Crystal River	2	2013	10/4/2013	17	7818	1.773673942	1401	452	4407.8	498
FL	Crystal River	2	2013	10/4/2013	18	7521	1.752044168	1382	440	4292.7	488
FL	Crystal River	2	2013	10/4/2013	19	7121	1.693862988	1362	431	4204	478
FL	Crystal River	2	2013	10/4/2013	20	5831	1.585717394	1014	377	3677.2	414
FL	Crystal River	2	2013	10/4/2013	21	5406	1.539556872	884	360	3511.4	393
FL	Crystal River	2	2013	10/4/2013	22	5025	1.541316484	769	334	3260.2	363
FL	Crystal River	2	2013	10/4/2013	23	3084	1.528473014	351	207	2017.7	201
FL	Crystal River	2	2013	10/5/2013	0	2145	1.558866279	506	141	1376	123
FL	Crystal River	2	2013	10/5/2013	1	2159	1.601394452	524	138	1348.2	120
FL	Crystal River	2	2013	10/5/2013	2	2136	1.580934054	520	138	1351.1	120
FL	Crystal River	2	2013	10/5/2013	3	2126	1.56300544	516	139	1360.2	120
FL	Crystal River	2	2013	10/5/2013	4	2091	1.552223294	502	138	1347.1	120
FL	Crystal River	2	2013	10/5/2013	5	2119	1.573008685	501	138	1347.1	120
FL	Crystal River	2	2013	10/5/2013	6	2112	1.588686626	471	136	1329.4	120
FL	Crystal River	2	2013	10/5/2013	7	2982	1.628529299	413	187	1831.1	175

FL	Crystal River	2	2013	10/5/2013	8	5080	1.679783083	620	310	3024.2	321
FL	Crystal River	2	2013	10/5/2013	9	6452	1.689801477	1130	391	3818.2	427
FL	Crystal River	2	2013	10/5/2013	10	6905	1.689048702	1295	419	4088.1	458
FL	Crystal River	2	2013	10/5/2013	11	7646	1.6999044	1538	461	4497.9	506
FL	Crystal River	2	2013	10/5/2013	12	7574	1.653242529	1571	470	4581.3	512
FL	Crystal River	2	2013	10/5/2013	13	7422	1.617099157	1569	470	4589.7	512
FL	Crystal River	2	2013	10/5/2013	14	7373	1.614938123	1570	468	4565.5	512
FL	Crystal River	2	2013	10/5/2013	15	7389	1.60766737	1608	471	4596.1	512
FL	Crystal River	2	2013	10/5/2013	16	7211	1.572188549	1609	470	4586.6	512
FL	Crystal River	2	2013	10/5/2013	17	6959	1.525527764	1637	468	4561.7	511
FL	Crystal River	2	2013	10/5/2013	18	6756	1.517145359	1576	456	4453.1	502
FL	Crystal River	2	2013	10/5/2013	19	6251	1.524002243	1361	420	4101.7	464
FL	Crystal River	2	2013	10/5/2013	20	5411	1.535296788	926	361	3524.4	394
FL	Crystal River	2	2013	10/5/2013	21	5123	1.581026448	661	332	3240.3	362
FL	Crystal River	2	2013	10/5/2013	22	4326	1.552931041	520	285	2785.7	301
FL	Crystal River	2	2013	10/5/2013	23	2456	1.526888405	381	165	1608.5	153
FL	Crystal River	2	2013	10/6/2013	0	2109	1.496593812	463	144	1409.2	124
FL	Crystal River	2	2013	10/6/2013	1	2044	1.483093891	498	141	1378.2	120
FL	Crystal River	2	2013	10/6/2013	2	2033	1.4794062	500	141	1374.2	120
FL	Crystal River	2	2013	10/6/2013	3	1988	1.456730417	502	140	1364.7	120
FL	Crystal River	2	2013	10/6/2013	4	1939	1.430468462	466	139	1355.5	120
FL	Crystal River	2	2013	10/6/2013	5	1923	1.414906924	467	139	1359.1	120
FL	Crystal River	2	2013	10/6/2013	6	1881	1.399033098	431	137	1344.5	120
FL	Crystal River	2	2013	10/6/2013	7	2306	1.411779111	388	167	1633.4	151
FL	Crystal River	2	2013	10/6/2013	8	4412	1.468610612	648	308	3004.2	316
FL	Crystal River	2	2013	10/6/2013	9	5635	1.482465602	1235	390	3801.1	420
FL	Crystal River	2	2013	10/6/2013	10	6010	1.497968645	1243	411	4012.1	445
FL	Crystal River	2	2013	10/6/2013	11	6927	1.520980173	1594	467	4554.3	506
FL	Crystal River	2	2013	10/6/2013	12	6900	1.521734336	1582	465	4534.3	506
FL	Crystal River	2	2013	10/6/2013	13	6908	1.508955876	1584	469	4578	506
FL	Crystal River	2	2013	10/6/2013	14	6939	1.511731771	1592	470	4590.1	506
FL	Crystal River	2	2013	10/6/2013	15	7069	1.565427287	1557	463	4515.7	502
FL	Crystal River	2	2013	10/6/2013	16	7112	1.640107926	1439	444	4336.3	481
FL	Crystal River	2	2013	10/6/2013	17	6892	1.710301015	1257	413	4029.7	448
FL	Crystal River	2	2013	10/6/2013	18	6296	1.760134191	922	367	3577	397

FL	Crystal River	2	2013	10/6/2013	19	6355	1.793778932	907	363	3542.8	394
FL	Crystal River	2	2013	10/6/2013	20	5411	1.796361463	590	309	3012.2	329
FL	Crystal River	2	2013	10/6/2013	21	3033	1.749336717	322	177	1733.8	166
FL	Crystal River	2	2013	10/6/2013	22	2686	1.702586207	383	161	1577.6	143
FL	Crystal River	2	2013	10/6/2013	23	2299	1.674923503	480	140	1372.6	122
FL	Crystal River	2	2013	10/7/2013	0	2247	1.653664999	478	139	1358.8	120
FL	Crystal River	2	2013	10/7/2013	1	2242	1.646108664	476	139	1362	120
FL	Crystal River	2	2013	10/7/2013	2	2249	1.663707649	475	138	1351.8	120
FL	Crystal River	2	2013	10/7/2013	3	2268	1.670964415	483	139	1357.3	120
FL	Crystal River	2	2013	10/7/2013	4	2625	1.715237846	434	157	1530.4	140
FL	Crystal River	2	2013	10/7/2013	5	3837	1.761384502	394	223	2178.4	217
FL	Crystal River	2	2013	10/7/2013	6	4980	1.79569466	563	284	2773.3	300
FL	Crystal River	2	2013	10/7/2013	7	6110	1.804595664	748	347	3385.8	379
FL	Crystal River	2	2013	10/7/2013	8	6715	1.781876078	1115	386	3768.5	424
FL	Crystal River	2	2013	10/7/2013	9	6967	1.786868428	1232	400	3899	441
FL	Crystal River	2	2013	10/7/2013	10	6928	1.781114225	1170	399	3889.7	439
FL	Crystal River	2	2013	10/7/2013	11	7759	1.794278843	1435	443	4324.3	490
FL	Crystal River	2	2013	10/7/2013	12	7862	1.810769727	1463	445	4341.8	492
FL	Crystal River	2	2013	10/7/2013	13	7887	1.852539108	1404	436	4257.4	486
FL	Crystal River	2	2013	10/7/2013	14	8158	1.896371371	1428	441	4301.9	485
FL	Crystal River	2	2013	10/7/2013	15	8445	1.962173842	1420	441	4303.9	485
FL	Crystal River	2	2013	10/7/2013	16	8613	1.999860685	1421	441	4306.8	485
FL	Crystal River	2	2013	10/7/2013	17	7935	2.053784036	1193	396	3863.6	436
FL	Crystal River	2	2013	10/7/2013	18	8589	2.071135761	1298	425	4147	465
FL	Crystal River	2	2013	10/7/2013	19	8264	2.080930678	1258	407	3971.3	448
FL	Crystal River	2	2013	10/7/2013	20	7053	2.04422932	883	354	3450.2	388
FL	Crystal River	2	2013	10/7/2013	21	5773	1.982826722	564	298	2911.5	318
FL	Crystal River	2	2013	10/7/2013	22	3924	1.872137405	358	215	2096	212
FL	Crystal River	2	2013	10/7/2013	23	2461	1.73799435	451	145	1416	129
FL	Crystal River	2	2013	10/8/2013	0	2285	1.682745416	487	139	1357.9	120
FL	Crystal River	2	2013	10/8/2013	1	2247	1.645912687	495	140	1365.2	120
FL	Crystal River	2	2013	10/8/2013	2	2222	1.629988263	492	139	1363.2	120
FL	Crystal River	2	2013	10/8/2013	3	2208	1.628919218	490	139	1355.5	120
FL	Crystal River	2	2013	10/8/2013	4	2211	1.60952173	457	140	1373.7	122
FL	Crystal River	2	2013	10/8/2013	5	3327	1.630163163	377	209	2040.9	203

FL	Crystal River	2	2013	10/8/2013	6	2897	1.584532079	407	187	1828.3	187
FL	Crystal River	2	2013	10/8/2013	7	2311	1.562225377	412	151	1479.3	133
FL	Crystal River	2	2013	10/8/2013	8	2587	1.576669917	421	168	1640.8	151
FL	Crystal River	2	2013	10/8/2013	9	4193	1.633869774	456	263	2566.3	263
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FL	Crystal River	2	2013	10/8/2013	11	7091	1.687810916	1331	431	4201.3	472
FL	Crystal River	2	2013	10/8/2013	12	7433	1.673985992	1452	455	4440.3	498
FL	Crystal River	2	2013	10/8/2013	13	7498	1.673922265	1460	459	4479.3	501
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FL	Crystal River	2	2013	10/8/2013	16	7190	1.683801316	1357	438	4270.1	481
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FL	Crystal River	2	2013	10/8/2013	18	6681	1.690151534	1083	405	3952.9	443
FL	Crystal River	2	2013	10/8/2013	19	6451	1.668347687	1078	396	3866.7	438
FL	Crystal River	2	2013	10/8/2013	20	5591	1.60306219	816	357	3487.7	394
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FL	Crystal River	2	2013	10/9/2013	0	1828	1.355278766	387	138	1348.8	121
FL	Crystal River	2	2013	10/9/2013	1	1846	1.36447631	466	138	1352.9	121
FL	Crystal River	2	2013	10/9/2013	2	1868	1.375653583	468	139	1357.9	121
FL	Crystal River	2	2013	10/9/2013	3	1889	1.387032822	478	139	1361.9	121
FL	Crystal River	2	2013	10/9/2013	4	1880	1.390224063	476	138	1352.3	121
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FL	Crystal River	2	2013	10/9/2013	6	1873	1.420015163	447	135	1319	120
FL	Crystal River	2	2013	10/9/2013	7	1895	1.410915047	441	137	1343.1	120
FL	Crystal River	2	2013	10/9/2013	8	1915	1.437040372	454	136	1332.6	120
FL	Crystal River	2	2013	10/9/2013	9	1937	1.437263486	451	138	1347.7	120
FL	Crystal River	2	2013	10/9/2013	10	1944	1.440426793	450	138	1349.6	120
FL	Crystal River	2	2013	10/9/2013	11	1946	1.432040621	444	139	1358.9	120
FL	Crystal River	2	2013	10/9/2013	12	1946	1.418677553	444	140	1371.7	120
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FL	Crystal River	2	2013	11/1/2013	7	8	0.127591707	0	6	62.7	0
FL	Crystal River	2	2013	11/1/2013	8	4	0.063291139	0	6	63.2	0
FL	Crystal River	2	2013	11/1/2013	9	3	0.032085561	1	9	93.5	0
FL	Crystal River	2	2013	11/1/2013	10	4	0.042417815	1	9	94.3	0
FL	Crystal River	2	2013	11/1/2013	11	9	0.079646018	2	11	113	0
FL	Crystal River	2	2013	11/1/2013	12	6	0.06097561	1	10	98.4	0
FL	Crystal River	2	2013	11/1/2013	13	5	0.060753341	1	8	82.3	0
FL	Crystal River	2	2013	11/1/2013	14	4	0.040733198	1	10	98.2	0
FL	Crystal River	2	2013	11/1/2013	15	5	0.038314176	2	13	130.5	0
FL	Crystal River	2	2013	11/1/2013	16	5	0.0509684	1	10	98.1	0
FL	Crystal River	2	2013	11/1/2013	17	4	0.04252876	1	9	94.054	0
FL	Crystal River	2	2013	11/1/2013	18	5	0.0382263	2	13	130.8	0
FL	Crystal River	2	2013	11/1/2013	19	5	0.038080731	2	13	131.3	0
FL	Crystal River	2	2013	11/1/2013	20	5	0.043821209	1	11	114.1	0
FL	Crystal River	2	2013	11/1/2013	21	5	0.043821209	1	11	114.1	0
FL	Crystal River	2	2013	11/1/2013	22	10	0.087873462	1	11	113.8	0
FL	Crystal River	2	2013	11/1/2013	23	6	0.046224961	2	13	129.8	0
FL	Crystal River	2	2013	11/2/2013	0	7	0.043263288	4	16	161.8	0

FL	Crystal River	2	2013	11/2/2013	1	37	0.180224062	13	21	205.3	0
FL	Crystal River	2	2013	11/2/2013	2	371	0.709233416	129	53	523.1	21
FL	Crystal River	2	2013	11/2/2013	3	847	0.99623618	325	87	850.2	53
FL	Crystal River	2	2013	11/2/2013	4	1358	1.091113611	550	127	1244.6	96
FL	Crystal River	2	2013	11/2/2013	5	1630	1.148777222	471	145	1418.9	132
FL	Crystal River	2	2013	11/2/2013	6	2476	1.427089337	400	178	1735	151
FL	Crystal River	2	2013	11/2/2013	7	2534	1.48927417	474	174	1701.5	156
FL	Crystal River	2	2013	11/2/2013	8	3013	1.527890467	345	202	1972	186
FL	Crystal River	2	2013	11/2/2013	9	3295	1.552268337	320	217	2122.7	207
FL	Crystal River	2	2013	11/2/2013	10	3411	1.565325134	322	223	2179.1	213
FL	Crystal River	2	2013	11/2/2013	11	3690	1.540066778	433	245	2396	236
FL	Crystal River	2	2013	11/2/2013	12	3747	1.517618469	424	253	2469	252
FL	Crystal River	2	2013	11/2/2013	13	3595	1.528291459	479	241	2352.3	239
FL	Crystal River	2	2013	11/2/2013	14	4072	1.575729433	493	265	2584.2	264
FL	Crystal River	2	2013	11/2/2013	15	4466	1.630998466	443	280	2738.2	280
FL	Crystal River	2	2013	11/2/2013	16	4741	1.653356582	493	294	2867.5	300
FL	Crystal River	2	2013	11/2/2013	17	4934	1.642476698	537	308	3004	318
FL	Crystal River	2	2013	11/2/2013	18	5118	1.642595802	585	319	3115.8	336
FL	Crystal River	2	2013	11/2/2013	19	5380	1.666666667	642	331	3228	353
FL	Crystal River	2	2013	11/2/2013	20	5777	1.714904859	683	345	3368.7	374
FL	Crystal River	2	2013	11/2/2013	21	6280	1.722152142	773	374	3646.6	405
FL	Crystal River	2	2013	11/2/2013	22	5610	1.727535875	737	333	3247.4	357
FL	Crystal River	2	2013	11/2/2013	23	2467	1.747662227	518	144	1411.6	138
FL	Crystal River	2	2013	11/3/2013	0	2236	1.729445433	611	132	1292.9	119
FL	Crystal River	2	2013	11/3/2013	1	2219	1.728058562	599	131	1284.1	119
FL	Crystal River	2	2013	11/3/2013	2	2215	1.728847955	611	131	1281.2	119
FL	Crystal River	2	2013	11/3/2013	3	2193	1.712746017	599	131	1280.4	119
FL	Crystal River	2	2013	11/3/2013	4	2180	1.721686937	583	129	1266.2	119
FL	Crystal River	2	2013	11/3/2013	5	2205	1.722118088	585	131	1280.4	119
FL	Crystal River	2	2013	11/3/2013	6	2203	1.747580517	554	129	1260.6	119
FL	Crystal River	2	2013	11/3/2013	7	2417	1.746008813	476	142	1384.3	135
FL	Crystal River	2	2013	11/3/2013	8	3347	1.762228189	298	194	1899.3	192
FL	Crystal River	2	2013	11/3/2013	9	4358	1.778194875	362	251	2450.8	251
FL	Crystal River	2	2013	11/3/2013	10	5202	1.764705882	507	302	2947.8	312
FL	Crystal River	2	2013	11/3/2013	11	5844	1.753217532	666	342	3333.3	366

FL	Crystal River	2	2013	11/3/2013	12	6785	1.774969916	906	392	3822.6	425
FL	Crystal River	2	2013	11/3/2013	13	7081	1.778341454	983	408	3981.8	446
FL	Crystal River	2	2013	11/3/2013	14	7291	1.77051967	1107	422	4118	458
FL	Crystal River	2	2013	11/3/2013	15	7493	1.782901468	1231	431	4202.7	469
FL	Crystal River	2	2013	11/3/2013	16	7730	1.784559978	1260	444	4331.6	484
FL	Crystal River	2	2013	11/3/2013	17	7849	1.785121335	1301	451	4396.9	492
FL	Crystal River	2	2013	11/3/2013	18	7963	1.798572526	1306	454	4427.4	495
FL	Crystal River	2	2013	11/3/2013	19	7931	1.791911432	1310	454	4426	495
FL	Crystal River	2	2013	11/3/2013	20	7938	1.792237701	1306	454	4429.1	495
FL	Crystal River	2	2013	11/3/2013	21	7154	1.788365873	1068	410	4000.3	452
FL	Crystal River	2	2013	11/3/2013	22	5044	1.782395138	563	290	2829.9	315
FL	Crystal River	2	2013	11/3/2013	23	2371	1.75097851	585	138	1354.1	131
FL	Crystal River	2	2013	11/4/2013	0	2215	1.744231829	603	130	1269.9	119
FL	Crystal River	2	2013	11/4/2013	1	2234	1.754909662	604	130	1273	119
FL	Crystal River	2	2013	11/4/2013	2	2255	1.771127867	607	130	1273.2	119
FL	Crystal River	2	2013	11/4/2013	3	2254	1.769369652	591	130	1273.9	119
FL	Crystal River	2	2013	11/4/2013	4	2260	1.765073415	573	131	1280.4	119
FL	Crystal River	2	2013	11/4/2013	5	2262	1.754984871	560	132	1288.9	120
FL	Crystal River	2	2013	11/4/2013	6	5030	1.810981098	527	285	2777.5	291
FL	Crystal River	2	2013	11/4/2013	7	7904	1.838438816	1444	441	4299.3	472
FL	Crystal River	2	2013	11/4/2013	8	7873	1.845609264	1441	437	4265.8	475
FL	Crystal River	2	2013	11/4/2013	9	7798	1.836465546	1511	435	4246.2	476
FL	Crystal River	2	2013	11/4/2013	10	7775	1.822678576	1493	437	4265.7	476
FL	Crystal River	2	2013	11/4/2013	11	7708	1.817924528	1509	435	4240	476
FL	Crystal River	2	2013	11/4/2013	12	7588	1.776716306	1511	438	4270.8	476
FL	Crystal River	2	2013	11/4/2013	13	7419	1.752202357	1515	434	4234.1	476
FL	Crystal River	2	2013	11/4/2013	14	7348	1.728249877	1539	436	4251.7	476
FL	Crystal River	2	2013	11/4/2013	15	7341	1.713665437	1542	439	4283.8	476
FL	Crystal River	2	2013	11/4/2013	16	5402	1.650977995	808	335	3272	362
FL	Crystal River	2	2013	11/4/2013	17	3525	1.4688112	388	246	2399.9	247
FL	Crystal River	2	2013	11/4/2013	18	4235	1.258730866	595	345	3364.5	368
FL	Crystal River	2	2013	11/4/2013	19	2982	1.071274608	420	285	2783.6	298
FL	Crystal River	2	2013	11/4/2013	20	1374	0.927438407	445	152	1481.5	144
FL	Crystal River	2	2013	11/4/2013	21	1086	0.836092078	601	133	1298.9	119
FL	Crystal River	2	2013	11/4/2013	22	1019	0.778932885	613	134	1308.2	119

FL	Crystal River	2	2013	11/4/2013	23	965	0.735350149	628	134	1312.3	119
FL	Crystal River	2	2013	11/5/2013	0	932	0.711287491	635	134	1310.3	119
FL	Crystal River	2	2013	11/5/2013	1	905	0.690839695	627	134	1310	119
FL	Crystal River	2	2013	11/5/2013	2	899	0.684222544	624	134	1313.9	119
FL	Crystal River	2	2013	11/5/2013	3	894	0.675736961	624	135	1323	119
FL	Crystal River	2	2013	11/5/2013	4	885	0.678576905	614	133	1304.2	119
FL	Crystal River	2	2013	11/5/2013	5	889	0.677953176	613	134	1311.3	119
FL	Crystal River	2	2013	11/5/2013	6	954	0.680699251	512	143	1401.5	127
FL	Crystal River	2	2013	11/5/2013	7	992	0.684137931	462	148	1450	136
FL	Crystal River	2	2013	11/5/2013	8	1573	0.739400207	476	218	2127.4	214
FL	Crystal River	2	2013	11/5/2013	9	3242	0.961105182	718	346	3373.2	361
FL	Crystal River	2	2013	11/5/2013	10	2898	0.869408694	863	342	3333.3	362
FL	Crystal River	2	2013	11/5/2013	11	2742	0.8153192	800	345	3363.1	362
FL	Crystal River	2	2013	11/5/2013	12	2598	0.761586492	805	350	3411.3	362
FL	Crystal River	2	2013	11/5/2013	13	2465	0.717174362	759	352	3437.1	362
FL	Crystal River	2	2013	11/5/2013	14	2384	0.697402293	717	350	3418.4	362
FL	Crystal River	2	2013	11/5/2013	15	2183	0.691764109	631	323	3155.7	330
FL	Crystal River	2	2013	11/5/2013	16	1550	0.687391902	525	231	2254.9	223
FL	Crystal River	2	2013	11/5/2013	17	294	0.6575416	181	45	447.12	84
FL	Crystal River	2	2013	11/5/2013	18	75	0.331182853	28	23	226.461	13
FL	Crystal River	2	2013	11/5/2013	19	172	0.379690949	148	46	453	22
FL	Crystal River	2	2013	11/5/2013	20	460	0.533494155	461	88	862.24	70
FL	Crystal River	2	2013	11/5/2013	21	18	0.186480186	7	9	96.525	0
FL	Crystal River	2	2013	11/5/2013	22	194	0.405010438	148	49	479	17
FL	Crystal River	2	2013	11/5/2013	23	557	0.544743276	591	104	1022.5	75
FL	Crystal River	2	2013	11/6/2013	0	892	0.618156618	647	148	1443	114
FL	Crystal River	2	2013	11/6/2013	1	955	0.672629948	738	145	1419.8	110
FL	Crystal River	2	2013	11/6/2013	2	953	0.675311791	626	144	1411.2	119
FL	Crystal River	2	2013	11/6/2013	3	955	0.680781295	613	143	1402.8	119
FL	Crystal River	2	2013	11/6/2013	4	960	0.684491979	591	143	1402.5	119
FL	Crystal River	2	2013	11/6/2013	5	982	0.697195598	594	144	1408.5	119
FL	Crystal River	2	2013	11/6/2013	6	979	0.696103527	585	144	1406.4	119
FL	Crystal River	2	2013	11/6/2013	7	1009	0.717128643	572	144	1407	119
FL	Crystal River	2	2013	11/6/2013	8	1704	0.731236322	431	239	2330.3	214
FL	Crystal River	2	2013	11/6/2013	9	2192	0.729305297	658	308	3005.6	297

FL	Crystal River	2	2013	11/6/2013	10	2369	0.715601873	771	339	3310.5	342
FL	Crystal River	2	2013	11/6/2013	11	2473	0.719250793	739	352	3438.3	362
FL	Crystal River	2	2013	11/6/2013	12	2459	0.716053697	728	352	3434.1	362
FL	Crystal River	2	2013	11/6/2013	13	2467	0.715342013	731	353	3448.7	362
FL	Crystal River	2	2013	11/6/2013	14	2483	0.720252944	730	353	3447.4	362
FL	Crystal River	2	2013	11/6/2013	15	2488	0.721096716	734	354	3450.3	362
FL	Crystal River	2	2013	11/6/2013	16	2505	0.724197745	750	354	3459	363
FL	Crystal River	2	2013	11/6/2013	17	2474	0.721030543	737	352	3431.2	362
FL	Crystal River	2	2013	11/6/2013	18	2439	0.71766956	710	348	3398.5	361
FL	Crystal River	2	2013	11/6/2013	19	2310	0.718082626	662	330	3216.9	337
FL	Crystal River	2	2013	11/6/2013	20	2439	0.722067618	699	346	3377.8	357
FL	Crystal River	2	2013	11/6/2013	21	2379	0.737445753	664	331	3226	340
FL	Crystal River	2	2013	11/6/2013	22	1500	0.730175729	554	210	2054.3	201
FL	Crystal River	2	2013	11/6/2013	23	1038	0.738212076	497	144	1406.1	124
FL	Crystal River	2	2013	11/7/2013	0	1041	0.730116426	504	146	1425.8	124
FL	Crystal River	2	2013	11/7/2013	1	1047	0.741238938	514	144	1412.5	124
FL	Crystal River	2	2013	11/7/2013	2	1093	0.7668561	501	146	1425.3	124
FL	Crystal River	2	2013	11/7/2013	3	1052	0.741106023	519	145	1419.5	124
FL	Crystal River	2	2013	11/7/2013	4	1045	0.732408186	507	146	1426.8	124
FL	Crystal River	2	2013	11/7/2013	5	1070	0.74898502	507	146	1428.6	124
FL	Crystal River	2	2013	11/7/2013	6	1121	0.746288529	431	154	1502.1	132
FL	Crystal River	2	2013	11/7/2013	7	1555	0.759499853	421	210	2047.4	192
FL	Crystal River	2	2013	11/7/2013	8	2561	0.745191608	800	352	3436.7	358
FL	Crystal River	2	2013	11/7/2013	9	2587	0.743006491	769	357	3481.8	370
FL	Crystal River	2	2013	11/7/2013	10	2883	0.757348885	947	390	3806.7	405
FL	Crystal River	2	2013	11/7/2013	11	3173	0.771888	1122	421	4110.7	436
FL	Crystal River	2	2013	11/7/2013	12	3203	0.779110214	1134	421	4111.1	437
FL	Crystal River	2	2013	11/7/2013	13	3197	0.783597637	1130	418	4079.9	436
FL	Crystal River	2	2013	11/7/2013	14	3197	0.771253498	1131	425	4145.2	437
FL	Crystal River	2	2013	11/7/2013	15	3066	0.762421047	1077	412	4021.4	427
FL	Crystal River	2	2013	11/7/2013	16	2546	0.779594586	653	335	3265.8	344
FL	Crystal River	2	2013	11/7/2013	17	2770	0.947688939	584	299	2922.9	298
FL	Crystal River	2	2013	11/7/2013	18	3673	1.090234491	879	345	3369	357
FL	Crystal River	2	2013	11/7/2013	19	3302	1.195294118	599	283	2762.5	282
FL	Crystal River	2	2013	11/7/2013	20	2348	1.183646721	378	203	1983.7	192

FL	Crystal River	2	2013	11/7/2013	21	1593	1.173653577	552	139	1357.3	119
FL	Crystal River	2	2013	11/7/2013	22	1661	1.183554225	530	144	1403.4	122
FL	Crystal River	2	2013	11/7/2013	23	1661	1.204758105	557	141	1378.7	120
FL	Crystal River	2	2013	11/8/2013	0	1733	1.259356151	564	141	1376.1	120
FL	Crystal River	2	2013	11/8/2013	1	1844	1.340018894	567	141	1376.1	119
FL	Crystal River	2	2013	11/8/2013	2	1928	1.410800527	558	140	1366.6	119
FL	Crystal River	2	2013	11/8/2013	3	1996	1.472845336	565	139	1355.2	119
FL	Crystal River	2	2013	11/8/2013	4	2020	1.511976048	543	137	1336	119
FL	Crystal River	2	2013	11/8/2013	5	2031	1.518618214	556	137	1337.4	120
FL	Crystal River	2	2013	11/8/2013	6	2091	1.547627859	547	138	1351.1	122
FL	Crystal River	2	2013	11/8/2013	7	2186	1.56904967	522	142	1393.2	127
FL	Crystal River	2	2013	11/8/2013	8	3931	1.577447833	543	255	2492	249
FL	Crystal River	2	2013	11/8/2013	9	5753	1.487639636	1078	396	3867.2	408
FL	Crystal River	2	2013	11/8/2013	10	6672	1.487758106	1713	460	4484.6	485
FL	Crystal River	2	2013	11/8/2013	11	6758	1.484980993	1738	466	4550.9	486
FL	Crystal River	2	2013	11/8/2013	12	6965	1.525605642	1762	468	4565.4	486
FL	Crystal River	2	2013	11/8/2013	13	7065	1.567526791	1505	462	4507.1	481
FL	Crystal River	2	2013	11/8/2013	14	7146	1.610366197	1690	455	4437.5	474
FL	Crystal River	2	2013	11/8/2013	15	6739	1.623698921	1477	425	4150.4	445
FL	Crystal River	2	2013	11/8/2013	16	5158	1.647081364	792	321	3131.6	328
FL	Crystal River	2	2013	11/8/2013	17	2788	1.654894046	527	172	1684.7	162
FL	Crystal River	2	2013	11/8/2013	18	2211	1.640938103	595	138	1347.4	120
FL	Crystal River	2	2013	11/8/2013	19	2210	1.646305125	606	137	1342.4	119
FL	Crystal River	2	2013	11/8/2013	20	2184	1.632897196	600	137	1337.5	119
FL	Crystal River	2	2013	11/8/2013	21	2166	1.620893512	590	137	1336.3	119
FL	Crystal River	2	2013	11/8/2013	22	2152	1.612226551	574	137	1334.8	119
FL	Crystal River	2	2013	11/8/2013	23	2148	1.593826519	568	138	1347.7	119
FL	Crystal River	2	2013	11/9/2013	0	2152	1.600952239	568	137	1344.2	119
FL	Crystal River	2	2013	11/9/2013	1	2151	1.604984331	566	137	1340.2	119
FL	Crystal River	2	2013	11/9/2013	2	2159	1.609872493	565	137	1341.1	119
FL	Crystal River	2	2013	11/9/2013	3	2177	1.620273891	563	137	1343.6	119
FL	Crystal River	2	2013	11/9/2013	4	2177	1.629491018	550	137	1336	119
FL	Crystal River	2	2013	11/9/2013	5	2196	1.621262458	559	139	1354.5	119
FL	Crystal River	2	2013	11/9/2013	6	2178	1.633663366	547	136	1333.2	119
FL	Crystal River	2	2013	11/9/2013	7	2204	1.624290663	549	139	1356.9	119

FL	Crystal River	2	2013	11/9/2013	8	2193	1.624564783	549	138	1349.9	119
FL	Crystal River	2	2013	11/9/2013	9	2187	1.61402214	544	139	1355	119
FL	Crystal River	2	2013	11/9/2013	10	2210	1.612785521	550	140	1370.3	119
FL	Crystal River	2	2013	11/9/2013	11	2313	1.615110677	521	146	1432.1	126
FL	Crystal River	2	2013	11/9/2013	12	2350	1.600926494	525	150	1467.9	129
FL	Crystal River	2	2013	11/9/2013	13	2215	1.589408726	549	143	1393.6	120
FL	Crystal River	2	2013	11/9/2013	14	2344	1.592824137	515	151	1471.6	129
FL	Crystal River	2	2013	11/9/2013	15	2212	1.587256028	518	143	1393.6	123
FL	Crystal River	2	2013	11/9/2013	16	2163	1.572176188	543	141	1375.8	120
FL	Crystal River	2	2013	11/9/2013	17	2281	1.580406014	512	148	1443.3	129
FL	Crystal River	2	2013	11/9/2013	18	2369	1.592926304	487	152	1487.2	134
FL	Crystal River	2	2013	11/9/2013	19	2211	1.581658202	534	143	1397.9	123
FL	Crystal River	2	2013	11/9/2013	20	2198	1.583117257	519	142	1388.4	123
FL	Crystal River	2	2013	11/9/2013	21	2134	1.573862379	543	139	1355.9	120
FL	Crystal River	2	2013	11/9/2013	22	2125	1.558603491	529	139	1363.4	120
FL	Crystal River	2	2013	11/9/2013	23	2100	1.557516873	523	138	1348.3	120
FL	Crystal River	2	2013	11/10/2013	0	2076	1.547982999	516	137	1341.1	120
FL	Crystal River	2	2013	11/10/2013	1	2056	1.54111386	523	136	1334.1	120
FL	Crystal River	2	2013	11/10/2013	2	2044	1.524804178	508	137	1340.5	120
FL	Crystal River	2	2013	11/10/2013	3	2044	1.530169187	526	137	1335.8	120
FL	Crystal River	2	2013	11/10/2013	4	2036	1.542190577	510	135	1320.2	120
FL	Crystal River	2	2013	11/10/2013	5	2041	1.525297063	515	137	1338.1	120
FL	Crystal River	2	2013	11/10/2013	6	2034	1.529323308	482	136	1330	120
FL	Crystal River	2	2013	11/10/2013	7	2051	1.534720144	518	137	1336.4	120
FL	Crystal River	2	2013	11/10/2013	8	2057	1.544294294	516	136	1332	120
FL	Crystal River	2	2013	11/10/2013	9	2064	1.508992543	448	140	1367.8	120
FL	Crystal River	2	2013	11/10/2013	10	2231	1.504078743	740	152	1483.3	133
FL	Crystal River	2	2013	11/10/2013	11	2210	1.527086788	534	148	1447.2	130
FL	Crystal River	2	2013	11/10/2013	12	3605	1.557302691	618	237	2314.9	220
FL	Crystal River	2	2013	11/10/2013	13	6291	1.604396725	1415	402	3921.1	414
FL	Crystal River	2	2013	11/10/2013	14	7474	1.625913679	1898	471	4596.8	491
FL	Crystal River	2	2013	11/10/2013	15	7515	1.637897215	1867	470	4588.2	491
FL	Crystal River	2	2013	11/10/2013	16	7209	1.642964584	1698	450	4387.8	471
FL	Crystal River	2	2013	11/10/2013	17	6032	1.642477876	1197	376	3672.5	395
FL	Crystal River	2	2013	11/10/2013	18	7100	1.653855113	1614	440	4293	461

FL	Crystal River	2	2013	11/10/2013	19	6184	1.626940279	1277	390	3801	410
FL	Crystal River	2	2013	11/10/2013	20	4187	1.528436884	643	281	2739.4	283
FL	Crystal River	2	2013	11/10/2013	21	1913	1.342738822	514	146	1424.7	131
FL	Crystal River	2	2013	11/10/2013	22	1597	1.179903953	561	138	1353.5	119
FL	Crystal River	2	2013	11/10/2013	23	1382	1.024082994	553	138	1349.5	119
FL	Crystal River	2	2013	11/11/2013	0	1196	0.885925926	557	138	1350	119
FL	Crystal River	2	2013	11/11/2013	1	1066	0.787762341	542	138	1353.2	119
FL	Crystal River	2	2013	11/11/2013	2	978	0.718853363	544	139	1360.5	119
FL	Crystal River	2	2013	11/11/2013	3	958	0.706333407	549	139	1356.3	119
FL	Crystal River	2	2013	11/11/2013	4	945	0.704435334	536	137	1341.5	119
FL	Crystal River	2	2013	11/11/2013	5	935	0.69218241	540	138	1350.8	119
FL	Crystal River	2	2013	11/11/2013	6	918	0.686920084	541	137	1336.4	120
FL	Crystal River	2	2013	11/11/2013	7	961	0.675523689	513	146	1422.6	128
FL	Crystal River	2	2013	11/11/2013	8	3031	0.933850941	785	333	3245.7	324
FL	Crystal River	2	2013	11/11/2013	9	4398	0.976790672	1652	462	4502.5	474
FL	Crystal River	2	2013	11/11/2013	10	3806	0.842147188	1532	463	4519.4	476
FL	Crystal River	2	2013	11/11/2013	11	3327	0.741012963	1405	460	4489.8	476
FL	Crystal River	2	2013	11/11/2013	12	3126	0.689077483	1433	465	4536.5	476
FL	Crystal River	2	2013	11/11/2013	13	3079	0.677313623	1400	466	4545.9	476
FL	Crystal River	2	2013	11/11/2013	14	3078	0.673788363	1411	468	4568.2	476
FL	Crystal River	2	2013	11/11/2013	15	3063	0.66814999	1311	470	4584.3	476
FL	Crystal River	2	2013	11/11/2013	16	2923	0.666271569	1162	450	4387.1	457
FL	Crystal River	2	2013	11/11/2013	17	2446	0.663070292	800	378	3688.9	387
FL	Crystal River	2	2013	11/11/2013	18	2795	0.66569809	1003	430	4198.6	442
FL	Crystal River	2	2013	11/11/2013	19	2532	0.660717082	866	393	3832.2	406
FL	Crystal River	2	2013	11/11/2013	20	2075	0.654863347	605	325	3168.6	332
FL	Crystal River	2	2013	11/11/2013	21	939	0.641174462	508	150	1464.5	133
FL	Crystal River	2	2013	11/11/2013	22	876	0.641100703	522	140	1366.4	119
FL	Crystal River	2	2013	11/11/2013	23	880	0.637866048	536	141	1379.6	119
FL	Crystal River	2	2013	11/12/2013	0	881	0.639843126	549	141	1376.9	119
FL	Crystal River	2	2013	11/12/2013	1	880	0.637727372	547	141	1379.9	119
FL	Crystal River	2	2013	11/12/2013	2	877	0.641410078	546	140	1367.3	119
FL	Crystal River	2	2013	11/12/2013	3	880	0.640932265	545	140	1373	119
FL	Crystal River	2	2013	11/12/2013	4	881	0.640587508	541	141	1375.3	119
FL	Crystal River	2	2013	11/12/2013	5	898	0.639646698	543	144	1403.9	123

FL	Crystal River	2	2013	11/12/2013	6	1159	0.650137432	356	182	1782.7	160
FL	Crystal River	2	2013	11/12/2013	7	1048	0.645518941	371	166	1623.5	147
FL	Crystal River	2	2013	11/12/2013	8	884	0.644455785	524	140	1371.7	120
FL	Crystal River	2	2013	11/12/2013	9	1580	0.650152251	561	249	2430.2	239
FL	Crystal River	2	2013	11/12/2013	10	2284	0.659201108	644	355	3464.8	360
FL	Crystal River	2	2013	11/12/2013	11	2272	0.661176265	615	352	3436.3	362
FL	Crystal River	2	2013	11/12/2013	12	2285	0.663569043	616	353	3443.5	362
FL	Crystal River	2	2013	11/12/2013	13	2282	0.662851831	619	353	3442.7	362
FL	Crystal River	2	2013	11/12/2013	14	2288	0.662708182	621	354	3452.5	362
FL	Crystal River	2	2013	11/12/2013	15	2289	0.664730652	619	353	3443.5	362
FL	Crystal River	2	2013	11/12/2013	16	2301	0.667227281	675	353	3448.6	362
FL	Crystal River	2	2013	11/12/2013	17	2352	0.683025991	674	353	3443.5	362
FL	Crystal River	2	2013	11/12/2013	18	2280	0.663079831	670	352	3438.5	362
FL	Crystal River	2	2013	11/12/2013	19	1739	0.661845861	486	269	2627.5	270
FL	Crystal River	2	2013	11/12/2013	20	873	0.649940441	556	137	1343.2	119
FL	Crystal River	2	2013	11/12/2013	21	885	0.645137775	566	140	1371.8	119
FL	Crystal River	2	2013	11/12/2013	22	886	0.650084379	586	139	1362.9	119
FL	Crystal River	2	2013	11/12/2013	23	883	0.648644678	589	139	1361.3	119
FL	Crystal River	2	2013	11/13/2013	0	878	0.644261814	576	139	1362.8	119
FL	Crystal River	2	2013	11/13/2013	1	873	0.646140182	572	138	1351.1	119
FL	Crystal River	2	2013	11/13/2013	2	867	0.640845591	573	138	1352.9	119
FL	Crystal River	2	2013	11/13/2013	3	867	0.644657595	578	138	1344.9	119
FL	Crystal River	2	2013	11/13/2013	4	857	0.643780048	573	136	1331.2	119
FL	Crystal River	2	2013	11/13/2013	5	859	0.645282452	576	136	1331.2	119
FL	Crystal River	2	2013	11/13/2013	6	852	0.642146518	570	136	1326.8	119
FL	Crystal River	2	2013	11/13/2013	7	856	0.639856481	567	137	1337.8	119
FL	Crystal River	2	2013	11/13/2013	8	1101	0.643257771	482	175	1711.6	161
FL	Crystal River	2	2013	11/13/2013	9	1941	0.65490249	497	304	2963.8	304
FL	Crystal River	2	2013	11/13/2013	10	2672	0.659004587	875	416	4054.6	428
FL	Crystal River	2	2013	11/13/2013	11	2708	0.66060059	897	420	4099.3	436
FL	Crystal River	2	2013	11/13/2013	12	2660	0.660754651	853	413	4025.7	431
FL	Crystal River	2	2013	11/13/2013	13	1702	0.649667914	579	268	2619.8	256
FL	Crystal River	2	2013	11/13/2013	14	1413	0.647778847	340	223	2181.3	180
FL	Crystal River	2	2013	11/13/2013	15	1097	0.645635925	416	174	1699.1	149
FL	Crystal River	2	2013	11/13/2013	16	1039	0.648928861	497	164	1601.1	139

FL	Crystal River	2	2013	11/13/2013	17	1323	0.653172056	526	207	2025.5	168
FL	Crystal River	2	2013	11/13/2013	18	2702	0.664960378	877	416	4063.4	402
FL	Crystal River	2	2013	11/13/2013	19	2697	0.668998363	899	413	4031.4	417
FL	Crystal River	2	2013	11/13/2013	20	2691	0.667510046	774	413	4031.4	389
FL	Crystal River	2	2013	11/13/2013	21	1542	0.66015926	422	239	2335.8	242
FL	Crystal River	2	2013	11/13/2013	22	835	0.651173672	542	131	1282.3	119
FL	Crystal River	2	2013	11/13/2013	23	859	0.648840547	538	135	1323.9	119
FL	Crystal River	2	2013	11/14/2013	0	861	0.650646112	541	135	1323.3	119
FL	Crystal River	2	2013	11/14/2013	1	868	0.647761194	540	137	1340	119
FL	Crystal River	2	2013	11/14/2013	2	865	0.649204443	538	136	1332.4	119
FL	Crystal River	2	2013	11/14/2013	3	870	0.65295707	533	136	1332.4	119
FL	Crystal River	2	2013	11/14/2013	4	861	0.654205607	527	135	1316.1	119
FL	Crystal River	2	2013	11/14/2013	5	870	0.656306578	531	136	1325.6	119
FL	Crystal River	2	2013	11/14/2013	6	859	0.657985446	520	133	1305.5	119
FL	Crystal River	2	2013	11/14/2013	7	865	0.652534701	522	136	1325.6	121
FL	Crystal River	2	2013	11/14/2013	8	1709	0.656474475	468	267	2603.3	257
FL	Crystal River	2	2013	11/14/2013	9	2518	0.658180202	914	392	3825.7	402
FL	Crystal River	2	2013	11/14/2013	10	2696	0.659007578	969	419	4091	435
FL	Crystal River	2	2013	11/14/2013	11	2707	0.658621445	978	421	4110.1	436
FL	Crystal River	2	2013	11/14/2013	12	2648	0.65997059	874	411	4012.3	427
FL	Crystal River	2	2013	11/14/2013	13	2323	0.660543676	647	360	3516.8	374
FL	Crystal River	2	2013	11/14/2013	14	2183	0.659755803	572	339	3308.8	347
FL	Crystal River	2	2013	11/14/2013	15	2240	0.665280665	596	345	3367	354
FL	Crystal River	2	2013	11/14/2013	16	2341	0.685063795	618	350	3417.2	362
FL	Crystal River	2	2013	11/14/2013	17	2925	0.723687466	953	414	4041.8	426
FL	Crystal River	2	2013	11/14/2013	18	2961	0.760088305	864	399	3895.6	411
FL	Crystal River	2	2013	11/14/2013	19	3008	0.835927079	734	369	3598.4	383
FL	Crystal River	2	2013	11/14/2013	20	3290	0.940752602	716	358	3497.2	374
FL	Crystal River	2	2013	11/14/2013	21	3034	1.041144779	585	299	2914.1	307
FL	Crystal River	2	2013	11/14/2013	22	2102	1.134866645	407	190	1852.2	185
FL	Crystal River	2	2013	11/14/2013	23	1764	1.253285968	494	144	1407.5	132
FL	Crystal River	2	2013	11/15/2013	0	1878	1.34027976	498	143	1401.2	129
FL	Crystal River	2	2013	11/15/2013	1	1956	1.404768745	505	142	1392.4	129
FL	Crystal River	2	2013	11/15/2013	2	2028	1.439114391	508	144	1409.2	129
FL	Crystal River	2	2013	11/15/2013	3	2059	1.468197376	506	143	1402.4	129

FL	Crystal River	2	2013	11/15/2013	4	2084	1.488890477	512	143	1399.7	129
FL	Crystal River	2	2013	11/15/2013	5	2106	1.490551348	512	145	1412.9	129
FL	Crystal River	2	2013	11/15/2013	6	2317	1.506110244	384	157	1538.4	146
FL	Crystal River	2	2013	11/15/2013	7	2114	1.502487562	506	144	1407	130
FL	Crystal River	2	2013	11/15/2013	8	2152	1.508693214	510	146	1426.4	131
FL	Crystal River	2	2013	11/15/2013	9	2212	1.518083865	483	149	1457.1	134
FL	Crystal River	2	2013	11/15/2013	10	2321	1.532923849	457	155	1514.1	141
FL	Crystal River	2	2013	11/15/2013	11	2255	1.545685105	466	149	1458.9	136
FL	Crystal River	2	2013	11/15/2013	12	3290	1.545253863	485	218	2129.1	207
FL	Crystal River	2	2013	11/15/2013	13	4528	1.505068971	634	308	3008.5	303
FL	Crystal River	2	2013	11/15/2013	14	4566	1.544916258	617	303	2955.5	300
FL	Crystal River	2	2013	11/15/2013	15	4442	1.583092769	569	287	2805.9	283
FL	Crystal River	2	2013	11/15/2013	16	4355	1.613022705	550	277	2699.9	275
FL	Crystal River	2	2013	11/15/2013	17	4045	1.633155685	487	254	2476.8	249
FL	Crystal River	2	2013	11/15/2013	18	4822	1.657329438	628	298	2909.5	300
FL	Crystal River	2	2013	11/15/2013	19	2916	1.677501007	474	178	1738.3	174
FL	Crystal River	2	2013	11/15/2013	20	2403	1.68513324	500	146	1426	133
FL	Crystal River	2	2013	11/15/2013	21	2378	1.682467808	521	145	1413.4	129
FL	Crystal River	2	2013	11/15/2013	22	2469	1.696673997	494	149	1455.2	133
FL	Crystal River	2	2013	11/15/2013	23	2542	1.688812118	471	154	1505.2	138
FL	Crystal River	2	2013	11/16/2013	0	2555	1.70083877	462	154	1502.2	139
FL	Crystal River	2	2013	11/16/2013	1	2516	1.678228388	460	153	1499.2	139
FL	Crystal River	2	2013	11/16/2013	2	2463	1.642109474	459	153	1499.9	139
FL	Crystal River	2	2013	11/16/2013	3	2405	1.608157807	460	153	1495.5	139
FL	Crystal River	2	2013	11/16/2013	4	2363	1.575753534	454	153	1499.6	139
FL	Crystal River	2	2013	11/16/2013	5	2359	1.579088292	451	153	1493.9	139
FL	Crystal River	2	2013	11/16/2013	6	2339	1.587053874	446	151	1473.8	139
FL	Crystal River	2	2013	11/16/2013	7	2353	1.579512654	451	152	1489.7	139
FL	Crystal River	2	2013	11/16/2013	8	2427	1.579666753	444	157	1536.4	142
FL	Crystal River	2	2013	11/16/2013	9	2690	1.594168543	401	173	1687.4	159
FL	Crystal River	2	2013	11/16/2013	10	3075	1.613495645	404	195	1905.8	182
FL	Crystal River	2	2013	11/16/2013	11	4438	1.623797153	563	280	2733.1	271
FL	Crystal River	2	2013	11/16/2013	12	5489	1.612277868	854	349	3404.5	359
FL	Crystal River	2	2013	11/16/2013	13	5104	1.55424952	880	336	3283.9	348
FL	Crystal River	2	2013	11/16/2013	14	4891	1.575962623	788	318	3103.5	327

FL	Crystal River	2	2013	11/16/2013	15	4281	1.582449266	622	277	2705.3	274
FL	Crystal River	2	2013	11/16/2013	16	4655	1.606501933	709	297	2897.6	299
FL	Crystal River	2	2013	11/16/2013	17	4848	1.624066195	734	306	2985.1	306
FL	Crystal River	2	2013	11/16/2013	18	6507	1.659187108	1337	402	3921.8	420
FL	Crystal River	2	2013	11/16/2013	19	5542	1.666215688	947	341	3326.1	354
FL	Crystal River	2	2013	11/16/2013	20	4958	1.691630557	685	300	2930.9	305
FL	Crystal River	2	2013	11/16/2013	21	3587	1.698309739	443	216	2112.1	211
FL	Crystal River	2	2013	11/16/2013	22	2587	1.713131581	445	154	1510.1	140
FL	Crystal River	2	2013	11/16/2013	23	2613	1.720550471	448	155	1518.7	139
FL	Crystal River	2	2013	11/17/2013	0	2640	1.740276862	452	155	1517	139
FL	Crystal River	2	2013	11/17/2013	1	2672	1.766962042	450	155	1512.2	139
FL	Crystal River	2	2013	11/17/2013	2	2691	1.775768774	450	155	1515.4	139
FL	Crystal River	2	2013	11/17/2013	3	2708	1.788403117	445	155	1514.2	138
FL	Crystal River	2	2013	11/17/2013	4	2677	1.780985962	438	154	1503.1	138
FL	Crystal River	2	2013	11/17/2013	5	2668	1.7650172	438	155	1511.6	138
FL	Crystal River	2	2013	11/17/2013	6	2613	1.72577769	430	155	1514.1	138
FL	Crystal River	2	2013	11/17/2013	7	2804	1.741290443	425	165	1610.3	148
FL	Crystal River	2	2013	11/17/2013	8	3878	1.756420128	437	226	2207.9	212
FL	Crystal River	2	2013	11/17/2013	9	5322	1.744689221	658	313	3050.4	310
FL	Crystal River	2	2013	11/17/2013	10	6988	1.755426045	1289	408	3980.8	424
FL	Crystal River	2	2013	11/17/2013	11	7507	1.735080664	1609	443	4326.6	465
FL	Crystal River	2	2013	11/17/2013	12	7775	1.726090045	1738	462	4504.4	484
FL	Crystal River	2	2013	11/17/2013	13	7486	1.737576306	1581	442	4308.3	464
FL	Crystal River	2	2013	11/17/2013	14	7667	1.715980304	1662	458	4468	478
FL	Crystal River	2	2013	11/17/2013	15	7718	1.715377948	1691	461	4499.3	484
FL	Crystal River	2	2013	11/17/2013	16	7006	1.597136735	1552	450	4386.6	470
FL	Crystal River	2	2013	11/17/2013	17	5676	1.464698596	1166	397	3875.2	413
FL	Crystal River	2	2013	11/17/2013	18	6207	1.292855655	1752	492	4801	507
FL	Crystal River	2	2013	11/17/2013	19	4732	1.057879323	1462	458	4473.1	473
FL	Crystal River	2	2013	11/17/2013	20	3119	0.916544226	707	349	3403	357
FL	Crystal River	2	2013	11/17/2013	21	2716	0.780370072	560	357	3480.4	366
FL	Crystal River	2	2013	11/17/2013	22	2301	0.714041893	489	330	3222.5	336
FL	Crystal River	2	2013	11/17/2013	23	1374	0.692505418	319	203	1984.1	195
FL	Crystal River	2	2013	11/18/2013	0	1029	0.691718204	413	152	1487.6	134
FL	Crystal River	2	2013	11/18/2013	1	1041	0.701340699	417	152	1484.3	134

FL	Crystal River	2	2013	11/18/2013	2	1043	0.696308165	419	153	1497.9	134
FL	Crystal River	2	2013	11/18/2013	3	1044	0.696510775	415	153	1498.9	134
FL	Crystal River	2	2013	11/18/2013	4	1042	0.700174708	409	152	1488.2	134
FL	Crystal River	2	2013	11/18/2013	5	1150	0.70418223	365	167	1633.1	151
FL	Crystal River	2	2013	11/18/2013	6	1897	0.724986624	382	268	2616.6	253
FL	Crystal River	2	2013	11/18/2013	7	3578	0.826728899	1250	444	4327.9	450
FL	Crystal River	2	2013	11/18/2013	8	3793	0.83852854	1361	464	4523.4	476
FL	Crystal River	2	2013	11/18/2013	9	3398	0.811889231	1151	429	4185.3	441
FL	Crystal River	2	2013	11/18/2013	10	3560	0.791163855	1295	461	4499.7	474
FL	Crystal River	2	2013	11/18/2013	11	3409	0.754921718	1264	463	4515.7	476
FL	Crystal River	2	2013	11/18/2013	12	3316	0.735173484	1244	462	4510.5	476
FL	Crystal River	2	2013	11/18/2013	13	3282	0.726459781	1237	463	4517.8	476
FL	Crystal River	2	2013	11/18/2013	14	3178	0.717138666	1187	454	4431.5	467
FL	Crystal River	2	2013	11/18/2013	15	2595	0.706353095	793	376	3673.8	388
FL	Crystal River	2	2013	11/18/2013	16	2578	0.706185285	770	374	3650.6	382
FL	Crystal River	2	2013	11/18/2013	17	2631	0.706441479	834	382	3724.3	391
FL	Crystal River	2	2013	11/18/2013	18	2545	0.704615299	751	370	3611.9	378
FL	Crystal River	2	2013	11/18/2013	19	2530	0.701200078	743	370	3608.1	377
FL	Crystal River	2	2013	11/18/2013	20	2411	0.695674755	648	355	3465.7	359
FL	Crystal River	2	2013	11/18/2013	21	1499	0.691707812	318	222	2167.1	216
FL	Crystal River	2	2013	11/18/2013	22	1004	0.679618222	444	151	1477.3	133
FL	Crystal River	2	2013	11/18/2013	23	931	0.677781013	513	140	1373.6	119
FL	Crystal River	2	2013	11/19/2013	0	934	0.678927092	526	141	1375.7	119
FL	Crystal River	2	2013	11/19/2013	1	939	0.679106097	528	141	1382.7	119
FL	Crystal River	2	2013	11/19/2013	2	939	0.676707985	530	142	1387.6	119
FL	Crystal River	2	2013	11/19/2013	3	939	0.679155215	537	141	1382.6	119
FL	Crystal River	2	2013	11/19/2013	4	929	0.6813348	527	139	1363.5	119
FL	Crystal River	2	2013	11/19/2013	5	916	0.680433814	527	138	1346.2	119
FL	Crystal River	2	2013	11/19/2013	6	1216	0.688717716	301	181	1765.6	166
FL	Crystal River	2	2013	11/19/2013	7	1020	0.685069514	430	152	1488.9	136
FL	Crystal River	2	2013	11/19/2013	8	1786	0.693915611	406	264	2573.8	251
FL	Crystal River	2	2013	11/19/2013	9	2477	0.70235631	529	361	3526.7	361
FL	Crystal River	2	2013	11/19/2013	10	2228	0.703682648	455	324	3166.2	326
FL	Crystal River	2	2013	11/19/2013	11	2318	0.704152617	467	337	3291.9	340
FL	Crystal River	2	2013	11/19/2013	12	2664	0.708322255	1023	385	3761	396

FL	Crystal River	2	2013	11/19/2013	13	2498	0.708692692	916	361	3524.8	372
FL	Crystal River	2	2013	11/19/2013	14	2454	0.699643621	876	359	3507.5	365
FL	Crystal River	2	2013	11/19/2013	15	2329	0.700851614	761	340	3323.1	347
FL	Crystal River	2	2013	11/19/2013	16	2301	0.700499269	732	337	3284.8	342
FL	Crystal River	2	2013	11/19/2013	17	2284	0.700463091	733	334	3260.7	341
FL	Crystal River	2	2013	11/19/2013	18	2156	0.698706938	573	316	3085.7	319
FL	Crystal River	2	2013	11/19/2013	19	2218	0.693298325	550	328	3199.2	329
FL	Crystal River	2	2013	11/19/2013	20	2216	0.694779746	542	327	3189.5	328
FL	Crystal River	2	2013	11/19/2013	21	1335	0.684369713	386	200	1950.7	190
FL	Crystal River	2	2013	11/19/2013	22	1001	0.679058409	445	151	1474.1	131
FL	Crystal River	2	2013	11/19/2013	23	922	0.677144536	554	139	1361.6	120
FL	Crystal River	2	2013	11/20/2013	0	916	0.678971166	557	138	1349.1	119
FL	Crystal River	2	2013	11/20/2013	1	914	0.68163174	565	137	1340.9	119
FL	Crystal River	2	2013	11/20/2013	2	915	0.682682981	556	137	1340.3	119
FL	Crystal River	2	2013	11/20/2013	3	918	0.675596114	553	139	1358.8	119
FL	Crystal River	2	2013	11/20/2013	4	913	0.677149002	540	138	1348.3	119
FL	Crystal River	2	2013	11/20/2013	5	920	0.68340514	549	138	1346.2	119
FL	Crystal River	2	2013	11/20/2013	6	1058	0.68483397	397	158	1544.9	142
FL	Crystal River	2	2013	11/20/2013	7	974	0.680500245	425	146	1431.3	131
FL	Crystal River	2	2013	11/20/2013	8	1296	0.681244743	401	195	1902.4	177
FL	Crystal River	2	2013	11/20/2013	9	2359	0.69398682	843	348	3399.2	343
FL	Crystal River	2	2013	11/20/2013	10	2436	0.7	946	357	3480	362
FL	Crystal River	2	2013	11/20/2013	11	2442	0.704700892	914	355	3465.3	362
FL	Crystal River	2	2013	11/20/2013	12	2452	0.706078844	902	356	3472.7	362
FL	Crystal River	2	2013	11/20/2013	13	2474	0.705727978	904	359	3505.6	362
FL	Crystal River	2	2013	11/20/2013	14	2469	0.704301689	918	359	3505.6	362
FL	Crystal River	2	2013	11/20/2013	15	2458	0.702446273	909	359	3499.2	362
FL	Crystal River	2	2013	11/20/2013	16	2480	0.703486228	927	361	3525.3	366
FL	Crystal River	2	2013	11/20/2013	17	2699	0.705897738	1112	392	3823.5	399
FL	Crystal River	2	2013	11/20/2013	18	2712	0.707484413	1127	393	3833.3	403
FL	Crystal River	2	2013	11/20/2013	19	1886	0.699062234	634	276	2697.9	274
FL	Crystal River	2	2013	11/20/2013	20	1076	0.690939446	437	159	1557.3	144
FL	Crystal River	2	2013	11/20/2013	21	959	0.69522981	518	141	1379.4	123
FL	Crystal River	2	2013	11/20/2013	22	957	0.686661405	526	143	1393.7	123
FL	Crystal River	2	2013	11/20/2013	23	962	0.693833393	531	142	1386.5	123

FL	Crystal River	2	2013	11/21/2013	0	979	0.706706129	530	142	1385.3	123
FL	Crystal River	2	2013	11/21/2013	1	991	0.714594751	529	142	1386.8	123
FL	Crystal River	2	2013	11/21/2013	2	1002	0.720345075	531	142	1391	123
FL	Crystal River	2	2013	11/21/2013	3	998	0.716079501	531	143	1393.7	123
FL	Crystal River	2	2013	11/21/2013	4	1001	0.723579587	503	141	1383.4	123
FL	Crystal River	2	2013	11/21/2013	5	1019	0.728637826	506	143	1398.5	123
FL	Crystal River	2	2013	11/21/2013	6	980	0.72770476	402	138	1346.7	123
FL	Crystal River	2	2013	11/21/2013	7	1023	0.711058595	362	147	1438.7	122
FL	Crystal River	2	2013	11/21/2013	8	1896	0.709793351	507	274	2671.2	252
FL	Crystal River	2	2013	11/21/2013	9	2532	0.706650666	806	367	3583.1	362
FL	Crystal River	2	2013	11/21/2013	10	2511	0.71312942	714	361	3521.1	362
FL	Crystal River	2	2013	11/21/2013	11	2530	0.716368888	653	362	3531.7	362
FL	Crystal River	2	2013	11/21/2013	12	2554	0.720980126	662	363	3542.4	362
FL	Crystal River	2	2013	11/21/2013	13	2599	0.733434925	659	363	3543.6	362
FL	Crystal River	2	2013	11/21/2013	14	2563	0.728891164	671	360	3516.3	363
FL	Crystal River	2	2013	11/21/2013	15	2553	0.722635795	653	362	3532.9	362
FL	Crystal River	2	2013	11/21/2013	16	2468	0.725157196	622	349	3403.4	352
FL	Crystal River	2	2013	11/21/2013	17	1885	0.71916371	422	268	2621.1	259
FL	Crystal River	2	2013	11/21/2013	18	2388	0.728759766	599	336	3276.8	342
FL	Crystal River	2	2013	11/21/2013	19	2510	0.727557321	648	354	3449.9	361
FL	Crystal River	2	2013	11/21/2013	20	2552	0.729747505	671	358	3497.1	367
FL	Crystal River	2	2013	11/21/2013	21	2570	0.732924569	697	359	3506.5	368
FL	Crystal River	2	2013	11/21/2013	22	1601	0.72512342	401	226	2207.9	214
FL	Crystal River	2	2013	11/21/2013	23	944	0.706216803	526	137	1336.7	120
FL	Crystal River	2	2013	11/22/2013	0	946	0.714123953	498	135	1324.7	119
FL	Crystal River	2	2013	11/22/2013	1	954	0.716216216	515	136	1332	119
FL	Crystal River	2	2013	11/22/2013	2	967	0.721372622	514	137	1340.5	120
FL	Crystal River	2	2013	11/22/2013	3	993	0.723444558	569	140	1372.6	120
FL	Crystal River	2	2013	11/22/2013	4	965	0.726985084	592	136	1327.4	120
FL	Crystal River	2	2013	11/22/2013	5	1300	0.765155974	468	174	1699	156
FL	Crystal River	2	2013	11/22/2013	6	1955	0.799166088	415	251	2446.3	236
FL	Crystal River	2	2013	11/22/2013	7	2469	0.84979693	560	298	2905.4	292
FL	Crystal River	2	2013	11/22/2013	8	2624	0.83839223	588	321	3129.8	327
FL	Crystal River	2	2013	11/22/2013	9	2968	0.853364002	775	356	3478	368
FL	Crystal River	2	2013	11/22/2013	10	3303	0.867931469	1137	390	3805.6	406

FL	Crystal River	2	2013	11/22/2013	11	3406	0.899725275	1124	388	3785.6	403
FL	Crystal River	2	2013	11/22/2013	12	3457	0.926139256	1108	383	3732.7	397
FL	Crystal River	2	2013	11/22/2013	13	3553	0.951653944	1123	383	3733.5	397
FL	Crystal River	2	2013	11/22/2013	14	3669	0.979941775	1153	384	3744.1	397
FL	Crystal River	2	2013	11/22/2013	15	3706	0.991465796	1162	383	3737.9	397
FL	Crystal River	2	2013	11/22/2013	16	3780	1.016785023	1185	381	3717.6	397
FL	Crystal River	2	2013	11/22/2013	17	3387	1.059496997	770	328	3196.8	339
FL	Crystal River	2	2013	11/22/2013	18	3558	1.068725219	765	341	3329.2	352
FL	Crystal River	2	2013	11/22/2013	19	3680	1.081684842	809	349	3402.1	362
FL	Crystal River	2	2013	11/22/2013	20	3807	1.091644205	868	357	3487.4	370
FL	Crystal River	2	2013	11/22/2013	21	3530	1.096409492	746	330	3219.6	338
FL	Crystal River	2	2013	11/22/2013	22	3316	1.103090383	676	308	3006.1	314
FL	Crystal River	2	2013	11/22/2013	23	2439	1.092154756	502	229	2233.2	222
FL	Crystal River	2	2013	11/23/2013	0	1736	1.084796601	544	164	1600.3	153
FL	Crystal River	2	2013	11/23/2013	1	1452	1.076751947	645	138	1348.5	119
FL	Crystal River	2	2013	11/23/2013	2	1469	1.08509381	653	138	1353.8	120
FL	Crystal River	2	2013	11/23/2013	3	1456	1.082206035	657	138	1345.4	120
FL	Crystal River	2	2013	11/23/2013	4	1450	1.07359692	613	138	1350.6	120
FL	Crystal River	2	2013	11/23/2013	5	1458	1.07720724	584	138	1353.5	120
FL	Crystal River	2	2013	11/23/2013	6	1454	1.069196264	575	139	1359.9	120
FL	Crystal River	2	2013	11/23/2013	7	1561	1.072336333	563	149	1455.7	129
FL	Crystal River	2	2013	11/23/2013	8	2367	1.089026915	502	223	2173.5	208
FL	Crystal River	2	2013	11/23/2013	9	3180	1.093008868	672	298	2909.4	294
FL	Crystal River	2	2013	11/23/2013	10	3788	1.099468842	909	353	3445.3	361
FL	Crystal River	2	2013	11/23/2013	11	3904	1.093679964	953	366	3569.6	372
FL	Crystal River	2	2013	11/23/2013	12	3657	1.097506077	823	341	3332.1	348
FL	Crystal River	2	2013	11/23/2013	13	3909	1.095418243	934	366	3568.5	371
FL	Crystal River	2	2013	11/23/2013	14	3650	1.096853683	821	341	3327.7	344
FL	Crystal River	2	2013	11/23/2013	15	3588	1.099736407	783	334	3262.6	340
FL	Crystal River	2	2013	11/23/2013	16	3516	1.09929965	799	328	3198.4	332
FL	Crystal River	2	2013	11/23/2013	17	2713	1.100921154	554	252	2464.3	246
FL	Crystal River	2	2013	11/23/2013	18	3648	1.113723096	828	336	3275.5	340
FL	Crystal River	2	2013	11/23/2013	19	3072	1.115427907	627	282	2754.1	276
FL	Crystal River	2	2013	11/23/2013	20	3063	1.115196971	626	281	2746.6	274
FL	Crystal River	2	2013	11/23/2013	21	2695	1.114511393	558	248	2418.1	242

FL	Crystal River	2	2013	11/23/2013	22	2697	1.098619088	557	251	2454.9	246
FL	Crystal River	2	2013	11/23/2013	23	2412	1.074100463	496	230	2245.6	221
FL	Crystal River	2	2013	11/24/2013	0	1590	1.060707138	517	153	1499	142
FL	Crystal River	2	2013	11/24/2013	1	1477	1.071765474	527	141	1378.1	123
FL	Crystal River	2	2013	11/24/2013	2	1523	1.110220149	544	140	1371.8	120
FL	Crystal River	2	2013	11/24/2013	3	1588	1.163455198	555	140	1364.9	120
FL	Crystal River	2	2013	11/24/2013	4	1659	1.236583184	523	137	1341.6	120
FL	Crystal River	2	2013	11/24/2013	5	1759	1.313568815	530	137	1339.1	120
FL	Crystal River	2	2013	11/24/2013	6	1922	1.443484792	523	136	1331.5	120
FL	Crystal River	2	2013	11/24/2013	7	2037	1.537358491	520	135	1325	120
FL	Crystal River	2	2013	11/24/2013	8	4127	1.620592162	634	261	2546.6	253
FL	Crystal River	2	2013	11/24/2013	9	5083	1.648986212	779	316	3082.5	316
FL	Crystal River	2	2013	11/24/2013	10	6391	1.586131586	1502	413	4029.3	422
FL	Crystal River	2	2013	11/24/2013	11	6919	1.570394244	1824	452	4405.9	462
FL	Crystal River	2	2013	11/24/2013	12	6747	1.61508079	1662	428	4177.5	443
FL	Crystal River	2	2013	11/24/2013	13	7341	1.67445998	1815	449	4384.1	462
FL	Crystal River	2	2013	11/24/2013	14	7293	1.70329542	1734	439	4281.7	453
FL	Crystal River	2	2013	11/24/2013	15	6364	1.779592293	1190	366	3576.1	383
FL	Crystal River	2	2013	11/24/2013	16	6239	1.744735591	1137	366	3575.9	382
FL	Crystal River	2	2013	11/24/2013	17	7180	1.755715858	1513	419	4089.5	434
FL	Crystal River	2	2013	11/24/2013	18	8168	1.759283191	2024	476	4642.8	490
FL	Crystal River	2	2013	11/24/2013	19	7921	1.764535531	1898	460	4489	479
FL	Crystal River	2	2013	11/24/2013	20	6604	1.734653673	1362	390	3807.1	413
FL	Crystal River	2	2013	11/24/2013	21	4937	1.774750162	659	285	2781.8	298
FL	Crystal River	2	2013	11/24/2013	22	3987	1.7750768	462	230	2246.1	228
FL	Crystal River	2	2013	11/24/2013	23	2407	1.74724158	450	141	1377.6	133
FL	Crystal River	2	2013	11/25/2013	0	2242	1.714198333	457	134	1307.9	119
FL	Crystal River	2	2013	11/25/2013	1	2236	1.714855434	444	133	1303.9	120
FL	Crystal River	2	2013	11/25/2013	2	2244	1.718881655	447	133	1305.5	120
FL	Crystal River	2	2013	11/25/2013	3	2253	1.707206183	435	135	1319.7	120
FL	Crystal River	2	2013	11/25/2013	4	2237	1.709068684	429	134	1308.9	120
FL	Crystal River	2	2013	11/25/2013	5	2290	1.700831848	433	138	1346.4	124
FL	Crystal River	2	2013	11/25/2013	6	3075	1.711566292	442	184	1796.6	169
FL	Crystal River	2	2013	11/25/2013	7	3954	1.740393503	472	233	2271.9	226
FL	Crystal River	2	2013	11/25/2013	8	5440	1.767438838	738	315	3077.9	318

FL	Crystal River	2	2013	11/25/2013	9	6195	1.782272217	969	356	3475.9	370
FL	Crystal River	2	2013	11/25/2013	10	5816	1.791247036	840	333	3246.9	345
FL	Crystal River	2	2013	11/25/2013	11	4808	1.773646156	596	278	2710.8	277
FL	Crystal River	2	2013	11/25/2013	12	5708	1.762598814	829	332	3238.4	344
FL	Crystal River	2	2013	11/25/2013	13	6100	1.765710481	963	354	3454.7	372
FL	Crystal River	2	2013	11/25/2013	14	5559	1.706313883	983	334	3257.9	349
FL	Crystal River	2	2013	11/25/2013	15	4771	1.680284567	749	291	2839.4	297
FL	Crystal River	2	2013	11/25/2013	16	3865	1.685564762	573	235	2293	225
FL	Crystal River	2	2013	11/25/2013	17	5056	1.765794712	770	293	2863.3	293
FL	Crystal River	2	2013	11/25/2013	18	7816	1.748154775	1927	458	4471	476
FL	Crystal River	2	2013	11/25/2013	19	7891	1.749046901	1962	462	4511.6	484
FL	Crystal River	2	2013	11/25/2013	20	5826	1.781705863	1062	335	3269.9	354
FL	Crystal River	2	2013	11/25/2013	21	2932	1.840321366	509	163	1593.2	155
FL	Crystal River	2	2013	11/25/2013	22	2834	1.834898025	478	158	1544.5	145
FL	Crystal River	2	2013	11/25/2013	23	2592	1.832579186	529	145	1414.4	130
FL	Crystal River	2	2013	11/26/2013	0	2419	1.813615235	585	136	1333.8	120
FL	Crystal River	2	2013	11/26/2013	1	2428	1.808296716	588	137	1342.7	120
FL	Crystal River	2	2013	11/26/2013	2	2421	1.807120997	568	137	1339.7	120
FL	Crystal River	2	2013	11/26/2013	3	2644	1.795829654	562	151	1472.3	134
FL	Crystal River	2	2013	11/26/2013	4	2969	1.802780982	543	169	1646.9	159
FL	Crystal River	2	2013	11/26/2013	5	3864	1.82229768	517	217	2120.4	211
FL	Crystal River	2	2013	11/26/2013	6	5877	1.805363561	1038	334	3255.3	344
FL	Crystal River	2	2013	11/26/2013	7	6822	1.773837073	1511	394	3845.9	409
FL	Crystal River	2	2013	11/26/2013	8	7742	1.816390212	1815	437	4262.3	454
FL	Crystal River	2	2013	11/26/2013	9	8292	1.83682963	2085	463	4514.3	483
FL	Crystal River	2	2013	11/26/2013	10	8080	1.828012941	2011	453	4420.1	474
FL	Crystal River	2	2013	11/26/2013	11	8220	1.827560141	2042	461	4497.8	480
FL	Crystal River	2	2013	11/26/2013	12	8243	1.820370125	2087	464	4528.2	482
FL	Crystal River	2	2013	11/26/2013	13	8253	1.829527821	2070	462	4511	480
FL	Crystal River	2	2013	11/26/2013	14	7667	1.837771759	1802	428	4171.9	447
FL	Crystal River	2	2013	11/26/2013	15	7697	1.826400588	1748	432	4214.3	445
FL	Crystal River	2	2013	11/26/2013	16	7410	1.827734202	1674	416	4054.2	432
FL	Crystal River	2	2013	11/26/2013	17	8174	1.803976959	2075	464	4531.1	479
FL	Crystal River	2	2013	11/26/2013	18	8219	1.807485925	2146	466	4547.2	485
FL	Crystal River	2	2013	11/26/2013	19	8195	1.795416703	2127	468	4564.4	484

FL	Crystal River	2	2013	11/26/2013	20	7353	1.778449631	1773	424	4134.5	443
FL	Crystal River	2	2013	11/26/2013	21	6423	1.76243003	1326	373	3644.4	385
FL	Crystal River	2	2013	11/26/2013	22	7498	1.758277835	1893	437	4264.4	452
FL	Crystal River	2	2013	11/26/2013	23	5496	1.742991247	889	323	3153.2	332
FL	Crystal River	2	2013	11/27/2013	0	2712	1.716672997	500	162	1579.8	152
FL	Crystal River	2	2013	11/27/2013	1	2251	1.687406297	592	136	1334	120
FL	Crystal River	2	2013	11/27/2013	2	2295	1.691729323	588	139	1356.6	121
FL	Crystal River	2	2013	11/27/2013	3	2292	1.680844823	591	139	1363.6	120
FL	Crystal River	2	2013	11/27/2013	4	2334	1.668692357	609	143	1398.7	120
FL	Crystal River	2	2013	11/27/2013	5	2331	1.683883551	598	142	1384.3	127
FL	Crystal River	2	2013	11/27/2013	6	4290	1.719921421	616	255	2494.3	248
FL	Crystal River	2	2013	11/27/2013	7	4557	1.724568574	655	271	2642.4	260
FL	Crystal River	2	2013	11/27/2013	8	4396	1.734738171	600	260	2534.1	251
FL	Crystal River	2	2013	11/27/2013	9	5685	1.758591889	834	331	3232.7	333
FL	Crystal River	2	2013	11/27/2013	10	6479	1.768672199	1340	375	3663.2	386
FL	Crystal River	2	2013	11/27/2013	11	5430	1.762586425	973	316	3080.7	321
FL	Crystal River	2	2013	11/27/2013	12	5136	1.743262508	830	302	2946.2	302
FL	Crystal River	2	2013	11/27/2013	13	4636	1.741874883	721	273	2661.5	268
FL	Crystal River	2	2013	11/27/2013	14	3927	1.742236025	522	231	2254	227
FL	Crystal River	2	2013	11/27/2013	15	2815	1.736261025	687	166	1621.3	156
FL	Crystal River	2	2013	11/27/2013	16	2275	1.713876752	909	136	1327.4	119
FL	Crystal River	2	2013	11/27/2013	17	2601	1.709721948	885	156	1521.3	140
FL	Crystal River	2	2013	11/27/2013	18	5374	1.777704267	776	310	3023	306
FL	Crystal River	2	2013	11/27/2013	19	4241	1.787716562	555	243	2372.3	238
FL	Crystal River	2	2013	11/27/2013	20	4364	1.777813989	574	251	2454.7	249
FL	Crystal River	2	2013	11/27/2013	21	3820	1.758100147	469	222	2172.8	220
FL	Crystal River	2	2013	11/27/2013	22	3117	1.744654651	478	183	1786.6	178
FL	Crystal River	2	2013	11/27/2013	23	2531	1.70483632	430	152	1484.6	139
FL	Crystal River	2	2013	11/28/2013	0	2631	1.685998078	443	160	1560.5	142
FL	Crystal River	2	2013	11/28/2013	1	2925	1.690653719	460	177	1730.1	160
FL	Crystal River	2	2013	11/28/2013	2	3163	1.696615352	436	191	1864.3	177
FL	Crystal River	2	2013	11/28/2013	3	2647	1.68555782	441	161	1570.4	144
FL	Crystal River	2	2013	11/28/2013	4	3243	1.699685535	431	195	1908	179
FL	Crystal River	2	2013	11/28/2013	5	5626	1.719437653	808	335	3272	336
FL	Crystal River	2	2013	11/28/2013	6	5931	1.724378543	1062	352	3439.5	358

FL	Crystal River	2	2013	11/28/2013	7	5602	1.719248711	853	334	3258.4	340
FL	Crystal River	2	2013	11/28/2013	8	7107	1.711705202	1573	426	4152	441
FL	Crystal River	2	2013	11/28/2013	9	6445	1.710774295	1299	386	3767.3	409
FL	Crystal River	2	2013	11/28/2013	10	6851	1.714078411	1466	410	3996.9	435
FL	Crystal River	2	2013	11/28/2013	11	6165	1.692844198	1176	373	3641.8	396
FL	Crystal River	2	2013	11/28/2013	12	6201	1.701841535	1198	373	3643.7	397
FL	Crystal River	2	2013	11/28/2013	13	5959	1.699124633	1087	359	3507.1	381
FL	Crystal River	2	2013	11/28/2013	14	6019	1.711353103	1100	360	3517.1	379
FL	Crystal River	2	2013	11/28/2013	15	4441	1.73816047	590	262	2555	265
FL	Crystal River	2	2013	11/28/2013	16	2358	1.722299321	569	140	1369.1	130
FL	Crystal River	2	2013	11/28/2013	17	2235	1.710677382	621	134	1306.5	121
FL	Crystal River	2	2013	11/28/2013	18	2288	1.692307692	570	138	1352	124
FL	Crystal River	2	2013	11/28/2013	19	2187	1.663117871	614	134	1315	120
FL	Crystal River	2	2013	11/28/2013	20	2270	1.642784773	558	141	1381.8	129
FL	Crystal River	2	2013	11/28/2013	21	2433	1.620811405	481	154	1501.1	140
FL	Crystal River	2	2013	11/28/2013	22	3143	1.658312668	462	194	1895.3	189
FL	Crystal River	2	2013	11/28/2013	23	2773	1.633867547	454	174	1697.2	166
FL	Crystal River	2	2013	11/29/2013	0	2330	1.604683196	493	149	1452	139
FL	Crystal River	2	2013	11/29/2013	1	2299	1.569604697	492	150	1464.7	139
FL	Crystal River	2	2013	11/29/2013	2	2275	1.547092826	482	150	1470.5	139
FL	Crystal River	2	2013	11/29/2013	3	2250	1.523461304	491	151	1476.9	139
FL	Crystal River	2	2013	11/29/2013	4	2249	1.54612952	484	149	1454.6	139
FL	Crystal River	2	2013	11/29/2013	5	2354	1.558837163	478	154	1510.1	147
FL	Crystal River	2	2013	11/29/2013	6	3046	1.594180143	443	196	1910.7	189
FL	Crystal River	2	2013	11/29/2013	7	3728	1.607450845	463	238	2319.2	236
FL	Crystal River	2	2013	11/29/2013	8	3831	1.583057851	471	248	2420	248
FL	Crystal River	2	2013	11/29/2013	9	3824	1.569013622	467	250	2437.2	248
FL	Crystal River	2	2013	11/29/2013	10	4278	1.584561819	575	277	2699.8	276
FL	Crystal River	2	2013	11/29/2013	11	3221	1.606563918	481	205	2004.9	203
FL	Crystal River	2	2013	11/29/2013	12	3224	1.597463086	482	207	2018.2	198
FL	Crystal River	2	2013	11/29/2013	13	3266	1.620843672	401	206	2015	198
FL	Crystal River	2	2013	11/29/2013	14	2636	1.624853603	423	166	1622.3	154
FL	Crystal River	2	2013	11/29/2013	15	2792	1.622501162	370	176	1720.8	161
FL	Crystal River	2	2013	11/29/2013	16	2778	1.629612248	376	174	1704.7	161
FL	Crystal River	2	2013	11/29/2013	17	3471	1.645335609	447	216	2109.6	207

FL	Crystal River	2	2013	11/29/2013	18	4640	1.679212507	632	283	2763.2	280
FL	Crystal River	2	2013	11/29/2013	19	4554	1.66972208	602	279	2727.4	277
FL	Crystal River	2	2013	11/29/2013	20	4166	1.655737053	546	258	2516.1	258
FL	Crystal River	2	2013	11/29/2013	21	3066	1.599374022	379	196	1917	195
FL	Crystal River	2	2013	11/29/2013	22	2781	1.570654016	366	181	1770.6	176
FL	Crystal River	2	2013	11/29/2013	23	2612	1.570372152	355	170	1663.3	163
FL	Crystal River	2	2013	11/30/2013	0	2569	1.56875916	358	168	1637.6	160
FL	Crystal River	2	2013	11/30/2013	1	2568	1.570450098	351	167	1635.2	159
FL	Crystal River	2	2013	11/30/2013	2	2549	1.553321146	352	168	1641	159
FL	Crystal River	2	2013	11/30/2013	3	2542	1.545476654	352	168	1644.8	159
FL	Crystal River	2	2013	11/30/2013	4	2516	1.525680674	352	169	1649.1	160
FL	Crystal River	2	2013	11/30/2013	5	2544	1.532437805	351	170	1660.1	160
FL	Crystal River	2	2013	11/30/2013	6	2545	1.547394662	350	168	1644.7	160
FL	Crystal River	2	2013	11/30/2013	7	2593	1.58042299	354	168	1640.7	160
FL	Crystal River	2	2013	11/30/2013	8	2684	1.597428878	366	172	1680.2	163
FL	Crystal River	2	2013	11/30/2013	9	2787	1.629824561	393	175	1710	165
FL	Crystal River	2	2013	11/30/2013	10	3148	1.655622173	391	195	1901.4	186
FL	Crystal River	2	2013	11/30/2013	11	3873	1.668677294	464	238	2321	232
FL	Crystal River	2	2013	11/30/2013	12	4984	1.674787459	690	305	2975.9	306
FL	Crystal River	2	2013	11/30/2013	13	3984	1.656617739	526	246	2404.9	243
FL	Crystal River	2	2013	11/30/2013	14	3897	1.627683569	517	245	2394.2	240
FL	Crystal River	2	2013	11/30/2013	15	3882	1.601551219	526	248	2423.9	242
FL	Crystal River	2	2013	11/30/2013	16	5581	1.621393917	991	353	3442.1	362
FL	Crystal River	2	2013	11/30/2013	17	7446	1.64298323	2016	465	4532	485
FL	Crystal River	2	2013	11/30/2013	18	5374	1.640565375	907	336	3275.7	354
FL	Crystal River	2	2013	11/30/2013	19	4351	1.642940754	580	271	2648.3	274
FL	Crystal River	2	2013	11/30/2013	20	4055	1.652000326	542	251	2454.6	251
FL	Crystal River	2	2013	11/30/2013	21	3890	1.656729131	523	240	2348	240
FL	Crystal River	2	2013	11/30/2013	22	3993	1.65	544	248	2420	246
FL	Crystal River	2	2013	11/30/2013	23	2986	1.65337763	456	185	1806	181
FL	Crystal River	4	2013	9/1/2013	0	213	0.070091151	221	311	3038.9	241
FL	Crystal River	4	2013	9/1/2013	1	169	0.058811247	206	294	2873.6	226
FL	Crystal River	4	2013	9/1/2013	2	186	0.063672463	219	299	2921.2	226
FL	Crystal River	4	2013	9/1/2013	3	168	0.058616238	212	294	2866.1	227
FL	Crystal River	4	2013	9/1/2013	4	158	0.05596288	211	289	2823.3	226

FL	Crystal River	4	2013	9/1/2013	5	123	0.043396959	212	290	2834.3	225
FL	Crystal River	4	2013	9/1/2013	6	146	0.051537294	215	290	2832.9	225
FL	Crystal River	4	2013	9/1/2013	7	251	0.078883686	235	326	3181.9	259
FL	Crystal River	4	2013	9/1/2013	8	1043	0.196155872	361	545	5317.2	500
FL	Crystal River	4	2013	9/1/2013	9	2145	0.289649585	555	759	7405.5	741
FL	Crystal River	4	2013	9/1/2013	10	1652	0.219214437	618	773	7536	757
FL	Crystal River	4	2013	9/1/2013	11	1395	0.184572638	627	775	7558	757
FL	Crystal River	4	2013	9/1/2013	12	1184	0.157677454	623	770	7509	755
FL	Crystal River	4	2013	9/1/2013	13	993	0.133444425	602	763	7441.3	744
FL	Crystal River	4	2013	9/1/2013	14	1018	0.136016247	583	767	7484.4	742
FL	Crystal River	4	2013	9/1/2013	15	1083	0.144271118	600	770	7506.7	745
FL	Crystal River	4	2013	9/1/2013	16	1028	0.136625821	617	772	7524.2	751
FL	Crystal River	4	2013	9/1/2013	17	933	0.123906028	602	772	7529.9	748
FL	Crystal River	4	2013	9/1/2013	18	886	0.117073429	613	776	7567.9	751
FL	Crystal River	4	2013	9/1/2013	19	875	0.115933964	618	774	7547.4	751
FL	Crystal River	4	2013	9/1/2013	20	898	0.120101645	598	767	7477	740
FL	Crystal River	4	2013	9/1/2013	21	645	0.100083791	470	661	6444.6	622
FL	Crystal River	4	2013	9/1/2013	22	391	0.074309172	336	539	5261.8	486
FL	Crystal River	4	2013	9/1/2013	23	157	0.044212898	241	364	3551	300
FL	Crystal River	4	2013	9/2/2013	0	195	0.06110937	217	327	3191	252
FL	Crystal River	4	2013	9/2/2013	1	184	0.064149496	189	294	2868.3	226
FL	Crystal River	4	2013	9/2/2013	2	196	0.067141683	198	299	2919.2	225
FL	Crystal River	4	2013	9/2/2013	3	195	0.067204301	197	297	2901.6	226
FL	Crystal River	4	2013	9/2/2013	4	183	0.063334948	190	296	2889.4	226
FL	Crystal River	4	2013	9/2/2013	5	170	0.059611473	202	292	2851.8	226
FL	Crystal River	4	2013	9/2/2013	6	191	0.066958808	202	292	2852.5	225
FL	Crystal River	4	2013	9/2/2013	7	265	0.082833208	195	328	3199.2	260
FL	Crystal River	4	2013	9/2/2013	8	702	0.1469357	286	490	4777.6	434
FL	Crystal River	4	2013	9/2/2013	9	1465	0.213575531	493	703	6859.4	664
FL	Crystal River	4	2013	9/2/2013	10	884	0.116802981	605	776	7568.3	755
FL	Crystal River	4	2013	9/2/2013	11	901	0.118229057	624	781	7620.8	757
FL	Crystal River	4	2013	9/2/2013	12	1069	0.139835442	642	784	7644.7	761
FL	Crystal River	4	2013	9/2/2013	13	1022	0.134266984	624	781	7611.7	762
FL	Crystal River	4	2013	9/2/2013	14	1020	0.134313028	653	779	7594.2	756
FL	Crystal River	4	2013	9/2/2013	15	930	0.121573395	596	784	7649.7	760

FL	Crystal River	4	2013	9/2/2013	16	863	0.113861256	621	777	7579.4	760
FL	Crystal River	4	2013	9/2/2013	17	915	0.120018888	617	782	7623.8	762
FL	Crystal River	4	2013	9/2/2013	18	926	0.121488829	625	782	7622.1	761
FL	Crystal River	4	2013	9/2/2013	19	868	0.114460532	614	778	7583.4	755
FL	Crystal River	4	2013	9/2/2013	20	890	0.116528752	618	783	7637.6	759
FL	Crystal River	4	2013	9/2/2013	21	827	0.114379763	556	741	7230.3	715
FL	Crystal River	4	2013	9/2/2013	22	568	0.09605953	408	606	5913	560
FL	Crystal River	4	2013	9/2/2013	23	323	0.082035913	271	404	3937.3	339
FL	Crystal River	4	2013	9/3/2013	0	221	0.074208388	217	305	2978.1	232
FL	Crystal River	4	2013	9/3/2013	1	196	0.067118691	213	299	2920.2	226
FL	Crystal River	4	2013	9/3/2013	2	187	0.06388794	219	300	2927	226
FL	Crystal River	4	2013	9/3/2013	3	184	0.062942565	219	299	2923.3	226
FL	Crystal River	4	2013	9/3/2013	4	182	0.062345848	230	299	2919.2	228
FL	Crystal River	4	2013	9/3/2013	5	351	0.093443016	270	385	3756.3	315
FL	Crystal River	4	2013	9/3/2013	6	525	0.11829653	266	455	4438	381
FL	Crystal River	4	2013	9/3/2013	7	1148	0.189463956	393	621	6059.2	572
FL	Crystal River	4	2013	9/3/2013	8	824	0.113969571	549	741	7230	713
FL	Crystal River	4	2013	9/3/2013	9	816	0.107099264	617	781	7619.1	759
FL	Crystal River	4	2013	9/3/2013	10	934	0.122381058	625	783	7631.9	760
FL	Crystal River	4	2013	9/3/2013	11	1044	0.136865979	640	782	7627.9	761
FL	Crystal River	4	2013	9/3/2013	12	964	0.126306963	618	783	7632.2	759
FL	Crystal River	4	2013	9/3/2013	13	965	0.126287412	664	784	7641.3	760
FL	Crystal River	4	2013	9/3/2013	14	932	0.121588478	628	786	7665.2	759
FL	Crystal River	4	2013	9/3/2013	15	869	0.113538373	620	785	7653.8	761
FL	Crystal River	4	2013	9/3/2013	16	923	0.120993642	625	782	7628.5	760
FL	Crystal River	4	2013	9/3/2013	17	958	0.126004551	623	780	7602.9	760
FL	Crystal River	4	2013	9/3/2013	18	1020	0.132696736	630	788	7686.7	760
FL	Crystal River	4	2013	9/3/2013	19	989	0.128600221	622	789	7690.5	760
FL	Crystal River	4	2013	9/3/2013	20	1002	0.130742833	628	786	7663.9	762
FL	Crystal River	4	2013	9/3/2013	21	893	0.121494946	566	754	7350.1	726
FL	Crystal River	4	2013	9/3/2013	22	966	0.148350636	475	668	6511.6	628
FL	Crystal River	4	2013	9/3/2013	23	384	0.094036978	269	419	4083.5	359
FL	Crystal River	4	2013	9/4/2013	0	201	0.067745197	216	304	2967	231
FL	Crystal River	4	2013	9/4/2013	1	203	0.069262001	214	300	2930.9	226
FL	Crystal River	4	2013	9/4/2013	2	191	0.065030132	214	301	2937.1	225

FL	Crystal River	4	2013	9/4/2013	3	191	0.065419921	216	299	2919.6	226
FL	Crystal River	4	2013	9/4/2013	4	189	0.065224143	223	297	2897.7	226
FL	Crystal River	4	2013	9/4/2013	5	358	0.098952431	238	371	3617.9	304
FL	Crystal River	4	2013	9/4/2013	6	593	0.132250942	295	460	4483.9	394
FL	Crystal River	4	2013	9/4/2013	7	1073	0.195243554	362	563	5495.7	514
FL	Crystal River	4	2013	9/4/2013	8	1032	0.157848851	457	670	6537.9	636
FL	Crystal River	4	2013	9/4/2013	9	640	0.097230451	467	675	6582.3	646
FL	Crystal River	4	2013	9/4/2013	10	867	0.122677685	537	725	7067.3	692
FL	Crystal River	4	2013	9/4/2013	11	1208	0.157671474	620	786	7661.5	757
FL	Crystal River	4	2013	9/4/2013	12	908	0.118921326	641	783	7635.3	759
FL	Crystal River	4	2013	9/4/2013	13	868	0.11389432	640	781	7621.1	760
FL	Crystal River	4	2013	9/4/2013	14	939	0.123052327	641	782	7630.9	759
FL	Crystal River	4	2013	9/4/2013	15	989	0.12822175	632	791	7713.2	760
FL	Crystal River	4	2013	9/4/2013	16	968	0.125953106	622	788	7685.4	760
FL	Crystal River	4	2013	9/4/2013	17	960	0.12479688	623	789	7692.5	760
FL	Crystal River	4	2013	9/4/2013	18	958	0.124125421	625	791	7718	761
FL	Crystal River	4	2013	9/4/2013	19	959	0.125308698	612	785	7653.1	760
FL	Crystal River	4	2013	9/4/2013	20	692	0.105983796	476	669	6529.3	639
FL	Crystal River	4	2013	9/4/2013	21	450	0.083251623	351	554	5405.3	509
FL	Crystal River	4	2013	9/4/2013	22	214	0.054835238	269	400	3902.6	337
FL	Crystal River	4	2013	9/4/2013	23	137	0.046197943	249	304	2965.5	238
FL	Crystal River	4	2013	9/5/2013	0	137	0.047628981	256	295	2876.4	226
FL	Crystal River	4	2013	9/5/2013	1	119	0.041669585	231	293	2855.8	226
FL	Crystal River	4	2013	9/5/2013	2	120	0.041286771	229	298	2906.5	226
FL	Crystal River	4	2013	9/5/2013	3	119	0.041282176	224	295	2882.6	226
FL	Crystal River	4	2013	9/5/2013	4	117	0.040964952	228	293	2856.1	226
FL	Crystal River	4	2013	9/5/2013	5	121	0.041714069	226	297	2900.7	232
FL	Crystal River	4	2013	9/5/2013	6	155	0.049815202	242	319	3111.5	255
FL	Crystal River	4	2013	9/5/2013	7	216	0.062552489	227	354	3453.1	292
FL	Crystal River	4	2013	9/5/2013	8	576	0.113717129	303	519	5065.2	470
FL	Crystal River	4	2013	9/5/2013	9	1095	0.149610603	527	750	7319	725
FL	Crystal River	4	2013	9/5/2013	10	788	0.104022283	613	777	7575.3	758
FL	Crystal River	4	2013	9/5/2013	11	784	0.103516115	613	777	7573.7	759
FL	Crystal River	4	2013	9/5/2013	12	908	0.119147596	632	781	7620.8	759
FL	Crystal River	4	2013	9/5/2013	13	975	0.127736509	633	783	7632.9	759

FL	Crystal River	4	2013	9/5/2013	14	1037	0.135745422	626	783	7639.3	759
FL	Crystal River	4	2013	9/5/2013	15	734	0.096153846	626	783	7633.6	759
FL	Crystal River	4	2013	9/5/2013	16	863	0.112481101	621	787	7672.4	760
FL	Crystal River	4	2013	9/5/2013	17	1243	0.162905297	625	782	7630.2	761
FL	Crystal River	4	2013	9/5/2013	18	1351	0.17714548	625	782	7626.5	761
FL	Crystal River	4	2013	9/5/2013	19	1146	0.150851005	615	779	7596.9	760
FL	Crystal River	4	2013	9/5/2013	20	959	0.125973702	609	781	7612.7	759
FL	Crystal River	4	2013	9/5/2013	21	819	0.119987694	498	700	6825.7	669
FL	Crystal River	4	2013	9/5/2013	22	461	0.098181199	319	481	4695.4	427
FL	Crystal River	4	2013	9/5/2013	23	417	0.118658054	260	360	3514.3	293
FL	Crystal River	4	2013	9/6/2013	0	242	0.083175803	264	298	2909.5	227
FL	Crystal River	4	2013	9/6/2013	1	244	0.083290664	263	300	2929.5	226
FL	Crystal River	4	2013	9/6/2013	2	251	0.086056159	277	299	2916.7	226
FL	Crystal River	4	2013	9/6/2013	3	243	0.084106327	248	296	2889.2	226
FL	Crystal River	4	2013	9/6/2013	4	232	0.080591934	204	295	2878.7	226
FL	Crystal River	4	2013	9/6/2013	5	426	0.120669631	250	362	3530.3	297
FL	Crystal River	4	2013	9/6/2013	6	569	0.136104865	267	428	4180.6	362
FL	Crystal River	4	2013	9/6/2013	7	1013	0.185868149	348	559	5450.1	513
FL	Crystal River	4	2013	9/6/2013	8	1288	0.177677229	543	743	7249.1	722
FL	Crystal River	4	2013	9/6/2013	9	762	0.101226138	609	772	7527.7	757
FL	Crystal River	4	2013	9/6/2013	10	895	0.118500669	634	774	7552.7	757
FL	Crystal River	4	2013	9/6/2013	11	1365	0.181065701	633	773	7538.7	755
FL	Crystal River	4	2013	9/6/2013	12	1026	0.134804888	639	780	7611	757
FL	Crystal River	4	2013	9/6/2013	13	961	0.126274572	639	780	7610.4	760
FL	Crystal River	4	2013	9/6/2013	14	816	0.108434215	639	772	7525.3	758
FL	Crystal River	4	2013	9/6/2013	15	740	0.097881008	650	775	7560.2	758
FL	Crystal River	4	2013	9/6/2013	16	772	0.103486642	626	765	7459.9	758
FL	Crystal River	4	2013	9/6/2013	17	666	0.089813092	630	760	7415.4	758
FL	Crystal River	4	2013	9/6/2013	18	725	0.104091888	564	714	6965	705
FL	Crystal River	4	2013	9/6/2013	19	779	0.116112684	509	688	6709	675
FL	Crystal River	4	2013	9/6/2013	20	568	0.092675684	459	628	6128.9	609
FL	Crystal River	4	2013	9/6/2013	21	573	0.097222458	430	604	5893.7	575
FL	Crystal River	4	2013	9/6/2013	22	349	0.064828919	387	552	5383.4	517
FL	Crystal River	4	2013	9/6/2013	23	136	0.031847134	320	438	4270.4	393
FL	Crystal River	4	2013	9/7/2013	0	103	0.028568259	270	369	3605.4	321

FL	Crystal River	4	2013	9/7/2013	1	67	0.023929426	218	287	2799.9	234
FL	Crystal River	4	2013	9/7/2013	2	84	0.030454644	212	283	2758.2	225
FL	Crystal River	4	2013	9/7/2013	3	114	0.041134445	210	284	2771.4	226
FL	Crystal River	4	2013	9/7/2013	4	124	0.045215869	211	281	2742.4	226
FL	Crystal River	4	2013	9/7/2013	5	139	0.050863583	213	280	2732.8	226
FL	Crystal River	4	2013	9/7/2013	6	162	0.058740346	212	283	2757.9	226
FL	Crystal River	4	2013	9/7/2013	7	224	0.074453234	240	308	3008.6	254
FL	Crystal River	4	2013	9/7/2013	8	548	0.117046498	295	480	4681.9	441
FL	Crystal River	4	2013	9/7/2013	9	885	0.132194124	488	686	6694.7	670
FL	Crystal River	4	2013	9/7/2013	10	758	0.103288048	601	752	7338.7	751
FL	Crystal River	4	2013	9/7/2013	11	1009	0.135111611	627	766	7467.9	757
FL	Crystal River	4	2013	9/7/2013	12	930	0.123311102	633	773	7541.9	758
FL	Crystal River	4	2013	9/7/2013	13	919	0.12276577	628	768	7485.8	757
FL	Crystal River	4	2013	9/7/2013	14	990	0.130618923	629	777	7579.3	757
FL	Crystal River	4	2013	9/7/2013	15	977	0.129077433	620	776	7569.1	758
FL	Crystal River	4	2013	9/7/2013	16	1026	0.135272325	629	778	7584.7	761
FL	Crystal River	4	2013	9/7/2013	17	1032	0.135559379	639	781	7612.9	765
FL	Crystal River	4	2013	9/7/2013	18	1056	0.13903518	622	779	7595.2	768
FL	Crystal River	4	2013	9/7/2013	19	1035	0.137200578	611	774	7543.7	766
FL	Crystal River	4	2013	9/7/2013	20	1015	0.134243278	612	775	7560.9	766
FL	Crystal River	4	2013	9/7/2013	21	1011	0.136653015	584	759	7398.3	750
FL	Crystal River	4	2013	9/7/2013	22	639	0.106322795	420	616	6010	585
FL	Crystal River	4	2013	9/7/2013	23	435	0.096800036	314	461	4493.8	419
FL	Crystal River	4	2013	9/8/2013	0	343	0.106205103	226	331	3229.6	277
FL	Crystal River	4	2013	9/8/2013	1	293	0.104344729	207	288	2808	225
FL	Crystal River	4	2013	9/8/2013	2	228	0.080699395	209	289	2825.3	225
FL	Crystal River	4	2013	9/8/2013	3	175	0.06250893	207	287	2799.6	226
FL	Crystal River	4	2013	9/8/2013	4	180	0.064655172	208	285	2784	226
FL	Crystal River	4	2013	9/8/2013	5	171	0.061875814	212	283	2763.6	226
FL	Crystal River	4	2013	9/8/2013	6	175	0.063578565	198	282	2752.5	225
FL	Crystal River	4	2013	9/8/2013	7	247	0.079963741	234	316	3088.9	265
FL	Crystal River	4	2013	9/8/2013	8	775	0.154330207	341	515	5021.7	484
FL	Crystal River	4	2013	9/8/2013	9	1204	0.170780142	528	723	7050	707
FL	Crystal River	4	2013	9/8/2013	10	916	0.123347068	586	761	7426.2	757
FL	Crystal River	4	2013	9/8/2013	11	810	0.108870968	602	763	7440	757

FL	Crystal River	4	2013	9/8/2013	12	910	0.122649774	593	761	7419.5	758
FL	Crystal River	4	2013	9/8/2013	13	1066	0.141777943	639	771	7518.8	758
FL	Crystal River	4	2013	9/8/2013	14	1112	0.147276965	588	774	7550.4	757
FL	Crystal River	4	2013	9/8/2013	15	1031	0.135888548	599	778	7587.1	757
FL	Crystal River	4	2013	9/8/2013	16	973	0.128479375	605	777	7573.2	758
FL	Crystal River	4	2013	9/8/2013	17	952	0.125927592	604	775	7559.9	758
FL	Crystal River	4	2013	9/8/2013	18	964	0.127024285	629	778	7589.1	759
FL	Crystal River	4	2013	9/8/2013	19	965	0.127087394	637	779	7593.2	757
FL	Crystal River	4	2013	9/8/2013	20	987	0.129752327	608	780	7606.8	759
FL	Crystal River	4	2013	9/8/2013	21	1025	0.135309959	613	777	7575.2	757
FL	Crystal River	4	2013	9/8/2013	22	792	0.118545128	494	685	6681	667
FL	Crystal River	4	2013	9/8/2013	23	464	0.086096525	377	552	5389.3	515
FL	Crystal River	4	2013	9/9/2013	0	219	0.054106137	299	415	4047.6	360
FL	Crystal River	4	2013	9/9/2013	1	307	0.077452885	285	406	3963.7	352
FL	Crystal River	4	2013	9/9/2013	2	327	0.082749197	280	405	3951.7	348
FL	Crystal River	4	2013	9/9/2013	3	148	0.048053508	258	316	3079.9	253
FL	Crystal River	4	2013	9/9/2013	4	136	0.046525948	245	299	2923.1	234
FL	Crystal River	4	2013	9/9/2013	5	269	0.074915755	244	368	3590.7	314
FL	Crystal River	4	2013	9/9/2013	6	392	0.088547549	247	454	4427	398
FL	Crystal River	4	2013	9/9/2013	7	638	0.117182478	332	558	5444.5	523
FL	Crystal River	4	2013	9/9/2013	8	1131	0.160055475	494	725	7066.3	711
FL	Crystal River	4	2013	9/9/2013	9	1020	0.137633248	570	760	7411	751
FL	Crystal River	4	2013	9/9/2013	10	937	0.125695888	581	764	7454.5	755
FL	Crystal River	4	2013	9/9/2013	11	1082	0.145435972	587	763	7439.7	751
FL	Crystal River	4	2013	9/9/2013	12	1236	0.165926085	588	764	7449.1	748
FL	Crystal River	4	2013	9/9/2013	13	1093	0.146735045	581	764	7448.8	749
FL	Crystal River	4	2013	9/9/2013	14	1076	0.143694662	591	768	7488.1	752
FL	Crystal River	4	2013	9/9/2013	15	1105	0.145517278	615	779	7593.6	758
FL	Crystal River	4	2013	9/9/2013	16	1199	0.158102246	621	778	7583.7	759
FL	Crystal River	4	2013	9/9/2013	17	1157	0.151741685	640	782	7624.8	761
FL	Crystal River	4	2013	9/9/2013	18	1106	0.144948429	648	782	7630.3	763
FL	Crystal River	4	2013	9/9/2013	19	1095	0.143519975	633	782	7629.6	764
FL	Crystal River	4	2013	9/9/2013	20	1133	0.149657887	628	776	7570.6	757
FL	Crystal River	4	2013	9/9/2013	21	1004	0.140172563	551	734	7162.6	714
FL	Crystal River	4	2013	9/9/2013	22	836	0.131566523	457	651	6354.2	622

FL	Crystal River	4	2013	9/9/2013	23	482	0.102118644	344	484	4720	436
FL	Crystal River	4	2013	9/10/2013	0	337	0.098818286	259	349	3410.3	296
FL	Crystal River	4	2013	9/10/2013	1	190	0.067678279	247	288	2807.4	225
FL	Crystal River	4	2013	9/10/2013	2	138	0.047701348	274	296	2893	225
FL	Crystal River	4	2013	9/10/2013	3	131	0.045898882	256	292	2854.1	227
FL	Crystal River	4	2013	9/10/2013	4	153	0.051713648	260	303	2958.6	244
FL	Crystal River	4	2013	9/10/2013	5	338	0.08579769	279	404	3939.5	355
FL	Crystal River	4	2013	9/10/2013	6	547	0.111409833	279	503	4909.8	458
FL	Crystal River	4	2013	9/10/2013	7	738	0.125367354	382	604	5886.7	573
FL	Crystal River	4	2013	9/10/2013	8	990	0.142415306	514	713	6951.5	697
FL	Crystal River	4	2013	9/10/2013	9	941	0.126568658	565	762	7434.7	750
FL	Crystal River	4	2013	9/10/2013	10	973	0.131091441	593	761	7422.3	750
FL	Crystal River	4	2013	9/10/2013	11	1101	0.147245664	613	767	7477.3	754
FL	Crystal River	4	2013	9/10/2013	12	1290	0.172674582	590	766	7470.7	753
FL	Crystal River	4	2013	9/10/2013	13	1334	0.178311256	591	767	7481.3	755
FL	Crystal River	4	2013	9/10/2013	14	1208	0.16133125	599	768	7487.7	755
FL	Crystal River	4	2013	9/10/2013	15	1164	0.155255892	622	769	7497.3	755
FL	Crystal River	4	2013	9/10/2013	16	1162	0.154140026	633	773	7538.6	756
FL	Crystal River	4	2013	9/10/2013	17	1184	0.156192285	636	777	7580.4	761
FL	Crystal River	4	2013	9/10/2013	18	1194	0.157045338	646	780	7602.9	763
FL	Crystal River	4	2013	9/10/2013	19	1179	0.155795761	635	776	7567.6	761
FL	Crystal River	4	2013	9/10/2013	20	1125	0.147837628	639	780	7609.7	762
FL	Crystal River	4	2013	9/10/2013	21	955	0.131096682	582	747	7284.7	727
FL	Crystal River	4	2013	9/10/2013	22	742	0.114596364	485	664	6474.9	636
FL	Crystal River	4	2013	9/10/2013	23	410	0.080222274	357	524	5110.8	474
FL	Crystal River	4	2013	9/11/2013	0	153	0.045476162	289	345	3364.4	281
FL	Crystal River	4	2013	9/11/2013	1	126	0.044221388	279	292	2849.3	226
FL	Crystal River	4	2013	9/11/2013	2	145	0.050761421	279	293	2856.5	226
FL	Crystal River	4	2013	9/11/2013	3	152	0.054123344	266	288	2808.4	226
FL	Crystal River	4	2013	9/11/2013	4	192	0.059681079	296	330	3217.1	271
FL	Crystal River	4	2013	9/11/2013	5	426	0.095125382	322	459	4478.3	418
FL	Crystal River	4	2013	9/11/2013	6	747	0.127792794	344	599	5845.4	564
FL	Crystal River	4	2013	9/11/2013	7	956	0.137623264	500	712	6946.5	703
FL	Crystal River	4	2013	9/11/2013	8	964	0.129326536	581	764	7454	759
FL	Crystal River	4	2013	9/11/2013	9	1048	0.140420457	619	765	7463.3	761

FL	Crystal River	4	2013	9/11/2013	10	1181	0.15675812	587	773	7533.9	762
FL	Crystal River	4	2013	9/11/2013	11	1250	0.165635311	603	774	7546.7	761
FL	Crystal River	4	2013	9/11/2013	12	1188	0.15669309	636	777	7581.7	763
FL	Crystal River	4	2013	9/11/2013	13	1133	0.149964924	627	775	7555.1	760
FL	Crystal River	4	2013	9/11/2013	14	1150	0.151116951	616	780	7610	761
FL	Crystal River	4	2013	9/11/2013	15	1169	0.15374903	623	780	7603.3	762
FL	Crystal River	4	2013	9/11/2013	16	1135	0.149868617	545	777	7573.3	759
FL	Crystal River	4	2013	9/11/2013	17	1162	0.153229422	599	778	7583.4	759
FL	Crystal River	4	2013	9/11/2013	18	1172	0.154940377	605	776	7564.2	761
FL	Crystal River	4	2013	9/11/2013	19	1239	0.163585952	605	777	7574	761
FL	Crystal River	4	2013	9/11/2013	20	1081	0.142497462	606	778	7586.1	760
FL	Crystal River	4	2013	9/11/2013	21	1068	0.140757825	599	778	7587.5	761
FL	Crystal River	4	2013	9/11/2013	22	815	0.118196453	503	707	6895.3	686
FL	Crystal River	4	2013	9/11/2013	23	568	0.097504034	402	597	5825.4	566
FL	Crystal River	4	2013	9/12/2013	0	313	0.066969062	285	479	4673.8	430
FL	Crystal River	4	2013	9/12/2013	1	167	0.049785357	211	344	3354.4	290
FL	Crystal River	4	2013	9/12/2013	2	122	0.04305781	201	290	2833.4	225
FL	Crystal River	4	2013	9/12/2013	3	138	0.0491488	193	288	2807.8	226
FL	Crystal River	4	2013	9/12/2013	4	189	0.063367532	211	306	2982.6	250
FL	Crystal River	4	2013	9/12/2013	5	693	0.15130674	274	469	4580.1	437
FL	Crystal River	4	2013	9/12/2013	6	1144	0.186571424	392	629	6131.7	609
FL	Crystal River	4	2013	9/12/2013	7	1125	0.159608427	542	723	7048.5	720
FL	Crystal River	4	2013	9/12/2013	8	1025	0.138022972	601	761	7426.3	760
FL	Crystal River	4	2013	9/12/2013	9	937	0.125463626	612	766	7468.3	761
FL	Crystal River	4	2013	9/12/2013	10	1383	0.185190145	627	766	7468	761
FL	Crystal River	4	2013	9/12/2013	11	1405	0.18627282	626	773	7542.7	760
FL	Crystal River	4	2013	9/12/2013	12	1223	0.161509713	620	776	7572.3	760
FL	Crystal River	4	2013	9/12/2013	13	773	0.102309576	612	775	7555.5	760
FL	Crystal River	4	2013	9/12/2013	14	476	0.063289456	624	771	7521	760
FL	Crystal River	4	2013	9/12/2013	15	673	0.08928453	625	773	7537.7	761
FL	Crystal River	4	2013	9/12/2013	16	637	0.084752528	616	771	7516	760
FL	Crystal River	4	2013	9/12/2013	17	499	0.065618178	616	780	7604.6	761
FL	Crystal River	4	2013	9/12/2013	18	421	0.055321945	624	780	7610	760
FL	Crystal River	4	2013	9/12/2013	19	390	0.05141456	614	778	7585.4	761
FL	Crystal River	4	2013	9/12/2013	20	369	0.049831195	599	759	7405	744

FL	Crystal River	4	2013	9/12/2013	21	263	0.039918039	487	676	6588.5	655
FL	Crystal River	4	2013	9/12/2013	22	139	0.023263598	412	613	5975	584
FL	Crystal River	4	2013	9/12/2013	23	76	0.015595182	326	500	4873.3	456
FL	Crystal River	4	2013	9/13/2013	0	32	0.008790484	218	373	3640.3	316
FL	Crystal River	4	2013	9/13/2013	1	20	0.007121493	202	288	2808.4	225
FL	Crystal River	4	2013	9/13/2013	2	35	0.012410467	200	289	2820.2	225
FL	Crystal River	4	2013	9/13/2013	3	44	0.015651122	202	288	2811.3	226
FL	Crystal River	4	2013	9/13/2013	4	50	0.017281902	211	296	2893.2	238
FL	Crystal River	4	2013	9/13/2013	5	108	0.02781283	283	398	3883.1	352
FL	Crystal River	4	2013	9/13/2013	6	261	0.046265932	321	578	5641.3	549
FL	Crystal River	4	2013	9/13/2013	7	404	0.063623049	450	651	6349.9	629
FL	Crystal River	4	2013	9/13/2013	8	440	0.063325753	535	712	6948.2	698
FL	Crystal River	4	2013	9/13/2013	9	438	0.05846236	621	768	7492	754
FL	Crystal River	4	2013	9/13/2013	10	441	0.058829022	614	769	7496.3	757
FL	Crystal River	4	2013	9/13/2013	11	461	0.060629176	638	780	7603.6	761
FL	Crystal River	4	2013	9/13/2013	12	450	0.059442823	635	776	7570.3	761
FL	Crystal River	4	2013	9/13/2013	13	450	0.059358141	629	777	7581.1	763
FL	Crystal River	4	2013	9/13/2013	14	463	0.061149559	636	776	7571.6	763
FL	Crystal River	4	2013	9/13/2013	15	498	0.06590091	627	775	7556.8	758
FL	Crystal River	4	2013	9/13/2013	16	532	0.070324789	627	776	7564.9	763
FL	Crystal River	4	2013	9/13/2013	17	558	0.073594387	629	777	7582.1	761
FL	Crystal River	4	2013	9/13/2013	18	578	0.076330837	620	776	7572.3	761
FL	Crystal River	4	2013	9/13/2013	19	595	0.078593506	628	776	7570.6	761
FL	Crystal River	4	2013	9/13/2013	20	563	0.076816024	579	752	7329.2	731
FL	Crystal River	4	2013	9/13/2013	21	360	0.061251574	434	603	5877.4	566
FL	Crystal River	4	2013	9/13/2013	22	323	0.059430716	326	557	5434.9	509
FL	Crystal River	4	2013	9/13/2013	23	228	0.048980644	293	477	4654.9	418
FL	Crystal River	4	2013	9/14/2013	0	85	0.0266074	217	327	3194.6	264
FL	Crystal River	4	2013	9/14/2013	1	87	0.028074478	216	317	3098.9	251
FL	Crystal River	4	2013	9/14/2013	2	80	0.02736446	219	300	2923.5	237
FL	Crystal River	4	2013	9/14/2013	3	65	0.023100434	205	288	2813.8	225
FL	Crystal River	4	2013	9/14/2013	4	59	0.021184919	200	285	2785	225
FL	Crystal River	4	2013	9/14/2013	5	55	0.019535412	214	288	2815.4	225
FL	Crystal River	4	2013	9/14/2013	6	74	0.026482482	209	286	2794.3	225
FL	Crystal River	4	2013	9/14/2013	7	114	0.033879164	245	345	3364.9	289

FL	Crystal River	4	2013	9/14/2013	8	475	0.079477955	400	613	5976.5	584
FL	Crystal River	4	2013	9/14/2013	9	747	0.099763612	591	768	7487.7	757
FL	Crystal River	4	2013	9/14/2013	10	968	0.1286926	616	771	7521.8	760
FL	Crystal River	4	2013	9/14/2013	11	1315	0.174130671	634	774	7551.8	763
FL	Crystal River	4	2013	9/14/2013	12	1077	0.142360514	627	776	7565.3	759
FL	Crystal River	4	2013	9/14/2013	13	1126	0.149404241	618	773	7536.6	760
FL	Crystal River	4	2013	9/14/2013	14	1128	0.149342654	626	774	7553.1	763
FL	Crystal River	4	2013	9/14/2013	15	873	0.127166788	521	704	6865	686
FL	Crystal River	4	2013	9/14/2013	16	964	0.14719355	484	671	6549.2	641
FL	Crystal River	4	2013	9/14/2013	17	1337	0.189100887	544	725	7070.3	697
FL	Crystal River	4	2013	9/14/2013	18	1165	0.152865072	632	781	7621.1	764
FL	Crystal River	4	2013	9/14/2013	19	1037	0.136648746	622	778	7588.8	761
FL	Crystal River	4	2013	9/14/2013	20	1144	0.149903035	633	783	7631.6	763
FL	Crystal River	4	2013	9/14/2013	21	985	0.139841277	549	722	7043.7	703
FL	Crystal River	4	2013	9/14/2013	22	692	0.119197313	394	595	5805.5	558
FL	Crystal River	4	2013	9/14/2013	23	405	0.092410898	271	449	4382.6	395
FL	Crystal River	4	2013	9/15/2013	0	221	0.056925019	225	398	3882.3	333
FL	Crystal River	4	2013	9/15/2013	1	83	0.028292882	214	301	2933.6	230
FL	Crystal River	4	2013	9/15/2013	2	81	0.028237755	206	294	2868.5	226
FL	Crystal River	4	2013	9/15/2013	3	91	0.032267215	205	289	2820.2	226
FL	Crystal River	4	2013	9/15/2013	4	94	0.033729233	203	285	2786.9	226
FL	Crystal River	4	2013	9/15/2013	5	105	0.037743988	214	285	2781.9	225
FL	Crystal River	4	2013	9/15/2013	6	123	0.044070226	198	286	2791	225
FL	Crystal River	4	2013	9/15/2013	7	168	0.052542691	217	328	3197.4	271
FL	Crystal River	4	2013	9/15/2013	8	448	0.092205734	306	498	4858.7	457
FL	Crystal River	4	2013	9/15/2013	9	918	0.126301886	537	745	7268.3	725
FL	Crystal River	4	2013	9/15/2013	10	717	0.094860091	619	775	7558.5	759
FL	Crystal River	4	2013	9/15/2013	11	589	0.078344263	631	771	7518.1	760
FL	Crystal River	4	2013	9/15/2013	12	581	0.077196992	602	772	7526.2	754
FL	Crystal River	4	2013	9/15/2013	13	627	0.083101392	664	774	7545	755
FL	Crystal River	4	2013	9/15/2013	14	657	0.086563546	607	778	7589.8	758
FL	Crystal River	4	2013	9/15/2013	15	484	0.063863196	636	777	7578.7	758
FL	Crystal River	4	2013	9/15/2013	16	370	0.049679767	625	764	7447.7	756
FL	Crystal River	4	2013	9/15/2013	17	322	0.047677569	594	692	6753.7	671
FL	Crystal River	4	2013	9/15/2013	18	597	0.087104964	603	703	6853.8	679

FL	Crystal River	4	2013	9/15/2013	19	624	0.091890379	604	696	6790.7	669
FL	Crystal River	4	2013	9/15/2013	20	501	0.081625338	399	629	6137.8	596
FL	Crystal River	4	2013	9/15/2013	21	251	0.048795661	339	527	5143.9	485
FL	Crystal River	4	2013	9/15/2013	22	115	0.026820281	278	439	4287.8	382
FL	Crystal River	4	2013	9/15/2013	23	41	0.014240561	224	295	2879.1	231
FL	Crystal River	4	2013	9/16/2013	0	36	0.012804553	210	288	2811.5	226
FL	Crystal River	4	2013	9/16/2013	1	34	0.012263743	224	284	2772.4	225
FL	Crystal River	4	2013	9/16/2013	2	36	0.012990762	216	284	2771.2	225
FL	Crystal River	4	2013	9/16/2013	3	37	0.013426716	206	282	2755.7	226
FL	Crystal River	4	2013	9/16/2013	4	37	0.013094564	220	289	2825.6	234
FL	Crystal River	4	2013	9/16/2013	5	54	0.017021813	241	325	3172.4	273
FL	Crystal River	4	2013	9/16/2013	6	71	0.023066177	221	315	3078.1	257
FL	Crystal River	4	2013	9/16/2013	7	197	0.045725692	305	442	4308.3	410
FL	Crystal River	4	2013	9/16/2013	8	455	0.065552514	541	712	6941	706
FL	Crystal River	4	2013	9/16/2013	9	400	0.054587388	600	751	7327.7	754
FL	Crystal River	4	2013	9/16/2013	10	353	0.047592725	615	761	7417.1	754
FL	Crystal River	4	2013	9/16/2013	11	392	0.052942209	629	759	7404.3	757
FL	Crystal River	4	2013	9/16/2013	12	361	0.048542384	639	763	7436.8	760
FL	Crystal River	4	2013	9/16/2013	13	328	0.044173299	638	761	7425.3	760
FL	Crystal River	4	2013	9/16/2013	14	504	0.068270481	627	757	7382.4	757
FL	Crystal River	4	2013	9/16/2013	15	1358	0.18365001	628	758	7394.5	758
FL	Crystal River	4	2013	9/16/2013	16	1185	0.160610455	619	757	7378.1	758
FL	Crystal River	4	2013	9/16/2013	17	972	0.132115479	610	754	7357.2	757
FL	Crystal River	4	2013	9/16/2013	18	1090	0.147856755	611	756	7372	757
FL	Crystal River	4	2013	9/16/2013	19	1179	0.159710651	620	757	7382.1	763
FL	Crystal River	4	2013	9/16/2013	20	982	0.137708596	577	731	7131	741
FL	Crystal River	4	2013	9/16/2013	21	506	0.087954111	431	590	5753	584
FL	Crystal River	4	2013	9/16/2013	22	325	0.067737969	316	492	4797.9	467
FL	Crystal River	4	2013	9/16/2013	23	161	0.050446499	201	327	3191.5	284
FL	Crystal River	4	2013	9/17/2013	0	135	0.050597804	184	273	2668.1	225
FL	Crystal River	4	2013	9/17/2013	1	153	0.057607591	183	272	2655.9	225
FL	Crystal River	4	2013	9/17/2013	2	139	0.051898592	187	274	2678.3	225
FL	Crystal River	4	2013	9/17/2013	3	133	0.050184892	190	271	2650.2	226
FL	Crystal River	4	2013	9/17/2013	4	235	0.077076979	213	312	3048.9	279
FL	Crystal River	4	2013	9/17/2013	5	1155	0.194470636	380	609	5939.2	621

FL	Crystal River	4	2013	9/17/2013	6	1094	0.159920478	533	701	6840.9	747
FL	Crystal River	4	2013	9/17/2013	7	793	0.113967894	577	713	6958.1	762
FL	Crystal River	4	2013	9/17/2013	8	741	0.105076574	578	723	7052	763
FL	Crystal River	4	2013	9/17/2013	9	755	0.106578204	580	726	7084	762
FL	Crystal River	4	2013	9/17/2013	10	848	0.118568233	593	733	7152	760
FL	Crystal River	4	2013	9/17/2013	11	963	0.133213446	600	741	7229	762
FL	Crystal River	4	2013	9/17/2013	12	998	0.135450597	604	756	7368	765
FL	Crystal River	4	2013	9/17/2013	13	938	0.126907674	606	758	7391.2	763
FL	Crystal River	4	2013	9/17/2013	14	809	0.108859465	624	762	7431.6	767
FL	Crystal River	4	2013	9/17/2013	15	419	0.056396037	631	762	7429.6	766
FL	Crystal River	4	2013	9/17/2013	16	313	0.04218272	630	761	7420.1	765
FL	Crystal River	4	2013	9/17/2013	17	321	0.042996638	649	766	7465.7	767
FL	Crystal River	4	2013	9/17/2013	18	328	0.043858476	635	767	7478.6	768
FL	Crystal River	4	2013	9/17/2013	19	346	0.047305889	614	750	7314.1	759
FL	Crystal River	4	2013	9/17/2013	20	323	0.045810404	578	723	7050.8	735
FL	Crystal River	4	2013	9/17/2013	21	234	0.038818201	458	618	6028.1	614
FL	Crystal River	4	2013	9/17/2013	22	186	0.034375058	378	555	5410.9	544
FL	Crystal River	4	2013	9/17/2013	23	75	0.020153706	267	381	3721.4	360
FL	Crystal River	4	2013	9/18/2013	0	35	0.012816288	185	280	2730.9	239
FL	Crystal River	4	2013	9/18/2013	1	33	0.012718724	176	266	2594.6	226
FL	Crystal River	4	2013	9/18/2013	2	34	0.013210553	175	264	2573.7	225
FL	Crystal River	4	2013	9/18/2013	3	39	0.015114522	185	264	2580.3	225
FL	Crystal River	4	2013	9/18/2013	4	39	0.015129767	170	264	2577.7	226
FL	Crystal River	4	2013	9/18/2013	5	63	0.023430527	180	275	2688.8	246
FL	Crystal River	4	2013	9/18/2013	6	95	0.034803634	188	280	2729.6	251
FL	Crystal River	4	2013	9/18/2013	7	134	0.047899911	190	287	2797.5	257
FL	Crystal River	4	2013	9/18/2013	8	266	0.06879251	270	396	3866.7	381
FL	Crystal River	4	2013	9/18/2013	9	433	0.077057232	376	576	5619.2	579
FL	Crystal River	4	2013	9/18/2013	10	362	0.062728517	421	592	5770.9	582
FL	Crystal River	4	2013	9/18/2013	11	358	0.060030854	423	611	5963.6	606
FL	Crystal River	4	2013	9/18/2013	12	571	0.080771788	537	725	7069.3	740
FL	Crystal River	4	2013	9/18/2013	13	731	0.100867933	623	743	7247.1	755
FL	Crystal River	4	2013	9/18/2013	14	553	0.07690703	604	737	7190.5	750
FL	Crystal River	4	2013	9/18/2013	15	964	0.133366537	585	741	7228.2	748
FL	Crystal River	4	2013	9/18/2013	16	1446	0.201769319	580	735	7166.6	752

FL	Crystal River	4	2013	9/18/2013	17	1390	0.193028746	655	738	7201	755
FL	Crystal River	4	2013	9/18/2013	18	1267	0.174782729	608	743	7249	755
FL	Crystal River	4	2013	9/18/2013	19	1279	0.180428005	595	727	7088.7	754
FL	Crystal River	4	2013	9/18/2013	20	1047	0.163285039	513	657	6412.1	684
FL	Crystal River	4	2013	9/18/2013	21	849	0.150858239	410	577	5627.8	590
FL	Crystal River	4	2013	9/18/2013	22	852	0.158733116	397	550	5367.5	559
FL	Crystal River	4	2013	9/18/2013	23	478	0.108557413	308	451	4403.2	453
FL	Crystal River	4	2013	9/19/2013	0	167	0.056426544	236	303	2959.6	279
FL	Crystal River	4	2013	9/19/2013	1	149	0.060000805	213	254	2483.3	225
FL	Crystal River	4	2013	9/19/2013	2	142	0.057930809	205	251	2451.2	225
FL	Crystal River	4	2013	9/19/2013	3	127	0.052057714	204	250	2439.6	225
FL	Crystal River	4	2013	9/19/2013	4	127	0.05126963	210	254	2477.1	226
FL	Crystal River	4	2013	9/19/2013	5	276	0.086596386	255	327	3187.2	319
FL	Crystal River	4	2013	9/19/2013	6	291	0.082557876	257	361	3524.8	355
FL	Crystal River	4	2013	9/19/2013	7	375	0.096013519	285	400	3905.7	398
FL	Crystal River	4	2013	9/19/2013	8	1009	0.179167555	399	577	5631.6	601
FL	Crystal River	4	2013	9/19/2013	9	1283	0.18489163	569	712	6939.2	750
FL	Crystal River	4	2013	9/19/2013	10	895	0.125799424	604	729	7114.5	754
FL	Crystal River	4	2013	9/19/2013	11	1021	0.139442775	622	751	7322	753
FL	Crystal River	4	2013	9/19/2013	12	1187	0.161239931	640	755	7361.7	751
FL	Crystal River	4	2013	9/19/2013	13	1201	0.163439163	632	753	7348.3	750
FL	Crystal River	4	2013	9/19/2013	14	947	0.127689984	630	760	7416.4	749
FL	Crystal River	4	2013	9/19/2013	15	859	0.11586032	630	760	7414.1	750
FL	Crystal River	4	2013	9/19/2013	16	1146	0.154102681	632	763	7436.6	751
FL	Crystal River	4	2013	9/19/2013	17	1145	0.152018056	632	772	7532	756
FL	Crystal River	4	2013	9/19/2013	18	896	0.119487378	644	769	7498.7	756
FL	Crystal River	4	2013	9/19/2013	19	817	0.109209999	628	767	7481	756
FL	Crystal River	4	2013	9/19/2013	20	748	0.104939744	570	731	7127.9	724
FL	Crystal River	4	2013	9/19/2013	21	654	0.103430279	467	648	6323.1	634
FL	Crystal River	4	2013	9/19/2013	22	560	0.102072435	384	562	5486.3	536
FL	Crystal River	4	2013	9/19/2013	23	241	0.06262831	269	394	3848.1	343
FL	Crystal River	4	2013	9/20/2013	0	129	0.045647558	203	290	2826	238
FL	Crystal River	4	2013	9/20/2013	1	150	0.054261323	201	283	2764.4	227
FL	Crystal River	4	2013	9/20/2013	2	144	0.052417006	195	281	2747.2	227
FL	Crystal River	4	2013	9/20/2013	3	144	0.052783989	201	279	2728.1	227

FL	Crystal River	4	2013	9/20/2013	4	144	0.052836281	199	279	2725.4	227
FL	Crystal River	4	2013	9/20/2013	5	177	0.058718153	214	309	3014.4	262
FL	Crystal River	4	2013	9/20/2013	6	308	0.080101948	257	394	3845.1	355
FL	Crystal River	4	2013	9/20/2013	7	251	0.064851178	282	397	3870.4	359
FL	Crystal River	4	2013	9/20/2013	8	339	0.075504477	282	460	4489.8	433
FL	Crystal River	4	2013	9/20/2013	9	894	0.138707876	483	661	6445.2	649
FL	Crystal River	4	2013	9/20/2013	10	1083	0.146027722	630	760	7416.4	761
FL	Crystal River	4	2013	9/20/2013	11	919	0.124791223	567	755	7364.3	765
FL	Crystal River	4	2013	9/20/2013	12	774	0.103517454	672	767	7477	765
FL	Crystal River	4	2013	9/20/2013	13	824	0.110848041	691	762	7433.6	763
FL	Crystal River	4	2013	9/20/2013	14	1080	0.144013441	674	769	7499.3	763
FL	Crystal River	4	2013	9/20/2013	15	992	0.13222083	675	769	7502.6	763
FL	Crystal River	4	2013	9/20/2013	16	499	0.065858069	712	777	7576.9	765
FL	Crystal River	4	2013	9/20/2013	17	403	0.053502204	715	772	7532.4	762
FL	Crystal River	4	2013	9/20/2013	18	370	0.048924973	741	775	7562.6	768
FL	Crystal River	4	2013	9/20/2013	19	403	0.053541299	722	772	7526.9	764
FL	Crystal River	4	2013	9/20/2013	20	698	0.093957383	698	762	7428.9	762
FL	Crystal River	4	2013	9/20/2013	21	885	0.124899445	623	727	7085.7	730
FL	Crystal River	4	2013	9/20/2013	22	726	0.116351748	492	640	6239.7	627
FL	Crystal River	4	2013	9/20/2013	23	414	0.079526682	385	534	5205.8	505
FL	Crystal River	4	2013	9/21/2013	0	263	0.065541904	284	411	4012.7	373
FL	Crystal River	4	2013	9/21/2013	1	130	0.047816971	206	278	2718.7	230
FL	Crystal River	4	2013	9/21/2013	2	163	0.060545279	196	276	2692.2	226
FL	Crystal River	4	2013	9/21/2013	3	142	0.052967287	198	275	2680.9	226
FL	Crystal River	4	2013	9/21/2013	4	133	0.049549214	212	275	2684.2	226
FL	Crystal River	4	2013	9/21/2013	5	120	0.045539069	189	270	2635.1	226
FL	Crystal River	4	2013	9/21/2013	6	164	0.062590642	193	268	2620.2	225
FL	Crystal River	4	2013	9/21/2013	7	247	0.080359176	230	315	3073.7	278
FL	Crystal River	4	2013	9/21/2013	8	686	0.137546617	359	511	4987.4	490
FL	Crystal River	4	2013	9/21/2013	9	1210	0.172389229	568	720	7019	710
FL	Crystal River	4	2013	9/21/2013	10	994	0.133042442	650	766	7471.3	763
FL	Crystal River	4	2013	9/21/2013	11	962	0.128302591	674	769	7497.9	765
FL	Crystal River	4	2013	9/21/2013	12	1102	0.146690805	668	770	7512.4	764
FL	Crystal River	4	2013	9/21/2013	13	1177	0.157033835	689	769	7495.2	764
FL	Crystal River	4	2013	9/21/2013	14	1128	0.149958123	677	771	7522.1	764

FL	Crystal River	4	2013	9/21/2013	15	1123	0.148501759	665	775	7562.2	764
FL	Crystal River	4	2013	9/21/2013	16	1072	0.14199804	656	774	7549.4	763
FL	Crystal River	4	2013	9/21/2013	17	1036	0.137868626	638	771	7514.4	764
FL	Crystal River	4	2013	9/21/2013	18	1091	0.14522076	646	770	7512.7	764
FL	Crystal River	4	2013	9/21/2013	19	1106	0.147561106	644	769	7495.2	760
FL	Crystal River	4	2013	9/21/2013	20	995	0.140140845	596	728	7100	716
FL	Crystal River	4	2013	9/21/2013	21	844	0.129144798	503	670	6535.3	646
FL	Crystal River	4	2013	9/21/2013	22	813	0.136379649	447	611	5961.3	577
FL	Crystal River	4	2013	9/21/2013	23	533	0.110863823	312	493	4807.7	446
FL	Crystal River	4	2013	9/22/2013	0	425	0.119866877	251	363	3545.6	306
FL	Crystal River	4	2013	9/22/2013	1	193	0.068903963	218	287	2801	226
FL	Crystal River	4	2013	9/22/2013	2	165	0.059993455	206	282	2750.3	226
FL	Crystal River	4	2013	9/22/2013	3	173	0.062991553	206	281	2746.4	226
FL	Crystal River	4	2013	9/22/2013	4	169	0.061936524	207	280	2728.6	226
FL	Crystal River	4	2013	9/22/2013	5	158	0.058481697	202	277	2701.7	226
FL	Crystal River	4	2013	9/22/2013	6	170	0.060442295	210	288	2812.6	238
FL	Crystal River	4	2013	9/22/2013	7	483	0.100982647	363	490	4783	470
FL	Crystal River	4	2013	9/22/2013	8	1074	0.147218072	620	748	7295.3	758
FL	Crystal River	4	2013	9/22/2013	9	790	0.106268496	639	762	7434	764
FL	Crystal River	4	2013	9/22/2013	10	677	0.090122471	676	770	7512	764
FL	Crystal River	4	2013	9/22/2013	11	584	0.077395073	679	774	7545.7	762
FL	Crystal River	4	2013	9/22/2013	12	836	0.111799083	702	767	7477.7	757
FL	Crystal River	4	2013	9/22/2013	13	965	0.129781053	691	762	7435.6	759
FL	Crystal River	4	2013	9/22/2013	14	592	0.082539771	638	735	7172.3	728
FL	Crystal River	4	2013	9/22/2013	15	594	0.080048514	682	761	7420.5	761
FL	Crystal River	4	2013	9/22/2013	16	954	0.127780978	671	766	7465.9	756
FL	Crystal River	4	2013	9/22/2013	17	994	0.132452096	667	770	7504.6	761
FL	Crystal River	4	2013	9/22/2013	18	822	0.109375416	668	771	7515.4	764
FL	Crystal River	4	2013	9/22/2013	19	819	0.108751942	655	772	7530.9	766
FL	Crystal River	4	2013	9/22/2013	20	873	0.116271326	660	770	7508.3	765
FL	Crystal River	4	2013	9/22/2013	21	915	0.12156399	647	772	7526.9	766
FL	Crystal River	4	2013	9/22/2013	22	679	0.106309692	498	655	6387	635
FL	Crystal River	4	2013	9/22/2013	23	514	0.095720511	375	550	5369.8	512
FL	Crystal River	4	2013	9/23/2013	0	568	0.127477164	320	457	4455.7	415
FL	Crystal River	4	2013	9/23/2013	1	302	0.09001222	268	344	3355.1	297

FL	Crystal River	4	2013	9/23/2013	2	202	0.072222818	246	287	2796.9	227
FL	Crystal River	4	2013	9/23/2013	3	201	0.074315081	229	277	2704.7	227
FL	Crystal River	4	2013	9/23/2013	4	219	0.077077394	233	291	2841.3	244
FL	Crystal River	4	2013	9/23/2013	5	731	0.162166959	320	462	4507.7	442
FL	Crystal River	4	2013	9/23/2013	6	1029	0.177913792	404	593	5783.7	582
FL	Crystal River	4	2013	9/23/2013	7	830	0.142123288	449	599	5840	587
FL	Crystal River	4	2013	9/23/2013	8	1008	0.14662458	556	705	6874.7	706
FL	Crystal River	4	2013	9/23/2013	9	908	0.124286516	621	749	7305.7	754
FL	Crystal River	4	2013	9/23/2013	10	834	0.114640751	647	746	7274.9	758
FL	Crystal River	4	2013	9/23/2013	11	841	0.114111262	641	756	7370	761
FL	Crystal River	4	2013	9/23/2013	12	933	0.126640696	641	755	7367.3	758
FL	Crystal River	4	2013	9/23/2013	13	1003	0.13617911	648	755	7365.3	759
FL	Crystal River	4	2013	9/23/2013	14	993	0.136839059	624	744	7256.7	760
FL	Crystal River	4	2013	9/23/2013	15	967	0.132044297	637	751	7323.3	765
FL	Crystal River	4	2013	9/23/2013	16	993	0.135841313	628	750	7310	763
FL	Crystal River	4	2013	9/23/2013	17	1320	0.180394408	629	750	7317.3	762
FL	Crystal River	4	2013	9/23/2013	18	1461	0.199516572	629	751	7322.7	762
FL	Crystal River	4	2013	9/23/2013	19	1233	0.167625107	632	754	7355.7	763
FL	Crystal River	4	2013	9/23/2013	20	1011	0.140099497	613	740	7216.3	752
FL	Crystal River	4	2013	9/23/2013	21	766	0.122456157	487	641	6255.3	642
FL	Crystal River	4	2013	9/23/2013	22	740	0.135201798	388	561	5473.3	545
FL	Crystal River	4	2013	9/23/2013	23	847	0.182937365	314	475	4630	451
FL	Crystal River	4	2013	9/24/2013	0	569	0.139505235	273	418	4078.7	387
FL	Crystal River	4	2013	9/24/2013	1	216	0.074380165	220	298	2904	260
FL	Crystal River	4	2013	9/24/2013	2	210	0.079984765	202	269	2625.5	226
FL	Crystal River	4	2013	9/24/2013	3	202	0.077394636	201	267	2610	226
FL	Crystal River	4	2013	9/24/2013	4	320	0.106298166	240	308	3010.4	275
FL	Crystal River	4	2013	9/24/2013	5	1123	0.220906444	335	521	5083.6	515
FL	Crystal River	4	2013	9/24/2013	6	1228	0.178938319	521	704	6862.7	697
FL	Crystal River	4	2013	9/24/2013	7	1108	0.152024478	604	747	7288.3	742
FL	Crystal River	4	2013	9/24/2013	8	851	0.115840627	646	753	7346.3	765
FL	Crystal River	4	2013	9/24/2013	9	759	0.103317316	646	753	7346.3	764
FL	Crystal River	4	2013	9/24/2013	10	784	0.108357635	651	742	7235.3	765
FL	Crystal River	4	2013	9/24/2013	11	834	0.116183497	646	736	7178.3	761
FL	Crystal River	4	2013	9/24/2013	12	981	0.135315944	638	743	7249.7	762

FL	Crystal River	4	2013	9/24/2013	13	1060	0.146936512	649	740	7214	762
FL	Crystal River	4	2013	9/24/2013	14	915	0.127277786	639	737	7189	765
FL	Crystal River	4	2013	9/24/2013	15	821	0.113496551	636	742	7233.7	764
FL	Crystal River	4	2013	9/24/2013	16	783	0.108715272	641	739	7202.3	761
FL	Crystal River	4	2013	9/24/2013	17	789	0.111053246	632	728	7104.7	762
FL	Crystal River	4	2013	9/24/2013	18	777	0.111006343	623	718	6999.6	763
FL	Crystal River	4	2013	9/24/2013	19	729	0.104646656	613	714	6966.3	759
FL	Crystal River	4	2013	9/24/2013	20	768	0.110154905	613	715	6972	763
FL	Crystal River	4	2013	9/24/2013	21	867	0.124224492	614	716	6979.3	762
FL	Crystal River	4	2013	9/24/2013	22	975	0.139106863	609	719	7009	764
FL	Crystal River	4	2013	9/24/2013	23	772	0.119689922	522	661	6450	692
FL	Crystal River	4	2013	9/25/2013	0	433	0.083539126	393	531	5183.2	531
FL	Crystal River	4	2013	9/25/2013	1	705	0.146247355	298	494	4820.6	387
FL	Crystal River	4	2013	9/25/2013	2	610	0.146167302	279	428	4173.3	267
FL	Crystal River	4	2013	9/25/2013	3	569	0.146174793	284	399	3892.6	236
FL	Crystal River	4	2013	9/25/2013	4	626	0.14621727	286	439	4281.3	292
FL	Crystal River	4	2013	9/25/2013	5	811	0.146305383	376	568	5543.2	585
FL	Crystal River	4	2013	9/25/2013	6	973	0.146265202	532	682	6652.3	754
FL	Crystal River	4	2013	9/25/2013	7	966	0.146208567	528	677	6607	752
FL	Crystal River	4	2013	9/25/2013	8	1409	0.206093583	553	701	6836.7	755
FL	Crystal River	4	2013	9/25/2013	9	901	0.142122531	526	650	6339.6	704
FL	Crystal River	4	2013	9/25/2013	10	482	0.089269178	415	554	5399.4	588
FL	Crystal River	4	2013	9/25/2013	11	475	0.078620256	477	619	6041.7	654
FL	Crystal River	4	2013	9/25/2013	12	631	0.09081358	611	712	6948.3	763
FL	Crystal River	4	2013	9/25/2013	13	909	0.131079931	610	711	6934.7	760
FL	Crystal River	4	2013	9/25/2013	14	1039	0.149403966	612	713	6954.3	753
FL	Crystal River	4	2013	9/25/2013	15	901	0.128763952	601	717	6997.3	757
FL	Crystal River	4	2013	9/25/2013	16	765	0.108055426	630	726	7079.7	760
FL	Crystal River	4	2013	9/25/2013	17	690	0.097650722	635	725	7066	763
FL	Crystal River	4	2013	9/25/2013	18	616	0.087416805	627	723	7046.7	762
FL	Crystal River	4	2013	9/25/2013	19	645	0.09165447	640	722	7037.3	762
FL	Crystal River	4	2013	9/25/2013	20	928	0.130801866	638	727	7094.7	760
FL	Crystal River	4	2013	9/25/2013	21	1043	0.14728934	609	726	7081.3	757
FL	Crystal River	4	2013	9/25/2013	22	927	0.131141511	615	725	7068.7	751
FL	Crystal River	4	2013	9/25/2013	23	490	0.090139809	424	557	5436	564

FL	Crystal River	4	2013	9/26/2013	0	143	0.042807963	257	342	3340.5	305
FL	Crystal River	4	2013	9/26/2013	1	474	0.129571921	267	375	3658.2	225
FL	Crystal River	4	2013	9/26/2013	2	471	0.129342304	265	373	3641.5	226
FL	Crystal River	4	2013	9/26/2013	3	466	0.129383347	262	369	3601.7	226
FL	Crystal River	4	2013	9/26/2013	4	471	0.129413381	265	373	3639.5	231
FL	Crystal River	4	2013	9/26/2013	5	551	0.129415633	259	436	4257.6	411
FL	Crystal River	4	2013	9/26/2013	6	590	0.129516618	277	467	4555.4	476
FL	Crystal River	4	2013	9/26/2013	7	728	0.129581175	421	576	5618.1	653
FL	Crystal River	4	2013	9/26/2013	8	812	0.129458094	508	643	6272.3	759
FL	Crystal River	4	2013	9/26/2013	9	1401	0.19313216	623	744	7254.1	762
FL	Crystal River	4	2013	9/26/2013	10	1212	0.164243221	664	757	7379.3	764
FL	Crystal River	4	2013	9/26/2013	11	896	0.121315515	686	757	7385.7	766
FL	Crystal River	4	2013	9/26/2013	12	810	0.110144139	647	754	7354	759
FL	Crystal River	4	2013	9/26/2013	13	945	0.12714772	676	762	7432.3	760
FL	Crystal River	4	2013	9/26/2013	14	1675	0.228534785	667	752	7329.3	760
FL	Crystal River	4	2013	9/26/2013	15	1654	0.22464585	655	755	7362.7	763
FL	Crystal River	4	2013	9/26/2013	16	1451	0.197902317	652	752	7331.9	763
FL	Crystal River	4	2013	9/26/2013	17	1119	0.151210086	651	759	7400.3	761
FL	Crystal River	4	2013	9/26/2013	18	966	0.130183416	638	761	7420.3	757
FL	Crystal River	4	2013	9/26/2013	19	1077	0.145442269	644	759	7405	758
FL	Crystal River	4	2013	9/26/2013	20	1144	0.159493636	602	735	7172.7	736
FL	Crystal River	4	2013	9/26/2013	21	763	0.129024621	449	606	5913.6	578
FL	Crystal River	4	2013	9/26/2013	22	396	0.088537125	317	458	4472.7	412
FL	Crystal River	4	2013	9/26/2013	23	167	0.055002964	206	311	3036.2	251
FL	Crystal River	4	2013	9/27/2013	0	175	0.061569855	193	291	2842.3	226
FL	Crystal River	4	2013	9/27/2013	1	140	0.057442967	160	250	2437.2	226
FL	Crystal River	4	2013	9/27/2013	2	121	0.050324405	168	246	2404.4	226
FL	Crystal River	4	2013	9/27/2013	3	111	0.046476573	152	245	2388.3	226
FL	Crystal River	4	2013	9/27/2013	4	112	0.046421022	156	247	2412.7	225
FL	Crystal River	4	2013	9/27/2013	5	129	0.051121503	166	258	2523.4	243
FL	Crystal River	4	2013	9/27/2013	6	171	0.061178491	190	286	2795.1	253
FL	Crystal River	4	2013	9/27/2013	7	213	0.06926604	215	315	3075.1	263
FL	Crystal River	4	2013	9/27/2013	8	165	0.053311793	207	317	3095	283
FL	Crystal River	4	2013	9/27/2013	9	316	0.081962961	258	395	3855.4	340
FL	Crystal River	4	2013	9/27/2013	10	462	0.096656764	325	490	4779.8	447

FL	Crystal River	4	2013	9/27/2013	11	629	0.111191642	373	580	5656.9	538
FL	Crystal River	4	2013	9/27/2013	12	850	0.128433713	476	679	6618.2	645
FL	Crystal River	4	2013	9/27/2013	13	850	0.120709488	556	722	7041.7	699
FL	Crystal River	4	2013	9/27/2013	14	847	0.112995104	637	769	7495.9	762
FL	Crystal River	4	2013	9/27/2013	15	821	0.109403942	652	769	7504.3	761
FL	Crystal River	4	2013	9/27/2013	16	846	0.112694818	660	770	7507	763
FL	Crystal River	4	2013	9/27/2013	17	800	0.110287022	616	744	7253.8	730
FL	Crystal River	4	2013	9/27/2013	18	665	0.102547496	499	665	6484.8	638
FL	Crystal River	4	2013	9/27/2013	19	616	0.101519496	442	622	6067.8	593
FL	Crystal River	4	2013	9/27/2013	20	456	0.086895211	372	538	5247.7	503
FL	Crystal River	4	2013	9/27/2013	21	430	0.088163533	351	500	4877.3	457
FL	Crystal River	4	2013	9/27/2013	22	301	0.072018184	305	428	4179.5	379
FL	Crystal River	4	2013	9/27/2013	23	154	0.049246906	222	320	3127.1	264
FL	Crystal River	4	2013	9/28/2013	0	125	0.044748335	190	286	2793.4	227
FL	Crystal River	4	2013	9/28/2013	1	141	0.05070848	189	285	2780.6	225
FL	Crystal River	4	2013	9/28/2013	2	145	0.051405679	194	289	2820.7	226
FL	Crystal River	4	2013	9/28/2013	3	118	0.041960031	191	288	2812.2	227
FL	Crystal River	4	2013	9/28/2013	4	118	0.042391148	194	285	2783.6	226
FL	Crystal River	4	2013	9/28/2013	5	114	0.041853293	187	279	2723.8	227
FL	Crystal River	4	2013	9/28/2013	6	151	0.055315408	182	280	2729.8	226
FL	Crystal River	4	2013	9/28/2013	7	167	0.056635127	203	302	2948.7	254
FL	Crystal River	4	2013	9/28/2013	8	300	0.075774797	269	406	3959.1	357
FL	Crystal River	4	2013	9/28/2013	9	548	0.103972982	379	540	5270.6	489
FL	Crystal River	4	2013	9/28/2013	10	783	0.127939086	452	627	6120.1	609
FL	Crystal River	4	2013	9/28/2013	11	971	0.131529042	583	757	7382.4	710
FL	Crystal River	4	2013	9/28/2013	12	912	0.122402963	640	764	7450.8	762
FL	Crystal River	4	2013	9/28/2013	13	942	0.124688939	672	775	7554.8	762
FL	Crystal River	4	2013	9/28/2013	14	946	0.125016519	681	776	7567	762
FL	Crystal River	4	2013	9/28/2013	15	980	0.12977726	679	774	7551.4	762
FL	Crystal River	4	2013	9/28/2013	16	1116	0.147648343	672	775	7558.5	764
FL	Crystal River	4	2013	9/28/2013	17	854	0.127825176	534	685	6681	669
FL	Crystal River	4	2013	9/28/2013	18	773	0.12554204	468	631	6157.3	610
FL	Crystal River	4	2013	9/28/2013	19	919	0.150313221	440	627	6113.9	601
FL	Crystal River	4	2013	9/28/2013	20	666	0.12419812	375	550	5362.4	515
FL	Crystal River	4	2013	9/28/2013	21	581	0.119020793	312	500	4881.5	462

FL	Crystal River	4	2013	9/28/2013	22	665	0.13915045	320	490	4779	447
FL	Crystal River	4	2013	9/28/2013	23	271	0.075198402	237	369	3603.8	315
FL	Crystal River	4	2013	9/29/2013	0	156	0.055393793	197	288	2816.2	226
FL	Crystal River	4	2013	9/29/2013	1	177	0.062969156	188	288	2810.9	226
FL	Crystal River	4	2013	9/29/2013	2	158	0.056744721	189	285	2784.4	226
FL	Crystal River	4	2013	9/29/2013	3	149	0.053096714	196	287	2806.2	226
FL	Crystal River	4	2013	9/29/2013	4	152	0.053973439	194	288	2816.2	226
FL	Crystal River	4	2013	9/29/2013	5	150	0.053456878	204	287	2806	226
FL	Crystal River	4	2013	9/29/2013	6	183	0.065343141	193	287	2800.6	226
FL	Crystal River	4	2013	9/29/2013	7	259	0.079004362	219	336	3278.3	283
FL	Crystal River	4	2013	9/29/2013	8	474	0.099659392	304	488	4756.2	451
FL	Crystal River	4	2013	9/29/2013	9	714	0.120604034	414	607	5920.2	583
FL	Crystal River	4	2013	9/29/2013	10	832	0.123100596	540	693	6758.7	671
FL	Crystal River	4	2013	9/29/2013	11	1110	0.145305075	657	783	7639.1	765
FL	Crystal River	4	2013	9/29/2013	12	1112	0.14586476	670	782	7623.5	767
FL	Crystal River	4	2013	9/29/2013	13	1130	0.147915439	687	783	7639.5	765
FL	Crystal River	4	2013	9/29/2013	14	1149	0.149962803	704	786	7661.9	768
FL	Crystal River	4	2013	9/29/2013	15	1171	0.153475144	679	782	7629.9	767
FL	Crystal River	4	2013	9/29/2013	16	1193	0.155849924	696	785	7654.8	766
FL	Crystal River	4	2013	9/29/2013	17	1191	0.155845175	657	784	7642.2	762
FL	Crystal River	4	2013	9/29/2013	18	1160	0.151667691	634	784	7648.3	761
FL	Crystal River	4	2013	9/29/2013	19	1153	0.150752455	634	784	7648.3	763
FL	Crystal River	4	2013	9/29/2013	20	764	0.11848819	483	661	6447.9	625
FL	Crystal River	4	2013	9/29/2013	21	476	0.089215429	346	547	5335.4	499
FL	Crystal River	4	2013	9/29/2013	22	499	0.100546052	302	509	4962.9	455
FL	Crystal River	4	2013	9/29/2013	23	251	0.074203276	209	347	3382.6	283
FL	Crystal River	4	2013	9/30/2013	0	178	0.062561507	184	291	2845.2	226
FL	Crystal River	4	2013	9/30/2013	1	168	0.059303188	187	290	2832.9	226
FL	Crystal River	4	2013	9/30/2013	2	158	0.05624377	199	288	2809.2	226
FL	Crystal River	4	2013	9/30/2013	3	131	0.046534759	185	288	2815.1	226
FL	Crystal River	4	2013	9/30/2013	4	151	0.052928599	188	292	2852.9	226
FL	Crystal River	4	2013	9/30/2013	5	250	0.074742884	217	343	3344.8	283
FL	Crystal River	4	2013	9/30/2013	6	378	0.095997562	259	404	3937.6	350
FL	Crystal River	4	2013	9/30/2013	7	382	0.089131551	278	439	4285.8	390
FL	Crystal River	4	2013	9/30/2013	8	563	0.118776371	293	486	4740	441

FL	Crystal River	4	2013	9/30/2013	9	1402	0.227188022	432	633	6171.1	584
FL	Crystal River	4	2013	9/30/2013	10	1383	0.192315715	560	737	7191.3	704
FL	Crystal River	4	2013	9/30/2013	11	1366	0.179524248	639	780	7609	765
FL	Crystal River	4	2013	9/30/2013	12	1237	0.162348741	662	781	7619.4	762
FL	Crystal River	4	2013	9/30/2013	13	1148	0.150169398	665	784	7644.7	760
FL	Crystal River	4	2013	9/30/2013	14	969	0.12599961	661	789	7690.5	763
FL	Crystal River	4	2013	9/30/2013	15	468	0.061119745	673	785	7657.1	764
FL	Crystal River	4	2013	9/30/2013	16	423	0.054957191	677	789	7696.9	763
FL	Crystal River	4	2013	9/30/2013	17	670	0.087484494	673	785	7658.5	763
FL	Crystal River	4	2013	9/30/2013	18	1492	0.195160235	665	784	7645	761
FL	Crystal River	4	2013	9/30/2013	19	1334	0.175380934	654	780	7606.3	760
FL	Crystal River	4	2013	9/30/2013	20	828	0.128467697	489	661	6445.2	627
FL	Crystal River	4	2013	9/30/2013	21	778	0.130246263	412	612	5973.3	571
FL	Crystal River	4	2013	9/30/2013	22	484	0.10418909	297	476	4645.4	423
FL	Crystal River	4	2013	9/30/2013	23	172	0.05738498	203	307	2997.3	238
FL	Crystal River	4	2013	10/1/2013	0	208	0.072990139	196	292	2849.7	226
FL	Crystal River	4	2013	10/1/2013	1	199	0.069731586	185	292	2853.8	226
FL	Crystal River	4	2013	10/1/2013	2	192	0.06806821	183	289	2820.7	226
FL	Crystal River	4	2013	10/1/2013	3	189	0.066701959	189	290	2833.5	225
FL	Crystal River	4	2013	10/1/2013	4	202	0.070405354	192	294	2869.1	226
FL	Crystal River	4	2013	10/1/2013	5	198	0.069779736	190	291	2837.5	226
FL	Crystal River	4	2013	10/1/2013	6	230	0.081967213	190	287	2806	226
FL	Crystal River	4	2013	10/1/2013	7	392	0.112121732	237	358	3496.2	303
FL	Crystal River	4	2013	10/1/2013	8	1074	0.198837338	367	554	5401.4	508
FL	Crystal River	4	2013	10/1/2013	9	1410	0.201563907	524	717	6995.3	694
FL	Crystal River	4	2013	10/1/2013	10	1123	0.150268288	605	766	7473.3	761
FL	Crystal River	4	2013	10/1/2013	11	1016	0.134109479	621	777	7575.9	765
FL	Crystal River	4	2013	10/1/2013	12	1135	0.149985464	650	776	7567.4	765
FL	Crystal River	4	2013	10/1/2013	13	1305	0.172427462	666	776	7568.4	764
FL	Crystal River	4	2013	10/1/2013	14	1290	0.169260241	670	782	7621.4	765
FL	Crystal River	4	2013	10/1/2013	15	1197	0.155826911	676	788	7681.6	764
FL	Crystal River	4	2013	10/1/2013	16	1200	0.154567469	659	796	7763.6	762
FL	Crystal River	4	2013	10/1/2013	17	1120	0.144389439	667	795	7756.8	766
FL	Crystal River	4	2013	10/1/2013	18	1131	0.14646275	664	792	7722.1	766
FL	Crystal River	4	2013	10/1/2013	19	1180	0.15315327	654	790	7704.7	765

FL	Crystal River	4	2013	10/1/2013	20	976	0.141271151	538	708	6908.7	677
FL	Crystal River	4	2013	10/1/2013	21	705	0.119372153	419	605	5905.9	559
FL	Crystal River	4	2013	10/1/2013	22	583	0.108872248	369	549	5354.9	495
FL	Crystal River	4	2013	10/1/2013	23	493	0.108444601	313	466	4546.1	405
FL	Crystal River	4	2013	10/2/2013	0	389	0.098115873	265	406	3964.7	345
FL	Crystal River	4	2013	10/2/2013	1	221	0.069947777	221	324	3159.5	256
FL	Crystal River	4	2013	10/2/2013	2	192	0.066789578	207	294	2874.7	228
FL	Crystal River	4	2013	10/2/2013	3	216	0.07531906	206	294	2867.8	226
FL	Crystal River	4	2013	10/2/2013	4	202	0.070134018	210	295	2880.2	225
FL	Crystal River	4	2013	10/2/2013	5	206	0.070144375	217	301	2936.8	235
FL	Crystal River	4	2013	10/2/2013	6	276	0.089459354	225	316	3085.2	253
FL	Crystal River	4	2013	10/2/2013	7	298	0.091593668	253	333	3253.5	276
FL	Crystal River	4	2013	10/2/2013	8	734	0.159717991	321	471	4595.6	421
FL	Crystal River	4	2013	10/2/2013	9	1223	0.198037438	426	633	6175.6	597
FL	Crystal River	4	2013	10/2/2013	10	1306	0.17956086	531	746	7273.3	716
FL	Crystal River	4	2013	10/2/2013	11	1533	0.199425011	591	788	7687.1	764
FL	Crystal River	4	2013	10/2/2013	12	1651	0.214719538	622	788	7689.1	761
FL	Crystal River	4	2013	10/2/2013	13	1744	0.227881512	673	785	7653.1	764
FL	Crystal River	4	2013	10/2/2013	14	1607	0.208201075	748	791	7718.5	764
FL	Crystal River	4	2013	10/2/2013	15	1099	0.142379645	679	792	7718.8	763
FL	Crystal River	4	2013	10/2/2013	16	973	0.127354354	649	783	7640.1	762
FL	Crystal River	4	2013	10/2/2013	17	1127	0.147227883	650	785	7654.8	763
FL	Crystal River	4	2013	10/2/2013	18	1303	0.170402532	650	784	7646.6	762
FL	Crystal River	4	2013	10/2/2013	19	1156	0.150554159	645	787	7678.3	765
FL	Crystal River	4	2013	10/2/2013	20	914	0.129086929	559	726	7080.5	698
FL	Crystal River	4	2013	10/2/2013	21	933	0.140357739	498	682	6647.3	646
FL	Crystal River	4	2013	10/2/2013	22	725	0.1298027	391	573	5585.4	523
FL	Crystal River	4	2013	10/2/2013	23	336	0.08142691	276	423	4126.4	364
FL	Crystal River	4	2013	10/3/2013	0	167	0.056434171	213	303	2959.2	236
FL	Crystal River	4	2013	10/3/2013	1	183	0.064208273	202	292	2850.1	226
FL	Crystal River	4	2013	10/3/2013	2	145	0.051153602	204	290	2834.6	226
FL	Crystal River	4	2013	10/3/2013	3	131	0.04659103	210	288	2811.7	226
FL	Crystal River	4	2013	10/3/2013	4	123	0.043265679	221	291	2842.9	226
FL	Crystal River	4	2013	10/3/2013	5	126	0.044795222	216	288	2812.8	226
FL	Crystal River	4	2013	10/3/2013	6	150	0.053842564	217	285	2785.9	226

FL	Crystal River	4	2013	10/3/2013	7	148	0.048633018	240	312	3043.2	252
FL	Crystal River	4	2013	10/3/2013	8	249	0.068346509	284	373	3643.2	322
FL	Crystal River	4	2013	10/3/2013	9	982	0.158025168	428	637	6214.2	588
FL	Crystal River	4	2013	10/3/2013	10	1197	0.160228094	605	766	7470.6	725
FL	Crystal River	4	2013	10/3/2013	11	1010	0.131716223	621	786	7668	760
FL	Crystal River	4	2013	10/3/2013	12	899	0.117151867	644	787	7673.8	765
FL	Crystal River	4	2013	10/3/2013	13	1136	0.150751101	640	773	7535.6	764
FL	Crystal River	4	2013	10/3/2013	14	1223	0.1622963	663	773	7535.6	765
FL	Crystal River	4	2013	10/3/2013	15	1188	0.154057629	670	791	7711.4	762
FL	Crystal River	4	2013	10/3/2013	16	1113	0.144603672	669	789	7696.9	762
FL	Crystal River	4	2013	10/3/2013	17	1102	0.142794205	663	791	7717.4	764
FL	Crystal River	4	2013	10/3/2013	18	1210	0.155795329	675	796	7766.6	766
FL	Crystal River	4	2013	10/3/2013	19	1211	0.160337888	611	774	7552.8	741
FL	Crystal River	4	2013	10/3/2013	20	928	0.137626244	512	691	6742.9	654
FL	Crystal River	4	2013	10/3/2013	21	731	0.123519373	426	607	5918.1	555
FL	Crystal River	4	2013	10/3/2013	22	431	0.0952402	334	464	4525.4	399
FL	Crystal River	4	2013	10/3/2013	23	263	0.07805544	239	345	3369.4	274
FL	Crystal River	4	2013	10/4/2013	0	265	0.08419648	236	322	3147.4	251
FL	Crystal River	4	2013	10/4/2013	1	242	0.075957313	245	326	3186	251
FL	Crystal River	4	2013	10/4/2013	2	245	0.077990705	248	322	3141.4	251
FL	Crystal River	4	2013	10/4/2013	3	236	0.075109004	263	322	3142.1	251
FL	Crystal River	4	2013	10/4/2013	4	203	0.064629099	235	322	3141	251
FL	Crystal River	4	2013	10/4/2013	5	226	0.069022386	245	335	3274.3	264
FL	Crystal River	4	2013	10/4/2013	6	404	0.10036519	305	413	4025.3	344
FL	Crystal River	4	2013	10/4/2013	7	453	0.097973484	332	474	4623.7	410
FL	Crystal River	4	2013	10/4/2013	8	772	0.136318689	385	581	5663.2	527
FL	Crystal River	4	2013	10/4/2013	9	1213	0.175662173	517	708	6905.3	661
FL	Crystal River	4	2013	10/4/2013	10	1391	0.179513983	627	795	7748.7	760
FL	Crystal River	4	2013	10/4/2013	11	1120	0.144294567	644	796	7761.9	765
FL	Crystal River	4	2013	10/4/2013	12	1115	0.143694826	682	796	7759.5	764
FL	Crystal River	4	2013	10/4/2013	13	1245	0.160525026	682	795	7755.8	763
FL	Crystal River	4	2013	10/4/2013	14	1342	0.172695569	683	797	7770.9	763
FL	Crystal River	4	2013	10/4/2013	15	1303	0.167371004	677	798	7785.1	764
FL	Crystal River	4	2013	10/4/2013	16	1231	0.158824364	658	795	7750.7	760
FL	Crystal River	4	2013	10/4/2013	17	1164	0.150558775	649	793	7731.2	761

FL	Crystal River	4	2013	10/4/2013	18	1111	0.143079756	660	796	7764.9	762
FL	Crystal River	4	2013	10/4/2013	19	1081	0.13959735	650	794	7743.7	762
FL	Crystal River	4	2013	10/4/2013	20	995	0.13455947	599	758	7394.5	720
FL	Crystal River	4	2013	10/4/2013	21	709	0.11510114	449	632	6159.8	580
FL	Crystal River	4	2013	10/4/2013	22	534	0.100093721	373	547	5335	479
FL	Crystal River	4	2013	10/4/2013	23	160	0.047788298	227	343	3348.1	274
FL	Crystal River	4	2013	10/5/2013	0	150	0.050585101	207	304	2965.3	227
FL	Crystal River	4	2013	10/5/2013	1	164	0.055381083	210	303	2961.3	226
FL	Crystal River	4	2013	10/5/2013	2	147	0.049932065	214	302	2944	226
FL	Crystal River	4	2013	10/5/2013	3	135	0.045923053	238	301	2939.7	226
FL	Crystal River	4	2013	10/5/2013	4	177	0.060010171	221	302	2949.5	225
FL	Crystal River	4	2013	10/5/2013	5	209	0.071853405	221	298	2908.7	226
FL	Crystal River	4	2013	10/5/2013	6	211	0.071634697	223	302	2945.5	226
FL	Crystal River	4	2013	10/5/2013	7	223	0.070386971	237	325	3168.2	252
FL	Crystal River	4	2013	10/5/2013	8	613	0.134074058	324	469	4572.1	407
FL	Crystal River	4	2013	10/5/2013	9	953	0.155158659	423	630	6142.1	579
FL	Crystal River	4	2013	10/5/2013	10	797	0.111676265	521	732	7136.7	683
FL	Crystal River	4	2013	10/5/2013	11	852	0.110024923	627	794	7743.7	761
FL	Crystal River	4	2013	10/5/2013	12	1018	0.130309004	656	801	7812.2	762
FL	Crystal River	4	2013	10/5/2013	13	1283	0.163980522	665	802	7824.1	762
FL	Crystal River	4	2013	10/5/2013	14	1368	0.174875682	664	802	7822.7	762
FL	Crystal River	4	2013	10/5/2013	15	1256	0.161344192	653	798	7784.6	762
FL	Crystal River	4	2013	10/5/2013	16	1241	0.159304759	662	799	7790.1	763
FL	Crystal River	4	2013	10/5/2013	17	1433	0.184161826	661	798	7781.2	763
FL	Crystal River	4	2013	10/5/2013	18	1611	0.207354588	660	797	7769.3	764
FL	Crystal River	4	2013	10/5/2013	19	1020	0.130621863	655	801	7808.8	763
FL	Crystal River	4	2013	10/5/2013	20	618	0.094414569	484	671	6545.6	628
FL	Crystal River	4	2013	10/5/2013	21	647	0.109860255	412	604	5889.3	554
FL	Crystal River	4	2013	10/5/2013	22	602	0.130645196	331	472	4607.9	408
FL	Crystal River	4	2013	10/5/2013	23	192	0.057817393	219	340	3320.8	269
FL	Crystal River	4	2013	10/6/2013	0	134	0.045668325	208	301	2934.2	226
FL	Crystal River	4	2013	10/6/2013	1	142	0.048725251	212	299	2914.3	226
FL	Crystal River	4	2013	10/6/2013	2	139	0.047792601	218	298	2908.4	226
FL	Crystal River	4	2013	10/6/2013	3	134	0.046468079	236	295	2883.7	226
FL	Crystal River	4	2013	10/6/2013	4	126	0.042854228	217	301	2940.2	226

FL	Crystal River	4	2013	10/6/2013	5	161	0.051280418	222	322	3139.6	250
FL	Crystal River	4	2013	10/6/2013	6	199	0.062407878	236	327	3188.7	253
FL	Crystal River	4	2013	10/6/2013	7	187	0.057160324	245	335	3271.5	268
FL	Crystal River	4	2013	10/6/2013	8	454	0.100420261	334	463	4521	404
FL	Crystal River	4	2013	10/6/2013	9	878	0.124857793	534	721	7032	684
FL	Crystal River	4	2013	10/6/2013	10	855	0.110585131	641	793	7731.6	761
FL	Crystal River	4	2013	10/6/2013	11	874	0.113581723	654	789	7694.9	763
FL	Crystal River	4	2013	10/6/2013	12	1035	0.135143958	658	785	7658.5	761
FL	Crystal River	4	2013	10/6/2013	13	1217	0.157591454	679	792	7722.5	760
FL	Crystal River	4	2013	10/6/2013	14	1125	0.14526063	658	794	7744.7	763
FL	Crystal River	4	2013	10/6/2013	15	1071	0.138402492	657	793	7738.3	764
FL	Crystal River	4	2013	10/6/2013	16	1057	0.136575659	657	794	7739.3	763
FL	Crystal River	4	2013	10/6/2013	17	1117	0.144291011	650	794	7741.3	765
FL	Crystal River	4	2013	10/6/2013	18	1182	0.151375442	655	801	7808.4	763
FL	Crystal River	4	2013	10/6/2013	19	1161	0.15229625	625	782	7623.3	748
FL	Crystal River	4	2013	10/6/2013	20	707	0.115372063	441	628	6128	577
FL	Crystal River	4	2013	10/6/2013	21	379	0.082545629	312	471	4591.4	408
FL	Crystal River	4	2013	10/6/2013	22	476	0.116852829	285	417	4073.5	353
FL	Crystal River	4	2013	10/6/2013	23	243	0.077408257	222	322	3139.2	246
FL	Crystal River	4	2013	10/7/2013	0	132	0.045085047	228	300	2927.8	226
FL	Crystal River	4	2013	10/7/2013	1	126	0.043099025	228	300	2923.5	226
FL	Crystal River	4	2013	10/7/2013	2	134	0.045855862	230	299	2922.2	225
FL	Crystal River	4	2013	10/7/2013	3	134	0.045954937	207	299	2915.9	225
FL	Crystal River	4	2013	10/7/2013	4	144	0.049321825	219	299	2919.6	225
FL	Crystal River	4	2013	10/7/2013	5	234	0.071502781	248	335	3272.6	272
FL	Crystal River	4	2013	10/7/2013	6	569	0.115448606	330	505	4928.6	447
FL	Crystal River	4	2013	10/7/2013	7	500	0.094802905	363	541	5274.1	492
FL	Crystal River	4	2013	10/7/2013	8	603	0.100917124	406	613	5975.2	570
FL	Crystal River	4	2013	10/7/2013	9	1005	0.152679874	506	675	6582.4	643
FL	Crystal River	4	2013	10/7/2013	10	1107	0.171168803	472	663	6467.3	638
FL	Crystal River	4	2013	10/7/2013	11	1101	0.156525448	541	721	7034	701
FL	Crystal River	4	2013	10/7/2013	12	946	0.13391846	558	724	7064	713
FL	Crystal River	4	2013	10/7/2013	13	962	0.135186408	569	730	7116.1	718
FL	Crystal River	4	2013	10/7/2013	14	1190	0.160111944	616	762	7432.3	757
FL	Crystal River	4	2013	10/7/2013	15	1188	0.158936145	635	766	7474.7	760

FL	Crystal River	4	2013	10/7/2013	16	1078	0.14337585	646	771	7518.7	761
FL	Crystal River	4	2013	10/7/2013	17	984	0.134558582	599	750	7312.8	738
FL	Crystal River	4	2013	10/7/2013	18	920	0.133596654	523	706	6886.4	681
FL	Crystal River	4	2013	10/7/2013	19	978	0.145347541	497	690	6728.7	669
FL	Crystal River	4	2013	10/7/2013	20	805	0.139285405	404	593	5779.5	553
FL	Crystal River	4	2013	10/7/2013	21	567	0.120705071	305	482	4697.4	438
FL	Crystal River	4	2013	10/7/2013	22	366	0.107637561	238	348	3400.3	289
FL	Crystal River	4	2013	10/7/2013	23	279	0.099288256	213	288	2810	233
FL	Crystal River	4	2013	10/8/2013	0	209	0.073742149	226	290	2834.2	225
FL	Crystal River	4	2013	10/8/2013	1	228	0.078909116	225	296	2889.4	226
FL	Crystal River	4	2013	10/8/2013	2	220	0.077722038	212	290	2830.6	226
FL	Crystal River	4	2013	10/8/2013	3	227	0.080788668	224	288	2809.8	226
FL	Crystal River	4	2013	10/8/2013	4	224	0.080506038	230	285	2782.4	225
FL	Crystal River	4	2013	10/8/2013	5	313	0.095560848	248	336	3275.4	282
FL	Crystal River	4	2013	10/8/2013	6	484	0.114909782	299	432	4212	380
FL	Crystal River	4	2013	10/8/2013	7	756	0.133396856	379	581	5667.3	553
FL	Crystal River	4	2013	10/8/2013	8	1045	0.146631681	555	731	7126.7	721
FL	Crystal River	4	2013	10/8/2013	9	830	0.115610157	581	736	7179.3	726
FL	Crystal River	4	2013	10/8/2013	10	706	0.099174018	598	730	7118.8	726
FL	Crystal River	4	2013	10/8/2013	11	658	0.092324961	591	731	7127	726
FL	Crystal River	4	2013	10/8/2013	12	670	0.092909739	613	739	7211.3	726
FL	Crystal River	4	2013	10/8/2013	13	715	0.09853914	587	744	7256	726
FL	Crystal River	4	2013	10/8/2013	14	753	0.104699666	596	737	7192	726
FL	Crystal River	4	2013	10/8/2013	15	725	0.100080064	615	743	7244.2	725
FL	Crystal River	4	2013	10/8/2013	16	717	0.097877278	652	751	7325.5	723
FL	Crystal River	4	2013	10/8/2013	17	741	0.102498133	650	741	7229.4	736
FL	Crystal River	4	2013	10/8/2013	18	838	0.11338881	657	758	7390.5	757
FL	Crystal River	4	2013	10/8/2013	19	729	0.105920814	591	706	6882.5	706
FL	Crystal River	4	2013	10/8/2013	20	504	0.087381671	490	591	5767.8	567
FL	Crystal River	4	2013	10/8/2013	21	319	0.066524858	402	492	4795.2	448
FL	Crystal River	4	2013	10/8/2013	22	183	0.051352565	352	365	3563.6	309
FL	Crystal River	4	2013	10/8/2013	23	115	0.040700761	333	289	2825.5	227
FL	Crystal River	4	2013	10/9/2013	0	136	0.048479663	196	287	2805.3	226
FL	Crystal River	4	2013	10/9/2013	1	167	0.060002874	211	285	2783.2	225
FL	Crystal River	4	2013	10/9/2013	2	172	0.061365015	215	287	2802.9	225

FL	Crystal River	4	2013	10/9/2013	3	204	0.072156197	240	290	2827.2	225
FL	Crystal River	4	2013	10/9/2013	4	203	0.072619303	209	286	2795.4	226
FL	Crystal River	4	2013	10/9/2013	5	296	0.093977204	226	323	3149.7	263
FL	Crystal River	4	2013	10/9/2013	6	884	0.172259246	379	526	5131.8	495
FL	Crystal River	4	2013	10/9/2013	7	1242	0.182293196	647	699	6813.2	686
FL	Crystal River	4	2013	10/9/2013	8	1220	0.171516941	569	729	7113	722
FL	Crystal River	4	2013	10/9/2013	9	1132	0.159268378	561	729	7107.5	726
FL	Crystal River	4	2013	10/9/2013	10	1263	0.177410066	590	730	7119.1	726
FL	Crystal River	4	2013	10/9/2013	11	860	0.121302735	553	727	7089.7	726
FL	Crystal River	4	2013	10/9/2013	12	892	0.124914226	607	732	7140.9	726
FL	Crystal River	4	2013	10/9/2013	13	999	0.139088061	581	736	7182.5	726
FL	Crystal River	4	2013	10/9/2013	14	1045	0.145132842	568	738	7200.3	726
FL	Crystal River	4	2013	10/9/2013	15	1022	0.141828224	583	739	7205.9	726
FL	Crystal River	4	2013	10/9/2013	16	992	0.136329279	589	746	7276.5	726
FL	Crystal River	4	2013	10/9/2013	17	739	0.115740016	491	655	6385	633
FL	Crystal River	4	2013	10/9/2013	18	562	0.09821569	417	587	5722.1	551
FL	Crystal River	4	2013	10/9/2013	19	647	0.122980422	363	539	5261	502
FL	Crystal River	4	2013	10/9/2013	20	324	0.086007804	248	386	3767.1	337
FL	Crystal River	4	2013	10/9/2013	21	200	0.065140214	218	315	3070.3	255
FL	Crystal River	4	2013	10/9/2013	22	198	0.067989836	206	298	2912.2	235
FL	Crystal River	4	2013	10/9/2013	23	196	0.070060051	201	287	2797.6	226
FL	Crystal River	4	2013	10/10/2013	0	210	0.075583069	202	285	2778.4	226
FL	Crystal River	4	2013	10/10/2013	1	204	0.073139251	206	286	2789.2	225
FL	Crystal River	4	2013	10/10/2013	2	198	0.071305099	227	284	2776.8	226
FL	Crystal River	4	2013	10/10/2013	3	213	0.075108431	204	291	2835.9	225
FL	Crystal River	4	2013	10/10/2013	4	218	0.077034524	209	290	2829.9	226
FL	Crystal River	4	2013	10/10/2013	5	205	0.072875933	202	288	2813	226
FL	Crystal River	4	2013	10/10/2013	6	288	0.096404901	239	306	2987.4	241
FL	Crystal River	4	2013	10/10/2013	7	830	0.167399459	357	508	4958.2	472
FL	Crystal River	4	2013	10/10/2013	8	1524	0.218798903	543	714	6965.3	703
FL	Crystal River	4	2013	10/10/2013	9	1100	0.154435818	576	730	7122.7	726
FL	Crystal River	4	2013	10/10/2013	10	925	0.130160696	582	729	7106.6	726
FL	Crystal River	4	2013	10/10/2013	11	1098	0.153287729	580	734	7163	726
FL	Crystal River	4	2013	10/10/2013	12	1186	0.164400272	598	740	7214.1	726
FL	Crystal River	4	2013	10/10/2013	13	1106	0.152758211	615	742	7240.2	726

FL	Crystal River	4	2013	10/10/2013	14	1149	0.158467458	623	743	7250.7	726
FL	Crystal River	4	2013	10/10/2013	15	1210	0.166730971	616	744	7257.2	726
FL	Crystal River	4	2013	10/10/2013	16	1188	0.162477092	606	750	7311.8	726
FL	Crystal River	4	2013	10/10/2013	17	1122	0.154152641	604	746	7278.5	726
FL	Crystal River	4	2013	10/10/2013	18	1077	0.146936437	608	752	7329.7	726
FL	Crystal River	4	2013	10/10/2013	19	1218	0.160189386	623	780	7603.5	745
FL	Crystal River	4	2013	10/10/2013	20	1034	0.148382005	536	715	6968.5	686
FL	Crystal River	4	2013	10/10/2013	21	595	0.109401144	364	558	5438.7	511
FL	Crystal River	4	2013	10/10/2013	22	558	0.112615794	317	508	4954.9	452
FL	Crystal River	4	2013	10/10/2013	23	626	0.133041464	296	482	4705.3	430
FL	Crystal River	4	2013	10/11/2013	0	369	0.094082252	270	402	3922.1	356
FL	Crystal River	4	2013	10/11/2013	1	239	0.07361094	217	333	3246.8	277
FL	Crystal River	4	2013	10/11/2013	2	227	0.075563397	204	308	3004.1	255
FL	Crystal River	4	2013	10/11/2013	3	210	0.071469898	193	301	2938.3	248
FL	Crystal River	4	2013	10/11/2013	4	202	0.067459257	203	307	2994.4	253
FL	Crystal River	4	2013	10/11/2013	5	384	0.099250452	251	397	3869	351
FL	Crystal River	4	2013	10/11/2013	6	527	0.120234537	284	449	4383.1	410
FL	Crystal River	4	2013	10/11/2013	7	454	0.105365763	336	442	4308.8	405
FL	Crystal River	4	2013	10/11/2013	8	1026	0.190299546	404	553	5391.5	527
FL	Crystal River	4	2013	10/11/2013	9	1262	0.179470406	562	721	7031.8	715
FL	Crystal River	4	2013	10/11/2013	10	1043	0.137399552	607	778	7591	765
FL	Crystal River	4	2013	10/11/2013	11	1115	0.146633351	615	780	7604	765
FL	Crystal River	4	2013	10/11/2013	12	1095	0.143723421	640	781	7618.8	763
FL	Crystal River	4	2013	10/11/2013	13	987	0.130145837	659	778	7583.8	765
FL	Crystal River	4	2013	10/11/2013	14	1341	0.176589104	668	779	7593.9	765
FL	Crystal River	4	2013	10/11/2013	15	1315	0.172753547	685	781	7612	763
FL	Crystal River	4	2013	10/11/2013	16	1161	0.151382786	705	786	7669.3	763
FL	Crystal River	4	2013	10/11/2013	17	1147	0.149106272	700	789	7692.5	764
FL	Crystal River	4	2013	10/11/2013	18	1233	0.160926141	697	786	7661.9	765
FL	Crystal River	4	2013	10/11/2013	19	1294	0.166961279	720	795	7750.3	765
FL	Crystal River	4	2013	10/11/2013	20	1090	0.150160493	631	744	7258.9	714
FL	Crystal River	4	2013	10/11/2013	21	912	0.137562786	576	680	6629.7	640
FL	Crystal River	4	2013	10/11/2013	22	805	0.13869984	516	595	5803.9	544
FL	Crystal River	4	2013	10/11/2013	23	734	0.140529571	485	535	5223.1	481
FL	Crystal River	4	2013	10/12/2013	0	522	0.111080374	437	482	4699.3	418

FL	Crystal River	4	2013	10/12/2013	1	180	0.055262188	312	334	3257.2	266
FL	Crystal River	4	2013	10/12/2013	2	178	0.06012701	180	303	2960.4	226
FL	Crystal River	4	2013	10/12/2013	3	163	0.055282347	200	302	2948.5	226
FL	Crystal River	4	2013	10/12/2013	4	151	0.051061815	198	303	2957.2	226
FL	Crystal River	4	2013	10/12/2013	5	147	0.050698396	156	297	2899.5	226
FL	Crystal River	4	2013	10/12/2013	6	256	0.076587088	217	342	3342.6	266
FL	Crystal River	4	2013	10/12/2013	7	520	0.114780152	444	464	4530.4	400
FL	Crystal River	4	2013	10/12/2013	8	1154	0.181927103	773	650	6343.2	603
FL	Crystal River	4	2013	10/12/2013	9	1311	0.169809854	1219	792	7720.4	756
FL	Crystal River	4	2013	10/12/2013	10	1081	0.139259259	1288	796	7762.5	764
FL	Crystal River	4	2013	10/12/2013	11	1188	0.15295087	1312	796	7767.2	766
FL	Crystal River	4	2013	10/12/2013	12	1313	0.168605696	1331	799	7787.4	767
FL	Crystal River	4	2013	10/12/2013	13	1234	0.157259555	1341	805	7846.9	767
FL	Crystal River	4	2013	10/12/2013	14	1078	0.137612337	1339	803	7833.6	765
FL	Crystal River	4	2013	10/12/2013	15	1154	0.146159205	876	810	7895.5	766
FL	Crystal River	4	2013	10/12/2013	16	1247	0.15841559	645	807	7871.7	766
FL	Crystal River	4	2013	10/12/2013	17	1174	0.149626571	651	805	7846.2	767
FL	Crystal River	4	2013	10/12/2013	18	1100	0.139922407	652	806	7861.5	767
FL	Crystal River	4	2013	10/12/2013	19	1184	0.150756968	644	805	7853.7	767
FL	Crystal River	4	2013	10/12/2013	20	979	0.135372447	549	742	7231.9	701
FL	Crystal River	4	2013	10/12/2013	21	931	0.140234075	478	681	6638.9	633
FL	Crystal River	4	2013	10/12/2013	22	838	0.138992553	434	618	6029.1	564
FL	Crystal River	4	2013	10/12/2013	23	630	0.115484025	376	559	5455.3	492
FL	Crystal River	4	2013	10/13/2013	0	341	0.07812858	270	447	4364.6	383
FL	Crystal River	4	2013	10/13/2013	1	135	0.045024013	203	307	2998.4	233
FL	Crystal River	4	2013	10/13/2013	2	146	0.049189717	195	304	2968.1	226
FL	Crystal River	4	2013	10/13/2013	3	133	0.044764565	196	304	2971.1	226
FL	Crystal River	4	2013	10/13/2013	4	134	0.045114807	204	304	2970.2	226
FL	Crystal River	4	2013	10/13/2013	5	137	0.047199063	209	297	2902.6	226
FL	Crystal River	4	2013	10/13/2013	6	173	0.059532003	212	298	2906	226
FL	Crystal River	4	2013	10/13/2013	7	206	0.062816369	239	336	3279.4	264
FL	Crystal River	4	2013	10/13/2013	8	474	0.101040246	319	481	4691.2	412
FL	Crystal River	4	2013	10/13/2013	9	938	0.147816632	431	651	6345.7	595
FL	Crystal River	4	2013	10/13/2013	10	1168	0.158659005	566	755	7361.7	710
FL	Crystal River	4	2013	10/13/2013	11	1159	0.147908983	658	804	7835.9	765

FL	Crystal River	4	2013	10/13/2013	12	1063	0.13443784	632	811	7907	767
FL	Crystal River	4	2013	10/13/2013	13	1167	0.148452507	636	806	7861.1	763
FL	Crystal River	4	2013	10/13/2013	14	1194	0.151415238	646	809	7885.6	764
FL	Crystal River	4	2013	10/13/2013	15	1198	0.15168013	687	810	7898.2	763
FL	Crystal River	4	2013	10/13/2013	16	1199	0.152022315	733	809	7887	765
FL	Crystal River	4	2013	10/13/2013	17	1138	0.144375936	733	808	7882.2	765
FL	Crystal River	4	2013	10/13/2013	18	1148	0.145801847	732	807	7873.7	766
FL	Crystal River	4	2013	10/13/2013	19	1173	0.14905459	747	807	7869.6	764
FL	Crystal River	4	2013	10/13/2013	20	1014	0.138051218	661	753	7345.1	710
FL	Crystal River	4	2013	10/13/2013	21	789	0.126787723	553	638	6223	581
FL	Crystal River	4	2013	10/13/2013	22	859	0.151205774	499	582	5681	522
FL	Crystal River	4	2013	10/13/2013	23	400	0.091060168	417	450	4392.7	383
FL	Crystal River	4	2013	10/14/2013	0	216	0.061719576	357	359	3499.7	287
FL	Crystal River	4	2013	10/14/2013	1	154	0.050904043	217	310	3025.3	233
FL	Crystal River	4	2013	10/14/2013	2	138	0.046962736	185	301	2938.5	226
FL	Crystal River	4	2013	10/14/2013	3	139	0.04715381	194	302	2947.8	226
FL	Crystal River	4	2013	10/14/2013	4	211	0.064114251	237	337	3291	260
FL	Crystal River	4	2013	10/14/2013	5	616	0.127694859	318	494	4824	429
FL	Crystal River	4	2013	10/14/2013	6	966	0.158008375	379	627	6113.6	579
FL	Crystal River	4	2013	10/14/2013	7	831	0.128570102	446	663	6463.4	619
FL	Crystal River	4	2013	10/14/2013	8	1125	0.159021839	523	725	7074.5	690
FL	Crystal River	4	2013	10/14/2013	9	1304	0.168630139	696	793	7732.9	761
FL	Crystal River	4	2013	10/14/2013	10	961	0.123648996	621	797	7772	764
FL	Crystal River	4	2013	10/14/2013	11	938	0.121262265	603	793	7735.3	765
FL	Crystal River	4	2013	10/14/2013	12	980	0.12645814	627	795	7749.6	763
FL	Crystal River	4	2013	10/14/2013	13	1055	0.136759006	624	791	7714.3	762
FL	Crystal River	4	2013	10/14/2013	14	1133	0.146361628	627	794	7741.1	764
FL	Crystal River	4	2013	10/14/2013	15	1130	0.145883629	627	794	7745.9	761
FL	Crystal River	4	2013	10/14/2013	16	1182	0.15171741	623	799	7790.8	764
FL	Crystal River	4	2013	10/14/2013	17	1148	0.149898805	620	785	7658.5	763
FL	Crystal River	4	2013	10/14/2013	18	1082	0.140501234	616	790	7701	763
FL	Crystal River	4	2013	10/14/2013	19	1112	0.144370586	608	790	7702.4	763
FL	Crystal River	4	2013	10/14/2013	20	1148	0.149296434	615	788	7689.4	765
FL	Crystal River	4	2013	10/14/2013	21	960	0.137031275	532	718	7005.7	701
FL	Crystal River	4	2013	10/14/2013	22	677	0.119421415	402	581	5669	542

FL	Crystal River	4	2013	10/14/2013	23	799	0.156130923	363	525	5117.5	482
FL	Crystal River	4	2013	10/15/2013	0	552	0.119457249	332	474	4620.9	422
FL	Crystal River	4	2013	10/15/2013	1	270	0.074900133	252	369	3604.8	315
FL	Crystal River	4	2013	10/15/2013	2	218	0.071363101	219	313	3054.8	255
FL	Crystal River	4	2013	10/15/2013	3	217	0.068818978	220	323	3153.2	263
FL	Crystal River	4	2013	10/15/2013	4	351	0.092159849	262	390	3808.6	332
FL	Crystal River	4	2013	10/15/2013	5	548	0.119353574	293	471	4591.4	420
FL	Crystal River	4	2013	10/15/2013	6	1305	0.210006276	403	637	6214.1	597
FL	Crystal River	4	2013	10/15/2013	7	1341	0.178664215	585	770	7505.7	760
FL	Crystal River	4	2013	10/15/2013	8	927	0.123656057	607	769	7496.6	764
FL	Crystal River	4	2013	10/15/2013	9	1082	0.145469212	580	763	7438	763
FL	Crystal River	4	2013	10/15/2013	10	1241	0.166191261	604	766	7467.3	764
FL	Crystal River	4	2013	10/15/2013	11	1099	0.146989982	605	767	7476.7	765
FL	Crystal River	4	2013	10/15/2013	12	1060	0.141665776	598	767	7482.4	763
FL	Crystal River	4	2013	10/15/2013	13	1149	0.153511116	598	767	7484.8	763
FL	Crystal River	4	2013	10/15/2013	14	1180	0.157320748	600	769	7500.6	764
FL	Crystal River	4	2013	10/15/2013	15	1125	0.149934029	615	769	7503.3	762
FL	Crystal River	4	2013	10/15/2013	16	1078	0.143471259	616	770	7513.7	763
FL	Crystal River	4	2013	10/15/2013	17	1035	0.138455982	598	767	7475.3	764
FL	Crystal River	4	2013	10/15/2013	18	1092	0.146086957	613	766	7475	765
FL	Crystal River	4	2013	10/15/2013	19	1071	0.148716952	561	738	7201.6	739
FL	Crystal River	4	2013	10/15/2013	20	867	0.13146921	488	676	6594.7	663
FL	Crystal River	4	2013	10/15/2013	21	931	0.144280689	451	662	6452.7	640
FL	Crystal River	4	2013	10/15/2013	22	801	0.138079641	417	595	5801	563
FL	Crystal River	4	2013	10/15/2013	23	808	0.150213794	376	551	5379	519
FL	Crystal River	4	2013	10/16/2013	0	591	0.120070702	339	505	4922.1	470
FL	Crystal River	4	2013	10/16/2013	1	129	0.040817618	211	324	3160.4	284
FL	Crystal River	4	2013	10/16/2013	2	127	0.045742688	194	284	2776.4	225
FL	Crystal River	4	2013	10/16/2013	3	140	0.050743023	195	283	2759	226
FL	Crystal River	4	2013	10/16/2013	4	166	0.054662803	221	311	3036.8	250
FL	Crystal River	4	2013	10/16/2013	5	546	0.118669854	276	472	4601	430
FL	Crystal River	4	2013	10/16/2013	6	914	0.155954067	351	601	5860.7	571
FL	Crystal River	4	2013	10/16/2013	7	916	0.14727872	410	638	6219.5	617
FL	Crystal River	4	2013	10/16/2013	8	942	0.143590994	459	673	6560.3	658
FL	Crystal River	4	2013	10/16/2013	9	939	0.139125539	539	692	6749.3	680

FL	Crystal River	4	2013	10/16/2013	10	1025	0.15050732	490	698	6810.3	686
FL	Crystal River	4	2013	10/16/2013	11	1371	0.18242542	548	771	7515.4	763
FL	Crystal River	4	2013	10/16/2013	12	1145	0.152811328	614	768	7492.9	765
FL	Crystal River	4	2013	10/16/2013	13	950	0.127364625	604	765	7458.9	763
FL	Crystal River	4	2013	10/16/2013	14	893	0.119711513	574	765	7459.6	762
FL	Crystal River	4	2013	10/16/2013	15	957	0.12769705	577	768	7494.3	762
FL	Crystal River	4	2013	10/16/2013	16	1029	0.136425105	595	773	7542.6	762
FL	Crystal River	4	2013	10/16/2013	17	1090	0.143309799	593	780	7605.9	763
FL	Crystal River	4	2013	10/16/2013	18	1113	0.147058824	590	776	7568.4	763
FL	Crystal River	4	2013	10/16/2013	19	1059	0.1426205	564	761	7425.3	741
FL	Crystal River	4	2013	10/16/2013	20	819	0.121284819	492	692	6752.7	661
FL	Crystal River	4	2013	10/16/2013	21	707	0.113379412	399	639	6235.7	594
FL	Crystal River	4	2013	10/16/2013	22	689	0.12031572	355	587	5726.6	567
FL	Crystal River	4	2013	10/16/2013	23	557	0.107004265	296	534	5205.4	507
FL	Crystal River	4	2013	10/17/2013	0	293	0.068734165	243	437	4262.8	398
FL	Crystal River	4	2013	10/17/2013	1	121	0.041367521	190	300	2925	258
FL	Crystal River	4	2013	10/17/2013	2	118	0.044049574	190	274	2678.8	227
FL	Crystal River	4	2013	10/17/2013	3	137	0.051016608	212	275	2685.4	226
FL	Crystal River	4	2013	10/17/2013	4	188	0.061512286	226	313	3056.3	261
FL	Crystal River	4	2013	10/17/2013	5	459	0.110259675	253	427	4162.9	392
FL	Crystal River	4	2013	10/17/2013	6	543	0.110990741	269	501	4892.3	470
FL	Crystal River	4	2013	10/17/2013	7	623	0.125589646	287	509	4960.6	480
FL	Crystal River	4	2013	10/17/2013	8	1180	0.189272424	423	639	6234.4	628
FL	Crystal River	4	2013	10/17/2013	9	1657	0.222861831	557	762	7435.1	760
FL	Crystal River	4	2013	10/17/2013	10	1209	0.161395827	614	768	7490.9	763
FL	Crystal River	4	2013	10/17/2013	11	1170	0.154512559	605	776	7572.2	763
FL	Crystal River	4	2013	10/17/2013	12	1215	0.160665406	597	775	7562.3	762
FL	Crystal River	4	2013	10/17/2013	13	1198	0.158001635	606	777	7582.2	762
FL	Crystal River	4	2013	10/17/2013	14	1140	0.150536782	598	777	7572.9	761
FL	Crystal River	4	2013	10/17/2013	15	1123	0.14735019	602	781	7621.3	760
FL	Crystal River	4	2013	10/17/2013	16	1185	0.154814941	604	785	7654.3	762
FL	Crystal River	4	2013	10/17/2013	17	1241	0.162334689	596	784	7644.7	763
FL	Crystal River	4	2013	10/17/2013	18	1282	0.167963735	595	783	7632.6	764
FL	Crystal River	4	2013	10/17/2013	19	1296	0.16911995	597	786	7663.2	763
FL	Crystal River	4	2013	10/17/2013	20	1174	0.160198679	557	751	7328.4	732

FL	Crystal River	4	2013	10/17/2013	21	916	0.134545615	503	698	6808.1	667
FL	Crystal River	4	2013	10/17/2013	22	828	0.127624156	467	665	6487.8	636
FL	Crystal River	4	2013	10/17/2013	23	539	0.096648676	373	572	5576.9	525
FL	Crystal River	4	2013	10/18/2013	0	417	0.086392641	328	495	4826.8	447
FL	Crystal River	4	2013	10/18/2013	1	339	0.080645161	281	431	4203.6	383
FL	Crystal River	4	2013	10/18/2013	2	284	0.07221869	255	403	3932.5	350
FL	Crystal River	4	2013	10/18/2013	3	211	0.059542286	237	363	3543.7	309
FL	Crystal River	4	2013	10/18/2013	4	333	0.083252081	268	410	3999.9	354
FL	Crystal River	4	2013	10/18/2013	5	627	0.131300651	305	489	4775.3	447
FL	Crystal River	4	2013	10/18/2013	6	1357	0.206588923	453	673	6568.6	641
FL	Crystal River	4	2013	10/18/2013	7	1132	0.157592126	517	737	7183.1	719
FL	Crystal River	4	2013	10/18/2013	8	1028	0.13639741	580	773	7536.8	762
FL	Crystal River	4	2013	10/18/2013	9	1022	0.135314056	694	774	7552.8	760
FL	Crystal River	4	2013	10/18/2013	10	1183	0.156027433	576	777	7582	760
FL	Crystal River	4	2013	10/18/2013	11	1225	0.161082474	570	780	7604.8	762
FL	Crystal River	4	2013	10/18/2013	12	1148	0.151405246	583	777	7582.3	760
FL	Crystal River	4	2013	10/18/2013	13	1146	0.151147454	629	777	7582	761
FL	Crystal River	4	2013	10/18/2013	14	1123	0.148186269	636	777	7578.3	759
FL	Crystal River	4	2013	10/18/2013	15	1178	0.154633762	647	781	7618	759
FL	Crystal River	4	2013	10/18/2013	16	1188	0.155466859	641	784	7641.5	759
FL	Crystal River	4	2013	10/18/2013	17	1015	0.132361379	613	786	7668.4	760
FL	Crystal River	4	2013	10/18/2013	18	927	0.120903056	605	786	7667.3	761
FL	Crystal River	4	2013	10/18/2013	19	854	0.110713545	586	791	7713.6	761
FL	Crystal River	4	2013	10/18/2013	20	856	0.110675821	587	793	7734.3	760
FL	Crystal River	4	2013	10/18/2013	21	823	0.107442656	582	785	7659.9	755
FL	Crystal River	4	2013	10/18/2013	22	678	0.09787363	478	710	6927.3	672
FL	Crystal River	4	2013	10/18/2013	23	505	0.084918193	392	610	5946.9	558
FL	Crystal River	4	2013	10/19/2013	0	501	0.087981174	370	584	5694.4	529
FL	Crystal River	4	2013	10/19/2013	1	355	0.074561035	328	488	4761.2	425
FL	Crystal River	4	2013	10/19/2013	2	182	0.049057926	237	380	3709.9	309
FL	Crystal River	4	2013	10/19/2013	3	105	0.035908485	204	300	2924.1	226
FL	Crystal River	4	2013	10/19/2013	4	186	0.055553896	221	343	3348.1	269
FL	Crystal River	4	2013	10/19/2013	5	460	0.104180822	282	453	4415.4	387
FL	Crystal River	4	2013	10/19/2013	6	738	0.140533953	304	538	5251.4	474
FL	Crystal River	4	2013	10/19/2013	7	1246	0.191256831	416	668	6514.8	625

FL	Crystal River	4	2013	10/19/2013	8	1211	0.157997051	582	786	7664.7	758
FL	Crystal River	4	2013	10/19/2013	9	956	0.123273717	635	795	7755.1	765
FL	Crystal River	4	2013	10/19/2013	10	1039	0.133988445	628	795	7754.4	765
FL	Crystal River	4	2013	10/19/2013	11	1166	0.150831123	610	793	7730.5	765
FL	Crystal River	4	2013	10/19/2013	12	1184	0.152918233	603	794	7742.7	763
FL	Crystal River	4	2013	10/19/2013	13	1104	0.143172092	601	791	7711	764
FL	Crystal River	4	2013	10/19/2013	14	1071	0.138389973	603	794	7739	760
FL	Crystal River	4	2013	10/19/2013	15	1033	0.133347103	612	794	7746.7	763
FL	Crystal River	4	2013	10/19/2013	16	1021	0.131358876	629	797	7772.6	763
FL	Crystal River	4	2013	10/19/2013	17	1057	0.135031554	626	803	7827.8	766
FL	Crystal River	4	2013	10/19/2013	18	1103	0.142532241	626	794	7738.6	764
FL	Crystal River	4	2013	10/19/2013	19	1113	0.141982396	627	804	7839	767
FL	Crystal River	4	2013	10/19/2013	20	1070	0.137852845	628	796	7761.9	764
FL	Crystal River	4	2013	10/19/2013	21	1024	0.132450331	626	793	7731.2	764
FL	Crystal River	4	2013	10/19/2013	22	826	0.116480758	531	727	7091.3	689
FL	Crystal River	4	2013	10/19/2013	23	733	0.111968227	451	671	6546.5	626
FL	Crystal River	4	2013	10/20/2013	0	745	0.124452908	389	614	5986.2	563
FL	Crystal River	4	2013	10/20/2013	1	761	0.136602703	339	571	5570.9	518
FL	Crystal River	4	2013	10/20/2013	2	448	0.094702575	288	485	4730.6	427
FL	Crystal River	4	2013	10/20/2013	3	349	0.080279714	260	446	4347.3	378
FL	Crystal River	4	2013	10/20/2013	4	414	0.092431346	264	459	4479	393
FL	Crystal River	4	2013	10/20/2013	5	547	0.11165544	279	502	4899	446
FL	Crystal River	4	2013	10/20/2013	6	563	0.113325282	283	509	4968	452
FL	Crystal River	4	2013	10/20/2013	7	972	0.160319319	375	622	6062.9	577
FL	Crystal River	4	2013	10/20/2013	8	1308	0.172044142	570	780	7602.7	751
FL	Crystal River	4	2013	10/20/2013	9	1022	0.133241203	652	787	7670.3	768
FL	Crystal River	4	2013	10/20/2013	10	988	0.128027368	640	791	7717.1	766
FL	Crystal River	4	2013	10/20/2013	11	1068	0.13864908	616	790	7702.9	766
FL	Crystal River	4	2013	10/20/2013	12	1185	0.152276436	599	798	7781.9	765
FL	Crystal River	4	2013	10/20/2013	13	1386	0.177144975	602	802	7824.1	765
FL	Crystal River	4	2013	10/20/2013	14	1280	0.164437764	599	798	7784.1	766
FL	Crystal River	4	2013	10/20/2013	15	1161	0.148712694	601	801	7807	765
FL	Crystal River	4	2013	10/20/2013	16	1212	0.154373273	612	805	7851.1	765
FL	Crystal River	4	2013	10/20/2013	17	1266	0.161189697	604	805	7854.1	766
FL	Crystal River	4	2013	10/20/2013	18	1298	0.166673087	591	799	7787.7	764

FL	Crystal River	4	2013	10/20/2013	19	1272	0.163076923	592	800	7800	765
FL	Crystal River	4	2013	10/20/2013	20	1215	0.155915151	600	799	7792.7	767
FL	Crystal River	4	2013	10/20/2013	21	1006	0.128936339	600	800	7802.3	764
FL	Crystal River	4	2013	10/20/2013	22	708	0.103791011	470	699	6821.4	656
FL	Crystal River	4	2013	10/20/2013	23	630	0.100079428	409	645	6295	602
FL	Crystal River	4	2013	10/21/2013	0	659	0.112154941	358	602	5875.8	558
FL	Crystal River	4	2013	10/21/2013	1	560	0.106068642	316	541	5279.6	490
FL	Crystal River	4	2013	10/21/2013	2	404	0.08474043	276	489	4767.5	435
FL	Crystal River	4	2013	10/21/2013	3	424	0.086924433	278	500	4877.8	445
FL	Crystal River	4	2013	10/21/2013	4	662	0.120418372	329	564	5497.5	510
FL	Crystal River	4	2013	10/21/2013	5	997	0.153538154	435	666	6493.5	627
FL	Crystal River	4	2013	10/21/2013	6	830	0.131410206	448	648	6316.1	608
FL	Crystal River	4	2013	10/21/2013	7	903	0.138035403	471	671	6541.8	631
FL	Crystal River	4	2013	10/21/2013	8	1300	0.175280111	585	761	7416.7	729
FL	Crystal River	4	2013	10/21/2013	9	1117	0.14247449	768	804	7840	766
FL	Crystal River	4	2013	10/21/2013	10	1015	0.130063174	647	800	7803.9	765
FL	Crystal River	4	2013	10/21/2013	11	1077	0.138126507	592	800	7797.2	765
FL	Crystal River	4	2013	10/21/2013	12	1170	0.150273575	599	798	7785.8	764
FL	Crystal River	4	2013	10/21/2013	13	1167	0.149339681	593	801	7814.4	766
FL	Crystal River	4	2013	10/21/2013	14	1314	0.169114146	582	797	7769.9	763
FL	Crystal River	4	2013	10/21/2013	15	1245	0.158849648	603	804	7837.6	767
FL	Crystal River	4	2013	10/21/2013	16	1110	0.14160692	611	804	7838.6	765
FL	Crystal River	4	2013	10/21/2013	17	1188	0.151439826	604	804	7844.7	765
FL	Crystal River	4	2013	10/21/2013	18	1106	0.141913133	607	799	7793.5	766
FL	Crystal River	4	2013	10/21/2013	19	1094	0.140732736	614	797	7773.6	765
FL	Crystal River	4	2013	10/21/2013	20	1183	0.15226597	613	797	7769.3	763
FL	Crystal River	4	2013	10/21/2013	21	1190	0.152618889	623	800	7797.2	764
FL	Crystal River	4	2013	10/21/2013	22	949	0.130860452	543	744	7252	704
FL	Crystal River	4	2013	10/21/2013	23	901	0.13330966	466	693	6758.7	649
FL	Crystal River	4	2013	10/22/2013	0	872	0.140362173	422	637	6212.5	595
FL	Crystal River	4	2013	10/22/2013	1	853	0.144853703	376	604	5888.7	557
FL	Crystal River	4	2013	10/22/2013	2	746	0.140207116	324	545	5320.7	492
FL	Crystal River	4	2013	10/22/2013	3	942	0.177240912	318	545	5314.8	490
FL	Crystal River	4	2013	10/22/2013	4	1045	0.171911757	383	623	6078.7	573
FL	Crystal River	4	2013	10/22/2013	5	1250	0.169929309	559	754	7356	716

FL	Crystal River	4	2013	10/22/2013	6	1306	0.167915965	653	798	7777.7	769
FL	Crystal River	4	2013	10/22/2013	7	1102	0.141601563	677	798	7782.4	768
FL	Crystal River	4	2013	10/22/2013	8	1093	0.139895047	664	801	7813	770
FL	Crystal River	4	2013	10/22/2013	9	1173	0.150848765	1944	797	7776	767
FL	Crystal River	4	2013	10/22/2013	10	1212	0.157576546	2976	789	7691.5	755
FL	Crystal River	4	2013	10/22/2013	11	1195	0.154098107	3109	795	7754.8	767
FL	Crystal River	4	2013	10/22/2013	12	1271	0.163799214	2808	796	7759.5	766
FL	Crystal River	4	2013	10/22/2013	13	1310	0.168322048	2482	798	7782.7	765
FL	Crystal River	4	2013	10/22/2013	14	1104	0.140590378	3125	805	7852.6	769
FL	Crystal River	4	2013	10/22/2013	15	1045	0.133192281	3193	805	7845.8	769
FL	Crystal River	4	2013	10/22/2013	16	1204	0.154135675	3163	801	7811.3	765
FL	Crystal River	4	2013	10/22/2013	17	1125	0.145185644	3153	795	7748.7	765
FL	Crystal River	4	2013	10/22/2013	18	1128	0.144628364	3135	800	7799.3	764
FL	Crystal River	4	2013	10/22/2013	19	1204	0.154084388	3117	801	7813.9	766
FL	Crystal River	4	2013	10/22/2013	20	1209	0.154664893	3173	802	7816.9	767
FL	Crystal River	4	2013	10/22/2013	21	1236	0.159046749	3162	797	7771.3	765
FL	Crystal River	4	2013	10/22/2013	22	1212	0.156155382	3135	796	7761.5	764
FL	Crystal River	4	2013	10/22/2013	23	889	0.132285761	2412	689	6720.3	650
FL	Crystal River	4	2013	10/23/2013	0	802	0.133333333	1997	617	6015	571
FL	Crystal River	4	2013	10/23/2013	1	946	0.167602714	1710	579	5644.3	521
FL	Crystal River	4	2013	10/23/2013	2	898	0.16746233	1651	550	5362.4	484
FL	Crystal River	4	2013	10/23/2013	3	706	0.133755186	1604	541	5278.3	479
FL	Crystal River	4	2013	10/23/2013	4	535	0.108761943	1520	504	4919	440
FL	Crystal River	4	2013	10/23/2013	5	301	0.071956205	1284	429	4183.1	355
FL	Crystal River	4	2013	10/23/2013	6	1039	0.158875789	2282	671	6539.7	612
FL	Crystal River	4	2013	10/23/2013	7	1001	0.132192333	3051	776	7572.3	752
FL	Crystal River	4	2013	10/23/2013	8	597	0.089233667	2488	686	6690.3	656
FL	Crystal River	4	2013	10/23/2013	9	964	0.146408882	2396	675	6584.3	634
FL	Crystal River	4	2013	10/23/2013	10	962	0.147148801	2412	670	6537.6	631
FL	Crystal River	4	2013	10/23/2013	11	820	0.122785739	2497	685	6678.3	641
FL	Crystal River	4	2013	10/23/2013	12	982	0.147507248	2456	683	6657.3	642
FL	Crystal River	4	2013	10/23/2013	13	970	0.145761642	2429	682	6654.7	641
FL	Crystal River	4	2013	10/23/2013	14	879	0.132047411	2443	683	6656.7	641
FL	Crystal River	4	2013	10/23/2013	15	942	0.141201865	2448	684	6671.3	641
FL	Crystal River	4	2013	10/23/2013	16	942	0.141250562	2440	684	6669	641

FL	Crystal River	4	2013	10/23/2013	17	926	0.136210523	2440	697	6798.3	651
FL	Crystal River	4	2013	10/23/2013	18	972	0.138099568	2590	722	7038.4	680
FL	Crystal River	4	2013	10/23/2013	19	921	0.13124332	2568	720	7017.5	678
FL	Crystal River	4	2013	10/23/2013	20	682	0.110833035	2129	631	6153.4	586
FL	Crystal River	4	2013	10/23/2013	21	913	0.149610815	2068	626	6102.5	577
FL	Crystal River	4	2013	10/23/2013	22	732	0.125321007	1985	599	5841	547
FL	Crystal River	4	2013	10/23/2013	23	540	0.112607916	1582	492	4795.4	437
FL	Crystal River	4	2013	10/24/2013	0	321	0.093254314	1118	353	3442.2	286
FL	Crystal River	4	2013	10/24/2013	1	120	0.041055116	1028	299	2922.9	226
FL	Crystal River	4	2013	10/24/2013	2	122	0.041984996	1022	298	2905.8	226
FL	Crystal River	4	2013	10/24/2013	3	115	0.039555601	1029	298	2907.3	226
FL	Crystal River	4	2013	10/24/2013	4	133	0.043349304	1089	314	3068.1	245
FL	Crystal River	4	2013	10/24/2013	5	339	0.076284345	1475	455	4443.9	396
FL	Crystal River	4	2013	10/24/2013	6	649	0.110571599	1989	602	5869.5	556
FL	Crystal River	4	2013	10/24/2013	7	632	0.104566512	2055	620	6044	575
FL	Crystal River	4	2013	10/24/2013	8	992	0.156870187	2156	648	6323.7	606
FL	Crystal River	4	2013	10/24/2013	9	829	0.131114872	2156	648	6322.7	609
FL	Crystal River	4	2013	10/24/2013	10	837	0.132025175	2161	650	6339.7	611
FL	Crystal River	4	2013	10/24/2013	11	944	0.144785276	2275	669	6520	633
FL	Crystal River	4	2013	10/24/2013	12	837	0.128138396	2220	670	6532	625
FL	Crystal River	4	2013	10/24/2013	13	808	0.125948903	2110	658	6415.3	613
FL	Crystal River	4	2013	10/24/2013	14	998	0.153815329	2212	665	6488.3	627
FL	Crystal River	4	2013	10/24/2013	15	802	0.126158154	2155	652	6357.1	605
FL	Crystal River	4	2013	10/24/2013	16	797	0.136204392	1948	600	5851.5	556
FL	Crystal River	4	2013	10/24/2013	17	1104	0.170425601	2189	664	6477.9	620
FL	Crystal River	4	2013	10/24/2013	18	948	0.134910131	2431	721	7026.9	680
FL	Crystal River	4	2013	10/24/2013	19	765	0.115921386	2177	677	6599.3	639
FL	Crystal River	4	2013	10/24/2013	20	720	0.123755994	1181	596	5817.9	545
FL	Crystal River	4	2013	10/24/2013	21	844	0.156731662	193	552	5385	499
FL	Crystal River	4	2013	10/24/2013	22	511	0.11142365	155	470	4586.1	406
FL	Crystal River	4	2013	10/24/2013	23	265	0.075502878	115	360	3509.8	293
FL	Crystal River	4	2013	10/25/2013	0	220	0.068308132	122	330	3220.7	254
FL	Crystal River	4	2013	10/25/2013	1	251	0.073962753	118	348	3393.6	275
FL	Crystal River	4	2013	10/25/2013	2	208	0.065484998	114	325	3176.3	252
FL	Crystal River	4	2013	10/25/2013	3	246	0.073593203	120	343	3342.7	275

FL	Crystal River	4	2013	10/25/2013	4	391	0.096976612	133	413	4031.9	349
FL	Crystal River	4	2013	10/25/2013	5	623	0.123090905	156	519	5061.3	459
FL	Crystal River	4	2013	10/25/2013	6	777	0.128330058	193	621	6054.7	576
FL	Crystal River	4	2013	10/25/2013	7	685	0.104624878	229	671	6547.2	631
FL	Crystal River	4	2013	10/25/2013	8	754	0.109259528	524	708	6901	677
FL	Crystal River	4	2013	10/25/2013	9	753	0.109035621	324	708	6906	675
FL	Crystal River	4	2013	10/25/2013	10	689	0.104992076	275	673	6562.4	636
FL	Crystal River	4	2013	10/25/2013	11	842	0.123022077	287	702	6844.3	666
FL	Crystal River	4	2013	10/25/2013	12	1097	0.147535472	342	762	7435.5	731
FL	Crystal River	4	2013	10/25/2013	13	1046	0.135562468	416	791	7716	768
FL	Crystal River	4	2013	10/25/2013	14	934	0.120052957	443	798	7779.9	763
FL	Crystal River	4	2013	10/25/2013	15	1000	0.127660118	524	803	7833.3	769
FL	Crystal River	4	2013	10/25/2013	16	821	0.113868046	454	739	7210.1	695
FL	Crystal River	4	2013	10/25/2013	17	605	0.095122795	337	652	6360.2	603
FL	Crystal River	4	2013	10/25/2013	18	690	0.105612784	287	670	6533.3	623
FL	Crystal River	4	2013	10/25/2013	19	633	0.106763367	266	608	5929	559
FL	Crystal River	4	2013	10/25/2013	20	530	0.100416825	179	541	5278	487
FL	Crystal River	4	2013	10/25/2013	21	407	0.087840463	148	475	4633.4	416
FL	Crystal River	4	2013	10/25/2013	22	346	0.081302723	136	436	4255.7	372
FL	Crystal River	4	2013	10/25/2013	23	225	0.060357315	123	382	3727.8	313
FL	Crystal River	4	2013	10/26/2013	0	182	0.055792281	110	334	3262.1	267
FL	Crystal River	4	2013	10/26/2013	1	156	0.049754417	106	321	3135.4	251
FL	Crystal River	4	2013	10/26/2013	2	154	0.049341578	109	320	3121.1	251
FL	Crystal River	4	2013	10/26/2013	3	149	0.047869948	112	319	3112.6	251
FL	Crystal River	4	2013	10/26/2013	4	156	0.049939177	112	320	3123.8	251
FL	Crystal River	4	2013	10/26/2013	5	191	0.057211322	116	342	3338.5	273
FL	Crystal River	4	2013	10/26/2013	6	327	0.080659086	133	415	4054.1	346
FL	Crystal River	4	2013	10/26/2013	7	501	0.101089588	148	508	4956	448
FL	Crystal River	4	2013	10/26/2013	8	1020	0.159589448	204	655	6391.4	611
FL	Crystal River	4	2013	10/26/2013	9	879	0.133485194	395	675	6585	634
FL	Crystal River	4	2013	10/26/2013	10	746	0.125073351	512	612	5964.5	564
FL	Crystal River	4	2013	10/26/2013	11	904	0.154387403	509	600	5855.4	556
FL	Crystal River	4	2013	10/26/2013	12	1206	0.182514339	555	677	6607.7	637
FL	Crystal River	4	2013	10/26/2013	13	1245	0.178897303	598	714	6959.3	677
FL	Crystal River	4	2013	10/26/2013	14	1208	0.172697251	622	717	6994.9	681

FL	Crystal River	4	2013	10/26/2013	15	1175	0.168205569	663	716	6985.5	679
FL	Crystal River	4	2013	10/26/2013	16	1095	0.162776869	679	690	6727	652
FL	Crystal River	4	2013	10/26/2013	17	786	0.134324532	596	600	5851.5	557
FL	Crystal River	4	2013	10/26/2013	18	878	0.150631348	553	598	5828.8	551
FL	Crystal River	4	2013	10/26/2013	19	731	0.132737739	523	565	5507.1	519
FL	Crystal River	4	2013	10/26/2013	20	495	0.104653375	482	485	4729.9	427
FL	Crystal River	4	2013	10/26/2013	21	447	0.100165823	459	457	4462.6	401
FL	Crystal River	4	2013	10/26/2013	22	313	0.076887175	415	417	4070.9	358
FL	Crystal River	4	2013	10/26/2013	23	201	0.061720813	117	334	3256.6	267
FL	Crystal River	4	2013	10/27/2013	0	214	0.068359687	103	321	3130.5	252
FL	Crystal River	4	2013	10/27/2013	1	186	0.059753277	105	319	3112.8	253
FL	Crystal River	4	2013	10/27/2013	2	166	0.053371057	108	319	3110.3	252
FL	Crystal River	4	2013	10/27/2013	3	159	0.051563108	107	316	3083.6	252
FL	Crystal River	4	2013	10/27/2013	4	158	0.050943092	114	318	3101.5	252
FL	Crystal River	4	2013	10/27/2013	5	163	0.052691127	114	317	3093.5	254
FL	Crystal River	4	2013	10/27/2013	6	222	0.066334001	127	343	3346.7	279
FL	Crystal River	4	2013	10/27/2013	7	422	0.099749445	156	434	4230.6	373
FL	Crystal River	4	2013	10/27/2013	8	786	0.142445496	187	566	5517.9	522
FL	Crystal River	4	2013	10/27/2013	9	826	0.139233038	219	608	5932.5	569
FL	Crystal River	4	2013	10/27/2013	10	674	0.114512895	235	603	5885.8	558
FL	Crystal River	4	2013	10/27/2013	11	895	0.141493028	278	649	6325.4	610
FL	Crystal River	4	2013	10/27/2013	12	888	0.133789342	331	681	6637.3	643
FL	Crystal River	4	2013	10/27/2013	13	732	0.105036591	404	715	6969	669
FL	Crystal River	4	2013	10/27/2013	14	793	0.111895019	446	727	7087	686
FL	Crystal River	4	2013	10/27/2013	15	1036	0.132362336	602	803	7827	761
FL	Crystal River	4	2013	10/27/2013	16	942	0.119165085	695	811	7905	767
FL	Crystal River	4	2013	10/27/2013	17	891	0.115401054	633	792	7720.9	756
FL	Crystal River	4	2013	10/27/2013	18	787	0.11041275	498	731	7127.8	681
FL	Crystal River	4	2013	10/27/2013	19	719	0.10988843	458	671	6543	623
FL	Crystal River	4	2013	10/27/2013	20	442	0.082322922	311	550	5369.1	492
FL	Crystal River	4	2013	10/27/2013	21	292	0.065403396	227	458	4464.6	389
FL	Crystal River	4	2013	10/27/2013	22	218	0.060516892	165	369	3602.3	299
FL	Crystal River	4	2013	10/27/2013	23	200	0.063698325	141	322	3139.8	251
FL	Crystal River	4	2013	10/28/2013	0	192	0.061528601	131	320	3120.5	250
FL	Crystal River	4	2013	10/28/2013	1	204	0.065823438	124	318	3099.2	251

FL	Crystal River	4	2013	10/28/2013	2	178	0.05745086	117	317	3098.3	250
FL	Crystal River	4	2013	10/28/2013	3	178	0.057530705	114	317	3094	251
FL	Crystal River	4	2013	10/28/2013	4	324	0.087031267	152	382	3722.8	321
FL	Crystal River	4	2013	10/28/2013	5	890	0.156634988	193	583	5682	532
FL	Crystal River	4	2013	10/28/2013	6	1126	0.165588235	244	697	6800	652
FL	Crystal River	4	2013	10/28/2013	7	1177	0.162578043	376	742	7239.6	707
FL	Crystal River	4	2013	10/28/2013	8	1071	0.138899697	555	791	7710.6	769
FL	Crystal River	4	2013	10/28/2013	9	910	0.11824017	708	789	7696.2	770
FL	Crystal River	4	2013	10/28/2013	10	944	0.122386009	647	791	7713.3	769
FL	Crystal River	4	2013	10/28/2013	11	988	0.127232689	761	796	7765.3	769
FL	Crystal River	4	2013	10/28/2013	12	1005	0.128651527	906	801	7811.8	769
FL	Crystal River	4	2013	10/28/2013	13	1007	0.129596026	924	797	7770.3	767
FL	Crystal River	4	2013	10/28/2013	14	924	0.117729502	934	805	7848.5	769
FL	Crystal River	4	2013	10/28/2013	15	890	0.113182593	943	806	7863.4	769
FL	Crystal River	4	2013	10/28/2013	16	939	0.120604177	887	798	7785.8	768
FL	Crystal River	4	2013	10/28/2013	17	1184	0.152011195	599	799	7788.9	768
FL	Crystal River	4	2013	10/28/2013	18	1061	0.135402443	540	804	7835.9	767
FL	Crystal River	4	2013	10/28/2013	19	936	0.120081594	506	799	7794.7	763
FL	Crystal River	4	2013	10/28/2013	20	799	0.114978918	90	713	6949.1	666
FL	Crystal River	4	2013	10/28/2013	21	927	0.138620968	461	686	6687.3	633
FL	Crystal River	4	2013	10/28/2013	22	729	0.118457614	504	631	6154.1	575
FL	Crystal River	4	2013	10/28/2013	23	513	0.107698444	338	488	4763.3	426
FL	Crystal River	4	2013	10/29/2013	0	294	0.077757207	279	387	3781	322
FL	Crystal River	4	2013	10/29/2013	1	265	0.073232742	365	371	3618.6	303
FL	Crystal River	4	2013	10/29/2013	2	214	0.067019511	249	327	3193.1	260
FL	Crystal River	4	2013	10/29/2013	3	228	0.068975949	277	339	3305.5	273
FL	Crystal River	4	2013	10/29/2013	4	467	0.11001437	526	435	4244.9	377
FL	Crystal River	4	2013	10/29/2013	5	1104	0.172198652	557	657	6411.2	617
FL	Crystal River	4	2013	10/29/2013	6	1296	0.168416675	715	789	7695.2	769
FL	Crystal River	4	2013	10/29/2013	7	1135	0.14824393	696	785	7656.3	769
FL	Crystal River	4	2013	10/29/2013	8	1013	0.132463321	1514	784	7647.4	769
FL	Crystal River	4	2013	10/29/2013	9	1040	0.135731252	743	786	7662.2	769
FL	Crystal River	4	2013	10/29/2013	10	1158	0.150177022	640	791	7710.9	768
FL	Crystal River	4	2013	10/29/2013	11	1176	0.15279077	600	789	7696.8	767
FL	Crystal River	4	2013	10/29/2013	12	1107	0.143518338	609	791	7713.3	768

FL	Crystal River	4	2013	10/29/2013	13	1092	0.141271443	610	793	7729.8	768
FL	Crystal River	4	2013	10/29/2013	14	1108	0.141849419	609	801	7811.1	768
FL	Crystal River	4	2013	10/29/2013	15	1153	0.148122455	607	798	7784.1	766
FL	Crystal River	4	2013	10/29/2013	16	1154	0.148409167	591	797	7775.8	767
FL	Crystal River	4	2013	10/29/2013	17	1178	0.151655595	598	797	7767.6	766
FL	Crystal River	4	2013	10/29/2013	18	1097	0.139542575	613	806	7861.4	769
FL	Crystal River	4	2013	10/29/2013	19	1045	0.132939815	613	806	7860.7	770
FL	Crystal River	4	2013	10/29/2013	20	885	0.112819336	619	804	7844.4	773
FL	Crystal River	4	2013	10/29/2013	21	618	0.084123981	565	753	7346.3	725
FL	Crystal River	4	2013	10/29/2013	22	582	0.088921483	451	671	6545.1	625
FL	Crystal River	4	2013	10/29/2013	23	191	0.041705789	316	469	4579.7	411
FL	Crystal River	4	2013	10/30/2013	0	91	0.027370891	568	341	3324.7	275
FL	Crystal River	4	2013	10/30/2013	1	76	0.024495584	180	318	3102.6	251
FL	Crystal River	4	2013	10/30/2013	2	55	0.01777232	492	317	3094.7	251
FL	Crystal River	4	2013	10/30/2013	3	62	0.020092034	200	316	3085.8	251
FL	Crystal River	4	2013	10/30/2013	4	67	0.020150982	212	341	3324.9	272
FL	Crystal River	4	2013	10/30/2013	5	183	0.040240121	286	466	4547.7	410
FL	Crystal River	4	2013	10/30/2013	6	329	0.053693247	435	628	6127.4	590
FL	Crystal River	4	2013	10/30/2013	7	409	0.068895814	445	609	5936.5	559
FL	Crystal River	4	2013	10/30/2013	8	852	0.119130848	557	733	7151.8	694
FL	Crystal River	4	2013	10/30/2013	9	908	0.115973127	782	803	7829.4	769
FL	Crystal River	4	2013	10/30/2013	10	743	0.094567763	660	806	7856.8	767
FL	Crystal River	4	2013	10/30/2013	11	681	0.087236114	702	800	7806.4	764
FL	Crystal River	4	2013	10/30/2013	12	805	0.103266029	678	799	7795.4	767
FL	Crystal River	4	2013	10/30/2013	13	838	0.107042038	634	803	7828.7	763
FL	Crystal River	4	2013	10/30/2013	14	638	0.081462754	681	803	7831.8	768
FL	Crystal River	4	2013	10/30/2013	15	602	0.07683962	673	803	7834.5	767
FL	Crystal River	4	2013	10/30/2013	16	628	0.079731857	677	808	7876.4	767
FL	Crystal River	4	2013	10/30/2013	17	565	0.072126125	697	803	7833.5	768
FL	Crystal River	4	2013	10/30/2013	18	576	0.073948544	677	799	7789.2	766
FL	Crystal River	4	2013	10/30/2013	19	735	0.094775119	628	795	7755.2	764
FL	Crystal River	4	2013	10/30/2013	20	859	0.110700156	628	796	7759.7	765
FL	Crystal River	4	2013	10/30/2013	21	806	0.108044344	574	765	7459.9	734
FL	Crystal River	4	2013	10/30/2013	22	552	0.08933629	383	634	6178.9	583
FL	Crystal River	4	2013	10/30/2013	23	306	0.06842729	223	458	4471.9	405

FL	Crystal River	4	2013	10/31/2013	0	150	0.047165362	162	326	3180.3	260
FL	Crystal River	4	2013	10/31/2013	1	199	0.064725972	144	315	3074.5	251
FL	Crystal River	4	2013	10/31/2013	2	183	0.059539302	132	315	3073.6	251
FL	Crystal River	4	2013	10/31/2013	3	184	0.059899733	122	315	3071.8	250
FL	Crystal River	4	2013	10/31/2013	4	184	0.059544999	123	317	3090.1	251
FL	Crystal River	4	2013	10/31/2013	5	385	0.099496059	154	397	3869.5	342
FL	Crystal River	4	2013	10/31/2013	6	770	0.137188875	202	575	5612.7	527
FL	Crystal River	4	2013	10/31/2013	7	745	0.125224816	238	610	5949.3	567
FL	Crystal River	4	2013	10/31/2013	8	1149	0.16180136	319	728	7101.3	691
FL	Crystal River	4	2013	10/31/2013	9	1004	0.130591434	453	788	7688.1	762
FL	Crystal River	4	2013	10/31/2013	10	972	0.123816924	596	805	7850.3	768
FL	Crystal River	4	2013	10/31/2013	11	1082	0.138604222	608	800	7806.4	768
FL	Crystal River	4	2013	10/31/2013	12	1195	0.155100134	631	790	7704.7	767
FL	Crystal River	4	2013	10/31/2013	13	1132	0.15053792	518	771	7519.7	754
FL	Crystal River	4	2013	10/31/2013	14	778	0.116734437	433	683	6664.7	651
FL	Crystal River	4	2013	10/31/2013	15	935	0.13920941	490	689	6716.5	656
FL	Crystal River	4	2013	10/31/2013	16	943	0.139908903	492	691	6740.1	656
FL	Crystal River	4	2013	10/31/2013	17	970	0.143656882	499	692	6752.2	656
FL	Crystal River	4	2013	10/31/2013	18	934	0.137456033	1528	697	6794.9	656
FL	Crystal River	4	2013	10/31/2013	19	744	0.109098908	661	699	6819.5	656
FL	Crystal River	4	2013	10/31/2013	20	703	0.103083713	709	699	6819.7	657
FL	Crystal River	4	2013	10/31/2013	21	733	0.110230537	645	682	6649.7	639
FL	Crystal River	4	2013	10/31/2013	22	658	0.107379484	576	628	6127.8	581
FL	Crystal River	4	2013	10/31/2013	23	284	0.062855499	456	463	4518.3	403
FL	Crystal River	4	2013	11/1/2013	0	162	0.044487162	371	373	3641.5	310
FL	Crystal River	4	2013	11/1/2013	1	135	0.043929583	350	315	3073.1	251
FL	Crystal River	4	2013	11/1/2013	2	180	0.05877551	339	314	3062.5	251
FL	Crystal River	4	2013	11/1/2013	3	134	0.044256556	211	310	3027.8	251
FL	Crystal River	4	2013	11/1/2013	4	165	0.051528684	214	328	3202.1	265
FL	Crystal River	4	2013	11/1/2013	5	614	0.120158907	332	524	5109.9	478
FL	Crystal River	4	2013	11/1/2013	6	1114	0.166127325	482	688	6705.7	651
FL	Crystal River	4	2013	11/1/2013	7	885	0.129543159	526	700	6831.7	666
FL	Crystal River	4	2013	11/1/2013	8	793	0.115609465	521	703	6859.3	666
FL	Crystal River	4	2013	11/1/2013	9	797	0.116486407	554	702	6842	666
FL	Crystal River	4	2013	11/1/2013	10	896	0.128893045	556	713	6951.5	667

FL	Crystal River	4	2013	11/1/2013	11	909	0.131049695	548	711	6936.3	668
FL	Crystal River	4	2013	11/1/2013	12	916	0.131840295	528	712	6947.8	668
FL	Crystal River	4	2013	11/1/2013	13	898	0.129918981	532	709	6912	668
FL	Crystal River	4	2013	11/1/2013	14	838	0.121285803	532	708	6909.3	668
FL	Crystal River	4	2013	11/1/2013	15	799	0.115540902	546	709	6915.3	668
FL	Crystal River	4	2013	11/1/2013	16	847	0.122076013	548	711	6938.3	668
FL	Crystal River	4	2013	11/1/2013	17	869	0.125500051	547	710	6924.3	668
FL	Crystal River	4	2013	11/1/2013	18	867	0.124450952	543	714	6966.6	668
FL	Crystal River	4	2013	11/1/2013	19	844	0.121842067	526	710	6927	668
FL	Crystal River	4	2013	11/1/2013	20	841	0.12027688	538	717	6992.2	668
FL	Crystal River	4	2013	11/1/2013	21	850	0.123076032	538	708	6906.3	665
FL	Crystal River	4	2013	11/1/2013	22	760	0.114131251	506	683	6659	632
FL	Crystal River	4	2013	11/1/2013	23	675	0.102370445	481	676	6593.7	622
FL	Crystal River	4	2013	11/2/2013	0	515	0.085624979	433	617	6014.6	562
FL	Crystal River	4	2013	11/2/2013	1	236	0.053500181	313	452	4411.2	390
FL	Crystal River	4	2013	11/2/2013	2	109	0.034663699	223	322	3144.5	244
FL	Crystal River	4	2013	11/2/2013	3	98	0.034271726	200	293	2859.5	226
FL	Crystal River	4	2013	11/2/2013	4	133	0.043509552	220	313	3056.8	244
FL	Crystal River	4	2013	11/2/2013	5	209	0.056535382	262	379	3696.8	319
FL	Crystal River	4	2013	11/2/2013	6	374	0.079381925	334	483	4711.4	436
FL	Crystal River	4	2013	11/2/2013	7	532	0.092608711	396	589	5744.6	552
FL	Crystal River	4	2013	11/2/2013	8	670	0.101458273	501	677	6603.7	649
FL	Crystal River	4	2013	11/2/2013	9	550	0.081744274	545	690	6728.3	662
FL	Crystal River	4	2013	11/2/2013	10	402	0.059076815	551	698	6804.7	668
FL	Crystal River	4	2013	11/2/2013	11	507	0.074451526	544	698	6809.8	671
FL	Crystal River	4	2013	11/2/2013	12	682	0.100224845	544	698	6804.7	671
FL	Crystal River	4	2013	11/2/2013	13	819	0.127795029	493	657	6408.7	636
FL	Crystal River	4	2013	11/2/2013	14	843	0.130880298	476	660	6441	637
FL	Crystal River	4	2013	11/2/2013	15	728	0.117869922	457	633	6176.3	610
FL	Crystal River	4	2013	11/2/2013	16	840	0.14129996	428	609	5944.8	570
FL	Crystal River	4	2013	11/2/2013	17	864	0.142053862	413	624	6082.2	589
FL	Crystal River	4	2013	11/2/2013	18	965	0.146411774	468	676	6591	641
FL	Crystal River	4	2013	11/2/2013	19	542	0.10184524	383	546	5321.8	504
FL	Crystal River	4	2013	11/2/2013	20	448	0.106050563	274	433	4224.4	383
FL	Crystal River	4	2013	11/2/2013	21	163	0.051531725	202	324	3163.1	269

FL	Crystal River	4	2013	11/2/2013	22	126	0.044477391	181	290	2832.9	226
FL	Crystal River	4	2013	11/2/2013	23	118	0.042120293	184	287	2801.5	226
FL	Crystal River	4	2013	11/3/2013	0	109	0.039152299	183	285	2784	225
FL	Crystal River	4	2013	11/3/2013	1	118	0.041426766	196	292	2848.4	226
FL	Crystal River	4	2013	11/3/2013	2	112	0.039132106	203	293	2862.1	226
FL	Crystal River	4	2013	11/3/2013	3	107	0.037493868	205	292	2853.8	226
FL	Crystal River	4	2013	11/3/2013	4	113	0.041304189	202	280	2735.8	226
FL	Crystal River	4	2013	11/3/2013	5	108	0.040026684	197	276	2698.2	226
FL	Crystal River	4	2013	11/3/2013	6	142	0.051800241	194	281	2741.3	226
FL	Crystal River	4	2013	11/3/2013	7	124	0.045209275	197	281	2742.8	226
FL	Crystal River	4	2013	11/3/2013	8	168	0.052562418	226	327	3196.2	276
FL	Crystal River	4	2013	11/3/2013	9	262	0.066424968	268	404	3944.3	349
FL	Crystal River	4	2013	11/3/2013	10	251	0.063348645	273	406	3962.2	371
FL	Crystal River	4	2013	11/3/2013	11	342	0.074844075	301	468	4569.5	423
FL	Crystal River	4	2013	11/3/2013	12	719	0.124446137	387	592	5777.6	563
FL	Crystal River	4	2013	11/3/2013	13	695	0.114839968	417	620	6051.9	599
FL	Crystal River	4	2013	11/3/2013	14	708	0.112906055	438	643	6270.7	622
FL	Crystal River	4	2013	11/3/2013	15	642	0.106694143	415	617	6017.2	587
FL	Crystal River	4	2013	11/3/2013	16	782	0.127286933	411	630	6143.6	600
FL	Crystal River	4	2013	11/3/2013	17	633	0.114237245	387	568	5541.1	534
FL	Crystal River	4	2013	11/3/2013	18	937	0.14969725	431	642	6259.3	616
FL	Crystal River	4	2013	11/3/2013	19	631	0.111415203	407	581	5663.5	544
FL	Crystal River	4	2013	11/3/2013	20	295	0.069354649	285	436	4253.5	395
FL	Crystal River	4	2013	11/3/2013	21	163	0.053370878	210	313	3054.1	261
FL	Crystal River	4	2013	11/3/2013	22	136	0.049789493	191	280	2731.5	225
FL	Crystal River	4	2013	11/3/2013	23	133	0.04853129	197	281	2740.5	226
FL	Crystal River	4	2013	11/4/2013	0	134	0.049145456	196	279	2726.6	226
FL	Crystal River	4	2013	11/4/2013	1	131	0.047899375	202	280	2734.9	226
FL	Crystal River	4	2013	11/4/2013	2	126	0.046024035	205	280	2737.7	226
FL	Crystal River	4	2013	11/4/2013	3	128	0.04701043	206	279	2722.8	225
FL	Crystal River	4	2013	11/4/2013	4	127	0.04610135	212	282	2754.8	226
FL	Crystal River	4	2013	11/4/2013	5	141	0.048837934	222	296	2887.1	239
FL	Crystal River	4	2013	11/4/2013	6	213	0.065554598	237	333	3249.2	284
FL	Crystal River	4	2013	11/4/2013	7	148	0.049131893	228	309	3012.3	256
FL	Crystal River	4	2013	11/4/2013	8	154	0.050867052	230	310	3027.5	257

FL	Crystal River	4	2013	11/4/2013	9	263	0.070878025	289	380	3710.6	329
FL	Crystal River	4	2013	11/4/2013	10	379	0.080884393	313	480	4685.7	444
FL	Crystal River	4	2013	11/4/2013	11	685	0.122494233	374	573	5592.1	553
FL	Crystal River	4	2013	11/4/2013	12	750	0.122669284	440	627	6114	627
FL	Crystal River	4	2013	11/4/2013	13	873	0.133327224	504	671	6547.8	642
FL	Crystal River	4	2013	11/4/2013	14	994	0.151955239	484	671	6541.4	643
FL	Crystal River	4	2013	11/4/2013	15	874	0.135028659	466	664	6472.7	634
FL	Crystal River	4	2013	11/4/2013	16	967	0.149055877	473	665	6487.5	645
FL	Crystal River	4	2013	11/4/2013	17	955	0.148781704	481	658	6418.8	636
FL	Crystal River	4	2013	11/4/2013	18	1001	0.147242693	537	697	6798.3	681
FL	Crystal River	4	2013	11/4/2013	19	904	0.132835689	524	698	6805.4	681
FL	Crystal River	4	2013	11/4/2013	20	880	0.135586953	480	665	6490.3	649
FL	Crystal River	4	2013	11/4/2013	21	665	0.121563323	372	561	5470.4	541
FL	Crystal River	4	2013	11/4/2013	22	704	0.14900417	316	484	4724.7	452
FL	Crystal River	4	2013	11/4/2013	23	488	0.126618406	273	395	3854.1	362
FL	Crystal River	4	2013	11/5/2013	0	201	0.068703856	225	300	2925.6	247
FL	Crystal River	4	2013	11/5/2013	1	274	0.100835388	217	278	2717.3	226
FL	Crystal River	4	2013	11/5/2013	2	348	0.129271917	218	276	2692	226
FL	Crystal River	4	2013	11/5/2013	3	336	0.124670699	223	276	2695.1	226
FL	Crystal River	4	2013	11/5/2013	4	332	0.121487119	229	280	2732.8	225
FL	Crystal River	4	2013	11/5/2013	5	499	0.15838253	245	323	3150.6	273
FL	Crystal River	4	2013	11/5/2013	6	746	0.196341624	269	389	3799.5	348
FL	Crystal River	4	2013	11/5/2013	7	848	0.16925472	330	514	5010.2	488
FL	Crystal River	4	2013	11/5/2013	8	796	0.144827335	384	563	5496.2	539
FL	Crystal River	4	2013	11/5/2013	9	1070	0.177699538	433	617	6021.4	601
FL	Crystal River	4	2013	11/5/2013	10	1704	0.253805594	496	688	6713.8	670
FL	Crystal River	4	2013	11/5/2013	11	2496	0.354661324	570	722	7037.7	711
FL	Crystal River	4	2013	11/5/2013	12	2458	0.326280298	640	772	7533.4	764
FL	Crystal River	4	2013	11/5/2013	13	1210	0.175969285	550	705	6876.2	678
FL	Crystal River	4	2013	11/5/2013	14	991	0.154121306	450	659	6430	628
FL	Crystal River	4	2013	11/5/2013	15	1004	0.16145113	435	638	6218.6	604
FL	Crystal River	4	2013	11/5/2013	16	876	0.132053002	464	680	6633.7	651
FL	Crystal River	4	2013	11/5/2013	17	810	0.131891751	429	630	6141.4	598
FL	Crystal River	4	2013	11/5/2013	18	1280	0.189021959	487	694	6771.7	670
FL	Crystal River	4	2013	11/5/2013	19	961	0.14275104	478	690	6732	671

FL	Crystal River	4	2013	11/5/2013	20	859	0.12845244	481	686	6687.3	667
FL	Crystal River	4	2013	11/5/2013	21	844	0.135508317	423	639	6228.4	610
FL	Crystal River	4	2013	11/5/2013	22	615	0.120425307	357	524	5106.9	485
FL	Crystal River	4	2013	11/5/2013	23	278	0.081296058	253	350	3419.6	294
FL	Crystal River	4	2013	11/6/2013	0	173	0.061918397	212	286	2794	226
FL	Crystal River	4	2013	11/6/2013	1	166	0.060092673	212	283	2762.4	226
FL	Crystal River	4	2013	11/6/2013	2	159	0.057214825	216	285	2779	226
FL	Crystal River	4	2013	11/6/2013	3	161	0.058814934	199	280	2737.4	226
FL	Crystal River	4	2013	11/6/2013	4	181	0.064698313	201	287	2797.6	225
FL	Crystal River	4	2013	11/6/2013	5	172	0.062011032	194	284	2773.7	226
FL	Crystal River	4	2013	11/6/2013	6	248	0.0817888	209	311	3032.2	257
FL	Crystal River	4	2013	11/6/2013	7	248	0.074604416	216	341	3324.2	290
FL	Crystal River	4	2013	11/6/2013	8	342	0.088049019	240	398	3884.2	356
FL	Crystal River	4	2013	11/6/2013	9	814	0.150201129	303	556	5419.4	518
FL	Crystal River	4	2013	11/6/2013	10	799	0.128576486	372	637	6214.2	603
FL	Crystal River	4	2013	11/6/2013	11	635	0.103737829	391	628	6121.2	588
FL	Crystal River	4	2013	11/6/2013	12	608	0.104275644	419	598	5830.7	557
FL	Crystal River	4	2013	11/6/2013	13	728	0.124401914	438	600	5852	556
FL	Crystal River	4	2013	11/6/2013	14	1042	0.165155646	511	647	6309.2	607
FL	Crystal River	4	2013	11/6/2013	15	733	0.118277314	539	635	6197.3	599
FL	Crystal River	4	2013	11/6/2013	16	614	0.105326357	489	598	5829.5	557
FL	Crystal River	4	2013	11/6/2013	17	849	0.144220969	488	604	5886.8	562
FL	Crystal River	4	2013	11/6/2013	18	1111	0.166230269	588	685	6683.5	653
FL	Crystal River	4	2013	11/6/2013	19	941	0.140040182	624	689	6719.5	660
FL	Crystal River	4	2013	11/6/2013	20	1126	0.167746741	604	688	6712.5	660
FL	Crystal River	4	2013	11/6/2013	21	1165	0.178058324	569	671	6542.8	640
FL	Crystal River	4	2013	11/6/2013	22	1108	0.170684742	512	666	6491.5	631
FL	Crystal River	4	2013	11/6/2013	23	561	0.106916201	393	538	5247.1	492
FL	Crystal River	4	2013	11/7/2013	0	175	0.054027353	262	332	3239.1	270
FL	Crystal River	4	2013	11/7/2013	1	205	0.072785372	214	289	2816.5	226
FL	Crystal River	4	2013	11/7/2013	2	194	0.06998557	205	284	2772	226
FL	Crystal River	4	2013	11/7/2013	3	169	0.061334108	192	282	2755.4	226
FL	Crystal River	4	2013	11/7/2013	4	184	0.066763425	198	282	2756	225
FL	Crystal River	4	2013	11/7/2013	5	176	0.064360418	188	280	2734.6	226
FL	Crystal River	4	2013	11/7/2013	6	233	0.079709897	195	299	2923.1	243

FL	Crystal River	4	2013	11/7/2013	7	341	0.095451365	253	366	3572.5	316
FL	Crystal River	4	2013	11/7/2013	8	342	0.086191688	277	407	3967.9	357
FL	Crystal River	4	2013	11/7/2013	9	489	0.109543011	285	458	4464	408
FL	Crystal River	4	2013	11/7/2013	10	487	0.097915033	318	510	4973.7	459
FL	Crystal River	4	2013	11/7/2013	11	885	0.16517049	337	549	5358.1	504
FL	Crystal River	4	2013	11/7/2013	12	1148	0.178235961	405	660	6440.9	626
FL	Crystal River	4	2013	11/7/2013	13	713	0.122622364	389	596	5814.6	562
FL	Crystal River	4	2013	11/7/2013	14	1246	0.211046935	371	605	5903.9	567
FL	Crystal River	4	2013	11/7/2013	15	1104	0.181713439	382	623	6075.5	584
FL	Crystal River	4	2013	11/7/2013	16	655	0.105378316	416	637	6215.7	604
FL	Crystal River	4	2013	11/7/2013	17	1139	0.178227737	402	655	6390.7	619
FL	Crystal River	4	2013	11/7/2013	18	988	0.147150815	436	688	6714.2	660
FL	Crystal River	4	2013	11/7/2013	19	855	0.128270523	453	683	6665.6	660
FL	Crystal River	4	2013	11/7/2013	20	914	0.139271946	433	673	6562.7	650
FL	Crystal River	4	2013	11/7/2013	21	672	0.120102945	346	574	5595.2	533
FL	Crystal River	4	2013	11/7/2013	22	535	0.111442081	288	492	4800.7	438
FL	Crystal River	4	2013	11/7/2013	23	205	0.061353365	210	342	3341.3	281
FL	Crystal River	4	2013	11/8/2013	0	193	0.068702834	179	288	2809.2	226
FL	Crystal River	4	2013	11/8/2013	1	180	0.06525522	179	283	2758.4	226
FL	Crystal River	4	2013	11/8/2013	2	181	0.066171901	177	280	2735.3	226
FL	Crystal River	4	2013	11/8/2013	3	199	0.071789322	183	284	2772	226
FL	Crystal River	4	2013	11/8/2013	4	182	0.066698428	188	280	2728.7	226
FL	Crystal River	4	2013	11/8/2013	5	180	0.06549265	184	282	2748.4	231
FL	Crystal River	4	2013	11/8/2013	6	248	0.080435911	194	316	3083.2	262
FL	Crystal River	4	2013	11/8/2013	7	287	0.080667828	227	365	3557.8	318
FL	Crystal River	4	2013	11/8/2013	8	293	0.075422158	244	398	3884.8	355
FL	Crystal River	4	2013	11/8/2013	9	276	0.071319672	259	397	3869.9	357
FL	Crystal River	4	2013	11/8/2013	10	358	0.086184068	265	426	4153.9	388
FL	Crystal River	4	2013	11/8/2013	11	562	0.113834312	320	506	4937	482
FL	Crystal River	4	2013	11/8/2013	12	826	0.139924109	436	605	5903.2	584
FL	Crystal River	4	2013	11/8/2013	13	926	0.148492623	511	639	6236	617
FL	Crystal River	4	2013	11/8/2013	14	794	0.132538768	563	614	5990.7	584
FL	Crystal River	4	2013	11/8/2013	15	934	0.155399897	577	616	6010.3	580
FL	Crystal River	4	2013	11/8/2013	16	918	0.148133805	576	635	6197.1	604
FL	Crystal River	4	2013	11/8/2013	17	694	0.118252454	369	602	5868.8	571

FL	Crystal River	4	2013	11/8/2013	18	1070	0.163231682	452	672	6555.1	655
FL	Crystal River	4	2013	11/8/2013	19	1030	0.154138545	467	685	6682.3	672
FL	Crystal River	4	2013	11/8/2013	20	745	0.123356625	374	619	6039.4	597
FL	Crystal River	4	2013	11/8/2013	21	555	0.110353329	281	516	5029.3	489
FL	Crystal River	4	2013	11/8/2013	22	371	0.086743044	243	438	4277	397
FL	Crystal River	4	2013	11/8/2013	23	207	0.059724747	208	355	3465.9	306
FL	Crystal River	4	2013	11/9/2013	0	162	0.054176978	194	306	2990.2	252
FL	Crystal River	4	2013	11/9/2013	1	126	0.04634909	184	278	2718.5	228
FL	Crystal River	4	2013	11/9/2013	2	120	0.044081993	190	279	2722.2	226
FL	Crystal River	4	2013	11/9/2013	3	122	0.04457598	194	280	2736.9	226
FL	Crystal River	4	2013	11/9/2013	4	117	0.042630716	197	281	2744.5	225
FL	Crystal River	4	2013	11/9/2013	5	112	0.040706549	198	282	2751.4	226
FL	Crystal River	4	2013	11/9/2013	6	161	0.055593923	202	297	2896	241
FL	Crystal River	4	2013	11/9/2013	7	162	0.05394785	210	308	3002.9	256
FL	Crystal River	4	2013	11/9/2013	8	164	0.050810174	213	331	3227.7	282
FL	Crystal River	4	2013	11/9/2013	9	302	0.072704512	253	426	4153.8	375
FL	Crystal River	4	2013	11/9/2013	10	255	0.059376892	262	440	4294.6	392
FL	Crystal River	4	2013	11/9/2013	11	536	0.099681985	328	551	5377.1	517
FL	Crystal River	4	2013	11/9/2013	12	743	0.120298561	426	633	6176.3	606
FL	Crystal River	4	2013	11/9/2013	13	527	0.090123985	421	600	5847.5	558
FL	Crystal River	4	2013	11/9/2013	14	695	0.112419527	445	634	6182.2	596
FL	Crystal River	4	2013	11/9/2013	15	887	0.137790689	437	660	6437.3	624
FL	Crystal River	4	2013	11/9/2013	16	630	0.109416791	362	590	5757.8	545
FL	Crystal River	4	2013	11/9/2013	17	654	0.1213088	318	553	5391.2	507
FL	Crystal River	4	2013	11/9/2013	18	633	0.109871036	334	591	5761.3	545
FL	Crystal River	4	2013	11/9/2013	19	478	0.098043237	282	500	4875.4	453
FL	Crystal River	4	2013	11/9/2013	20	323	0.075750469	247	437	4264	382
FL	Crystal River	4	2013	11/9/2013	21	161	0.046241778	215	357	3481.7	301
FL	Crystal River	4	2013	11/9/2013	22	122	0.040146105	197	311	3038.9	251
FL	Crystal River	4	2013	11/9/2013	23	112	0.037900579	195	303	2955.1	251
FL	Crystal River	4	2013	11/10/2013	0	89	0.031370061	187	291	2837.1	240
FL	Crystal River	4	2013	11/10/2013	1	76	0.028409091	187	274	2675.2	226
FL	Crystal River	4	2013	11/10/2013	2	73	0.027307074	189	274	2673.3	226
FL	Crystal River	4	2013	11/10/2013	3	67	0.025153927	189	273	2663.6	226
FL	Crystal River	4	2013	11/10/2013	4	67	0.025046729	198	274	2675	225

FL	Crystal River	4	2013	11/10/2013	5	68	0.025109856	195	277	2708.1	225
FL	Crystal River	4	2013	11/10/2013	6	107	0.039557839	197	277	2704.9	225
FL	Crystal River	4	2013	11/10/2013	7	97	0.035659143	204	279	2720.2	230
FL	Crystal River	4	2013	11/10/2013	8	142	0.044456968	220	327	3194.1	278
FL	Crystal River	4	2013	11/10/2013	9	136	0.043092522	211	323	3156	276
FL	Crystal River	4	2013	11/10/2013	10	362	0.082418833	281	450	4392.2	402
FL	Crystal River	4	2013	11/10/2013	11	656	0.112627693	378	597	5824.5	561
FL	Crystal River	4	2013	11/10/2013	12	1022	0.142566191	595	735	7168.6	703
FL	Crystal River	4	2013	11/10/2013	13	912	0.117681975	713	795	7749.7	771
FL	Crystal River	4	2013	11/10/2013	14	1036	0.133699846	604	795	7748.7	768
FL	Crystal River	4	2013	11/10/2013	15	1047	0.135365759	595	793	7734.6	770
FL	Crystal River	4	2013	11/10/2013	16	988	0.127533239	596	794	7747	769
FL	Crystal River	4	2013	11/10/2013	17	1110	0.143192549	581	795	7751.8	768
FL	Crystal River	4	2013	11/10/2013	18	915	0.126805067	497	740	7215.8	719
FL	Crystal River	4	2013	11/10/2013	19	804	0.124279288	427	663	6469.3	632
FL	Crystal River	4	2013	11/10/2013	20	779	0.134814738	352	592	5778.3	548
FL	Crystal River	4	2013	11/10/2013	21	732	0.142174572	278	528	5148.6	482
FL	Crystal River	4	2013	11/10/2013	22	344	0.085062189	226	414	4044.1	359
FL	Crystal River	4	2013	11/10/2013	23	181	0.058758603	194	316	3080.4	258
FL	Crystal River	4	2013	11/11/2013	0	148	0.051835248	179	292	2855.2	241
FL	Crystal River	4	2013	11/11/2013	1	105	0.038814136	175	277	2705.2	226
FL	Crystal River	4	2013	11/11/2013	2	114	0.041401852	179	282	2753.5	226
FL	Crystal River	4	2013	11/11/2013	3	105	0.038804095	178	277	2705.9	226
FL	Crystal River	4	2013	11/11/2013	4	104	0.038162337	185	279	2725.2	226
FL	Crystal River	4	2013	11/11/2013	5	114	0.040333994	186	290	2826.4	237
FL	Crystal River	4	2013	11/11/2013	6	195	0.060956549	204	328	3199	276
FL	Crystal River	4	2013	11/11/2013	7	244	0.064322244	265	389	3793.4	339
FL	Crystal River	4	2013	11/11/2013	8	231	0.056954067	267	416	4055.9	364
FL	Crystal River	4	2013	11/11/2013	9	374	0.076265829	304	503	4903.9	469
FL	Crystal River	4	2013	11/11/2013	10	899	0.135031618	432	683	6657.7	656
FL	Crystal River	4	2013	11/11/2013	11	959	0.125970392	639	781	7612.9	764
FL	Crystal River	4	2013	11/11/2013	12	699	0.090982454	637	788	7682.8	768
FL	Crystal River	4	2013	11/11/2013	13	664	0.086916683	595	783	7639.5	767
FL	Crystal River	4	2013	11/11/2013	14	703	0.091977182	558	784	7643.2	759
FL	Crystal River	4	2013	11/11/2013	15	766	0.09956845	584	789	7693.2	768

FL	Crystal River	4	2013	11/11/2013	16	718	0.092546047	597	796	7758.3	767
FL	Crystal River	4	2013	11/11/2013	17	480	0.068578286	629	718	6999.3	685
FL	Crystal River	4	2013	11/11/2013	18	453	0.064720758	587	718	6999.3	680
FL	Crystal River	4	2013	11/11/2013	19	432	0.062383572	595	710	6924.9	676
FL	Crystal River	4	2013	11/11/2013	20	383	0.058230581	559	674	6577.3	642
FL	Crystal River	4	2013	11/11/2013	21	295	0.048695939	478	621	6058	583
FL	Crystal River	4	2013	11/11/2013	22	296	0.04893209	465	620	6049.2	594
FL	Crystal River	4	2013	11/11/2013	23	220	0.040234825	442	561	5467.9	524
FL	Crystal River	4	2013	11/12/2013	0	146	0.031213255	355	479	4677.5	440
FL	Crystal River	4	2013	11/12/2013	1	83	0.023199911	329	367	3577.6	319
FL	Crystal River	4	2013	11/12/2013	2	54	0.018421861	316	300	2931.3	251
FL	Crystal River	4	2013	11/12/2013	3	70	0.023847648	311	301	2935.3	252
FL	Crystal River	4	2013	11/12/2013	4	86	0.029334516	304	300	2931.7	253
FL	Crystal River	4	2013	11/12/2013	5	107	0.03445278	313	318	3105.7	272
FL	Crystal River	4	2013	11/12/2013	6	299	0.066407551	351	462	4502.5	425
FL	Crystal River	4	2013	11/12/2013	7	445	0.074835194	398	610	5946.4	581
FL	Crystal River	4	2013	11/12/2013	8	494	0.075318656	459	672	6558.8	653
FL	Crystal River	4	2013	11/12/2013	9	683	0.104147606	531	672	6558	641
FL	Crystal River	4	2013	11/12/2013	10	714	0.121847162	527	601	5859.8	558
FL	Crystal River	4	2013	11/12/2013	11	1124	0.162223794	630	710	6928.7	673
FL	Crystal River	4	2013	11/12/2013	12	1230	0.159557908	763	790	7708.8	770
FL	Crystal River	4	2013	11/12/2013	13	1012	0.131818892	767	787	7677.2	768
FL	Crystal River	4	2013	11/12/2013	14	339	0.04848953	664	717	6991.2	688
FL	Crystal River	4	2013	11/12/2013	15	298	0.046711393	567	654	6379.6	619
FL	Crystal River	4	2013	11/12/2013	16	469	0.077241061	534	623	6071.9	578
FL	Crystal River	4	2013	11/12/2013	17	1166	0.174736621	560	684	6672.9	650
FL	Crystal River	4	2013	11/12/2013	18	966	0.145381212	558	681	6644.6	632
FL	Crystal River	4	2013	11/12/2013	19	879	0.129127982	565	698	6807.2	643
FL	Crystal River	4	2013	11/12/2013	20	897	0.133998596	548	686	6694.1	627
FL	Crystal River	4	2013	11/12/2013	21	750	0.123856393	490	621	6055.4	557
FL	Crystal River	4	2013	11/12/2013	22	697	0.125862256	443	568	5537.8	495
FL	Crystal River	4	2013	11/12/2013	23	320	0.079406437	378	413	4029.9	338
FL	Crystal River	4	2013	11/13/2013	0	268	0.07935333	337	346	3377.3	275
FL	Crystal River	4	2013	11/13/2013	1	179	0.060413784	302	304	2962.9	239
FL	Crystal River	4	2013	11/13/2013	2	156	0.056165617	294	285	2777.5	226

FL	Crystal River	4	2013	11/13/2013	3	149	0.054886359	287	278	2714.7	226
FL	Crystal River	4	2013	11/13/2013	4	144	0.05292561	283	279	2720.8	226
FL	Crystal River	4	2013	11/13/2013	5	270	0.079209083	317	349	3408.7	301
FL	Crystal River	4	2013	11/13/2013	6	559	0.105015968	351	546	5323	507
FL	Crystal River	4	2013	11/13/2013	7	512	0.089530837	366	586	5718.7	557
FL	Crystal River	4	2013	11/13/2013	8	509	0.08991662	520	580	5660.8	547
FL	Crystal River	4	2013	11/13/2013	9	497	0.092509865	381	551	5372.4	507
FL	Crystal River	4	2013	11/13/2013	10	420	0.085612948	397	503	4905.8	458
FL	Crystal River	4	2013	11/13/2013	11	422	0.085913801	378	504	4911.9	459
FL	Crystal River	4	2013	11/13/2013	12	639	0.114160146	397	574	5597.4	536
FL	Crystal River	4	2013	11/13/2013	13	777	0.124272279	437	641	6252.4	617
FL	Crystal River	4	2013	11/13/2013	14	755	0.114694578	599	675	6582.7	659
FL	Crystal River	4	2013	11/13/2013	15	657	0.098980068	484	681	6637.7	661
FL	Crystal River	4	2013	11/13/2013	16	556	0.090837799	599	628	6120.8	604
FL	Crystal River	4	2013	11/13/2013	17	636	0.101607183	625	642	6259.4	619
FL	Crystal River	4	2013	11/13/2013	18	765	0.115861693	673	677	6602.7	660
FL	Crystal River	4	2013	11/13/2013	19	644	0.098565897	352	670	6533.7	652
FL	Crystal River	4	2013	11/13/2013	20	557	0.086652147	469	659	6428	651
FL	Crystal River	4	2013	11/13/2013	21	471	0.078780986	352	613	5978.6	593
FL	Crystal River	4	2013	11/13/2013	22	469	0.081945731	286	587	5723.3	558
FL	Crystal River	4	2013	11/13/2013	23	239	0.055107217	234	445	4337	400
FL	Crystal River	4	2013	11/14/2013	0	221	0.061585621	186	368	3588.5	323
FL	Crystal River	4	2013	11/14/2013	1	144	0.050106128	175	294	2873.9	244
FL	Crystal River	4	2013	11/14/2013	2	127	0.047092851	97	276	2696.8	226
FL	Crystal River	4	2013	11/14/2013	3	116	0.042453521	84	280	2732.4	226
FL	Crystal River	4	2013	11/14/2013	4	117	0.041785714	89	287	2800	235
FL	Crystal River	4	2013	11/14/2013	5	263	0.072274588	138	373	3638.9	327
FL	Crystal River	4	2013	11/14/2013	6	828	0.141308985	392	601	5859.5	564
FL	Crystal River	4	2013	11/14/2013	7	824	0.126018933	549	670	6538.7	659
FL	Crystal River	4	2013	11/14/2013	8	772	0.121914628	411	649	6332.3	634
FL	Crystal River	4	2013	11/14/2013	9	722	0.124371253	359	595	5805.2	582
FL	Crystal River	4	2013	11/14/2013	10	553	0.101315452	354	560	5458.2	542
FL	Crystal River	4	2013	11/14/2013	11	553	0.099569672	288	569	5553.9	551
FL	Crystal River	4	2013	11/14/2013	12	722	0.120948153	352	612	5969.5	590
FL	Crystal River	4	2013	11/14/2013	13	1063	0.165447471	411	659	6425	650

FL	Crystal River	4	2013	11/14/2013	14	941	0.144349507	436	668	6518.9	660
FL	Crystal River	4	2013	11/14/2013	15	823	0.129057551	420	654	6377	653
FL	Crystal River	4	2013	11/14/2013	16	690	0.114614132	385	617	6020.2	605
FL	Crystal River	4	2013	11/14/2013	17	911	0.153310222	374	609	5942.2	592
FL	Crystal River	4	2013	11/14/2013	18	988	0.152941176	426	662	6460	660
FL	Crystal River	4	2013	11/14/2013	19	857	0.128680611	472	683	6659.9	676
FL	Crystal River	4	2013	11/14/2013	20	876	0.13073261	462	687	6700.7	680
FL	Crystal River	4	2013	11/14/2013	21	871	0.132143887	428	676	6591.3	671
FL	Crystal River	4	2013	11/14/2013	22	675	0.111014259	401	623	6080.3	621
FL	Crystal River	4	2013	11/14/2013	23	364	0.074619216	287	500	4878.1	478
FL	Crystal River	4	2013	11/15/2013	0	199	0.053557972	222	381	3715.6	343
FL	Crystal River	4	2013	11/15/2013	1	119	0.043123754	176	283	2759.5	241
FL	Crystal River	4	2013	11/15/2013	2	111	0.041712074	173	273	2661.1	226
FL	Crystal River	4	2013	11/15/2013	3	101	0.03804573	172	272	2654.7	225
FL	Crystal River	4	2013	11/15/2013	4	99	0.037089765	176	273	2669.2	225
FL	Crystal River	4	2013	11/15/2013	5	132	0.044638328	198	303	2957.1	258
FL	Crystal River	4	2013	11/15/2013	6	468	0.102034142	293	470	4586.7	432
FL	Crystal River	4	2013	11/15/2013	7	692	0.119203473	377	595	5805.2	579
FL	Crystal River	4	2013	11/15/2013	8	628	0.103734783	417	621	6053.9	613
FL	Crystal River	4	2013	11/15/2013	9	783	0.11855194	468	677	6604.7	675
FL	Crystal River	4	2013	11/15/2013	10	920	0.130252577	529	724	7063.2	726
FL	Crystal River	4	2013	11/15/2013	11	986	0.13445149	586	752	7333.5	767
FL	Crystal River	4	2013	11/15/2013	12	1009	0.137901815	585	750	7316.8	767
FL	Crystal River	4	2013	11/15/2013	13	1077	0.145881588	583	757	7382.7	768
FL	Crystal River	4	2013	11/15/2013	14	1109	0.149852715	577	759	7400.6	768
FL	Crystal River	4	2013	11/15/2013	15	1068	0.146143215	570	749	7307.9	766
FL	Crystal River	4	2013	11/15/2013	16	1070	0.145027718	568	757	7377.9	766
FL	Crystal River	4	2013	11/15/2013	17	1079	0.14643812	589	756	7368.3	768
FL	Crystal River	4	2013	11/15/2013	18	1077	0.147018674	578	751	7325.6	767
FL	Crystal River	4	2013	11/15/2013	19	1071	0.146064045	571	752	7332.4	768
FL	Crystal River	4	2013	11/15/2013	20	1050	0.142336212	553	756	7376.9	765
FL	Crystal River	4	2013	11/15/2013	21	740	0.120299774	418	631	6151.3	627
FL	Crystal River	4	2013	11/15/2013	22	1022	0.175231041	384	598	5832.3	585
FL	Crystal River	4	2013	11/15/2013	23	744	0.137729317	329	554	5401.9	532
FL	Crystal River	4	2013	11/16/2013	0	403	0.087595366	280	472	4600.7	441

FL	Crystal River	4	2013	11/16/2013	1	338	0.089146776	235	389	3791.5	353
FL	Crystal River	4	2013	11/16/2013	2	209	0.072458744	190	295	2884.4	254
FL	Crystal River	4	2013	11/16/2013	3	153	0.057236916	189	274	2673.1	225
FL	Crystal River	4	2013	11/16/2013	4	154	0.057783948	191	273	2665.1	227
FL	Crystal River	4	2013	11/16/2013	5	247	0.076987813	218	329	3208.3	284
FL	Crystal River	4	2013	11/16/2013	6	638	0.14016741	282	467	4551.7	435
FL	Crystal River	4	2013	11/16/2013	7	844	0.151858649	339	570	5557.8	554
FL	Crystal River	4	2013	11/16/2013	8	999	0.157414557	412	651	6346.3	639
FL	Crystal River	4	2013	11/16/2013	9	1192	0.16529384	555	739	7211.4	746
FL	Crystal River	4	2013	11/16/2013	10	1030	0.138442721	632	763	7439.9	769
FL	Crystal River	4	2013	11/16/2013	11	954	0.128538514	608	761	7421.9	768
FL	Crystal River	4	2013	11/16/2013	12	1049	0.141093237	572	762	7434.8	766
FL	Crystal River	4	2013	11/16/2013	13	1146	0.152476749	571	771	7515.9	768
FL	Crystal River	4	2013	11/16/2013	14	1144	0.151360792	582	775	7558.1	767
FL	Crystal River	4	2013	11/16/2013	15	1127	0.149334817	581	774	7546.8	767
FL	Crystal River	4	2013	11/16/2013	16	1142	0.150842711	583	776	7570.8	767
FL	Crystal River	4	2013	11/16/2013	17	1109	0.146124858	592	778	7589.4	768
FL	Crystal River	4	2013	11/16/2013	18	1063	0.140076693	591	778	7588.7	767
FL	Crystal River	4	2013	11/16/2013	19	1019	0.13506707	596	774	7544.4	769
FL	Crystal River	4	2013	11/16/2013	20	1003	0.132517704	590	776	7568.8	768
FL	Crystal River	4	2013	11/16/2013	21	1108	0.146376907	567	776	7569.5	767
FL	Crystal River	4	2013	11/16/2013	22	1071	0.150486869	512	730	7116.9	720
FL	Crystal River	4	2013	11/16/2013	23	567	0.098624132	379	589	5749.1	557
FL	Crystal River	4	2013	11/17/2013	0	363	0.071591985	329	520	5070.4	473
FL	Crystal River	4	2013	11/17/2013	1	260	0.062587261	270	426	4154.2	379
FL	Crystal River	4	2013	11/17/2013	2	146	0.04789712	198	312	3048.2	260
FL	Crystal River	4	2013	11/17/2013	3	120	0.043993108	190	279	2727.7	226
FL	Crystal River	4	2013	11/17/2013	4	120	0.043946385	196	280	2730.6	226
FL	Crystal River	4	2013	11/17/2013	5	116	0.042461291	199	280	2731.9	226
FL	Crystal River	4	2013	11/17/2013	6	216	0.06651475	230	333	3247.4	277
FL	Crystal River	4	2013	11/17/2013	7	415	0.093405357	271	455	4443	412
FL	Crystal River	4	2013	11/17/2013	8	826	0.134383236	393	630	6146.6	601
FL	Crystal River	4	2013	11/17/2013	9	1126	0.151443827	550	762	7435.1	744
FL	Crystal River	4	2013	11/17/2013	10	1035	0.136458924	584	778	7584.7	766
FL	Crystal River	4	2013	11/17/2013	11	970	0.127631579	600	779	7600	767

FL	Crystal River	4	2013	11/17/2013	12	1002	0.130649073	621	786	7669.4	767
FL	Crystal River	4	2013	11/17/2013	13	1039	0.13582232	634	784	7649.7	766
FL	Crystal River	4	2013	11/17/2013	14	1086	0.142366482	610	782	7628.2	767
FL	Crystal River	4	2013	11/17/2013	15	1092	0.143761766	592	779	7595.9	766
FL	Crystal River	4	2013	11/17/2013	16	1088	0.142926579	586	781	7612.3	767
FL	Crystal River	4	2013	11/17/2013	17	1169	0.153213017	579	782	7629.9	766
FL	Crystal River	4	2013	11/17/2013	18	1204	0.157266386	566	785	7655.8	763
FL	Crystal River	4	2013	11/17/2013	19	1136	0.149402914	570	780	7603.6	767
FL	Crystal River	4	2013	11/17/2013	20	1092	0.143472777	586	780	7611.2	767
FL	Crystal River	4	2013	11/17/2013	21	1084	0.141662311	573	785	7652	766
FL	Crystal River	4	2013	11/17/2013	22	1075	0.140732595	572	783	7638.6	764
FL	Crystal River	4	2013	11/17/2013	23	930	0.128065658	501	745	7261.9	719
FL	Crystal River	4	2013	11/18/2013	0	510	0.088339223	357	592	5773.2	547
FL	Crystal River	4	2013	11/18/2013	1	271	0.058697394	267	473	4616.9	421
FL	Crystal River	4	2013	11/18/2013	2	286	0.065443229	253	448	4370.2	391
FL	Crystal River	4	2013	11/18/2013	3	431	0.096749573	267	457	4454.8	397
FL	Crystal River	4	2013	11/18/2013	4	769	0.156453451	290	504	4915.2	451
FL	Crystal River	4	2013	11/18/2013	5	975	0.166311301	381	601	5862.5	563
FL	Crystal River	4	2013	11/18/2013	6	1610	0.215327003	545	767	7477	738
FL	Crystal River	4	2013	11/18/2013	7	1157	0.15229295	645	779	7597.2	768
FL	Crystal River	4	2013	11/18/2013	8	925	0.122367446	627	775	7559.2	766
FL	Crystal River	4	2013	11/18/2013	9	987	0.130135541	637	778	7584.4	765
FL	Crystal River	4	2013	11/18/2013	10	1127	0.148430092	668	779	7592.8	766
FL	Crystal River	4	2013	11/18/2013	11	1208	0.157887858	734	785	7651	766
FL	Crystal River	4	2013	11/18/2013	12	1154	0.150554468	728	786	7665	765
FL	Crystal River	4	2013	11/18/2013	13	1058	0.138165198	727	785	7657.5	766
FL	Crystal River	4	2013	11/18/2013	14	1031	0.135419129	730	781	7613.4	765
FL	Crystal River	4	2013	11/18/2013	15	996	0.131351629	720	778	7582.7	765
FL	Crystal River	4	2013	11/18/2013	16	1075	0.141661725	622	778	7588.5	765
FL	Crystal River	4	2013	11/18/2013	17	1295	0.170291666	562	780	7604.6	764
FL	Crystal River	4	2013	11/18/2013	18	1364	0.177191182	592	789	7697.9	766
FL	Crystal River	4	2013	11/18/2013	19	1145	0.148799854	577	789	7694.9	768
FL	Crystal River	4	2013	11/18/2013	20	959	0.124842157	599	788	7681.7	770
FL	Crystal River	4	2013	11/18/2013	21	1074	0.139567523	607	789	7695.2	768
FL	Crystal River	4	2013	11/18/2013	22	1107	0.161081443	481	705	6872.3	680

FL	Crystal River	4	2013	11/18/2013	23	719	0.128943168	340	572	5576.1	524
FL	Crystal River	4	2013	11/19/2013	0	402	0.097334205	247	423	4130.1	365
FL	Crystal River	4	2013	11/19/2013	1	253	0.081429031	174	318	3107	259
FL	Crystal River	4	2013	11/19/2013	2	169	0.059708875	181	290	2830.4	226
FL	Crystal River	4	2013	11/19/2013	3	132	0.046816811	177	289	2819.5	226
FL	Crystal River	4	2013	11/19/2013	4	132	0.046423296	184	291	2843.4	225
FL	Crystal River	4	2013	11/19/2013	5	273	0.077181872	212	362	3537.1	305
FL	Crystal River	4	2013	11/19/2013	6	846	0.174869261	295	496	4837.9	452
FL	Crystal River	4	2013	11/19/2013	7	1918	0.301193467	420	653	6368	631
FL	Crystal River	4	2013	11/19/2013	8	2154	0.30138098	536	733	7147.1	722
FL	Crystal River	4	2013	11/19/2013	9	2005	0.267937085	576	767	7483.1	764
FL	Crystal River	4	2013	11/19/2013	10	1557	0.207974354	583	768	7486.5	770
FL	Crystal River	4	2013	11/19/2013	11	626	0.083956975	589	765	7456.2	769
FL	Crystal River	4	2013	11/19/2013	12	585	0.078219013	643	767	7479	767
FL	Crystal River	4	2013	11/19/2013	13	662	0.088054163	684	771	7518.1	768
FL	Crystal River	4	2013	11/19/2013	14	759	0.099538373	678	782	7625.2	768
FL	Crystal River	4	2013	11/19/2013	15	700	0.091976979	677	780	7610.6	769
FL	Crystal River	4	2013	11/19/2013	16	676	0.089018818	668	779	7593.9	769
FL	Crystal River	4	2013	11/19/2013	17	768	0.100763599	670	782	7621.8	768
FL	Crystal River	4	2013	11/19/2013	18	866	0.113316672	687	784	7642.3	770
FL	Crystal River	4	2013	11/19/2013	19	908	0.120355765	709	774	7544.3	769
FL	Crystal River	4	2013	11/19/2013	20	841	0.111556216	708	773	7538.8	770
FL	Crystal River	4	2013	11/19/2013	21	674	0.096059289	631	719	7016.5	714
FL	Crystal River	4	2013	11/19/2013	22	412	0.072169283	485	585	5708.8	552
FL	Crystal River	4	2013	11/19/2013	23	199	0.046899672	309	435	4243.1	392
FL	Crystal River	4	2013	11/20/2013	0	98	0.032441737	178	309	3020.8	259
FL	Crystal River	4	2013	11/20/2013	1	94	0.032907404	188	293	2856.5	235
FL	Crystal River	4	2013	11/20/2013	2	100	0.03646973	189	281	2742	226
FL	Crystal River	4	2013	11/20/2013	3	111	0.040162096	193	283	2763.8	226
FL	Crystal River	4	2013	11/20/2013	4	110	0.039589707	194	285	2778.5	226
FL	Crystal River	4	2013	11/20/2013	5	106	0.037238714	202	292	2846.5	231
FL	Crystal River	4	2013	11/20/2013	6	262	0.068405525	256	393	3830.1	338
FL	Crystal River	4	2013	11/20/2013	7	363	0.076742564	316	485	4730.1	442
FL	Crystal River	4	2013	11/20/2013	8	314	0.065919301	304	488	4763.4	446
FL	Crystal River	4	2013	11/20/2013	9	332	0.067188796	321	507	4941.3	462

FL	Crystal River	4	2013	11/20/2013	10	493	0.08709478	379	580	5660.5	545
FL	Crystal River	4	2013	11/20/2013	11	920	0.13141543	511	718	7000.7	705
FL	Crystal River	4	2013	11/20/2013	12	1119	0.147349293	607	779	7594.2	767
FL	Crystal River	4	2013	11/20/2013	13	1075	0.141725224	599	778	7585.1	768
FL	Crystal River	4	2013	11/20/2013	14	1032	0.136435748	582	776	7564	766
FL	Crystal River	4	2013	11/20/2013	15	1066	0.139328192	581	785	7651	768
FL	Crystal River	4	2013	11/20/2013	16	1101	0.143501382	598	787	7672.4	766
FL	Crystal River	4	2013	11/20/2013	17	1074	0.139652818	761	789	7690.5	769
FL	Crystal River	4	2013	11/20/2013	18	1098	0.143510652	757	785	7651	766
FL	Crystal River	4	2013	11/20/2013	19	1073	0.139646264	737	788	7683.7	768
FL	Crystal River	4	2013	11/20/2013	20	1071	0.139653149	736	786	7669	768
FL	Crystal River	4	2013	11/20/2013	21	1001	0.132367137	695	775	7562.3	755
FL	Crystal River	4	2013	11/20/2013	22	682	0.109161918	524	641	6247.6	605
FL	Crystal River	4	2013	11/20/2013	23	387	0.079895949	251	497	4843.8	442
FL	Crystal River	4	2013	11/21/2013	0	344	0.072963285	264	483	4714.7	424
FL	Crystal River	4	2013	11/21/2013	1	166	0.045954101	213	370	3612.3	314
FL	Crystal River	4	2013	11/21/2013	2	126	0.041310121	192	312	3050.1	245
FL	Crystal River	4	2013	11/21/2013	3	119	0.04156334	180	293	2863.1	226
FL	Crystal River	4	2013	11/21/2013	4	106	0.037196898	185	292	2849.7	226
FL	Crystal River	4	2013	11/21/2013	5	172	0.048694864	226	362	3532.2	299
FL	Crystal River	4	2013	11/21/2013	6	939	0.162755226	357	591	5769.4	538
FL	Crystal River	4	2013	11/21/2013	7	1013	0.134843725	570	770	7512.4	743
FL	Crystal River	4	2013	11/21/2013	8	716	0.093143058	630	788	7687.1	768
FL	Crystal River	4	2013	11/21/2013	9	733	0.096085782	617	782	7628.6	768
FL	Crystal River	4	2013	11/21/2013	10	790	0.102706779	623	789	7691.8	766
FL	Crystal River	4	2013	11/21/2013	11	630	0.081430067	618	793	7736.7	768
FL	Crystal River	4	2013	11/21/2013	12	1076	0.138067314	615	799	7793.3	768
FL	Crystal River	4	2013	11/21/2013	13	1081	0.14083773	621	787	7675.5	765
FL	Crystal River	4	2013	11/21/2013	14	810	0.105148376	616	790	7703.4	767
FL	Crystal River	4	2013	11/21/2013	15	876	0.113651107	616	790	7707.8	766
FL	Crystal River	4	2013	11/21/2013	16	919	0.119208219	624	791	7709.2	767
FL	Crystal River	4	2013	11/21/2013	17	881	0.115005548	620	786	7660.5	767
FL	Crystal River	4	2013	11/21/2013	18	910	0.117449664	635	794	7748	767
FL	Crystal River	4	2013	11/21/2013	19	956	0.124178422	623	789	7698.6	767
FL	Crystal River	4	2013	11/21/2013	20	956	0.123847031	609	792	7719.2	767

FL	Crystal River	4	2013	11/21/2013	21	942	0.121821897	610	793	7732.6	770
FL	Crystal River	4	2013	11/21/2013	22	903	0.119773981	595	773	7539.2	754
FL	Crystal River	4	2013	11/21/2013	23	676	0.106122449	445	653	6370	621
FL	Crystal River	4	2013	11/22/2013	0	431	0.085226711	298	518	5057.1	474
FL	Crystal River	4	2013	11/22/2013	1	238	0.060796485	227	401	3914.7	344
FL	Crystal River	4	2013	11/22/2013	2	141	0.047780413	191	302	2951	238
FL	Crystal River	4	2013	11/22/2013	3	153	0.053078925	198	295	2882.5	226
FL	Crystal River	4	2013	11/22/2013	4	140	0.048274197	194	297	2900.1	230
FL	Crystal River	4	2013	11/22/2013	5	200	0.058436815	225	351	3422.5	291
FL	Crystal River	4	2013	11/22/2013	6	571	0.106900813	320	548	5341.4	503
FL	Crystal River	4	2013	11/22/2013	7	657	0.104517976	421	644	6286	615
FL	Crystal River	4	2013	11/22/2013	8	564	0.085025553	471	680	6633.3	657
FL	Crystal River	4	2013	11/22/2013	9	635	0.083940303	582	776	7564.9	749
FL	Crystal River	4	2013	11/22/2013	10	666	0.086358921	617	791	7712	767
FL	Crystal River	4	2013	11/22/2013	11	783	0.101352663	594	792	7725.5	765
FL	Crystal River	4	2013	11/22/2013	12	1178	0.152881783	585	790	7705.3	768
FL	Crystal River	4	2013	11/22/2013	13	1185	0.153173998	603	793	7736.3	766
FL	Crystal River	4	2013	11/22/2013	14	945	0.121792476	597	796	7759.1	767
FL	Crystal River	4	2013	11/22/2013	15	943	0.121822034	596	794	7740.8	764
FL	Crystal River	4	2013	11/22/2013	16	1033	0.133085971	621	796	7761.9	766
FL	Crystal River	4	2013	11/22/2013	17	1029	0.133119445	602	793	7729.9	766
FL	Crystal River	4	2013	11/22/2013	18	1035	0.134253434	601	791	7709.3	768
FL	Crystal River	4	2013	11/22/2013	19	945	0.121828589	605	795	7756.8	769
FL	Crystal River	4	2013	11/22/2013	20	952	0.122737352	612	795	7756.4	767
FL	Crystal River	4	2013	11/22/2013	21	931	0.124675255	567	766	7467.4	735
FL	Crystal River	4	2013	11/22/2013	22	665	0.104374304	426	653	6371.3	610
FL	Crystal River	4	2013	11/22/2013	23	436	0.078139001	373	572	5579.8	516
FL	Crystal River	4	2013	11/23/2013	0	329	0.066415003	322	508	4953.7	444
FL	Crystal River	4	2013	11/23/2013	1	189	0.048674959	256	398	3882.9	336
FL	Crystal River	4	2013	11/23/2013	2	127	0.04058675	203	321	3129.1	252
FL	Crystal River	4	2013	11/23/2013	3	139	0.045337421	205	314	3065.9	252
FL	Crystal River	4	2013	11/23/2013	4	139	0.04529753	208	314	3068.6	252
FL	Crystal River	4	2013	11/23/2013	5	137	0.044835711	201	313	3055.6	252
FL	Crystal River	4	2013	11/23/2013	6	180	0.058572777	212	315	3073.1	253
FL	Crystal River	4	2013	11/23/2013	7	219	0.063646139	240	353	3440.9	293

FL	Crystal River	4	2013	11/23/2013	8	527	0.100396251	330	538	5249.2	486
FL	Crystal River	4	2013	11/23/2013	9	697	0.109044259	447	655	6391.9	618
FL	Crystal River	4	2013	11/23/2013	10	820	0.113499522	549	741	7224.7	704
FL	Crystal River	4	2013	11/23/2013	11	1006	0.12889669	647	800	7804.7	767
FL	Crystal River	4	2013	11/23/2013	12	1048	0.134642068	646	798	7783.6	767
FL	Crystal River	4	2013	11/23/2013	13	1066	0.137326892	613	796	7762.5	767
FL	Crystal River	4	2013	11/23/2013	14	1099	0.142037377	611	793	7737.4	768
FL	Crystal River	4	2013	11/23/2013	15	1101	0.142627665	609	792	7719.4	767
FL	Crystal River	4	2013	11/23/2013	16	1088	0.140788571	595	792	7727.9	766
FL	Crystal River	4	2013	11/23/2013	17	1013	0.131715816	584	789	7690.8	763
FL	Crystal River	4	2013	11/23/2013	18	987	0.128221783	585	789	7697.6	765
FL	Crystal River	4	2013	11/23/2013	19	1135	0.14814138	589	786	7661.6	764
FL	Crystal River	4	2013	11/23/2013	20	1195	0.157878744	575	776	7569.1	753
FL	Crystal River	4	2013	11/23/2013	21	774	0.126268394	410	628	6129.8	587
FL	Crystal River	4	2013	11/23/2013	22	861	0.141672426	382	623	6077.4	574
FL	Crystal River	4	2013	11/23/2013	23	758	0.139635989	352	557	5428.4	508
FL	Crystal River	4	2013	11/24/2013	0	445	0.110367063	258	413	4032	360
FL	Crystal River	4	2013	11/24/2013	1	313	0.101656382	194	315	3079	259
FL	Crystal River	4	2013	11/24/2013	2	258	0.085495576	193	309	3017.7	252
FL	Crystal River	4	2013	11/24/2013	3	254	0.083420914	191	312	3044.8	252
FL	Crystal River	4	2013	11/24/2013	4	251	0.081610092	199	315	3075.6	252
FL	Crystal River	4	2013	11/24/2013	5	239	0.079099785	202	310	3021.5	252
FL	Crystal River	4	2013	11/24/2013	6	266	0.087147397	201	313	3052.3	252
FL	Crystal River	4	2013	11/24/2013	7	252	0.082328727	205	314	3060.9	254
FL	Crystal River	4	2013	11/24/2013	8	490	0.123310768	258	407	3973.7	352
FL	Crystal River	4	2013	11/24/2013	9	1017	0.152022482	441	686	6689.8	654
FL	Crystal River	4	2013	11/24/2013	10	1048	0.138247632	568	777	7580.6	765
FL	Crystal River	4	2013	11/24/2013	11	995	0.131485054	582	776	7567.4	765
FL	Crystal River	4	2013	11/24/2013	12	1101	0.144060922	596	784	7642.6	766
FL	Crystal River	4	2013	11/24/2013	13	1156	0.150471852	606	788	7682.5	766
FL	Crystal River	4	2013	11/24/2013	14	1099	0.142963069	599	788	7687.3	767
FL	Crystal River	4	2013	11/24/2013	15	1084	0.141037484	614	788	7685.9	768
FL	Crystal River	4	2013	11/24/2013	16	1059	0.136986301	610	793	7730.7	767
FL	Crystal River	4	2013	11/24/2013	17	1058	0.137283143	601	790	7706.7	768
FL	Crystal River	4	2013	11/24/2013	18	1076	0.14009687	591	788	7680.4	767

FL	Crystal River	4	2013	11/24/2013	19	1144	0.149349208	589	785	7659.9	767
FL	Crystal River	4	2013	11/24/2013	20	1150	0.151593045	584	778	7586.1	767
FL	Crystal River	4	2013	11/24/2013	21	777	0.117689826	468	677	6602.1	653
FL	Crystal River	4	2013	11/24/2013	22	688	0.11818869	390	597	5821.2	561
FL	Crystal River	4	2013	11/24/2013	23	452	0.101379388	272	457	4458.5	414
FL	Crystal River	4	2013	11/25/2013	0	209	0.064059339	205	334	3262.6	280
FL	Crystal River	4	2013	11/25/2013	1	165	0.054190751	197	312	3044.8	252
FL	Crystal River	4	2013	11/25/2013	2	149	0.049376988	196	309	3017.6	252
FL	Crystal River	4	2013	11/25/2013	3	148	0.049453671	203	307	2992.7	252
FL	Crystal River	4	2013	11/25/2013	4	163	0.054630157	199	306	2983.7	252
FL	Crystal River	4	2013	11/25/2013	5	173	0.055391906	193	320	3123.2	267
FL	Crystal River	4	2013	11/25/2013	6	424	0.099724816	246	436	4251.7	392
FL	Crystal River	4	2013	11/25/2013	7	847	0.146524582	1121	593	5780.6	552
FL	Crystal River	4	2013	11/25/2013	8	960	0.144254609	519	682	6654.9	650
FL	Crystal River	4	2013	11/25/2013	9	908	0.132506385	513	703	6852.5	681
FL	Crystal River	4	2013	11/25/2013	10	996	0.137641303	564	742	7236.2	725
FL	Crystal River	4	2013	11/25/2013	11	1092	0.144762309	618	774	7543.4	769
FL	Crystal River	4	2013	11/25/2013	12	1084	0.144417799	615	770	7506	768
FL	Crystal River	4	2013	11/25/2013	13	1080	0.142911964	665	775	7557.1	768
FL	Crystal River	4	2013	11/25/2013	14	1051	0.138854025	832	776	7569.1	769
FL	Crystal River	4	2013	11/25/2013	15	1039	0.137205187	840	776	7572.6	770
FL	Crystal River	4	2013	11/25/2013	16	1059	0.141122853	893	769	7504.1	768
FL	Crystal River	4	2013	11/25/2013	17	1071	0.140978557	1147	779	7596.9	770
FL	Crystal River	4	2013	11/25/2013	18	1109	0.14723063	587	772	7532.4	771
FL	Crystal River	4	2013	11/25/2013	19	1133	0.150492788	926	772	7528.6	772
FL	Crystal River	4	2013	11/25/2013	20	1131	0.149611091	483	775	7559.6	771
FL	Crystal River	4	2013	11/25/2013	21	1003	0.136421751	536	754	7352.2	744
FL	Crystal River	4	2013	11/25/2013	22	746	0.122220948	97	626	6103.7	608
FL	Crystal River	4	2013	11/25/2013	23	768	0.135180328	380	582	5681.3	555
FL	Crystal River	4	2013	11/26/2013	0	496	0.113821511	300	447	4357.7	419
FL	Crystal River	4	2013	11/26/2013	1	213	0.069084069	148	316	3083.2	274
FL	Crystal River	4	2013	11/26/2013	2	234	0.079086116	171	303	2958.8	252
FL	Crystal River	4	2013	11/26/2013	3	217	0.072220188	204	308	3004.7	259
FL	Crystal River	4	2013	11/26/2013	4	255	0.07717217	195	339	3304.3	291
FL	Crystal River	4	2013	11/26/2013	5	504	0.124202174	418	416	4057.9	377

FL	Crystal River	4	2013	11/26/2013	6	1663	0.240154808	623	710	6924.7	674
FL	Crystal River	4	2013	11/26/2013	7	920	0.122410421	511	771	7515.7	767
FL	Crystal River	4	2013	11/26/2013	8	826	0.110317195	643	768	7487.5	767
FL	Crystal River	4	2013	11/26/2013	9	937	0.124211252	580	774	7543.6	768
FL	Crystal River	4	2013	11/26/2013	10	1140	0.152288333	539	768	7485.8	767
FL	Crystal River	4	2013	11/26/2013	11	1123	0.149386756	608	771	7517.4	767
FL	Crystal River	4	2013	11/26/2013	12	1106	0.146963073	609	772	7525.7	766
FL	Crystal River	4	2013	11/26/2013	13	1074	0.138748934	627	794	7740.6	766
FL	Crystal River	4	2013	11/26/2013	14	965	0.133119974	558	743	7249.1	767
FL	Crystal River	4	2013	11/26/2013	15	1030	0.136862526	602	772	7525.8	766
FL	Crystal River	4	2013	11/26/2013	16	1140	0.152233425	606	768	7488.5	767
FL	Crystal River	4	2013	11/26/2013	17	1271	0.170119927	620	766	7471.2	767
FL	Crystal River	4	2013	11/26/2013	18	1373	0.184011258	552	765	7461.5	767
FL	Crystal River	4	2013	11/26/2013	19	1211	0.1606463	588	773	7538.3	768
FL	Crystal River	4	2013	11/26/2013	20	1152	0.152356769	589	775	7561.2	768
FL	Crystal River	4	2013	11/26/2013	21	1066	0.142275609	779	768	7492.5	769
FL	Crystal River	4	2013	11/26/2013	22	1122	0.148461793	680	775	7557.5	770
FL	Crystal River	4	2013	11/26/2013	23	1158	0.154728023	651	767	7484.1	769
FL	Crystal River	4	2013	11/27/2013	0	878	0.139422619	541	646	6297.4	635
FL	Crystal River	4	2013	11/27/2013	1	547	0.105382807	456	532	5190.6	501
FL	Crystal River	4	2013	11/27/2013	2	220	0.060768445	311	371	3620.3	327
FL	Crystal River	4	2013	11/27/2013	3	156	0.0514444	188	311	3032.4	253
FL	Crystal River	4	2013	11/27/2013	4	160	0.053024027	208	309	3017.5	253
FL	Crystal River	4	2013	11/27/2013	5	145	0.047091683	218	315	3079.1	263
FL	Crystal River	4	2013	11/27/2013	6	430	0.101806473	274	433	4223.7	377
FL	Crystal River	4	2013	11/27/2013	7	958	0.166048463	380	591	5769.4	554
FL	Crystal River	4	2013	11/27/2013	8	1127	0.153239513	536	754	7354.5	731
FL	Crystal River	4	2013	11/27/2013	9	876	0.11712326	590	767	7479.3	752
FL	Crystal River	4	2013	11/27/2013	10	964	0.127114733	674	778	7583.7	759
FL	Crystal River	4	2013	11/27/2013	11	1105	0.144361413	719	785	7654.4	769
FL	Crystal River	4	2013	11/27/2013	12	1087	0.141695127	514	787	7671.4	769
FL	Crystal River	4	2013	11/27/2013	13	1013	0.131529403	639	790	7701.7	768
FL	Crystal River	4	2013	11/27/2013	14	1089	0.141111529	679	791	7717.3	768
FL	Crystal River	4	2013	11/27/2013	15	1128	0.146100742	687	792	7720.7	769
FL	Crystal River	4	2013	11/27/2013	16	1089	0.140894271	610	793	7729.2	768

FL	Crystal River	4	2013	11/27/2013	17	1076	0.137938107	585	800	7800.6	770
FL	Crystal River	4	2013	11/27/2013	18	1041	0.13325994	593	801	7811.8	770
FL	Crystal River	4	2013	11/27/2013	19	928	0.123519233	488	770	7513	737
FL	Crystal River	4	2013	11/27/2013	20	704	0.111756675	233	646	6299.4	595
FL	Crystal River	4	2013	11/27/2013	21	621	0.110742564	286	575	5607.6	501
FL	Crystal River	4	2013	11/27/2013	22	559	0.107925475	424	531	5179.5	444
FL	Crystal River	4	2013	11/27/2013	23	312	0.070901034	264	451	4400.5	359
FL	Crystal River	4	2013	11/28/2013	0	388	0.086539534	399	460	4483.5	383
FL	Crystal River	4	2013	11/28/2013	1	332	0.080360168	326	423	4131.4	361
FL	Crystal River	4	2013	11/28/2013	2	352	0.086194231	322	419	4083.8	353
FL	Crystal River	4	2013	11/28/2013	3	528	0.118234543	330	458	4465.7	393
FL	Crystal River	4	2013	11/28/2013	4	496	0.102804319	332	495	4824.7	434
FL	Crystal River	4	2013	11/28/2013	5	869	0.1422701	433	626	6108.1	581
FL	Crystal River	4	2013	11/28/2013	6	789	0.126042366	438	642	6259.8	623
FL	Crystal River	4	2013	11/28/2013	7	871	0.132290401	539	675	6584	643
FL	Crystal River	4	2013	11/28/2013	8	1011	0.151968374	658	682	6652.7	655
FL	Crystal River	4	2013	11/28/2013	9	837	0.125982119	624	681	6643.8	656
FL	Crystal River	4	2013	11/28/2013	10	825	0.124421253	649	680	6630.7	656
FL	Crystal River	4	2013	11/28/2013	11	978	0.147215992	657	681	6643.3	654
FL	Crystal River	4	2013	11/28/2013	12	978	0.144360636	677	695	6774.7	651
FL	Crystal River	4	2013	11/28/2013	13	857	0.12955992	628	678	6614.7	637
FL	Crystal River	4	2013	11/28/2013	14	721	0.121659017	628	608	5926.4	558
FL	Crystal River	4	2013	11/28/2013	15	638	0.125324114	560	522	5090.8	472
FL	Crystal River	4	2013	11/28/2013	16	502	0.12419287	380	414	4042.1	357
FL	Crystal River	4	2013	11/28/2013	17	419	0.099957059	360	430	4191.8	372
FL	Crystal River	4	2013	11/28/2013	18	304	0.073705904	367	423	4124.5	366
FL	Crystal River	4	2013	11/28/2013	19	305	0.075295628	360	415	4050.7	356
FL	Crystal River	4	2013	11/28/2013	20	249	0.064650136	327	395	3851.5	329
FL	Crystal River	4	2013	11/28/2013	21	157	0.050566864	267	318	3104.8	252
FL	Crystal River	4	2013	11/28/2013	22	264	0.072062236	311	375	3663.5	312
FL	Crystal River	4	2013	11/28/2013	23	282	0.072087732	297	401	3911.9	332
FL	Crystal River	4	2013	11/29/2013	0	147	0.046529294	300	324	3159.3	258
FL	Crystal River	4	2013	11/29/2013	1	162	0.052483235	277	316	3086.7	254
FL	Crystal River	4	2013	11/29/2013	2	157	0.051205114	257	314	3066.1	253
FL	Crystal River	4	2013	11/29/2013	3	209	0.061621016	271	348	3391.7	283

FL	Crystal River	4	2013	11/29/2013	4	160	0.051611238	263	318	3100.1	253
FL	Crystal River	4	2013	11/29/2013	5	285	0.079087579	302	369	3603.6	304
FL	Crystal River	4	2013	11/29/2013	6	669	0.124019799	393	553	5394.3	494
FL	Crystal River	4	2013	11/29/2013	7	717	0.109733701	477	670	6534	624
FL	Crystal River	4	2013	11/29/2013	8	796	0.112201173	574	727	7094.4	726
FL	Crystal River	4	2013	11/29/2013	9	861	0.113289474	646	779	7600	766
FL	Crystal River	4	2013	11/29/2013	10	654	0.096015503	565	698	6811.4	680
FL	Crystal River	4	2013	11/29/2013	11	461	0.082720258	462	571	5573	539
FL	Crystal River	4	2013	11/29/2013	12	588	0.105947855	460	569	5549.9	538
FL	Crystal River	4	2013	11/29/2013	13	645	0.11754629	444	563	5487.2	529
FL	Crystal River	4	2013	11/29/2013	14	500	0.096298294	420	532	5192.2	496
FL	Crystal River	4	2013	11/29/2013	15	357	0.073871749	401	495	4832.7	455
FL	Crystal River	4	2013	11/29/2013	16	215	0.056607251	334	389	3798.1	346
FL	Crystal River	4	2013	11/29/2013	17	437	0.09653192	366	464	4527	429
FL	Crystal River	4	2013	11/29/2013	18	636	0.106290527	466	613	5983.6	587
FL	Crystal River	4	2013	11/29/2013	19	600	0.098284928	464	626	6104.7	599
FL	Crystal River	4	2013	11/29/2013	20	637	0.105561448	464	619	6034.4	589
FL	Crystal River	4	2013	11/29/2013	21	634	0.116619148	440	557	5436.5	525
FL	Crystal River	4	2013	11/29/2013	22	631	0.123266263	424	525	5119	481
FL	Crystal River	4	2013	11/29/2013	23	254	0.069251322	322	376	3667.8	330
FL	Crystal River	4	2013	11/30/2013	0	147	0.053998457	261	279	2722.3	227
FL	Crystal River	4	2013	11/30/2013	1	164	0.060440775	263	278	2713.4	226
FL	Crystal River	4	2013	11/30/2013	2	150	0.054680665	263	281	2743.2	226
FL	Crystal River	4	2013	11/30/2013	3	154	0.055762755	259	283	2761.7	226
FL	Crystal River	4	2013	11/30/2013	4	160	0.057755478	260	284	2770.3	225
FL	Crystal River	4	2013	11/30/2013	5	235	0.082487978	279	292	2848.9	229
FL	Crystal River	4	2013	11/30/2013	6	525	0.143827735	313	374	3650.2	321
FL	Crystal River	4	2013	11/30/2013	7	429	0.10883905	315	404	3941.6	353
FL	Crystal River	4	2013	11/30/2013	8	501	0.123905624	323	414	4043.4	379
FL	Crystal River	4	2013	11/30/2013	9	707	0.148948721	341	487	4746.6	445
FL	Crystal River	4	2013	11/30/2013	10	353	0.087415185	302	414	4038.2	378
FL	Crystal River	4	2013	11/30/2013	11	232	0.074090633	272	321	3131.3	279
FL	Crystal River	4	2013	11/30/2013	12	430	0.110676413	326	398	3885.2	357
FL	Crystal River	4	2013	11/30/2013	13	428	0.099315466	323	442	4309.5	402
FL	Crystal River	4	2013	11/30/2013	14	325	0.081744555	318	407	3975.8	366

FL	Crystal River	4	2013	11/30/2013	15	360	0.091881269	321	402	3918.1	357
FL	Crystal River	4	2013	11/30/2013	16	679	0.140005773	368	497	4849.8	463
FL	Crystal River	4	2013	11/30/2013	17	977	0.166009651	423	603	5885.2	584
FL	Crystal River	4	2013	11/30/2013	18	804	0.136250402	466	605	5900.9	591
FL	Crystal River	4	2013	11/30/2013	19	805	0.133965718	480	616	6009	598
FL	Crystal River	4	2013	11/30/2013	20	836	0.143758705	471	596	5815.3	579
FL	Crystal River	4	2013	11/30/2013	21	543	0.111924147	417	497	4851.5	478
FL	Crystal River	4	2013	11/30/2013	22	353	0.087717119	382	412	4024.3	379
FL	Crystal River	4	2013	11/30/2013	23	197	0.060416475	296	334	3260.7	302
FL	Crystal River	5	2013	9/1/2013	0	137	0.046290039	171	303	2959.6	240
FL	Crystal River	5	2013	9/1/2013	1	90	0.032555616	157	283	2764.5	227
FL	Crystal River	5	2013	9/1/2013	2	77	0.027853138	160	283	2764.5	227
FL	Crystal River	5	2013	9/1/2013	3	76	0.027491409	163	283	2764.5	227
FL	Crystal River	5	2013	9/1/2013	4	77	0.027853138	165	283	2764.5	226
FL	Crystal River	5	2013	9/1/2013	5	74	0.026767951	165	283	2764.5	226
FL	Crystal River	5	2013	9/1/2013	6	76	0.027491409	165	283	2764.5	227
FL	Crystal River	5	2013	9/1/2013	7	98	0.032123775	189	313	3050.7	248
FL	Crystal River	5	2013	9/1/2013	8	367	0.079395985	286	474	4622.4	418
FL	Crystal River	5	2013	9/1/2013	9	1086	0.151099857	495	737	7187.3	690
FL	Crystal River	5	2013	9/1/2013	10	929	0.123018658	543	774	7551.7	767
FL	Crystal River	5	2013	9/1/2013	11	642	0.085137985	558	773	7540.7	769
FL	Crystal River	5	2013	9/1/2013	12	696	0.092598752	563	771	7516.3	767
FL	Crystal River	5	2013	9/1/2013	13	1100	0.146652979	555	769	7500.7	764
FL	Crystal River	5	2013	9/1/2013	14	1111	0.146082337	540	780	7605.3	765
FL	Crystal River	5	2013	9/1/2013	15	717	0.094231755	547	780	7608.9	766
FL	Crystal River	5	2013	9/1/2013	16	729	0.095713254	556	781	7616.5	766
FL	Crystal River	5	2013	9/1/2013	17	844	0.110361421	558	784	7647.6	766
FL	Crystal River	5	2013	9/1/2013	18	865	0.113597563	548	781	7614.6	765
FL	Crystal River	5	2013	9/1/2013	19	882	0.115623607	549	782	7628.2	767
FL	Crystal River	5	2013	9/1/2013	20	839	0.114961428	510	748	7298.1	744
FL	Crystal River	5	2013	9/1/2013	21	374	0.068102773	296	563	5491.7	546
FL	Crystal River	5	2013	9/1/2013	22	155	0.038674585	204	411	4007.8	377
FL	Crystal River	5	2013	9/1/2013	23	85	0.031219011	157	279	2722.7	236
FL	Crystal River	5	2013	9/2/2013	0	93	0.034720926	160	274	2678.5	227
FL	Crystal River	5	2013	9/2/2013	1	74	0.027762146	162	273	2665.5	227

FL	Crystal River	5	2013	9/2/2013	2	70	0.026312822	162	273	2660.3	227
FL	Crystal River	5	2013	9/2/2013	3	71	0.026751064	164	272	2654.1	227
FL	Crystal River	5	2013	9/2/2013	4	71	0.02681674	166	271	2647.6	227
FL	Crystal River	5	2013	9/2/2013	5	69	0.025844633	178	273	2669.8	226
FL	Crystal River	5	2013	9/2/2013	6	71	0.026889865	169	270	2640.4	227
FL	Crystal River	5	2013	9/2/2013	7	85	0.029651852	183	294	2866.6	250
FL	Crystal River	5	2013	9/2/2013	8	289	0.066430673	287	446	4350.4	415
FL	Crystal River	5	2013	9/2/2013	9	805	0.122831378	471	672	6553.7	650
FL	Crystal River	5	2013	9/2/2013	10	820	0.108359542	590	776	7567.4	764
FL	Crystal River	5	2013	9/2/2013	11	688	0.090688601	606	778	7586.4	764
FL	Crystal River	5	2013	9/2/2013	12	973	0.128267662	606	778	7585.7	767
FL	Crystal River	5	2013	9/2/2013	13	960	0.126500547	599	778	7588.9	767
FL	Crystal River	5	2013	9/2/2013	14	900	0.118282538	631	780	7608.9	767
FL	Crystal River	5	2013	9/2/2013	15	920	0.121258452	576	778	7587.1	765
FL	Crystal River	5	2013	9/2/2013	16	823	0.108315127	592	779	7598.2	765
FL	Crystal River	5	2013	9/2/2013	17	913	0.119223286	597	785	7657.9	765
FL	Crystal River	5	2013	9/2/2013	18	863	0.113589997	592	779	7597.5	766
FL	Crystal River	5	2013	9/2/2013	19	879	0.11538613	594	781	7617.9	764
FL	Crystal River	5	2013	9/2/2013	20	861	0.112959513	594	782	7622.2	766
FL	Crystal River	5	2013	9/2/2013	21	684	0.097204656	499	722	7036.7	709
FL	Crystal River	5	2013	9/2/2013	22	376	0.07375586	295	523	5097.9	495
FL	Crystal River	5	2013	9/2/2013	23	128	0.039551339	184	332	3236.3	296
FL	Crystal River	5	2013	9/3/2013	0	104	0.037981156	161	280	2738.2	233
FL	Crystal River	5	2013	9/3/2013	1	86	0.032163961	165	274	2673.8	226
FL	Crystal River	5	2013	9/3/2013	2	75	0.028234763	164	272	2656.3	226
FL	Crystal River	5	2013	9/3/2013	3	72	0.027066652	167	272	2660.1	227
FL	Crystal River	5	2013	9/3/2013	4	67	0.025216409	175	272	2657	226
FL	Crystal River	5	2013	9/3/2013	5	80	0.027367269	178	299	2923.2	252
FL	Crystal River	5	2013	9/3/2013	6	84	0.028388928	165	303	2958.9	255
FL	Crystal River	5	2013	9/3/2013	7	171	0.046268737	229	379	3695.8	333
FL	Crystal River	5	2013	9/3/2013	8	411	0.079858547	324	528	5146.6	494
FL	Crystal River	5	2013	9/3/2013	9	1127	0.152038421	563	760	7412.6	731
FL	Crystal River	5	2013	9/3/2013	10	742	0.096653597	606	787	7676.9	769
FL	Crystal River	5	2013	9/3/2013	11	867	0.112989196	621	787	7673.3	767
FL	Crystal River	5	2013	9/3/2013	12	922	0.119794712	592	789	7696.5	767

FL	Crystal River	5	2013	9/3/2013	13	918	0.119161972	639	790	7703.8	768
FL	Crystal River	5	2013	9/3/2013	14	868	0.113590264	603	784	7641.5	767
FL	Crystal River	5	2013	9/3/2013	15	839	0.108729459	601	791	7716.4	767
FL	Crystal River	5	2013	9/3/2013	16	904	0.118273521	603	784	7643.3	767
FL	Crystal River	5	2013	9/3/2013	17	870	0.112841931	609	791	7709.9	766
FL	Crystal River	5	2013	9/3/2013	18	885	0.115148913	607	788	7685.7	766
FL	Crystal River	5	2013	9/3/2013	19	923	0.120353105	605	786	7669.1	766
FL	Crystal River	5	2013	9/3/2013	20	759	0.104546895	544	744	7259.9	727
FL	Crystal River	5	2013	9/3/2013	21	741	0.114031578	480	666	6498.2	640
FL	Crystal River	5	2013	9/3/2013	22	917	0.15139758	369	621	6056.9	594
FL	Crystal River	5	2013	9/3/2013	23	197	0.051786231	216	390	3804.1	358
FL	Crystal River	5	2013	9/4/2013	0	113	0.04145724	182	279	2725.7	229
FL	Crystal River	5	2013	9/4/2013	1	104	0.038521372	183	277	2699.8	226
FL	Crystal River	5	2013	9/4/2013	2	86	0.031957192	185	276	2691.1	227
FL	Crystal River	5	2013	9/4/2013	3	90	0.033549541	187	275	2682.6	227
FL	Crystal River	5	2013	9/4/2013	4	92	0.034295087	193	275	2682.6	226
FL	Crystal River	5	2013	9/4/2013	5	161	0.050643264	384	326	3179.1	278
FL	Crystal River	5	2013	9/4/2013	6	120	0.040064103	92	307	2995.2	260
FL	Crystal River	5	2013	9/4/2013	7	177	0.05374222	144	337	3293.5	295
FL	Crystal River	5	2013	9/4/2013	8	477	0.100971614	429	484	4724.1	457
FL	Crystal River	5	2013	9/4/2013	9	1390	0.196308275	729	726	7080.7	706
FL	Crystal River	5	2013	9/4/2013	10	773	0.102654679	602	772	7530.1	765
FL	Crystal River	5	2013	9/4/2013	11	897	0.118040294	607	779	7599.1	764
FL	Crystal River	5	2013	9/4/2013	12	931	0.121817183	611	784	7642.6	766
FL	Crystal River	5	2013	9/4/2013	13	901	0.117760845	596	785	7651.1	765
FL	Crystal River	5	2013	9/4/2013	14	854	0.112200121	593	780	7611.4	764
FL	Crystal River	5	2013	9/4/2013	15	870	0.113895216	580	783	7638.6	763
FL	Crystal River	5	2013	9/4/2013	16	968	0.127075812	594	781	7617.5	765
FL	Crystal River	5	2013	9/4/2013	17	1077	0.141158892	595	782	7629.7	765
FL	Crystal River	5	2013	9/4/2013	18	1047	0.137097513	595	783	7636.9	765
FL	Crystal River	5	2013	9/4/2013	19	848	0.114821134	524	757	7385.4	739
FL	Crystal River	5	2013	9/4/2013	20	532	0.084561219	377	645	6291.3	621
FL	Crystal River	5	2013	9/4/2013	21	382	0.0726664	299	539	5256.9	517
FL	Crystal River	5	2013	9/4/2013	22	187	0.049263679	182	389	3795.9	358
FL	Crystal River	5	2013	9/4/2013	23	98	0.037289296	162	269	2628.1	225

FL	Crystal River	5	2013	9/5/2013	0	90	0.033898305	175	272	2655	227
FL	Crystal River	5	2013	9/5/2013	1	74	0.027919261	169	271	2650.5	226
FL	Crystal River	5	2013	9/5/2013	2	79	0.029625741	178	273	2666.6	226
FL	Crystal River	5	2013	9/5/2013	3	75	0.028350028	174	271	2645.5	226
FL	Crystal River	5	2013	9/5/2013	4	69	0.026094849	177	271	2644.2	226
FL	Crystal River	5	2013	9/5/2013	5	75	0.028219889	178	272	2657.7	226
FL	Crystal River	5	2013	9/5/2013	6	83	0.031440585	182	270	2639.9	226
FL	Crystal River	5	2013	9/5/2013	7	101	0.034203664	186	303	2952.9	260
FL	Crystal River	5	2013	9/5/2013	8	354	0.075531279	281	480	4686.8	451
FL	Crystal River	5	2013	9/5/2013	9	1008	0.153471376	394	673	6568	649
FL	Crystal River	5	2013	9/5/2013	10	732	0.101407514	526	740	7218.4	723
FL	Crystal River	5	2013	9/5/2013	11	943	0.123513386	580	783	7634.8	764
FL	Crystal River	5	2013	9/5/2013	12	947	0.124050301	587	783	7634	765
FL	Crystal River	5	2013	9/5/2013	13	816	0.107692917	591	777	7577.1	766
FL	Crystal River	5	2013	9/5/2013	14	910	0.119991034	591	778	7583.9	766
FL	Crystal River	5	2013	9/5/2013	15	884	0.116551961	576	778	7584.6	765
FL	Crystal River	5	2013	9/5/2013	16	1014	0.133464956	577	779	7597.5	763
FL	Crystal River	5	2013	9/5/2013	17	1439	0.190115073	582	776	7569.1	763
FL	Crystal River	5	2013	9/5/2013	18	1216	0.15988009	570	780	7605.7	764
FL	Crystal River	5	2013	9/5/2013	19	1044	0.137265472	555	780	7605.7	764
FL	Crystal River	5	2013	9/5/2013	20	858	0.117394338	497	749	7308.7	737
FL	Crystal River	5	2013	9/5/2013	21	691	0.103986396	412	681	6645.1	664
FL	Crystal River	5	2013	9/5/2013	22	1026	0.160724356	376	655	6383.6	639
FL	Crystal River	5	2013	9/5/2013	23	439	0.093982146	247	479	4671.1	456
FL	Crystal River	5	2013	9/6/2013	0	153	0.054109492	99	290	2827.6	252
FL	Crystal River	5	2013	9/6/2013	1	164	0.062107097	87	270	2640.6	226
FL	Crystal River	5	2013	9/6/2013	2	146	0.054930584	82	272	2657.9	227
FL	Crystal River	5	2013	9/6/2013	3	152	0.057188006	260	272	2657.9	226
FL	Crystal River	5	2013	9/6/2013	4	140	0.052412864	181	274	2671.1	226
FL	Crystal River	5	2013	9/6/2013	5	300	0.08548957	235	360	3509.2	317
FL	Crystal River	5	2013	9/6/2013	6	304	0.077832966	226	400	3905.8	361
FL	Crystal River	5	2013	9/6/2013	7	604	0.114658871	321	540	5267.8	504
FL	Crystal River	5	2013	9/6/2013	8	1240	0.169438258	512	750	7318.3	727
FL	Crystal River	5	2013	9/6/2013	9	814	0.106908327	601	781	7614	765
FL	Crystal River	5	2013	9/6/2013	10	975	0.127676291	588	783	7636.5	766

FL	Crystal River	5	2013	9/6/2013	11	1176	0.155224984	583	777	7576.1	764
FL	Crystal River	5	2013	9/6/2013	12	1175	0.154619504	569	779	7599.3	765
FL	Crystal River	5	2013	9/6/2013	13	1076	0.141413345	563	780	7608.9	765
FL	Crystal River	5	2013	9/6/2013	14	766	0.101525534	558	774	7544.9	763
FL	Crystal River	5	2013	9/6/2013	15	815	0.108318603	579	772	7524.1	765
FL	Crystal River	5	2013	9/6/2013	16	742	0.098322423	566	774	7546.6	766
FL	Crystal River	5	2013	9/6/2013	17	735	0.096860916	561	778	7588.2	766
FL	Crystal River	5	2013	9/6/2013	18	705	0.102104364	462	708	6904.7	700
FL	Crystal River	5	2013	9/6/2013	19	739	0.113183851	404	669	6529.2	658
FL	Crystal River	5	2013	9/6/2013	20	600	0.106909946	342	575	5612.2	560
FL	Crystal River	5	2013	9/6/2013	21	439	0.087919571	289	512	4993.2	498
FL	Crystal River	5	2013	9/6/2013	22	115	0.029151563	220	404	3944.9	374
FL	Crystal River	5	2013	9/6/2013	23	80	0.02471806	181	332	3236.5	297
FL	Crystal River	5	2013	9/7/2013	0	63	0.022204991	170	291	2837.2	250
FL	Crystal River	5	2013	9/7/2013	1	53	0.020390105	161	266	2599.3	226
FL	Crystal River	5	2013	9/7/2013	2	55	0.020894275	160	270	2632.3	226
FL	Crystal River	5	2013	9/7/2013	3	71	0.027009548	163	269	2628.7	226
FL	Crystal River	5	2013	9/7/2013	4	82	0.031266682	165	269	2622.6	226
FL	Crystal River	5	2013	9/7/2013	5	82	0.030996031	169	271	2645.5	226
FL	Crystal River	5	2013	9/7/2013	6	95	0.036161547	168	269	2627.1	226
FL	Crystal River	5	2013	9/7/2013	7	163	0.053738626	209	311	3033.2	270
FL	Crystal River	5	2013	9/7/2013	8	368	0.073545576	320	513	5003.7	484
FL	Crystal River	5	2013	9/7/2013	9	687	0.096065106	507	733	7151.4	709
FL	Crystal River	5	2013	9/7/2013	10	738	0.096599387	565	783	7639.8	763
FL	Crystal River	5	2013	9/7/2013	11	798	0.104877183	570	780	7608.9	765
FL	Crystal River	5	2013	9/7/2013	12	816	0.107505632	561	778	7590.3	765
FL	Crystal River	5	2013	9/7/2013	13	737	0.096519029	565	783	7635.8	765
FL	Crystal River	5	2013	9/7/2013	14	895	0.117471026	556	781	7618.9	766
FL	Crystal River	5	2013	9/7/2013	15	729	0.09599684	539	779	7594	764
FL	Crystal River	5	2013	9/7/2013	16	817	0.106949772	550	783	7639.1	765
FL	Crystal River	5	2013	9/7/2013	17	898	0.11825748	539	779	7593.6	764
FL	Crystal River	5	2013	9/7/2013	18	881	0.115169421	535	784	7649.6	764
FL	Crystal River	5	2013	9/7/2013	19	871	0.113658607	528	786	7663.3	763
FL	Crystal River	5	2013	9/7/2013	20	899	0.117395108	513	785	7657.9	765
FL	Crystal River	5	2013	9/7/2013	21	824	0.112784013	467	749	7306	735

FL	Crystal River	5	2013	9/7/2013	22	543	0.093292557	325	597	5820.4	578
FL	Crystal River	5	2013	9/7/2013	23	392	0.094099573	233	427	4165.8	406
FL	Crystal River	5	2013	9/8/2013	0	247	0.087303831	169	290	2829.2	251
FL	Crystal River	5	2013	9/8/2013	1	230	0.085223062	164	276	2698.8	227
FL	Crystal River	5	2013	9/8/2013	2	117	0.044074437	159	272	2654.6	227
FL	Crystal River	5	2013	9/8/2013	3	93	0.035357184	160	269	2630.3	226
FL	Crystal River	5	2013	9/8/2013	4	109	0.041256624	166	271	2642	226
FL	Crystal River	5	2013	9/8/2013	5	98	0.037304911	160	269	2627	226
FL	Crystal River	5	2013	9/8/2013	6	101	0.03872254	156	267	2608.3	226
FL	Crystal River	5	2013	9/8/2013	7	166	0.052787229	204	322	3144.7	282
FL	Crystal River	5	2013	9/8/2013	8	454	0.085077676	330	547	5336.3	521
FL	Crystal River	5	2013	9/8/2013	9	989	0.13472646	528	753	7340.8	734
FL	Crystal River	5	2013	9/8/2013	10	837	0.11026651	561	778	7590.7	765
FL	Crystal River	5	2013	9/8/2013	11	696	0.091291858	579	782	7623.9	765
FL	Crystal River	5	2013	9/8/2013	12	771	0.101318055	563	780	7609.7	766
FL	Crystal River	5	2013	9/8/2013	13	908	0.11918826	594	781	7618.2	765
FL	Crystal River	5	2013	9/8/2013	14	896	0.117701149	563	781	7612.5	766
FL	Crystal River	5	2013	9/8/2013	15	913	0.119787977	571	782	7621.8	766
FL	Crystal River	5	2013	9/8/2013	16	969	0.127028657	556	782	7628.2	763
FL	Crystal River	5	2013	9/8/2013	17	1008	0.132035681	557	783	7634.3	765
FL	Crystal River	5	2013	9/8/2013	18	919	0.120568865	564	782	7622.2	765
FL	Crystal River	5	2013	9/8/2013	19	906	0.118634524	549	783	7636.9	765
FL	Crystal River	5	2013	9/8/2013	20	937	0.122919099	564	782	7622.9	766
FL	Crystal River	5	2013	9/8/2013	21	943	0.123881715	563	781	7612.1	765
FL	Crystal River	5	2013	9/8/2013	22	705	0.10176097	457	710	6928	697
FL	Crystal River	5	2013	9/8/2013	23	315	0.061350888	272	526	5134.4	510
FL	Crystal River	5	2013	9/9/2013	0	209	0.055493601	210	386	3766.2	352
FL	Crystal River	5	2013	9/9/2013	1	286	0.07635422	202	384	3745.7	351
FL	Crystal River	5	2013	9/9/2013	2	242	0.064804649	186	383	3734.3	348
FL	Crystal River	5	2013	9/9/2013	3	129	0.043253755	116	306	2982.4	267
FL	Crystal River	5	2013	9/9/2013	4	113	0.041440516	81	279	2726.8	236
FL	Crystal River	5	2013	9/9/2013	5	156	0.050395736	83	317	3095.5	275
FL	Crystal River	5	2013	9/9/2013	6	195	0.0661129	73	302	2949.5	256
FL	Crystal River	5	2013	9/9/2013	7	174	0.049056923	102	363	3546.9	321
FL	Crystal River	5	2013	9/9/2013	8	313	0.066137007	288	485	4732.6	462

FL	Crystal River	5	2013	9/9/2013	9	825	0.118614582	396	713	6955.3	696
FL	Crystal River	5	2013	9/9/2013	10	817	0.106886807	558	784	7643.6	764
FL	Crystal River	5	2013	9/9/2013	11	707	0.091663425	578	791	7713	766
FL	Crystal River	5	2013	9/9/2013	12	778	0.107989562	540	739	7204.4	765
FL	Crystal River	5	2013	9/9/2013	13	916	0.124366964	537	755	7365.3	765
FL	Crystal River	5	2013	9/9/2013	14	890	0.121846036	540	749	7304.3	764
FL	Crystal River	5	2013	9/9/2013	15	840	0.114859229	541	750	7313.3	764
FL	Crystal River	5	2013	9/9/2013	16	873	0.116226435	555	770	7511.2	764
FL	Crystal River	5	2013	9/9/2013	17	940	0.122587376	567	786	7668	764
FL	Crystal River	5	2013	9/9/2013	18	935	0.122136009	566	785	7655.4	765
FL	Crystal River	5	2013	9/9/2013	19	851	0.111860352	555	780	7607.7	764
FL	Crystal River	5	2013	9/9/2013	20	869	0.113950774	556	782	7626.1	765
FL	Crystal River	5	2013	9/9/2013	21	786	0.10952872	480	736	7176.2	726
FL	Crystal River	5	2013	9/9/2013	22	643	0.105085965	361	627	6118.8	610
FL	Crystal River	5	2013	9/9/2013	23	537	0.108636281	276	507	4943.1	490
FL	Crystal River	5	2013	9/10/2013	0	363	0.098845442	150	376	3672.4	348
FL	Crystal River	5	2013	9/10/2013	1	128	0.047218533	70	278	2710.8	241
FL	Crystal River	5	2013	9/10/2013	2	103	0.039442445	70	267	2611.4	227
FL	Crystal River	5	2013	9/10/2013	3	103	0.039469651	67	267	2609.6	227
FL	Crystal River	5	2013	9/10/2013	4	117	0.042303938	160	283	2765.7	244
FL	Crystal River	5	2013	9/10/2013	5	167	0.052826369	221	324	3161.3	288
FL	Crystal River	5	2013	9/10/2013	6	253	0.067057171	215	387	3772.9	352
FL	Crystal River	5	2013	9/10/2013	7	312	0.072304234	254	442	4315.1	410
FL	Crystal River	5	2013	9/10/2013	8	666	0.108821751	391	627	6120.1	607
FL	Crystal River	5	2013	9/10/2013	9	1041	0.138770396	540	769	7501.6	753
FL	Crystal River	5	2013	9/10/2013	10	965	0.127327185	568	777	7578.9	767
FL	Crystal River	5	2013	9/10/2013	11	910	0.120025852	568	777	7581.7	767
FL	Crystal River	5	2013	9/10/2013	12	948	0.125274203	575	776	7567.4	767
FL	Crystal River	5	2013	9/10/2013	13	988	0.130591097	567	776	7565.6	766
FL	Crystal River	5	2013	9/10/2013	14	1039	0.137033276	568	777	7582.1	764
FL	Crystal River	5	2013	9/10/2013	15	985	0.129100751	572	782	7629.7	764
FL	Crystal River	5	2013	9/10/2013	16	962	0.125842109	573	784	7644.5	765
FL	Crystal River	5	2013	9/10/2013	17	972	0.128238957	568	777	7579.6	766
FL	Crystal River	5	2013	9/10/2013	18	914	0.119461508	573	785	7651	767
FL	Crystal River	5	2013	9/10/2013	19	855	0.112670488	561	778	7588.5	767

FL	Crystal River	5	2013	9/10/2013	20	846	0.110417917	559	786	7661.8	768
FL	Crystal River	5	2013	9/10/2013	21	635	0.090987247	467	716	6979	703
FL	Crystal River	5	2013	9/10/2013	22	300	0.059665871	261	515	5028	491
FL	Crystal River	5	2013	9/10/2013	23	124	0.04087418	154	311	3033.7	276
FL	Crystal River	5	2013	9/11/2013	0	107	0.040304354	151	272	2654.8	226
FL	Crystal River	5	2013	9/11/2013	1	112	0.042163912	151	272	2656.3	226
FL	Crystal River	5	2013	9/11/2013	2	108	0.040844112	150	271	2644.2	227
FL	Crystal River	5	2013	9/11/2013	3	79	0.029791085	153	272	2651.8	226
FL	Crystal River	5	2013	9/11/2013	4	100	0.034054146	179	301	2936.5	257
FL	Crystal River	5	2013	9/11/2013	5	225	0.060682885	226	380	3707.8	340
FL	Crystal River	5	2013	9/11/2013	6	422	0.095199422	257	454	4432.8	424
FL	Crystal River	5	2013	9/11/2013	7	836	0.15668341	314	547	5335.6	516
FL	Crystal River	5	2013	9/11/2013	8	1530	0.219729718	445	714	6963.1	696
FL	Crystal River	5	2013	9/11/2013	9	1174	0.154575379	562	779	7595	762
FL	Crystal River	5	2013	9/11/2013	10	608	0.079681275	557	782	7630.4	768
FL	Crystal River	5	2013	9/11/2013	11	534	0.069933733	565	783	7635.8	766
FL	Crystal River	5	2013	9/11/2013	12	775	0.10183567	570	780	7610.3	765
FL	Crystal River	5	2013	9/11/2013	13	870	0.114442062	555	780	7602.1	765
FL	Crystal River	5	2013	9/11/2013	14	805	0.106679035	558	774	7546	766
FL	Crystal River	5	2013	9/11/2013	15	794	0.105578087	549	771	7520.5	765
FL	Crystal River	5	2013	9/11/2013	16	1039	0.137154474	568	777	7575.4	766
FL	Crystal River	5	2013	9/11/2013	17	954	0.126015455	552	776	7570.5	766
FL	Crystal River	5	2013	9/11/2013	18	867	0.115018772	550	773	7537.9	769
FL	Crystal River	5	2013	9/11/2013	19	910	0.119405335	548	781	7621.1	768
FL	Crystal River	5	2013	9/11/2013	20	989	0.129655606	549	782	7627.9	768
FL	Crystal River	5	2013	9/11/2013	21	684	0.101280817	425	692	6753.5	685
FL	Crystal River	5	2013	9/11/2013	22	316	0.061230817	268	529	5160.8	507
FL	Crystal River	5	2013	9/11/2013	23	169	0.045245235	186	383	3735.2	355
FL	Crystal River	5	2013	9/12/2013	0	102	0.037479331	144	279	2721.5	235
FL	Crystal River	5	2013	9/12/2013	1	124	0.047108882	144	270	2632.2	226
FL	Crystal River	5	2013	9/12/2013	2	127	0.048222965	144	270	2633.6	227
FL	Crystal River	5	2013	9/12/2013	3	99	0.037341581	143	272	2651.2	226
FL	Crystal River	5	2013	9/12/2013	4	118	0.041983918	154	288	2810.6	245
FL	Crystal River	5	2013	9/12/2013	5	233	0.061270643	224	390	3802.8	351
FL	Crystal River	5	2013	9/12/2013	6	261	0.060411073	241	443	4320.4	408

FL	Crystal River	5	2013	9/12/2013	7	283	0.054621605	290	531	5181.1	503
FL	Crystal River	5	2013	9/12/2013	8	621	0.087426617	475	728	7103.1	713
FL	Crystal River	5	2013	9/12/2013	9	917	0.120902882	553	778	7584.6	769
FL	Crystal River	5	2013	9/12/2013	10	774	0.10203409	568	778	7585.7	770
FL	Crystal River	5	2013	9/12/2013	11	759	0.100464599	544	775	7554.9	769
FL	Crystal River	5	2013	9/12/2013	12	800	0.106165565	550	773	7535.4	767
FL	Crystal River	5	2013	9/12/2013	13	847	0.112350608	550	773	7538.9	768
FL	Crystal River	5	2013	9/12/2013	14	915	0.120983737	552	776	7563	767
FL	Crystal River	5	2013	9/12/2013	15	919	0.121488532	544	776	7564.5	766
FL	Crystal River	5	2013	9/12/2013	16	849	0.112089566	552	777	7574.3	768
FL	Crystal River	5	2013	9/12/2013	17	767	0.101433559	552	775	7561.6	768
FL	Crystal River	5	2013	9/12/2013	18	747	0.099104478	550	773	7537.5	767
FL	Crystal River	5	2013	9/12/2013	19	730	0.094829826	554	789	7698	768
FL	Crystal River	5	2013	9/12/2013	20	680	0.09047486	526	771	7515.9	755
FL	Crystal River	5	2013	9/12/2013	21	440	0.069680893	385	647	6314.5	634
FL	Crystal River	5	2013	9/12/2013	22	180	0.035736266	256	516	5036.9	495
FL	Crystal River	5	2013	9/12/2013	23	57	0.016669104	167	350	3419.5	318
FL	Crystal River	5	2013	9/13/2013	0	40	0.014953271	133	274	2675	230
FL	Crystal River	5	2013	9/13/2013	1	51	0.019511075	130	268	2613.9	226
FL	Crystal River	5	2013	9/13/2013	2	54	0.020746091	135	267	2602.9	225
FL	Crystal River	5	2013	9/13/2013	3	71	0.027237503	143	267	2606.7	225
FL	Crystal River	5	2013	9/13/2013	4	77	0.02797152	159	282	2752.8	238
FL	Crystal River	5	2013	9/13/2013	5	151	0.04563588	205	339	3308.8	296
FL	Crystal River	5	2013	9/13/2013	6	128	0.043288579	159	303	2956.9	261
FL	Crystal River	5	2013	9/13/2013	7	189	0.049532196	244	391	3815.7	358
FL	Crystal River	5	2013	9/13/2013	8	395	0.063297225	418	640	6240.4	615
FL	Crystal River	5	2013	9/13/2013	9	557	0.07415494	615	770	7511.3	759
FL	Crystal River	5	2013	9/13/2013	10	602	0.079833437	580	773	7540.7	762
FL	Crystal River	5	2013	9/13/2013	11	1478	0.195185082	605	776	7572.3	766
FL	Crystal River	5	2013	9/13/2013	12	1229	0.163790231	607	769	7503.5	766
FL	Crystal River	5	2013	9/13/2013	13	1074	0.142775481	564	771	7522.3	764
FL	Crystal River	5	2013	9/13/2013	14	1214	0.160291535	560	777	7573.7	765
FL	Crystal River	5	2013	9/13/2013	15	781	0.103226318	544	776	7565.9	765
FL	Crystal River	5	2013	9/13/2013	16	508	0.06685882	539	779	7598.1	764
FL	Crystal River	5	2013	9/13/2013	17	711	0.093659847	546	778	7591.3	764

FL	Crystal River	5	2013	9/13/2013	18	992	0.131269022	559	775	7557	765
FL	Crystal River	5	2013	9/13/2013	19	1035	0.136906573	559	775	7559.9	765
FL	Crystal River	5	2013	9/13/2013	20	888	0.122484448	478	743	7249.9	729
FL	Crystal River	5	2013	9/13/2013	21	485	0.085837669	305	579	5650.2	560
FL	Crystal River	5	2013	9/13/2013	22	251	0.057506816	218	447	4364.7	419
FL	Crystal River	5	2013	9/13/2013	23	114	0.036803874	154	317	3097.5	280
FL	Crystal River	5	2013	9/14/2013	0	115	0.039963859	152	295	2877.6	251
FL	Crystal River	5	2013	9/14/2013	1	126	0.044062107	151	293	2859.6	251
FL	Crystal River	5	2013	9/14/2013	2	110	0.040306328	152	280	2729.1	236
FL	Crystal River	5	2013	9/14/2013	3	90	0.034404985	143	268	2615.9	225
FL	Crystal River	5	2013	9/14/2013	4	84	0.031992687	144	269	2625.6	225
FL	Crystal River	5	2013	9/14/2013	5	93	0.035500248	149	268	2619.7	226
FL	Crystal River	5	2013	9/14/2013	6	98	0.038061209	151	264	2574.8	225
FL	Crystal River	5	2013	9/14/2013	7	131	0.044131519	181	304	2968.4	266
FL	Crystal River	5	2013	9/14/2013	8	231	0.05708355	242	415	4046.7	388
FL	Crystal River	5	2013	9/14/2013	9	807	0.116812622	490	708	6908.5	690
FL	Crystal River	5	2013	9/14/2013	10	807	0.107064677	557	773	7537.5	763
FL	Crystal River	5	2013	9/14/2013	11	740	0.097839596	582	776	7563.4	766
FL	Crystal River	5	2013	9/14/2013	12	774	0.102913215	564	771	7520.9	766
FL	Crystal River	5	2013	9/14/2013	13	939	0.125034954	555	770	7509.9	763
FL	Crystal River	5	2013	9/14/2013	14	980	0.128644377	556	781	7617.9	765
FL	Crystal River	5	2013	9/14/2013	15	899	0.118253686	555	780	7602.3	763
FL	Crystal River	5	2013	9/14/2013	16	819	0.107589034	540	781	7612.3	764
FL	Crystal River	5	2013	9/14/2013	17	850	0.112115017	545	777	7581.5	765
FL	Crystal River	5	2013	9/14/2013	18	892	0.117682758	538	777	7579.7	765
FL	Crystal River	5	2013	9/14/2013	19	976	0.128608889	546	778	7588.9	764
FL	Crystal River	5	2013	9/14/2013	20	933	0.122463445	548	781	7618.6	765
FL	Crystal River	5	2013	9/14/2013	21	691	0.099200368	452	714	6965.7	701
FL	Crystal River	5	2013	9/14/2013	22	520	0.09146556	307	583	5685.2	562
FL	Crystal River	5	2013	9/14/2013	23	249	0.061752889	201	413	4032.2	387
FL	Crystal River	5	2013	9/15/2013	0	210	0.062003602	172	347	3386.9	312
FL	Crystal River	5	2013	9/15/2013	1	147	0.055679709	142	270	2640.1	227
FL	Crystal River	5	2013	9/15/2013	2	128	0.048530806	145	270	2637.5	226
FL	Crystal River	5	2013	9/15/2013	3	113	0.042939656	147	270	2631.6	226
FL	Crystal River	5	2013	9/15/2013	4	116	0.044016089	150	270	2635.4	225

FL	Crystal River	5	2013	9/15/2013	5	142	0.053885853	152	270	2635.2	226
FL	Crystal River	5	2013	9/15/2013	6	133	0.050647372	144	269	2626	225
FL	Crystal River	5	2013	9/15/2013	7	210	0.0671871	187	320	3125.6	279
FL	Crystal River	5	2013	9/15/2013	8	595	0.116470266	327	524	5108.6	499
FL	Crystal River	5	2013	9/15/2013	9	1175	0.154373703	540	780	7611.4	758
FL	Crystal River	5	2013	9/15/2013	10	804	0.104288271	562	791	7709.4	769
FL	Crystal River	5	2013	9/15/2013	11	710	0.092201805	577	790	7700.5	771
FL	Crystal River	5	2013	9/15/2013	12	819	0.1065255	553	788	7688.3	770
FL	Crystal River	5	2013	9/15/2013	13	1091	0.141673592	585	790	7700.8	770
FL	Crystal River	5	2013	9/15/2013	14	1094	0.142048406	539	790	7701.6	773
FL	Crystal River	5	2013	9/15/2013	15	685	0.088658219	571	792	7726.3	772
FL	Crystal River	5	2013	9/15/2013	16	407	0.052434939	558	796	7762	768
FL	Crystal River	5	2013	9/15/2013	17	269	0.040847316	441	675	6585.5	659
FL	Crystal River	5	2013	9/15/2013	18	589	0.087183055	432	693	6755.9	673
FL	Crystal River	5	2013	9/15/2013	19	785	0.12040616	391	668	6519.6	648
FL	Crystal River	5	2013	9/15/2013	20	473	0.088052422	236	551	5371.8	528
FL	Crystal River	5	2013	9/15/2013	21	225	0.053038518	195	435	4242.2	399
FL	Crystal River	5	2013	9/15/2013	22	129	0.046895449	167	282	2750.8	267
FL	Crystal River	5	2013	9/15/2013	23	114	0.043594646	162	268	2615	225
FL	Crystal River	5	2013	9/16/2013	0	91	0.035237173	157	265	2582.5	225
FL	Crystal River	5	2013	9/16/2013	1	75	0.029063009	162	264	2580.6	225
FL	Crystal River	5	2013	9/16/2013	2	63	0.024004572	157	269	2624.5	225
FL	Crystal River	5	2013	9/16/2013	3	61	0.023274448	157	268	2620.9	225
FL	Crystal River	5	2013	9/16/2013	4	60	0.021879444	172	281	2742.3	234
FL	Crystal River	5	2013	9/16/2013	5	72	0.024558292	173	300	2931.8	256
FL	Crystal River	5	2013	9/16/2013	6	80	0.02799748	171	293	2857.4	252
FL	Crystal River	5	2013	9/16/2013	7	131	0.039307468	203	341	3332.7	298
FL	Crystal River	5	2013	9/16/2013	8	179	0.050633628	219	362	3535.2	335
FL	Crystal River	5	2013	9/16/2013	9	586	0.096650228	394	622	6063.1	607
FL	Crystal River	5	2013	9/16/2013	10	795	0.106685633	566	764	7451.8	758
FL	Crystal River	5	2013	9/16/2013	11	528	0.070194097	579	771	7522	764
FL	Crystal River	5	2013	9/16/2013	12	406	0.054160052	577	769	7496.3	765
FL	Crystal River	5	2013	9/16/2013	13	304	0.040358983	557	772	7532.4	762
FL	Crystal River	5	2013	9/16/2013	14	441	0.057677217	558	784	7646	763
FL	Crystal River	5	2013	9/16/2013	15	1282	0.169281149	552	777	7573.2	762

FL	Crystal River	5	2013	9/16/2013	16	905	0.120307349	541	771	7522.4	762
FL	Crystal River	5	2013	9/16/2013	17	737	0.098114916	540	770	7511.6	762
FL	Crystal River	5	2013	9/16/2013	18	812	0.107206042	560	777	7574.2	762
FL	Crystal River	5	2013	9/16/2013	19	975	0.128538093	568	778	7585.3	765
FL	Crystal River	5	2013	9/16/2013	20	911	0.123800723	522	755	7358.6	742
FL	Crystal River	5	2013	9/16/2013	21	536	0.091328869	346	602	5868.9	592
FL	Crystal River	5	2013	9/16/2013	22	381	0.079613842	248	491	4785.6	466
FL	Crystal River	5	2013	9/16/2013	23	190	0.062436331	161	312	3043.1	278
FL	Crystal River	5	2013	9/17/2013	0	170	0.065279164	151	267	2604.2	226
FL	Crystal River	5	2013	9/17/2013	1	157	0.059623272	155	270	2633.2	226
FL	Crystal River	5	2013	9/17/2013	2	133	0.050676319	154	269	2624.5	225
FL	Crystal River	5	2013	9/17/2013	3	124	0.048200264	159	263	2572.6	226
FL	Crystal River	5	2013	9/17/2013	4	181	0.064129819	172	289	2822.4	248
FL	Crystal River	5	2013	9/17/2013	5	197	0.06885223	165	293	2861.2	256
FL	Crystal River	5	2013	9/17/2013	6	176	0.061841181	167	292	2846	252
FL	Crystal River	5	2013	9/17/2013	7	210	0.067225815	196	320	3123.8	307
FL	Crystal River	5	2013	9/17/2013	8	1142	0.206274949	370	568	5536.3	538
FL	Crystal River	5	2013	9/17/2013	9	1364	0.188702738	527	741	7228.3	731
FL	Crystal River	5	2013	9/17/2013	10	950	0.126876436	569	768	7487.6	763
FL	Crystal River	5	2013	9/17/2013	11	943	0.126007189	546	767	7483.7	765
FL	Crystal River	5	2013	9/17/2013	12	1149	0.154044162	544	765	7458.9	763
FL	Crystal River	5	2013	9/17/2013	13	1379	0.182702244	551	774	7547.8	764
FL	Crystal River	5	2013	9/17/2013	14	913	0.120278762	561	778	7590.7	764
FL	Crystal River	5	2013	9/17/2013	15	398	0.053501815	565	763	7439	763
FL	Crystal River	5	2013	9/17/2013	16	319	0.042993652	578	761	7419.7	763
FL	Crystal River	5	2013	9/17/2013	17	440	0.058870752	568	766	7474	765
FL	Crystal River	5	2013	9/17/2013	18	779	0.104429192	611	765	7459.6	766
FL	Crystal River	5	2013	9/17/2013	19	604	0.080942362	746	765	7462.1	766
FL	Crystal River	5	2013	9/17/2013	20	256	0.040091459	370	655	6385.4	656
FL	Crystal River	5	2013	9/17/2013	21	149	0.030033057	153	509	4961.2	501
FL	Crystal River	5	2013	9/17/2013	22	110	0.027561324	271	409	3991.1	390
FL	Crystal River	5	2013	9/17/2013	23	64	0.024248854	137	270	2639.3	239
FL	Crystal River	5	2013	9/18/2013	0	67	0.026118821	143	263	2565.2	226
FL	Crystal River	5	2013	9/18/2013	1	72	0.028171218	145	262	2555.8	226
FL	Crystal River	5	2013	9/18/2013	2	58	0.022701476	145	262	2554.9	225

FL	Crystal River	5	2013	9/18/2013	3	55	0.021512105	153	262	2556.7	225
FL	Crystal River	5	2013	9/18/2013	4	83	0.028281314	182	301	2934.8	267
FL	Crystal River	5	2013	9/18/2013	5	367	0.064681001	368	582	5674	562
FL	Crystal River	5	2013	9/18/2013	6	529	0.071330331	556	760	7416.2	760
FL	Crystal River	5	2013	9/18/2013	7	461	0.062647786	559	755	7358.6	764
FL	Crystal River	5	2013	9/18/2013	8	525	0.07079479	556	760	7415.8	764
FL	Crystal River	5	2013	9/18/2013	9	652	0.088149801	532	758	7396.5	763
FL	Crystal River	5	2013	9/18/2013	10	812	0.109242567	557	762	7433	764
FL	Crystal River	5	2013	9/18/2013	11	786	0.10469391	585	770	7507.6	768
FL	Crystal River	5	2013	9/18/2013	12	615	0.082022966	577	769	7497.9	768
FL	Crystal River	5	2013	9/18/2013	13	412	0.055052246	583	767	7483.8	766
FL	Crystal River	5	2013	9/18/2013	14	422	0.056777666	572	762	7432.5	761
FL	Crystal River	5	2013	9/18/2013	15	859	0.114531806	555	769	7500.1	763
FL	Crystal River	5	2013	9/18/2013	16	1192	0.158854965	555	769	7503.7	767
FL	Crystal River	5	2013	9/18/2013	17	1078	0.143524744	555	770	7510.9	765
FL	Crystal River	5	2013	9/18/2013	18	974	0.129673022	555	770	7511.2	766
FL	Crystal River	5	2013	9/18/2013	19	850	0.113386247	532	769	7496.5	766
FL	Crystal River	5	2013	9/18/2013	20	585	0.09201296	400	652	6357.8	651
FL	Crystal River	5	2013	9/18/2013	21	473	0.085959365	319	564	5502.6	556
FL	Crystal River	5	2013	9/18/2013	22	293	0.067846061	246	443	4318.6	432
FL	Crystal River	5	2013	9/18/2013	23	116	0.043154762	131	275	2688	251
FL	Crystal River	5	2013	9/19/2013	0	133	0.05267744	143	259	2524.8	226
FL	Crystal River	5	2013	9/19/2013	1	125	0.049640602	143	258	2518.1	225
FL	Crystal River	5	2013	9/19/2013	2	103	0.041053848	140	257	2508.9	225
FL	Crystal River	5	2013	9/19/2013	3	95	0.037905993	142	257	2506.2	225
FL	Crystal River	5	2013	9/19/2013	4	100	0.039834289	145	257	2510.4	225
FL	Crystal River	5	2013	9/19/2013	5	210	0.065838977	210	327	3189.6	295
FL	Crystal River	5	2013	9/19/2013	6	298	0.078540931	212	389	3794.2	365
FL	Crystal River	5	2013	9/19/2013	7	240	0.060796433	217	405	3947.6	379
FL	Crystal River	5	2013	9/19/2013	8	541	0.09976028	320	556	5423	544
FL	Crystal River	5	2013	9/19/2013	9	889	0.129061293	461	706	6888.2	705
FL	Crystal River	5	2013	9/19/2013	10	894	0.12003867	521	764	7447.6	764
FL	Crystal River	5	2013	9/19/2013	11	811	0.108967296	528	763	7442.6	765
FL	Crystal River	5	2013	9/19/2013	12	796	0.106915958	543	763	7445.1	764
FL	Crystal River	5	2013	9/19/2013	13	770	0.103877182	541	760	7412.6	763

FL	Crystal River	5	2013	9/19/2013	14	723	0.097194402	535	763	7438.7	761
FL	Crystal River	5	2013	9/19/2013	15	711	0.094817699	547	769	7498.6	764
FL	Crystal River	5	2013	9/19/2013	16	793	0.105829285	554	768	7493.2	761
FL	Crystal River	5	2013	9/19/2013	17	941	0.12474481	558	774	7543.4	763
FL	Crystal River	5	2013	9/19/2013	18	820	0.108980237	556	772	7524.3	764
FL	Crystal River	5	2013	9/19/2013	19	772	0.103205797	553	767	7480.2	764
FL	Crystal River	5	2013	9/19/2013	20	624	0.088954781	498	719	7014.8	720
FL	Crystal River	5	2013	9/19/2013	21	386	0.069521991	327	569	5552.2	562
FL	Crystal River	5	2013	9/19/2013	22	197	0.0494267	227	408	3985.7	385
FL	Crystal River	5	2013	9/19/2013	23	94	0.034190521	151	282	2749.3	244
FL	Crystal River	5	2013	9/20/2013	0	110	0.042186002	146	267	2607.5	227
FL	Crystal River	5	2013	9/20/2013	1	126	0.048455947	150	266	2600.3	227
FL	Crystal River	5	2013	9/20/2013	2	108	0.041501748	150	267	2602.3	227
FL	Crystal River	5	2013	9/20/2013	3	96	0.036870607	156	267	2603.7	227
FL	Crystal River	5	2013	9/20/2013	4	96	0.036987093	155	266	2595.5	226
FL	Crystal River	5	2013	9/20/2013	5	97	0.037626067	159	264	2578	227
FL	Crystal River	5	2013	9/20/2013	6	129	0.045865036	168	288	2812.6	253
FL	Crystal River	5	2013	9/20/2013	7	119	0.042375899	179	288	2808.2	254
FL	Crystal River	5	2013	9/20/2013	8	142	0.045852304	192	317	3096.9	284
FL	Crystal River	5	2013	9/20/2013	9	340	0.075600916	287	461	4497.3	434
FL	Crystal River	5	2013	9/20/2013	10	527	0.096483038	344	560	5462.1	539
FL	Crystal River	5	2013	9/20/2013	11	1123	0.153476104	570	750	7317.1	738
FL	Crystal River	5	2013	9/20/2013	12	845	0.112552613	570	770	7507.6	766
FL	Crystal River	5	2013	9/20/2013	13	716	0.095641372	591	768	7486.3	764
FL	Crystal River	5	2013	9/20/2013	14	879	0.116911618	586	771	7518.5	765
FL	Crystal River	5	2013	9/20/2013	15	814	0.108146888	594	772	7526.8	767
FL	Crystal River	5	2013	9/20/2013	16	563	0.075080682	614	769	7498.6	765
FL	Crystal River	5	2013	9/20/2013	17	588	0.077978914	618	773	7540.5	764
FL	Crystal River	5	2013	9/20/2013	18	618	0.082304527	615	770	7508.7	766
FL	Crystal River	5	2013	9/20/2013	19	621	0.081551715	624	781	7614.8	772
FL	Crystal River	5	2013	9/20/2013	20	796	0.10728052	563	761	7419.8	761
FL	Crystal River	5	2013	9/20/2013	21	543	0.08960396	381	621	6060	618
FL	Crystal River	5	2013	9/20/2013	22	399	0.075356954	291	543	5294.8	525
FL	Crystal River	5	2013	9/20/2013	23	206	0.051680883	203	409	3986	387
FL	Crystal River	5	2013	9/21/2013	0	114	0.040618542	143	288	2806.6	250

FL	Crystal River	5	2013	9/21/2013	1	149	0.057571191	142	265	2588.1	227
FL	Crystal River	5	2013	9/21/2013	2	133	0.051349369	147	265	2590.1	226
FL	Crystal River	5	2013	9/21/2013	3	109	0.042277558	144	264	2578.2	226
FL	Crystal River	5	2013	9/21/2013	4	107	0.041650448	151	263	2569	226
FL	Crystal River	5	2013	9/21/2013	5	108	0.041718171	142	265	2588.8	226
FL	Crystal River	5	2013	9/21/2013	6	123	0.047956956	143	263	2564.8	226
FL	Crystal River	5	2013	9/21/2013	7	139	0.050527081	159	282	2751	243
FL	Crystal River	5	2013	9/21/2013	8	398	0.091257194	274	447	4361.3	420
FL	Crystal River	5	2013	9/21/2013	9	992	0.150849288	434	674	6576.1	658
FL	Crystal River	5	2013	9/21/2013	10	981	0.130348126	541	772	7526	768
FL	Crystal River	5	2013	9/21/2013	11	792	0.104877048	558	774	7551.7	770
FL	Crystal River	5	2013	9/21/2013	12	798	0.105922642	542	773	7533.8	770
FL	Crystal River	5	2013	9/21/2013	13	966	0.128210233	565	773	7534.5	768
FL	Crystal River	5	2013	9/21/2013	14	981	0.129065362	554	779	7600.8	769
FL	Crystal River	5	2013	9/21/2013	15	952	0.126256598	550	773	7540.2	769
FL	Crystal River	5	2013	9/21/2013	16	879	0.116575157	542	773	7540.2	768
FL	Crystal River	5	2013	9/21/2013	17	903	0.119231531	560	777	7573.5	769
FL	Crystal River	5	2013	9/21/2013	18	840	0.111217032	558	774	7552.8	770
FL	Crystal River	5	2013	9/21/2013	19	845	0.11212845	557	773	7536	769
FL	Crystal River	5	2013	9/21/2013	20	748	0.108456096	455	707	6896.8	703
FL	Crystal River	5	2013	9/21/2013	21	624	0.105128378	338	609	5935.6	595
FL	Crystal River	5	2013	9/21/2013	22	639	0.114217281	307	574	5594.6	558
FL	Crystal River	5	2013	9/21/2013	23	384	0.089525097	214	440	4289.3	415
FL	Crystal River	5	2013	9/22/2013	0	369	0.112216039	167	337	3288.3	303
FL	Crystal River	5	2013	9/22/2013	1	99	0.037689877	147	269	2626.7	227
FL	Crystal River	5	2013	9/22/2013	2	151	0.057550118	144	269	2623.8	226
FL	Crystal River	5	2013	9/22/2013	3	165	0.063342163	143	267	2604.9	227
FL	Crystal River	5	2013	9/22/2013	4	132	0.050681513	145	267	2604.5	226
FL	Crystal River	5	2013	9/22/2013	5	139	0.053434821	150	266	2601.3	226
FL	Crystal River	5	2013	9/22/2013	6	114	0.044228904	144	264	2577.5	226
FL	Crystal River	5	2013	9/22/2013	7	77	0.027755749	163	284	2774.2	247
FL	Crystal River	5	2013	9/22/2013	8	173	0.041200286	268	430	4199	402
FL	Crystal River	5	2013	9/22/2013	9	912	0.145663632	413	642	6261	620
FL	Crystal River	5	2013	9/22/2013	10	1433	0.189184907	568	777	7574.6	764
FL	Crystal River	5	2013	9/22/2013	11	641	0.084337666	600	779	7600.4	768

FL	Crystal River	5	2013	9/22/2013	12	597	0.079073895	596	774	7549.9	766
FL	Crystal River	5	2013	9/22/2013	13	774	0.103050234	608	770	7510.9	767
FL	Crystal River	5	2013	9/22/2013	14	839	0.111529105	624	771	7522.7	768
FL	Crystal River	5	2013	9/22/2013	15	664	0.088077678	618	773	7538.8	770
FL	Crystal River	5	2013	9/22/2013	16	841	0.110441372	609	781	7614.9	770
FL	Crystal River	5	2013	9/22/2013	17	1014	0.134363364	581	774	7546.7	769
FL	Crystal River	5	2013	9/22/2013	18	893	0.117967212	552	776	7569.9	768
FL	Crystal River	5	2013	9/22/2013	19	837	0.110111295	547	779	7601.4	772
FL	Crystal River	5	2013	9/22/2013	20	606	0.090233625	429	689	6715.9	686
FL	Crystal River	5	2013	9/22/2013	21	648	0.105516837	368	630	6141.2	617
FL	Crystal River	5	2013	9/22/2013	22	573	0.10931568	293	537	5241.7	521
FL	Crystal River	5	2013	9/22/2013	23	507	0.113725578	240	457	4458.1	431
FL	Crystal River	5	2013	9/23/2013	0	201	0.073234715	161	281	2744.6	242
FL	Crystal River	5	2013	9/23/2013	1	188	0.07256726	152	265	2590.7	227
FL	Crystal River	5	2013	9/23/2013	2	165	0.06296268	159	268	2620.6	226
FL	Crystal River	5	2013	9/23/2013	3	141	0.054155784	156	267	2603.6	227
FL	Crystal River	5	2013	9/23/2013	4	154	0.05899705	156	267	2610.3	231
FL	Crystal River	5	2013	9/23/2013	5	373	0.095916478	248	399	3888.8	367
FL	Crystal River	5	2013	9/23/2013	6	500	0.106908422	271	479	4676.9	463
FL	Crystal River	5	2013	9/23/2013	7	511	0.107855967	293	486	4737.8	470
FL	Crystal River	5	2013	9/23/2013	8	1148	0.184952473	409	636	6207	628
FL	Crystal River	5	2013	9/23/2013	9	1018	0.137485819	547	759	7404.4	760
FL	Crystal River	5	2013	9/23/2013	10	786	0.105042298	583	767	7482.7	765
FL	Crystal River	5	2013	9/23/2013	11	864	0.115375371	591	768	7488.6	769
FL	Crystal River	5	2013	9/23/2013	12	908	0.122654635	570	759	7402.9	764
FL	Crystal River	5	2013	9/23/2013	13	928	0.124483554	752	764	7454.8	764
FL	Crystal River	5	2013	9/23/2013	14	943	0.127648054	517	758	7387.5	764
FL	Crystal River	5	2013	9/23/2013	15	988	0.133203904	571	761	7417.2	766
FL	Crystal River	5	2013	9/23/2013	16	1077	0.143795562	561	768	7489.8	766
FL	Crystal River	5	2013	9/23/2013	17	1461	0.19330255	529	775	7558.1	770
FL	Crystal River	5	2013	9/23/2013	18	1528	0.202991737	511	772	7527.4	771
FL	Crystal River	5	2013	9/23/2013	19	1081	0.143444798	512	773	7536	774
FL	Crystal River	5	2013	9/23/2013	20	610	0.094984507	385	658	6422.1	657
FL	Crystal River	5	2013	9/23/2013	21	610	0.104748004	320	597	5823.5	588
FL	Crystal River	5	2013	9/23/2013	22	814	0.151486954	279	551	5373.4	536

FL	Crystal River	5	2013	9/23/2013	23	368	0.105323412	178	358	3494	342
FL	Crystal River	5	2013	9/24/2013	0	223	0.08699723	146	263	2563.3	226
FL	Crystal River	5	2013	9/24/2013	1	219	0.084788416	144	265	2582.9	226
FL	Crystal River	5	2013	9/24/2013	2	190	0.07388109	141	263	2571.7	226
FL	Crystal River	5	2013	9/24/2013	3	185	0.07181677	144	264	2576	226
FL	Crystal River	5	2013	9/24/2013	4	291	0.096687377	180	308	3009.7	276
FL	Crystal River	5	2013	9/24/2013	5	943	0.188554747	285	513	5001.2	487
FL	Crystal River	5	2013	9/24/2013	6	1402	0.232323065	337	619	6034.7	610
FL	Crystal River	5	2013	9/24/2013	7	206	0.185495345	61	113	1110.54	554
FL	Crystal River	5	2013	9/24/2013	8	0	0	0	1	9.775	0
FL	Crystal River	5	2013	9/24/2013	9	1	0.011633859	2	8	85.956	0
FL	Crystal River	5	2013	9/24/2013	10	1	0.005589715	6	18	178.9	0
FL	Crystal River	5	2013	9/24/2013	11	11	0.074475288	3	15	147.7	0
FL	Crystal River	5	2013	9/24/2013	12	6	0.029268293	8	21	205	0
FL	Crystal River	5	2013	9/24/2013	13	4	0.019704433	7	20	203	0
FL	Crystal River	5	2013	9/24/2013	14	3	0.02073255	4	14	144.7	0
FL	Crystal River	5	2013	9/24/2013	15	0	0	0	0	9.588	0
FL	Crystal River	5	2013	9/24/2013	16		#DIV/0!				
FL	Crystal River	5	2013	9/24/2013	17		#DIV/0!				
FL	Crystal River	5	2013	9/24/2013	18		#DIV/0!				
FL	Crystal River	5	2013	9/24/2013	19		#DIV/0!				
FL	Crystal River	5	2013	9/24/2013	20		#DIV/0!				
FL	Crystal River	5	2013	9/24/2013	21		#DIV/0!				
FL	Crystal River	5	2013	9/24/2013	22		#DIV/0!				
FL	Crystal River	5	2013	9/24/2013	23		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	0		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	1		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	2		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	3		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	4		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	5		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	6		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	7		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	8		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	9		#DIV/0!				

FL	Crystal River	5	2013	9/25/2013	10		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	11		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	12		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	13		#DIV/0!				
FL	Crystal River	5	2013	9/25/2013	14	0	0	0	2	21.138	0
FL	Crystal River	5	2013	9/25/2013	15	7	0.05204461	30	13	134.5	0
FL	Crystal River	5	2013	9/25/2013	16	7	0.060462103	3	11	115.775	0
FL	Crystal River	5	2013	9/25/2013	17	2	0.014682886	3	14	136.213	0
FL	Crystal River	5	2013	9/25/2013	18	9	0.039352864	7	23	228.7	0
FL	Crystal River	5	2013	9/25/2013	19	21	0.06527821	31	33	321.7	0
FL	Crystal River	5	2013	9/25/2013	20	39	0.090866729	66	44	429.2	0
FL	Crystal River	5	2013	9/25/2013	21	56	0.132985039	66	43	421.1	0
FL	Crystal River	5	2013	9/25/2013	22	103	0.24419156	67	43	421.8	0
FL	Crystal River	5	2013	9/25/2013	23	79	0.146052875	82	55	540.9	0
FL	Crystal River	5	2013	9/26/2013	0	75	0.137086456	83	56	547.1	17
FL	Crystal River	5	2013	9/26/2013	1	93	0.123342175	122	77	754	34
FL	Crystal River	5	2013	9/26/2013	2	174	0.165967188	198	107	1048.4	55
FL	Crystal River	5	2013	9/26/2013	3	257	0.158798814	458	166	1618.4	115
FL	Crystal River	5	2013	9/26/2013	4	429	0.226732202	609	194	1892.1	152
FL	Crystal River	5	2013	9/26/2013	5	402	0.16	799	257	2512.5	213
FL	Crystal River	5	2013	9/26/2013	6	277	0.096653756	576	294	2865.9	251
FL	Crystal River	5	2013	9/26/2013	7	228	0.076279692	735	306	2989	251
FL	Crystal River	5	2013	9/26/2013	8	550	0.134313414	671	420	4094.9	383
FL	Crystal River	5	2013	9/26/2013	9	1419	0.222163076	281	655	6387.2	641
FL	Crystal River	5	2013	9/26/2013	10	1540	0.208550574	398	757	7384.3	759
FL	Crystal River	5	2013	9/26/2013	11	833	0.11313477	618	755	7362.9	765
FL	Crystal River	5	2013	9/26/2013	12	772	0.105139869	712	753	7342.6	765
FL	Crystal River	5	2013	9/26/2013	13	962	0.131059099	778	753	7340.2	765
FL	Crystal River	5	2013	9/26/2013	14	992	0.134960478	757	754	7350.3	764
FL	Crystal River	5	2013	9/26/2013	15	849	0.115820635	527	752	7330.3	764
FL	Crystal River	5	2013	9/26/2013	16	856	0.115923187	553	757	7384.2	765
FL	Crystal River	5	2013	9/26/2013	17	889	0.120305839	561	758	7389.5	768
FL	Crystal River	5	2013	9/26/2013	18	940	0.126794	563	760	7413.6	768
FL	Crystal River	5	2013	9/26/2013	19	942	0.126834523	571	762	7427	769
FL	Crystal River	5	2013	9/26/2013	20	676	0.105187813	411	659	6426.6	658

FL	Crystal River	5	2013	9/26/2013	21	283	0.06499024	239	446	4354.5	436
FL	Crystal River	5	2013	9/26/2013	22	130	0.043216648	153	308	3008.1	280
FL	Crystal River	5	2013	9/26/2013	23	96	0.037568974	143	262	2555.3	226
FL	Crystal River	5	2013	9/27/2013	0	108	0.042347959	145	261	2550.3	227
FL	Crystal River	5	2013	9/27/2013	1	91	0.035808444	149	260	2541.3	226
FL	Crystal River	5	2013	9/27/2013	2	87	0.034202146	155	261	2543.7	226
FL	Crystal River	5	2013	9/27/2013	3	77	0.030280389	147	260	2542.9	227
FL	Crystal River	5	2013	9/27/2013	4	80	0.031207334	153	263	2563.5	226
FL	Crystal River	5	2013	9/27/2013	5	102	0.037312068	161	280	2733.7	244
FL	Crystal River	5	2013	9/27/2013	6	113	0.040102207	163	289	2817.8	252
FL	Crystal River	5	2013	9/27/2013	7	107	0.037861364	161	290	2826.1	254
FL	Crystal River	5	2013	9/27/2013	8	100	0.034971149	160	293	2859.5	258
FL	Crystal River	5	2013	9/27/2013	9	98	0.034161815	172	294	2868.7	258
FL	Crystal River	5	2013	9/27/2013	10	181	0.049542892	222	374	3653.4	344
FL	Crystal River	5	2013	9/27/2013	11	230	0.054401817	274	433	4227.8	405
FL	Crystal River	5	2013	9/27/2013	12	317	0.064970999	336	500	4879.1	478
FL	Crystal River	5	2013	9/27/2013	13	434	0.080567313	420	552	5386.8	538
FL	Crystal River	5	2013	9/27/2013	14	767	0.127014092	507	619	6038.7	606
FL	Crystal River	5	2013	9/27/2013	15	628	0.098700237	572	652	6362.7	643
FL	Crystal River	5	2013	9/27/2013	16	450	0.074976258	546	615	6001.9	605
FL	Crystal River	5	2013	9/27/2013	17	347	0.063554278	464	560	5459.9	559
FL	Crystal River	5	2013	9/27/2013	18	206	0.046926967	360	450	4389.8	433
FL	Crystal River	5	2013	9/27/2013	19	185	0.048804939	291	388	3790.6	366
FL	Crystal River	5	2013	9/27/2013	20	89	0.03403702	188	268	2614.8	229
FL	Crystal River	5	2013	9/27/2013	21	96	0.037037037	197	265	2592	227
FL	Crystal River	5	2013	9/27/2013	22	105	0.040257649	195	267	2608.2	227
FL	Crystal River	5	2013	9/27/2013	23	100	0.038370041	216	267	2606.2	226
FL	Crystal River	5	2013	9/28/2013	0	93	0.035754104	208	266	2601.1	226
FL	Crystal River	5	2013	9/28/2013	1	83	0.031934131	194	266	2599.1	227
FL	Crystal River	5	2013	9/28/2013	2	81	0.03115145	192	266	2600.2	226
FL	Crystal River	5	2013	9/28/2013	3	79	0.030330953	192	267	2604.6	226
FL	Crystal River	5	2013	9/28/2013	4	76	0.029402662	201	265	2584.8	226
FL	Crystal River	5	2013	9/28/2013	5	76	0.029348162	202	265	2589.6	226
FL	Crystal River	5	2013	9/28/2013	6	90	0.034882369	190	264	2580.1	227
FL	Crystal River	5	2013	9/28/2013	7	105	0.038156843	184	282	2751.8	246

FL	Crystal River	5	2013	9/28/2013	8	140	0.042850147	245	335	3267.2	303
FL	Crystal River	5	2013	9/28/2013	9	217	0.054558254	298	408	3977.4	377
FL	Crystal River	5	2013	9/28/2013	10	257	0.061158441	327	431	4202.2	407
FL	Crystal River	5	2013	9/28/2013	11	664	0.114439351	510	595	5802.2	571
FL	Crystal River	5	2013	9/28/2013	12	1036	0.153841585	707	690	6734.2	684
FL	Crystal River	5	2013	9/28/2013	13	1230	0.165634258	757	761	7426	765
FL	Crystal River	5	2013	9/28/2013	14	957	0.127763537	756	768	7490.4	771
FL	Crystal River	5	2013	9/28/2013	15	718	0.095765255	794	769	7497.5	770
FL	Crystal River	5	2013	9/28/2013	16	544	0.073862865	869	755	7365	758
FL	Crystal River	5	2013	9/28/2013	17	326	0.055620959	445	601	5861.1	593
FL	Crystal River	5	2013	9/28/2013	18	277	0.051273508	383	554	5402.4	536
FL	Crystal River	5	2013	9/28/2013	19	133	0.037230916	260	366	3572.3	350
FL	Crystal River	5	2013	9/28/2013	20	74	0.028616729	201	265	2585.9	226
FL	Crystal River	5	2013	9/28/2013	21	78	0.029734675	191	269	2623.2	227
FL	Crystal River	5	2013	9/28/2013	22	85	0.032686022	174	266	2600.5	226
FL	Crystal River	5	2013	9/28/2013	23	98	0.037778035	168	266	2594.1	226
FL	Crystal River	5	2013	9/29/2013	0	100	0.038529706	160	266	2595.4	226
FL	Crystal River	5	2013	9/29/2013	1	92	0.035414582	150	266	2597.8	226
FL	Crystal River	5	2013	9/29/2013	2	93	0.035744485	150	266	2601.8	226
FL	Crystal River	5	2013	9/29/2013	3	91	0.034919417	153	267	2606	227
FL	Crystal River	5	2013	9/29/2013	4	66	0.025546739	149	265	2583.5	226
FL	Crystal River	5	2013	9/29/2013	5	56	0.021645022	173	265	2587.2	226
FL	Crystal River	5	2013	9/29/2013	6	67	0.025929796	168	265	2583.9	226
FL	Crystal River	5	2013	9/29/2013	7	87	0.030658632	187	291	2837.7	254
FL	Crystal River	5	2013	9/29/2013	8	93	0.029595214	210	322	3142.4	287
FL	Crystal River	5	2013	9/29/2013	9	159	0.040542608	286	402	3921.8	369
FL	Crystal River	5	2013	9/29/2013	10	307	0.065494731	351	480	4687.4	458
FL	Crystal River	5	2013	9/29/2013	11	852	0.118590279	797	737	7184.4	724
FL	Crystal River	5	2013	9/29/2013	12	687	0.092160335	842	764	7454.4	765
FL	Crystal River	5	2013	9/29/2013	13	602	0.080449018	613	767	7483	769
FL	Crystal River	5	2013	9/29/2013	14	600	0.080193534	770	767	7481.9	767
FL	Crystal River	5	2013	9/29/2013	15	684	0.091054313	270	770	7512	770
FL	Crystal River	5	2013	9/29/2013	16	968	0.129725673	395	765	7461.9	767
FL	Crystal River	5	2013	9/29/2013	17	1158	0.154935042	605	766	7474.1	765
FL	Crystal River	5	2013	9/29/2013	18	945	0.125840602	683	770	7509.5	767

FL	Crystal River	5	2013	9/29/2013	19	839	0.112120807	681	767	7483	763
FL	Crystal River	5	2013	9/29/2013	20	528	0.085976682	466	630	6141.2	622
FL	Crystal River	5	2013	9/29/2013	21	272	0.05899833	249	473	4610.3	462
FL	Crystal River	5	2013	9/29/2013	22	75	0.027885187	115	276	2689.6	240
FL	Crystal River	5	2013	9/29/2013	23	84	0.031975638	131	269	2627	229
FL	Crystal River	5	2013	9/30/2013	0	91	0.034943553	127	267	2604.2	226
FL	Crystal River	5	2013	9/30/2013	1	102	0.039294245	135	266	2595.8	226
FL	Crystal River	5	2013	9/30/2013	2	94	0.036174716	161	266	2598.5	226
FL	Crystal River	5	2013	9/30/2013	3	82	0.031538462	150	266	2600	227
FL	Crystal River	5	2013	9/30/2013	4	75	0.029108127	136	264	2576.6	226
FL	Crystal River	5	2013	9/30/2013	5	110	0.037257824	121	302	2952.4	262
FL	Crystal River	5	2013	9/30/2013	6	133	0.044961293	147	303	2958.1	268
FL	Crystal River	5	2013	9/30/2013	7	121	0.041064277	112	302	2946.6	265
FL	Crystal River	5	2013	9/30/2013	8	139	0.044624225	133	319	3114.9	289
FL	Crystal River	5	2013	9/30/2013	9	233	0.059191139	212	403	3936.4	371
FL	Crystal River	5	2013	9/30/2013	10	536	0.098128959	420	560	5462.2	536
FL	Crystal River	5	2013	9/30/2013	11	927	0.134570159	592	706	6888.6	659
FL	Crystal River	5	2013	9/30/2013	12	1177	0.156713934	751	770	7510.5	763
FL	Crystal River	5	2013	9/30/2013	13	972	0.128250802	773	777	7578.9	769
FL	Crystal River	5	2013	9/30/2013	14	799	0.10517171	797	779	7597.1	768
FL	Crystal River	5	2013	9/30/2013	15	691	0.091347743	794	776	7564.5	770
FL	Crystal River	5	2013	9/30/2013	16	728	0.096553005	799	773	7539.9	768
FL	Crystal River	5	2013	9/30/2013	17	1039	0.138933462	650	767	7478.4	770
FL	Crystal River	5	2013	9/30/2013	18	995	0.144336776	372	707	6893.6	705
FL	Crystal River	5	2013	9/30/2013	19	757	0.12653996	197	613	5982.3	606
FL	Crystal River	5	2013	9/30/2013	20	390	0.086168802	135	464	4526	446
FL	Crystal River	5	2013	9/30/2013	21	120	0.040408122	89	304	2969.7	272
FL	Crystal River	5	2013	9/30/2013	22	90	0.034376074	94	268	2618.1	226
FL	Crystal River	5	2013	9/30/2013	23	105	0.040325678	91	267	2603.8	227
FL	Crystal River	5	2013	10/1/2013	0	132	0.050955414	95	265	2590.5	227
FL	Crystal River	5	2013	10/1/2013	1	142	0.054541963	91	267	2603.5	226
FL	Crystal River	5	2013	10/1/2013	2	150	0.057774525	96	266	2596.3	226
FL	Crystal River	5	2013	10/1/2013	3	140	0.053437154	91	268	2619.9	226
FL	Crystal River	5	2013	10/1/2013	4	362	0.139644331	127	266	2592.3	227
FL	Crystal River	5	2013	10/1/2013	5	387	0.149265245	215	266	2592.7	226

FL	Crystal River	5	2013	10/1/2013	6	360	0.139173464	421	265	2586.7	226
FL	Crystal River	5	2013	10/1/2013	7	461	0.152674284	247	309	3019.5	273
FL	Crystal River	5	2013	10/1/2013	8	868	0.226874722	172	392	3825.9	364
FL	Crystal River	5	2013	10/1/2013	9	1906	0.348484294	344	561	5469.4	537
FL	Crystal River	5	2013	10/1/2013	10	2138	0.338135982	531	648	6322.9	639
FL	Crystal River	5	2013	10/1/2013	11	1914	0.257854179	831	761	7422.8	751
FL	Crystal River	5	2013	10/1/2013	12	1664	0.221344294	887	771	7517.7	769
FL	Crystal River	5	2013	10/1/2013	13	630	0.083753207	835	771	7522.1	770
FL	Crystal River	5	2013	10/1/2013	14	584	0.077381741	618	774	7547	768
FL	Crystal River	5	2013	10/1/2013	15	817	0.108604623	729	771	7522.7	768
FL	Crystal River	5	2013	10/1/2013	16	1294	0.171613485	693	773	7540.2	768
FL	Crystal River	5	2013	10/1/2013	17	1310	0.173067523	643	776	7569.3	770
FL	Crystal River	5	2013	10/1/2013	18	1101	0.145760244	755	775	7553.5	772
FL	Crystal River	5	2013	10/1/2013	19	948	0.128472693	575	757	7379	755
FL	Crystal River	5	2013	10/1/2013	20	574	0.096810646	106	608	5929.1	597
FL	Crystal River	5	2013	10/1/2013	21	717	0.132253661	428	556	5421.4	539
FL	Crystal River	5	2013	10/1/2013	22	617	0.141685994	235	446	4354.7	421
FL	Crystal River	5	2013	10/1/2013	23	380	0.102046297	219	382	3723.8	352
FL	Crystal River	5	2013	10/2/2013	0	372	0.101064986	198	377	3680.8	346
FL	Crystal River	5	2013	10/2/2013	1	169	0.058239713	92	297	2901.8	260
FL	Crystal River	5	2013	10/2/2013	2	166	0.062816923	79	271	2642.6	229
FL	Crystal River	5	2013	10/2/2013	3	175	0.067724458	250	265	2584	227
FL	Crystal River	5	2013	10/2/2013	4	159	0.060940554	300	267	2609.1	226
FL	Crystal River	5	2013	10/2/2013	5	153	0.059020947	256	266	2592.3	226
FL	Crystal River	5	2013	10/2/2013	6	173	0.067755454	135	262	2553.3	226
FL	Crystal River	5	2013	10/2/2013	7	155	0.059402905	198	267	2609.3	231
FL	Crystal River	5	2013	10/2/2013	8	338	0.096145641	302	360	3515.5	331
FL	Crystal River	5	2013	10/2/2013	9	687	0.147923261	445	476	4644.3	451
FL	Crystal River	5	2013	10/2/2013	10	1021	0.181041209	631	578	5639.6	556
FL	Crystal River	5	2013	10/2/2013	11	1049	0.166412843	630	646	6303.6	634
FL	Crystal River	5	2013	10/2/2013	12	1274	0.191957088	590	680	6636.9	668
FL	Crystal River	5	2013	10/2/2013	13	1336	0.20088111	618	682	6650.7	671
FL	Crystal River	5	2013	10/2/2013	14	1346	0.199644023	829	691	6742	681
FL	Crystal River	5	2013	10/2/2013	15	845	0.125096228	702	693	6754.8	681
FL	Crystal River	5	2013	10/2/2013	16	942	0.139808246	599	691	6737.8	681

FL	Crystal River	5	2013	10/2/2013	17	1107	0.16469538	544	689	6721.5	681
FL	Crystal River	5	2013	10/2/2013	18	882	0.130922693	538	691	6736.8	681
FL	Crystal River	5	2013	10/2/2013	19	1041	0.155194776	536	688	6707.7	681
FL	Crystal River	5	2013	10/2/2013	20	746	0.124832664	304	613	5976	604
FL	Crystal River	5	2013	10/2/2013	21	892	0.157020138	340	582	5680.8	575
FL	Crystal River	5	2013	10/2/2013	22	434	0.103185925	180	431	4206	411
FL	Crystal River	5	2013	10/2/2013	23	173	0.064250167	99	276	2692.6	245
FL	Crystal River	5	2013	10/3/2013	0	179	0.068456479	88	268	2614.8	227
FL	Crystal River	5	2013	10/3/2013	1	160	0.061316778	114	267	2609.4	226
FL	Crystal River	5	2013	10/3/2013	2	136	0.052235366	135	267	2603.6	226
FL	Crystal River	5	2013	10/3/2013	3	121	0.046179681	141	268	2620.2	227
FL	Crystal River	5	2013	10/3/2013	4	130	0.04996925	130	266	2601.6	226
FL	Crystal River	5	2013	10/3/2013	5	127	0.048703789	114	267	2607.6	226
FL	Crystal River	5	2013	10/3/2013	6	122	0.04670214	114	268	2612.3	226
FL	Crystal River	5	2013	10/3/2013	7	124	0.046094941	121	276	2690.1	238
FL	Crystal River	5	2013	10/3/2013	8	192	0.060550632	155	325	3170.9	294
FL	Crystal River	5	2013	10/3/2013	9	404	0.098808912	253	419	4088.7	389
FL	Crystal River	5	2013	10/3/2013	10	911	0.166228742	367	562	5480.4	544
FL	Crystal River	5	2013	10/3/2013	11	1883	0.253636853	400	761	7424	752
FL	Crystal River	5	2013	10/3/2013	12	997	0.131991792	543	775	7553.5	770
FL	Crystal River	5	2013	10/3/2013	13	843	0.111868995	617	773	7535.6	770
FL	Crystal River	5	2013	10/3/2013	14	929	0.124148069	651	767	7483	768
FL	Crystal River	5	2013	10/3/2013	15	1356	0.180964074	629	768	7493.2	769
FL	Crystal River	5	2013	10/3/2013	16	1487	0.198502223	606	768	7491.1	768
FL	Crystal River	5	2013	10/3/2013	17	1203	0.160310226	615	769	7504.2	769
FL	Crystal River	5	2013	10/3/2013	18	1056	0.139934273	626	774	7546.4	770
FL	Crystal River	5	2013	10/3/2013	19	746	0.10348463	511	739	7208.8	729
FL	Crystal River	5	2013	10/3/2013	20	323	0.055940423	363	592	5774	575
FL	Crystal River	5	2013	10/3/2013	21	242	0.054443195	240	456	4445	437
FL	Crystal River	5	2013	10/3/2013	22	139	0.043990126	183	324	3159.8	290
FL	Crystal River	5	2013	10/3/2013	23	146	0.050968755	203	293	2864.5	252
FL	Crystal River	5	2013	10/4/2013	0	202	0.070780336	142	292	2853.9	251
FL	Crystal River	5	2013	10/4/2013	1	166	0.058638595	150	290	2830.9	252
FL	Crystal River	5	2013	10/4/2013	2	157	0.054682874	155	294	2871.1	251
FL	Crystal River	5	2013	10/4/2013	3	162	0.057341073	183	289	2825.2	252

FL	Crystal River	5	2013	10/4/2013	4	128	0.045711021	176	287	2800.2	251
FL	Crystal River	5	2013	10/4/2013	5	132	0.04566684	167	296	2890.5	256
FL	Crystal River	5	2013	10/4/2013	6	140	0.04869904	267	295	2874.8	255
FL	Crystal River	5	2013	10/4/2013	7	117	0.041189931	769	291	2840.5	254
FL	Crystal River	5	2013	10/4/2013	8	174	0.05497283	655	324	3165.2	293
FL	Crystal River	5	2013	10/4/2013	9	494	0.10876266	290	466	4542	435
FL	Crystal River	5	2013	10/4/2013	10	701	0.123904129	350	580	5657.6	562
FL	Crystal River	5	2013	10/4/2013	11	1190	0.159065391	538	767	7481.2	756
FL	Crystal River	5	2013	10/4/2013	12	1000	0.132383701	566	775	7553.8	768
FL	Crystal River	5	2013	10/4/2013	13	854	0.113604619	548	771	7517.3	764
FL	Crystal River	5	2013	10/4/2013	14	1421	0.189237059	548	770	7509.1	763
FL	Crystal River	5	2013	10/4/2013	15	1522	0.201477324	543	775	7554.2	766
FL	Crystal River	5	2013	10/4/2013	16	1550	0.205856963	542	772	7529.5	767
FL	Crystal River	5	2013	10/4/2013	17	1720	0.229021864	540	770	7510.2	766
FL	Crystal River	5	2013	10/4/2013	18	1833	0.243973859	540	770	7513.1	766
FL	Crystal River	5	2013	10/4/2013	19	1326	0.18014591	515	755	7360.7	751
FL	Crystal River	5	2013	10/4/2013	20	861	0.142528431	374	619	6040.9	612
FL	Crystal River	5	2013	10/4/2013	21	397	0.079666085	254	511	4983.3	492
FL	Crystal River	5	2013	10/4/2013	22	67	0.020948629	156	328	3198.3	294
FL	Crystal River	5	2013	10/4/2013	23	43	0.016242351	145	271	2647.4	229
FL	Crystal River	5	2013	10/5/2013	0	44	0.01690812	145	267	2602.3	226
FL	Crystal River	5	2013	10/5/2013	1	51	0.019649393	150	266	2595.5	226
FL	Crystal River	5	2013	10/5/2013	2	46	0.017596205	156	268	2614.2	226
FL	Crystal River	5	2013	10/5/2013	3	47	0.017914999	167	269	2623.5	226
FL	Crystal River	5	2013	10/5/2013	4	52	0.019874637	157	268	2616.4	226
FL	Crystal River	5	2013	10/5/2013	5	64	0.024529531	159	267	2609.1	226
FL	Crystal River	5	2013	10/5/2013	6	89	0.034146716	161	267	2606.4	226
FL	Crystal River	5	2013	10/5/2013	7	246	0.088083644	178	286	2792.8	247
FL	Crystal River	5	2013	10/5/2013	8	373	0.107925118	217	354	3456.1	327
FL	Crystal River	5	2013	10/5/2013	9	424	0.102569065	235	424	4133.8	393
FL	Crystal River	5	2013	10/5/2013	10	386	0.080596329	268	491	4789.3	468
FL	Crystal River	5	2013	10/5/2013	11	1234	0.18405823	442	687	6704.4	670
FL	Crystal River	5	2013	10/5/2013	12	1579	0.210898891	539	768	7487	766
FL	Crystal River	5	2013	10/5/2013	13	1222	0.162370449	541	772	7526	765
FL	Crystal River	5	2013	10/5/2013	14	1462	0.191918927	548	781	7617.8	766

FL	Crystal River	5	2013	10/5/2013	15	1726	0.227608398	553	778	7583.2	765
FL	Crystal River	5	2013	10/5/2013	16	1553	0.207003186	540	769	7502.3	766
FL	Crystal River	5	2013	10/5/2013	17	1538	0.204388098	534	772	7524.9	765
FL	Crystal River	5	2013	10/5/2013	18	1507	0.201177429	539	768	7490.9	765
FL	Crystal River	5	2013	10/5/2013	19	907	0.131590401	441	707	6892.6	704
FL	Crystal River	5	2013	10/5/2013	20	263	0.0529484	253	509	4967.1	488
FL	Crystal River	5	2013	10/5/2013	21	96	0.028997765	152	339	3310.6	309
FL	Crystal River	5	2013	10/5/2013	22	79	0.028754459	140	281	2747.4	239
FL	Crystal River	5	2013	10/5/2013	23	78	0.029594779	137	270	2635.6	226
FL	Crystal River	5	2013	10/6/2013	0	94	0.035845027	139	269	2622.4	226
FL	Crystal River	5	2013	10/6/2013	1	108	0.041248138	138	268	2618.3	227
FL	Crystal River	5	2013	10/6/2013	2	99	0.038259391	142	265	2587.6	226
FL	Crystal River	5	2013	10/6/2013	3	77	0.029682742	153	266	2594.1	227
FL	Crystal River	5	2013	10/6/2013	4	96	0.036385688	147	270	2638.4	226
FL	Crystal River	5	2013	10/6/2013	5	88	0.033147506	135	272	2654.8	226
FL	Crystal River	5	2013	10/6/2013	6	113	0.04260132	143	272	2652.5	229
FL	Crystal River	5	2013	10/6/2013	7	134	0.047504254	152	289	2820.8	252
FL	Crystal River	5	2013	10/6/2013	8	177	0.053859964	177	337	3286.3	303
FL	Crystal River	5	2013	10/6/2013	9	303	0.072420469	217	429	4183.9	398
FL	Crystal River	5	2013	10/6/2013	10	429	0.08321049	293	529	5155.6	509
FL	Crystal River	5	2013	10/6/2013	11	1237	0.174727386	481	726	7079.6	716
FL	Crystal River	5	2013	10/6/2013	12	1275	0.169873161	540	770	7505.6	766
FL	Crystal River	5	2013	10/6/2013	13	1048	0.139065817	557	773	7536	766
FL	Crystal River	5	2013	10/6/2013	14	1033	0.136790392	543	774	7551.7	766
FL	Crystal River	5	2013	10/6/2013	15	1074	0.143469723	539	768	7485.9	767
FL	Crystal River	5	2013	10/6/2013	16	1234	0.164006326	541	772	7524.1	766
FL	Crystal River	5	2013	10/6/2013	17	1385	0.183872338	542	772	7532.4	767
FL	Crystal River	5	2013	10/6/2013	18	1277	0.168505225	545	777	7578.4	767
FL	Crystal River	5	2013	10/6/2013	19	1255	0.168907552	549	762	7430.1	756
FL	Crystal River	5	2013	10/6/2013	20	553	0.089515515	376	633	6177.7	628
FL	Crystal River	5	2013	10/6/2013	21	709	0.134760131	289	539	5261.2	524
FL	Crystal River	5	2013	10/6/2013	22	370	0.110546758	170	343	3347	317
FL	Crystal River	5	2013	10/6/2013	23	119	0.045185298	160	270	2633.6	226
FL	Crystal River	5	2013	10/7/2013	0	83	0.031946422	161	266	2598.1	227
FL	Crystal River	5	2013	10/7/2013	1	79	0.030111297	165	269	2623.6	226

FL	Crystal River	5	2013	10/7/2013	2	101	0.038688424	172	267	2610.6	226
FL	Crystal River	5	2013	10/7/2013	3	101	0.038615943	162	268	2615.5	226
FL	Crystal River	5	2013	10/7/2013	4	112	0.043168241	160	266	2594.5	226
FL	Crystal River	5	2013	10/7/2013	5	185	0.063608857	192	298	2908.4	261
FL	Crystal River	5	2013	10/7/2013	6	135	0.045625063	189	303	2958.9	261
FL	Crystal River	5	2013	10/7/2013	7	99	0.034729531	185	292	2850.6	254
FL	Crystal River	5	2013	10/7/2013	8	188	0.054124082	232	356	3473.5	323
FL	Crystal River	5	2013	10/7/2013	9	403	0.087219998	277	474	4620.5	451
FL	Crystal River	5	2013	10/7/2013	10	264	0.05923001	263	457	4457.2	433
FL	Crystal River	5	2013	10/7/2013	11	407	0.076825792	317	543	5297.7	525
FL	Crystal River	5	2013	10/7/2013	12	396	0.078172809	273	519	5065.7	499
FL	Crystal River	5	2013	10/7/2013	13	748	0.117571242	419	652	6362.1	639
FL	Crystal River	5	2013	10/7/2013	14	1100	0.165473254	425	682	6647.6	676
FL	Crystal River	5	2013	10/7/2013	15	993	0.149609028	438	681	6637.3	678
FL	Crystal River	5	2013	10/7/2013	16	882	0.132669485	432	682	6648.1	673
FL	Crystal River	5	2013	10/7/2013	17	783	0.135711314	328	592	5769.6	582
FL	Crystal River	5	2013	10/7/2013	18	727	0.132538467	312	562	5485.2	549
FL	Crystal River	5	2013	10/7/2013	19	697	0.137967893	520	518	5051.9	505
FL	Crystal River	5	2013	10/7/2013	20	372	0.102978629	213	370	3612.4	339
FL	Crystal River	5	2013	10/7/2013	21	348	0.119847092	34	297	2903.7	262
FL	Crystal River	5	2013	10/7/2013	22	217	0.075274039	63	295	2882.8	257
FL	Crystal River	5	2013	10/7/2013	23	98	0.03681166	71	273	2662.2	233
FL	Crystal River	5	2013	10/8/2013	0	89	0.034350998	228	265	2590.9	227
FL	Crystal River	5	2013	10/8/2013	1	102	0.039522629	154	264	2580.8	226
FL	Crystal River	5	2013	10/8/2013	2	106	0.040453383	157	268	2620.3	226
FL	Crystal River	5	2013	10/8/2013	3	96	0.037354086	156	263	2570	227
FL	Crystal River	5	2013	10/8/2013	4	105	0.040546803	158	265	2589.6	226
FL	Crystal River	5	2013	10/8/2013	5	152	0.054913295	174	284	2768	248
FL	Crystal River	5	2013	10/8/2013	6	205	0.063265747	184	332	3240.3	296
FL	Crystal River	5	2013	10/8/2013	7	448	0.093247856	278	492	4804.4	469
FL	Crystal River	5	2013	10/8/2013	8	792	0.11558669	465	703	6852	700
FL	Crystal River	5	2013	10/8/2013	9	688	0.096796432	490	729	7107.7	726
FL	Crystal River	5	2013	10/8/2013	10	573	0.080771345	489	727	7094.1	726
FL	Crystal River	5	2013	10/8/2013	11	541	0.076014107	491	730	7117.1	726
FL	Crystal River	5	2013	10/8/2013	12	562	0.078944781	469	730	7118.9	726

FL	Crystal River	5	2013	10/8/2013	13	562	0.079256512	482	727	7090.9	726
FL	Crystal River	5	2013	10/8/2013	14	842	0.11681303	490	739	7208.1	726
FL	Crystal River	5	2013	10/8/2013	15	1240	0.17179036	498	740	7218.1	726
FL	Crystal River	5	2013	10/8/2013	16	1238	0.171238087	491	741	7229.7	727
FL	Crystal River	5	2013	10/8/2013	17	1135	0.160924429	465	723	7053	717
FL	Crystal River	5	2013	10/8/2013	18	572	0.085438169	421	686	6694.9	680
FL	Crystal River	5	2013	10/8/2013	19	526	0.086494664	340	623	6081.3	610
FL	Crystal River	5	2013	10/8/2013	20	272	0.061798519	220	451	4401.4	433
FL	Crystal River	5	2013	10/8/2013	21	129	0.040833122	132	324	3159.2	295
FL	Crystal River	5	2013	10/8/2013	22	85	0.032532149	135	268	2612.8	227
FL	Crystal River	5	2013	10/8/2013	23	85	0.032714957	163	266	2598.2	226
FL	Crystal River	5	2013	10/9/2013	0	86	0.033135548	163	266	2595.4	226
FL	Crystal River	5	2013	10/9/2013	1	85	0.032840088	165	265	2588.3	226
FL	Crystal River	5	2013	10/9/2013	2	108	0.041492182	169	267	2602.9	226
FL	Crystal River	5	2013	10/9/2013	3	126	0.048581123	179	266	2593.6	226
FL	Crystal River	5	2013	10/9/2013	4	123	0.047713255	162	264	2577.9	226
FL	Crystal River	5	2013	10/9/2013	5	167	0.058171938	175	294	2870.8	255
FL	Crystal River	5	2013	10/9/2013	6	256	0.075371706	207	348	3396.5	304
FL	Crystal River	5	2013	10/9/2013	7	658	0.117567181	324	574	5596.8	558
FL	Crystal River	5	2013	10/9/2013	8	806	0.120711087	420	685	6677.1	684
FL	Crystal River	5	2013	10/9/2013	9	1023	0.145732724	435	720	7019.7	726
FL	Crystal River	5	2013	10/9/2013	10	890	0.126429434	471	722	7039.5	726
FL	Crystal River	5	2013	10/9/2013	11	781	0.110023244	454	728	7098.5	726
FL	Crystal River	5	2013	10/9/2013	12	716	0.101002976	510	727	7088.9	726
FL	Crystal River	5	2013	10/9/2013	13	737	0.103944826	475	727	7090.3	726
FL	Crystal River	5	2013	10/9/2013	14	875	0.122924335	469	730	7118.2	726
FL	Crystal River	5	2013	10/9/2013	15	1071	0.150505902	476	730	7116	726
FL	Crystal River	5	2013	10/9/2013	16	891	0.125355244	476	729	7107.8	727
FL	Crystal River	5	2013	10/9/2013	17	546	0.088922185	343	630	6140.2	630
FL	Crystal River	5	2013	10/9/2013	18	416	0.077773	272	548	5348.9	536
FL	Crystal River	5	2013	10/9/2013	19	488	0.10699408	232	468	4561	459
FL	Crystal River	5	2013	10/9/2013	20	176	0.058222237	163	310	3022.9	280
FL	Crystal River	5	2013	10/9/2013	21	163	0.058544645	155	285	2784.2	253
FL	Crystal River	5	2013	10/9/2013	22	121	0.046046122	147	269	2627.8	235
FL	Crystal River	5	2013	10/9/2013	23	125	0.048828125	148	262	2560	227

FL	Crystal River	5	2013	10/10/2013	0	129	0.050600141	147	261	2549.4	226
FL	Crystal River	5	2013	10/10/2013	1	128	0.050172468	150	261	2551.2	226
FL	Crystal River	5	2013	10/10/2013	2	121	0.047397078	160	261	2552.9	226
FL	Crystal River	5	2013	10/10/2013	3	118	0.046229187	145	261	2552.5	226
FL	Crystal River	5	2013	10/10/2013	4	116	0.045429623	153	262	2553.4	226
FL	Crystal River	5	2013	10/10/2013	5	133	0.051337476	152	265	2590.7	226
FL	Crystal River	5	2013	10/10/2013	6	128	0.048838185	157	268	2620.9	227
FL	Crystal River	5	2013	10/10/2013	7	126	0.050765512	151	254	2482	226
FL	Crystal River	5	2013	10/10/2013	8	127	0.04951074	156	263	2565.1	227
FL	Crystal River	5	2013	10/10/2013	9	121	0.046671295	155	266	2592.6	226
FL	Crystal River	5	2013	10/10/2013	10	148	0.054284038	163	279	2726.4	245
FL	Crystal River	5	2013	10/10/2013	11	338	0.09448995	203	367	3577.1	334
FL	Crystal River	5	2013	10/10/2013	12	930	0.148042025	408	644	6282	635
FL	Crystal River	5	2013	10/10/2013	13	915	0.122649223	507	765	7460.3	763
FL	Crystal River	5	2013	10/10/2013	14	1375	0.185344944	519	761	7418.6	759
FL	Crystal River	5	2013	10/10/2013	15	1222	0.160781012	539	779	7600.4	771
FL	Crystal River	5	2013	10/10/2013	16	1025	0.135251039	538	777	7578.5	771
FL	Crystal River	5	2013	10/10/2013	17	1009	0.132553862	532	781	7612	772
FL	Crystal River	5	2013	10/10/2013	18	999	0.132653468	542	772	7530.9	771
FL	Crystal River	5	2013	10/10/2013	19	1182	0.156647583	543	774	7545.6	771
FL	Crystal River	5	2013	10/10/2013	20	942	0.136598947	441	707	6896.1	702
FL	Crystal River	5	2013	10/10/2013	21	1040	0.197279815	284	540	5271.7	521
FL	Crystal River	5	2013	10/10/2013	22	666	0.142728559	256	478	4666.2	452
FL	Crystal River	5	2013	10/10/2013	23	512	0.113977872	242	460	4492.1	432
FL	Crystal River	5	2013	10/11/2013	0	300	0.082151268	200	374	3651.8	341
FL	Crystal River	5	2013	10/11/2013	1	159	0.056557465	171	288	2811.3	255
FL	Crystal River	5	2013	10/11/2013	2	167	0.058303949	180	293	2864.3	254
FL	Crystal River	5	2013	10/11/2013	3	139	0.049924574	169	285	2784.2	249
FL	Crystal River	5	2013	10/11/2013	4	134	0.047793987	173	287	2803.7	253
FL	Crystal River	5	2013	10/11/2013	5	418	0.102950594	231	416	4060.2	390
FL	Crystal River	5	2013	10/11/2013	6	1003	0.173824131	328	592	5770.2	566
FL	Crystal River	5	2013	10/11/2013	7	965	0.137101128	457	722	7038.6	714
FL	Crystal River	5	2013	10/11/2013	8	750	0.105986095	474	726	7076.4	726
FL	Crystal River	5	2013	10/11/2013	9	880	0.124517142	452	725	7067.3	726
FL	Crystal River	5	2013	10/11/2013	10	1005	0.139865006	503	737	7185.5	726

FL	Crystal River	5	2013	10/11/2013	11	916	0.127775918	501	735	7168.8	727
FL	Crystal River	5	2013	10/11/2013	12	876	0.121810471	503	737	7191.5	726
FL	Crystal River	5	2013	10/11/2013	13	890	0.124228804	501	735	7164.2	727
FL	Crystal River	5	2013	10/11/2013	14	965	0.134778419	501	734	7159.9	726
FL	Crystal River	5	2013	10/11/2013	15	1036	0.144321854	502	736	7178.4	726
FL	Crystal River	5	2013	10/11/2013	16	934	0.129687999	504	738	7201.9	727
FL	Crystal River	5	2013	10/11/2013	17	894	0.124109783	504	739	7203.3	726
FL	Crystal River	5	2013	10/11/2013	18	1052	0.140833757	552	766	7469.8	754
FL	Crystal River	5	2013	10/11/2013	19	1044	0.137965667	552	776	7567.1	768
FL	Crystal River	5	2013	10/11/2013	20	648	0.102684372	347	647	6310.6	635
FL	Crystal River	5	2013	10/11/2013	21	624	0.10904325	303	587	5722.5	571
FL	Crystal River	5	2013	10/11/2013	22	428	0.099041977	224	443	4321.4	419
FL	Crystal River	5	2013	10/11/2013	23	140	0.050182809	86	286	2789.8	251
FL	Crystal River	5	2013	10/12/2013	0	98	0.037097324	81	271	2641.7	226
FL	Crystal River	5	2013	10/12/2013	1	105	0.03990878	144	269	2631	227
FL	Crystal River	5	2013	10/12/2013	2	102	0.038909022	175	269	2621.5	226
FL	Crystal River	5	2013	10/12/2013	3	101	0.038554033	167	268	2619.7	226
FL	Crystal River	5	2013	10/12/2013	4	96	0.036701457	162	268	2615.7	227
FL	Crystal River	5	2013	10/12/2013	5	88	0.033820138	163	267	2602	227
FL	Crystal River	5	2013	10/12/2013	6	114	0.041332802	171	283	2758.1	249
FL	Crystal River	5	2013	10/12/2013	7	166	0.053405398	192	318	3108.3	283
FL	Crystal River	5	2013	10/12/2013	8	231	0.063720622	221	371	3625.2	340
FL	Crystal River	5	2013	10/12/2013	9	485	0.107208382	248	464	4523.9	436
FL	Crystal River	5	2013	10/12/2013	10	893	0.158956194	320	576	5617.9	556
FL	Crystal River	5	2013	10/12/2013	11	1571	0.216182744	486	745	7267	733
FL	Crystal River	5	2013	10/12/2013	12	1321	0.174878869	536	775	7553.8	770
FL	Crystal River	5	2013	10/12/2013	13	1104	0.144745123	541	782	7627.2	770
FL	Crystal River	5	2013	10/12/2013	14	858	0.112727129	540	780	7611.3	770
FL	Crystal River	5	2013	10/12/2013	15	881	0.116552892	544	775	7558.8	768
FL	Crystal River	5	2013	10/12/2013	16	923	0.121549726	539	779	7593.6	771
FL	Crystal River	5	2013	10/12/2013	17	958	0.126761495	536	775	7557.5	769
FL	Crystal River	5	2013	10/12/2013	18	973	0.127896736	524	780	7607.7	770
FL	Crystal River	5	2013	10/12/2013	19	866	0.117401442	486	756	7376.4	750
FL	Crystal River	5	2013	10/12/2013	20	575	0.094316411	347	625	6096.5	609
FL	Crystal River	5	2013	10/12/2013	21	576	0.10742661	289	550	5361.8	526

FL	Crystal River	5	2013	10/12/2013	22	339	0.0828628	216	419	4091.1	389
FL	Crystal River	5	2013	10/12/2013	23	83	0.030513584	155	279	2720.1	239
FL	Crystal River	5	2013	10/13/2013	0	95	0.036273387	157	268	2619	227
FL	Crystal River	5	2013	10/13/2013	1	83	0.031749675	159	268	2614.2	227
FL	Crystal River	5	2013	10/13/2013	2	86	0.033446117	156	263	2571.3	226
FL	Crystal River	5	2013	10/13/2013	3	77	0.030018323	156	263	2565.1	226
FL	Crystal River	5	2013	10/13/2013	4	84	0.032857422	155	262	2556.5	227
FL	Crystal River	5	2013	10/13/2013	5	79	0.031162479	157	260	2535.1	226
FL	Crystal River	5	2013	10/13/2013	6	92	0.035687963	157	264	2577.9	226
FL	Crystal River	5	2013	10/13/2013	7	109	0.038966146	167	287	2797.3	253
FL	Crystal River	5	2013	10/13/2013	8	176	0.051679587	204	349	3405.6	318
FL	Crystal River	5	2013	10/13/2013	9	426	0.089207187	262	490	4775.4	461
FL	Crystal River	5	2013	10/13/2013	10	709	0.140803114	271	516	5035.4	492
FL	Crystal River	5	2013	10/13/2013	11	985	0.141655282	458	713	6953.5	700
FL	Crystal River	5	2013	10/13/2013	12	790	0.104627447	521	774	7550.6	768
FL	Crystal River	5	2013	10/13/2013	13	936	0.122672049	549	782	7630.1	771
FL	Crystal River	5	2013	10/13/2013	14	961	0.127328616	535	774	7547.4	769
FL	Crystal River	5	2013	10/13/2013	15	951	0.125225498	546	779	7594.3	770
FL	Crystal River	5	2013	10/13/2013	16	924	0.121716679	539	778	7591.4	771
FL	Crystal River	5	2013	10/13/2013	17	860	0.113631859	537	776	7568.3	772
FL	Crystal River	5	2013	10/13/2013	18	954	0.125835938	545	777	7581.3	771
FL	Crystal River	5	2013	10/13/2013	19	977	0.128410704	547	780	7608.4	770
FL	Crystal River	5	2013	10/13/2013	20	646	0.098689236	373	671	6545.8	657
FL	Crystal River	5	2013	10/13/2013	21	442	0.086958233	269	521	5082.9	501
FL	Crystal River	5	2013	10/13/2013	22	247	0.072011662	137	351	3430	317
FL	Crystal River	5	2013	10/13/2013	23	106	0.040758257	83	266	2600.7	226
FL	Crystal River	5	2013	10/14/2013	0	106	0.040882444	80	266	2592.8	227
FL	Crystal River	5	2013	10/14/2013	1	96	0.037085683	181	265	2588.6	227
FL	Crystal River	5	2013	10/14/2013	2	104	0.040330399	162	264	2578.7	227
FL	Crystal River	5	2013	10/14/2013	3	91	0.035219444	155	265	2583.8	226
FL	Crystal River	5	2013	10/14/2013	4	103	0.03979446	157	265	2588.3	227
FL	Crystal River	5	2013	10/14/2013	5	152	0.051926756	178	300	2927.2	260
FL	Crystal River	5	2013	10/14/2013	6	181	0.057451198	176	323	3150.5	286
FL	Crystal River	5	2013	10/14/2013	7	357	0.089628681	227	408	3983.1	378
FL	Crystal River	5	2013	10/14/2013	8	451	0.093066447	271	497	4846	476

FL	Crystal River	5	2013	10/14/2013	9	642	0.115148689	323	572	5575.4	553
FL	Crystal River	5	2013	10/14/2013	10	448	0.074023893	369	620	6052.1	609
FL	Crystal River	5	2013	10/14/2013	11	897	0.121850166	471	755	7361.5	746
FL	Crystal River	5	2013	10/14/2013	12	826	0.110340774	509	768	7485.9	765
FL	Crystal River	5	2013	10/14/2013	13	595	0.078786033	521	774	7552.1	767
FL	Crystal River	5	2013	10/14/2013	14	621	0.081997518	545	777	7573.4	769
FL	Crystal River	5	2013	10/14/2013	15	820	0.108951278	534	772	7526.3	768
FL	Crystal River	5	2013	10/14/2013	16	977	0.128124426	526	782	7625.4	769
FL	Crystal River	5	2013	10/14/2013	17	936	0.12295728	548	781	7612.4	770
FL	Crystal River	5	2013	10/14/2013	18	868	0.114300764	554	779	7594	770
FL	Crystal River	5	2013	10/14/2013	19	889	0.116899853	547	780	7604.8	770
FL	Crystal River	5	2013	10/14/2013	20	925	0.122385256	551	775	7558.1	768
FL	Crystal River	5	2013	10/14/2013	21	677	0.104193921	396	666	6497.5	656
FL	Crystal River	5	2013	10/14/2013	22	535	0.099545996	295	551	5374.4	527
FL	Crystal River	5	2013	10/14/2013	23	468	0.101386482	263	473	4616	454
FL	Crystal River	5	2013	10/15/2013	0	380	0.086908792	240	448	4372.4	430
FL	Crystal River	5	2013	10/15/2013	1	173	0.051457466	184	344	3362	320
FL	Crystal River	5	2013	10/15/2013	2	147	0.052436327	179	287	2803.4	252
FL	Crystal River	5	2013	10/15/2013	3	141	0.050078136	180	288	2815.6	252
FL	Crystal River	5	2013	10/15/2013	4	150	0.050857802	191	302	2949.4	266
FL	Crystal River	5	2013	10/15/2013	5	352	0.087031772	242	415	4044.5	387
FL	Crystal River	5	2013	10/15/2013	6	311	0.072818376	230	438	4270.9	421
FL	Crystal River	5	2013	10/15/2013	7	190	0.050214071	223	388	3783.8	358
FL	Crystal River	5	2013	10/15/2013	8	240	0.062189055	223	396	3859.2	364
FL	Crystal River	5	2013	10/15/2013	9	297	0.071820666	235	424	4135.3	395
FL	Crystal River	5	2013	10/15/2013	10	198	0.052812675	213	384	3749.1	357
FL	Crystal River	5	2013	10/15/2013	11	362	0.080718889	251	460	4484.7	434
FL	Crystal River	5	2013	10/15/2013	12	331	0.074495859	248	455	4443.2	429
FL	Crystal River	5	2013	10/15/2013	13	650	0.114808535	322	580	5661.6	559
FL	Crystal River	5	2013	10/15/2013	14	1161	0.163224564	462	729	7112.9	729
FL	Crystal River	5	2013	10/15/2013	15	790	0.10563192	523	767	7478.8	766
FL	Crystal River	5	2013	10/15/2013	16	856	0.114217093	532	768	7494.5	766
FL	Crystal River	5	2013	10/15/2013	17	992	0.131664521	527	773	7534.3	767
FL	Crystal River	5	2013	10/15/2013	18	923	0.122682262	541	771	7523.5	767
FL	Crystal River	5	2013	10/15/2013	19	782	0.108859068	502	737	7183.6	740

FL	Crystal River	5	2013	10/15/2013	20	646	0.103308759	381	641	6253.1	636
FL	Crystal River	5	2013	10/15/2013	21	700	0.125829124	311	570	5563.1	558
FL	Crystal River	5	2013	10/15/2013	22	454	0.099657564	259	467	4555.6	455
FL	Crystal River	5	2013	10/15/2013	23	451	0.122851461	194	376	3671.1	355
FL	Crystal River	5	2013	10/16/2013	0	83	0.030121575	159	282	2755.5	251
FL	Crystal River	5	2013	10/16/2013	1	71	0.027431132	163	265	2588.3	227
FL	Crystal River	5	2013	10/16/2013	2	80	0.031030604	162	264	2578.1	226
FL	Crystal River	5	2013	10/16/2013	3	61	0.023622352	162	264	2582.3	226
FL	Crystal River	5	2013	10/16/2013	4	78	0.029198173	173	274	2671.4	238
FL	Crystal River	5	2013	10/16/2013	5	315	0.075713874	266	426	4160.4	400
FL	Crystal River	5	2013	10/16/2013	6	508	0.092739654	312	562	5477.7	544
FL	Crystal River	5	2013	10/16/2013	7	449	0.081923842	317	562	5480.7	554
FL	Crystal River	5	2013	10/16/2013	8	460	0.082128191	324	574	5601	562
FL	Crystal River	5	2013	10/16/2013	9	652	0.106313592	374	629	6132.8	619
FL	Crystal River	5	2013	10/16/2013	10	650	0.101038363	398	660	6433.2	652
FL	Crystal River	5	2013	10/16/2013	11	730	0.0966158	528	775	7555.7	766
FL	Crystal River	5	2013	10/16/2013	12	572	0.07528396	547	779	7597.9	771
FL	Crystal River	5	2013	10/16/2013	13	499	0.065903298	537	776	7571.7	771
FL	Crystal River	5	2013	10/16/2013	14	556	0.073501223	506	776	7564.5	769
FL	Crystal River	5	2013	10/16/2013	15	761	0.100476637	507	777	7573.9	770
FL	Crystal River	5	2013	10/16/2013	16	992	0.131479542	535	774	7544.9	770
FL	Crystal River	5	2013	10/16/2013	17	852	0.113257208	556	771	7522.7	770
FL	Crystal River	5	2013	10/16/2013	18	748	0.098251698	555	781	7613.1	770
FL	Crystal River	5	2013	10/16/2013	19	606	0.083137836	517	747	7289.1	744
FL	Crystal River	5	2013	10/16/2013	20	489	0.076988475	406	651	6351.6	645
FL	Crystal River	5	2013	10/16/2013	21	349	0.068294783	281	524	5110.2	511
FL	Crystal River	5	2013	10/16/2013	22	330	0.070594275	238	479	4674.6	457
FL	Crystal River	5	2013	10/16/2013	23	125	0.037560096	156	341	3328	308
FL	Crystal River	5	2013	10/17/2013	0	75	0.028327542	145	271	2647.6	227
FL	Crystal River	5	2013	10/17/2013	1	72	0.027303754	147	270	2637	227
FL	Crystal River	5	2013	10/17/2013	2	67	0.02586573	142	265	2590.3	227
FL	Crystal River	5	2013	10/17/2013	3	81	0.031116745	153	267	2603.1	226
FL	Crystal River	5	2013	10/17/2013	4	92	0.034407959	155	274	2673.8	235
FL	Crystal River	5	2013	10/17/2013	5	288	0.073330957	212	403	3927.4	373
FL	Crystal River	5	2013	10/17/2013	6	802	0.127512083	377	645	6289.6	630

FL	Crystal River	5	2013	10/17/2013	7	830	0.112327618	495	758	7389.1	764
FL	Crystal River	5	2013	10/17/2013	8	713	0.09602435	527	761	7425.2	765
FL	Crystal River	5	2013	10/17/2013	9	857	0.113900666	534	772	7524.1	766
FL	Crystal River	5	2013	10/17/2013	10	1009	0.135213004	567	765	7462.3	766
FL	Crystal River	5	2013	10/17/2013	11	1005	0.134988113	558	763	7445.1	765
FL	Crystal River	5	2013	10/17/2013	12	942	0.125661993	562	769	7496.3	766
FL	Crystal River	5	2013	10/17/2013	13	860	0.115304686	551	765	7458.5	766
FL	Crystal River	5	2013	10/17/2013	14	763	0.101890925	546	768	7488.4	765
FL	Crystal River	5	2013	10/17/2013	15	674	0.090447945	558	764	7451.8	764
FL	Crystal River	5	2013	10/17/2013	16	649	0.086091397	565	773	7538.5	765
FL	Crystal River	5	2013	10/17/2013	17	643	0.086587665	564	761	7426	768
FL	Crystal River	5	2013	10/17/2013	18	829	0.11034648	563	770	7512.7	769
FL	Crystal River	5	2013	10/17/2013	19	889	0.117661073	559	775	7555.6	770
FL	Crystal River	5	2013	10/17/2013	20	713	0.097521611	504	750	7311.2	746
FL	Crystal River	5	2013	10/17/2013	21	511	0.07994493	389	655	6391.9	646
FL	Crystal River	5	2013	10/17/2013	22	474	0.078397645	356	620	6046.1	608
FL	Crystal River	5	2013	10/17/2013	23	271	0.058243246	246	477	4652.9	464
FL	Crystal River	5	2013	10/18/2013	0	224	0.056997455	227	403	3930	380
FL	Crystal River	5	2013	10/18/2013	1	109	0.038842563	168	287	2806.2	254
FL	Crystal River	5	2013	10/18/2013	2	104	0.036969891	168	288	2813.1	252
FL	Crystal River	5	2013	10/18/2013	3	89	0.031551333	172	289	2820.8	251
FL	Crystal River	5	2013	10/18/2013	4	89	0.031527861	172	289	2822.9	255
FL	Crystal River	5	2013	10/18/2013	5	244	0.06416831	232	390	3802.5	361
FL	Crystal River	5	2013	10/18/2013	6	530	0.098976619	321	549	5354.8	532
FL	Crystal River	5	2013	10/18/2013	7	835	0.128264209	410	667	6510	655
FL	Crystal River	5	2013	10/18/2013	8	1069	0.143775554	535	762	7435.2	760
FL	Crystal River	5	2013	10/18/2013	9	842	0.113771484	547	759	7400.8	760
FL	Crystal River	5	2013	10/18/2013	10	874	0.117103236	544	765	7463.5	761
FL	Crystal River	5	2013	10/18/2013	11	902	0.121212121	528	763	7441.5	761
FL	Crystal River	5	2013	10/18/2013	12	920	0.124482451	539	758	7390.6	762
FL	Crystal River	5	2013	10/18/2013	13	954	0.127420863	584	768	7487	761
FL	Crystal River	5	2013	10/18/2013	14	1397	0.186794673	575	767	7478.8	760
FL	Crystal River	5	2013	10/18/2013	15	1065	0.142878225	559	764	7453.9	759
FL	Crystal River	5	2013	10/18/2013	16	1019	0.136556733	544	765	7462.1	761
FL	Crystal River	5	2013	10/18/2013	17	982	0.130302668	550	773	7536.3	766

FL	Crystal River	5	2013	10/18/2013	18	1013	0.134046129	551	775	7557.1	766
FL	Crystal River	5	2013	10/18/2013	19	1061	0.140768455	557	773	7537.2	767
FL	Crystal River	5	2013	10/18/2013	20	1124	0.148722495	559	775	7557.7	767
FL	Crystal River	5	2013	10/18/2013	21	1020	0.139816046	518	748	7295.3	743
FL	Crystal River	5	2013	10/18/2013	22	412	0.064516129	402	655	6386	651
FL	Crystal River	5	2013	10/18/2013	23	284	0.058665565	271	496	4841	487
FL	Crystal River	5	2013	10/19/2013	0	131	0.037049607	190	362	3535.8	339
FL	Crystal River	5	2013	10/19/2013	1	77	0.029277567	157	269	2630	234
FL	Crystal River	5	2013	10/19/2013	2	88	0.033634001	159	268	2616.4	227
FL	Crystal River	5	2013	10/19/2013	3	109	0.04148588	162	269	2627.4	226
FL	Crystal River	5	2013	10/19/2013	4	133	0.050722703	162	269	2622.1	227
FL	Crystal River	5	2013	10/19/2013	5	187	0.056685562	191	338	3298.9	302
FL	Crystal River	5	2013	10/19/2013	6	249	0.064977428	226	393	3832.1	361
FL	Crystal River	5	2013	10/19/2013	7	445	0.092594519	293	493	4805.9	467
FL	Crystal River	5	2013	10/19/2013	8	963	0.146308113	460	675	6582	662
FL	Crystal River	5	2013	10/19/2013	9	955	0.125636404	585	779	7601.3	770
FL	Crystal River	5	2013	10/19/2013	10	760	0.100771699	580	773	7541.8	770
FL	Crystal River	5	2013	10/19/2013	11	1036	0.137861287	571	771	7514.8	769
FL	Crystal River	5	2013	10/19/2013	12	1571	0.208209084	565	774	7545.3	769
FL	Crystal River	5	2013	10/19/2013	13	1257	0.165216477	563	780	7608.2	769
FL	Crystal River	5	2013	10/19/2013	14	1264	0.167441614	566	774	7548.9	768
FL	Crystal River	5	2013	10/19/2013	15	1246	0.164755973	574	775	7562.7	769
FL	Crystal River	5	2013	10/19/2013	16	1308	0.172059984	585	780	7602	770
FL	Crystal River	5	2013	10/19/2013	17	1406	0.18574788	575	776	7569.4	771
FL	Crystal River	5	2013	10/19/2013	18	1498	0.197505472	576	778	7584.6	770
FL	Crystal River	5	2013	10/19/2013	19	1266	0.165682951	573	784	7641.1	772
FL	Crystal River	5	2013	10/19/2013	20	1025	0.134104379	565	784	7643.3	770
FL	Crystal River	5	2013	10/19/2013	21	906	0.120600607	548	770	7512.4	764
FL	Crystal River	5	2013	10/19/2013	22	337	0.051574791	418	670	6534.2	660
FL	Crystal River	5	2013	10/19/2013	23	225	0.040915042	302	564	5499.2	553
FL	Crystal River	5	2013	10/20/2013	0	110	0.029284916	202	385	3756.2	361
FL	Crystal River	5	2013	10/20/2013	1	55	0.020546154	163	274	2676.9	234
FL	Crystal River	5	2013	10/20/2013	2	59	0.022607096	164	267	2609.8	227
FL	Crystal River	5	2013	10/20/2013	3	66	0.025341729	166	267	2604.4	226
FL	Crystal River	5	2013	10/20/2013	4	73	0.028123435	166	266	2595.7	227

FL	Crystal River	5	2013	10/20/2013	5	88	0.034062319	167	265	2583.5	226
FL	Crystal River	5	2013	10/20/2013	6	123	0.047617204	170	265	2583.1	227
FL	Crystal River	5	2013	10/20/2013	7	476	0.127555806	238	382	3731.7	353
FL	Crystal River	5	2013	10/20/2013	8	1039	0.182101795	359	585	5705.6	570
FL	Crystal River	5	2013	10/20/2013	9	1554	0.208154736	552	766	7465.6	753
FL	Crystal River	5	2013	10/20/2013	10	1204	0.159749496	557	773	7536.8	771
FL	Crystal River	5	2013	10/20/2013	11	1000	0.133044184	533	771	7516.3	769
FL	Crystal River	5	2013	10/20/2013	12	883	0.118810549	527	762	7432	769
FL	Crystal River	5	2013	10/20/2013	13	1020	0.136977103	528	764	7446.5	768
FL	Crystal River	5	2013	10/20/2013	14	1187	0.157686381	534	772	7527.6	770
FL	Crystal River	5	2013	10/20/2013	15	516	0.068615196	533	771	7520.2	770
FL	Crystal River	5	2013	10/20/2013	16	1076	0.141660962	554	779	7595.6	770
FL	Crystal River	5	2013	10/20/2013	17	1366	0.180733253	544	775	7558.1	770
FL	Crystal River	5	2013	10/20/2013	18	1213	0.160017941	538	777	7580.4	770
FL	Crystal River	5	2013	10/20/2013	19	1056	0.138529956	541	782	7622.9	771
FL	Crystal River	5	2013	10/20/2013	20	1000	0.131166463	541	782	7623.9	773
FL	Crystal River	5	2013	10/20/2013	21	303	0.040372009	532	770	7505.2	764
FL	Crystal River	5	2013	10/20/2013	22	286	0.048122224	350	609	5943.2	599
FL	Crystal River	5	2013	10/20/2013	23	107	0.028226232	204	388	3790.8	372
FL	Crystal River	5	2013	10/21/2013	0	61	0.021260282	152	294	2869.2	261
FL	Crystal River	5	2013	10/21/2013	1	55	0.021224049	155	265	2591.4	226
FL	Crystal River	5	2013	10/21/2013	2	57	0.022155712	154	264	2572.7	226
FL	Crystal River	5	2013	10/21/2013	3	64	0.024803317	157	264	2580.3	226
FL	Crystal River	5	2013	10/21/2013	4	99	0.034227631	173	296	2892.4	262
FL	Crystal River	5	2013	10/21/2013	5	398	0.096489527	239	423	4124.8	395
FL	Crystal River	5	2013	10/21/2013	6	559	0.120687422	259	475	4631.8	452
FL	Crystal River	5	2013	10/21/2013	7	622	0.141344362	255	451	4400.6	431
FL	Crystal River	5	2013	10/21/2013	8	953	0.16970582	342	576	5615.6	561
FL	Crystal River	5	2013	10/21/2013	9	885	0.133086709	438	682	6649.8	668
FL	Crystal River	5	2013	10/21/2013	10	1186	0.16015989	533	759	7405.1	752
FL	Crystal River	5	2013	10/21/2013	11	909	0.120601815	535	773	7537.2	770
FL	Crystal River	5	2013	10/21/2013	12	1655	0.220094421	541	771	7519.5	770
FL	Crystal River	5	2013	10/21/2013	13	1593	0.210806304	544	775	7556.7	770
FL	Crystal River	5	2013	10/21/2013	14	1800	0.23930124	549	771	7521.9	767
FL	Crystal River	5	2013	10/21/2013	15	2419	0.318532564	554	779	7594.2	770

FL	Crystal River	5	2013	10/21/2013	16	1679	0.221805356	552	776	7569.7	770
FL	Crystal River	5	2013	10/21/2013	17	1271	0.167733421	553	777	7577.5	772
FL	Crystal River	5	2013	10/21/2013	18	758	0.099891937	561	778	7588.2	773
FL	Crystal River	5	2013	10/21/2013	19	466	0.061160474	563	781	7619.3	772
FL	Crystal River	5	2013	10/21/2013	20	1057	0.13906065	562	779	7601	769
FL	Crystal River	5	2013	10/21/2013	21	1124	0.148791401	566	775	7554.2	769
FL	Crystal River	5	2013	10/21/2013	22	626	0.094447797	430	680	6628	674
FL	Crystal River	5	2013	10/21/2013	23	376	0.074873551	261	515	5021.8	499
FL	Crystal River	5	2013	10/22/2013	0	268	0.071655838	198	383	3740.1	360
FL	Crystal River	5	2013	10/22/2013	1	188	0.067696518	158	284	2777.1	249
FL	Crystal River	5	2013	10/22/2013	2	237	0.090395911	162	269	2621.8	226
FL	Crystal River	5	2013	10/22/2013	3	281	0.106779146	160	270	2631.6	226
FL	Crystal River	5	2013	10/22/2013	4	326	0.115611036	174	289	2819.8	251
FL	Crystal River	5	2013	10/22/2013	5	777	0.170189464	269	468	4565.5	440
FL	Crystal River	5	2013	10/22/2013	6	1354	0.204859745	436	678	6609.4	654
FL	Crystal River	5	2013	10/22/2013	7	1441	0.194197	563	761	7420.3	753
FL	Crystal River	5	2013	10/22/2013	8	1124	0.14997665	569	768	7494.5	766
FL	Crystal River	5	2013	10/22/2013	9	1026	0.135793319	2032	775	7555.6	771
FL	Crystal River	5	2013	10/22/2013	10	990	0.130992233	3000	775	7557.7	770
FL	Crystal River	5	2013	10/22/2013	11	966	0.128285149	3064	772	7530.1	769
FL	Crystal River	5	2013	10/22/2013	12	1879	0.249356371	2773	773	7535.4	768
FL	Crystal River	5	2013	10/22/2013	13	2438	0.322465445	2600	775	7560.5	770
FL	Crystal River	5	2013	10/22/2013	14	2558	0.337542721	3069	777	7578.3	770
FL	Crystal River	5	2013	10/22/2013	15	1848	0.244279653	3109	776	7565.1	770
FL	Crystal River	5	2013	10/22/2013	16	1368	0.181254472	3124	774	7547.4	771
FL	Crystal River	5	2013	10/22/2013	17	1224	0.16237298	3135	773	7538.2	770
FL	Crystal River	5	2013	10/22/2013	18	1137	0.150178312	3142	776	7571	769
FL	Crystal River	5	2013	10/22/2013	19	1160	0.153171711	3135	777	7573.2	770
FL	Crystal River	5	2013	10/22/2013	20	1287	0.169574154	3142	778	7589.6	771
FL	Crystal River	5	2013	10/22/2013	21	1190	0.157330407	3146	776	7563.7	769
FL	Crystal River	5	2013	10/22/2013	22	585	0.088063948	2511	681	6642.9	677
FL	Crystal River	5	2013	10/22/2013	23	145	0.0311647	1391	477	4652.7	460
FL	Crystal River	5	2013	10/23/2013	0	97	0.027446098	1046	362	3534.2	334
FL	Crystal River	5	2013	10/23/2013	1	153	0.058776075	937	267	2603.1	229
FL	Crystal River	5	2013	10/23/2013	2	152	0.058562897	950	266	2595.5	226

FL	Crystal River	5	2013	10/23/2013	3	135	0.051975052	994	266	2597.4	226
FL	Crystal River	5	2013	10/23/2013	4	153	0.050073638	1106	313	3055.5	281
FL	Crystal River	5	2013	10/23/2013	5	442	0.093481663	1531	485	4728.2	461
FL	Crystal River	5	2013	10/23/2013	6	913	0.168820843	1822	554	5408.1	552
FL	Crystal River	5	2013	10/23/2013	7	748	0.162347528	1446	472	4607.4	460
FL	Crystal River	5	2013	10/23/2013	8	911	0.174317369	1693	536	5226.1	524
FL	Crystal River	5	2013	10/23/2013	9	738	0.128390251	1850	589	5748.1	576
FL	Crystal River	5	2013	10/23/2013	10	189	0.038137902	1531	508	4955.7	495
FL	Crystal River	5	2013	10/23/2013	11	420	0.076600401	1738	562	5483	548
FL	Crystal River	5	2013	10/23/2013	12	1743	0.238979914	2742	748	7293.5	746
FL	Crystal River	5	2013	10/23/2013	13	1267	0.170185902	2881	763	7444.8	766
FL	Crystal River	5	2013	10/23/2013	14	1115	0.149568064	2974	764	7454.8	768
FL	Crystal River	5	2013	10/23/2013	15	1046	0.141672987	2960	757	7383.2	768
FL	Crystal River	5	2013	10/23/2013	16	1018	0.137653136	2995	758	7395.4	769
FL	Crystal River	5	2013	10/23/2013	17	230	0.037339481	2118	632	6159.7	642
FL	Crystal River	5	2013	10/23/2013	18	251	0.039204661	2317	656	6402.3	667
FL	Crystal River	5	2013	10/23/2013	19	297	0.053852151	1831	565	5515.1	567
FL	Crystal River	5	2013	10/23/2013	20	246	0.056504961	1441	446	4353.6	435
FL	Crystal River	5	2013	10/23/2013	21	115	0.043103448	941	273	2668	252
FL	Crystal River	5	2013	10/23/2013	22	117	0.046003224	867	260	2543.3	226
FL	Crystal River	5	2013	10/23/2013	23	88	0.034953924	873	258	2517.6	227
FL	Crystal River	5	2013	10/24/2013	0	85	0.033852404	871	257	2510.9	226
FL	Crystal River	5	2013	10/24/2013	1	91	0.036095355	892	258	2521.1	226
FL	Crystal River	5	2013	10/24/2013	2	92	0.035952949	895	262	2558.9	227
FL	Crystal River	5	2013	10/24/2013	3	84	0.03321865	900	259	2528.7	226
FL	Crystal River	5	2013	10/24/2013	4	79	0.031437781	904	257	2512.9	227
FL	Crystal River	5	2013	10/24/2013	5	155	0.046968274	1036	338	3300.1	311
FL	Crystal River	5	2013	10/24/2013	6	174	0.047358537	1094	377	3674.1	356
FL	Crystal River	5	2013	10/24/2013	7	168	0.045727973	1072	376	3673.9	357
FL	Crystal River	5	2013	10/24/2013	8	207	0.053782997	1120	394	3848.8	376
FL	Crystal River	5	2013	10/24/2013	9	189	0.048012194	1149	403	3936.5	384
FL	Crystal River	5	2013	10/24/2013	10	177	0.044927279	1158	404	3939.7	387
FL	Crystal River	5	2013	10/24/2013	11	267	0.061368024	1257	446	4350.8	429
FL	Crystal River	5	2013	10/24/2013	12	223	0.052807313	1266	433	4222.9	419
FL	Crystal River	5	2013	10/24/2013	13	183	0.045900324	1220	409	3986.9	391

FL	Crystal River	5	2013	10/24/2013	14	314	0.073567312	1289	437	4268.2	420
FL	Crystal River	5	2013	10/24/2013	15	230	0.056495787	1241	417	4071.1	401
FL	Crystal River	5	2013	10/24/2013	16	177	0.04869192	1130	373	3635.1	352
FL	Crystal River	5	2013	10/24/2013	17	386	0.087095828	1360	454	4431.9	435
FL	Crystal River	5	2013	10/24/2013	18	707	0.114920109	2128	631	6152.1	621
FL	Crystal River	5	2013	10/24/2013	19	455	0.080742476	1910	578	5635.2	574
FL	Crystal River	5	2013	10/24/2013	20	207	0.049634336	638	427	4170.5	417
FL	Crystal River	5	2013	10/24/2013	21	293	0.077235344	193	389	3793.6	369
FL	Crystal River	5	2013	10/24/2013	22	147	0.045578569	180	330	3225.2	301
FL	Crystal River	5	2013	10/24/2013	23	160	0.057059306	176	287	2804.1	253
FL	Crystal River	5	2013	10/25/2013	0	142	0.050721532	173	287	2799.6	254
FL	Crystal River	5	2013	10/25/2013	1	146	0.052325998	175	286	2790.2	253
FL	Crystal River	5	2013	10/25/2013	2	130	0.047296806	175	282	2748.6	252
FL	Crystal River	5	2013	10/25/2013	3	150	0.053225463	180	289	2818.2	253
FL	Crystal River	5	2013	10/25/2013	4	207	0.065120961	193	326	3178.7	298
FL	Crystal River	5	2013	10/25/2013	5	228	0.058195926	219	402	3917.8	375
FL	Crystal River	5	2013	10/25/2013	6	339	0.074337215	255	467	4560.3	449
FL	Crystal River	5	2013	10/25/2013	7	357	0.075392803	260	485	4735.2	468
FL	Crystal River	5	2013	10/25/2013	8	365	0.074048527	256	505	4929.2	492
FL	Crystal River	5	2013	10/25/2013	9	628	0.114982515	349	560	5461.7	552
FL	Crystal River	5	2013	10/25/2013	10	491	0.089305202	362	564	5498	556
FL	Crystal River	5	2013	10/25/2013	11	447	0.078994804	362	580	5658.6	572
FL	Crystal River	5	2013	10/25/2013	12	605	0.100468299	463	617	6021.8	609
FL	Crystal River	5	2013	10/25/2013	13	720	0.112628467	517	655	6392.7	642
FL	Crystal River	5	2013	10/25/2013	14	712	0.107816712	435	677	6603.8	669
FL	Crystal River	5	2013	10/25/2013	15	2114	0.280308153	565	773	7541.7	769
FL	Crystal River	5	2013	10/25/2013	16	1164	0.171792904	447	695	6775.6	698
FL	Crystal River	5	2013	10/25/2013	17	341	0.06699279	264	522	5090.1	512
FL	Crystal River	5	2013	10/25/2013	18	325	0.071175157	228	468	4566.2	452
FL	Crystal River	5	2013	10/25/2013	19	188	0.059616299	164	323	3153.5	304
FL	Crystal River	5	2013	10/25/2013	20	178	0.063548733	151	287	2801	253
FL	Crystal River	5	2013	10/25/2013	21	179	0.060073162	160	305	2979.7	269
FL	Crystal River	5	2013	10/25/2013	22	163	0.057082823	159	293	2855.5	259
FL	Crystal River	5	2013	10/25/2013	23	148	0.053033289	159	286	2790.7	252
FL	Crystal River	5	2013	10/26/2013	0	147	0.052803621	161	285	2783.9	252

FL	Crystal River	5	2013	10/26/2013	1	146	0.05255958	163	285	2777.8	251
FL	Crystal River	5	2013	10/26/2013	2	302	0.108970196	160	284	2771.4	251
FL	Crystal River	5	2013	10/26/2013	3	315	0.114662202	164	281	2747.2	251
FL	Crystal River	5	2013	10/26/2013	4	269	0.096578466	164	285	2785.3	251
FL	Crystal River	5	2013	10/26/2013	5	166	0.059594328	167	285	2785.5	253
FL	Crystal River	5	2013	10/26/2013	6	178	0.063971249	169	285	2782.5	254
FL	Crystal River	5	2013	10/26/2013	7	220	0.072268576	182	312	3044.2	281
FL	Crystal River	5	2013	10/26/2013	8	485	0.113833732	255	437	4260.6	418
FL	Crystal River	5	2013	10/26/2013	9	450	0.096166175	262	480	4679.4	460
FL	Crystal River	5	2013	10/26/2013	10	264	0.068104427	209	397	3876.4	377
FL	Crystal River	5	2013	10/26/2013	11	269	0.072836564	199	378	3693.2	353
FL	Crystal River	5	2013	10/26/2013	12	399	0.091285548	236	448	4370.9	427
FL	Crystal River	5	2013	10/26/2013	13	578	0.113271145	290	523	5102.8	506
FL	Crystal River	5	2013	10/26/2013	14	762	0.13361623	347	585	5702.9	572
FL	Crystal River	5	2013	10/26/2013	15	866	0.136700868	405	650	6335	641
FL	Crystal River	5	2013	10/26/2013	16	560	0.099178237	338	579	5646.4	567
FL	Crystal River	5	2013	10/26/2013	17	389	0.082006957	256	486	4743.5	476
FL	Crystal River	5	2013	10/26/2013	18	463	0.102422298	257	463	4520.5	446
FL	Crystal River	5	2013	10/26/2013	19	314	0.080798724	229	398	3886.2	379
FL	Crystal River	5	2013	10/26/2013	20	172	0.056395292	186	312	3049.9	284
FL	Crystal River	5	2013	10/26/2013	21	196	0.063287052	195	317	3097	282
FL	Crystal River	5	2013	10/26/2013	22	138	0.048610377	190	291	2838.9	258
FL	Crystal River	5	2013	10/26/2013	23	134	0.048450663	188	283	2765.7	252
FL	Crystal River	5	2013	10/27/2013	0	176	0.063334413	197	285	2778.9	252
FL	Crystal River	5	2013	10/27/2013	1	182	0.065502969	200	285	2778.5	252
FL	Crystal River	5	2013	10/27/2013	2	167	0.06006114	211	285	2780.5	252
FL	Crystal River	5	2013	10/27/2013	3	152	0.054625171	217	285	2782.6	252
FL	Crystal River	5	2013	10/27/2013	4	153	0.054966768	217	285	2783.5	252
FL	Crystal River	5	2013	10/27/2013	5	134	0.048211844	216	285	2779.4	251
FL	Crystal River	5	2013	10/27/2013	6	147	0.052875796	205	285	2780.1	251
FL	Crystal River	5	2013	10/27/2013	7	181	0.057072586	222	325	3171.4	287
FL	Crystal River	5	2013	10/27/2013	8	301	0.078655796	225	392	3826.8	364
FL	Crystal River	5	2013	10/27/2013	9	301	0.079713983	241	387	3776	357
FL	Crystal River	5	2013	10/27/2013	10	164	0.055302647	213	304	2965.5	267
FL	Crystal River	5	2013	10/27/2013	11	258	0.070665571	241	374	3651	341

FL	Crystal River	5	2013	10/27/2013	12	417	0.091577907	286	467	4553.5	444
FL	Crystal River	5	2013	10/27/2013	13	408	0.087136664	276	480	4682.3	461
FL	Crystal River	5	2013	10/27/2013	14	517	0.0919667	337	576	5621.6	563
FL	Crystal River	5	2013	10/27/2013	15	712	0.118276355	379	617	6019.8	608
FL	Crystal River	5	2013	10/27/2013	16	928	0.146321466	405	650	6342.2	644
FL	Crystal River	5	2013	10/27/2013	17	661	0.115432304	326	587	5726.3	580
FL	Crystal River	5	2013	10/27/2013	18	991	0.154344542	398	658	6420.7	650
FL	Crystal River	5	2013	10/27/2013	19	653	0.118128041	309	567	5527.9	563
FL	Crystal River	5	2013	10/27/2013	20	177	0.054371199	156	334	3255.4	311
FL	Crystal River	5	2013	10/27/2013	21	245	0.080343674	173	312	3049.4	279
FL	Crystal River	5	2013	10/27/2013	22	170	0.060947191	170	286	2789.3	251
FL	Crystal River	5	2013	10/27/2013	23	159	0.057196302	166	285	2779.9	251
FL	Crystal River	5	2013	10/28/2013	0	162	0.057966866	173	286	2794.7	251
FL	Crystal River	5	2013	10/28/2013	1	155	0.055593415	175	286	2788.1	251
FL	Crystal River	5	2013	10/28/2013	2	141	0.050597481	175	285	2786.7	252
FL	Crystal River	5	2013	10/28/2013	3	142	0.050640134	176	287	2804.1	251
FL	Crystal River	5	2013	10/28/2013	4	168	0.057520457	184	299	2920.7	264
FL	Crystal River	5	2013	10/28/2013	5	341	0.08833968	239	396	3860.1	367
FL	Crystal River	5	2013	10/28/2013	6	633	0.117612085	312	552	5382.1	531
FL	Crystal River	5	2013	10/28/2013	7	640	0.111170943	385	590	5756.9	577
FL	Crystal River	5	2013	10/28/2013	8	474	0.084944714	390	572	5580.1	563
FL	Crystal River	5	2013	10/28/2013	9	576	0.099289802	348	595	5801.2	584
FL	Crystal River	5	2013	10/28/2013	10	444	0.085833591	294	530	5172.8	516
FL	Crystal River	5	2013	10/28/2013	11	700	0.119112442	364	603	5876.8	588
FL	Crystal River	5	2013	10/28/2013	12	810	0.115336969	491	720	7022.9	714
FL	Crystal River	5	2013	10/28/2013	13	554	0.074951971	569	758	7391.4	764
FL	Crystal River	5	2013	10/28/2013	14	483	0.064573919	561	767	7479.8	766
FL	Crystal River	5	2013	10/28/2013	15	791	0.105303797	555	770	7511.6	766
FL	Crystal River	5	2013	10/28/2013	16	1174	0.156433216	570	770	7504.8	771
FL	Crystal River	5	2013	10/28/2013	17	898	0.119158196	580	773	7536.2	770
FL	Crystal River	5	2013	10/28/2013	18	827	0.109245585	567	776	7570.1	771
FL	Crystal River	5	2013	10/28/2013	19	922	0.123537845	559	765	7463.3	768
FL	Crystal River	5	2013	10/28/2013	20	453	0.072012209	383	645	6290.6	637
FL	Crystal River	5	2013	10/28/2013	21	751	0.144748762	275	532	5188.3	520
FL	Crystal River	5	2013	10/28/2013	22	446	0.11499884	209	397	3878.3	374

FL	Crystal River	5	2013	10/28/2013	23	207	0.073552926	185	288	2814.3	253
FL	Crystal River	5	2013	10/29/2013	0	207	0.074119164	187	286	2792.8	252
FL	Crystal River	5	2013	10/29/2013	1	193	0.068376674	186	289	2822.6	252
FL	Crystal River	5	2013	10/29/2013	2	177	0.063698852	180	285	2778.7	252
FL	Crystal River	5	2013	10/29/2013	3	192	0.068686724	184	286	2795.3	252
FL	Crystal River	5	2013	10/29/2013	4	205	0.0691843	189	304	2963.1	268
FL	Crystal River	5	2013	10/29/2013	5	478	0.120789427	249	406	3957.3	378
FL	Crystal River	5	2013	10/29/2013	6	746	0.144361019	310	530	5167.6	516
FL	Crystal River	5	2013	10/29/2013	7	750	0.137622254	337	559	5449.7	543
FL	Crystal River	5	2013	10/29/2013	8	746	0.134392621	338	569	5550.9	556
FL	Crystal River	5	2013	10/29/2013	9	822	0.145830007	310	578	5636.7	565
FL	Crystal River	5	2013	10/29/2013	10	734	0.132409712	327	568	5543.4	554
FL	Crystal River	5	2013	10/29/2013	11	941	0.153858731	360	627	6116	616
FL	Crystal River	5	2013	10/29/2013	12	877	0.138112411	374	651	6349.9	645
FL	Crystal River	5	2013	10/29/2013	13	902	0.141193413	383	655	6388.4	650
FL	Crystal River	5	2013	10/29/2013	14	837	0.131232361	389	654	6378	650
FL	Crystal River	5	2013	10/29/2013	15	948	0.150304414	372	647	6307.2	636
FL	Crystal River	5	2013	10/29/2013	16	726	0.127180996	319	585	5708.4	572
FL	Crystal River	5	2013	10/29/2013	17	905	0.154515964	339	600	5857	584
FL	Crystal River	5	2013	10/29/2013	18	891	0.139099212	390	657	6405.5	648
FL	Crystal River	5	2013	10/29/2013	19	844	0.132358937	382	654	6376.6	644
FL	Crystal River	5	2013	10/29/2013	20	794	0.125143821	374	651	6344.7	648
FL	Crystal River	5	2013	10/29/2013	21	560	0.098425197	312	583	5689.6	573
FL	Crystal River	5	2013	10/29/2013	22	354	0.073219161	261	496	4834.8	482
FL	Crystal River	5	2013	10/29/2013	23	96	0.02999625	166	328	3200.4	304
FL	Crystal River	5	2013	10/30/2013	0	86	0.031037967	390	284	2770.8	252
FL	Crystal River	5	2013	10/30/2013	1	65	0.023365326	456	285	2781.9	252
FL	Crystal River	5	2013	10/30/2013	2	73	0.026186462	412	286	2787.7	252
FL	Crystal River	5	2013	10/30/2013	3	63	0.022556391	156	286	2793	251
FL	Crystal River	5	2013	10/30/2013	4	66	0.02268509	165	298	2909.4	265
FL	Crystal River	5	2013	10/30/2013	5	162	0.038296062	253	434	4230.2	406
FL	Crystal River	5	2013	10/30/2013	6	238	0.04357857	327	560	5461.4	544
FL	Crystal River	5	2013	10/30/2013	7	234	0.042547775	341	564	5499.7	554
FL	Crystal River	5	2013	10/30/2013	8	379	0.065727862	363	591	5766.2	580
FL	Crystal River	5	2013	10/30/2013	9	590	0.092258135	428	656	6395.1	646

FL	Crystal River	5	2013	10/30/2013	10	765	0.119183012	417	658	6418.7	650
FL	Crystal River	5	2013	10/30/2013	11	257	0.040185761	422	656	6395.3	648
FL	Crystal River	5	2013	10/30/2013	12	69	0.012040624	355	588	5730.6	576
FL	Crystal River	5	2013	10/30/2013	13	75	0.011827601	424	650	6341.1	638
FL	Crystal River	5	2013	10/30/2013	14	73	0.01133963	437	660	6437.6	648
FL	Crystal River	5	2013	10/30/2013	15	76	0.011846494	436	658	6415.4	648
FL	Crystal River	5	2013	10/30/2013	16	89	0.014006043	444	652	6354.4	646
FL	Crystal River	5	2013	10/30/2013	17	147	0.022947595	461	657	6405.9	647
FL	Crystal River	5	2013	10/30/2013	18	328	0.051461474	490	653	6373.7	648
FL	Crystal River	5	2013	10/30/2013	19	322	0.050525655	478	653	6373	646
FL	Crystal River	5	2013	10/30/2013	20	642	0.100513527	466	655	6387.2	646
FL	Crystal River	5	2013	10/30/2013	21	460	0.075720165	431	623	6075	619
FL	Crystal River	5	2013	10/30/2013	22	177	0.041890517	253	433	4225.3	411
FL	Crystal River	5	2013	10/30/2013	23	118	0.042177503	179	287	2797.7	256
FL	Crystal River	5	2013	10/31/2013	0	148	0.053387202	183	284	2772.2	252
FL	Crystal River	5	2013	10/31/2013	1	164	0.059114011	183	284	2774.3	252
FL	Crystal River	5	2013	10/31/2013	2	146	0.051911111	185	288	2812.5	251
FL	Crystal River	5	2013	10/31/2013	3	160	0.056787933	118	289	2817.5	251
FL	Crystal River	5	2013	10/31/2013	4	121	0.042985541	146	288	2814.9	252
FL	Crystal River	5	2013	10/31/2013	5	190	0.057657876	240	338	3295.3	304
FL	Crystal River	5	2013	10/31/2013	6	258	0.066397303	260	398	3885.7	375
FL	Crystal River	5	2013	10/31/2013	7	248	0.065488922	257	388	3786.9	364
FL	Crystal River	5	2013	10/31/2013	8	616	0.126673384	330	498	4862.9	478
FL	Crystal River	5	2013	10/31/2013	9	1057	0.167615483	491	647	6306.1	633
FL	Crystal River	5	2013	10/31/2013	10	808	0.126590211	497	654	6382.8	650
FL	Crystal River	5	2013	10/31/2013	11	872	0.136949728	477	653	6367.3	646
FL	Crystal River	5	2013	10/31/2013	12	929	0.146617847	456	650	6336.2	638
FL	Crystal River	5	2013	10/31/2013	13	704	0.115519674	408	625	6094.2	611
FL	Crystal River	5	2013	10/31/2013	14	1022	0.137682038	623	761	7422.9	756
FL	Crystal River	5	2013	10/31/2013	15	1215	0.160400275	636	777	7574.8	770
FL	Crystal River	5	2013	10/31/2013	16	836	0.110713813	626	774	7551	771
FL	Crystal River	5	2013	10/31/2013	17	821	0.10866544	612	775	7555.3	769
FL	Crystal River	5	2013	10/31/2013	18	903	0.119496606	1987	775	7556.7	771
FL	Crystal River	5	2013	10/31/2013	19	880	0.116468362	498	775	7555.7	770
FL	Crystal River	5	2013	10/31/2013	20	886	0.117074976	643	776	7567.8	772

FL	Crystal River	5	2013	10/31/2013	21	755	0.104974834	510	737	7192.2	735
FL	Crystal River	5	2013	10/31/2013	22	277	0.046710848	343	608	5930.1	599
FL	Crystal River	5	2013	10/31/2013	23	111	0.027688393	200	411	4008.9	390
FL	Crystal River	5	2013	11/1/2013	0	63	0.021693468	104	298	2904.1	265
FL	Crystal River	5	2013	11/1/2013	1	72	0.025808302	86	286	2789.8	251
FL	Crystal River	5	2013	11/1/2013	2	80	0.028685145	86	286	2788.9	251
FL	Crystal River	5	2013	11/1/2013	3	96	0.034255129	100	287	2802.5	251
FL	Crystal River	5	2013	11/1/2013	4	136	0.047486034	191	293	2864	258
FL	Crystal River	5	2013	11/1/2013	5	237	0.067135007	233	362	3530.2	330
FL	Crystal River	5	2013	11/1/2013	6	351	0.077350258	290	465	4537.8	440
FL	Crystal River	5	2013	11/1/2013	7	327	0.069490193	296	482	4705.7	460
FL	Crystal River	5	2013	11/1/2013	8	689	0.112627707	422	627	6117.5	608
FL	Crystal River	5	2013	11/1/2013	9	1749	0.233368025	644	769	7494.6	762
FL	Crystal River	5	2013	11/1/2013	10	1140	0.152	622	769	7500	765
FL	Crystal River	5	2013	11/1/2013	11	951	0.1268	615	769	7500	766
FL	Crystal River	5	2013	11/1/2013	12	886	0.117722091	624	772	7526.2	767
FL	Crystal River	5	2013	11/1/2013	13	846	0.112598823	608	770	7513.4	766
FL	Crystal River	5	2013	11/1/2013	14	880	0.117074209	616	771	7516.6	766
FL	Crystal River	5	2013	11/1/2013	15	957	0.126881008	610	773	7542.5	766
FL	Crystal River	5	2013	11/1/2013	16	1028	0.136038218	619	775	7556.7	766
FL	Crystal River	5	2013	11/1/2013	17	1066	0.141599033	617	772	7528.3	767
FL	Crystal River	5	2013	11/1/2013	18	1100	0.146438223	608	770	7511.7	766
FL	Crystal River	5	2013	11/1/2013	19	998	0.132804599	601	771	7514.8	767
FL	Crystal River	5	2013	11/1/2013	20	956	0.127095548	624	771	7521.9	766
FL	Crystal River	5	2013	11/1/2013	21	946	0.126565343	598	766	7474.4	763
FL	Crystal River	5	2013	11/1/2013	22	264	0.042531254	415	636	6207.2	628
FL	Crystal River	5	2013	11/1/2013	23	111	0.026808356	231	424	4140.5	409
FL	Crystal River	5	2013	11/2/2013	0	51	0.018338727	172	285	2781	246
FL	Crystal River	5	2013	11/2/2013	1	48	0.018176999	169	270	2640.7	226
FL	Crystal River	5	2013	11/2/2013	2	47	0.017748574	177	271	2648.1	228
FL	Crystal River	5	2013	11/2/2013	3	44	0.016368439	172	275	2688.1	229
FL	Crystal River	5	2013	11/2/2013	4	40	0.014931502	174	274	2678.9	230
FL	Crystal River	5	2013	11/2/2013	5	42	0.015824573	169	272	2654.1	229
FL	Crystal River	5	2013	11/2/2013	6	59	0.021034618	185	287	2804.9	246
FL	Crystal River	5	2013	11/2/2013	7	76	0.023055454	220	338	3296.4	302

FL	Crystal River	5	2013	11/2/2013	8	224	0.045637912	323	503	4908.2	480
FL	Crystal River	5	2013	11/2/2013	9	324	0.055985623	382	593	5787.2	574
FL	Crystal River	5	2013	11/2/2013	10	242	0.043441578	356	571	5570.7	555
FL	Crystal River	5	2013	11/2/2013	11	199	0.036647576	331	557	5430.1	541
FL	Crystal River	5	2013	11/2/2013	12	151	0.03102336	296	499	4867.3	483
FL	Crystal River	5	2013	11/2/2013	13	135	0.030537459	274	453	4420.8	435
FL	Crystal River	5	2013	11/2/2013	14	200	0.044289922	261	463	4515.7	442
FL	Crystal River	5	2013	11/2/2013	15	159	0.038754966	246	420	4102.7	401
FL	Crystal River	5	2013	11/2/2013	16	78	0.025656207	170	311	3040.2	282
FL	Crystal River	5	2013	11/2/2013	17	112	0.034108905	193	336	3283.6	301
FL	Crystal River	5	2013	11/2/2013	18	156	0.042766675	204	374	3647.7	345
FL	Crystal River	5	2013	11/2/2013	19	74	0.02648817	162	286	2793.7	254
FL	Crystal River	5	2013	11/2/2013	20	67	0.025887717	160	265	2588.1	226
FL	Crystal River	5	2013	11/2/2013	21	78	0.030197445	162	265	2583	226
FL	Crystal River	5	2013	11/2/2013	22	80	0.031059518	159	264	2575.7	227
FL	Crystal River	5	2013	11/2/2013	23	77	0.030028859	159	263	2564.2	226
FL	Crystal River	5	2013	11/3/2013	0	76	0.029582344	161	263	2569.1	227
FL	Crystal River	5	2013	11/3/2013	1	72	0.027997045	164	263	2571.7	226
FL	Crystal River	5	2013	11/3/2013	2	75	0.029307178	166	262	2559.1	227
FL	Crystal River	5	2013	11/3/2013	3	83	0.032256811	164	264	2573.1	226
FL	Crystal River	5	2013	11/3/2013	4	85	0.03306621	159	263	2570.6	227
FL	Crystal River	5	2013	11/3/2013	5	83	0.032452299	161	262	2557.6	226
FL	Crystal River	5	2013	11/3/2013	6	83	0.03249677	163	262	2554.1	227
FL	Crystal River	5	2013	11/3/2013	7	76	0.029766567	163	262	2553.2	227
FL	Crystal River	5	2013	11/3/2013	8	82	0.032192211	163	261	2547.2	226
FL	Crystal River	5	2013	11/3/2013	9	84	0.032735776	164	263	2566	226
FL	Crystal River	5	2013	11/3/2013	10	86	0.033613445	161	262	2558.5	226
FL	Crystal River	5	2013	11/3/2013	11	72	0.02831079	160	260	2543.2	226
FL	Crystal River	5	2013	11/3/2013	12	115	0.03866456	184	305	2974.3	271
FL	Crystal River	5	2013	11/3/2013	13	182	0.04850617	210	385	3752.1	355
FL	Crystal River	5	2013	11/3/2013	14	193	0.046177772	275	428	4179.5	408
FL	Crystal River	5	2013	11/3/2013	15	130	0.036984353	217	360	3515	337
FL	Crystal River	5	2013	11/3/2013	16	149	0.042310313	186	361	3521.6	332
FL	Crystal River	5	2013	11/3/2013	17	109	0.037044589	170	301	2942.4	271
FL	Crystal River	5	2013	11/3/2013	18	212	0.053124843	239	409	3990.6	384

FL	Crystal River	5	2013	11/3/2013	19	100	0.032167787	171	319	3108.7	294
FL	Crystal River	5	2013	11/3/2013	20	79	0.03027864	107	267	2609.1	230
FL	Crystal River	5	2013	11/3/2013	21	100	0.038574294	93	266	2592.4	226
FL	Crystal River	5	2013	11/3/2013	22	82	0.031626041	88	266	2592.8	227
FL	Crystal River	5	2013	11/3/2013	23	82	0.031736202	173	265	2583.8	226
FL	Crystal River	5	2013	11/4/2013	0	78	0.030158914	173	265	2586.3	226
FL	Crystal River	5	2013	11/4/2013	1	75	0.029054002	170	264	2581.4	226
FL	Crystal River	5	2013	11/4/2013	2	73	0.028350616	167	264	2574.9	226
FL	Crystal River	5	2013	11/4/2013	3	81	0.031199445	173	266	2596.2	226
FL	Crystal River	5	2013	11/4/2013	4	89	0.034373552	170	265	2589.2	227
FL	Crystal River	5	2013	11/4/2013	5	91	0.034378542	174	271	2647	233
FL	Crystal River	5	2013	11/4/2013	6	128	0.045317755	189	289	2824.5	261
FL	Crystal River	5	2013	11/4/2013	7	105	0.037907506	191	284	2769.9	253
FL	Crystal River	5	2013	11/4/2013	8	101	0.035937945	191	288	2810.4	253
FL	Crystal River	5	2013	11/4/2013	9	124	0.042218515	199	301	2937.1	267
FL	Crystal River	5	2013	11/4/2013	10	122	0.042011019	191	298	2904	261
FL	Crystal River	5	2013	11/4/2013	11	143	0.046631449	196	314	3066.6	279
FL	Crystal River	5	2013	11/4/2013	12	259	0.060409572	287	439	4287.4	411
FL	Crystal River	5	2013	11/4/2013	13	276	0.059308922	311	477	4653.6	455
FL	Crystal River	5	2013	11/4/2013	14	293	0.062685865	294	479	4674.1	461
FL	Crystal River	5	2013	11/4/2013	15	296	0.064037384	286	474	4622.3	455
FL	Crystal River	5	2013	11/4/2013	16	427	0.083855384	331	522	5092.1	506
FL	Crystal River	5	2013	11/4/2013	17	682	0.116089058	399	602	5874.8	592
FL	Crystal River	5	2013	11/4/2013	18	883	0.132233138	487	685	6677.6	679
FL	Crystal River	5	2013	11/4/2013	19	859	0.129781834	469	679	6618.8	676
FL	Crystal River	5	2013	11/4/2013	20	686	0.112851221	401	623	6078.8	623
FL	Crystal River	5	2013	11/4/2013	21	279	0.060049072	246	476	4646.2	464
FL	Crystal River	5	2013	11/4/2013	22	252	0.062593145	213	413	4026	391
FL	Crystal River	5	2013	11/4/2013	23	103	0.0392127	176	269	2626.7	237
FL	Crystal River	5	2013	11/5/2013	0	110	0.042600984	183	264	2582.1	227
FL	Crystal River	5	2013	11/5/2013	1	87	0.033667428	183	265	2584.1	227
FL	Crystal River	5	2013	11/5/2013	2	88	0.034059682	178	265	2583.7	226
FL	Crystal River	5	2013	11/5/2013	3	99	0.038167939	181	266	2593.8	226
FL	Crystal River	5	2013	11/5/2013	4	92	0.035517122	176	265	2590.3	227
FL	Crystal River	5	2013	11/5/2013	5	147	0.04966384	207	303	2959.9	267

FL	Crystal River	5	2013	11/5/2013	6	185	0.055645792	199	341	3324.6	307
FL	Crystal River	5	2013	11/5/2013	7	196	0.054238039	220	370	3613.7	344
FL	Crystal River	5	2013	11/5/2013	8	233	0.059884857	252	399	3890.8	372
FL	Crystal River	5	2013	11/5/2013	9	281	0.063772326	295	452	4406.3	425
FL	Crystal River	5	2013	11/5/2013	10	583	0.107200647	375	558	5438.4	540
FL	Crystal River	5	2013	11/5/2013	11	895	0.139111242	463	660	6433.7	654
FL	Crystal River	5	2013	11/5/2013	12	1116	0.150511821	622	760	7414.7	751
FL	Crystal River	5	2013	11/5/2013	13	1265	0.168365853	616	770	7513.4	772
FL	Crystal River	5	2013	11/5/2013	14	2022	0.269427566	607	770	7504.8	773
FL	Crystal River	5	2013	11/5/2013	15	1437	0.189041637	615	779	7601.5	773
FL	Crystal River	5	2013	11/5/2013	16	912	0.120945283	625	773	7540.6	772
FL	Crystal River	5	2013	11/5/2013	17	753	0.099793257	618	774	7545.6	769
FL	Crystal River	5	2013	11/5/2013	18	788	0.104949124	638	770	7508.4	769
FL	Crystal River	5	2013	11/5/2013	19	970	0.129307472	652	769	7501.5	768
FL	Crystal River	5	2013	11/5/2013	20	975	0.133682507	605	748	7293.4	747
FL	Crystal River	5	2013	11/5/2013	21	722	0.116127579	416	637	6217.3	628
FL	Crystal River	5	2013	11/5/2013	22	752	0.146723119	302	525	5125.3	512
FL	Crystal River	5	2013	11/5/2013	23	361	0.09790627	217	378	3687.2	348
FL	Crystal River	5	2013	11/6/2013	0	165	0.061663801	182	274	2675.8	232
FL	Crystal River	5	2013	11/6/2013	1	173	0.066676944	171	266	2594.6	228
FL	Crystal River	5	2013	11/6/2013	2	131	0.050047755	175	268	2617.5	226
FL	Crystal River	5	2013	11/6/2013	3	137	0.053170845	175	264	2576.6	226
FL	Crystal River	5	2013	11/6/2013	4	133	0.051018451	179	267	2606.9	227
FL	Crystal River	5	2013	11/6/2013	5	135	0.052011096	192	266	2595.6	226
FL	Crystal River	5	2013	11/6/2013	6	209	0.071715335	224	299	2914.3	263
FL	Crystal River	5	2013	11/6/2013	7	483	0.121871215	265	406	3963.2	373
FL	Crystal River	5	2013	11/6/2013	8	391	0.089428663	297	448	4372.2	422
FL	Crystal River	5	2013	11/6/2013	9	796	0.136715731	489	597	5822.3	571
FL	Crystal River	5	2013	11/6/2013	10	1229	0.170351376	728	740	7214.5	726
FL	Crystal River	5	2013	11/6/2013	11	1018	0.137230056	890	761	7418.2	760
FL	Crystal River	5	2013	11/6/2013	12	1129	0.149086203	961	777	7572.8	771
FL	Crystal River	5	2013	11/6/2013	13	1103	0.144982781	699	780	7607.8	774
FL	Crystal River	5	2013	11/6/2013	14	953	0.125637747	538	778	7585.3	774
FL	Crystal River	5	2013	11/6/2013	15	1039	0.136807732	531	779	7594.6	775
FL	Crystal River	5	2013	11/6/2013	16	1055	0.139386172	492	776	7568.9	772

FL	Crystal River	5	2013	11/6/2013	17	1100	0.145208771	484	777	7575.3	769
FL	Crystal River	5	2013	11/6/2013	18	1084	0.143164679	484	776	7571.7	770
FL	Crystal River	5	2013	11/6/2013	19	1010	0.133838652	498	774	7546.4	771
FL	Crystal River	5	2013	11/6/2013	20	969	0.128577684	504	773	7536.3	772
FL	Crystal River	5	2013	11/6/2013	21	930	0.12691914	469	751	7327.5	751
FL	Crystal River	5	2013	11/6/2013	22	448	0.069962832	358	657	6403.4	648
FL	Crystal River	5	2013	11/6/2013	23	354	0.073278271	246	495	4830.9	483
FL	Crystal River	5	2013	11/7/2013	0	179	0.055255441	178	332	3239.5	299
FL	Crystal River	5	2013	11/7/2013	1	160	0.061439214	164	267	2604.2	226
FL	Crystal River	5	2013	11/7/2013	2	145	0.055698536	164	267	2603.3	227
FL	Crystal River	5	2013	11/7/2013	3	137	0.052797903	163	266	2594.8	226
FL	Crystal River	5	2013	11/7/2013	4	122	0.046890614	158	266	2601.8	227
FL	Crystal River	5	2013	11/7/2013	5	138	0.051101648	167	277	2700.5	237
FL	Crystal River	5	2013	11/7/2013	6	216	0.065783463	203	336	3283.5	302
FL	Crystal River	5	2013	11/7/2013	7	285	0.072493259	232	403	3931.4	373
FL	Crystal River	5	2013	11/7/2013	8	206	0.054293395	223	389	3794.2	359
FL	Crystal River	5	2013	11/7/2013	9	374	0.08131849	262	471	4599.2	441
FL	Crystal River	5	2013	11/7/2013	10	605	0.112512088	295	551	5377.2	529
FL	Crystal River	5	2013	11/7/2013	11	409	0.076758502	293	546	5328.4	529
FL	Crystal River	5	2013	11/7/2013	12	955	0.139495479	438	702	6846.1	689
FL	Crystal River	5	2013	11/7/2013	13	1172	0.154036222	570	780	7608.6	775
FL	Crystal River	5	2013	11/7/2013	14	954	0.12648997	558	773	7542.1	775
FL	Crystal River	5	2013	11/7/2013	15	890	0.117709298	552	775	7561	775
FL	Crystal River	5	2013	11/7/2013	16	841	0.111556216	542	773	7538.8	775
FL	Crystal River	5	2013	11/7/2013	17	889	0.117773303	505	774	7548.4	771
FL	Crystal River	5	2013	11/7/2013	18	1021	0.136475432	538	767	7481.2	771
FL	Crystal River	5	2013	11/7/2013	19	1136	0.152291069	522	765	7459.4	770
FL	Crystal River	5	2013	11/7/2013	20	659	0.098406678	408	687	6696.7	685
FL	Crystal River	5	2013	11/7/2013	21	537	0.098711421	337	558	5440.1	549
FL	Crystal River	5	2013	11/7/2013	22	388	0.085498336	272	465	4538.1	443
FL	Crystal River	5	2013	11/7/2013	23	135	0.043095192	169	321	3132.6	295
FL	Crystal River	5	2013	11/8/2013	0	133	0.051122386	156	266	2601.6	226
FL	Crystal River	5	2013	11/8/2013	1	134	0.051538462	161	266	2600	227
FL	Crystal River	5	2013	11/8/2013	2	131	0.050629976	160	265	2587.4	227
FL	Crystal River	5	2013	11/8/2013	3	147	0.056717339	160	265	2591.8	226

FL	Crystal River	5	2013	11/8/2013	4	144	0.055408057	161	266	2598.9	227
FL	Crystal River	5	2013	11/8/2013	5	152	0.057735405	160	270	2632.7	231
FL	Crystal River	5	2013	11/8/2013	6	182	0.057478525	190	324	3166.4	289
FL	Crystal River	5	2013	11/8/2013	7	173	0.046855533	210	378	3692.2	350
FL	Crystal River	5	2013	11/8/2013	8	181	0.048610179	223	382	3723.5	353
FL	Crystal River	5	2013	11/8/2013	9	211	0.054806618	231	395	3849.9	362
FL	Crystal River	5	2013	11/8/2013	10	277	0.063539397	265	447	4359.5	423
FL	Crystal River	5	2013	11/8/2013	11	427	0.081314747	315	538	5251.2	516
FL	Crystal River	5	2013	11/8/2013	12	942	0.143056737	447	675	6584.8	660
FL	Crystal River	5	2013	11/8/2013	13	1214	0.158965025	549	783	7636.9	777
FL	Crystal River	5	2013	11/8/2013	14	924	0.122005968	552	777	7573.4	775
FL	Crystal River	5	2013	11/8/2013	15	845	0.112185019	519	772	7532.2	775
FL	Crystal River	5	2013	11/8/2013	16	906	0.120082706	558	774	7544.8	776
FL	Crystal River	5	2013	11/8/2013	17	1017	0.1350777	564	772	7529	775
FL	Crystal River	5	2013	11/8/2013	18	1129	0.150162931	586	771	7518.5	775
FL	Crystal River	5	2013	11/8/2013	19	970	0.132557123	541	750	7317.6	756
FL	Crystal River	5	2013	11/8/2013	20	539	0.088343277	335	626	6101.2	621
FL	Crystal River	5	2013	11/8/2013	21	611	0.122952469	188	509	4969.4	493
FL	Crystal River	5	2013	11/8/2013	22	310	0.074035155	134	429	4187.2	409
FL	Crystal River	5	2013	11/8/2013	23	105	0.033949819	86	317	3092.8	289
FL	Crystal River	5	2013	11/9/2013	0	99	0.035184988	84	288	2813.7	251
FL	Crystal River	5	2013	11/9/2013	1	93	0.036168475	74	263	2571.3	226
FL	Crystal River	5	2013	11/9/2013	2	86	0.033474758	74	263	2569.1	227
FL	Crystal River	5	2013	11/9/2013	3	86	0.033396761	77	264	2575.1	226
FL	Crystal River	5	2013	11/9/2013	4	87	0.033544109	98	266	2593.6	227
FL	Crystal River	5	2013	11/9/2013	5	85	0.032980251	126	264	2577.3	226
FL	Crystal River	5	2013	11/9/2013	6	110	0.040414432	185	279	2721.8	242
FL	Crystal River	5	2013	11/9/2013	7	104	0.036215482	209	294	2871.7	256
FL	Crystal River	5	2013	11/9/2013	8	126	0.039173014	183	330	3216.5	294
FL	Crystal River	5	2013	11/9/2013	9	268	0.062049964	263	443	4319.1	413
FL	Crystal River	5	2013	11/9/2013	10	304	0.063628943	267	490	4777.7	461
FL	Crystal River	5	2013	11/9/2013	11	523	0.09351476	330	573	5592.7	548
FL	Crystal River	5	2013	11/9/2013	12	1043	0.154294506	459	693	6759.8	674
FL	Crystal River	5	2013	11/9/2013	13	1170	0.152761457	589	785	7659	777
FL	Crystal River	5	2013	11/9/2013	14	779	0.102058195	587	783	7632.9	776

FL	Crystal River	5	2013	11/9/2013	15	610	0.080022039	587	782	7622.9	773
FL	Crystal River	5	2013	11/9/2013	16	675	0.089524921	542	773	7539.8	767
FL	Crystal River	5	2013	11/9/2013	17	374	0.056755239	408	676	6589.7	668
FL	Crystal River	5	2013	11/9/2013	18	638	0.102409348	355	639	6229.9	627
FL	Crystal River	5	2013	11/9/2013	19	542	0.113232775	258	491	4786.6	474
FL	Crystal River	5	2013	11/9/2013	20	359	0.083862829	235	439	4280.8	414
FL	Crystal River	5	2013	11/9/2013	21	160	0.045783615	192	358	3494.7	328
FL	Crystal River	5	2013	11/9/2013	22	173	0.050428496	185	352	3430.6	315
FL	Crystal River	5	2013	11/9/2013	23	84	0.03006012	167	286	2794.4	250
FL	Crystal River	5	2013	11/10/2013	0	82	0.030221501	133	278	2713.3	241
FL	Crystal River	5	2013	11/10/2013	1	70	0.027052095	113	265	2587.6	226
FL	Crystal River	5	2013	11/10/2013	2	72	0.027813188	95	265	2588.7	226
FL	Crystal River	5	2013	11/10/2013	3	67	0.02584378	108	266	2592.5	226
FL	Crystal River	5	2013	11/10/2013	4	71	0.027423716	93	265	2589	226
FL	Crystal River	5	2013	11/10/2013	5	67	0.026012346	97	264	2575.7	226
FL	Crystal River	5	2013	11/10/2013	6	64	0.024807163	103	264	2579.9	226
FL	Crystal River	5	2013	11/10/2013	7	82	0.031188194	97	269	2629.2	231
FL	Crystal River	5	2013	11/10/2013	8	149	0.044125922	131	346	3376.7	310
FL	Crystal River	5	2013	11/10/2013	9	131	0.03771195	135	356	3473.7	323
FL	Crystal River	5	2013	11/10/2013	10	343	0.074583052	197	471	4598.9	446
FL	Crystal River	5	2013	11/10/2013	11	626	0.104927925	196	612	5966	586
FL	Crystal River	5	2013	11/10/2013	12	949	0.131790912	295	738	7200.8	727
FL	Crystal River	5	2013	11/10/2013	13	629	0.083968549	599	768	7490.9	766
FL	Crystal River	5	2013	11/10/2013	14	684	0.090675292	588	774	7543.4	766
FL	Crystal River	5	2013	11/10/2013	15	882	0.116600346	559	776	7564.3	767
FL	Crystal River	5	2013	11/10/2013	16	1016	0.133689488	577	779	7599.7	769
FL	Crystal River	5	2013	11/10/2013	17	1110	0.146085309	539	779	7598.3	769
FL	Crystal River	5	2013	11/10/2013	18	1032	0.135968379	645	778	7590	769
FL	Crystal River	5	2013	11/10/2013	19	1024	0.135113738	560	777	7578.8	768
FL	Crystal River	5	2013	11/10/2013	20	582	0.090471009	392	660	6433	656
FL	Crystal River	5	2013	11/10/2013	21	269	0.055477644	324	497	4848.8	479
FL	Crystal River	5	2013	11/10/2013	22	229	0.057902855	197	405	3954.9	376
FL	Crystal River	5	2013	11/10/2013	23	128	0.044487696	115	295	2877.2	260
FL	Crystal River	5	2013	11/11/2013	0	116	0.04318368	96	275	2686.2	237
FL	Crystal River	5	2013	11/11/2013	1	92	0.03564648	209	264	2580.9	226

FL	Crystal River	5	2013	11/11/2013	2	79	0.030289088	190	267	2608.2	226
FL	Crystal River	5	2013	11/11/2013	3	74	0.028360097	198	267	2609.3	226
FL	Crystal River	5	2013	11/11/2013	4	75	0.02865877	183	268	2617	227
FL	Crystal River	5	2013	11/11/2013	5	88	0.032972386	181	273	2668.9	237
FL	Crystal River	5	2013	11/11/2013	6	147	0.045340983	210	332	3242.1	298
FL	Crystal River	5	2013	11/11/2013	7	314	0.072882575	275	442	4308.3	412
FL	Crystal River	5	2013	11/11/2013	8	347	0.073757599	282	482	4704.6	459
FL	Crystal River	5	2013	11/11/2013	9	380	0.074534649	305	523	5098.3	516
FL	Crystal River	5	2013	11/11/2013	10	1655	0.241948453	506	701	6840.3	682
FL	Crystal River	5	2013	11/11/2013	11	949	0.125928875	678	773	7536	773
FL	Crystal River	5	2013	11/11/2013	12	853	0.112751642	650	776	7565.3	773
FL	Crystal River	5	2013	11/11/2013	13	894	0.118288391	627	775	7557.8	776
FL	Crystal River	5	2013	11/11/2013	14	1003	0.131672224	624	781	7617.4	774
FL	Crystal River	5	2013	11/11/2013	15	1137	0.149022897	640	782	7629.7	774
FL	Crystal River	5	2013	11/11/2013	16	1109	0.145823198	638	780	7605.1	773
FL	Crystal River	5	2013	11/11/2013	17	447	0.065584835	477	699	6815.6	690
FL	Crystal River	5	2013	11/11/2013	18	327	0.048972623	494	685	6677.2	680
FL	Crystal River	5	2013	11/11/2013	19	317	0.047071751	505	690	6734.4	678
FL	Crystal River	5	2013	11/11/2013	20	339	0.050581916	509	687	6702	679
FL	Crystal River	5	2013	11/11/2013	21	679	0.100535995	466	692	6753.8	679
FL	Crystal River	5	2013	11/11/2013	22	346	0.051349025	471	691	6738.2	679
FL	Crystal River	5	2013	11/11/2013	23	191	0.0345495	337	567	5528.3	556
FL	Crystal River	5	2013	11/12/2013	0	104	0.023409188	244	455	4442.7	434
FL	Crystal River	5	2013	11/12/2013	1	54	0.016523868	127	335	3268	309
FL	Crystal River	5	2013	11/12/2013	2	44	0.015586808	104	289	2822.9	252
FL	Crystal River	5	2013	11/12/2013	3	53	0.018864567	101	288	2809.5	251
FL	Crystal River	5	2013	11/12/2013	4	64	0.022607651	101	290	2830.9	253
FL	Crystal River	5	2013	11/12/2013	5	103	0.032359409	114	326	3183	289
FL	Crystal River	5	2013	11/12/2013	6	245	0.053366442	169	471	4590.9	442
FL	Crystal River	5	2013	11/12/2013	7	727	0.124674167	309	598	5831.2	578
FL	Crystal River	5	2013	11/12/2013	8	910	0.136152131	508	685	6683.7	673
FL	Crystal River	5	2013	11/12/2013	9	1130	0.149690683	649	774	7548.9	771
FL	Crystal River	5	2013	11/12/2013	10	884	0.117344094	632	772	7533.4	774
FL	Crystal River	5	2013	11/12/2013	11	824	0.109212846	656	774	7544.9	773
FL	Crystal River	5	2013	11/12/2013	12	901	0.118810576	659	778	7583.5	774

FL	Crystal River	5	2013	11/12/2013	13	873	0.115412073	665	776	7564.2	774
FL	Crystal River	5	2013	11/12/2013	14	735	0.096594867	669	780	7609.1	775
FL	Crystal River	5	2013	11/12/2013	15	1034	0.136993561	664	774	7547.8	771
FL	Crystal River	5	2013	11/12/2013	16	1239	0.163088547	630	779	7597.1	773
FL	Crystal River	5	2013	11/12/2013	17	968	0.126771262	633	783	7635.8	773
FL	Crystal River	5	2013	11/12/2013	18	869	0.114265427	616	780	7605.1	774
FL	Crystal River	5	2013	11/12/2013	19	910	0.119400635	625	782	7621.4	775
FL	Crystal River	5	2013	11/12/2013	20	924	0.123574017	613	767	7477.3	760
FL	Crystal River	5	2013	11/12/2013	21	356	0.059094003	343	618	6024.3	607
FL	Crystal River	5	2013	11/12/2013	22	514	0.092552579	333	569	5553.6	549
FL	Crystal River	5	2013	11/12/2013	23	436	0.108244991	213	413	4027.9	395
FL	Crystal River	5	2013	11/13/2013	0	347	0.096058022	122	370	3612.4	345
FL	Crystal River	5	2013	11/13/2013	1	205	0.066250848	89	317	3094.3	286
FL	Crystal River	5	2013	11/13/2013	2	148	0.052167783	90	291	2837	252
FL	Crystal River	5	2013	11/13/2013	3	148	0.052521381	87	289	2817.9	252
FL	Crystal River	5	2013	11/13/2013	4	155	0.054729706	87	290	2832.1	254
FL	Crystal River	5	2013	11/13/2013	5	289	0.085381706	115	347	3384.8	316
FL	Crystal River	5	2013	11/13/2013	6	993	0.156402583	285	651	6349	621
FL	Crystal River	5	2013	11/13/2013	7	460	0.071420808	457	660	6440.7	656
FL	Crystal River	5	2013	11/13/2013	8	244	0.042192634	329	593	5783	577
FL	Crystal River	5	2013	11/13/2013	9	242	0.043615392	316	569	5548.5	557
FL	Crystal River	5	2013	11/13/2013	10	267	0.053021427	271	516	5035.7	495
FL	Crystal River	5	2013	11/13/2013	11	446	0.088550043	282	516	5036.7	496
FL	Crystal River	5	2013	11/13/2013	12	749	0.129872382	351	591	5767.2	576
FL	Crystal River	5	2013	11/13/2013	13	815	0.128634111	430	650	6335.8	637
FL	Crystal River	5	2013	11/13/2013	14	730	0.109721638	485	682	6653.2	676
FL	Crystal River	5	2013	11/13/2013	15	680	0.101595649	495	686	6693.2	678
FL	Crystal River	5	2013	11/13/2013	16	1278	0.172005384	631	762	7430	758
FL	Crystal River	5	2013	11/13/2013	17	932	0.124328002	644	769	7496.3	767
FL	Crystal River	5	2013	11/13/2013	18	838	0.111761646	637	769	7498.1	766
FL	Crystal River	5	2013	11/13/2013	19	835	0.111102241	661	771	7515.6	766
FL	Crystal River	5	2013	11/13/2013	20	957	0.127824972	643	768	7486.8	767
FL	Crystal River	5	2013	11/13/2013	21	736	0.10636453	539	710	6919.6	706
FL	Crystal River	5	2013	11/13/2013	22	339	0.058483568	371	594	5796.5	581
FL	Crystal River	5	2013	11/13/2013	23	150	0.034895082	257	441	4298.6	420

FL	Crystal River	5	2013	11/14/2013	0	127	0.036181305	182	360	3510.1	330
FL	Crystal River	5	2013	11/14/2013	1	119	0.040246212	115	303	2956.8	272
FL	Crystal River	5	2013	11/14/2013	2	84	0.032398658	108	266	2592.7	226
FL	Crystal River	5	2013	11/14/2013	3	72	0.02763067	200	267	2605.8	227
FL	Crystal River	5	2013	11/14/2013	4	82	0.029724145	209	283	2758.7	243
FL	Crystal River	5	2013	11/14/2013	5	327	0.074866065	301	448	4367.8	414
FL	Crystal River	5	2013	11/14/2013	6	737	0.114942529	461	657	6411.9	632
FL	Crystal River	5	2013	11/14/2013	7	752	0.117048267	494	659	6424.7	647
FL	Crystal River	5	2013	11/14/2013	8	864	0.136949389	466	647	6308.9	635
FL	Crystal River	5	2013	11/14/2013	9	706	0.116476663	430	621	6061.3	603
FL	Crystal River	5	2013	11/14/2013	10	555	0.098301422	383	579	5645.9	558
FL	Crystal River	5	2013	11/14/2013	11	510	0.096790723	326	540	5269.1	524
FL	Crystal River	5	2013	11/14/2013	12	677	0.120041846	394	578	5639.7	556
FL	Crystal River	5	2013	11/14/2013	13	850	0.140665597	435	620	6042.7	603
FL	Crystal River	5	2013	11/14/2013	14	758	0.123047953	443	632	6160.2	613
FL	Crystal River	5	2013	11/14/2013	15	686	0.118787879	410	592	5775	575
FL	Crystal River	5	2013	11/14/2013	16	719	0.128207414	409	575	5608.1	555
FL	Crystal River	5	2013	11/14/2013	17	773	0.131886506	445	601	5861.1	583
FL	Crystal River	5	2013	11/14/2013	18	954	0.148097552	496	660	6441.7	655
FL	Crystal River	5	2013	11/14/2013	19	519	0.097067405	374	548	5346.8	542
FL	Crystal River	5	2013	11/14/2013	20	245	0.074898352	202	335	3271.1	319
FL	Crystal River	5	2013	11/14/2013	21	110	0.040150381	194	281	2739.7	250
FL	Crystal River	5	2013	11/14/2013	22	111	0.039902222	197	285	2781.8	252
FL	Crystal River	5	2013	11/14/2013	23	113	0.040904977	196	283	2762.5	250
FL	Crystal River	5	2013	11/15/2013	0	92	0.035266608	182	267	2608.7	227
FL	Crystal River	5	2013	11/15/2013	1	94	0.03675608	171	262	2557.4	225
FL	Crystal River	5	2013	11/15/2013	2	92	0.035562428	178	265	2587	225
FL	Crystal River	5	2013	11/15/2013	3	88	0.033846154	182	266	2600	225
FL	Crystal River	5	2013	11/15/2013	4	89	0.034077421	185	268	2611.7	225
FL	Crystal River	5	2013	11/15/2013	5	128	0.043931906	209	298	2913.6	260
FL	Crystal River	5	2013	11/15/2013	6	292	0.070373316	286	425	4149.3	394
FL	Crystal River	5	2013	11/15/2013	7	376	0.076147272	345	506	4937.8	478
FL	Crystal River	5	2013	11/15/2013	8	430	0.082100239	361	537	5237.5	517
FL	Crystal River	5	2013	11/15/2013	9	739	0.123302299	437	614	5993.4	599
FL	Crystal River	5	2013	11/15/2013	10	879	0.135041711	494	667	6509.1	657

FL	Crystal River	5	2013	11/15/2013	11	820	0.127586743	514	659	6427	657
FL	Crystal River	5	2013	11/15/2013	12	956	0.144611847	535	678	6610.8	672
FL	Crystal River	5	2013	11/15/2013	13	982	0.146939997	548	685	6683	681
FL	Crystal River	5	2013	11/15/2013	14	913	0.136795421	554	684	6674.2	681
FL	Crystal River	5	2013	11/15/2013	15	943	0.141296693	553	684	6673.9	681
FL	Crystal River	5	2013	11/15/2013	16	981	0.146636771	548	686	6690	683
FL	Crystal River	5	2013	11/15/2013	17	1180	0.158083704	694	765	7464.4	762
FL	Crystal River	5	2013	11/15/2013	18	1243	0.163783221	690	778	7589.3	771
FL	Crystal River	5	2013	11/15/2013	19	1116	0.150519941	667	760	7414.3	760
FL	Crystal River	5	2013	11/15/2013	20	411	0.065720042	481	641	6253.8	635
FL	Crystal River	5	2013	11/15/2013	21	618	0.114081075	373	555	5417.2	541
FL	Crystal River	5	2013	11/15/2013	22	746	0.150551957	327	508	4955.1	487
FL	Crystal River	5	2013	11/15/2013	23	458	0.105908197	281	443	4324.5	422
FL	Crystal River	5	2013	11/16/2013	0	263	0.07912154	219	341	3324	313
FL	Crystal River	5	2013	11/16/2013	1	143	0.054989425	182	266	2600.5	227
FL	Crystal River	5	2013	11/16/2013	2	140	0.053796496	179	267	2602.4	227
FL	Crystal River	5	2013	11/16/2013	3	134	0.05121541	185	268	2616.4	226
FL	Crystal River	5	2013	11/16/2013	4	137	0.052059584	186	270	2631.6	228
FL	Crystal River	5	2013	11/16/2013	5	184	0.06282222	193	300	2928.9	262
FL	Crystal River	5	2013	11/16/2013	6	235	0.071201333	204	338	3300.5	304
FL	Crystal River	5	2013	11/16/2013	7	332	0.089070129	249	382	3727.4	348
FL	Crystal River	5	2013	11/16/2013	8	710	0.140850659	352	517	5040.8	491
FL	Crystal River	5	2013	11/16/2013	9	1074	0.17202441	518	640	6243.3	629
FL	Crystal River	5	2013	11/16/2013	10	1453	0.193542372	653	770	7507.4	758
FL	Crystal River	5	2013	11/16/2013	11	974	0.128587648	696	777	7574.6	770
FL	Crystal River	5	2013	11/16/2013	12	874	0.115391725	681	777	7574.2	771
FL	Crystal River	5	2013	11/16/2013	13	896	0.118637784	687	774	7552.4	771
FL	Crystal River	5	2013	11/16/2013	14	1034	0.136734505	695	775	7562.1	771
FL	Crystal River	5	2013	11/16/2013	15	1257	0.165114477	700	781	7612.9	774
FL	Crystal River	5	2013	11/16/2013	16	1259	0.164844517	702	783	7637.5	775
FL	Crystal River	5	2013	11/16/2013	17	1115	0.147299725	704	776	7569.6	772
FL	Crystal River	5	2013	11/16/2013	18	1017	0.13439759	696	776	7567.1	771
FL	Crystal River	5	2013	11/16/2013	19	983	0.129768977	719	777	7575	771
FL	Crystal River	5	2013	11/16/2013	20	781	0.108004204	643	741	7231.2	735
FL	Crystal River	5	2013	11/16/2013	21	659	0.103325546	503	654	6377.9	643

FL	Crystal River	5	2013	11/16/2013	22	1290	0.204953846	503	645	6294.1	628
FL	Crystal River	5	2013	11/16/2013	23	465	0.088867654	345	536	5232.5	523
FL	Crystal River	5	2013	11/17/2013	0	122	0.037163397	174	336	3282.8	310
FL	Crystal River	5	2013	11/17/2013	1	97	0.037184697	146	267	2608.6	227
FL	Crystal River	5	2013	11/17/2013	2	107	0.040783656	81	269	2623.6	226
FL	Crystal River	5	2013	11/17/2013	3	114	0.043616329	81	268	2613.7	227
FL	Crystal River	5	2013	11/17/2013	4	180	0.059602649	105	309	3020	276
FL	Crystal River	5	2013	11/17/2013	5	194	0.059618931	113	333	3254	301
FL	Crystal River	5	2013	11/17/2013	6	207	0.064381687	106	329	3215.2	301
FL	Crystal River	5	2013	11/17/2013	7	201	0.062871442	92	328	3197	301
FL	Crystal River	5	2013	11/17/2013	8	227	0.068055764	113	342	3335.5	318
FL	Crystal River	5	2013	11/17/2013	9	461	0.100628656	210	470	4581.2	443
FL	Crystal River	5	2013	11/17/2013	10	356	0.076531161	223	477	4651.7	456
FL	Crystal River	5	2013	11/17/2013	11	727	0.13382667	418	557	5432.4	528
FL	Crystal River	5	2013	11/17/2013	12	1753	0.241347028	719	745	7263.4	723
FL	Crystal River	5	2013	11/17/2013	13	1035	0.135154546	758	785	7657.9	773
FL	Crystal River	5	2013	11/17/2013	14	849	0.11122465	740	783	7633.2	772
FL	Crystal River	5	2013	11/17/2013	15	875	0.114785711	739	782	7622.9	772
FL	Crystal River	5	2013	11/17/2013	16	1018	0.133183317	749	784	7643.6	771
FL	Crystal River	5	2013	11/17/2013	17	1225	0.161337056	728	779	7592.8	771
FL	Crystal River	5	2013	11/17/2013	18	1267	0.16660092	722	780	7605	771
FL	Crystal River	5	2013	11/17/2013	19	1167	0.153423433	722	780	7606.4	771
FL	Crystal River	5	2013	11/17/2013	20	1145	0.150284162	685	781	7618.9	770
FL	Crystal River	5	2013	11/17/2013	21	1059	0.139080414	685	781	7614.3	769
FL	Crystal River	5	2013	11/17/2013	22	999	0.133228422	652	769	7498.4	760
FL	Crystal River	5	2013	11/17/2013	23	348	0.056401031	438	633	6170.1	621
FL	Crystal River	5	2013	11/18/2013	0	207	0.044202434	276	480	4683	462
FL	Crystal River	5	2013	11/18/2013	1	55	0.020043001	118	281	2744.1	249
FL	Crystal River	5	2013	11/18/2013	2	59	0.022460789	107	269	2626.8	227
FL	Crystal River	5	2013	11/18/2013	3	78	0.030110017	116	265	2590.5	226
FL	Crystal River	5	2013	11/18/2013	4	146	0.053609459	128	279	2723.4	236
FL	Crystal River	5	2013	11/18/2013	5	430	0.106335625	258	414	4043.8	383
FL	Crystal River	5	2013	11/18/2013	6	1238	0.193728092	575	655	6390.4	633
FL	Crystal River	5	2013	11/18/2013	7	1039	0.138129994	722	771	7521.9	767
FL	Crystal River	5	2013	11/18/2013	8	983	0.130697229	722	771	7521.2	770

FL	Crystal River	5	2013	11/18/2013	9	1194	0.15848155	693	773	7534	770
FL	Crystal River	5	2013	11/18/2013	10	1122	0.147896235	682	778	7586.4	770
FL	Crystal River	5	2013	11/18/2013	11	1048	0.137294975	671	783	7633.2	772
FL	Crystal River	5	2013	11/18/2013	12	1064	0.139645374	685	781	7619.3	771
FL	Crystal River	5	2013	11/18/2013	13	1100	0.143715704	673	785	7654	773
FL	Crystal River	5	2013	11/18/2013	14	1063	0.139050584	672	784	7644.7	772
FL	Crystal River	5	2013	11/18/2013	15	1049	0.13759362	686	782	7623.9	773
FL	Crystal River	5	2013	11/18/2013	16	1145	0.149896578	672	783	7638.6	770
FL	Crystal River	5	2013	11/18/2013	17	1266	0.167064754	666	777	7577.9	769
FL	Crystal River	5	2013	11/18/2013	18	1188	0.157072216	658	776	7563.4	770
FL	Crystal River	5	2013	11/18/2013	19	1101	0.145454065	651	776	7569.4	771
FL	Crystal River	5	2013	11/18/2013	20	1020	0.132928466	675	787	7673.3	774
FL	Crystal River	5	2013	11/18/2013	21	1692	0.222740018	683	779	7596.3	774
FL	Crystal River	5	2013	11/18/2013	22	720	0.107849011	520	685	6676	674
FL	Crystal River	5	2013	11/18/2013	23	384	0.074789654	333	526	5134.4	507
FL	Crystal River	5	2013	11/19/2013	0	175	0.056555602	204	317	3094.3	283
FL	Crystal River	5	2013	11/19/2013	1	160	0.060656608	197	270	2637.8	227
FL	Crystal River	5	2013	11/19/2013	2	138	0.052359994	200	270	2635.6	226
FL	Crystal River	5	2013	11/19/2013	3	112	0.04238571	203	271	2642.4	226
FL	Crystal River	5	2013	11/19/2013	4	118	0.044573717	206	271	2647.3	227
FL	Crystal River	5	2013	11/19/2013	5	290	0.084398009	244	352	3436.1	309
FL	Crystal River	5	2013	11/19/2013	6	1053	0.231693364	322	466	4544.8	438
FL	Crystal River	5	2013	11/19/2013	7	1565	0.289450322	394	554	5406.8	532
FL	Crystal River	5	2013	11/19/2013	8	1112	0.235743057	349	484	4717	466
FL	Crystal River	5	2013	11/19/2013	9	1023	0.220151502	329	476	4646.8	454
FL	Crystal River	5	2013	11/19/2013	10	716	0.14699844	345	499	4870.8	482
FL	Crystal River	5	2013	11/19/2013	11	259	0.045938276	439	578	5638	561
FL	Crystal River	5	2013	11/19/2013	12	429	0.065926973	533	667	6507.2	652
FL	Crystal River	5	2013	11/19/2013	13	764	0.122152051	494	641	6254.5	630
FL	Crystal River	5	2013	11/19/2013	14	1009	0.171310209	435	604	5889.9	588
FL	Crystal River	5	2013	11/19/2013	15	680	0.110783467	484	629	6138.1	612
FL	Crystal River	5	2013	11/19/2013	16	345	0.061553284	420	575	5604.9	560
FL	Crystal River	5	2013	11/19/2013	17	382	0.066394369	460	590	5753.5	571
FL	Crystal River	5	2013	11/19/2013	18	730	0.112259334	559	667	6502.8	655
FL	Crystal River	5	2013	11/19/2013	19	748	0.113828314	565	674	6571.3	658

FL	Crystal River	5	2013	11/19/2013	20	567	0.086600583	582	671	6547.3	658
FL	Crystal River	5	2013	11/19/2013	21	415	0.068709747	489	619	6039.9	609
FL	Crystal River	5	2013	11/19/2013	22	261	0.053791142	325	497	4852.1	479
FL	Crystal River	5	2013	11/19/2013	23	89	0.028829646	157	316	3087.1	288
FL	Crystal River	5	2013	11/20/2013	0	110	0.038925652	124	289	2825.9	252
FL	Crystal River	5	2013	11/20/2013	1	104	0.03960396	112	269	2626	232
FL	Crystal River	5	2013	11/20/2013	2	90	0.034245272	113	269	2628.1	226
FL	Crystal River	5	2013	11/20/2013	3	89	0.034288796	116	266	2595.6	226
FL	Crystal River	5	2013	11/20/2013	4	96	0.036722515	120	268	2614.2	227
FL	Crystal River	5	2013	11/20/2013	5	94	0.035465007	119	271	2650.5	231
FL	Crystal River	5	2013	11/20/2013	6	229	0.064032659	171	366	3576.3	333
FL	Crystal River	5	2013	11/20/2013	7	305	0.070383533	212	444	4333.4	414
FL	Crystal River	5	2013	11/20/2013	8	232	0.056377731	201	422	4115.1	391
FL	Crystal River	5	2013	11/20/2013	9	445	0.096153846	273	474	4628	446
FL	Crystal River	5	2013	11/20/2013	10	545	0.104512244	385	535	5214.7	507
FL	Crystal River	5	2013	11/20/2013	11	943	0.157122149	432	615	6001.7	596
FL	Crystal River	5	2013	11/20/2013	12	1104	0.170010934	513	666	6493.7	651
FL	Crystal River	5	2013	11/20/2013	13	835	0.128643619	499	666	6490.8	650
FL	Crystal River	5	2013	11/20/2013	14	916	0.141572131	498	663	6470.2	651
FL	Crystal River	5	2013	11/20/2013	15	947	0.145716967	500	666	6498.9	651
FL	Crystal River	5	2013	11/20/2013	16	891	0.137041082	507	667	6501.7	650
FL	Crystal River	5	2013	11/20/2013	17	873	0.134634959	518	665	6484.2	650
FL	Crystal River	5	2013	11/20/2013	18	929	0.144834898	487	658	6414.2	648
FL	Crystal River	5	2013	11/20/2013	19	977	0.149021522	485	672	6556.1	660
FL	Crystal River	5	2013	11/20/2013	20	882	0.136435356	484	663	6464.6	650
FL	Crystal River	5	2013	11/20/2013	21	846	0.138515947	445	626	6107.6	613
FL	Crystal River	5	2013	11/20/2013	22	696	0.126343305	380	565	5508.8	549
FL	Crystal River	5	2013	11/20/2013	23	380	0.091011424	300	428	4175.3	407
FL	Crystal River	5	2013	11/21/2013	0	185	0.054842439	239	346	3373.3	318
FL	Crystal River	5	2013	11/21/2013	1	75	0.028402636	195	270	2640.6	232
FL	Crystal River	5	2013	11/21/2013	2	79	0.030118185	215	269	2623	226
FL	Crystal River	5	2013	11/21/2013	3	87	0.03308488	189	269	2629.6	225
FL	Crystal River	5	2013	11/21/2013	4	89	0.033642034	193	271	2645.5	227
FL	Crystal River	5	2013	11/21/2013	5	120	0.038276291	219	321	3135.1	280
FL	Crystal River	5	2013	11/21/2013	6	661	0.135941099	350	498	4862.4	468

FL	Crystal River	5	2013	11/21/2013	7	450	0.078513478	389	588	5731.5	568
FL	Crystal River	5	2013	11/21/2013	8	479	0.085862298	401	572	5578.7	554
FL	Crystal River	5	2013	11/21/2013	9	994	0.164998423	445	618	6024.3	597
FL	Crystal River	5	2013	11/21/2013	10	1031	0.158583668	487	667	6501.3	649
FL	Crystal River	5	2013	11/21/2013	11	278	0.048083575	375	593	5781.6	573
FL	Crystal River	5	2013	11/21/2013	12	688	0.110074716	456	641	6250.3	624
FL	Crystal River	5	2013	11/21/2013	13	871	0.134384547	479	665	6481.4	650
FL	Crystal River	5	2013	11/21/2013	14	523	0.09013201	383	595	5802.6	575
FL	Crystal River	5	2013	11/21/2013	15	745	0.131372445	385	581	5670.9	562
FL	Crystal River	5	2013	11/21/2013	16	645	0.110354503	397	599	5844.8	575
FL	Crystal River	5	2013	11/21/2013	17	808	0.132361373	451	626	6104.5	608
FL	Crystal River	5	2013	11/21/2013	18	763	0.118516908	502	660	6437.9	649
FL	Crystal River	5	2013	11/21/2013	19	693	0.109888367	479	647	6306.4	635
FL	Crystal River	5	2013	11/21/2013	20	873	0.135833204	514	659	6427	646
FL	Crystal River	5	2013	11/21/2013	21	688	0.110552279	473	638	6223.3	624
FL	Crystal River	5	2013	11/21/2013	22	821	0.12991123	486	648	6319.7	634
FL	Crystal River	5	2013	11/21/2013	23	479	0.08952267	353	549	5350.6	530
FL	Crystal River	5	2013	11/22/2013	0	160	0.04027589	242	407	3972.6	381
FL	Crystal River	5	2013	11/22/2013	1	94	0.032741205	189	294	2871	259
FL	Crystal River	5	2013	11/22/2013	2	114	0.042071078	187	278	2709.7	236
FL	Crystal River	5	2013	11/22/2013	3	90	0.034506556	187	267	2608.2	226
FL	Crystal River	5	2013	11/22/2013	4	97	0.036868111	194	269	2631	228
FL	Crystal River	5	2013	11/22/2013	5	123	0.039099752	223	322	3145.8	280
FL	Crystal River	5	2013	11/22/2013	6	284	0.062511005	331	466	4543.2	439
FL	Crystal River	5	2013	11/22/2013	7	336	0.06321612	356	545	5315.1	524
FL	Crystal River	5	2013	11/22/2013	8	461	0.078864083	409	599	5845.5	578
FL	Crystal River	5	2013	11/22/2013	9	614	0.100978538	431	623	6080.5	608
FL	Crystal River	5	2013	11/22/2013	10	685	0.10628559	502	661	6444.9	644
FL	Crystal River	5	2013	11/22/2013	11	532	0.092223416	380	591	5768.6	569
FL	Crystal River	5	2013	11/22/2013	12	954	0.148785851	461	657	6411.9	638
FL	Crystal River	5	2013	11/22/2013	13	827	0.127458233	493	665	6488.4	649
FL	Crystal River	5	2013	11/22/2013	14	877	0.135266446	499	665	6483.5	649
FL	Crystal River	5	2013	11/22/2013	15	864	0.132916942	487	666	6500.3	651
FL	Crystal River	5	2013	11/22/2013	16	1076	0.142976733	647	772	7525.7	752
FL	Crystal River	5	2013	11/22/2013	17	621	0.082652328	616	770	7513.4	765

FL	Crystal River	5	2013	11/22/2013	18	780	0.103673773	616	771	7523.6	765
FL	Crystal River	5	2013	11/22/2013	19	1159	0.152197607	616	781	7615.1	765
FL	Crystal River	5	2013	11/22/2013	20	901	0.118638488	615	779	7594.5	766
FL	Crystal River	5	2013	11/22/2013	21	739	0.114242429	452	663	6468.7	654
FL	Crystal River	5	2013	11/22/2013	22	527	0.090702558	360	596	5810.2	569
FL	Crystal River	5	2013	11/22/2013	23	343	0.067298448	305	522	5096.7	497
FL	Crystal River	5	2013	11/23/2013	0	286	0.062698674	282	468	4561.5	436
FL	Crystal River	5	2013	11/23/2013	1	90	0.030232793	184	305	2976.9	269
FL	Crystal River	5	2013	11/23/2013	2	105	0.037008318	184	291	2837.2	252
FL	Crystal River	5	2013	11/23/2013	3	133	0.046264088	192	295	2874.8	252
FL	Crystal River	5	2013	11/23/2013	4	133	0.046845831	193	291	2839.1	252
FL	Crystal River	5	2013	11/23/2013	5	150	0.052908187	198	290	2835.1	253
FL	Crystal River	5	2013	11/23/2013	6	170	0.059293363	203	294	2867.1	253
FL	Crystal River	5	2013	11/23/2013	7	204	0.066586154	208	314	3063.7	280
FL	Crystal River	5	2013	11/23/2013	8	470	0.110453093	285	436	4255.2	410
FL	Crystal River	5	2013	11/23/2013	9	846	0.160509989	347	540	5270.7	515
FL	Crystal River	5	2013	11/23/2013	10	1109	0.174794313	444	651	6344.6	631
FL	Crystal River	5	2013	11/23/2013	11	1335	0.180982593	641	756	7376.4	745
FL	Crystal River	5	2013	11/23/2013	12	1738	0.229345086	644	777	7578.1	766
FL	Crystal River	5	2013	11/23/2013	13	1485	0.196207967	628	776	7568.5	767
FL	Crystal River	5	2013	11/23/2013	14	1645	0.217356835	620	776	7568.2	765
FL	Crystal River	5	2013	11/23/2013	15	2813	0.371726088	613	776	7567.4	766
FL	Crystal River	5	2013	11/23/2013	16	2021	0.267395245	612	775	7558.1	766
FL	Crystal River	5	2013	11/23/2013	17	1965	0.261209406	616	771	7522.7	767
FL	Crystal River	5	2013	11/23/2013	18	2241	0.297273994	618	773	7538.5	765
FL	Crystal River	5	2013	11/23/2013	19	1856	0.244233021	615	779	7599.3	767
FL	Crystal River	5	2013	11/23/2013	20	887	0.139757669	431	651	6346.7	639
FL	Crystal River	5	2013	11/23/2013	21	596	0.11853384	296	515	5028.1	498
FL	Crystal River	5	2013	11/23/2013	22	648	0.210697448	199	315	3075.5	282
FL	Crystal River	5	2013	11/23/2013	23	1050	0.473976437	252	227	2215.3	194
FL	Crystal River	5	2013	11/24/2013	0	491	0.301044336	601	167	1630.989	164
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FL	Crystal River	5	2013	11/30/2013	23	#DIV/0!

Exhibit I

		Step 6				Ste			
Plant Name	**Boiler ID**	**Ozone Season NO_x 2012 State Budget for Existing Units (tons)**	**Ozone Season NO_x 2014 State Budget for Existing Units (tons)**	**Initial Heat Input Based 2012 Ozone Season NO_x Allocation (tons)**	**Initial Heat Input Based 2014 Ozone Season NO_x Allocation (tons)**	**2003 Ozone Season NO_x Emissions (tons)**	**2004 Ozone Season NO_x Emissions (tons)**	**2005 Ozone Season NO_x Emissions (tons)**	**2006 Ozone Season NO_x Emissions (tons)**
Calculation				**Column BS x column BT**	**Column BS x column BU**				
Big Bend	BB01	28,071	27,268	375	364	3,490	3,975	3,714	4,056
Big Bend	BB02	28,071	27,268	375	365	3,610	3,941	3,985	4,626
Big Bend	BB03	28,071	27,268	384	373	2,871	3,148	2,810	2,584
Big Bend	BB04	28,071	27,268	435	423	2,515	1,369	1,428	2,407
C D McIntosh Jr Power Plant	3	28,071	27,268	327	318	2,396	2,079	2,841	1,870
Cedar Bay Generating Co. LP	CBA	28,071	27,268	107	104				
Cedar Bay Generating Co. LP	CBB	28,071	27,268	110	107				
Cedar Bay Generating Co. LP	CBC	28,071	27,268	102	99				
Crist Electric Generating Plant	4	28,071	27,268	81	79	475	475	485	440
Crist Electric Generating Plant	5	28,071	27,268	77	75	450	440	480	379
Crist Electric Generating Plant	6	28,071	27,268	277	269	2,261	1,968	2,319	1,388
Crist Electric Generating Plant	7	28,071	27,268	488	474	3,957	2,189	634	753
Crystal River	1	28,071	27,268	280	272	1,939	1,811	1,803	2,052
Crystal River	2	28,071	27,268	351	341	2,447	2,515	2,201	2,631
Crystal River	4	28,071	27,268	712	691	6,446	5,773	6,214	5,837
Crystal River	5	28,071	27,268	674	654	5,926	5,252	6,752	5,393
Curtis H. Stanton Energy Center	1	28,071	27,268	454	441	2,781	2,773	2,969	3,093
Curtis H. Stanton Energy Center	2	28,071	27,268	445	432	1,288	1,192	1,318	1,259
Deerhaven	B2	28,071	27,268	220	214	1,924	1,760	1,744	1,856
Indiantown Cogeneration, LP	01	28,071	27,268	312	303	926		974	921
Lansing Smith Generating Plant	1	28,071	27,268	160	156	1,045	1,294	1,406	1,259
Lansing Smith Generating Plant	2	28,071	27,268	186	181	1,154	1,243	1,225	1,266
Northside	1A	28,071	27,268	307	298	210	243	294	306
Northside	2A	28,071	27,268	295	286	233	256	311	362
Scholz Electric Generating Plant	1	28,071	27,268	32	31	269	295	297	252
Scholz Electric Generating Plant	2	28,071	27,268	30	29	347	327	409	225
Seminole (136)	1	28,071	27,268	650	632	5,091	4,379	5,401	5,478
Seminole (136)	2	28,071	27,268	677	658	4,605	4,275	5,190	5,574
St. Johns River Power	1	28,071	27,268	639	621	5,671	5,676	4,562	4,549
St. Johns River Power	2	28,071	27,268	683	664	5,202	4,227	4,131	5,582

p 7							Step 8	Steps 9 & 10			
2007 Ozone Season NO_X Emissions (tons)	2008 Ozone Season NO_X Emissions (tons)	2009 Ozone Season NO_X Emissions (tons)	2010 Ozone Season NO_X Emissions (tons)	2011 Ozone Season Nox Emissions (tons)	2012 Ozone Season Nox Emissions (tons)	2013 Ozone Season Nox Emissions (tons)	Ozone Season NO_X Maximum Historic Baseline (2003-2010) (tons)	Final Transport Rule Unit Level NO_X Ozone Season Allocation 2012 (tons)	Final Transport Rule Unit Level NO_X Ozone Season Allocation 2013 (tons)	Proportion over limit	Deficit of Allowances for Facility
							Highest value of columns BX - CE	(Lesser of columns CF, CG, and BV + reapportionment if BV < (CF and CG)	(Lesser of columns CF, CH, and BV + reapportionment if BV < (CF and CH)		
4,457	3,651	2,001	475	549.122	406.486	612.176	4,457	**530**	**530**	1.15504906	-76
4,146	3,554	689	495	492.923	545.399	618.556	4,626	**531**	**531**	1.16488889	
1,752	483	692	755	599.361	503.062	588.004	3,148	**542**	**542**	1.08487823	
521	495	689	360	474.159	483.427	474.805	2,515	**615**	**615**	0.77204065	
2,064	2,074	1,179	433	825.858	843.45	473.841	2,841	**463**	**463**	1.02341469	-11
	294	243	307	258.374	236.44	221.496	307	**152**	**152**	1.45721053	-186
	309	258	298	262.844	207.326	203.394	309	**156**	**156**	1.30380769	
	290	228	291	246.728	224.135	212.937	291	**144**	**144**	1.47872917	
439	448	74	181	168.362	5.579	22.28	485	**115**	**115**	0.19373913	117
355	391	345	249	208.943	158.908	144.767	480	**108**	**108**	1.34043519	
1,221	1,081	545	841	578.173	554.935	286.901	2,319	**392**	**392**	0.73189031	
685	647	613	1,498	1295.871	515.378	733.592	3,957	**690**	**690**	1.06317681	
1,992	1,595	1,655	1,583	1453.55	1110.451	1416.951	2,052	**396**	**396**	3.57815909	-1,091
2,150	2,399	1,552	1,821	1542.348	1092.739	1289.292	2,631	**496**	**496**	2.59937903	
6,198	5,880	3,460	710	782.142	841.909	605.592	6,446	**1,006**	**1,006**	0.60198012	
5,654	4,841	1,027	456	470.398	1145.218	628.752	6,752	**952**	**952**	0.66045378	
2,839	3,032	2,013	2,050	1634.43	1041.756	1266.584	3,093	**642**	**642**	1.97287227	-814
1,301	1,073	1,087	1,102	823.75	783.45	818.449	1,318	**629**	**629**	1.30119078	
1,627	1,652	435	229	243.11	137.853	326.238	1,924	**311**	**311**	1.04899678	-15
918	963	592	642	698.634	672.046	725.515	974	**441**	**441**	1.64515873	-285
1,305	1,389	556	626	504.82	426.511	554.309	1,406	**226**	**226**	2.45269469	-427
1,335	1,034	610	782	593.491	460.682	361.529	1,335	**263**	**263**	1.37463498	
344	388	452	350	147.7	129.614	138.061	452	**434**	**434**	0.3181129	402
304	276	436	448	160.142	0	309.732	448	**416**	**416**	0.74454808	
403	339		114	165.005	11.745	11.562	403	**45**	**45**	0.25693333	60
383	344	17	98	102.124	11.602	16.112	409	**43**	**43**	0.37469767	
3,962	3,930	289	485	449.303	451.525	455.43	5,478	**919**	**919**	0.49557127	948
3,867	4,398	575	507	389.561	457.371	473.012	5,574	**957**	**957**	0.49426541	
4,607	4,248	1,499	1,381	1276.374	3316.463	2919.223	5,676	**903**	**903**	3.23280509	-3,261
4,738	5,322	1,126	1,448	1364.537	2910.599	2210.478	5,582	**966**	**966**	2.2882795	

FIFTH AMENDMENT TO SETTLEMENT AGREEMENT AMONG THE ENVIRONMENTAL PROTECTION AGENCY, THE PLAINTIFFS IN CRONIN, ET AL. V. REILLY, 93 CIV. 314 (LTS) (SDNY), AND THE PLAINTIFFS IN RIVERKEEPER, ET AL. V. EPA, 06 CIV. 12987 (PKC) (SDNY)

WHEREAS, on November 22, 2010, the Environmental Protection Agency ("EPA") entered into a settlement agreement (the "Settlement Agreement") with the plaintiffs in two actions previously pending in the United States District Court for the Southern District of New York (collectively, "Riverkeeper") – *Riverkeeper, et al. v. Jackson*, 93 Civ. 0314 (LTS), and *Riverkeeper*, *et al. v. EPA*, 06 Civ. 12987 (PKC) – concerning EPA's issuance of rules implementing section 316(b) of the Clean Water Act ("CWA"), 33 U.S.C. § 1326(b);

WHEREAS, pursuant to Paragraph 4 of the Settlement Agreement, EPA agreed, *inter alia*, that on or before July 27, 2012, the "EPA Administrator shall sign for publication in the Federal Register a notice of its final action pertaining to issuance of requirements for implementing section 316(b) of the CWA at existing facilities," Settlement Agreement ¶ 4.

WHEREAS, on March 11, 2011, EPA and Riverkeeper entered into an amendment to the Settlement Agreement (the "First Amendment"), pursuant to which the parties agreed to certain extensions of deadlines under Paragraphs 3 and 6(a)(i) of the Settlement Agreement;

WHEREAS, on July 17, 2012, EPA and Riverkeeper entered into an amendment to the Settlement Agreement (the "Second Amendment"), pursuant to which the parties agreed to extend the date on or before which EPA is to take the action under Paragraph 4 of the Settlement Agreement from July 27, 2012, to June 27, 2013;

WHEREAS, on June 18, 2013, pursuant to Section 7(a)(2) of the Endangered Species Act ("ESA"), 16 U.S.C. § 1536(a)(2) and its implementing regulations at 50 C.F.R. § 402.14(c), EPA requested formal consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service (collectively, the "Services") on EPA's final requirements for implementing section 316(b) of the CWA at existing facilities:

WHEREAS, on June 27, 2013, EPA and Riverkeeper entered into an amendment to the Settlement Agreement (the "Third Amendment"), pursuant to which the parties agreed to extend the date on or before which EPA is to take the action under Paragraph 4 of the Settlement Agreement from June 27, 2013, to November 4, 2013;

WHEREAS, EPA and Riverkeeper recognize that, from October 1, 2013, to October 16, 2013, a lapse in funding caused a shutdown of certain federal agencies, including EPA, which prevented EPA staff from taking steps necessary during that period to complete the section 316(b) rulemaking, and that accounting for effects of the shutdown extends the deadline for EPA to complete the section 316(b) rulemaking to November 20, 2013;

WHEREAS, on November 12, 2013, EPA and Riverkeeper entered into an amendment to the Settlement Agreement (the "Fourth Amendment"), pursuant to which the parties agreed to extend the date on or before which EPA is to take the action under Paragraph 4 of the Settlement Agreement from November 20, 2013, to January 14, 2014;

WHEREAS, to enable EPA to complete the section 316(b) rulemaking, including to finalize the language of the rule and the preamble and supporting documents for the rule, EPA has requested further modification of the Settlement Agreement to extend the date on or before which EPA is to take the action under Paragraph 4 of the Settlement Agreement to April 17, 2014, and Riverkeeper has consented to such a modification; and

WHEREAS, EPA does not intend to seek a further extension of the date by which EPA is to take the action under Paragraph 4 of the Settlement Agreement beyond April 17, 2014, and Riverkeeper does not intend to agree to any further extension of the deadline for EPA to complete the section 316(b) rulemaking beyond April 17, 2014;

NOW, THEREFORE, EPA and Riverkeeper, intending to be bound by this Fifth Amendment to the Settlement Agreement, hereby stipulate and agree as follows:

1. Paragraph 4 of the Settlement Agreement shall be amended to provide:

> "No later than April 17, 2014, the EPA Administrator shall sign for publication in the Federal Register a notice of its final action pertaining to issuance of requirements for implementing section 316(b) of the CWA at existing facilities. EPA shall make a copy of the notice available to the

Cronin Plaintiffs, the SDNY Phase III Plaintiffs, and the SDNY Phase III Intervenors within five business days following signature."

2. Within 10 days of the execution of this Fifth Amendment, a link to a copy of this Fifth Amendment shall be posted on the Office of Water website with an explanation of the reasons for the extension.

FOR EPA:

PREET BHARARA
United States Attorney
Southern District of New York

Dated: February 7, 2014

LI YU
Assistant United States Attorney
86 Chambers Street, Third Floor
New York, NY 10007
(212) 637-2734

Dated: February 10 2014

RICHARD T. WITT
Office of General Counsel
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

FOR RIVERKEEPER:

Dated: February 7, 2014

REED W. SUPER
Super Law Group, LLC
131 Varick Street, Suite 1033
New York, New York 10013
(212) 242-2273

Exhibit K

REVIEW OF THE
<u>2012 TEN-YEAR SITE PLANS</u>
FOR FLORIDA'S ELECTRIC UTILITIES

FLORIDA PUBLIC SERVICE COMMISSION

TALLAHASSEE, FL
DECEMBER 2012

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LIST OF TEN-YEAR SITE PLAN UTILITIES

Investor-Owned Electric Utilities

FPL	Florida Power & Light
PEF	Progress Energy Florida
TECO	Tampa Electric Company
GULF	Gulf Power Company

Municipal Electric Utilities & Rural Electric Cooperatives

FMPA	Florida Municipal Power Agency
GRU	Gainesville Regional Utilities
JEA	JEA (formerly Jacksonville Electric Authority)
LAK	Lakeland Electric
OUC	Orlando Utilities Commission
SEC	Seminole Electric Cooperative
TAL	City of Tallahassee

LIST OF ACRONYMS

AB	Agricultural Byproducts (Biomass)
CC	Combined Cycle
CR3	Crystal River 3 Nuclear Unit
CT	Combustion Turbine
DACS	Department of Agriculture and Consumer Services
DEP	Department of Environmental Protection
DOE	Department of Energy
EIA	Energy Information Agency
EPA	Environmental Protection Agency
F.A.C.	Florida Administrative Code
F.S.	Florida Statutes
FEECA	Florida Energy Efficiency & Conservation Act
FERC	Federal Energy Regulatory Commission
FRCC	Florida Reliability Coordinating Council
INT	Interruptible Load
IOU	Investor-Owned Utility
IPP	Independent Power Producer
LFG	Landfill Gas
LM	Load Management
MMBtu	Million British Thermal Units
MSW	Municipal Solid Waste
MW	Megawatts
MWh	Megawatt-hours
NEL	Net Energy for Load
NUG	Non-Utility Generators
NUG	Non-Utility Generator
OBG	Other Biogas (Biomass)
PPSA	Power Plant Siting Act
QF	Qualifying Facilities
REC	Renewable Energy Credits
RFP	Request for Proposals
RPS	Renewable Portfolio Standard
SUN	Solar
TLSA	Transmission Line Siting Act
TYSP	Ten-Year Site Plan
WAT	Hydro / Water
WDS	Wood Waste Solids (Biomass)
WH	Waste Heat

EXECUTIVE SUMMARY

Pursuant to Section 186.801(1), Florida Statutes (F.S.), each generating electric utility must submit to the Florida Public Service Commission (Commission) a Ten-Year Site Plan (TYSP or Plan) which estimates the utility's power generating needs and the general locations of its proposed power plant sites over a ten-year planning horizon. The Commission is required to perform a preliminary study of each plan and classify each one as either "suitable" or "unsuitable." This document represents the study of the 2012 Ten-Year Site Plans for Florida's electric utilities. All findings of the Commission are made available to the Florida Department of Environmental Protection (DEP) for its consideration at any subsequent electrical power plant site certification proceedings pursuant to the Power Plant Siting Act (PPSA)[1]. In addition, this document is forwarded to the Department of Agriculture and Consumer Services (DACS) pursuant to Section 377.703(2)(e), F.S., which requires the Commission to provide a report on electricity and natural gas forecasts. A copy of this report is also posted on the Commission's website and is available to the public.

The Commission has reviewed the Ten-Year Site Plans filed by the eleven reporting utilities, as well as supplemental data provided through data requests, and finds that the projections of load growth appear reasonable.[2] The reporting utilities have identified sufficient additional generation facilities to maintain an adequate supply of electricity at a reasonable cost. Therefore, the Commission finds the 2012 Ten-Year Site Plans filed by the reporting utilities, augmented with supplemental data provided, to be suitable for planning purposes.

Since the TYSP is not a binding plan of action for electric utilities, the Commission's classification of these Plans as suitable or unsuitable does not constitute a finding or determination in docketed matters before the Commission. The Commission may address any concerns raised by a utility's TYSP at a public hearing.

Growth in Demand and Capacity

Customer growth remained positive in the last year, and is anticipated to continue at a somewhat slower pace than projected last year, but still below historic levels. Between 2012 and 2021, the annual average growth rate for residential customers is projected at 1.26 percent, slightly below last year's projection of 1.37 percent for 2011 through 2020, and down significantly from the 2.36 percent rate seen for the period 2002 through 2007. In contrast, commercial and industrial customers show a slightly increased rate of growth, but also remain below historic levels.

Generating capacity within the State of Florida is anticipated to grow to meet the increase in customer demand, with approximately 7,200 megawatts (MW) of new generation added over the planning horizon. This figure represents a decrease from last year's TYSPs, which estimated

[1] The Power Plant Siting Act is Sections 403.501 through 403.518, Florida Statutes

[2] Investor-owned utilities (IOUs) filing 2012 Ten-Year Site Plans include Florida Power & Light Company (FPL) Progress Energy Florida, Inc. (PEF), Tampa Electric Company (TECO), and Gulf Power Company (Gulf). Municipal utilities filing 2012 Ten-Year Site Plans include Florida Municipal Power Agency (FMPA), Orlando Utilities Commission (OUC), City of Lakeland (LAK), City of Tallahassee (TAL), JEA (formerly Jacksonville Electric Authority), and Gainesville Regional Utilities (GRU). Seminole Electric Cooperative (SEC) also filed a 2012 Ten-Year Site Plan.

the need for about 10,300 MW new generation. This reduction in the estimated need for new capacity is primarily due to several units being constructed in 2012, and others being delayed beyond the ten year period due to slightly lower load forecasts. The 2012 Plans include retirements and uprates of existing units, along with new generating units to be added during the ten-year period. As in previous planning cycles, natural gas-fired generating units make up a majority of the generation additions and now represent a majority of energy produced within the state.

All TYSPs are subject to modification due to factors such as changes to fuel price forecast, energy demand forecasts, shifts in energy policy, or other factors. A notable change to the 2012 TYSPs is PEF's delay of the Levy 1 nuclear unit, which was originally planned to start commercial service in June 2021, but has been delayed until June 2024. PEF is anticipated to update their 2013 TYSP to reflect this change in projected installed capacity. While the delay is a significant impact on PEF's reserve margin in 2021, the statewide reserve margin is projected to be adequate to provide reliable service with the planned delay of the Levy nuclear units.

Demand-Side Management

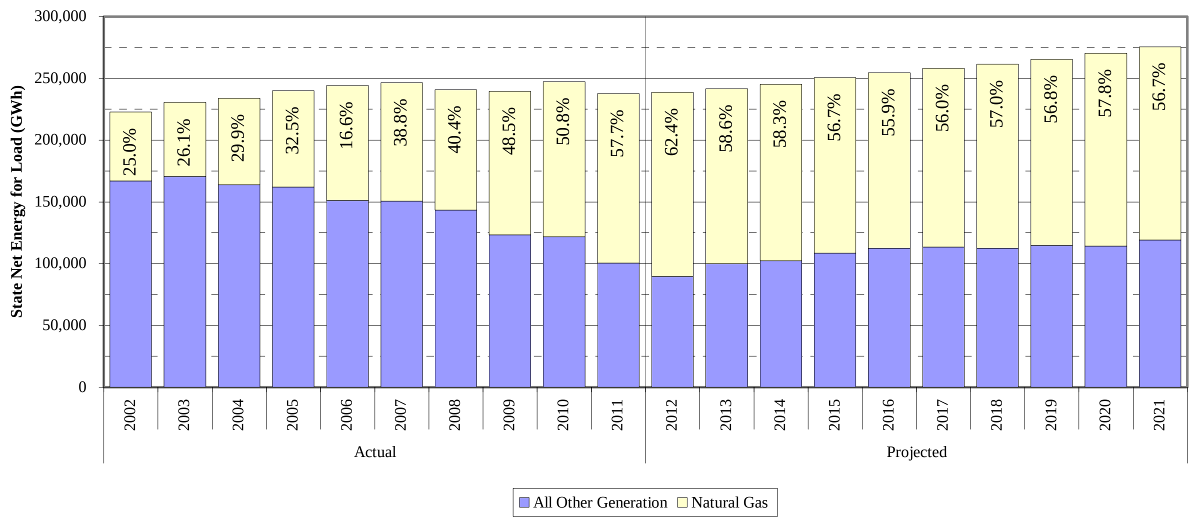
The first step in any resource planning process is to focus on the efficient use of electricity by consumers. Government mandates, such as building codes and appliance efficiency standards, provide the starting point for increasing energy efficiency. Customer choice is the next step in reducing the state's dependence upon expensive fuels and lowering greenhouse gas emissions. Consequently, educating consumers to make smart energy choices is particularly important. Finally, Florida's utilities can efficiently serve their customers by offering demand-side management (DSM) and conservation programs designed to use fewer resources at lower cost.

Florida's utilities project considerable demand and energy savings over the planning period, with conservation and load management programs by 2021 reducing the system's total seasonal peak demand by over 9,000 MW, or 15 percent for summer and winter, and reducing annual energy consumption by over 15,000 GWh or 5 percent.

Fuel Diversity

Natural gas is anticipated to remain the dominant fuel over the planning horizon, with usage in 2011 increasing to 57.7 percent of the state's net energy for load (NEL), up from 50.8 percent of NEL in 2010. Figure 1 below illustrates the increase in the role of natural gas in the state's electricity production during the last ten years, and the projected use during the next decade. Based on the Florida Reliability Coordinating Council (FRCC) 2012 Load and Resource Plan, state-wide natural gas usage is expected to peak in 2012, and then slowly decline throughout the planning period, to 56.7 percent in 2021.

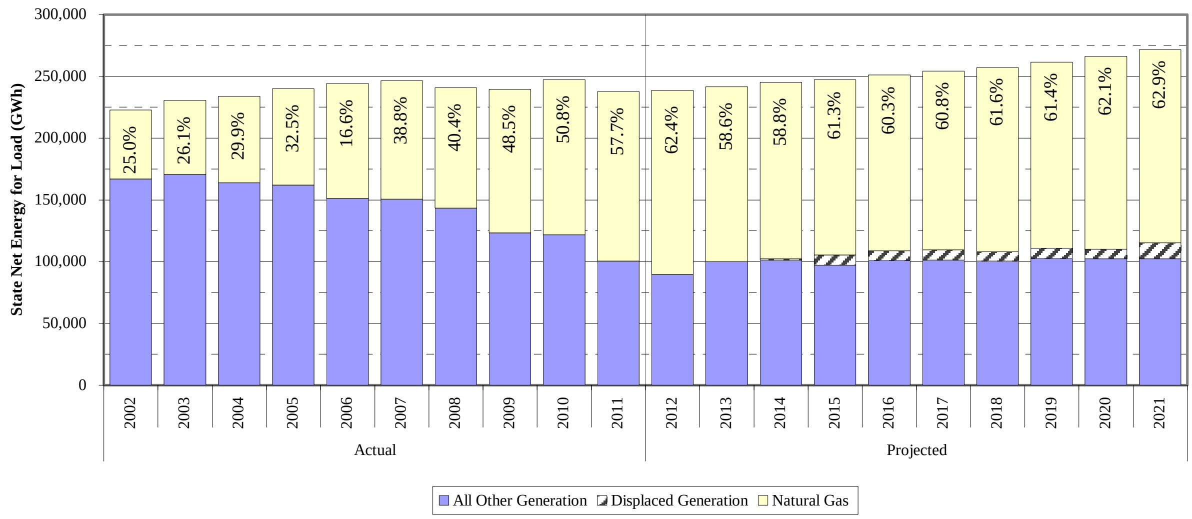
Figure 1. State of Florida: Natural Gas Usage (Total & Percent NEL)



Source: FRCC 2004 - 2012 Load and Resource Plans

While natural gas usage is projected to remain relatively level over the planning period, this situation is due to projected increases in nuclear generation, and a limited impact of new environmental compliance requirements. The FRCC 2012 Load and Resource Plan includes the addition of the Levy 1 nuclear unit in 2021, which has since been delayed until 2024. Also, this projection assumes the return to service in November 2014 of PEF's Crystal River 3 nuclear unit (CR3). However, no decision has been made regarding the repair or retirement of CR3. Furthermore, as discussed at the 2012 TYSP Workshop, PEF's Crystal River 1 & 2 coal units, along with GULF's Lansing Smith 1 & 2 coal units, may face challenges in economically meeting new environmental compliance requirements. If the facilities are unable to install sufficient emissions controls, they would face retirement as early as 2015. If the projected generation associated with these nuclear and coal units is displaced by natural gas, it would have the net effect of increasing natural gas' share of state electric generation to 62.9 percent by 2021, as shown in Figure 2 below.

Figure 2. State of Florida: Natural Gas Usage With Displaced Generation (Total & Percent NEL)



Source: FRCC 2004 - 2012 Load and Resource Plans, PEF 2012 TYSP, Responses to Staff Data Requests.

In an attempt to reduce natural gas consumption, Florida's utilities have encouraged other energy resources, including renewable energy and nuclear generation. Approximately 1,421 MW of renewable generation is currently operating in Florida, an increase of about 138 MW from the previous year. Presently, municipal solid waste (MSW) and biomass each represent roughly a third of renewable generation in Florida. Other major types of renewable generation operating in the state include waste heat, hydroelectric, landfill gas, and solar.

Over the planning horizon, approximately 957 MW of additional renewable generation is planned in Florida, an increase of 51 MW from last year. The majority of these additions are solar and biomass. While these new projects represent a significant increase from the existing total, renewable generation continues to provide a relatively small contribution towards the reduction of our state's reliance on fossil fuels.

While no new nuclear units are projected until 2022, uprates for all five existing nuclear units have been approved by the Commission, representing an increase of approximately 600 MW. Extended outages associated with unit uprates and other major maintenance work has reduced nuclear generation, and is projected to reduce nuclear's contribution to annual energy in the near future. One of the nuclear units, CR3, has been offline since 2009 due to a delamination of the concrete containment structure discovered during a steam generator replacement project. The unit, including the 154 MW of uprated capacity, is currently scheduled to return to service in the end of 2014. Currently four new nuclear units, Turkey Point 6 & 7, and Levy 1 & 2, totaling over 4,000 MW generation are planned outside of the ten-year horizon.

New and Proposed EPA Rules

Florida's electric utilities must also consider environmental concerns regarding existing and planned generation to meet Florida's electric needs. The Environmental Protection Agency

(EPA) has finalized or proposed several new rules in the last year that will have an impact on Florida's existing generation fleet, as well as on its proposed new facilities.

The new or proposed EPA rules limit emissions from existing power plants on a variety of pollutants, including mercury, other heavy metals, organic toxics, particulates, sulfur oxides, and nitrogen oxides. While many facilities within the state already have sufficient emissions control technologies to address these rules, some will require installation of new equipment to bring emissions into compliance. Other rules address concerns relating to cooling water's impact on aquatic life, and the disposal of coal ash. All of these activities will require investment and potential for extended outages of the relevant generating units, which will require careful planning to allow for a minimum impact on system reliability.

At this time, a final estimate of costs and units affected is not available, as some of the proposed rules are not yet final. Several of the TYSP utilities have provided preliminary estimates based upon known and proposed rule language, and are shown in Table 1 below.

Table 1. TYSP Utilities: Preliminary Estimates of EPA Rule Compliance Cost

Utility	Preliminary Total Cost Estimates* ($ Millions)
Florida Power & Light	$348 - $1,741
Progress Energy Florida	$165 - $1,330
Tampa Electric Company	$763
Gulf Power Company	$1,270 - $2,737
Florida Municipal Power Agency	$39
Gainesville Regional Utilities	Not Available
JEA	Not Available
Lakeland Electric	Not Available
Orlando Utilities Commission	$157
Seminole Electric Cooperative	Not Available
City of Tallahassee	$5
Total of All Utilities	**$2,747 - $6,772**

* These estimates are not final, and may not include all rules.
Source: Responses to Staff's Data Requests.

New Generation Facilities

The State of Florida has a total summer generating capacity of 56,973 MW installed as of January 1, 2012. A total of 7,200 MW of new generation units are planned in the ten-year period, all of which will be natural gas-fired units. Other impacts noted in the report reflect changes to existing units and/or purchased power agreements.

As noted previously, the primary purpose of this review of the utilities' TYSPs is to provide information regarding new electric power plants to the DEP for its use in the certification process. Table 2 displays those generation facilities included in the 2012 TYSPs that have not yet received a certification under the PPSA by the Commission. Certification is generally anticipated at four years in advance of the in-service date for a natural gas-fired combined cycle unit. TECO has recently filed a Request for Proposals (RFP) for their conversion to combined cycle configuration of their existing Polk Power Station units 2 through 5, and filed a petition for a determination of need on September 12, 2012.

Table 2. State of Florida: Proposed Generating Units Without PPSA Certification

Utility	Generating Unit Name	Unit Type	Fuel Type	Summer Capacity (MW)	In-Service Date
TECO	Polk 2-5 CC	CC	NG	1,063	Jan 2017
PEF	Unknown	CC	NG	767	Jun 2019
SEC	Unnamed CC1	CC	NG	196	Dec 2020
SEC	Unnamed CC2	CC	NG	196	Dec 2020
SEC	Unnamed CC3	CC	NG	196	Dec 2021

Source: Utilities 2012 TYSP

In addition to generating units, transmission lines that will require the Commission's certification under the Transmission Line Siting Act (TLSA) are projected during the planning period. Table 3 below details the only TLSA project included in the utility's plans, which is associated with TECO's combined cycle conversion at the Polk Power Station.

Table 3. State of Florida: Proposed Transmission Without TLSA Certification

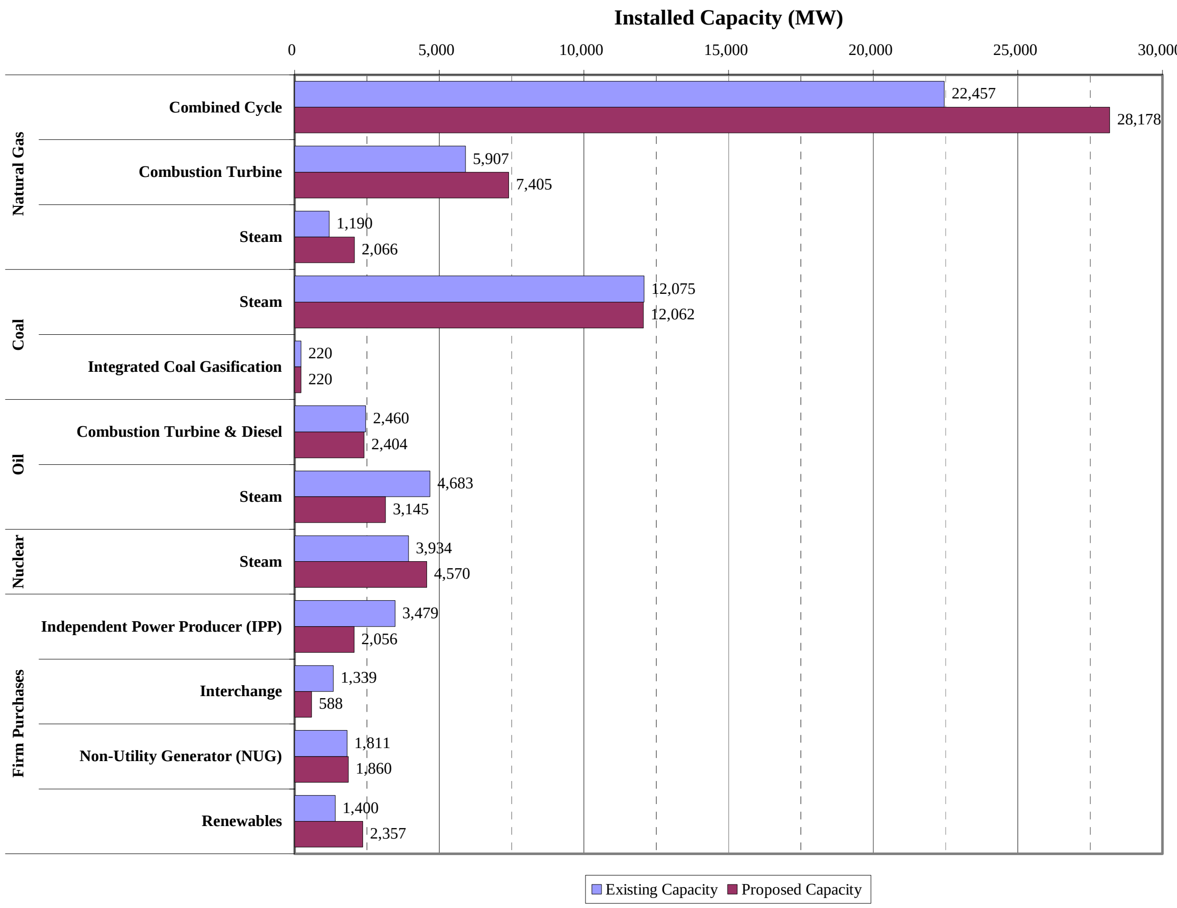
Utility	Transmission Line	Line Length (Miles)	Nominal Voltage (kV)	Commercial In-Service Date
TECO	Polk-Aspen-FishHawk	62.5	230	2017

Source: Utilities 2012 TYSP

Summary of the State of Florida

Figure 3 below illustrates the present and future aggregate capacity mix. The capacity values in Figure 3 incorporate all proposed additions, changes, and retirements contained in the reporting utilities' 2012 Ten-Year Site Plans.

Figure 3. State of Florida: Existing and Projected Capacity



Source: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

INTRODUCTION

The Ten-Year Site Plans of Florida's electric utilities are designed to give state, regional, and local agencies advance notice of proposed power plants and transmission facilities. The Commission receives comments from these agencies regarding any issues with which they may have concerns. Because the TYSPs are considered to be planning documents and can contain tentative data, they may not necessarily contain sufficient information to allow regional planning councils, water management districts, and other reviewing agencies to evaluate site-specific issues within their respective jurisdictions. Each utility is responsible for providing detailed information based on individual assessments during certification proceedings under the Power Plant Siting Act (PPSA), Sections 403.501-403.518, F.S., or the Transmission Line Siting Act (TLSA), Sections 403.52-403.5365, F.S. In addition, other regulatory processes may require utilities to provide additional information as needed.

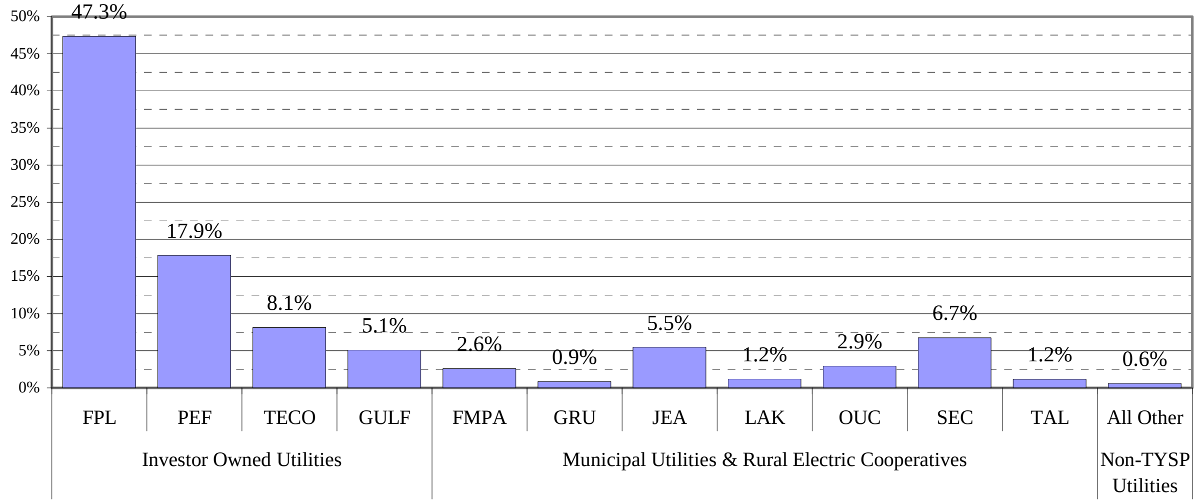
Statutory Authority

Section 186.801, F.S., requires that all major generating electric utilities submit a TYSP to the Commission for annual review. Section 377.703(2)(e), F.S., requires the Commission to analyze these plans and provide natural gas and electricity forecasts to the Department of Agriculture and Consumer Services (DACS). The Commission has adopted Rules 25-22.070 through 25-22.072, Florida Administrative Code (F.A.C.) in order to fulfill these statutory requirements.

Florida is served by 58 electric utilities, including 5 investor-owned utilities (IOUs), 35 municipal utilities, and 18 rural electric cooperatives. Only generating electric utilities with an existing capacity above 250 megawatts or a planned unit with a capacity of 75 MW or greater are required to file with the Commission a TYSP, at least once every two years. In 2012, eleven utilities filed TYSPs, including 4 IOUs, 6 municipal utilities, and 1 rural electric cooperative.

Figure 4 below illustrates each TYSP utility's representative share of the state's net energy for load for 2011. In total, the investor-owned TYSP utilities represent 78 percent of net energy for load, with the remaining TYSP utilities contributing 21 percent. Those utilities which are not required to file a TYSP make up the remaining 1 percent.

Figure 4. State of Florida: Percent State Net Energy for Load by Electric Utility (2011 Actual)



Source: FRCC 2012 Load & Resource Plan, Utilities 2012 TYSPs

As outlined in the Commission's rules, each utility's TYSP contains projections of the utility's electric power needs, fuel requirements, and general location of proposed power plant sites and major transmission facilities. The utilities provide historic and projected information on existing generating capacity, customer base and energy usage, impact of demand-side management, fuel consumption, fuel diversity, anticipated reserve margin, and proposed new generating units and transmission.

In accordance with Section 186.801, F.S., the Commission performs a preliminary study of each TYSP and makes a determination as to whether it is suitable or unsuitable. This determination is non-binding, and is made in recognition that the information provided is tentative, and is subject to change by the utility upon written notice. The results of the Commission's study are contained in this report, Review of the 2012 Ten-Year Site Plans, and are forwarded to the DEP for use in subsequent power plant siting proceedings.

Information Sources for the Report

Contained in each utility's TYSP is a series of required tables which provide detailed information on a number of items. This information, supplemented by additional data requests, provides the basis of the Commission's review.

The Florida Reliability Coordinating Council (FRCC) is also an important source of information for the Commission's review. Each year, the FRCC publishes its Regional Load and Resource Plan which contains aggregate data on demand and energy, capacity and reserves, and proposed new generating units and transmission line additions, both for Peninsular Florida and for the state as a whole. In addition to its *2012 Regional Load and Resource Plan*, the Commission used the FRCC's *2012 Reliability Assessment* as a resource in the production of this review. The Commission held a public workshop on August 13, 2012, to facilitate discussion of the annual planning process and the Regional Load & Resource Plan and to allow for public comments on the TYSPs that were filed with the Commission.

Structure of the Report

This report is divided into multiple sections. The Statewide perspective provides a look at the impact of all planned unit additions to the State as a whole, and is intended as a resource for those seeking understanding of Florida's energy systems. Individual utility reports focus on the issues facing each electric utility and its unique situation. Lastly, Appendix A contains comments received from various review agencies, local governments, and others that have been collected and included in this report.

Conclusions

As discussed in each of the individual utility's reviews, the Commission's review of the eleven reporting utilities' 2012 TYSPs finds them all suitable for planning purposes. Through the review process, the Commission has determined that the projections of load growth appear reasonable, and that reporting utilities have identified sufficient additional generation facilities to maintain an adequate supply of electricity at a reasonable cost.

Since the TYSP is not a binding plan of action for electric utilities, the Commission's classification of these Plans as suitable or unsuitable does not constitute a finding or determination in any docketed matters before the Commission. The Commission may address any concerns raised by a utility's TYSP at a public hearing.

Statewide Perspective

Forecasting load growth is the first component of system planning for Florida's electric utilities. In order to maintain a reliable system, utilities must stay abreast of changes in customer base as well as trends in demand and energy consumption. Utilities perform load and energy forecasts to estimate the amount and timing of future capacity needs.

Historical data forms the foundation for utility load and energy forecasts. These sets of data include energy usage patterns, trends in population growth, economic variables, and weather data for each utility's service territory. Econometric forecast models are then used to quantify the historical impact of population growth, economic conditions, and weather on energy usage patterns.

Finally, sets of forecast assumptions on future population growth, economic conditions, and weather are assembled and together with the forecast models, yield the final demand and energy forecasts. Each utility's peak demand and energy forecasts serve as a starting point for determining if and when new capacity additions are needed to reliably and efficiently serve the anticipated load.

Customer Growth Projections

The most basic starting point in the utility's forecast modeling is the projected number and type of electric customers. Florida is dominated by the residential class, which makes up a majority in both number of customers and energy sales, as shown in Table 4 below. As a result, Florida's electrical demands and energy requirements heavily focus on residential use patterns. While commercial and industrial customers may be lower in number, they typically consume far more per customer, and combined represent the other half of energy consumed in Florida. Compared to last year, Florida experienced a slight growth in the number of customers, but an overall decline in energy consumption.

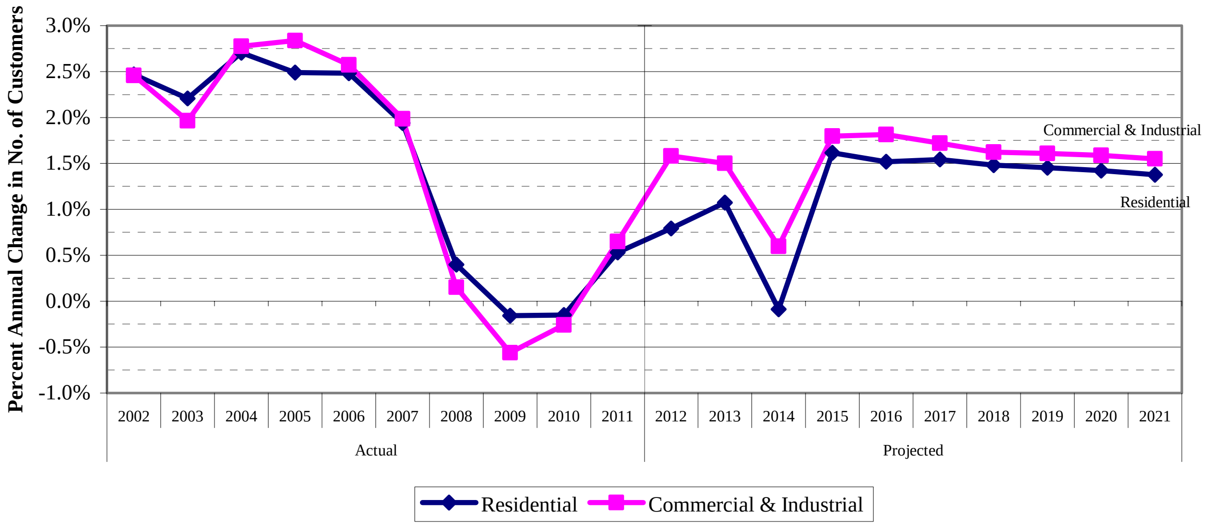
Table 4. State of Florida: Customer Numbers and Energy Usage (2011 Actual)

Customer Class	Number of Customers	% of Customers	Energy Sales (GWh)	% of Sales
Residential	8,369,607	88.71%	113,554	52.97%
Commercial	1,037,584	11.00%	80,284	37.45%
Industrial	27,202	0.29%	20,556	9.59%
Total	**9,434,393**		**214,394**	

Source: FRCC 2012 Load & Resource Plan

Florida's annual customer growth rate in 2011 was positive but significantly below historic norms for all customer classes, and is not anticipated to return to its previous rate during the planning period. Figure 5 shows the actual annual growth rate between 2002 and 2011, and the projected customer growth between 2012 and 2021. The historic data clearly shows the decline from high annual customer growth, resulting in significantly lower or even negative customer growth.

Figure 5. State of Florida: Annual Customer Growth Rate by Customer Class

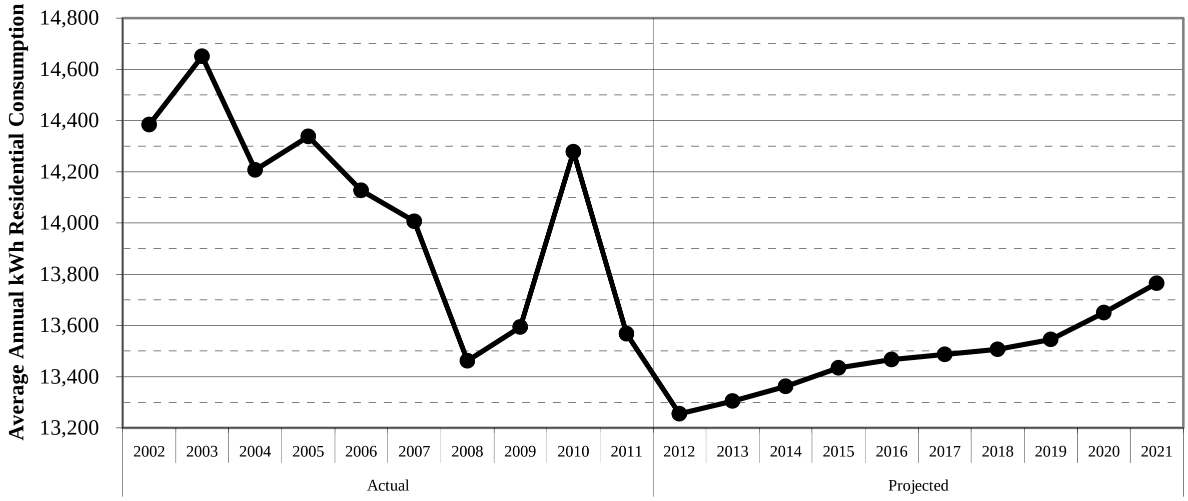


Source: FRCC 2012 Load & Resource Plan

Customer growth is projected to increase and remain higher throughout the planning period, with the exception of 2014. In 2014, both FMPA and SEC note that several member utilities are anticipated to change their service agreements, including the City of Lake Worth (which would leave FMPA's All Requirements Power Supply Project) and Lee County Electric Cooperative (which would no longer be served by SEC), resulting in the declining customer growth seen above in Figure 5.

Florida's energy requirements are heavily dependent on the energy consumption behaviors of residential customers. This relationship is a result of the fact that close to 90 percent of electric customers in Florida are residential accounts, with these customers purchasing more than half the energy sold in the state in 2011. Figure 6 shows the actual per-customer consumption from 2002 through 2011, as well as the projection for the period 2012 through 2021. Actual usage has generally decreased, excluding a spike in 2010 that is attributed to extreme winter weather. Per-customer residential sales are expected to decline in 2012, but then slowly rebound throughout the planning period.

Figure 6. State of Florida: Average Annual Residential Customer Energy Consumption



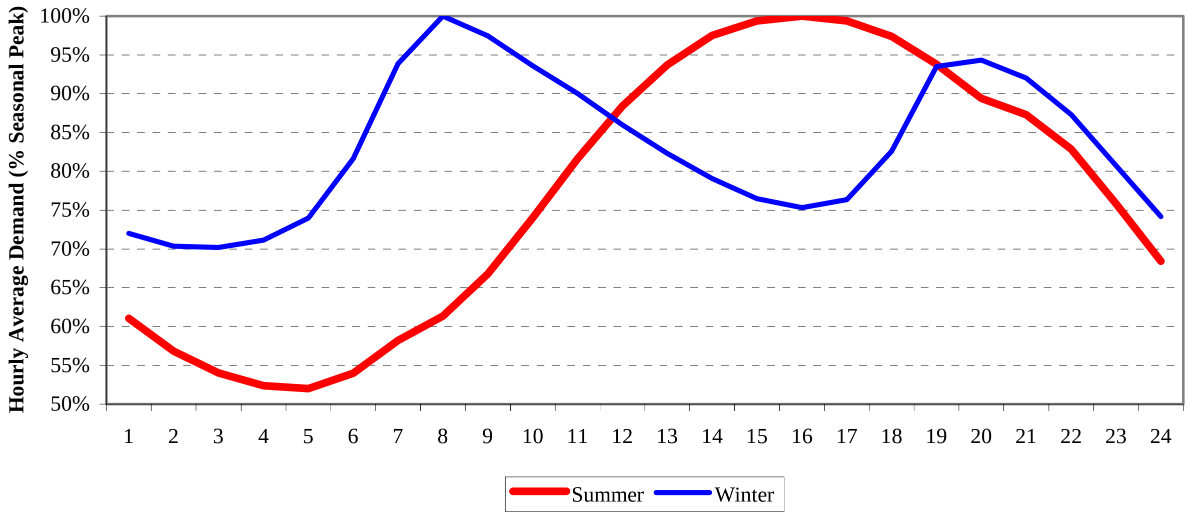
Source: FRCC 2012 Load & Resource Plan

Seasonal Peak Demand Forecast

Since there exists no economically feasible means to store electricity at the grid-scale, electric utilities must supply electricity near instantaneously to the time of its consumption. For a majority of the time, system demand is significantly less than the daily peak. However, system peak demand determines the timing of new generation needs, and is driven by seasonal weather patterns. With a growing customer base dominated by residential customers, both the rate of growth and usage patterns are important considerations in planning sufficient future generation to meet the state's projected customer load.

Figure 7 illustrates typical daily load curves for each season, which shows evidence of the influence of residential customers. In summer, air-conditioning demand causes a steady climb in the morning and a peak in early evening, before declining into the evening. In contrast, winter's demand curve is dominated by electric heating and water heating, causing a rapid peak in mid-morning and a second peak in the late evening.

Figure 7. TYSP Utilities: Example Daily Load Curve



Source: Responses to Staff Data Request (2011)

Florida is typically a summer-peaking state, meaning that the summer peak demand generally controls the amount of generation required. While winter peak demands tend to be greater than summer, the higher peak is offset by the increased winter rating of power plants, which can take advantage of lower ambient air and water temperatures to produce more electricity from the same generating unit. During summer peak demand, higher temperatures instead can decrease generation, as high water temperatures may reduce not only the quality, but quantity of cooling water available based on environmental permits.

As with daily load, there is a great variation in seasonal peak load. Generally speaking, Florida's summer season is significantly longer than its winter. The periods between the seasonal peaks are referred to as "shoulder months," and utilities take advantage of these periods of relatively low demand to perform maintenance without impacting their ability to meet the daily peak demand.

In general, a major controlling factor to seasonal peak demand is short-term weather conditions. While utilities forecast annual peak demand based upon historic factors, customer counts, and normalized weather patterns, utilities also continuously monitor weather conditions in their service territory and prepare for any increases (or decreases) in customer demand. By close monitoring of the weather situation, utilities can fine tune maintenance schedules to ensure the highest unit availability during time of the utility's peak demand.

Demand Side Management

The first step in any resource planning process is to focus on the efficient use of electricity by consumers. Government mandates, such as building codes and appliance efficiency standards, provide the starting point for increasing energy efficiency. Customer choice is the next step in reducing the state's dependence upon expensive fuels and lowering greenhouse gas emissions. Consequently, educating consumers to make smart energy choices is particularly important. Finally, Florida's utilities can efficiently serve their customers by offering DSM and conservation programs designed to use fewer resources at lower cost.

The Florida Legislature directed the Commission to encourage utilities to decrease the growth in seasonal peak demand and energy consumption in Sections 366.80 through 366.85 and Section 403.519, F.S., known as the Florida Energy Efficiency and Conservation Act (FEECA). Under FEECA, the Commission is required to set goals for demand and energy reduction for 7 electric utilities, namely the 5 investor-owned electric utilities (4 of which file TYSPs, the exception being Florida Public Utility Company, which is a non-generating utility) and 2 municipal electric utilities (JEA and OUC). These utilities represent 87 percent of sales in Florida.

DSM Programs generally fall into three categories: interruptible/curtailable load (INT), load management (LM), and conservation. The first two are generally considered dispatchable, meaning that the utility can call upon them during a period of peak demand, but otherwise they are not in active use. In contrast, conservation measures are considered passive and are always working to reduce customer demand.

Interruptible or curtailable load is achieved through the use of agreements with large customers to allow the utility to interrupt selected portions of the customer's load during periods of peak demand. Interrupted or curtailed customers could make up for this generation by reducing their own industrial processes or by activating back-up generation. In exchange for the ability to reduce their electrical load, the utility usually offers such customers a discounted rate for energy or other credits which are paid for by all customers.

Load management programs involve the installation of a device that can interrupt a customer's appliance(s) for a short duration during a period of peak demand. These interruptions tend to have less notice than those provided to interruptible customers, and generally do not fully disconnect customers, but interrupt an individual appliance. Normally, interruptions are kept to short periods and are cycled between groups of customers. Due to the nature of the program, certain devices would be more appropriate to handle different seasonal demands. For example, air conditioning units would be interrupted to reduce a summer peak, while water heaters being interrupted may contribute more towards reducing a winter peak. As of 2012, over 7,165 MW of interruptible load and load management is available for summer peak, and is anticipated to expand to 9,219 MW by 2021.

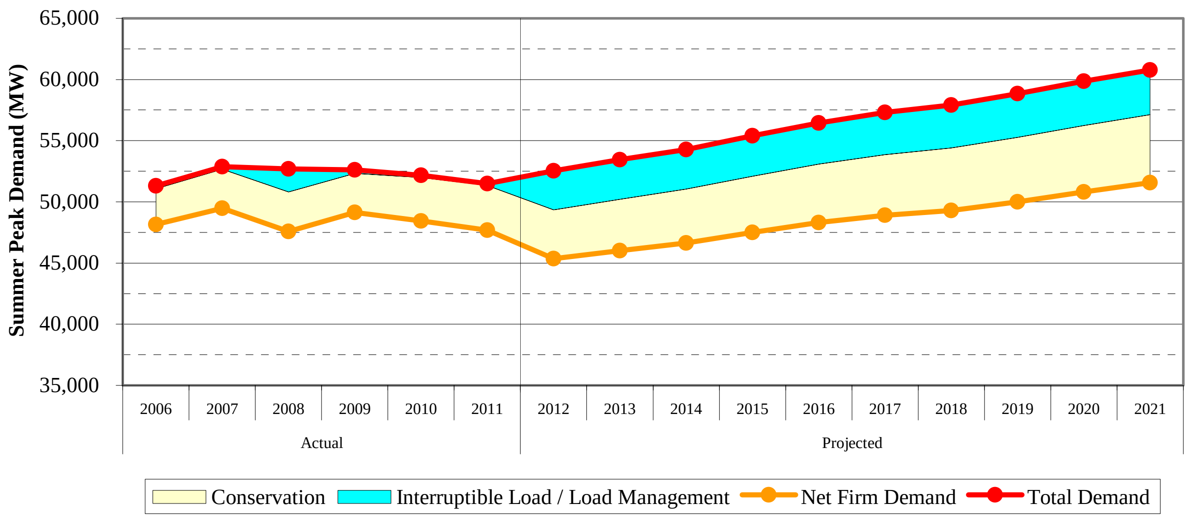
In addition to active measures, customer-based conservation measures can have an impact on peak demand without requiring activation by the utility. These passive conservation measures typically involve improving a home or business' building envelope, such as greater insulation and energy-efficient windows, or installing more efficient appliances. These energy efficiency improvements decrease the customer's load at all times without requiring an interruption or reduction in service, and also have an impact on annual energy consumption.

The seven FEECA utilities currently offer DSM programs to residential, commercial, and industrial programs. Energy audit programs provide a first step for utilities and customers to evaluate conservation opportunities and serve as the foundation for other programs.

Projected Peak Demands

Figure 8 below shows the historic and projected total summer peak demand, as well as demand side management impacts and the resulting net firm demand experienced by the utilities. While summer peak demand has been relatively steady in the past few years, demand is anticipated to increase steadily throughout the planning period. Interruptible load and load management programs have not been fully implemented in past years, with the primary impact shown below in 2008. When planning for future load, the electric utilities use net firm seasonal demand.

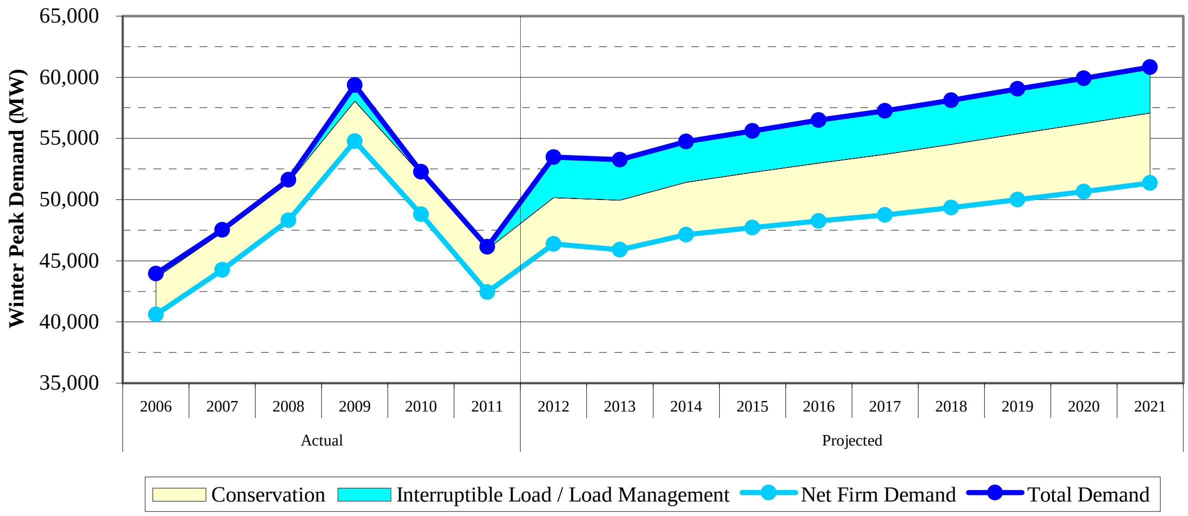
Figure 8. State of Florida: Historic & Projected Summer Peak Demand (With DSM Impacts)



Source: FRCC 2008 - 2012 Load and Resource Plans

Figure 9 below shows the historic and projected total winter peak demand, as well as DSM impacts and the resulting net firm demand experienced by the utilities. As with summer peak demand, demand response resources have not historically been fully utilized, as shown by the small reduction in the actual firm demand.

Figure 9. State of Florida: Historic & Projected Winter Peak Demand (With DSM Impacts)

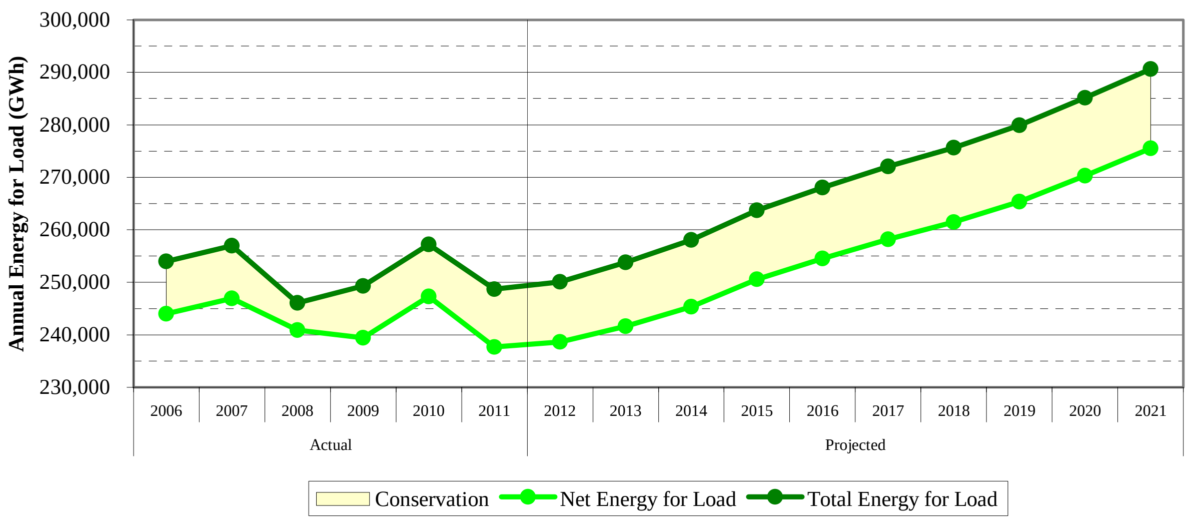


Source: FRCC 2008 - 2012 Load and Resource Plans

Annual Energy Consumption Forecasts

While peak demand is the instantaneous usage of a customer on the system, annual energy consumption addresses the total cumulative demand on the system over time, which determines the type of units required and the resulting amount of fuel consumed. Figure 10 below shows the historic and projected annual energy for load for the state of Florida. While energy consumption has been relatively steady for the past few years, it is anticipated to increase steadily through the end of the planning period.

Figure 10. State of Florida: Historic & Projected Annual Energy for Load (With DSM Impacts)



Source: FRCC 2008 - 2012 Load and Resource Plans

Historical Accuracy of Energy Forecasts

For each utility filing a TYSP, the Commission reviewed the historical forecast accuracy of total retail energy sales for the five-year period 2007 to 2011. The review compared actual energy sales for each year to energy sales forecasts made three, four, and five years prior. For example, the actual 2007 energy sales were compared to the projected 2007 forecasts made in 2002, 2003, and 2004. These differences, expressed as a percentage error rate, were used to calculate the utility's historical forecast accuracy.

Table 5 below illustrates the historical forecast error for 2012 and 2011, on an average error and average absolute error basis. The calculated average error is positive for all TYSP utilities, this shows a tendency to over-forecast, with the resulting average forecast error for all TYSP utilities combined at 11.38 percent in 2012, an increase from 8.45 percent in 2011.

Table 5. TYSP Utilities: Historical Accuracy of Net Energy for Load Forecasts

TYSP Utility	Forecast Error (%)			
	2012 (Years 2011 – 2007)		2011 (Years 2010 – 2006)	
	Average	Average Absolute	Average	Average Absolute
FPL	12.12%	12.12%	10.92%	10.97%
PEF	11.36%	11.90%	6.17%	7.05%
TECO	13.07%	13.07%	8.95%	8.95%
GULF	5.44%	7.37%	1.97%	5.62%
FMPA	11.81%	13.99%	6.09%	12.83%
GRU	11.40%	11.40%	8.32%	8.32%
JEA	12.72%	12.72%	9.78%	9.78%
LAK	7.89%	7.89%	5.69%	5.69%
OUC	5.83%	5.83%	5.87%	6.61%
SEC	11.41%	12.63%	4.41%	8.38%
TAL	8.77%	8.85%	7.04%	7.28%
Weighted Average	**11.38%**	**11.38%**	**8.45%**	**8.63%**

Source: Staff Calculation based on Utilities 2001 – 2012 TYSPs

The high error rate, increased from last year's, represents the impact of the recession on energy usage in Florida. This analysis primarily uses forecasts developed from between 2002 and 2008, a majority of which occurred before the recession. Due to the unexpected nature of the recent recession, it could not have been included in forecasts as far as 5 years preceding the event. As this analysis moves forward and begins to use forecasts developed after the beginning of the recession, the error rate should fall back to typical levels.

As indicated by this high error rate, utilities projected increased need for energy that has not materialized due to the recession. As discussed below, Florida currently has an excess of generation, in part due to these projections. The TYSP utilities have responded to changing circumstances by delaying or cancelling new generation, as discussed in previous annual reviews of the TYSPs.

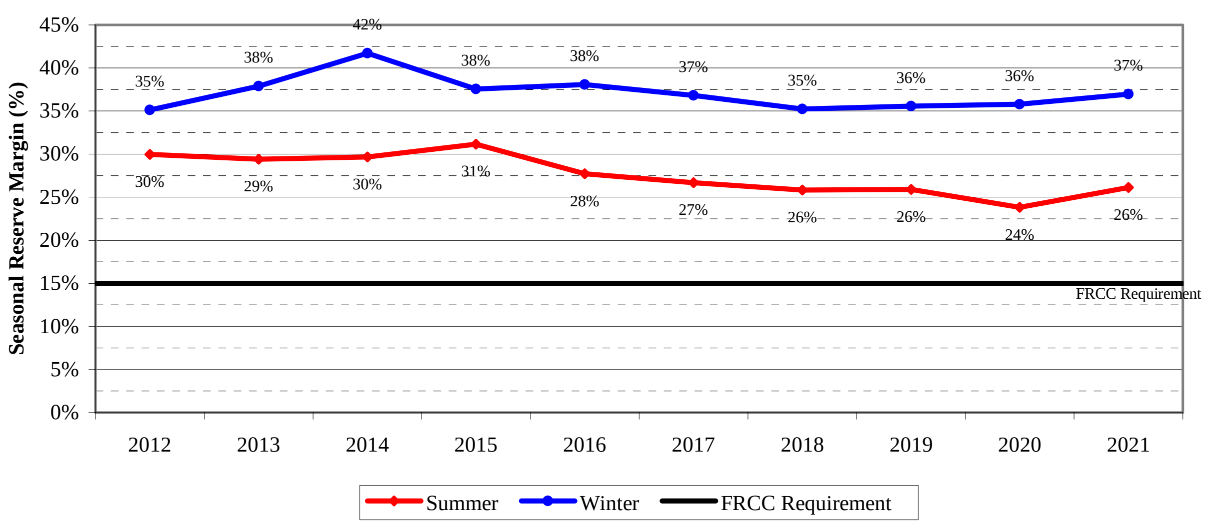
Reserve Margin Requirements

In order to maintain stability in the electric system, utilities must constantly adjust system output to match demand from moment to moment. As demand fluctuates, utilities must generate the precise amount of electrical power that will keep the system in balance while also performing periodic maintenance on its generating units. In addition, utilities must be prepared at any moment to meet unforeseen circumstances, such as extreme weather events or unit outages. Therefore, each utility must maintain a certain amount of "extra" or reserve capacity in the event that demand rises above or supply drops below forecasted levels. This additional amount of generating capacity is expressed as a percentage of firm demand and is referred to as the reserve margin.

Reserve margins in Florida typically remain well above the FRCC minimum of 15 percent for most of the year, and usually will only approach minimum levels in the summer peak season when air conditioning loads are at their highest levels. The higher margins during winter peak seasons are also due to the fact that generating units can operate at a higher capacity in colder temperatures. The three largest IOUs, FPL, PEF, and TECO, were party to a stipulation approved by the Commission setting a 20 percent reserve margin planning criterion.

The values in Figure 11 below include both supply-side and demand-side contributions, and shows that planning is mostly controlled by summer peak demand. It should be noted that the figure below is for the State of Florida, and therefore contains generating capacity outside of the FRCC region.

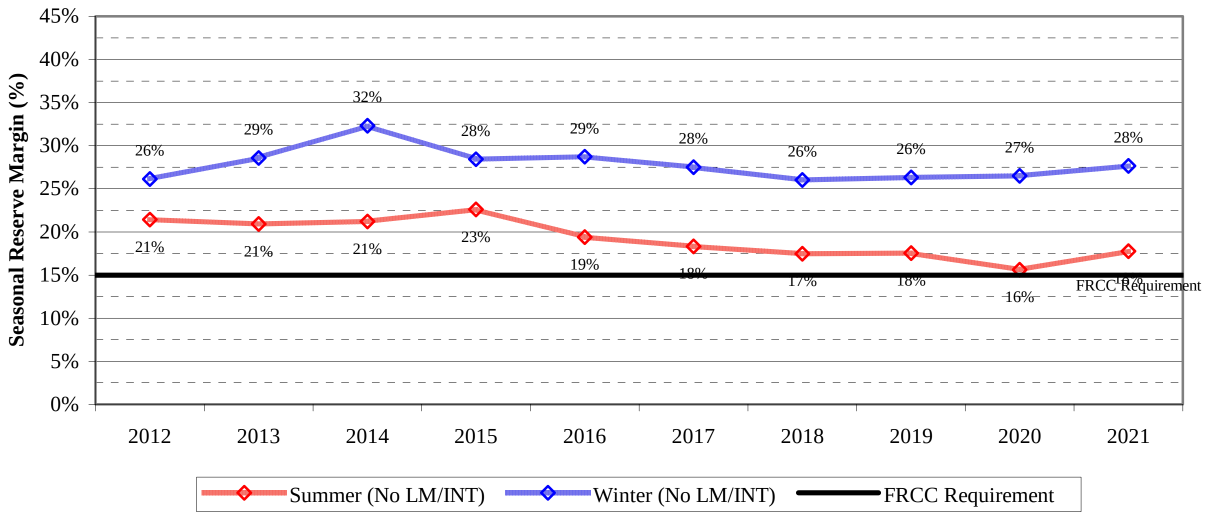
Figure 11. State of Florida: Seasonal Reserve Margin (With LM/INT)



Source: FRCC 2012 Load and Resource Plan

It should be noted that the reserve margin figures above are calculated using the net firm system demand, which assumes full use of interruptible load and load management devices to reduce peak demand. Participation in interruptible rates and load management programs are voluntary, for which incentives are provided in the form of lower rates or credits paid to the participant. As shown in Figure 12 below, the state as a whole has sufficient generation capacity planned throughout the period to meet the minimum reserve margin of 15 percent without relying on interruptible and load management customers.

Figure 12. State of Florida: Seasonal Reserve Margin (Without LM/INT)

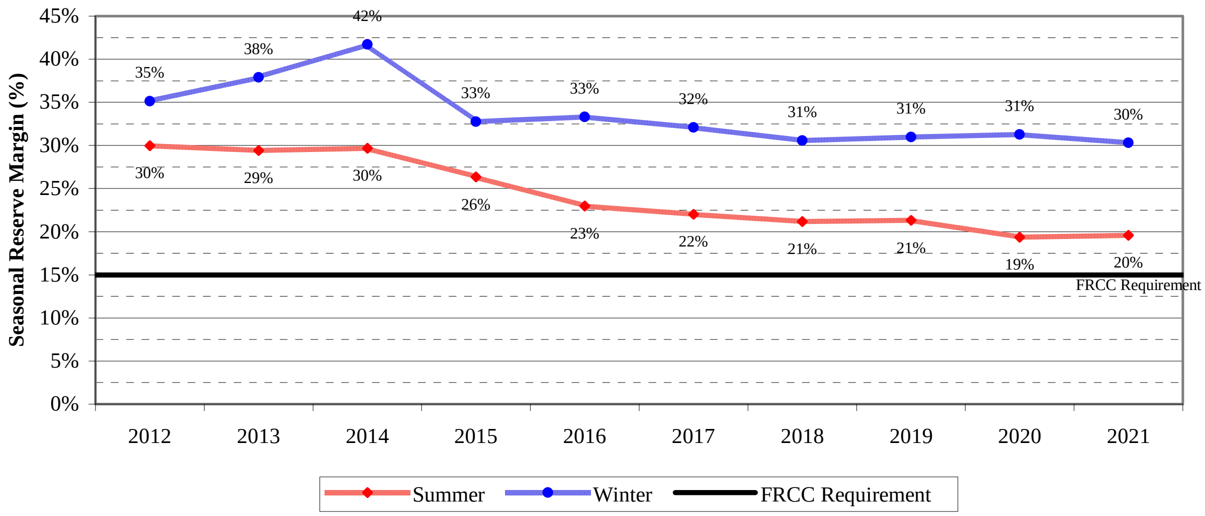


Source: FRCC 2012 Load and Resource Plan

The previous two figures have assumed that the expansion plans filed in the utilities TYSPs will continue as planned. Since the filing of the 2012 TYSPs, PEF has delayed the in-service date of the Levy 1 nuclear unit outside of the planning period. Staff is also aware of the long-term outage at PEF's CR3 nuclear unit, which is currently offline and scheduled to return to service in November 2014 if repaired. Retirement remains an open option for this unit in the event it is determined to be uneconomic to repair, which would have an impact on the statewide reserve margin. In addition, several coal-fired plants were identified at the Commission's Workshop on the 2012 Ten-Year Site Plans, which if retired would further decrease the state's reserve margin.[3] Figure 13 shows the total impact of the delay or potential retirement of all the units discussed above and that the state should still retain sufficient generating capacity. The potential impacts to PEF and GULF are discussed in the individual utility section of the report.

[3] Specifically, PEF's Crystal River 1 and 2 and GULF's Lansing Smith 1 and 2.

Figure 13. State of Florida: Seasonal Reserve Margin After Potential Unit Retirements (With LM/INT)



Source: FRCC 2012 Load and Resource Plan, Staff Calculation

Federal Legislation

In 1978, the U.S. Congress enacted the Public Utility Regulatory Policies Act (PURPA)[4]. PURPA endorsed three broad national purposes: (1) conservation of electric energy, (2) increased efficiency in the use of facilities and resources by electric utilities, and (3) equitable rates for electricity consumers. Section 210 of Title II, entitled "Cogeneration and Small Power Production," required electric utilities to interconnect and sell electric energy to qualifying cogeneration and small power production facilities, referred to as Qualifying Facilities, or QFs, and to purchase electric energy from these facilities at the utility's full avoided cost. The Federal Energy Regulatory Commission (FERC) subsequently adopted rules to implement PURPA. In addition, states were delegated authority to implement the FERC rules for electric utilities over which they have rate making authority.[5] In 1980, the FERC issued its rules establishing the criteria for determining the qualifying status of a facility and setting out regulations for electric utility interconnection with QFs, along with sales to and purchases from QFs.[6]

State Legislation

In 1981, the Florida Legislature authorized the Commission to establish guidelines for the purchase and sale of capacity and energy from cogenerators and small power producers, which includes renewable generators. In 1989, the statutes were broadened with the enactment of Section 366.051, F.S., which provides, in part, the following:

> Electricity produced by cogeneration and small power production is of benefit to the public when included as part of the total energy supply of the entire electric grid of the state or consumed by a cogenerator or small power producer. The electric utility in whose service area a cogenerator or small power producer is located shall purchase, in accordance with applicable law, all electricity offered for sale by such cogenerator or small power producer; or the cogenerator or small power producer may sell such electricity to any other electric utility in the state. The Commission shall establish guidelines relating to the purchase of power or energy by public utilities from cogenerators or small power producers and may set rates at which a public utility must purchase power or energy from a cogenerator or small power producer. In fixing rates for power purchased by public utilities from cogenerators or small power producers, the Commission shall authorize a rate equal to the purchasing utility's full avoided costs. A utility's "full avoided costs" are the incremental costs to the utility of the electric energy or capacity, or both, which, but for the purchase from cogenerators or small power producers, such utility would generate itself or purchase from another source.

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[4] Public Law 95-617 (HR 4018) November 9, 1978.

[5] PURPA at Title II, section 210(f); In Florida, the Florida Public Service Commission has ratemaking jurisdiction over five investor-owned electric utilities: Florida Power & Light Company (FPL), Progress Energy Florida (PEF), Gulf Power Company (Gulf), Tampa Electric Company (TECO), and Florida Public Utilities Company (FPUC).

[6] 18 C.F.R. 292.101 through 18 CFR 292.602.

In 2005, the Legislature enacted Section 366.91, F.S., which requires IOUs to continuously offer purchase contracts to producers of renewable energy, and adopts the avoided cost standard as defined in Section 366.051, F.S. Section 366.91, F.S., also defines the term "renewable energy" as follows:

> "Renewable energy" means electrical energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen produced from sources other than fossil fuels, biomass, solar energy, geothermal energy, wind energy, ocean energy, and hydroelectric power. The term includes the alternative energy resource, waste heat, from sulfuric acid manufacturing operations and electrical energy produced using pipeline-quality synthetic gas produced from waste petroleum coke with carbon capture and sequestration.

Commission Rules

Renewable facilities are permitted to enter into two types of contractual agreements for selling power: standard offer and negotiated contracts. Under these contracts, the energy can be sold as either "firm" or "as-available," depending on the characteristics of the output of the facility. When the output is continuous, except for occasional shutdowns for maintenance and repair, the utility also makes payments for the dependable capacity. These contract and payment options are outlined in Rules 25-17.0825 and 25-17.0832, F.A.C.

Standard Offer Contracts

Standard offer contracts are pre-approved contracts for the purchase of firm capacity and energy from any renewable generating facility or small QF. Rule 25-17.230, F.A.C., requires each investor-owned electric utility to establish a standard offer contract for each fossil-fueled generating unit type identified in the utility's TYSP. The renewable energy generator is allowed to select from a number of payment options that best fits its financing requirements as long as the total cumulative present value of such payments does not exceed full avoided cost, and adequate security for front-end loaded payments is provided. For example, the Commission rules allow for levelized payments over the life of the contract which may include both capacity and energy costs.

Negotiated Contracts

Renewable generating facilities are encouraged to negotiate purchased power contracts with IOUs pursuant to Rule 25-17.240, F.A.C. Payments made to a qualified renewable generator under a negotiated contract may be recovered from ratepayers by the purchasing utility as long as the cumulative present value of the payments does not exceed the utility's full avoided cost and adequate security for front-end loaded payments is provided.

Renewable Payment Types

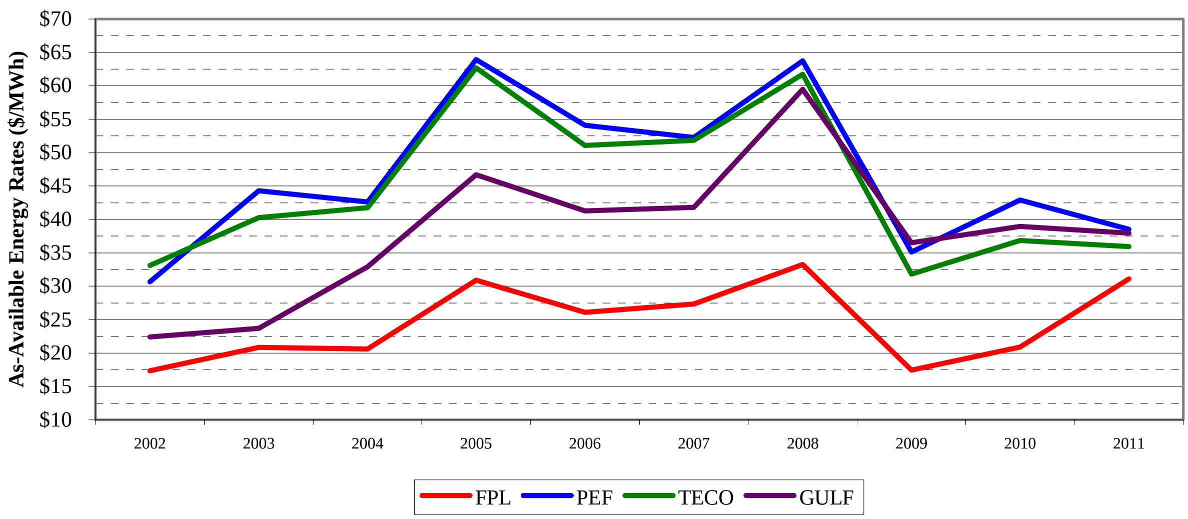
Pursuant to current state and federal law, payments made by utilities to generation facilities using renewable energy sources are capped at the utility's avoided cost for capacity and energy.

Firm capacity payments: Firm capacity is capacity (MW) produced and sold by a renewable energy generator pursuant to a standard offer contract or a negotiated contract subject to contractual commitments as to the quantity, time, and reliability of delivery. Firm capacity is purchased at a rate specified in a contract which is equal to the utility's avoided capacity cost or at a negotiated rate which may not exceed the utility's avoided capacity cost. Full avoided cost is calculated by determining the cumulative present value of a year-by-year value of deferring each avoided unit over the term of the contract.

Firm energy payments: Firm energy is energy (kWh) produced and sold by a renewable energy generator pursuant to a negotiated contract or a standard offer contract subject to contractual commitments as to the quantity, time, and reliability of delivery. Generally, the rate of payment for firm energy, in cents per kWh, is the lesser of the fuel cost associated with the avoided unit or the utility system's incremental fuel cost.

As-available energy payments: As-available energy is energy (kWh) produced and sold by a renewable energy generator on an hour-by-hour basis for which contractual commitments as to the quantity, time, or reliability of delivery are not required. As-available energy is purchased at a rate in cents per kilowatt hour (kWh) equal to the utility's hourly incremental system fuel cost, which reflects the highest fuel cost of generation dispatched each hour. No capacity payments are made for as-available energy because no reliability benefits are received. Figure 14 below illustrates historic as-available energy payments from the investor-owned TYSP utilities for the period 2002 through 2011. When natural gas prices spiked in 2008, averaging $10/MMBtu, as-available energy rates rose as well. As natural gas prices have declined since 2008, as-available energy rates have also decreased.

Figure 14. Investor Owned Utilities: Average Annual As-Available Energy Rates



Source: Responses to Staff Data Requests

Renewable Resource Outlook

In 2003, the Commission, in consultation with the DEP, completed the 2003 Renewable Energy Assessment Report to identify renewable energy viability in Florida. According to the report, the most feasible sources of renewable energy in Florida are from biomass materials, such as agricultural waste products or wood residues, and industrial waste heat. The 2003 report also stressed that technical feasibility does not ensure economic cost-effectiveness when determining energy resource production.

The Commission, in conjunction with the U.S. Department of Energy and the Lawrence Berkeley National Laboratory, retained Navigant Consulting, Inc. to prepare a detailed assessment of Florida's renewable potential. The 2008 Navigant Consulting Renewable Energy Potential Assessment (the 2008 Navigant Consulting Report) reported on the existing renewable conditions and the projected potential for renewable development in Florida through 2020, compared cost-effective differences, and considered the potential levels of economic impact future renewables may have. The 2008 Navigant Consulting Report substantiated the Commission's 2003 assessment by observing that the majority of Florida's existing renewables consist of solid biomass plants and municipal solid waste facilities. Although the 2008 Navigant Consulting Report considered solar technologies to have the largest technical potential of any renewable resource in Florida, only a portion of this potential can actually be economically achieved at this time.

The 2008 Navigant Consulting Report described the comparison of the technical or physical potential versus the achievable potential for renewable energy development in Florida. For example, although the technical potential for solar power in Florida may be relatively high according to Navigant Consulting, cost-effectiveness and siting issues significantly reduce the achievable potential to commercially develop solar energy technology. The driving forces to the expansion and sustainability of the renewable market depend on the overall value of renewable energy, a basis that is determined by the financial environment as well as government regulation and support. As noted in the 2008 Navigant Consulting Report, a favorable scenario for the renewable market which has meaningful growth in Florida assumed the following:

1. High fossil fuel costs
2. Access to low cost capital and debt rates
3. Continual government rebate programs and tax incentives
4. Established pricing of CO_2 emissions
5. Formation of a Renewable Energy Certificate (REC) market

Since the 2008 Navigant Consulting Report was completed, economic and policy conditions have not been favorable for future renewable development. Specifically, Navigant Consulting assumed in their 2008 natural gas costs to be $11-$14/MMBtu in the favorable scenario. Natural gas is currently trading at approximately $2.95/MMBtu. Most forecasts project natural gas prices to gradually increase over the long term.

In the favorable scenario, Navigant assumed the estimated cost of debt to be approximately 6.5 percent, the cost of equity approximately 10 percent, and ready access to debt would make up 70 percent of renewable project financing. Currently credit markets are still tight for small businesses, and obtaining financing for renewable energy projects will be much more difficult for a smaller company than for a large utility.

In the favorable scenario, Navigant Consulting estimated that Florida's solar rebate program would expire in 2020, with a $10 million annual funding level. The Florida Energy and Climate Commission was authorized to provide $25.4 million in rebates for solar energy equipment between 2006 and 2009. Currently the authorized budget has been depleted. Also, the favorable scenario for carbon pricing assumes $2/ton initially, then scaling to $50/ton by 2020. Currently, there is no federal or state policy establishing carbon pricing. The favorable scenario also envisioned the creation of a Renewable Energy Credit (REC) market, with REC prices of approximately $18/MWh initially, decreasing to $11/MWh by 2020. At this time, no Renewable Energy Credit market has been established in Florida.

Table 6 below compares selected assumptions included in Navigant's favorable scenario and current market conditions. As detailed in the table, most current market conditions are not aligned with Navigant's favorable scenario for renewable generation development.

Table 6. State of Florida: Market Outlook for Renewable Energy

Market Area	2008 Navigant Consulting Report Favorable Scenario	Current Market Conditions
Natural Gas Prices ($/MMBTU)	$11 - $14	$3 - $4
Access to Capital & Debt	Available at Low Cost	Credit Markets Tight
Florida Solar Rebate Program	Expires in 2020, $10M/year	No Funds Allocated
CO2 Emissions Pricing ($/ton)	$2 (2009) to $50 (2020)	No pricing established
Renewable Energy Certificates ($/MWh)	$18 (2009) to $11 (2020)	No REC Market established

Source: 2008 Navigant Consulting Report, Responses to Staff Data Requests

Existing Renewable Resources

Currently, renewable energy facilities provide approximately 1,400 MW of gross electric generation capacity as reported by the FRCC. Compared to figures in the 2011 Ten-Year Site Plan Review, existing renewable generation facilities have increased by approximately 120 MW, or 9 percent. Table 7 summarizes Florida's existing renewable resources.

Table 7. State of Florida: Existing Renewable Generation Capacity

Renewable Type	Capacity (MW)
Solar	143.3
Wind	0.0
Biomass	401.5
Municipal Solid Waste	453.7
Waste Heat	297.1
Landfill Gas	58.4
Hydro	55.7
Total	**1,400**

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Firm Capacity Contracts

Roughly 28 percent of all renewable capacity in Florida is from renewable generators with firm capacity contracts, which are required to provide a particular amount of capacity for a specified period of time pursuant to contractual obligations. Approximately 78 percent of this renewable capacity consists of municipal solid waste (MSW) facilities. Although the majority of firm capacity is purchased by investor-owned utilities, a significant portion (137.8 MW) is purchased by Seminole Electric Company (SEC).

Table 8 lists the existing renewable generators that provide firm capacity. Significant changes in the firm contracts since 2011 include rerates from FPL's Palm Beach County Facility, SEC's Lee County Resource Recovery Facility, and a new contract agreement for firm energy between McKay Bay Waste to Energy Facility with SEC.

Table 8. State of Florida: Firm Renewable Resources

Purchasing Utility	Facility Name	Fuel Type	Gross Capacity* (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	(Wheelabrator) Broward-South	MSW	68	1987
FPL	(Wheelabrator) Broward-North	MSW	62	1992
FPL	Solid Waste Authority of Palm Beach	MSW	40	2005
PEF	Pinellas County Resource Recovery	MSW	61.7	1983
PEF	Lake County Resource Recovery	MSW	14.8	1990
PEF	Dade County Resource Recovery	MSW	43	1991
PEF	Pasco County Resource Recovery	MSW	26	1991
PEF	Ridge Generating Station	WDS	39.6	1994
	Subtotal of IOUs		**227.7**	
Municipal Utilities				
GRU	G2 Energy	LFG	4	2008
GRU	Solar FIT Program/Net Meter	SUN	26.8	2009
JEA	Trailridge	LFG	9	2008
	Subtotal of Municipals		**22.3**	
Cooperative Utilities				
SEC	Lee County Resource Recovery	MSW	50	1999
SEC	Telogia Power, LLC	WDS	13	2004
SEC	Seminole Landfill	LFG	6.2	2007
SEC	Brevard Energy	LFG	9	2008
SEC	Timberline Energy	LFG	1.6	2008
SEC	Hillsborough Waste to Energy	MSW	42.6	2010
SEC	McKay Bay Waste to Energy	MSW	22	2011
	Subtotal of Cooperatives		**137.8**	
	Total		**387.8**	

*The capacity listed here represents the gross capacity of the unit, which may be in excess of the contracted firm capacity of the generating unit.
Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Non-Firm Renewable Energy Generators

In addition to the 387.8 MW of firm capacity described in Table 8 above, renewable energy facilities with a total capacity of 680.7 MW produce energy for sale to utilities on an as-available basis. Energy purchased on an as-available basis is considered non-firm capacity, and therefore cannot be counted on by Florida's utilities for reliability purposes. The energy produced by these providers, however, does contribute to the avoidance of burning fossil fuels in existing generators. Table 9 details the various non-firm energy contracts.

Table 9. State of Florida: Non-Firm Renewable Resources

Purchasing Utility	Facility Name	Fuel Type	Gross Capacity (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	New Hope / Okeelanta	AB	130	1991
FPL	Georgia Pacific	WDS	56.8	1995
FPL	Tomoka Farms	LFG	3.8	1998
FPL	MMA FLA LP	SUN	0.3	2007
FPL	WM Renewable Energy	LFG	8	2010
PEF	Potash Of Saskatchewan	WH	44.2	1986
PEF	Buckeye	WDS	52.3	1993
PEF	G2	LFG	3.5	2008
TECO	Mosaic: South Pierce	WH	30	1969
TECO	Mosaic: New Wales	WH	79	1984
TECO	CF Industries	WH	34.9	1988
TECO	City Of Tampa Sewage	OBG	1.5	1989
TECO	Mosaic: Ridgewood	WH	62	1992
TECO	Mosaic: Millpoint	WH	47	1995
GULF	Stone Container	AB	25	1960
GULF	International Paper Company	WDS	56	1983
GULF	Bay County Solid Waste	MSW	13.6	2008
	Subtotal of IOUs		**647.9**	
Municipal Utilities				
FMPA	US Sugar Corporation	AB	26.5	1984
LAK	Lakeland Center (Solar)	SUN	0.3	2010
OUC	Regenesis Stanton Energy Center	SUN	6	2011
	Subtotal of Municipals		**32.8**	
	Total		**680.7**	

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Utility-Owned Renewable Facilities

Several utilities also own renewable facilities, primarily solar generation, landfill gas, and hydroelectric technologies. Table 10 lists some of the larger utility-owned resources, which consist mostly of non-firm or intermittent resources.

Table 10. State of Florida: Utility Owned Renewable Generation

Purchasing Utility	Facility Name	Fuel Type	Gross Capacity (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	DeSoto	SUN	25	2009
FPL	Martin	SUN	75	2010
FPL	Space Coast Next Generation	SUN	10	2010
GULF	Perdido 1	LFG	1.8	2010
GULF	Perdido 2	LFG	1.8	2010
	Subtotal of IOUs		**113.6**	
Municipal Utilities				
JEA	North Landfill	LFG	1.5	1997
JEA	Girvin Landfill	LFG	1.2	1999
JEA	Buckman	OBG	0.8	2003
OUC	Co-Fired Stanton Energy Center	LFG	7	1998
TAL	Corn Hydro	WAT	12.2	1985
	Subtotal of Municipals		**22.7**	
Other Utilities				
UCEM	Jim Woodruff	WAT	43.5	1957
	Subtotal of Other		**43.5**	
	Total		**179.8**	

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Because most of the energy produced is non-firm, the majority of these renewable facilities serve more to reduce fossil fuel consumption than to provide system capacity. Among some of the recent notable additions to utility-owned renewables are the construction and operation of three solar generators by FPL in 2009 and 2010. The DeSoto, Martin, and Space Coast facilities are currently the largest solar facilities in Florida.[7] Also in 2010, GULF commissioned two landfill gas generation facilities, Perdido 1 and 2, to provide that utility with a total renewable gross capacity of 3.6 MW.

Existing Net Metering

Net metering is an arrangement between a utility and a customer with renewable generation capability whereby the customer's energy usage is offset, or credited, by the amount of energy generated. The customer will be billed for any net energy consumed that exceeds the energy generated.

In April 2008, the Commission amended Rule 25-6.065, F.A.C., on interconnection and net metering for customer-owned renewable generation. The rule requires the IOUs to offer net metering for all types of renewable generation up to 2 MW in capacity and a standard interconnection agreement with an expedited interconnection process. Customers benefit from

[7] The DeSoto and Space Coast facilities are direct energy-producing photovoltaic facilities, whereas the Martin facility uses thermal heat to create replacement steam for a pre-existing steam turbine usually supplied through fossil fuel generation.

such renewable systems by reducing their energy purchases from the utility and potentially selling excess energy to the utility.

The Commission's rule requires all electric utilities to annually report data associated with interconnection and net metering programs. Data submitted in April 2010 show that the number of customers owning renewable generation systems in Florida continues to grow. Statewide, a total of 29.3 MW of solar photovoltaic (PV) capacity from 3,994 systems have been installed, up from 2.8 MW produced by 537 systems in 2008. Table 11 displays the information on customer-owned renewable generation for 2011 reported by Florida's utilities.

Table 11. State of Florida: Customer Owned Renewable Generation

Utility Type	Connections	Non-Firm Capacity (MW)
Investor-Owned	2,826	20.4
Municipal	615	5.0
Rural Electric Cooperatives	553	3.9
Total	**3,994**	**29.3**

Sources: 2012 Interconnection and Net Metering of Customer-Owned Generation Report

Planned Renewables Additions

Florida's utilities plan to construct or purchase an additional 957 MW of renewable generation over the ten-year planning period. The expected major contributors to actual energy generation are planned biomass resources. Table 12 summarizes the overall proposed planned increases by generation type of all utilities. The largest source of planned renewable generation comes in the form of non-firm solar capacity built by a single vendor, National Solar. The company has as-available energy contracts with PEF, and as they have no capacity portion, are not considered for reliability purposes.

Table 12. State of Florida: Planned Renewable Resource Net Additions

Fuel Type	Capacity (MW)
Solar	**553.4**
Wind	**0**
Biomass	**321**
Municipal Solid Waste	**70**
Waste Heat	**0**
Landfill Gas	**13**
Hydro	**0**
Total	**957.4**

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

As of January 2012, firm capacity contracts represent 39 percent of total planned renewable additions. Table 13 and Table 14, provide detailed lists of the renewable resources planned for construction in Florida over the ten-year planning horizon. Table 13 shows that, of the renewable firm capacity planned over the ten-year horizon, the majority is woody biomass that will be purchased by PEF and GRU.

Table 13. State of Florida: Planned Firm Renewable Resources

Purchasing Utility	Facility Name	Fuel Type	Gross Capacity* (MW)	Commercial In-Service Date
Investor-Owned Utilities				
PEF	FB Energy	AB	60	2013
PEF	Trans World Energy	WDS	40	2013
PEF	US EcoGen	WDS	60	2014
FPL	Solid Waste Authority of Palm Beach	MSW	70	2016
	Subtotal of IOUs		**230**	
Municipal Utilities				
JEA	Trailridge	LFG	9	2012
OUC	Port Charlotte	LFG	4	2012
OUC	Harmony	WDS	5	2012
GRU	American Renewables LLC	WDS	116	2013
GRU	Solar FIT Program	SUN	9.3	2021
	Subtotal of Municipals		**143.3**	
	Total		**373.3**	

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Table 14 shows that most of the non-firm capacity planned in Florida will be purchased by PEF, primarily from National Solar, discussed above.

Table 14. State of Florida: Planned Non-Firm Renewable Resources

Purchasing Utility	Facility Name	Fuel Type	Capacity (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	INEOS Bio	AB	2	2011
PEF	Eliho	WDS	8	2011
PEF	E2E2	WDS	30	2012
PEF	Blue Chip Energy #1	SUN	50	2013
PEF	National Solar #5-10	SUN	450	2021
All IOUs	Solar Installations (Aggregate)	SUN	0.1	2021
	Subtotal of IOUs		**540.1**	
Municipal Utilities				
OUC	CNL/City Hall	SUN	0.4	2012
OUC	GSLD Solar	SUN	0.8	2012
TAL	SDA	SUN	2	2012
TAL	SolarSink	SUN	0.5	2012
TAL	SunnyLand Solar	SUN	1	2012
LAK	Regenesis Power	SUN	15	2016
LAK	SunEdision	SUN	24	2017
All Munis	Solar Installations (Aggregate)	SUN	0.2	2021
	Subtotal of Municipals		**43.9**	
	Total		**584**	

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Updated Navigant Consulting Report

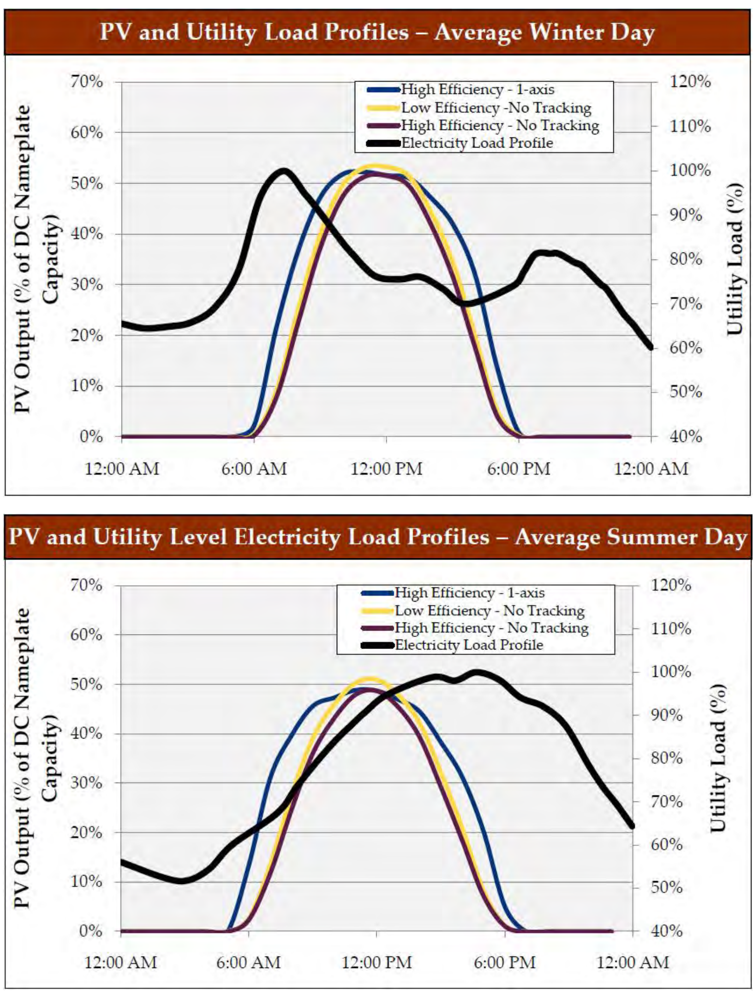
The Commission contracted with Navigant Consulting in early 2010 to update its 2008 analysis with current conditions. In June 2010, Navigant Consulting released new comparisons of cost estimates for different renewable generating facilities. Navigant Consulting also provided additional detail pertaining to Florida's renewable resource which it identified as having the most technical potential for growth, solar PV facilities. Findings from the report are summarized below.

In the 2010 Navigant Consulting Report Update, the most meaningful findings include changes in prices of renewable technologies. PV module prices have fallen and commodity costs for PV units have decreased during the recession, but both are returning to near their pre-recession levels. Wind power prices have also decreased due to the recession, while utility turbine prices have risen as worldwide demand catches up with supply. According to the 2010 Navigant Consulting Report Update, no large performance breakthroughs occurred for any technology. Because Navigant Consulting found solar resources to hold the most potential in Florida, the remainder of the 2010 Navigant Consulting Report Update focuses on solar power.

The 2010 Navigant Consulting Report Update estimates that solar power systems have increased in efficiency while overall prices have decreased up to 40 percent since 2008. In spite of these changes, solar power systems continue to have some of the highest capital costs per kW of any renewable generating system. Varying the methods of using solar energy involving solar tracking technology and alternating solar film receptors produces a slight range of energy output and net capacity factors. In addition, the ability of solar PV systems to provide energy are limited to daytime hours. Supplemental battery storage units may alleviate this issue, but the costs of batteries are not included in Navigant Consulting's estimates.

Even with these advancements, capacity factors of solar panels are projected to remain below 25 percent. Such results indicate that solar PV facilities operate more like a conventional peaking unit and will not replace the need for base-load generating facilities. However, Navigant Consulting also reported that operating characteristics for these systems do not correlate with daily peak load hours. As shown in Figure 15, Navigant Consulting estimates that the peak output from solar PV facilities reaches a maximum of approximately 50 percent of the rated capacity, and occurs after the system's winter peak hour and before the system's summer peak hour. As a result, a solar PV facility's ability to provide reliability benefits appears limited.

Figure 15. Solar PV Output and Utility Seasonal Load Profiles



Sources: 2010 Navigant Consulting Report Update

Current demand and energy forecasts continue to indicate that in spite of increased levels of conservation, energy efficiency, and renewable generation, the need for traditional generating capacity still exists. While reductions in demand have been significant, the total demand for electricity and the per-capita consumption is expected to increase, making the addition of traditional generating units necessary to satisfy reliability requirements and provide sufficient electric energy to Florida's consumers. Because any capacity addition has certain economic impacts based on the capital required for the project, and due to increasing environmental concerns relating to solid fuel-fired generating units, Florida's utilities must carefully weigh the factors involved in selecting a supply-side resource for future traditional generation projects.

In addition to traditional economic analyses, utilities also consider several strategic factors, such as fuel availability, generation mix, and environmental compliance prior to selecting a new supply-side resource. Limited supplies, access to water or rail delivery points, pipeline capacity, water supply and consumption, land area limitations, cost of environmental controls, and fluctuating fuel costs are all important considerations.

Gas fired units have almost exclusively been selected in recent years due to higher thermal efficiencies, lower capital costs, short periods for permitting and construction, and sometimes the smaller land areas required. With the recent decrease in fuel prices due to unconventional natural gas production using hydraulic fracturing, natural gas is the favored fuel for all traditional generating units with the exception of new nuclear units.

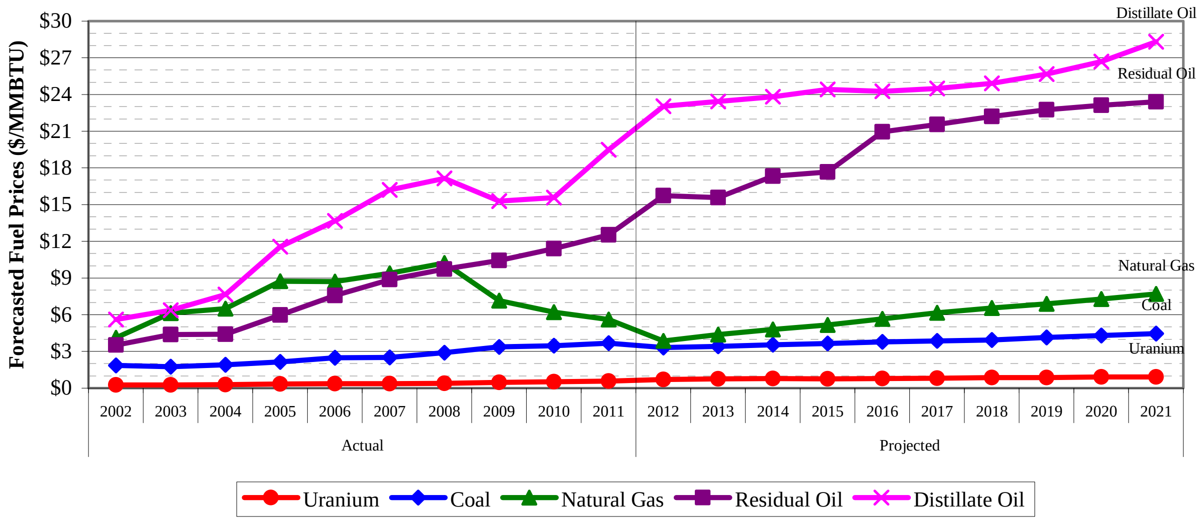
In the last ten years, almost 97 percent of all capacity additions to Florida's electric system use natural gas as the primary fuel. Coal units that were planned have been cancelled, and new nuclear units that have been approved have been delayed beyond the planning horizon. Currently, other than approximately 950 MW of renewable generation and 600 MW in uprates for existing nuclear units, all of the additional generation planned for the next ten years will use natural gas as a fuel source.

Fuel Price Forecasts

Fuel price forecast is the primary factor affecting the type of generating unit added by an electric utility. In general, the capital cost of a generating unit is inversely proportional to the cost of the fuel used to generate electricity from that unit. Historically, when the forecasted price difference between coal or nuclear and natural gas was small, the addition of a natural gas unit became the more attractive option. As the fuel price gap widened, a coal-fired or nuclear unit would normally be the more likely choice.

From 2003 to 2005, the price of natural gas was substantially higher than utilities had forecasted. This disparity led to concern regarding escalating customer bills and an expectation that natural gas prices would continue to be high and extremely volatile. As a result, Florida's utilities began making plans to build coal-fired units rather than continuing to increase the reliance on natural gas. However, as Figure 16 shows, the price of natural gas began to return to more historic levels after peaking in 2008, and has declined in the years since. Forecasts predict that gas prices will increase at a steady level throughout the planning horizon.

Figure 16. TYSP Utilities: Historic & Projected Weighted Average Fuel Prices ($/MMBtu)



Source: Responses to Staff Data Request

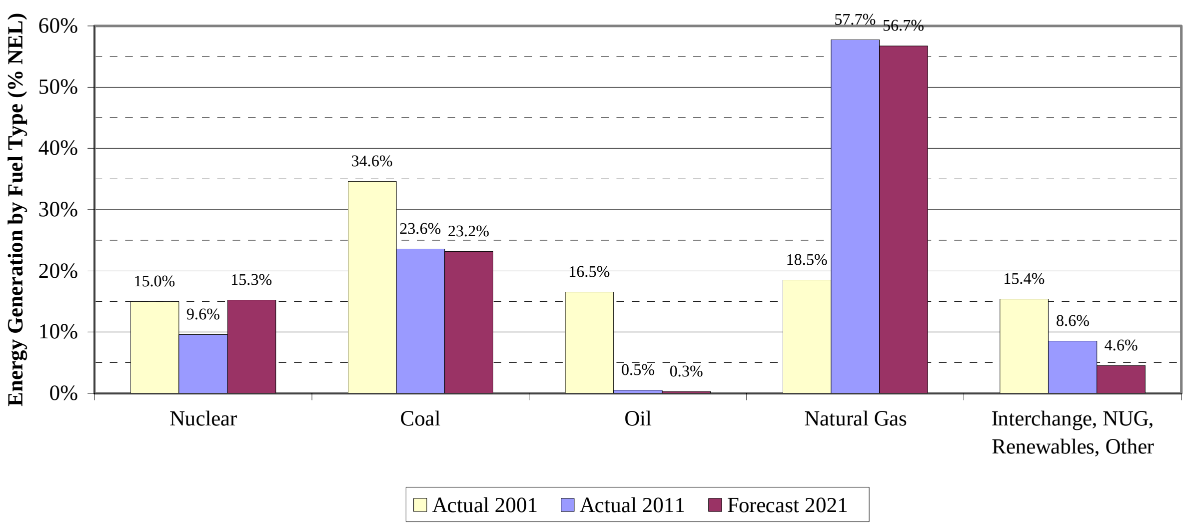
Previous TYSP reviews indicated that increases in gas prices may bring an end to the almost exclusive addition of natural gas-fired generation. As can be seen from Figure 16, the expectation of high prices for natural gas has not materialized and although it is forecasted to increase steadily, the rate of increase is more moderate than was previously contemplated.

Utility plans for a balanced fuel system have historically been highly dependent upon the accuracy of long-term fuel price forecasts, mostly due to the long lead times required for coal and especially nuclear generators. However, in recent years the options available to utilities for the addition of supply-side generation have been limited, and this situation seems unlikely to change at this time. Utilities will be faced with selecting technologies for new generation that will either continue to increase the already very high percentage of natural gas resources, or attempting to obtain approval for solid fuel resources that may have a negative near term rate impact.

Fuel Diversity

Natural gas has risen to become one of the dominant fuels in the state in the last ten years, displacing coal, and in 2011 generated more net energy for load than any two fuels combined in Florida. As Figure 17 shows, natural gas now makes up greater than 57.7 percent of electric energy consumed in Florida. Natural gas usage is anticipated to peak in 2012 at 62.4 percent, and then decline slightly to 56.7 percent by 2021.

Figure 17. State of Florida: Net Energy for Load by Fuel Type



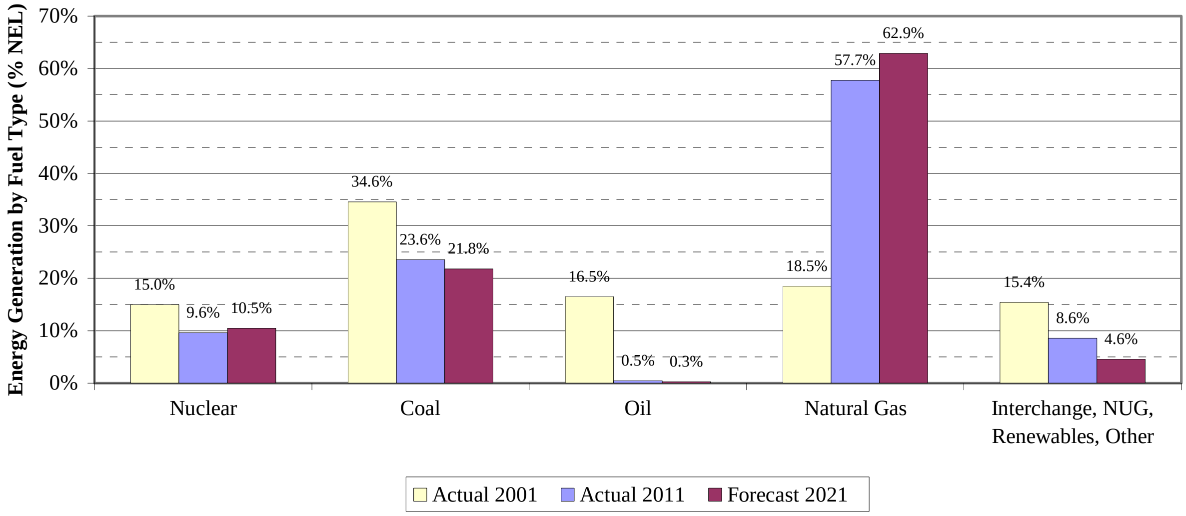
Source: FRCC 2002 and 2012 Load and Resource Plans

The anticipated decline in natural gas consumption by the end of the planning period is the result of increased nuclear generation and relatively stable contribution to NEL from coal-fired generation. Nuclear generation may decline from that projected in the FRCC 2012 Load and Resource Plan, primarily due to the delay of the Levy 1 nuclear unit, discussed below, and if the CR3 nuclear unit is retired instead of repaired. CR3 has been offline since 2009, following a delamination incident during a steam generator replacement project.

Coal generation, beyond the reduction in dispatch due to the cost-competitiveness of natural gas as a baseload fuel, faces challenges relating to new environmental compliance requirements. As discussed below, new EPA regulations will potentially require installation of new environmental controls, which could lead to the retirement of units if it is deemed uneconomic to upgrade its emission control equipment. During the 2012 TYSP Workshop, four coal units, PEF's Crystal River 1 & 2, and GULF's Lansing Smith 1 & 2, were identified by the Sierra Club/Earthjustice as potential units to consider retirement, though at this time all four are scheduled to remain in-service throughout the planning period.

If the projected generation associated with the nuclear and coal units discussed above is displaced by natural gas, it would have the net effect of increasing natural gas' share of state electric generation to 62.9 percent by 2021, as shown in Figure 18 below.

Figure 18. State of Florida: Net Energy for Load by Fuel Type After Generation Displacement



Source: FRCC 2002 and 2012 Load and Resource Plans, Utilities 2012 TYSPs, Responses to Staff Data Requests.

Because a balanced fuel supply can enhance system reliability and mitigate the effects of volatile fuel price fluctuations, it is important that utilities have the greatest possible level of flexibility in their generation fuel source mix. Although the Commission has cited the growing lack of fuel diversity within the State of Florida as a major strategic concern for the past several years, natural gas is anticipated to remain the dominant fuel over the planning horizon. Excluding renewables, all new generation facilities planned within the State of Florida over the ten-year period are natural gas-fired units.

Opportunities for Unit Modernization

Florida's generating fleet consists of incremental new additions to the historic base fleet, with units retiring as they become uneconomical to operate or maintain. Currently Florida's existing capacity ranges greatly in age and fuel type, and legacy investments continue.

While some units must be retired upon reaching the end of their economic life and cannot be refurbished, others have the potential for modernization. The modernization of existing generating units allows for significant improvement in both performance and emissions, typically at a price lower than new construction. Modernization typically involves the conversion of a generating unit from less efficient fossil steam generation to combined cycle operation. For some power plant sites, modernization does not involve using any of the existing generator units themselves, but rather the generation site's existing facilities such as transmission or fuel handling for an entirely new unit. For some steam units, generation output can be improved by installing more advanced equipment, such as the nuclear uprates discussed below. Other modernizations allow for changes in fuel type, or increased ability to use alternate fuels. Due to low natural gas price forecasts, the ability to run a unit on higher quantities of natural gas instead of fuel oil may be an economically viable option, even for an older generating unit.

Since the existing unit must be removed from service for a period of time, a utility's reliability is affected during the conversion process. As a result, scheduling modernizations during periods of temporary excess capacity is more desirable. With the forecasted decline in load, several of Florida's utilities may have sufficient reserve margins to allow some of their smaller units to be converted, and the upcoming ten-year planning horizon appears to be an ideal window for completing these types of projects. Not all sites are candidates for modernization due to site layout and other concerns, and to minimize rate impacts, modernization of existing units should be investigated before considering new construction. Utilities should continue to explore potential conversion projects and report the feasibility and economic viability of each conversion in next year's TYSPs and before any need determination filing.

In response to a staff data request, the TYSP utilities identified the following facilities as potentially capable of conversion. Table 15 below summarizes their responses for conversion from fossil steam generation. Additional units were identified for conversion from simple cycle combustion turbines to combined cycle units.

Table 15. State of Florida: Potential Steam Units for Modernization

Utility	Generating Unit Name	Fuel Type	Summer Capacity (MW)	Original In-Service Date	Modernization Type
FPL	Manatee Units 1 & 2	Oil / NG	1624	1976 - 1977	CC
FPL	Martin Units 1 & 2	Oil / NG	1652	1980 - 1981	CC
FPL	Sanford Unit 3	Oil / NG	138	1959	CC
FPL	Turkey Point Units 1 & 2	Oil / NG	788	1967 - 1968	CC
FPL	Cutler Unit 5 & 6	NG	205	1954 - 1955	CC
PEF	Anclote Units 1 & 2	NG / Oil	1011	1974 - 1978	CC
PEF	Suwannee River Units 1 - 3	NG / Oil	129	1953 - 1956	CC/RF
PEF	Crystal River Units 1 & 2	Coal	873	1966 - 1969	CC/IGCC
PEF	Crystal River Units 4 & 5	Coal	1422	1982 - 1984	CC/IGCC
GULF	Crist Units 4 & 5	Coal	150	1959 - 1961	Natural Gas
GULF	Scholz Units 1 & 2	Coal	92	1953	Biomass
JEA	SJRPP Units 1 & 2	Coal / Petcoke	626	1987 - 1988	CC
JEA	Northside Unit 3	NG / Oil	524	1977	CC

Source: Responses to Staff Data Request

The Commission has previously granted determinations of need for three conversions from fossil steam to combined cycle units. The approved conversions, located at FPL's Cape Canaveral, Riviera, and Port Everglades sites, represent a significant increase in generating capacity while reusing the plant site and reducing fuel usage and emissions. PEF has also recently conducted a conversion of its Bartow plant from fossil steam to a combined cycle unit. This conversion did not require a PPSA determination of need.

Impact of EPA Regulations

In addition to maintaining a fuel efficient and diverse fleet, Florida's utilities must also comply with changing environmental requirements. Within the past several years, the EPA has finalized or proposed several rules which will impact both existing and planned units within the state. Potential environmental requirements and their associated costs must be considered to fully evaluate any new supply-side resources, as well as the maintenance and dispatch of existing generating units.

While at this time no units are anticipated to be retired as a result of any of these regulations, they do represent an increase cost of operations. Each utility should evaluate whether these additional costs or limitations allow the continued economic operation of each impacted unit, and whether installation of emissions control equipment, fuel switching, or retirement is the proper course of action to maintain the lowest cost to customers and meet environmental requirements. Several of the TYSP utilities have provided preliminary estimates based upon known and proposed rule language, and are shown in Table 16 below.

Table 16. TYSP Utilities: Preliminary Estimates of EPA Rule Compliance Cost

Utility	Preliminary Total Cost Estimates* ($ Millions)
Florida Power & Light	$348 - $1,741
Progress Energy Florida	$165 - $1,330
Tampa Electric Company	$763
Gulf Power Company	$1,270 - $2,737
Florida Municipal Power Agency	$39
Gainesville Regional Utilities	Not Available
JEA	Not Available
Lakeland Electric	Not Available
Orlando Utilities Commission	$157
Seminole Electric Cooperative	Not Available
City of Tallahassee	$5
Total of All Utilities	**$2,747 - $6,772**

* These estimates are not final, and may not include all rules.
Source: Responses to Staff Data Request

Table 17 is a partial listing of notable units and their anticipated unit costs for compliance. At this time, several of the proposed EPA Rules are the subject of litigation, or have not yet produced a final rule. More precise data associated with compliance costs for all units is anticipated in future filings by the utilities once rules are finalized and environmental compliance methods are determined.

Table 17. TYSP Utilities: Preliminary Estimates of EPA Rule Compliance Costs by Unit

Primary Owner	Facility Name	Fuel	Net Summer Capacity	EPA Rule Impact ($ Million)				
				MATS[8]	CSPAR[9]	CWIS[10]	CCR[11]	Total
PEF	Anclote 1&2	Oil	1011	80	-	15-130	-	95-210
PEF	Bartow 4	NG	1,133	-	-	10-170	-	10-170
PEF	Crystal River 1&2	Coal	873	TBD	-	45-780	TBD	45-780
PEF	Crystal River 4&5	Coal	1422	5-50	-	2-5	TBD	7-55
PEF	Suwannee 1-3	Oil	129	-	-	5-75	-	5-75
TECO	Big Bend 1-4	Coal	1552	10	-	400	3-6	413-416
TECO	Polk 1	Coal	220	-	-	-	1-2.5	1-2.5
TECO	Bayside 1&2	NG	1,630	-	-	400	-	400
GULF	Daniel 1-2	Coal	510	310-617		1-2	110-210	421-829
GULF	Crist 4-5	Coal	150	40-305		26-47	170-450	236-802
GULF	Crist 6-7	Coal	756					
GULF	Smith 1-2	Coal	357	60-288		1-65	30-260	91-613
GULF	Scholz 1-2	Coal	92	6-97		1-50	160-180	167-327
OUC	Stanton 1&2	Coal	886	2	118	-	13	133
Total Impact			**10,721**	**631-1,557**		**904-2,124**	**487-1,122**	**2,024-4,813**

Source: Responses to Staff Data Request

Power Plant Siting Act

The Florida PSC is given exclusive jurisdiction by the Legislature, through the PPSA, to be the forum for determining the need for new electric power plants. Any proposed steam or solar generating unit of at least 75 MW requires certification under the Power Plant Siting Act.

Approximately 7,200 MW of new generating units are planned to enter service over the next 10-year period, consisting solely of natural gas-fired combustion turbines and combined cycle units. A majority of this capacity has already received a determination of need from the Commission or is exempted from the statutory requirements of the PPSA. Only 2,418 MW still requires certification, as shown in Table 18. TECO has recently issued a Request for Proposals (RFP) for its planned unit, a combined cycle conversion of several existing simple cycle combustion turbines at the Polk Power Station, and filed for a need determination on September 12, 2012.

[8] Mercury and Air Toxics Standards (MATS) Rule.
[9] Cross-State Air Pollution Rule (CSAPR)
[10] Cooling Water Intake Structures (CWIS) Rule
[11] Coal Combustion Residuals (CCR) Rule.

Table 18. State of Florida: Projected Units Requiring Power Plant Siting Act Certification

Utility	Generating Unit Name	Summer Capacity (MW)	Certification Dates		In-Service Date
			Need Approved (Commission)	PPSA Certified	
FPL	St. Lucie Unit 1 Uprate	129	01/2008	09/2008	05/2012
FPL	Turkey Point Unit 3 Uprate	123	01/2008	10/2008	06/2012
FPL	St. Lucie Unit 2 Uprate	84	01/2008	09/2008	10/2012
FPL	Turkey Point Unit 4 Uprate	123	01/2008	10/2008	02/2013
FPL	Cape Canaveral	1,210	09/2008	10/2009	06/2013
FPL	Riviera Beach	1,212	09/2008	11/2009	06/2014
PEF	Crystal River Unit 3 Uprate	154	02/2007	08/2008	11/2014
FPL	Port Everglades	1,277	04/2012	02/2013*	06/2016
TECO	Polk 2-5 CC	1,063	-	-	01/2017
PEF	Unknown	767	-	-	06/2019
SEC	Unnamed CC1	196	-	-	12/2020
SEC	Unnamed CC2	196	-	-	12/2020
SEC	Unnamed CC3	196	-	-	12/2021

*Estimated Date for Siting Board Hearing on Site Certification.
Source: Utilities 2012 TYSPs

Nuclear

Nuclear capacity, while an alternative to natural gas-fired generation, is capital-intensive and requires a long lead time to construct. Florida's utilities project an expansion of nuclear power in the state through uprates at existing nuclear power plants, and the construction of four new nuclear units. FPL's and PEF's TYSPs anticipate approximately 600 MW of capacity to be added by uprates.

While PEF's 2012 TYSP originally projected the in-service date for Levy Unit 1 in 2021, PEF's filing in Docket No. 120009-EI indicates that it will be delayed until 2024. Table 19 below provides a summary of nuclear capacity additions planned in the State.

Table 19. State of Florida: Projected Nuclear Uprates & New Units

Utility	Generating Unit Name	Summer Capacity (MW)	In-Service Date
Existing Nuclear Unit Uprates			
FPL	St. Lucie Unit 1	129	05/2012
FPL	Turkey Point Unit 3	123	06/2012
FPL	St. Lucie Unit 2	84	10/2012
FPL	Turkey Point Unit 4	123	02/2013
PEF	Crystal River Unit 3	154	11/2014
New Nuclear Units			
FPL	Turkey Point 6	1100	06/2022
FPL	Turkey Point 7	1100	06/2023
PEF	Levy 1	1092	06/2024
PEF	Levy 2	1092	06/2025

Source: Utilities 2012 TYSPs, Utilities filings in Docket 120009-EI

Natural Gas

With the exception of the aforementioned renewable and nuclear capacity, all remaining new generation comes in the form of natural gas fired combustion turbines or combined cycle units. The 2012 TYSPs include approximately 7,200 MW of natural gas-fired generation.

A total of 1,571 MW of natural gas-fired combustion turbine capacity is expected to enter service by 2021. Because these units are not steam-fired capacity, they do not require siting under the PPSA. A list of all combustion turbine units entering service is included in Table 20.

Table 20. State of Florida: Projected New Combustion Turbines

Utility	Generating Unit Name	Summer Capacity (MW)	In-Service Date
SEC	Unnamed CT1	158	12/2018
TECO	Future CT 1	149	05/2019
SEC	Unnamed CT2	158	12/2019
SEC	Unnamed CT3	158	12/2020
SEC	Unnamed CT4	158	12/2020
SEC	Unnamed CT5	158	12/2020
SEC	Unnamed CT6	158	05/2021
SEC	Unnamed CT7	158	12/2021
SEC	Unnamed CT8	158	12/2021
SEC	Unnamed CT9	158	12/2021

Source: Utilities 2012 TYSPs

The remainder of the natural gas-fired additions come from combined cycle units, which currently represent the most abundant type of generating capacity in the State of Florida, making up approximately a third of installed capacity in 2012. As combined cycles utilize steam generated from the waste heat of combustion turbines, they fall under the PPSA when they have greater than 75 MW of steam capacity. Table 21 below includes all combined cycle units planned to enter service by 2021. With these new additions (6,117 MW in total), natural gas-fired combined cycles will represent approximately half of all generation within the state.

Table 21. State of Florida: Projected New Combined Cycle Units

Utility	Generating Unit Name	Summer Capacity (MW)	In-Service Date
FPL	Cape Canaveral	1,210	06/2013
FPL	Riviera Beach	1,212	06/2014
FPL	Port Everglades	1,277	06/2016
TECO	Polk 2-5 CC	1,063	01/2017
PEF	Unknown	767	06/2019
SEC	Unnamed CC1	196	12/2020
SEC	Unnamed CC2	196	12/2020
SEC	Unnamed CC3	196	12/2021

Source: Utilities 2012 TYSPs

Transmission Capacity

As generation capacities increase, the transmission system must grow accordingly to maintain the capability of delivering the energy to the end user. The Commission has been given broad authority pursuant to Chapter 366, F.S., to require reliability within Florida's coordinated electric grid and to ensure the planning, development, and maintenance of adequate generation, transmission, and distribution facilities within the state.

The Commission has authority over certain proposed transmission lines under the Transmission Line Siting Act (TLSA). To require certification under Florida's TLSA, a proposed transmission line must meet the following criteria: a nominal voltage rating of at least 230 kV, crossing a county line, and a length of at least 15 miles. Proposed lines in an existing corridor are also exempt from TLSA requirements. The Commission determines the reliability need for and the proposed starting and ending points for lines requiring TLSA certification. The Commission must issue a final order granting or denying a determination of need within 90 days of the petition filing. The proposed corridor route is determined by the DEP during the certification process. Much like the PPSA, the Governor and Cabinet sitting as the Siting Board ultimately must approve or deny the overall certification of the proposed line.

Table 22 below lists all proposed transmission lines in the 2012 TYSPs that require TLSA certification. The Polk-Aspen-FishHawk line is directly associated with the combined cycle conversion at the Polk Power Station, and is anticipated to be reviewed concurrently.

Table 22. State of Florida: Proposed Transmission Requiring Transmission Line Siting Act Certification

Utility	Transmission Line	Line Length (Miles)	Nominal Voltage (kV)	Certification Dates		Commercial In-Service Date
				Need Approved (Commission)	TLSA Certified	
PEF	Intercession City - Gifford	13	230	09/2007	01/2009	05/2013
FPL	Manatee – Bobwhite	30	230	08/2006	11/2008	12/2014
FPL	St Johns – Pringle	25	230	05/2005	04/2006	12/2016
TECO	Polk-Aspen-FishHawk	62.5	230	-	-	01/2017
Source: FRCC 2012 Load & Resource Plan, Utilities 2012 TYSPs						

Utility Perspectives

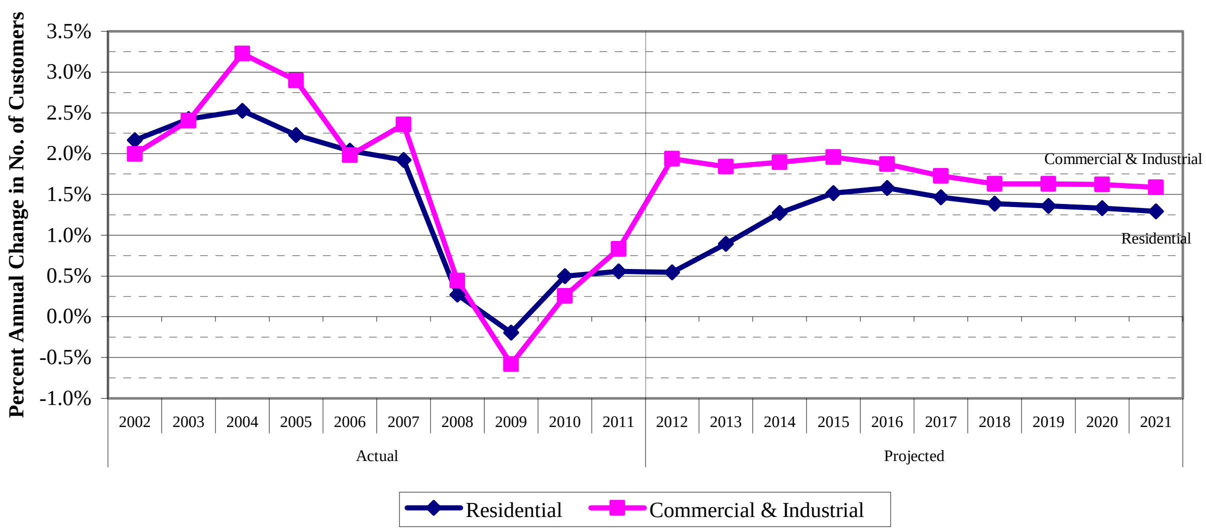
FPL is the state's largest electric utility. The utility's service territory is within the FRCC region, and is primarily in southern Florida and along the east coast. As FPL is an IOU, the Commission has regulatory authority over all aspects of operations, including rates and safety.

In 2011, FPL had an average of 4,547,051 customers, and had a total net energy for load of 103,327 GWh, approximately 47.3 percent of the NEL generated in the entire state last year.

Peak Demand and Energy Forecasts

FPL Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Positive growth is anticipated over the entire planning period, with an average annual growth rate (AAGR) of 1.39 percent. This compares to the actual AAGR of 2.27 for the period 2002 through 2007.

FPL Figure 1: Annual Customer Growth Rate by Customer Class



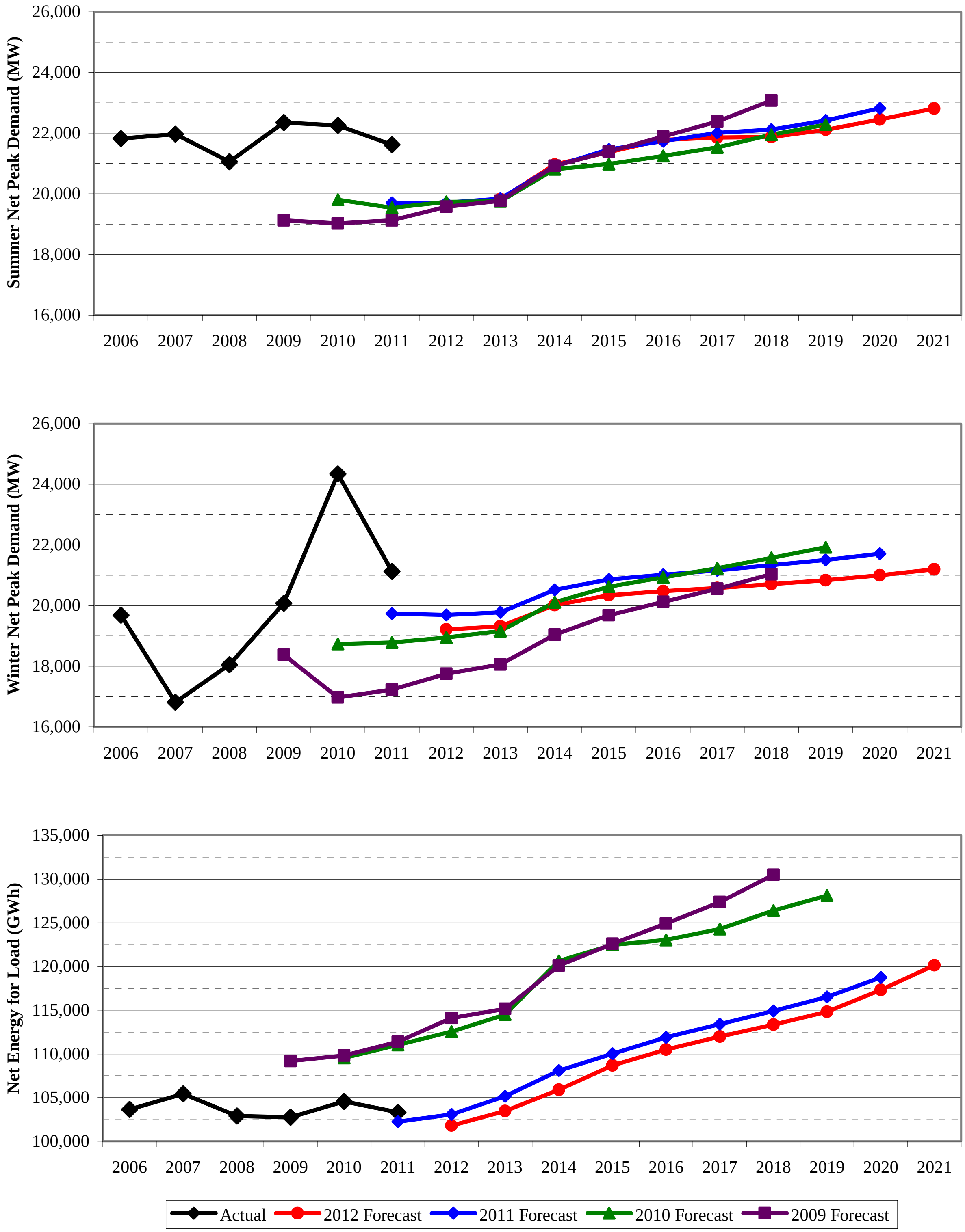
Source: FPL 2012 TYSP

The following three graphs in FPL Figure 2 show FPL's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is similar but slightly lower than the 2011 values for both seasons of peak demand and NEL.

Analysis of FPL's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that FPL's average forecast error is 12.12 percent. This value indicates that the company tends to over-forecast its retail energy sales by 12.12 percent, which is unfavorable when compared to the average forecast error for all eleven of the TYSP utilities, which was

11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

FPL Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

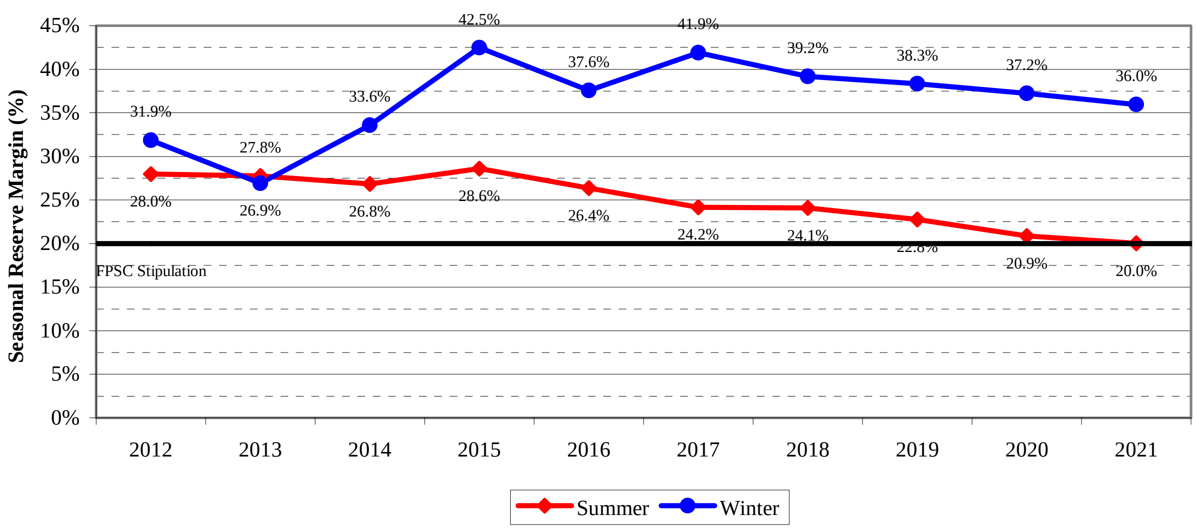


Source: FPL 2009 -2012 TYSPs

Reserve Margin Requirements

As mentioned in the Statewide Perspective, FPL maintains a minimum 20 percent reserve margin for planning purposes based on a stipulation approved by the Commission. FPL Figure 3 displays the projected reserve margin for FPL through the planning period for both seasonal peaks. As shown in the figure, summer peak demand would be the driving force for generation additions. The reserve margin shown below includes the cumulative impact of conservation and demand response on FPL's system demand.

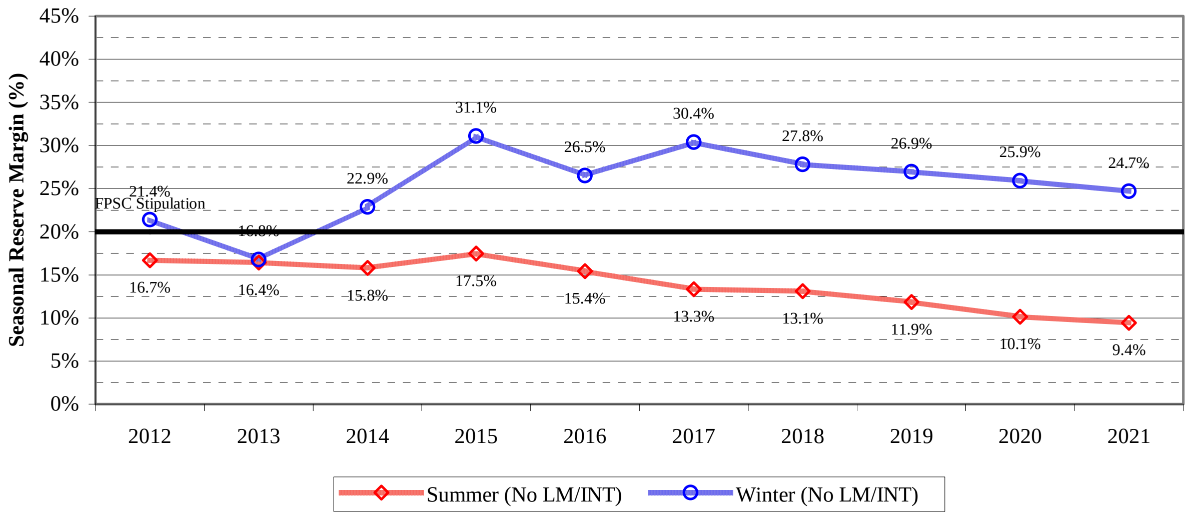
FPL Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: FPL 2012 TYSP

Some concerns have been expressed regarding increased dependence upon demand response to meet customer peak demand. The concern is that interruptible load and load management programs are voluntary, and that customers may elect to opt-out of an existing program if the utility interrupted service too frequently. FPL Figure 4 shows the impact of excluding demand response programs from meeting customer demand, which causes the reserve margin to fall below both the company's stipulated 20 percent reserve margin and the FRCC Region's 15 percent planning margin for the summer only. FPL has indicated that it is continuing to study the possibility of instituting a generation-only minimum reserve.

FPL Figure 4. Seasonal Reserve Margin (Without LM/INT)

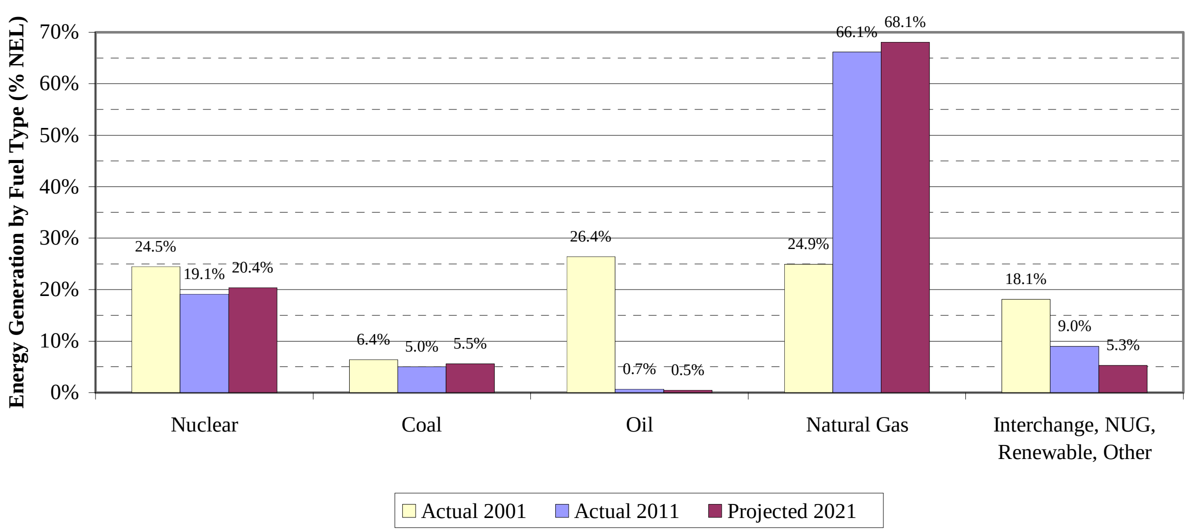


Source: FPL 2012 TYSP

Fuel Diversity

FPL Figure 5 shows FPL's historic fuel mix for 2001 and 2011, and the projected fuel mix for 2021. FPL's primary generation fuel is natural gas, which has increased from about a quarter of system energy in 2001, to approximately two-thirds by 2011. Natural gas is projected to remain the main system fuel, with 68.1 percent of net energy for load generated by natural gas.

FPL Figure 5. Net Energy for Load by Fuel Type



Source: FPL 2002 and 2012 TYSPs

Generation Additions

FPL's 2012 TYSP includes 3 new generating units, all of which are natural gas-fired combined cycles. FPL also anticipates uprates at all its nuclear generation units by 2013, and two new nuclear units, Turkey Point 6 & 7, which are planned beyond the planning horizon. All of the new generation units that FPL is planning to add to its system are shown in FPL Table 1.

FPL Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Nuclear Unit Uprates				
St. Lucie Unit #1 Uprates	129	09/2008	09/2008	5/2012
St. Lucie Unit #2 Uprates *	84	09/2008	09/2008	10/2012
Turkey Point Unit # 3 Uprates	123	09/2008	10/2008	6/2012
Turkey Point Unit # 4 Uprates	123	09/2008	10/2008	2/2013
Combined Cycle Unit Additions				
Cape Canaveral Next Generation Clean Energy Center	1,210	09/2008	10/2009	6/2013
Riviera Beach Next Generation Clean Energy Center	1,212	09/2008	11/2009	6/2014
Port Everglades Next Generation Clean Energy Center	1,277	4/2012	02/2013***	6/2016
Nuclear Unit Additions				
Turkey Point Unit #6**	1,100	3/2008	12/2013***	6/2022
Turkey Point Unit #7**	1,100	3/2008	12/2013***	6/2023

*31 MW of St. Lucie Unit #2 uprates have already been achieved in 2011.
** These units are outside of the 2012-2021 planning period
*** This is the anticipated date of the Siting Board Hearing on Site Certification.
Source: FPL 2012 TYSP

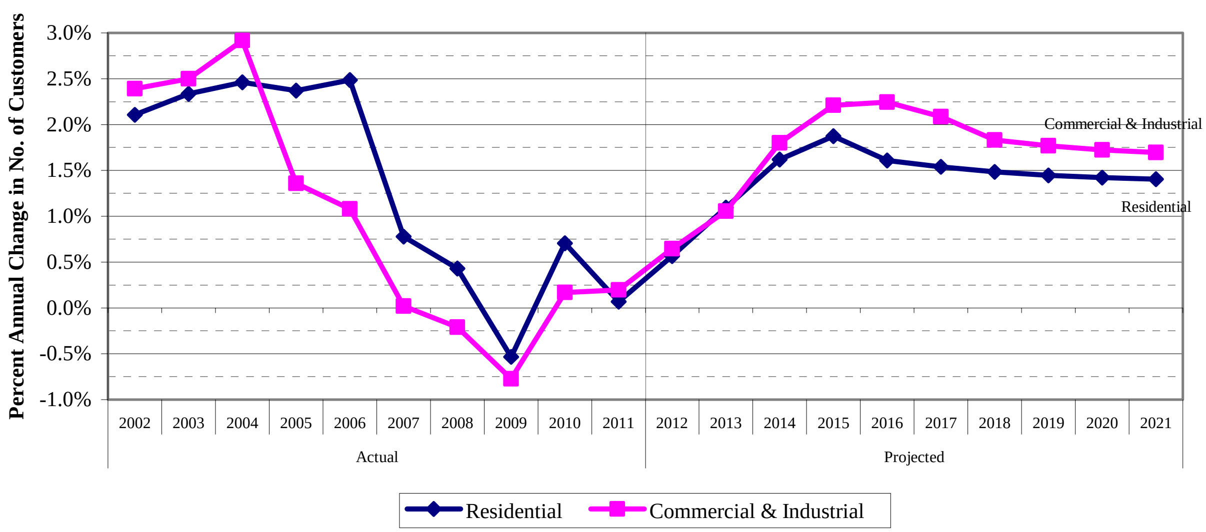
PEF is an investor-owned utility, and Florida's second largest TYSP utility. The utility's service territory is within the FRCC region, and is primarily located in central and west central Florida. As PEF is an IOU, the Commission has regulatory authority over all aspects of operations, including rates and safety.

In 2011, PEF had an average of 1,642,161 customers, and had a total net energy for load of 42,490 GWh, approximately 17.9 percent of the NEL generated in the entire state last year.

Peak Demand and Energy Forecasts

PEF Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Customer growth is anticipated to increase from the period of the economic downturn until approximately 2015, and then remain steady or decline somewhat while remaining positive until the end of the period, yielding an average annual growth rate of 1.53 percent. This compares with the actual rate of 2.03 for the period 2002 through 2007.

PEF Figure 1. Annual Customer Growth Rate by Customer Class

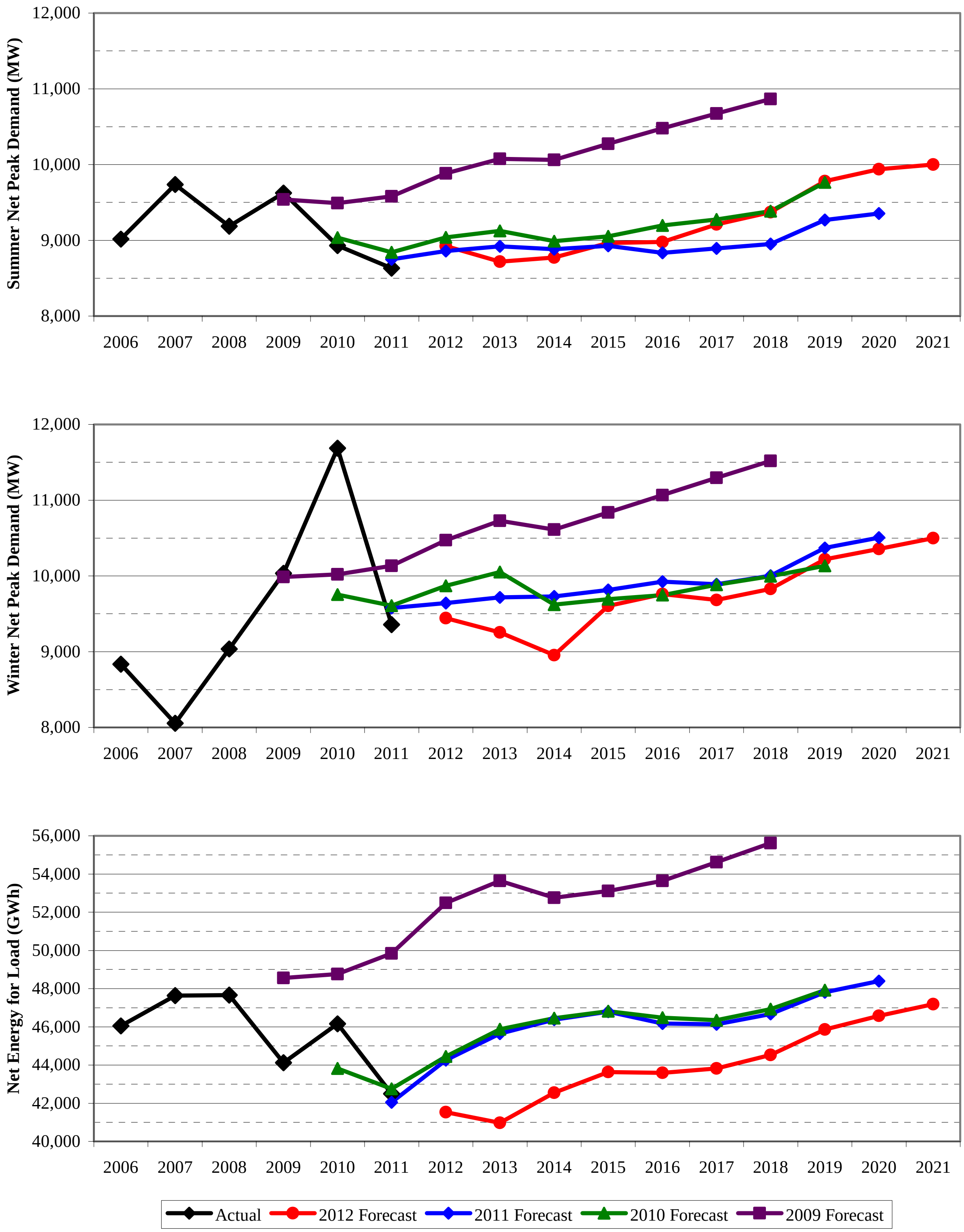


Source: PEF 2012 TYSP

The following three graphs in PEF Figure 2 show PEF's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is significantly above last year's in summer peak demand, but below the 2011 forecast for winter peak demand and NEL.

Analysis of PEF's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that PEF's average forecast error is 11.36 percent. This value indicates that the company tends to over-forecast its retail energy sales by 11.36 percent, which is approximately equivalent to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

PEF Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

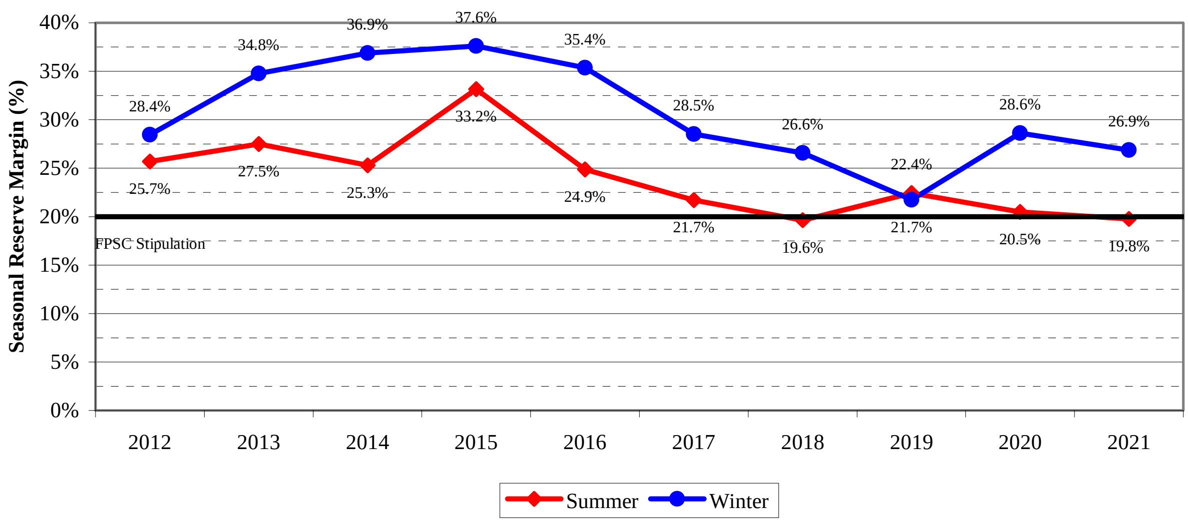


Source: PEF 2009 - 2012 TYSPs

Reserve Margin Requirement

As mentioned in the Statewide Perspective, PEF maintains a minimum 20 percent reserve margin for planning purposes based on a stipulation approved by the Commission. PEF Figure 3 displays the projected reserve margin for PEF through the planning period for both seasonal peaks. As shown in the figure, summer peak demand would be the driving force for generation additions. The reserve margin shown below includes the cumulative impact of conservation and demand response on PEF's system demand. The delay of the Levy 1 nuclear unit and its decrease of the company's reserve margin in 2021 is included in the graph.

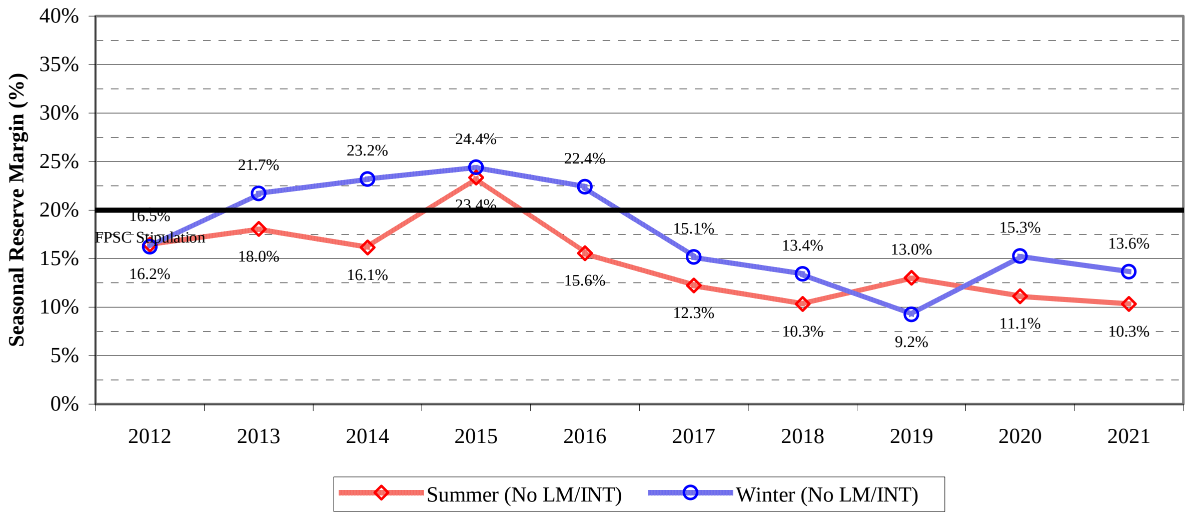
PEF Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: PEF 2012 TYSP

Some concerns have been expressed regarding increased dependence upon demand response to meet customer peak demand. The concern is that interruptible load and load management programs are voluntary, and that customers may elect to opt-out of an existing program if the utility interrupted service too frequently. PEF Figure 4 shows the impact of excluding demand response programs from meeting customer demand, which causes the reserve margin to fall below both the company's stipulated 20 percent reserve margin and the FRCC Region's 15 percent planning margin.

PEF Figure 4. Seasonal Reserve Margin (Without LM/INT)

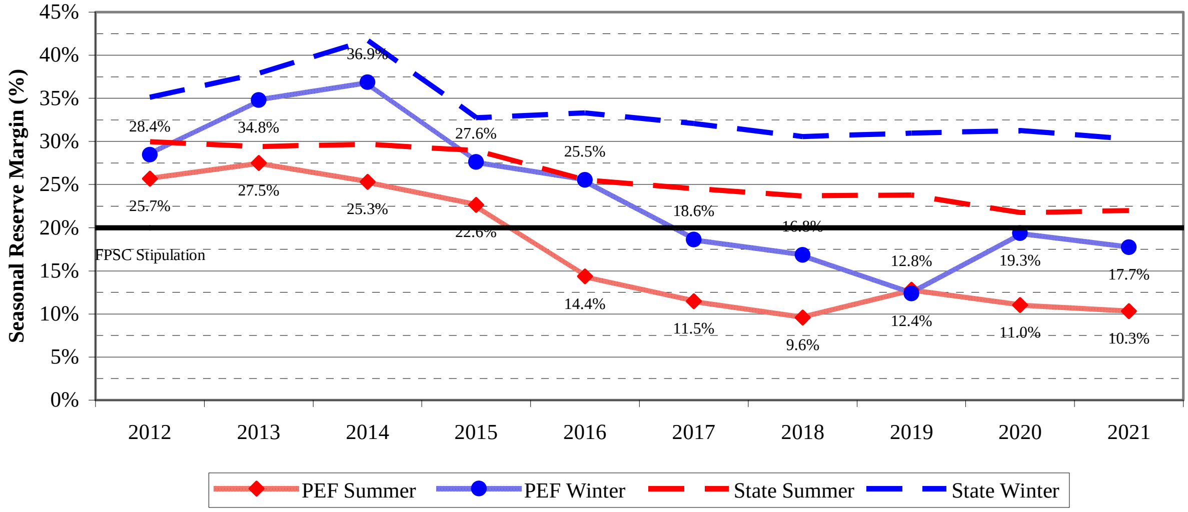


Source: PEF 2012 TYSP

Crystal River 3 Outage

The CR3 nuclear unit has been offline since 2009 due to a concrete delamination experience during a steam generator replacement project. Currently PEF anticipates CR3 returning to service in November 2014, but at this time the decision to repair or retire the unit has not been decided. PEF Figure 5 illustrates the reliability impact of not returning CR3 to service in 2014 and assuming no other changes to PEF's available generation. As shown, PEF would fall below its 20 percent reserve requirement as early as the summer of 2016, and falling to a minimum reserve margin of 9.6 percent for the 2018 summer peak. In the event CR3 is retired or its return to service delayed past 2014, PEF must seek additional firm capacity to meet its reserve requirements, which may be from purchased power contracts, acceleration of currently planned units, and/or new generating units. While the loss of capacity associated with CR3 has a significant impact on PEF's system, the statewide reserve margin appears adequate for possible purchased power agreements.

PEF Figure 5. Seasonal Reserve Margin With Potential Unit Retirements / Delays (With LM/INT)

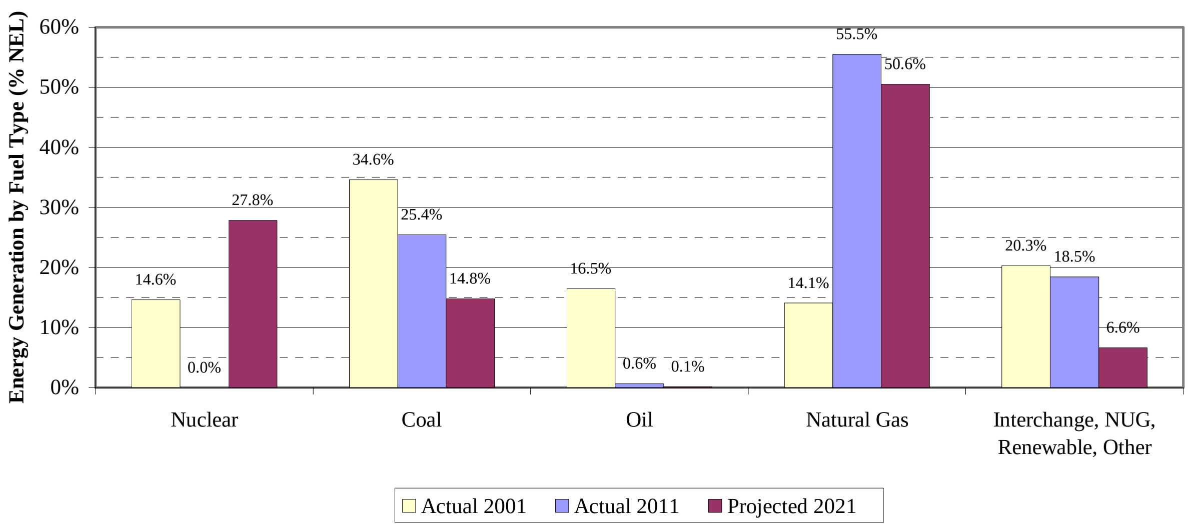


Source: PEF 2012 TYSP, Responses to Staff Data Request

Fuel Diversity

PEF Figure 6 shows PEF's historic fuel mix for 2001 and 2011, and the projected fuel mix for 2021. PEF's primary generation fuel is natural gas, which has increased from approximately 14 percent in 2001, to over 55 percent in 2011. Natural gas is projected to remain the main system fuel, but decline somewhat to 50.6 percent of net energy for load by 2021.

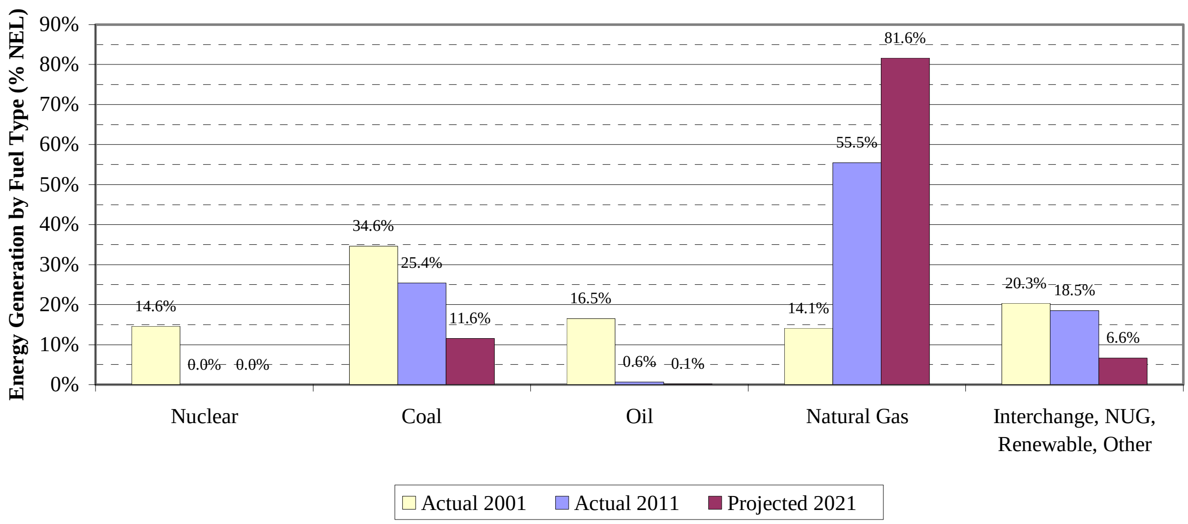
PEF Figure 6. Net Energy for Load by Fuel Type



Source: PEF 2002 and 2012 TYSPs

The decline in natural gas usage is primarily the result of an increase in nuclear generation from the inclusion of the now delayed Levy 1 nuclear unit and the return to service of CR3. While usage of coal for generation is expected to decline, this does not take into account the potential impact of retirements due to new environmental compliance requirements. During the 2012 TYSP workshop, PEF's Crystal River 1 and 2, both coal-fired units, were identified by the Sierra Club/Earthjustice as facing challenges if new emissions control equipment was required. If the projected generation from these nuclear and coal units is displaced by natural gas, it would have the net effect of increasing natural gas' share of PEF's electric generation to 81.6 percent by 2021, as shown in PEF Figure 7 below.

PEF Figure 7. Net Energy for Load by Fuel Type with Displaced Generation



Source: PEF 2002 and 2012 TYSPs, Responses to Staff Data Requests

Generation Additions

PEF's 2012 TYSP includes three generation additions, one of which has been delayed. The first is the uprate of the CR3 nuclear unit, which is subject to the uncertainties discussed above. The second is an unsited 767 MW combined cycle unit, scheduled to begin commercial operation in 2019. The last unit, the Levy 1 nuclear unit, has been delayed outside of the TYSP planning horizon. These are summarized in PEF Table 1.

PEF Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Nuclear Unit Uprates				
Crystal River 3 Uprate	154	2/2007	8/2008	11/2014
Combined Cycle Unit Additions				
Unknown	767	-	-	6/2019
Nuclear Unit Additions				
Levy 1*	1092	5/2008	8/2009	6/2024
Levy 2*	1092	5/2008	8/2009	6/2025

* These units are outside of the 2012-2021 planning period
Source: PEF 2012 TYSP

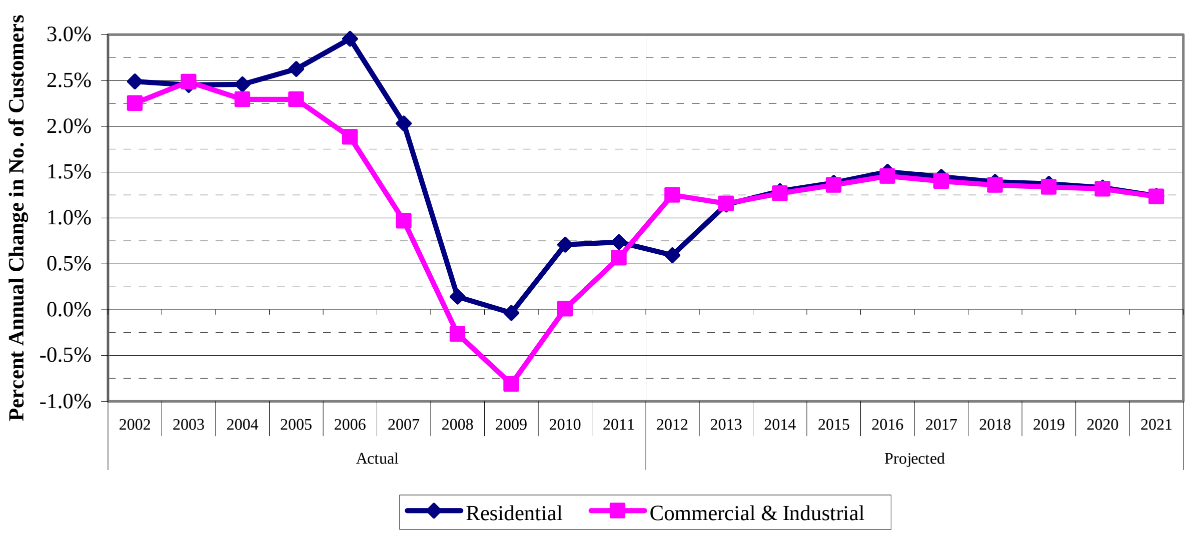
TECO is an investor-owned electric utility, and Florida's third largest TYSP utility. The utility's service territory is within the FRCC region, and consists primarily of the Tampa metropolitan area. As TECO is an IOU, the Commission has regulatory authority over all aspects of operations, including rates and safety.

In 2011, TECO had an average of 675,799 customers, and had a total net energy for load of 19,325 GWh, approximately 8.1 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

TECO Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Customer growth is anticipated to stay relatively stable over the planning period, with an average annual growth rate of 1.34 percent. This compares with the actual rate of 2.45 percent for the period 2002 through 2007.

TECO Figure 1. Annual Customer Growth Rate by Customer Class

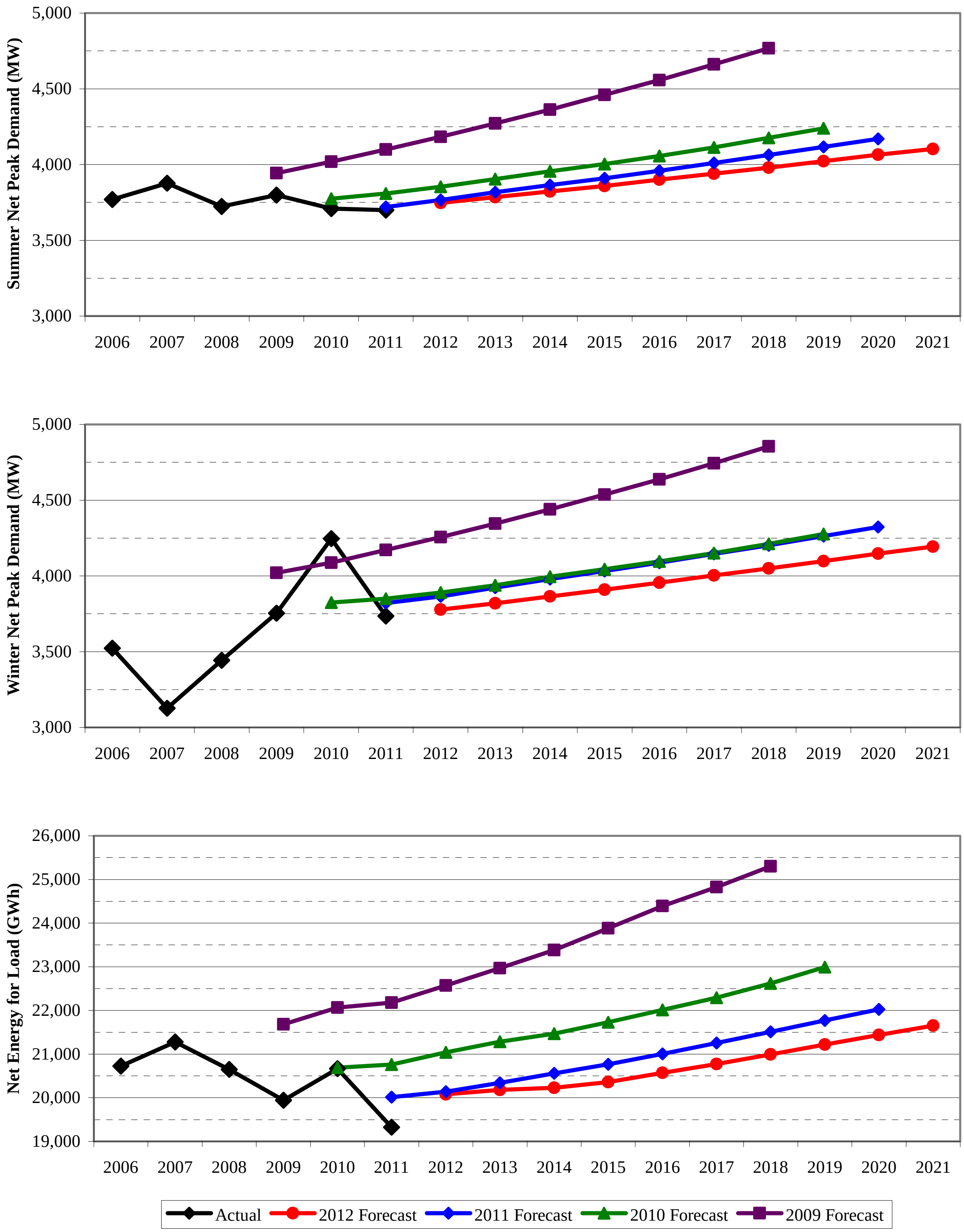


Source: TECO 2012 TYSP

The following three graphs in TECO Figure 2 show TECO's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is lower than the 2011 forecast values for both seasons of peak demand and NEL.

Analysis of TECO's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that TECO's average forecast error is 13.07 percent. This value indicates that the company tends to over-forecast its retail energy sales by 13.07 percent, which is unfavorable when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

TECO Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

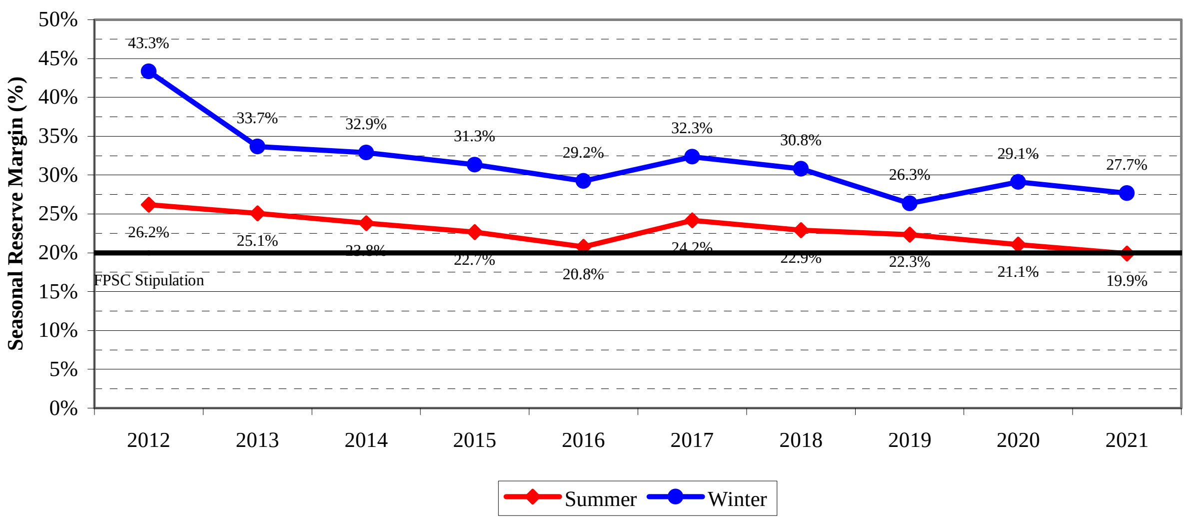


Source: TECO 2009 - 2012 TYSPs

Reserve Margin Requirement

As mentioned in the Statewide Perspective, TECO maintains a minimum 20 percent reserve margin for planning purposes based on a stipulation approved by the Commission. TECO Figure 3 displays the projected reserve margin for TECO through the planning period for both seasonal peaks. As shown in the figure, summer peak demand would be the driving force for generation additions. The reserve margin shown below includes the cumulative impact of conservation and demand response on TECO's system demand.

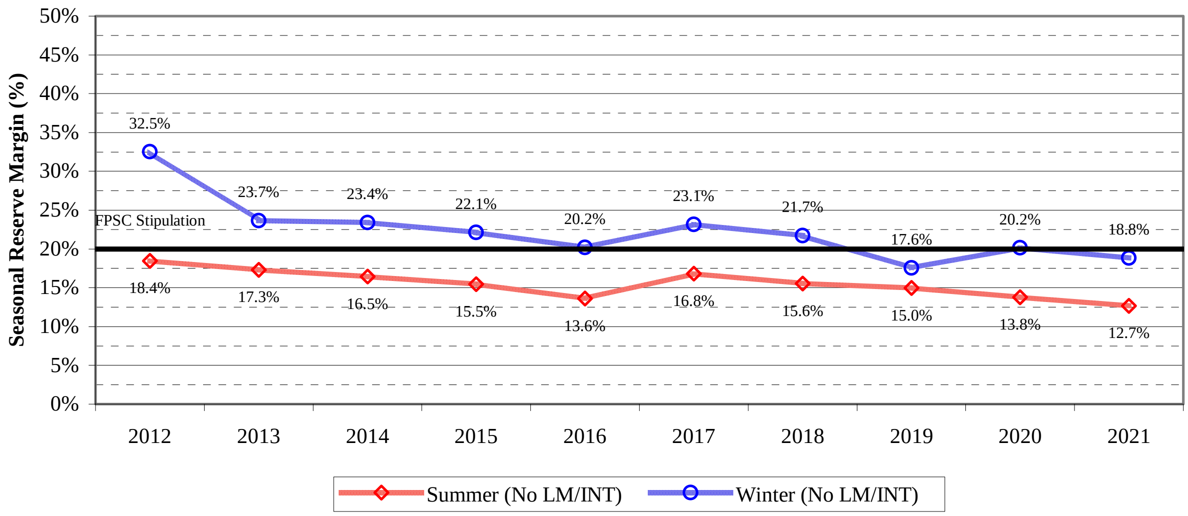
TECO Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: TECO 2012 TYSP

TECO is the only IOU that currently maintains a minimum supply-side contribution to reserve margin, set at 7 percent. As with other utilities, the concern is that interruptible load and load management programs are voluntary, and that customers may elect to opt-out of an existing program if the utility interrupted service too frequently. TECO Figure 4 shows the impact of excluding demand response programs from meeting customer demand, which causes the reserve margin to fall below the company's stipulated 20 percent reserve margin. Even without demand response, TECO exceeds its own supply-side requirements, and generally maintains the FRCC Region's 15 percent planning margin, excluding three summer periods where it falls as low as 12.7 percent in 2021.

TECO Figure 4. Seasonal Reserve Margin (Without LM/INT)

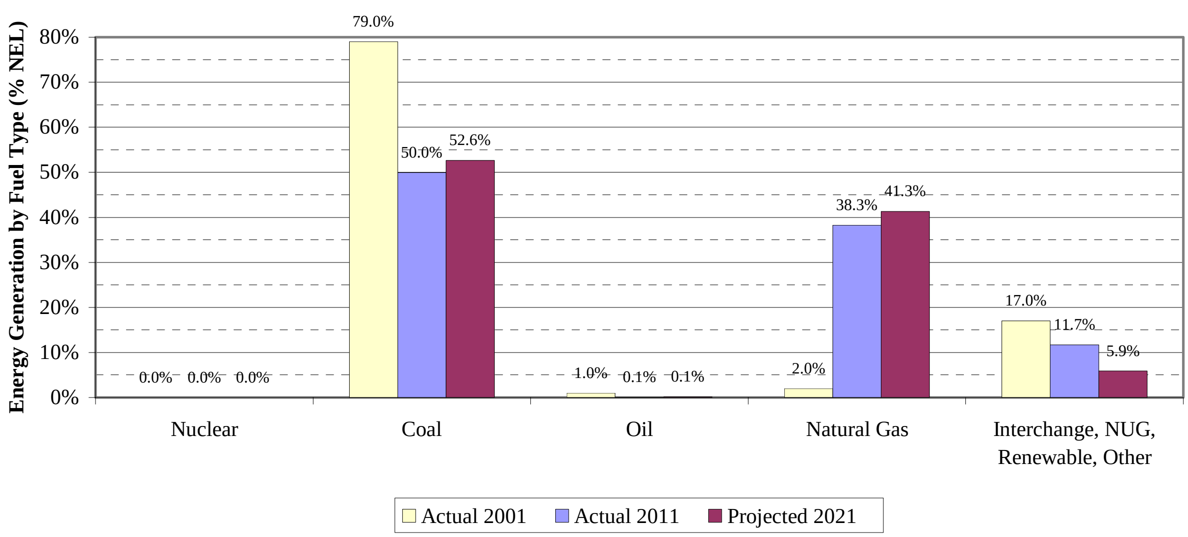


Source: TECO 2012 TYSP

Fuel Diversity

TECO Figure 5 shows TECO's historic fuel mix for 2001 and 2011, and the projected fuel mix for 2021. TECO's primary generation fuel is coal, although this has decreased from nearly 80 percent of system energy in 2001, to only 50 percent in 2011. A slight rebound is anticipated by the end of the planning period, with 52.6 percent of energy from coal-fired generation. Natural gas has increased from a minor fuel on the system, at 2.0 percent in 2001, to the secondary fuel at 38.3 percent in 2011, is also expected to make gains, increasing to 41.3 percent by the end of the planning period.

TECO Figure 5. Net Energy for Load by Fuel Type



Source: TECO 2002 and 2012 TYSPs

Generation Additions

TECO's 2012 TYSP includes two unit additions, including a conversion of its existing Polk facility to combined cycle operation in 2017, and the addition of a single 149 MW combustion turbine in 2019. This represents a reduction from the 2011 TYSP, where TECO included 8 smaller combustion turbines in addition to the Polk CC conversion. TECO's planned additions are summarized in TECO Table 1 below. TECO has recently issued a Request for Proposals (RFP) for its planned combined cycle conversion of several existing simple cycle combustion turbines at the Polk Power Station, and filed for a need determination on September 12, 2012.

TECO Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combined Cycle Unit Additions				
Polk 2-5 CC	1,063	-	-	01/2017
Combustion Turbine Unit Additions				
Future CT 1	149	N/A	N/A	05/2019

Source: TECO 2012 TYSP

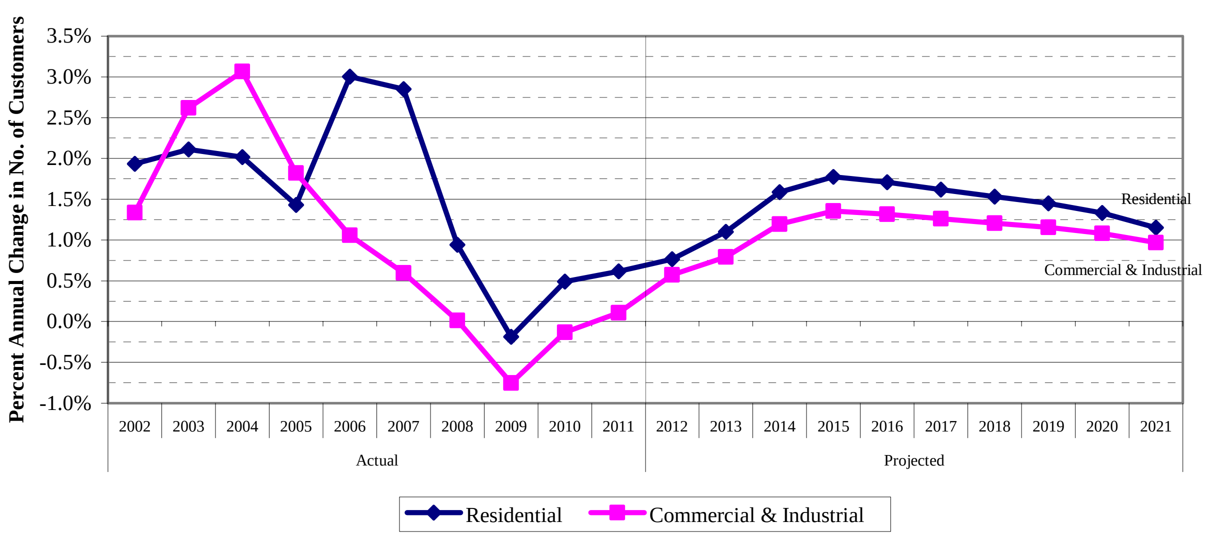
GULF is the smallest investor-owned generating utility, and the sixth largest TYSP utility. The utility's service territory includes western Florida, and is the only TYSP utility outside of the FRCC region. Gulf Power, along with Alabama Power, Georgia Power, and Mississippi Power, are members of the Southern Company electric system. GULF therefore has SERC as its regional reliability entity. Because GULF plans and operates its system in conjunction with the other Southern Company utilities, not all of the energy generated by the GULF units is consumed in Florida. As GULF is an IOU, the Commission has regulatory authority over all aspects of operations, including rates and safety.

In 2011, GULF had an average of 432,403 customers, and had a total net energy for load of 12,086 GWh, approximately 5.1 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

GULF Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. As shown below, GULF anticipates annual customer growth rates to climb until approximately 2015, and then begin to decline slightly but remain positive till the end of the planning period, with an average annual growth rate of 1.43 percent. This compares to the actual rate of 2.22 percent for the period 2002 through 2007.

GULF Figure 1. Annual Customer Growth Rate by Customer Class

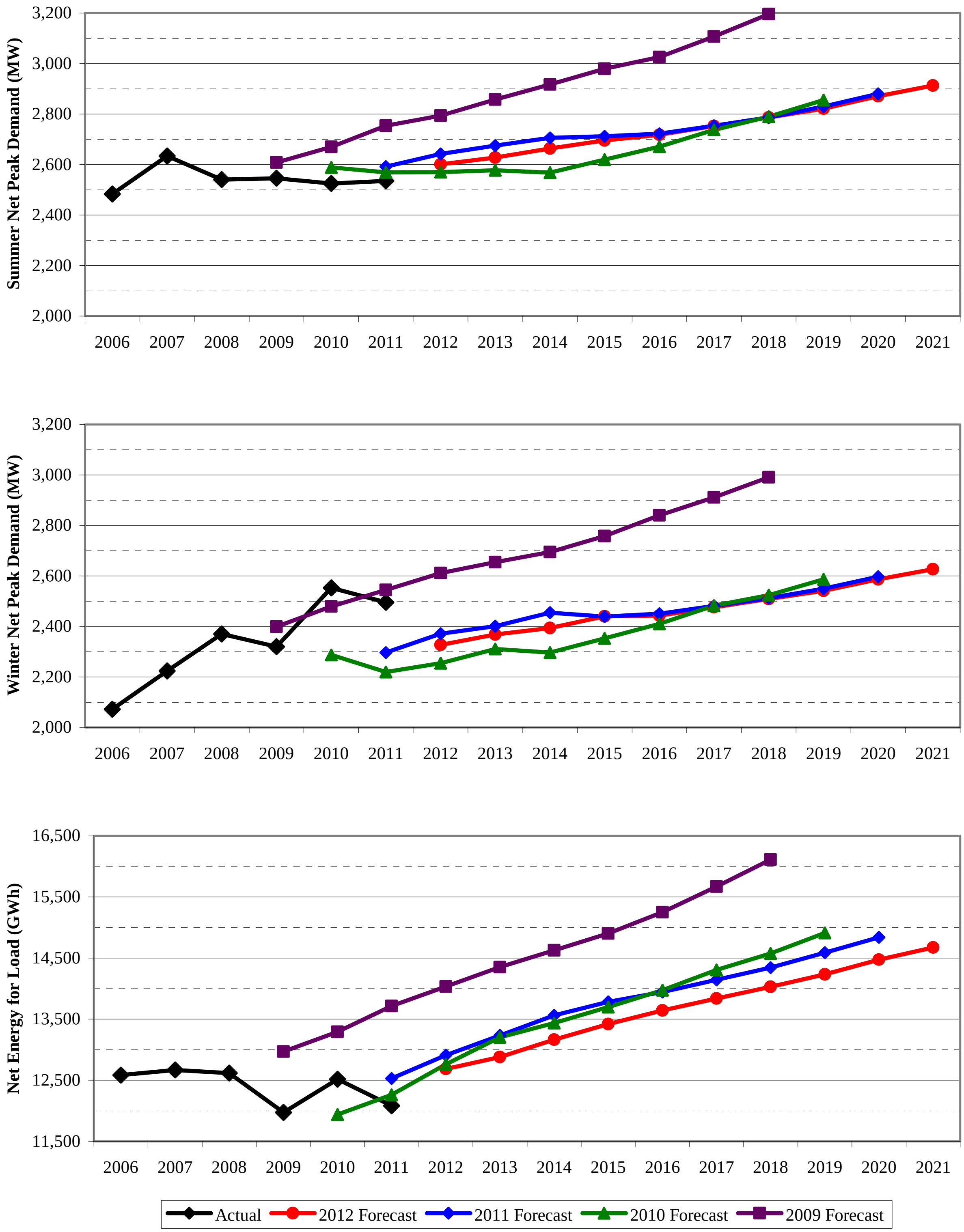


Source: GULF 2012 TYSP

The following three graphs in GULF Figure 2 show GULF's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is similar but slightly below last year's forecast in both seasonal peak demand and NEL.

Analysis of GULF's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that GULF's average forecast error is 5.44 percent. This value indicates that the company tends to over-forecast its retail energy sales by 5.44 percent, the lowest of the TYSP Utilities. GULF's forecast error is favorable when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

GULF Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

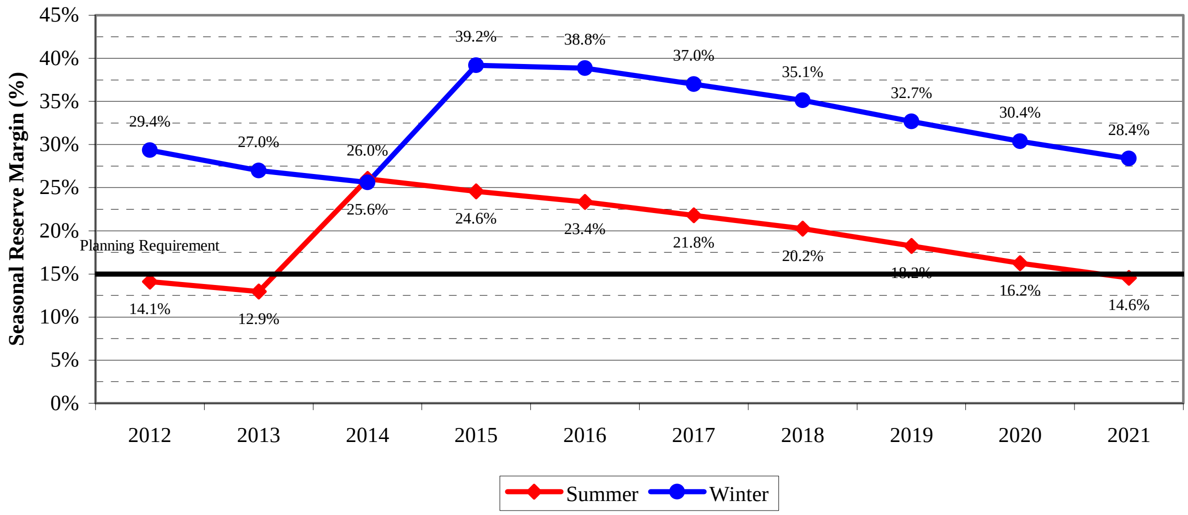


Source: GULF 2009 - 2012 TYSPs

Reserve Margin Requirement

GULF is not within the FRCC region, and therefore not subject to its minimum reserve margin requirements. GULF operates within SERC, and as part of the Southern Power Pool has a planning reserve margin of 15 percent after 2015. The company's projected reserve margin for summer and winter peak demand is shown below in GULF Figure 3. The reserve margin shown below includes the cumulative impact of conservation, but as GULF does not administer any active demand response programs, there are no non-firm load components in its reserve margin.

GULF Figure 3. Seasonal Reserve Margin

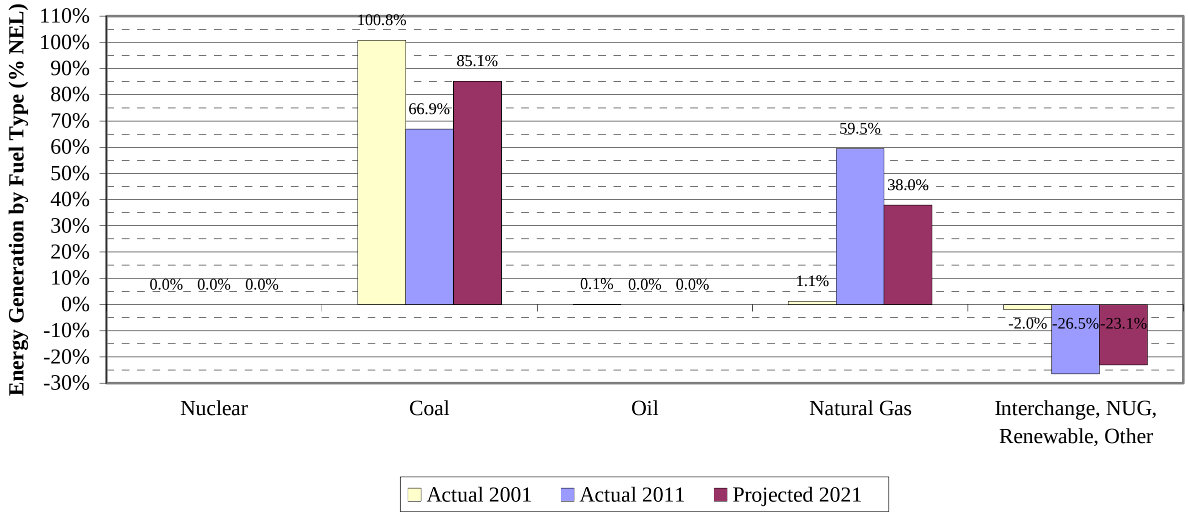


Source: GULF 2012 TYSP

Fuel Diversity

GULF Figure 4 shows GULF's historic fuel mix for 2001 and 2011, and the projected fuel mix for 2021. The negative value for interchange/other category of generation represents power sales, as GULF generates more energy than its native customers consume. GULF's primary generation fuel has been coal, with 66.9 percent of native load served by it in 2011, down from 100.8 percent in 2001. This is anticipated to rebound by the end of the planning period, with a projected 85.1 percent of native NEL from coal in 2021. The main source of reduction in coal generation comes from natural gas, which was used to produce 59.5 of native NEL in 2011, and is projected to decline to 38.0 percent by 2021.

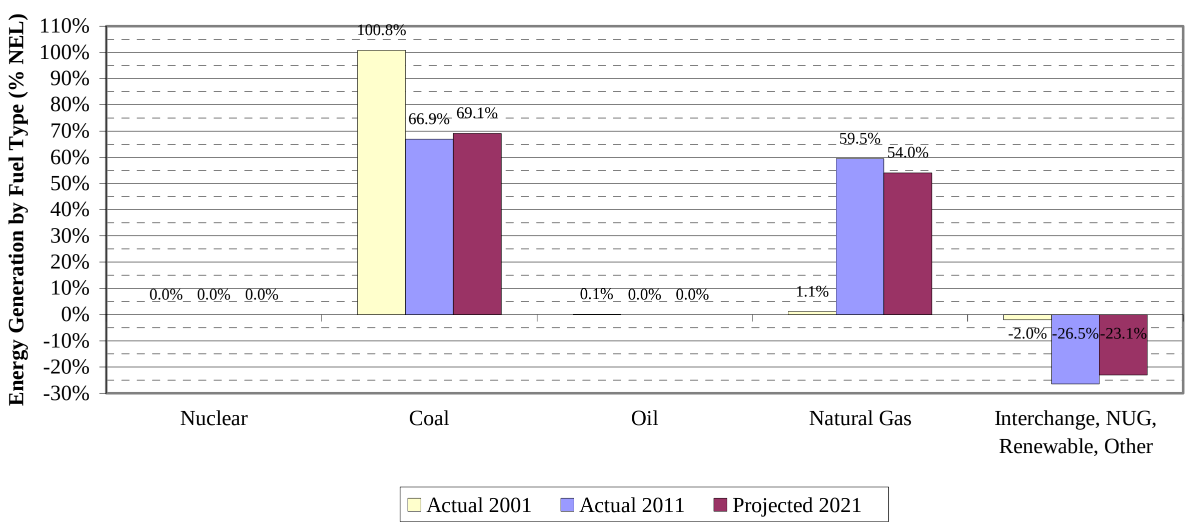
GULF Figure 4. Net Energy for Load by Fuel Type



Source: GULF 2002 and 2012 TYSPs

While usage of coal for generation is expected to increase, this does not take into account the potential impact of retirements due to new environmental compliance requirements. During the 2012 TYSP workshop, GULF's Lansing Smith 1 and 2, both coal-fired units, were identified by the Sierra Club/Earthjustice as facing challenges if new emissions control equipment was required. If the projected generation from these coal units is displaced by natural gas, it would have the net effect of increasing natural gas' share of GULF's electric generation to 54 percent by 2021, while reducing the increase in coal generation to only 69.1 percent, as illustrated in GULF Figure 5 below.

GULF Figure 5. Net Energy for Load by Fuel Type with Displaced Generation



Source: GULF 2002 and 2012 TYSPs, Responses to Staff Data Requests

Generation Additions

GULF has no planned generation additions over the planning horizon. This is consistent with the company's 2011 TYSP, which also included no new generating units through 2020.

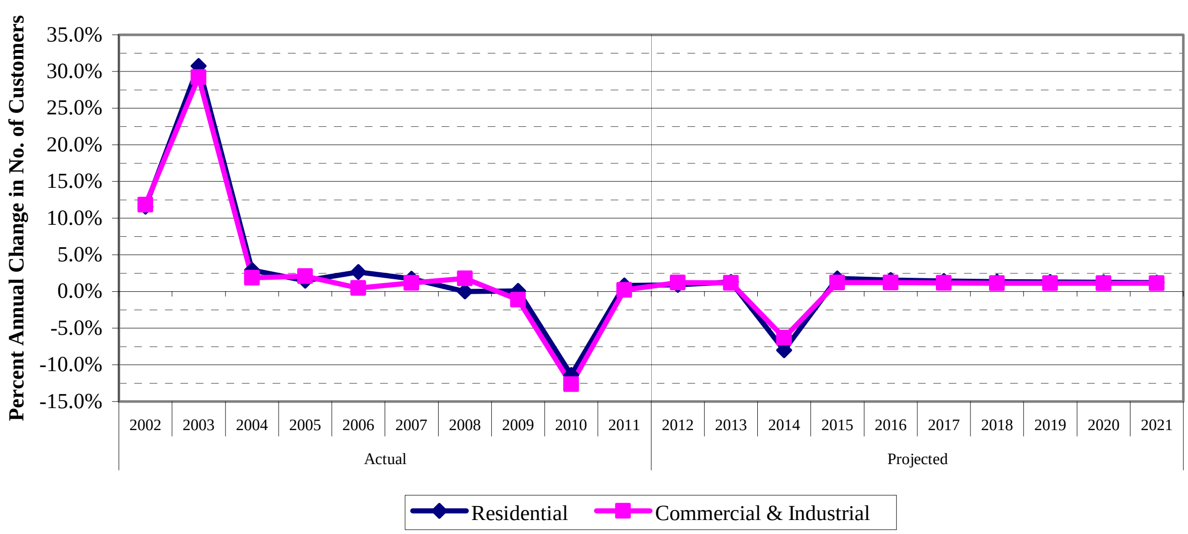
FMPA is a governmental wholesale power company owned by 30 municipal electric utilities located throughout the State of Florida. It is collectively the state's eighth largest TYSP utility. FMPA facilitates opportunities for its members to participate in power supply projects developed by Florida utilities and other producers, and provides economies of scale in power generation and related services. As FMPA is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning. FMPA's direct responsibility for power supply is with the All-Requirements Power Supply Project (ARP), where FMPA plans and supplies all of the power requirements for 14 of its participating utilities. The values for capacity in the following figures corresponds to the ARP.

In 2011, FMPA had an average of 262,659 customers, and had a total net energy for load of 6,209 GWh, approximately 2.6 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

FMPA Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth during for 2012 through 2021. The drop in the rate of growth for 2010 is due to the City of Vero Beach leaving the ARP, and the smaller drop in 2014 is the expected result of the departure of the City of Lake Worth from the ARP. These utilities will remain as members of FMPA, but are exercising an option to modify their memberships from a full requirements basis to a partial requirements basis. These changes in membership status means that the ARP will no longer utilize these participants' generating resources, if any exist.

FMPA Figure 1. Annual Customer Growth Rate by Customer Class

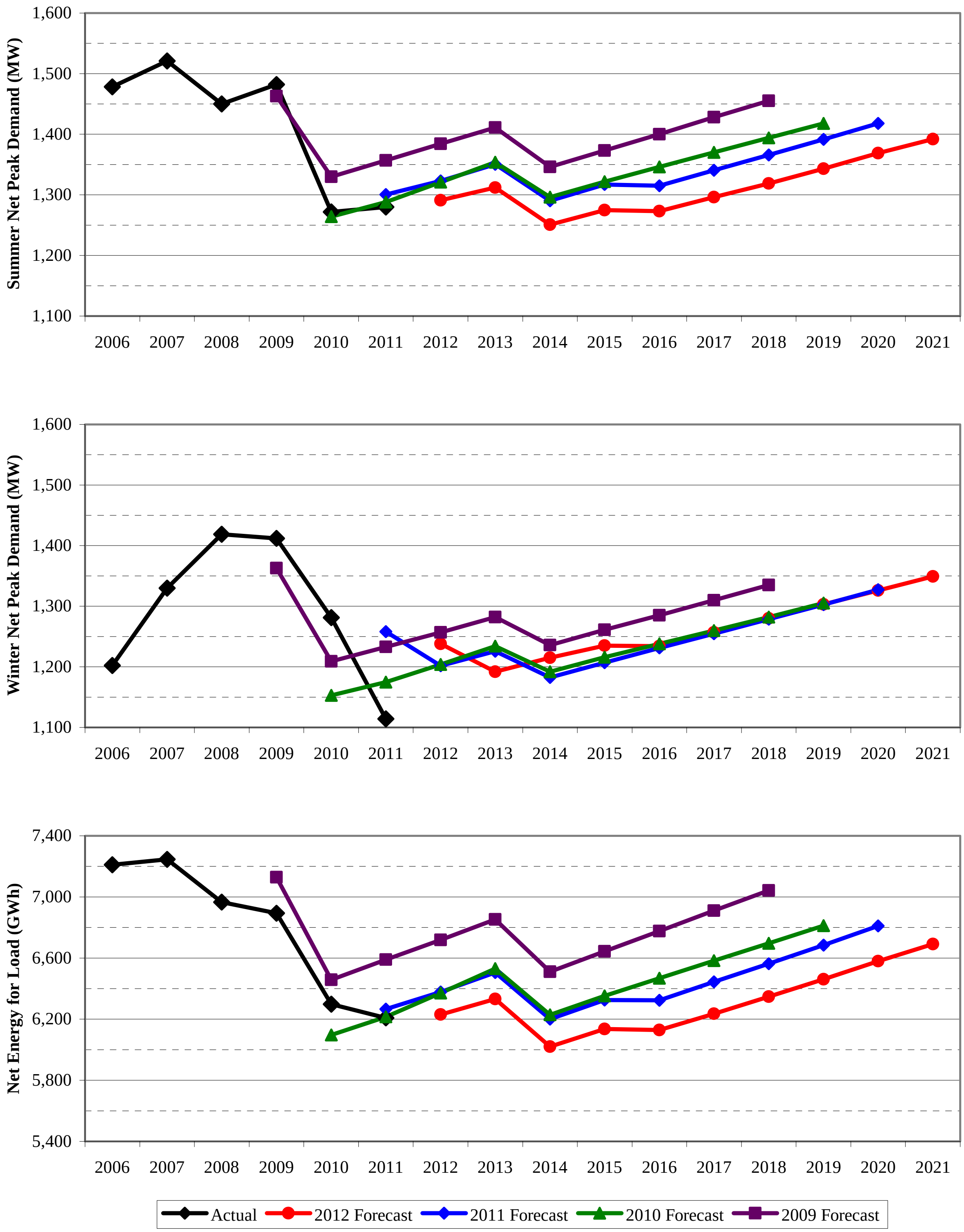


Source: FMPA 2012 TYSP

The following three graphs in FMPA Figure 2 show FMPA's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year's in terms of summer peak demand and NEL, but winter peak demand is similar.

Analysis of FMPA's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that FMPA's average forecast error is 11.81 percent. This value indicates that the company tends to over-forecast its retail energy sales by 11.81 percent, which is somewhat higher than the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

FMPA Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

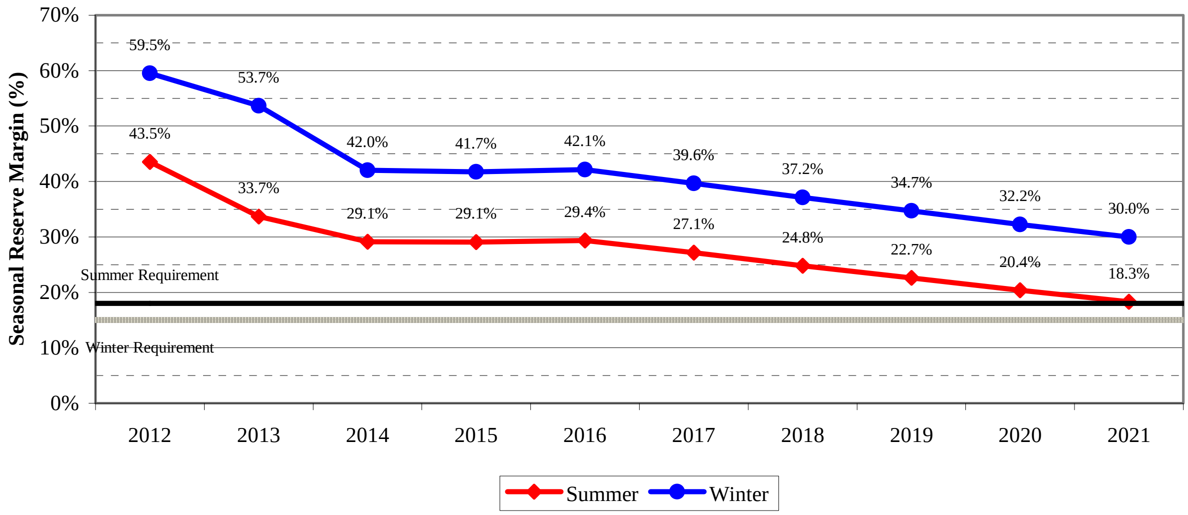


Source: FMPA 2009 - 2012 TYSPs

Reserve Margin Requirement

FMPA is required to maintain a minimum 15 percent reserve margin, pursuant to FRCC requirements. In addition, the utility uses a planning reserve margin of 18 percent for summer peak reserve margin planning. As can be seen in FMPA Figure 3 below, FMPA has ample reserves and its margin only begins to approach the 15 percent minimum in the last few years of the horizon. FMPA does not administer load management or interruptible load programs, and therefore has no non-firm load component in its reserve margin.

FMPA Figure 3. Seasonal Reserve Margin

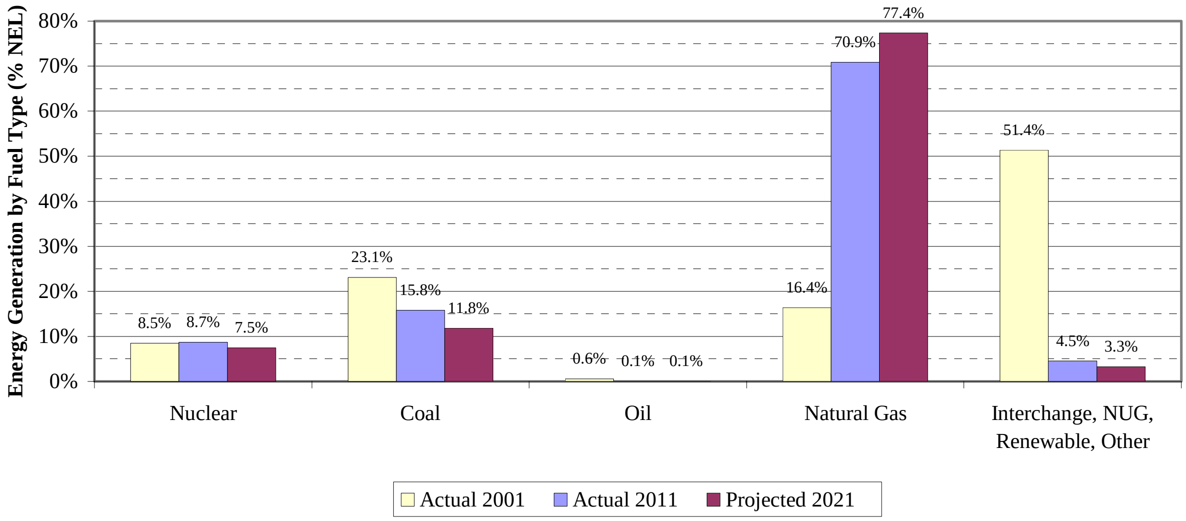


Source: FMPA 2012 TYSP

Fuel Diversity

FMPA Figure 4 displays the composition of FMPA's system in terms of energy generated. Again, natural gas has risen to become the system's primary fuel, increasing over 50 percent, from 16.4 percent in 2001 up to 70.9 percent in 2011. Natural gas is anticipated to increase somewhat to 77.4 percent in 2021, with further decreases in purchased power and coal generation.

FMPA Figure 4. Net Energy for Load by Fuel Type



Source: FMPA 2002 and 2012 TYSPs

Generation Additions

FMPA has no planned generation additions over the planning horizon. This is consistent with the company's 2011 TYSP, which also included no new generating units through 2020.

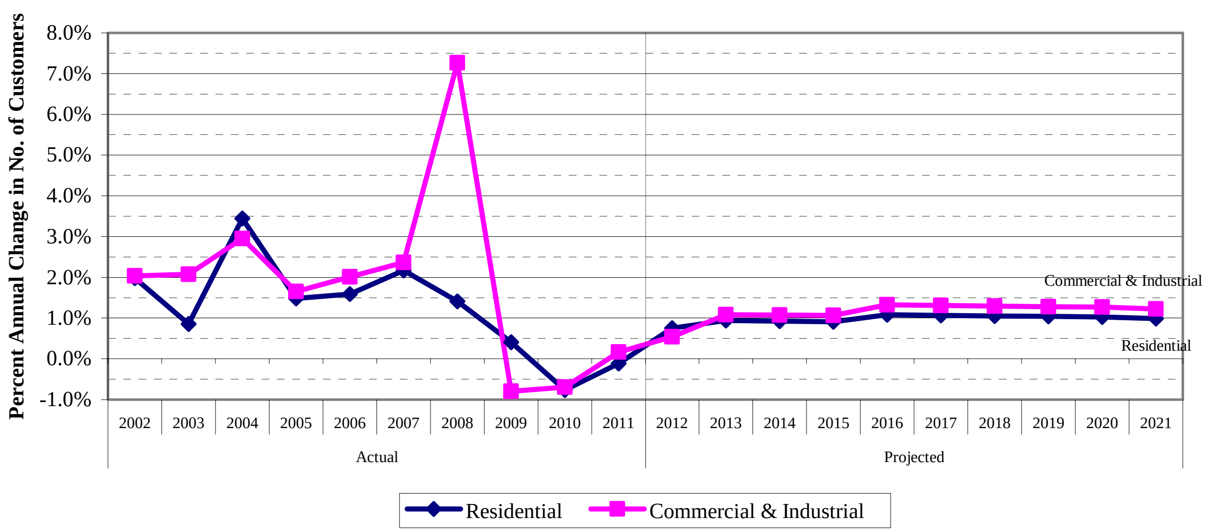
GRU is a municipal utility and the state's smallest TYSP utility. The company's service area is within the FRCC region, and includes the City of Gainesville and its surrounding urban area. GRU also provides wholesale power to the City of Alachua and Clay Electric Cooperative. As GRU is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning

In 2011, GRU had an average of 92,265 customers, and had a total net energy for load of 2,024 GWh, approximately 0.9 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

GRU Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth during for 2012 through 2021. GRU anticipates customer growth to remain steady through the end of the planning period, with an average annual growth rate of 1.03 percent. This compares with the actual rate of 1.94 percent for the period 2002 through 2007.

GRU Figure 1. Annual Customer Growth Rate by Customer Class

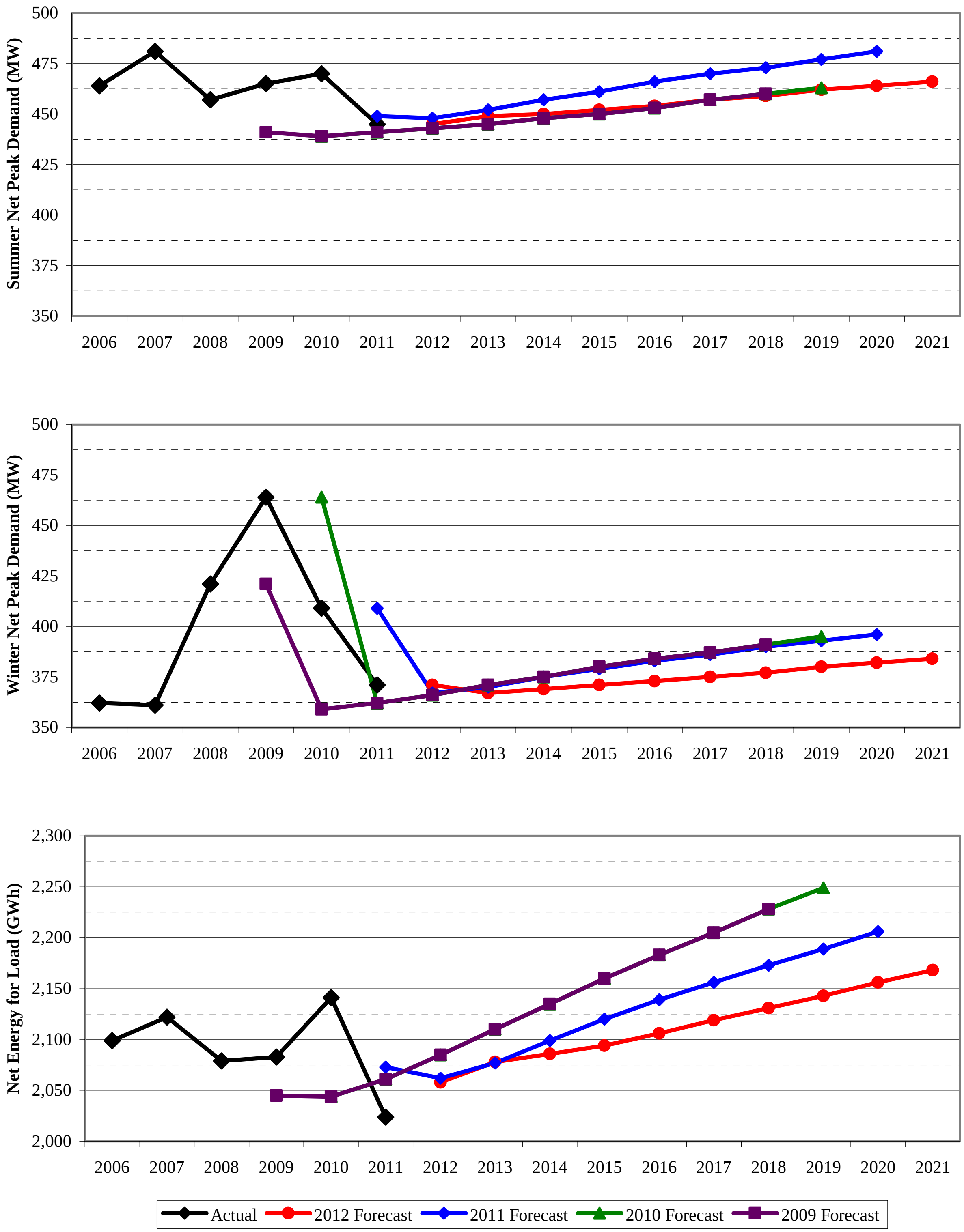


Source: GRU 2012 TYSP

The following three graphs in GRU Figure 2 show GRU's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year's in both seasonal peak demand and NEL.

Analysis of GRU's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that GRU's average forecast error is 11.40 percent. This value indicates that the company tends to over-forecast its retail energy sales by 11.40 percent, which is approximately equivalent to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

GRU Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

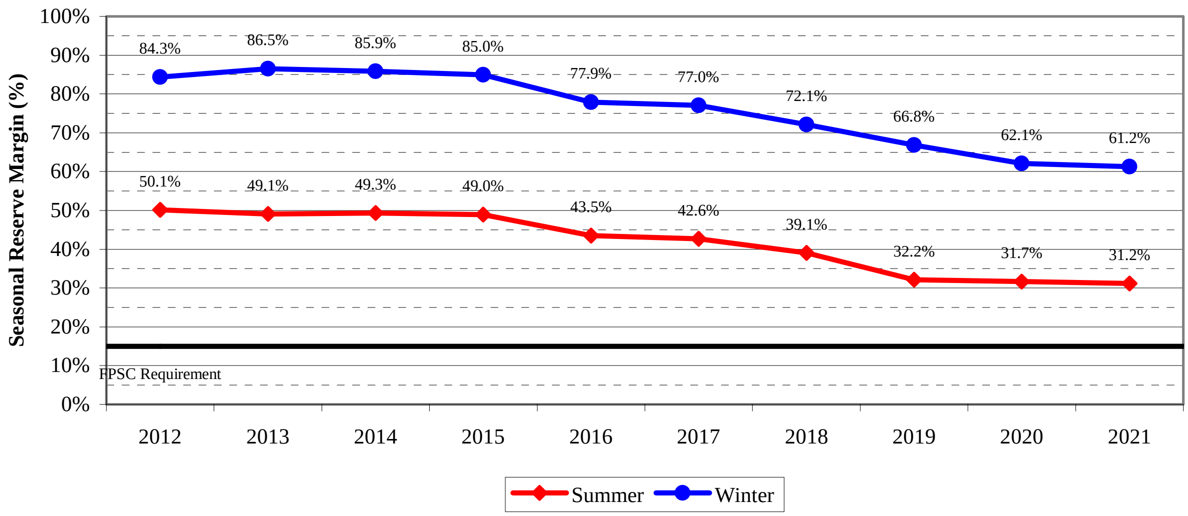


Source: GRU 2009 - 2012 TYSPs

Reserve Margin Requirement

Pursuant to FRCC requirements, GRU maintains a 15 percent reserve margin. As GRU Figure 3 clearly shows, GRU's reserve margin is forecasted to remain well above the minimum level throughout the planning horizon for the summer and winter peak seasons. GRU does not have any active load management or interruptible load programs and therefore has no non-firm load component to its reserve margin.

GRU Figure 3. Seasonal Reserve Margin

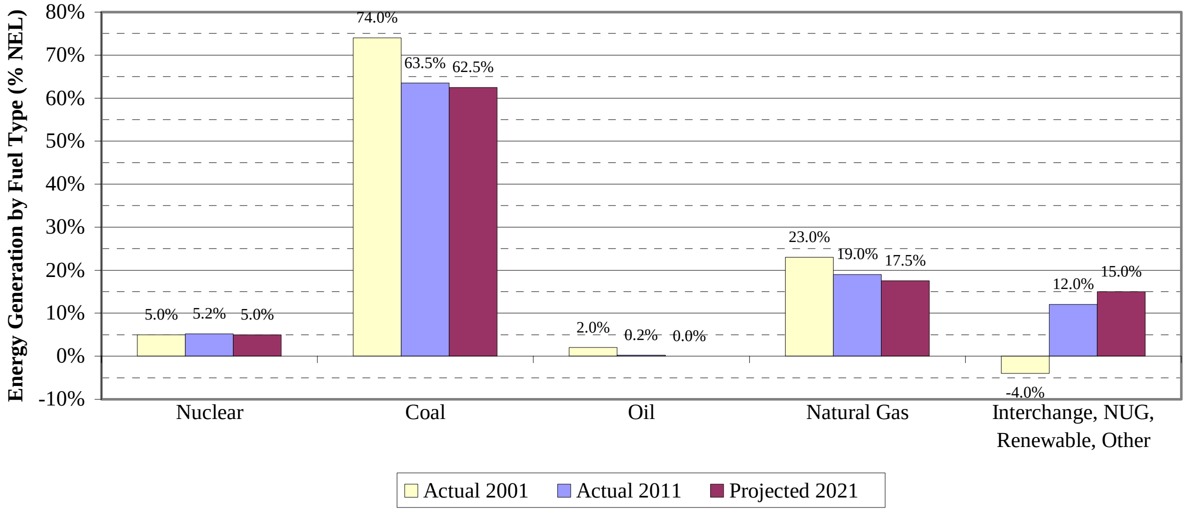


Source: GRU 2012 TYSP

Fuel Diversity

GRU Figure 4 displays the composition of GRU's system in terms of energy generated. The company has historically relied upon coal generation, and it is projected to produce a majority of energy for load through the end of the planning period. Other energy sources include natural gas, nuclear, purchased power, and renewables. GRU anticipates a decline in both coal-fired and natural gas-fired generation, made up for by renewable purchased power contracts, especially a large biomass unit that the Commission authorized recently.

GRU Figure 4. Net Energy for Load by Fuel Type



Source: GRU 2012 TYSP

Generation Additions

GRU has no planned generation additions over the planning horizon. This is consistent with the company's 2011 TYSP, which also included no new generating units through 2020.

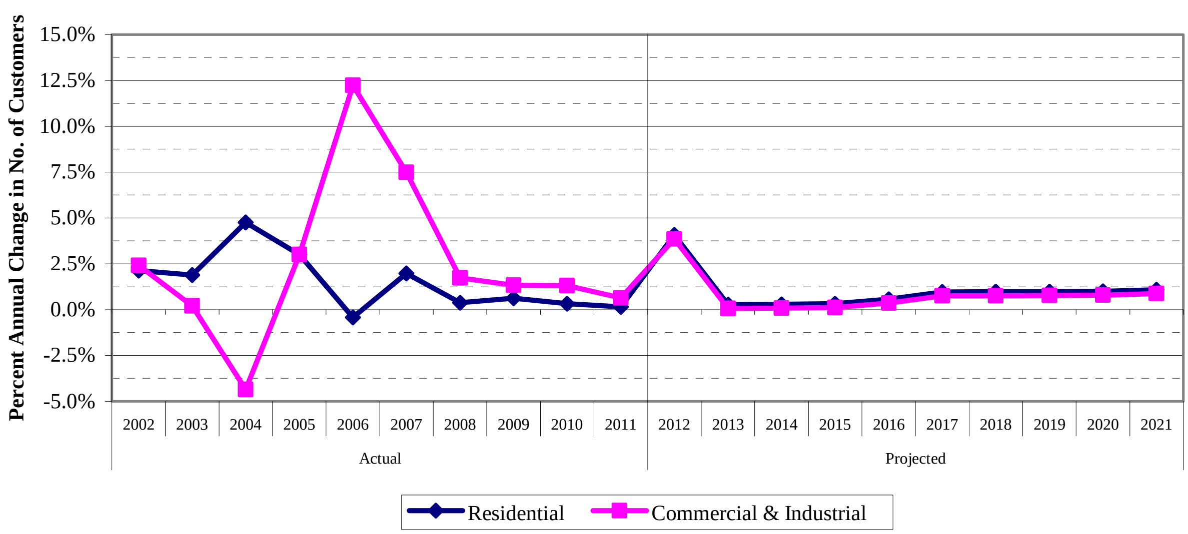
JEA is a municipal electric utility, and the state's fifth largest TYSP utility, and is the largest generating municipal utility. JEA's service territory is within the FRCC region, and includes all of Duval County as well as portions of Clay and St. Johns Counties. As JEA is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning

In 2011, JEA had an average of 416,278 customers, and had a total net energy for load of 12,980 GWh, approximately 5.5 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

JEA Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Positive growth is anticipated over the entire planning period, with an average annual growth rate of 0.69 percent. This compares with the actual rate of 2.36 percent for the period 2002 through 2007.

JEA Figure 1. Annual Customer Growth Rate by Customer Class



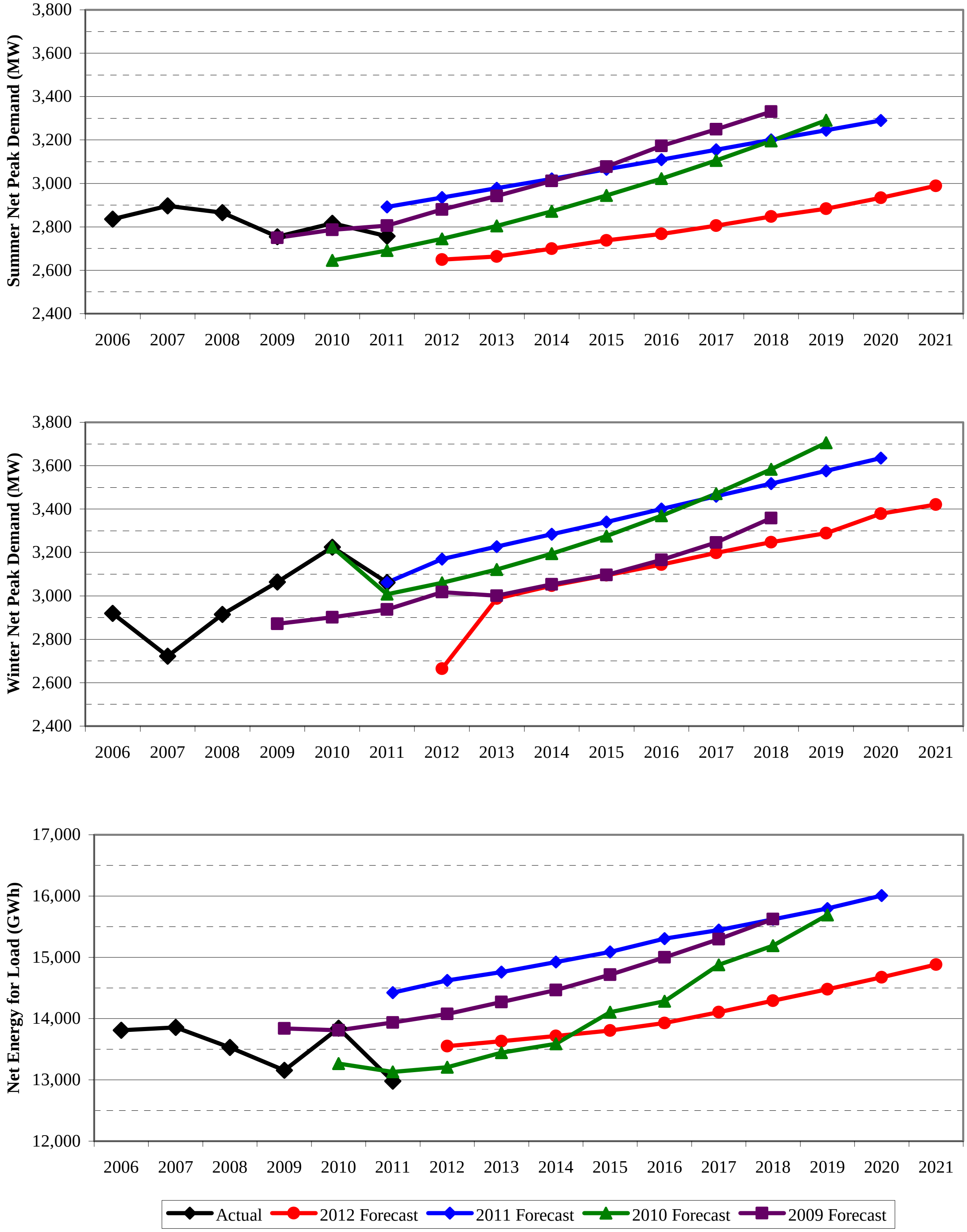
Source: JEA 2012 TYSP

The following three graphs in JEA Figure 2 show JEA's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year's in both seasonal peak demand and NEL.

Analysis of JEA's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that JEA's average forecast error is 12.72 percent. This value indicates that the company tends to over-forecast its retail energy sales by 12.72 percent, which is unfavorable

when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

JEA Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

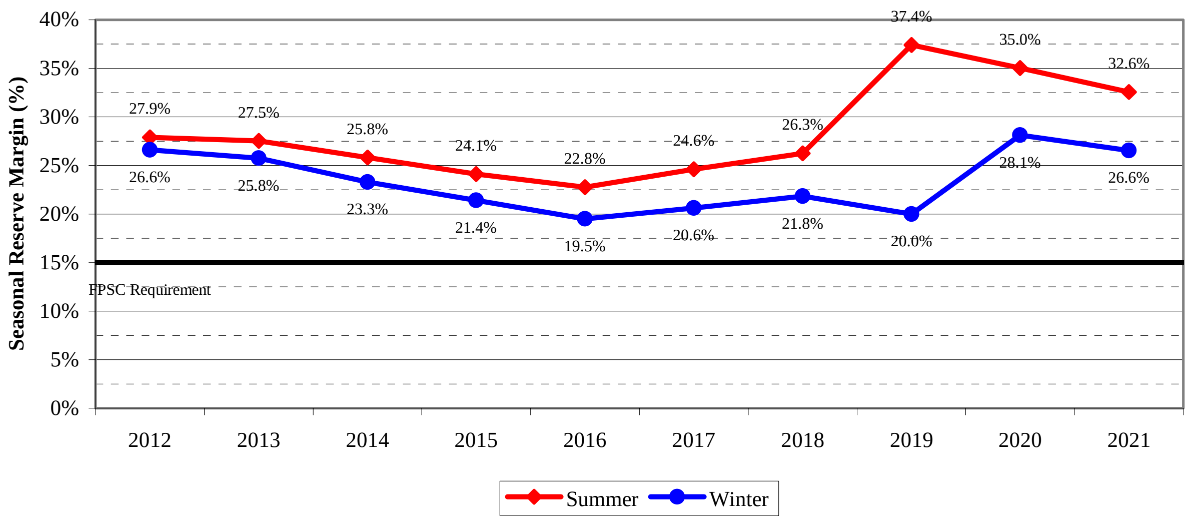


Source: JEA 2009 - 2012 TYSPs

Reserve Margin Requirement

JEA maintains a 15 percent reserve margin pursuant to FRCC requirements. JEA Figure 3 shows their projected reserve margin, which is sufficient for both summer and winter seasonal peaks.

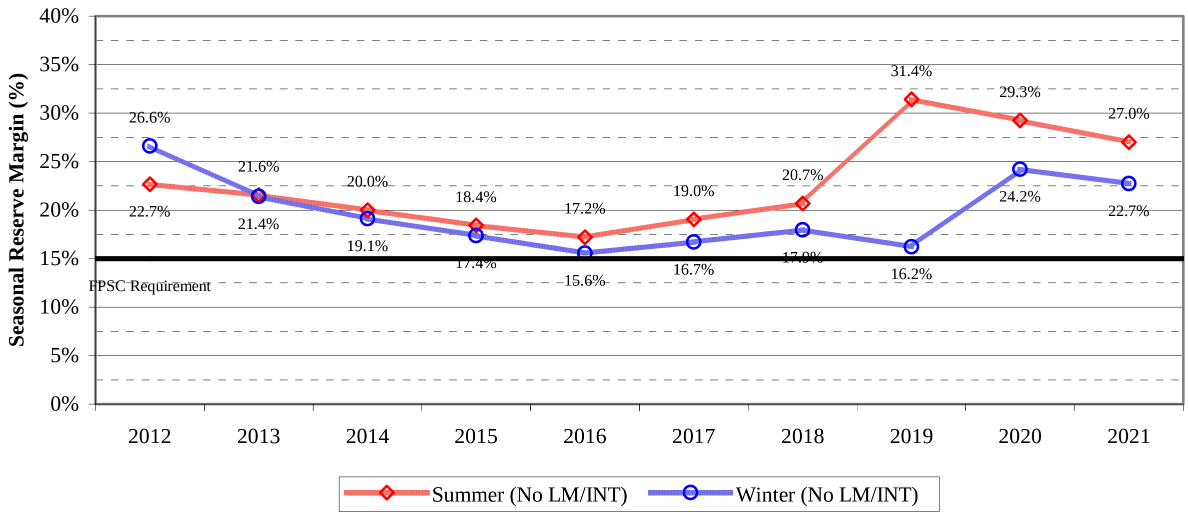
JEA Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: JEA 2012 TYSP

Because JEA does have active load management and interruptible load programs in place, a portion of its reserve margin can be attributed to non-firm load. The measure of reserve margin without any contribution from demand-side programs is shown in JEA Figure 4. JEA's reserve margin exceeds its planning requirement for both summer and winter peak demand throughout the ten year horizon without activating demand response programs.

JEA Figure 4. Seasonal Reserve Margin (Without LM/INT)

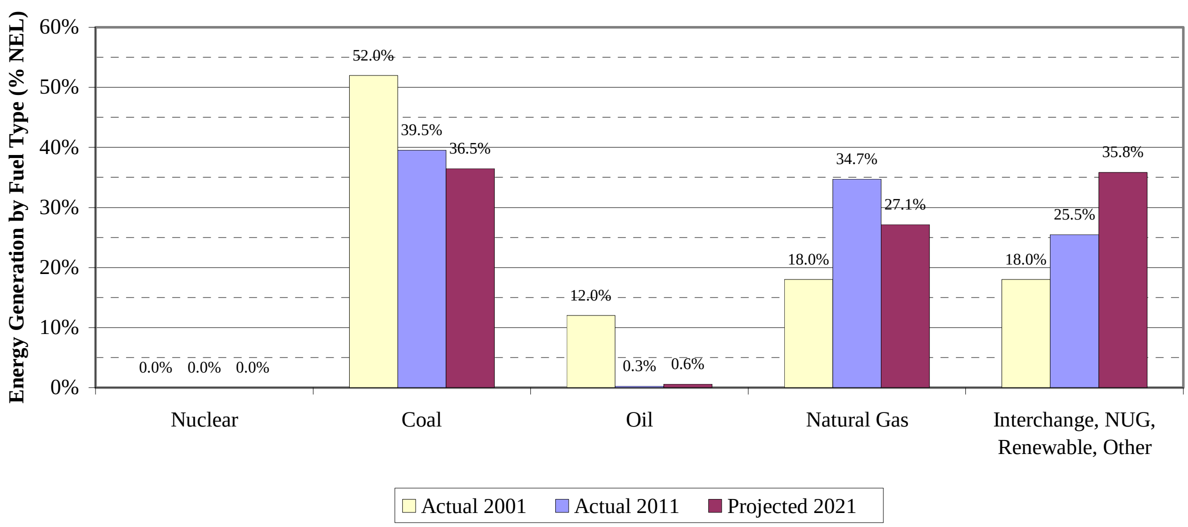


Source: JEA 2012 TYSP

Fuel Diversity

JEA Figure 5 displays the composition of JEA's system in terms of energy generated. Coal, natural gas, and purchased power are the primary sources, with coal overall declining since 2001 while natural gas and purchased power have increased by 2011. Coal is expected to further decline, along with natural gas, in favor of purchased power by 2021.

JEA Figure 5. Net Energy for Load by Fuel Type



Source: JEA 2002 and 2012 TYSPs

Generation Additions

JEA has no planned generation additions over the planning horizon. This is consistent with the company’s 2011 TYSP, which also included no new generating units through 2020.

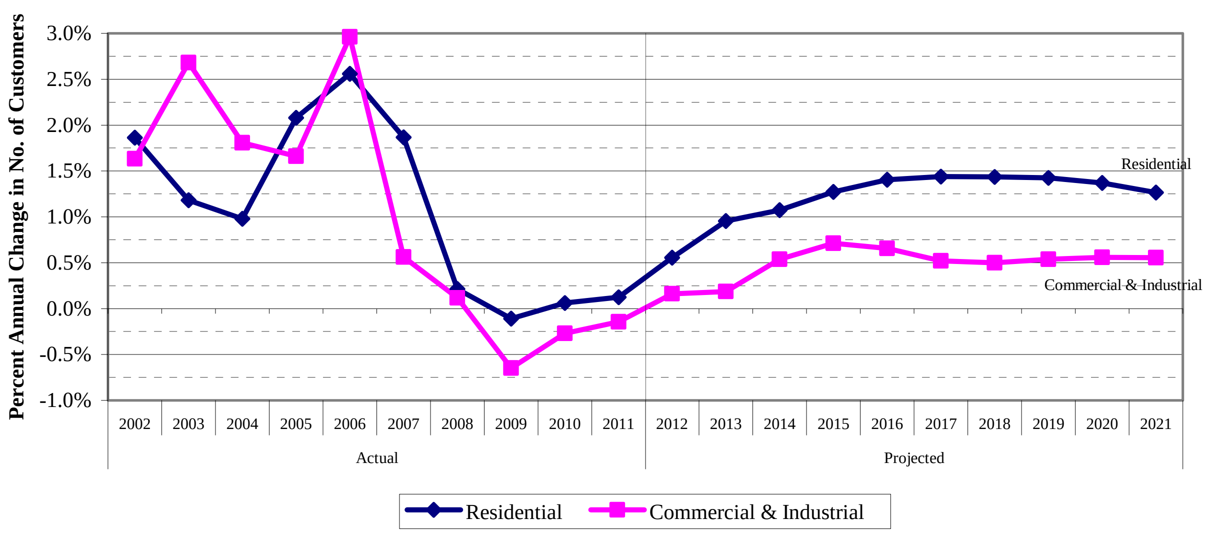
LAK is the municipal utility, and is the state's ninth largest TYSP utility. LAK is owned and operated by the City of Lakeland. LAK is a member of the Florida Municipal Power Pool (FMPP), along with OUC and FMPA's All-Requirements Project (ARP). The FMPP operates as an hourly energy pool with all FMPP capacity from its members committed and dispatched together. Each member of the FMPP retains the responsibility of adequately planning it own system to meet native load and FRCC reserve requirements. As LAK is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning

In 2011, LAK had an average of 121,763 customers, and had a total net energy for load of 2,893 GWh, approximately 1.2 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

LAK Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth during for 2012 through 2021. Customer growth is anticipated to increase slowly throughout the planning period, with an average annual growth rate of 1.21 percent. This compares with the actual rate of 1.75 percent for the period 2002 through 2007.

LAK Figure 1. Annual Customer Growth Rate by Customer Class

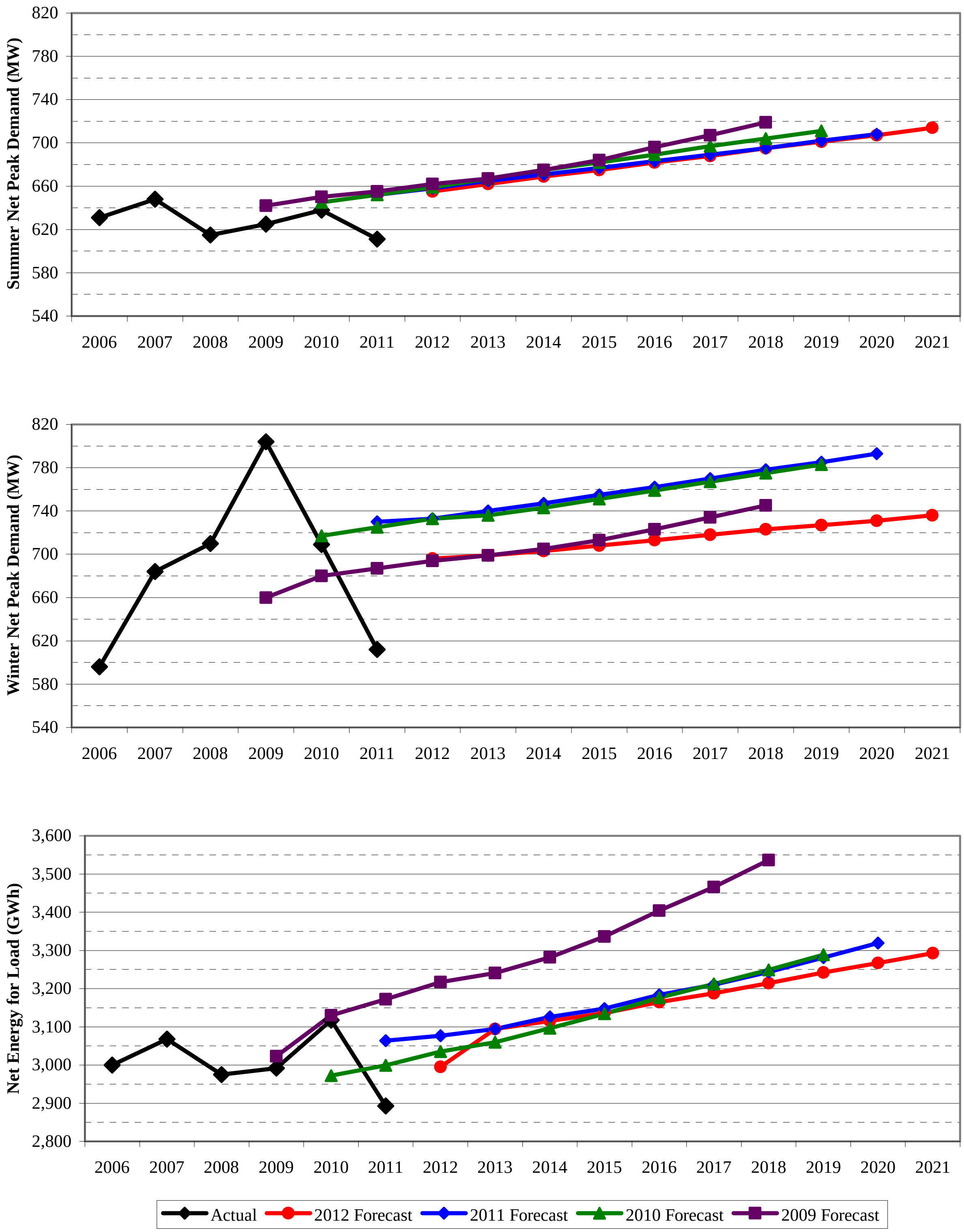


Source: LAK 2012 TYSP

The following three graphs in LAK Figure 2 show LAK's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is equivalent to last year's for summer peak demand and NEL, but notably below for winter peak demand.

Analysis of LAK's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that LAK's average forecast error is 7.89 percent. This value indicates that the company tends to over-forecast its retail energy sales by 7.89 percent, which is favorable when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

LAK Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

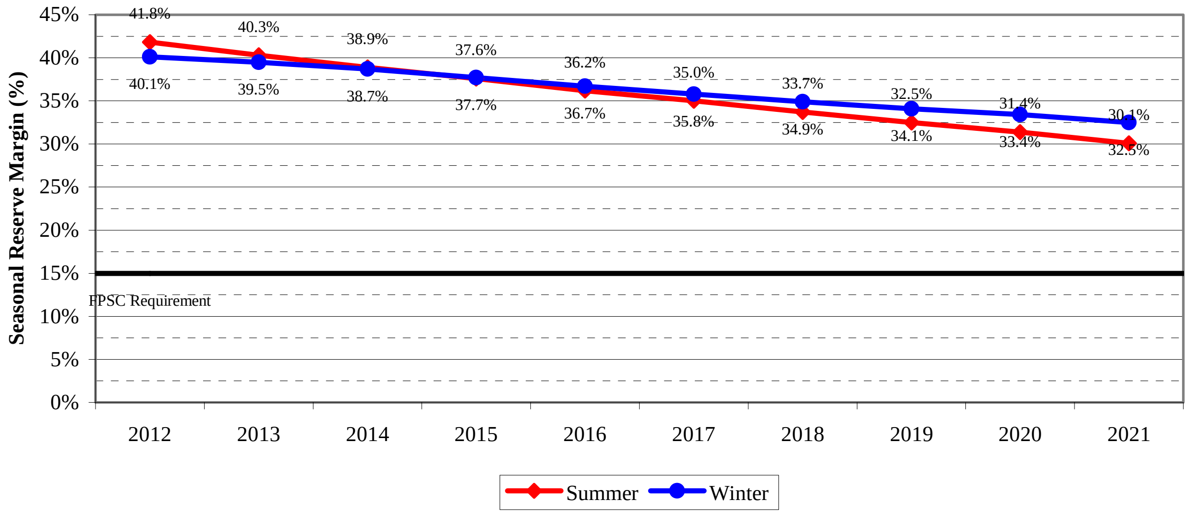


Source: LAK 2009 - 2012 TYSPs

Reserve Margin Requirement

As an FRCC utility, LAK maintains a 15 percent minimum reserve margin. As LAK Figure 3 shows, although LAK's reserve margin decreases steadily over the planning horizon, it remains well above the minimum level of 15 percent.

LAK Figure 3. Seasonal Reserve Margin

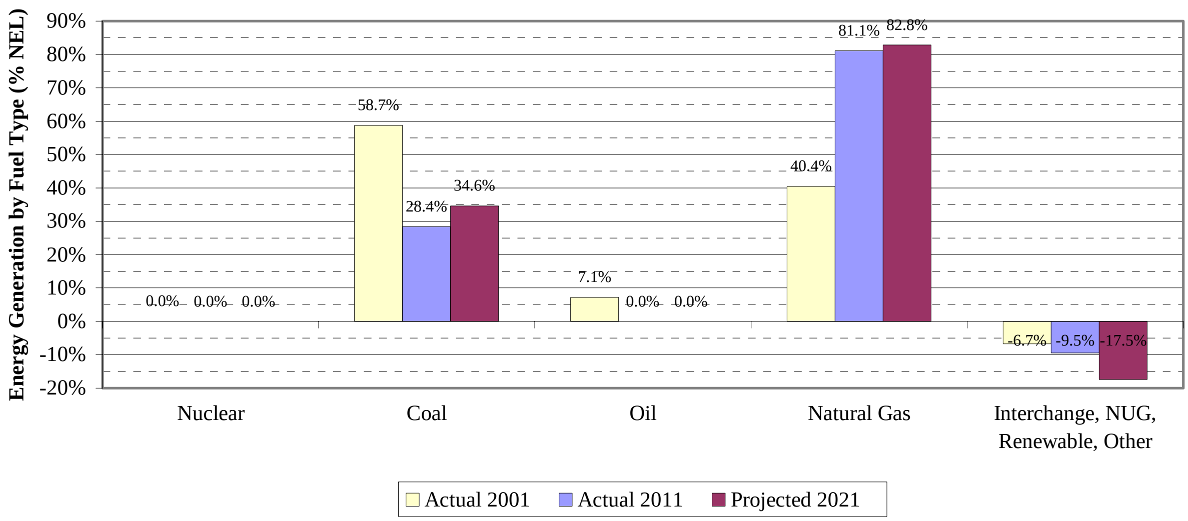


Source: LAK 2012 TYSP

Fuel Diversity

LAK Figure 4 displays the composition of LAK's system in terms of energy generated. Natural gas has increased its share of the company's energy from 40.4 percent in 2001 to 81.1 percent in 2011. While coal and oil made a significant portion of generation historically, oil usage has been drastically reduced, and coal's portion of generation has declined to approximately a third of system energy. LAK also makes significant energy sales, which cause its total energy produced to exceed 100 percent of its native load.

LAK Figure 4. Net Energy for Load by Fuel Type



Source: LAK 2012 TYSP

Generation Additions

LAK has no planned generation additions over the planning horizon. This is consistent with the company's 2011 TYSP, which also included no new generating units through 2020.

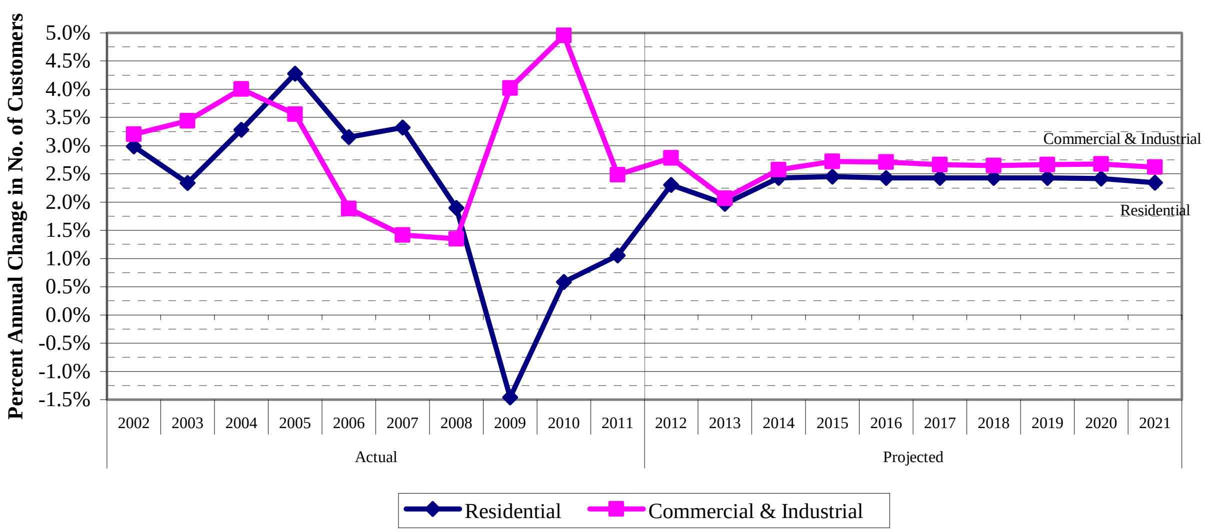
OUC is a municipal utility, and the state's seventh largest TYSP utility. The utility's service territory is within the FRCC region, and serves the Orlando metropolitan area. OUC is a member of the FMPP, along with LAK and FMPA's All-Requirements Project (ARP). As OUC is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning.

In 2011, OUC had an average 209,638 customers, and had a total net energy for load of 6,977 GWh, approximately 2.9 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

OUC Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Overall, OUC projected a steady growth throughout the planning period, with an average annual growth rate of 2.40 percent through 2021. This compares with the actual rate of 3.22 percent for the period 2002 through 2007.

OUC Figure 1. Annual Customer Growth Rate by Customer Class

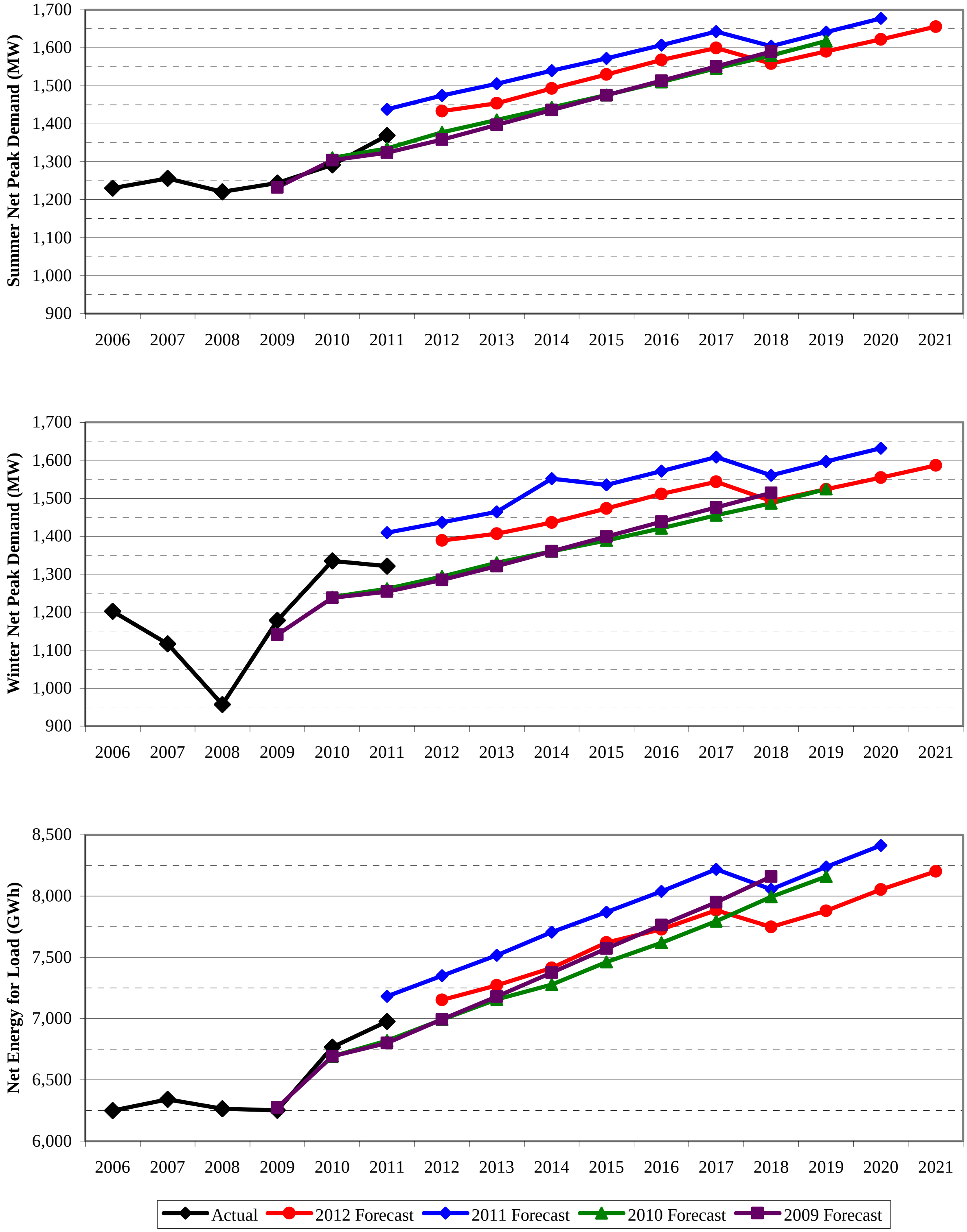


Source: OUC 2012 TYSP

The following three graphs in OUC Figure 2 show OUC's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year's for both seasonal peaks and NEL.

Analysis of OUC's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that OUC's average forecast error is 5.83 percent, the second lowest error rate in 2012. This value indicates that the company tends to over-forecast its retail energy sales by 5.83 percent, which is favorable when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

OUC Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

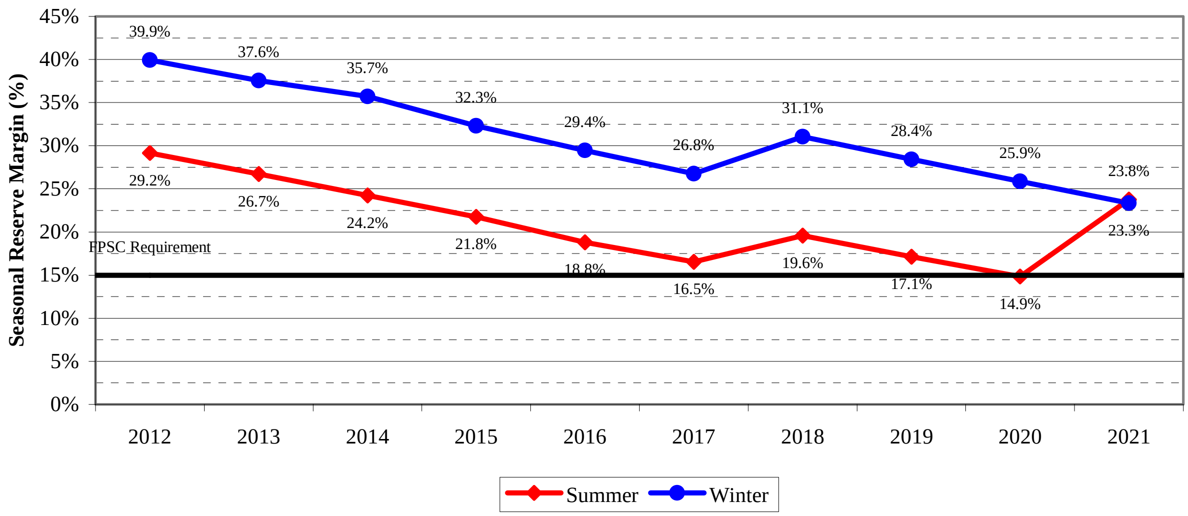


Source: OUC 2009 - 2012 TYSPs

Reserve Margin Requirement

OUC maintains a 15 percent reserve margin pursuant to FRCC requirements. OUC Figure 3 shows their projected reserve margin, which is sufficient for both summer and winter seasonal peaks. OUC does not have active load management and interruptible load programs as part of its DSM program, and therefore has no energy efficiency component included in its reserve margin.

OUC Figure 3. Seasonal Reserve Margin

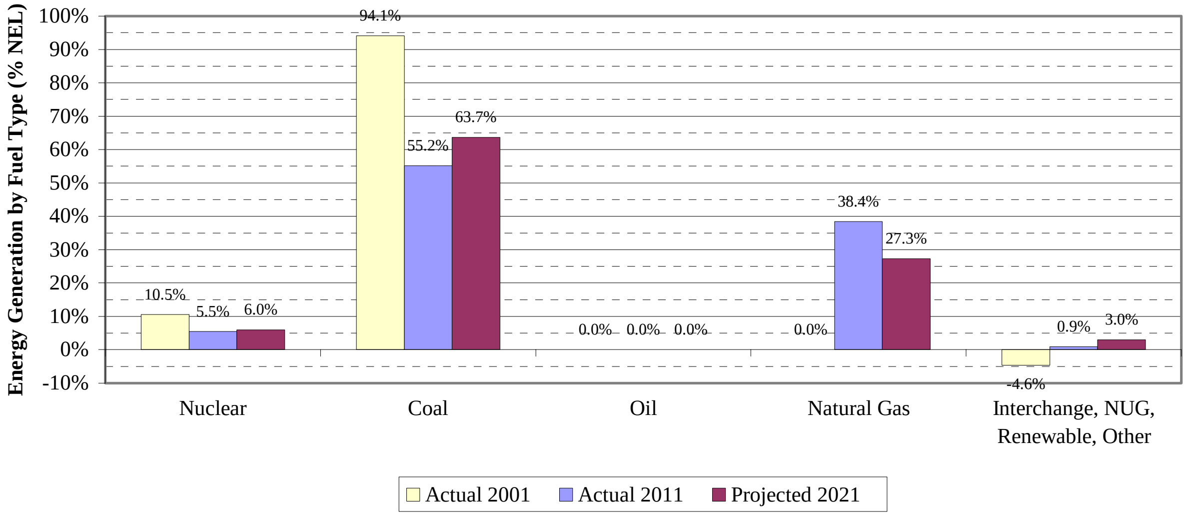


Source: OUC 2012 TYSP

Fuel Diversity

OUC Figure 4 displays the composition of OUC's system in terms of energy generated. As seen in the figure, OUC is historically a coal dependent utility, and as of 2001 did not use natural gas for generation, and was a net exporter of energy. However, by 2011, natural gas had assumed a significant role in OUC's system, with 38.4 percent of generation, as compared to 55.2 percent for coal. The utility's projected fuel mix shows an increase in coal over the planning period, which would result in a reduction of natural gas from its current level.

OUC Figure 4. Net Energy for Load by Fuel Type



Source: OUC 2002 and 2012 TYSPs

Generation Additions

OUC's 2012 TYSP includes a single new generating unit, an sited 185 MW natural gas-fired combustion turbine with an in-service date in 2021, as detailed in OUC Table 1 below.

OUC Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combustion Turbine Unit Additions				
Unknown CT1	185	N/A	N/A	05/2021

Source: OUC 2012 TYSP

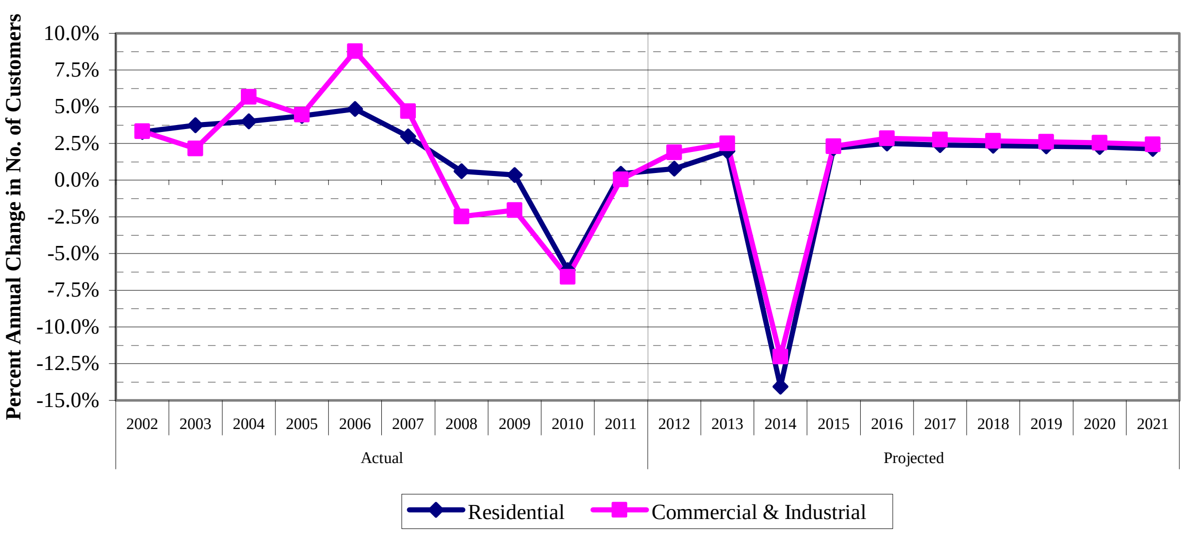
SEC is a corporation that provides electric power to its distribution members' systems, and is collectively the state's fourth largest TYSP utility. SEC is a generation and transmission rural electric cooperative that serves only wholesale customers that purchase power from SEC under long-term wholesale power contracts. SEC is within the FRCC Region, with load serviced throughout the State of Florida. Its generation assets are primarily within the central region. As SEC is a rural electric cooperative, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning

In 2011, SEC had an average 849,059 customers, and had a total net energy for load of 16,037 GWh, approximately 6.7 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

SEC Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Generally the utility expects level growth throughout the planning period, with the exception of 2014. As SEC is composed of multiple members, the overall growth of the utility is heavily impacted by their departure. The projected drop in customers in 2014 is due to the Lee County Electric Cooperative load no longer being served by SEC beginning January 1, 2014.

SEC Figure 1. Annual Customer Growth Rate by Customer Class

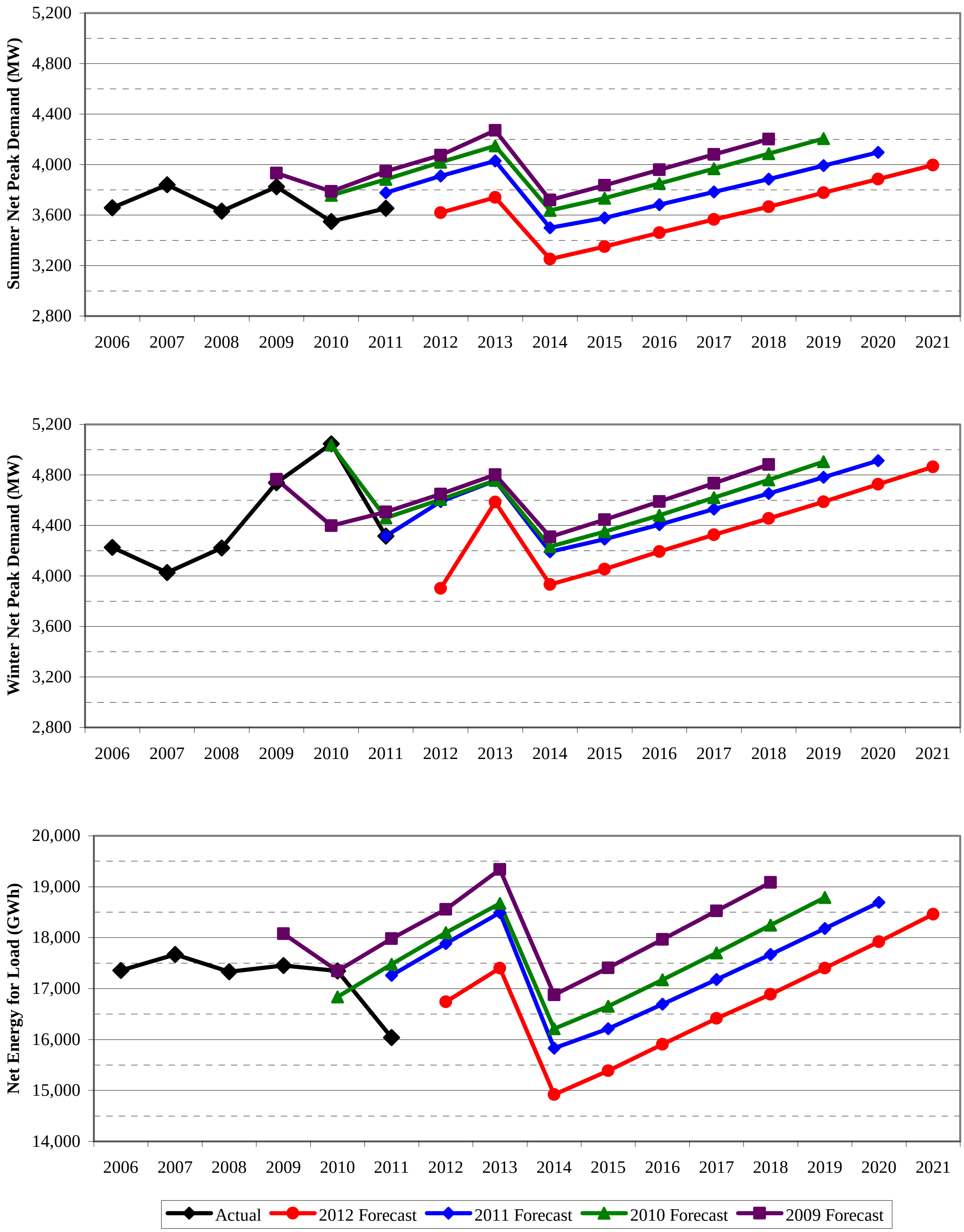


Source: SEC 2012 TYSP

The following three graphs in SEC Figure 2 show SEC's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year’s for both seasonal peaks and NEL. The forecasts show a significant drop in 2014, associated with the reduction in customers discussed above.

Analysis of SEC’s historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that SEC’s average forecast error is 11.41 percent. This value indicates that the company tends to over-forecast its retail energy sales by 11.41 percent, which is approximately equivalent to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

SEC Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

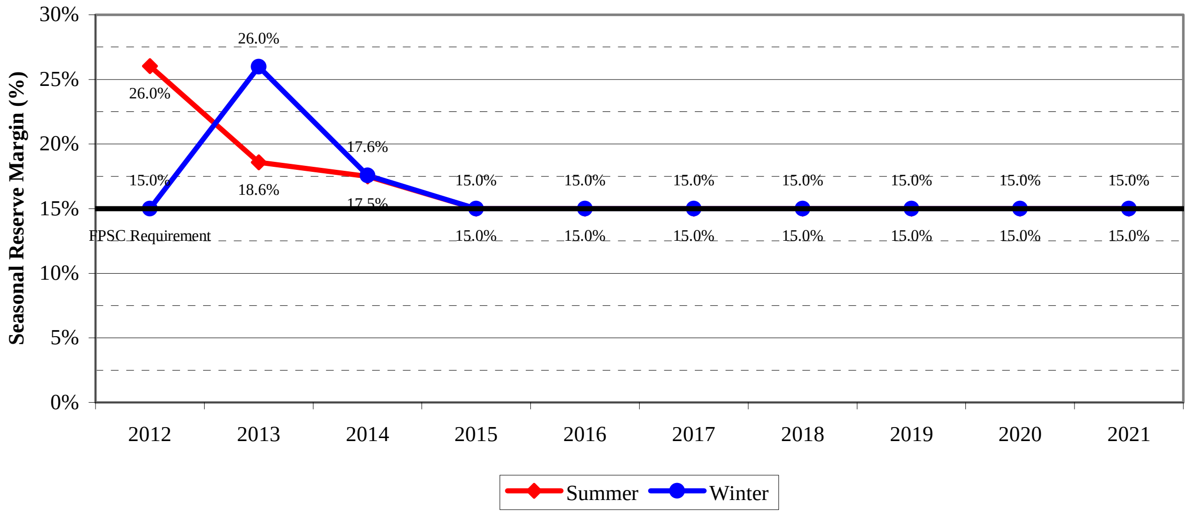


Source: SEC 2009 - 2012 TYSPs

Reserve Margin Requirement

As SEC is within the FRCC region, it is required to meet a 15 percent reserve margin requirement. SEC projects its reserve margin to remain at or above this requirement for both summer and winter seasonal peaks, as shown in SEC Figure 3.

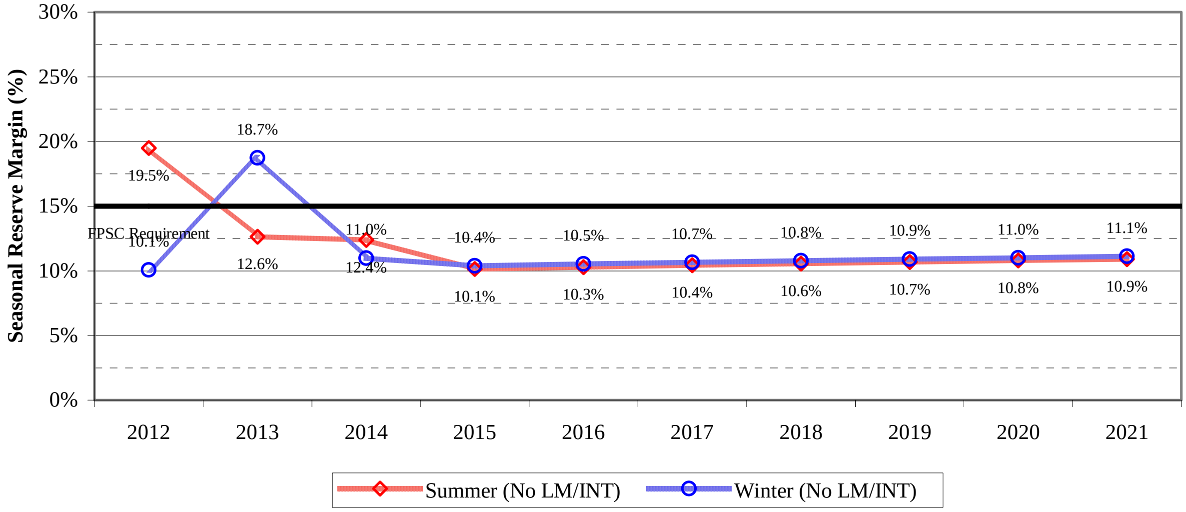
SEC Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: SEC 2012 TYSP

Because SEC does offer load management programs, a portion of its reserve margin can be attributed to non-firm load. The measure of reserve margin without any contribution from demand-side programs is shown in SEC Figure 4. As the figure shows, SEC's reserve margin is projected to remain at approximately 10 percent without activating demand response programs.

SEC Figure 4. Seasonal Reserve Margin (Without LM/INT)

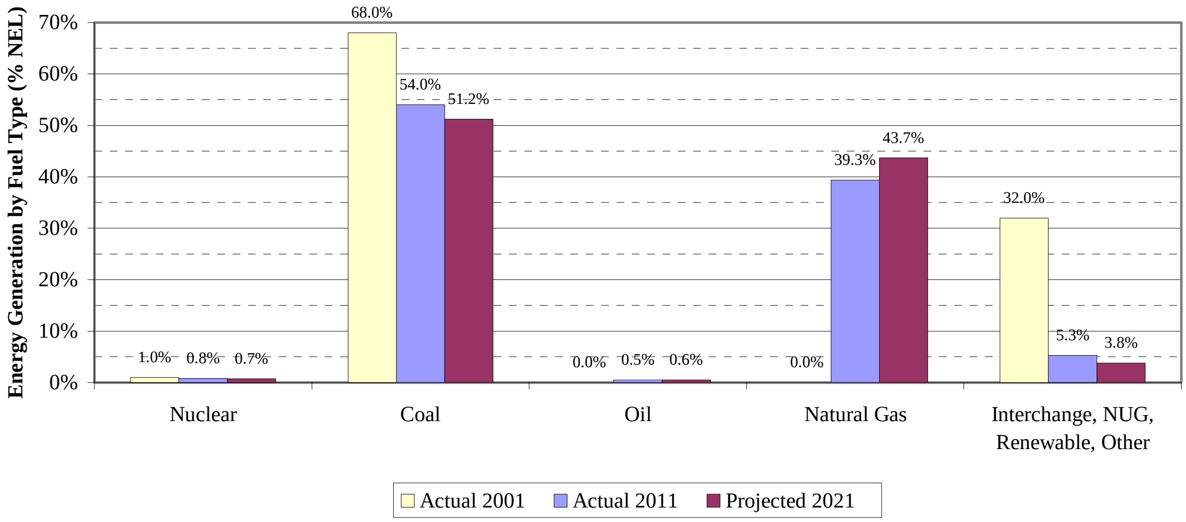


Source: SEC 2012 TYSP

Fuel Diversity

SEC Figure 5 displays the composition of SEC's system in terms of energy generated. As the figure shows, SEC is historically a coal dependent utility, though this portion has decreased from 68 percent in 2001 to 54 percent in 2011. SEC did not have any generation from natural gas in 2001, but now a significant portion of its generation comes from natural gas units. While purchased power made up a significant portion of system reserves, this has decreased dramatically, from 32 percent to 5.3 percent last year. Generally, SEC's projected fuel mix is unchanged, except for a slight shift from coal and purchased power towards natural gas generation.

SEC Figure 5. Net Energy for Load by Fuel Type



Source: SEC 2002 and 2012 TYSPs

Generation Additions

SEC's 2012 TYSP includes the addition of nine natural gas combustion turbine units, and three combined cycle units by the end of the planning period. SEC Table 1 details the generation additions below.

SEC Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combustion Turbine Unit Additions				
Unnamed CT1	158	N/A	N/A	12/2018
Unnamed CT2	158	N/A	N/A	12/2019
Unnamed CT3	158	N/A	N/A	12/2020
Unnamed CT4	158	N/A	N/A	12/2020
Unnamed CT5	158	N/A	N/A	12/2020
Unnamed CT6	158	N/A	N/A	05/2021
Unnamed CT7	158	N/A	N/A	12/2021
Unnamed CT8	158	N/A	N/A	12/2021
Unnamed CT9	158	N/A	N/A	12/2021
Combined Cycle Unit Additions				
Unnamed CC1	196	-	-	Dec-20
Unnamed CC2	196	-	-	Dec-20
Unnamed CC3	196	-	-	Dec-21

Source: SEC 2012 TYSP

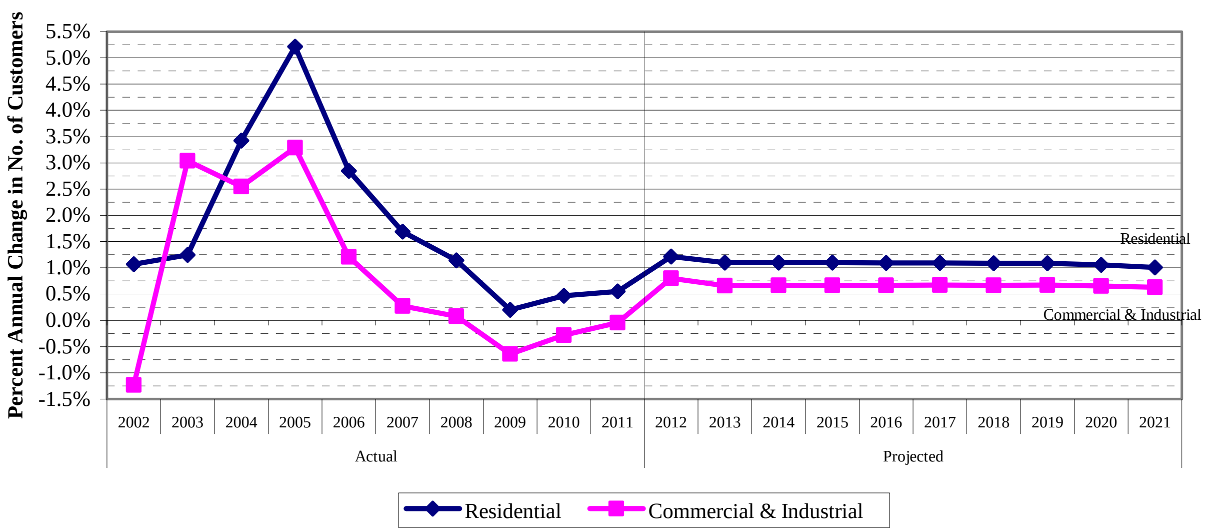
TAL is a municipal utility, and the state's second smallest TYSP utility. The utility's service territory is within the FRCC region, in Leon County, and primarily serves the City of Tallahassee. As TAL is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning.

In 2011, TAL had an average 114,212 customers, and had a total net energy for load of 2,799 GWh, approximately 1.2 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

TAL Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. A level, but positive growth is anticipated over the entire planning period, with an average annual growth rate of 1.01 percent. This compares to the actual average growth rate of 2.74 percent for the period 2002 through 2007, before the economic downturn.

TAL Figure 1. Annual Customer Growth Rate by Customer Class



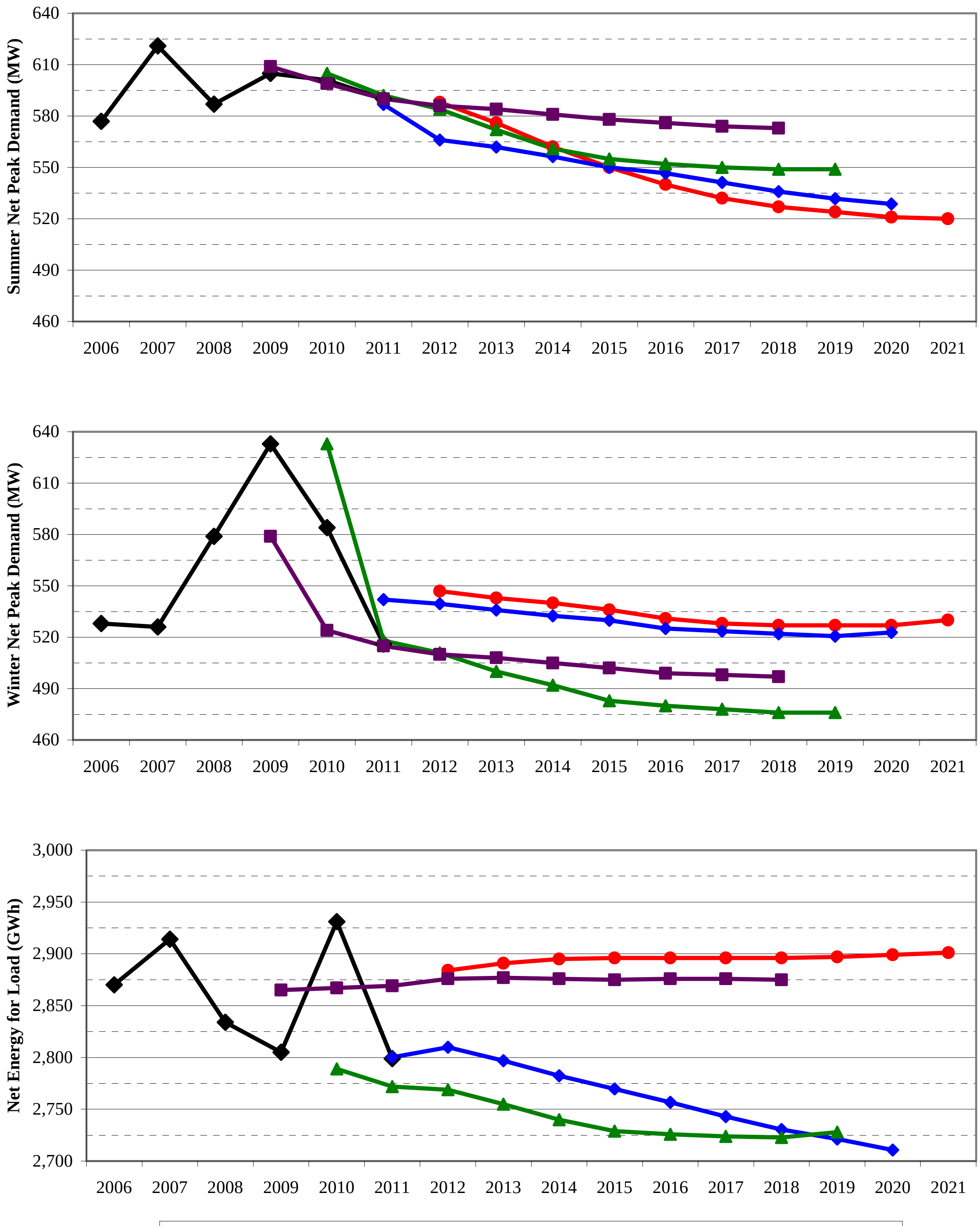
Source: TAL 2012 TYSP

The following three graphs in TAL Figure 2 show TAL's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is similar for seasonal peak demand, but higher for NEL.

Analysis of TAL's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that TAL's average forecast error is 8.77 percent. This value indicates that the company tends to over-forecast its retail energy sales by 8.77 percent, which is favorable

when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

TAL Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

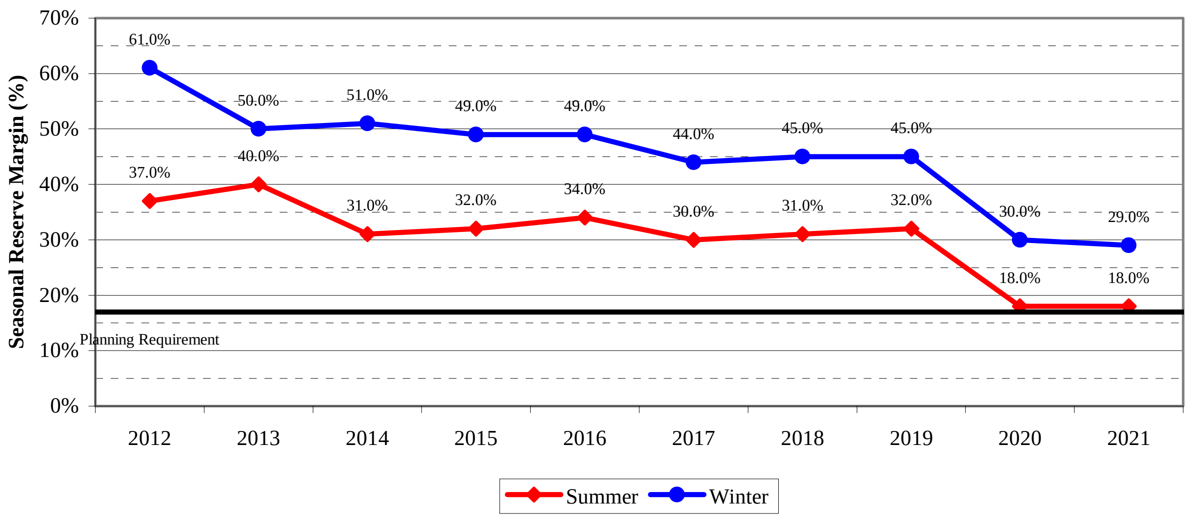


Source: TAL 2009 - 2012 TYSPs

Reserve Margin Requirement

As TAL is within the FRCC region, it is required to meet a 15 percent reserve margin requirement. However, TAL has adopted an 18 percent planning reserve margin requirement, as reflected in TAL Figure 3 below. TAL has sufficient reserve margin including the impact of demand response.

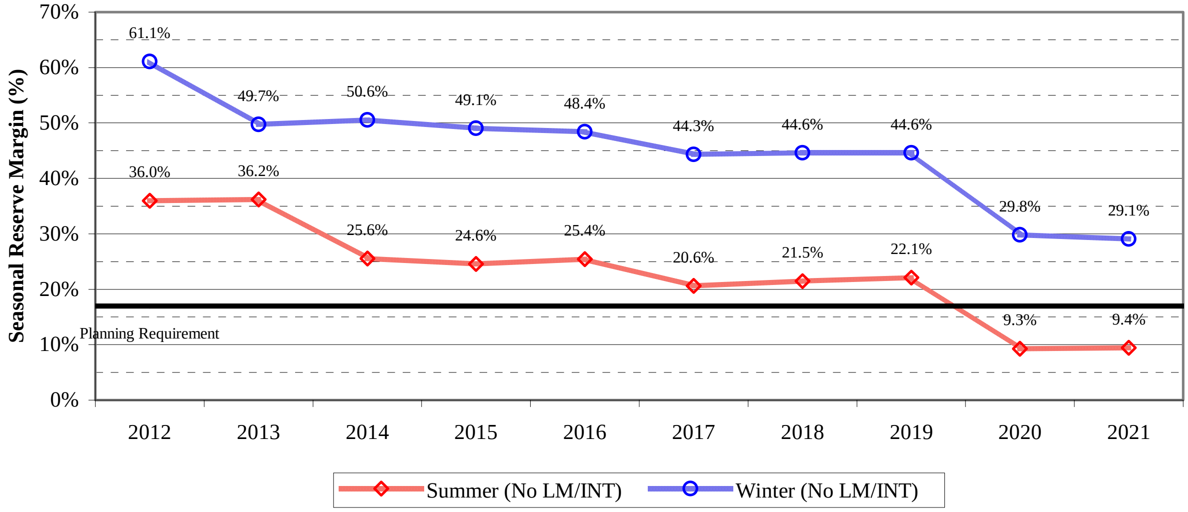
TAL Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: TAL 2012 TYSP

In addition to supply-side resources, TAL has interruptible load and load management programs, which assist the utility in meeting reserve margin requirements. TAL Figure 4 below illustrates the impact on reserve margin of excluding demand response programs. As seen below, the summer peak demand period would fall below the planning reserve margin without the use of demand response programs to reduce peak demand in the outer years.

TAL Figure 4. Seasonal Reserve Margin (Without LM/INT)

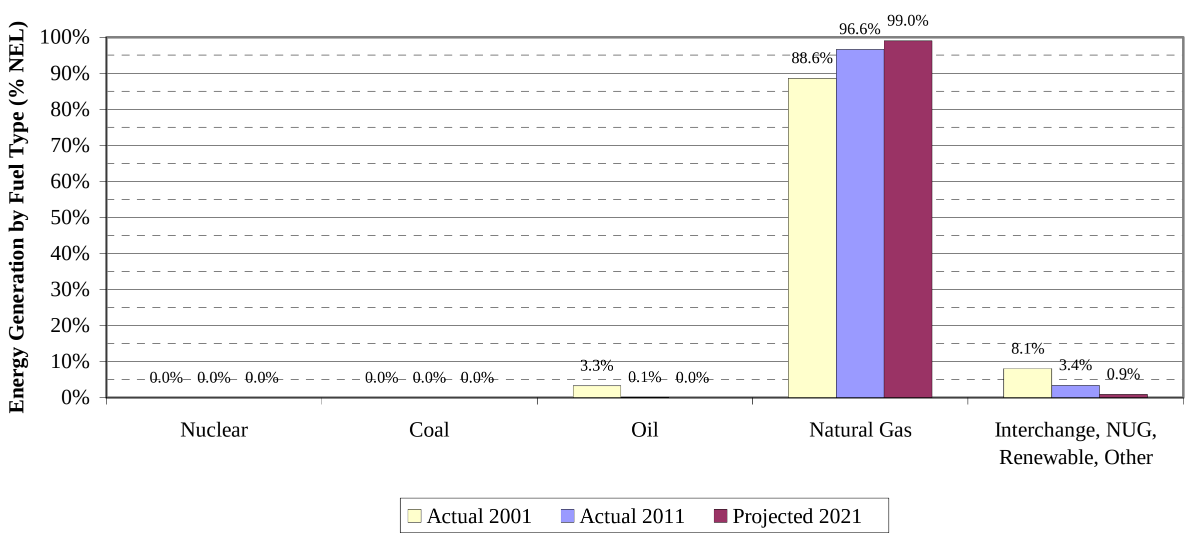


Source: TAL 2012 TYSP

Fuel Diversity

TAL Figure 5 displays the composition of Tallahassee's system in terms of energy generated. As seen below, TAL has an almost exclusive dependence on natural gas, and by the end of the planning period almost 100 percent of energy for load will be from natural gas. The only other sources of energy on TAL's system are oil, purchased power, and renewable energy.

TAL Figure 5. Net Energy for Load by Fuel Type



Source: TAL 2002 and 2012 TYSPs

Generation Additions

TAL has no planned generation additions over the planning horizon. This represents a decline from the company's 2011 TYSP, which anticipated the addition of a 46 MW combustion turbine unit in 2020.

Exhibit L

ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY

The Program Administrator Cost of Saved Energy for Utility Customer-Funded Energy Efficiency Programs

Megan A. Billingsley, Ian M. Hoffman, Elizabeth Stuart,
Steven R. Schiller, Charles A. Goldman, Kristina LaCommare

Environmental Energy Technologies Division

March 2014

The work described in this report was funded by the National Electricity Delivery Division of the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability under Lawrence Berkeley National Laboratory Contract No. DE-AC02-05CH11231.

The Program Administrator Cost of Energy Saved for Utility Customer-Funded Energy Efficiency Programs

Prepared for the
U.S. Department of Energy
National Electricity Delivery Division of the Office of Electricity Delivery and Energy Reliability

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March 2014

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Disclaimer

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Acronyms and Abbreviations

ACEEE	American Council for and Energy-efficient Economy
C&I	commercial and industrial (private sector)
CCE	Cost of conserved energy
CEE	Consortium for Energy Efficiency
CSE	Cost of saved energy
DOE	U.S. Department of Energy
DSM	Demand-Side Management
EIA	Energy Information Administration
EERS	Energy Efficiency Resource Standards
HVAC	heating, ventilation, air conditioning
LCOE	Levelized cost of energy
MUSH	Municipal and state governments, universities and colleges, K-12 schools, and healthcare markets
WACC	Weighted average cost of capital

Executive Summary

End-use energy efficiency is increasingly being relied upon as a resource for meeting electricity and natural gas utility system needs within the United States. There is a direct connection between the maturation of energy efficiency as a resource and the need for consistent, high-quality data and reporting of efficiency program costs and impacts. To support this effort, LBNL initiated the Cost of Saved Energy Project (CSE Project) and created a Demand-Side Management (DSM) Program Impacts Database to provide a resource for policy makers, regulators, and the efficiency industry as a whole.

> **Cost of Saved Energy (CSE) vs. Cost Effectiveness**
>
> **The program administrator's cost of saved energy** is a useful metric for comparing the relative costs of efficiency programs and for comparing an energy efficiency option to other demand and supply choices for serving energy needs. The CSE is comparable to the levelized cost of energy (LCOE), which represents the per-kilowatt hour cost (in real dollars) of building and operating a generating plant over an assumed financial life and duty cycle.
>
> The cost of saved energy is not a direct test of cost effectiveness, however, and is not a benefit-cost analysis, like the Program Administrator's Cost Test or Utility Cost Test, because it does not purport to capture the monetized value of efficiency to utility customers and shareholders.

This study is the first technical report of the LBNL CSE Project and provides an overview of the project scope, approach, and initial findings, including:

- Providing a *proof of concept* that the program-level cost and savings data can be collected, organized, and analyzed in a systematic fashion;
- Presenting initial program, sector, and portfolio level results for the program administrator CSE for a recent time period (2009-2011); and
- Encouraging state and regional entities to establish common reporting definitions and formats that would make the collection and comparison of CSE data more reliable.

The LBNL DSM Program Impacts Database includes the program results reported to state regulators by more than 100 program administrators in 31 states, primarily for the years 2009–2011. In total, we have compiled cost and energy savings data on more than 1,700 programs over one or more program-years for a total of more than 4,000 program-years' worth of data, providing a rich dataset for analyses. We use the information to report costs-per-unit of electricity and natural gas savings for utility customer-funded, end-use energy efficiency programs. The program administrator CSE values are presented at national, state, and regional levels by market sector (e.g., commercial, industrial, residential) and by program type (e.g., residential whole home programs, commercial new construction, commercial/industrial custom rebate programs).

In this report, the focus is on gross energy savings and the costs borne by the program administrator—including administration, payments to implementation contractors, marketing, incentives to program participants (end users) and both midstream and upstream trade allies, and evaluation costs.[1] We collected data on net savings and costs incurred by program participants. However, there were insufficient data on participant cost contributions, and uncertainty and variability in the ways in which net savings were reported and defined across states (and program administrators). As a result, they were not used extensively in this report. It is also important to note that savings metrics reported by program administrators draw heavily from estimated values.[2]

Key Definitions

Program administrator costs include administrative, education, marketing and outreach, and evaluation, measurement and verification (EM&V) costs as well as financial incentives paid to customers or contractors. The CSE values exclude participant costs, and program administrator performance incentives, and, thus, do not represent the total resource cost unless indicated otherwise.

Program savings are based on **claimed gross savings** reported by the program administrator unless indicated otherwise. For program administrators that only reported net savings values, we calculated gross savings values using net-to-gross ratios if those were available from the program administrator.

Savings values are also based on **savings at the end-use site** and not at the power plant or natural gas pumping station and thus do not account for transmission and distribution losses.

Lifetime energy savings, when not reported by the program administrator, were calculated per the protocol described in Chapter 2.

Cost of First-Year Energy Savings (First-Year CSE): The cost of acquiring a single year of annualized incremental energy savings through actions taken through a program/sector/portfolio. The cost of efficiency as a function of first-year energy savings may be useful for program design or budgeting to meet incremental annual savings targets.

Levelized Cost of Lifetime Energy Savings (Levelized CSE): The cost of acquiring energy savings that accrue over the economic lifetime of the actions taken through a program/sector/portfolio, amortized over that lifetime and discounted back to the year in which the costs are paid and the actions are taken.

[1] Researchers who have estimated the cost of saved energy for efficiency programs have typically focused on the program administrator's costs because data on participant costs are often not available (Friedrich et al. 2009). Gross savings are those associated with the program participants' efficiency actions, irrespective of the cause of those actions. Net savings is defined as the total change in energy use that is attributable to a program (for both program participants and non-participants).

[2] Savings metrics rely heavily on estimated values because "….energy and demand savings as well as non-energy benefits resulting from efficiency actions cannot be directly measured. Instead, savings and benefits are based on counterfactual assumptions. Using counterfactual assumptions implies that savings are estimated to varying degrees of accuracy by comparing the situation (e.g., energy consumption) after a program is implemented (the reporting period) to what is assumed to have been the situation in the absence of the program (the "counterfactual" scenario, known as the baseline). For energy impacts, the baseline and reporting period energy use are compared, while controlling (making adjustments) for factors unrelated to energy efficiency actions, such as weather or building occupancy. These adjustments are a major part of the evaluation process; how they are determined can vary from one program type to another and from one evaluation approach to another. " (SEE Action Network 2012)

Results

The CSE values presented in this study are retrospective and may not necessarily reflect future CSE for specific programs, particularly given updated appliance and lighting standards. The CSE values are presented as either (a) the savings-weighted average values; (b) as an inter-quartile range with median[3] values across the sample of programs; or (c) both.

Table ES-1 provides an overall indication of national, savings-weighted average program administrator CSE values by sector using two indicators (e.g., levelized CSE 6% real discount rate and first-year CSE).[4] Figure ES-1 indicates the savings-weighted averages, medians and inter-quartile ranges for levelized CSE values using a 6% discount rate.

Table ES-1. The program administrator CSE for electricity efficiency programs for 2009-2011 data in the LBNL DSM Program Impacts Database (2012$/kWh)

Sector	Levelized CSE ($/kwh; 6% discount rate)	First-Year CSE ($/kwh)
Commercial & Industrial (C&I)	$ 0.021	$ 0.188
Residential	$ 0.018	$ 0.116
Low Income	$ 0.070	$ 0.569
Cross Sectoral/Other	$ 0.017	$ 0.120
National CSE	**$ 0.021**	**$ 0.162**

Values in this table are based on the 2009-2011 data in the LBNL DSM Program Impacts Database. CSE values are for ***program administrator*** *costs and based on gross savings.*

[3] The *inter-quartile range* is the middle 50 percent of the range of program CSE values. The *median* is the numerical value separating the upper half of a data sample from the lower half.

[4] We calculated a levelized CSE using two discount rates that are rough proxies for different perspectives on energy efficiency investments: a 6% real discount rate that can reflect the utility weighted average cost of capital (WACC) and a 3% real discount rate that can be a proxy for a societal perspective.

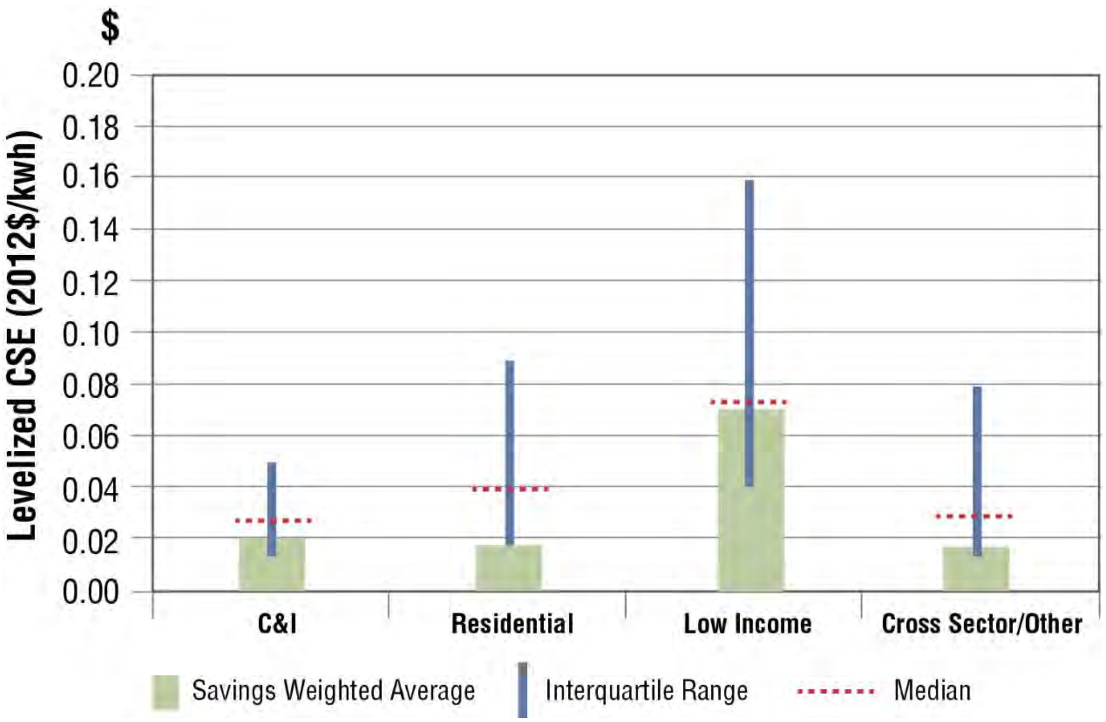

Figure ES-1. CSE for electricity efficiency programs by sector for 2009-2011 data in the LBNL DSM Program Impacts Database

Our key national and regional findings are:[5]

- The U.S. average levelized CSE was slightly more than two cents per kilowatt-hour when gross savings and spending is aggregated at the national level and the CSE is weighted by savings.
- Residential electricity efficiency programs had the lowest average levelized CSE at $0.018/kWh. Lighting rebate programs accounted for at least 44% of total residential lifetime savings with a savings-weighted average levelized CSE of $0.007/kWh. The residential CSE, when the lighting programs were removed, was $0.028/kWh. Low-income programs have an average levelized CSE at $0.070/kWh.
- Commercial, industrial and agricultural (C&I) programs had an average levelized CSE of $0.021/kWh.
- Not surprisingly, the levelized CSE varies widely, both among and within program types. We find that the median value is typically higher than the savings-weighted average for nearly all types of programs. One possible explanation is that our sample includes a number of very large programs and for any given program type, larger efficiency programs have lower CSE than smaller programs because administrative costs are spread over more projects (e.g., economies of scale).
- In reviewing regional results, efficiency programs in the midwest had the lowest average levelized CSE ($0.014/kWh), while programs in northeast states had a higher

[5] Key findings in this section use savings-weighted average CSE values that include program administrator costs (in 2012$) and reported gross savings, which are levelized using a 6% real discount rate.

average CSE value ($0.033/kWh). Programs in western states are at $0.023/kWh and for the southern states included in the database, the comparable program CSE was $0.028/kWh.

- Natural gas efficiency programs had a national, program administrator savings-weighted average CSE of $0.38 per therm, with significant differences between the C&I and residential sectors (average values of $0.17 vs. $0.56 per therm, respectively).
- The cost of saved energy may vary across program administrator portfolios for reasons that have little to do with programmatic efficiency. In some jurisdictions, a policy mandate of acquiring all reasonably available cost-effective energy efficiency can lead to a focus on more comprehensive programs which will tend to have a higher CSE because they are serving more diverse constituencies and technologies. In other jurisdictions, the focus may be on acquiring the cheapest savings possible.

Program-level results

We also examined the cost of saved energy by program type for both residential and C&I programs (see Chapter 3). Figure ES-2 shows an example for the C&I programs, including savings-weighted average (pale green bar) CSE values, the inter-quartile ranges (blue line) and median (red dotted line) CSE values. The median value and inter-quartile ranges for CSE are based on calculations for each individual program and gives equal weighting to programs irrespective of their relative size in terms of either savings or costs.

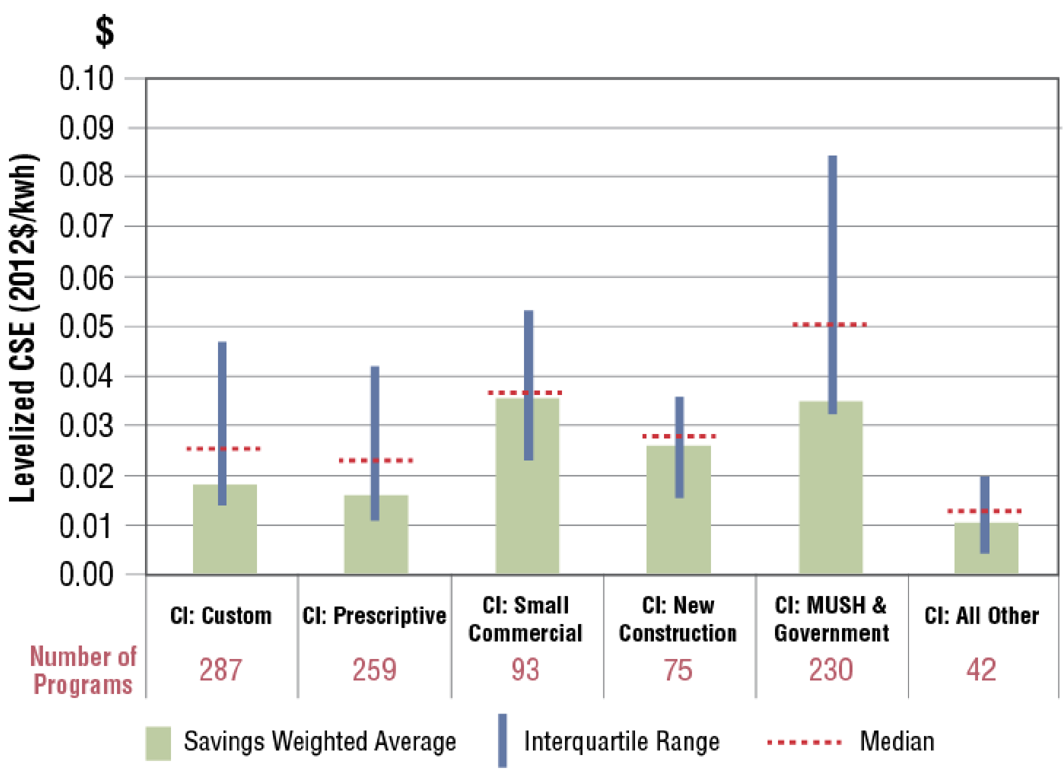

Figure ES-2. National levelized CSE for C&I sector simplified program categories

The simplified C&I programs have median values for program administrator CSE that range from $0.01/kWh to $0.05/kWh. It is worth noting that the savings-weighted average CSE values for custom and prescriptive rebate program categories are $0.018/kWh and $0.015/kWh, respectively. Since these two program categories account for almost 70% of C&I sector savings, they tend to drive the overall CSE results for the C&I sector (less than $0.02/kWh).

For the residential programs, several program categories have a relatively tight range of program CSE values (see Figure ES-3). For example, Consumer Product Rebate programs have an inter-quartile range of $0.01/kWh to $0.04/kWh and a low savings-weighted average (~$0.01/kWh). However, the residential prescriptive ($0.03/kWh to $0.11/kWh), new construction ($0.03/kWh to $0.11/kWh) and whole-home upgrade ($0.03/kWh to $0.21/kWh) program types have significantly larger ranges. There are several possible reasons for the range of CSE values in each of these program categories. The prescriptive simplified program category includes detailed program types that implement a wide variety of measures (e.g., HVAC, insulation, windows, pool pumps) as well as some generic "prescriptive" programs[6] that often include measures also found in the consumer product rebate category. This broad measure mix, and the variation in costs and measure lifetimes associated with those measures, are possible drivers for the wide range of CSE values for the prescriptive category.

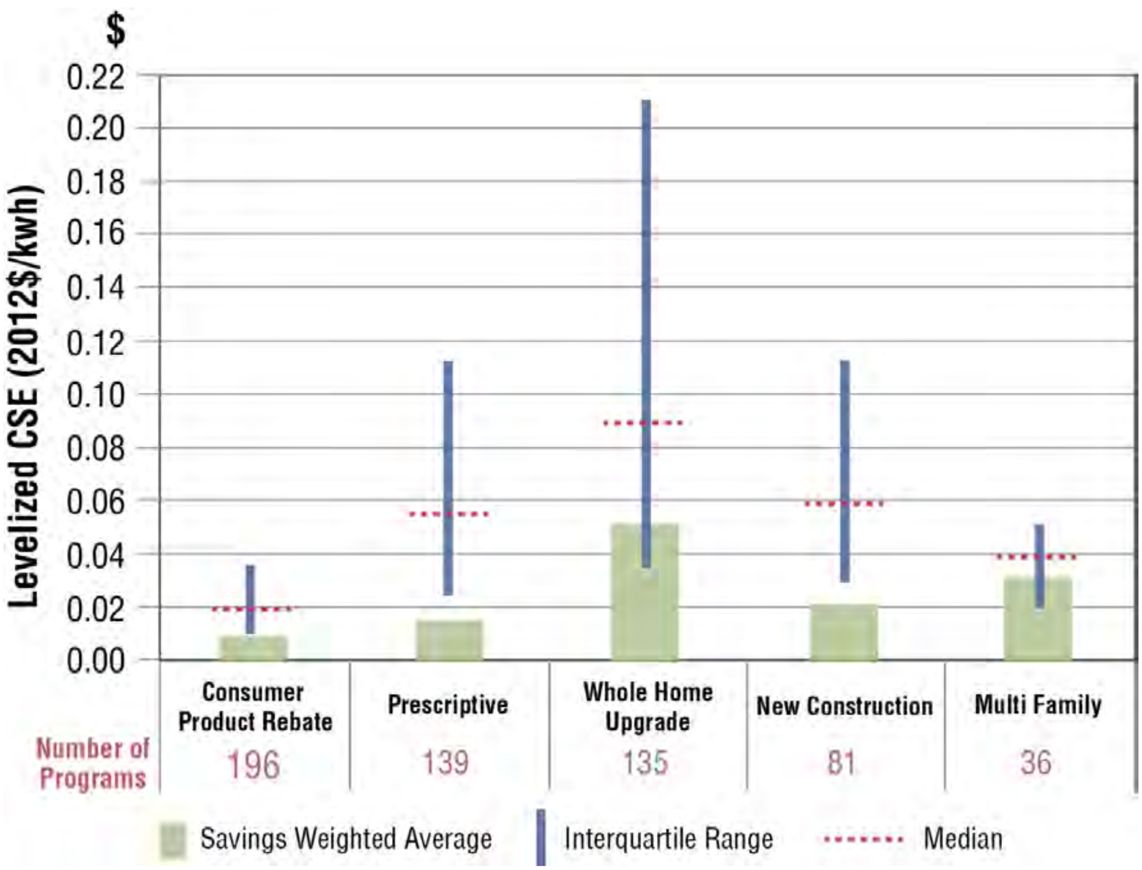

Figure ES-3. National levelized CSE for residential sector simplified program categories

[6] Some programs include all their rebated measures under the same program title and it is not possible to determine where the majority of the savings is coming from. In these cases, the programs were categorized as "Residential Prescriptive."

For the Whole-Home Upgrade program category, the broad range of program designs and delivery mechanisms (this category includes audit, direct install, and retrofit/upgrade programs) may help explain the relatively wide range of CSE values. Overall, most C&I program categories have a relatively smaller inter-quartile range of CSE values compared to residential program categories.

Total resource cost of saved energy

Although we focus on program administrator costs in this report, it is important to note that these metrics do not reflect a total cost perspective since program administrators infrequently report participant costs. We were able to collect participant cost data from a handful of program administrators. However, given small sample size and uncertainty in how participant costs were derived, it is difficult to confidently assess the "all-in" or total resource cost of efficiency or analyze potential influences on the total cost of the efficiency resource. For these reasons, in Figure ES-4, we compare the program administrator's levelized CSE vs. a total resource levelized CSE for illustrative purposes only. We calculate this total resource CSE for the simplified program categories where both program administrator and participant costs are available for more than 18 program years.[7]

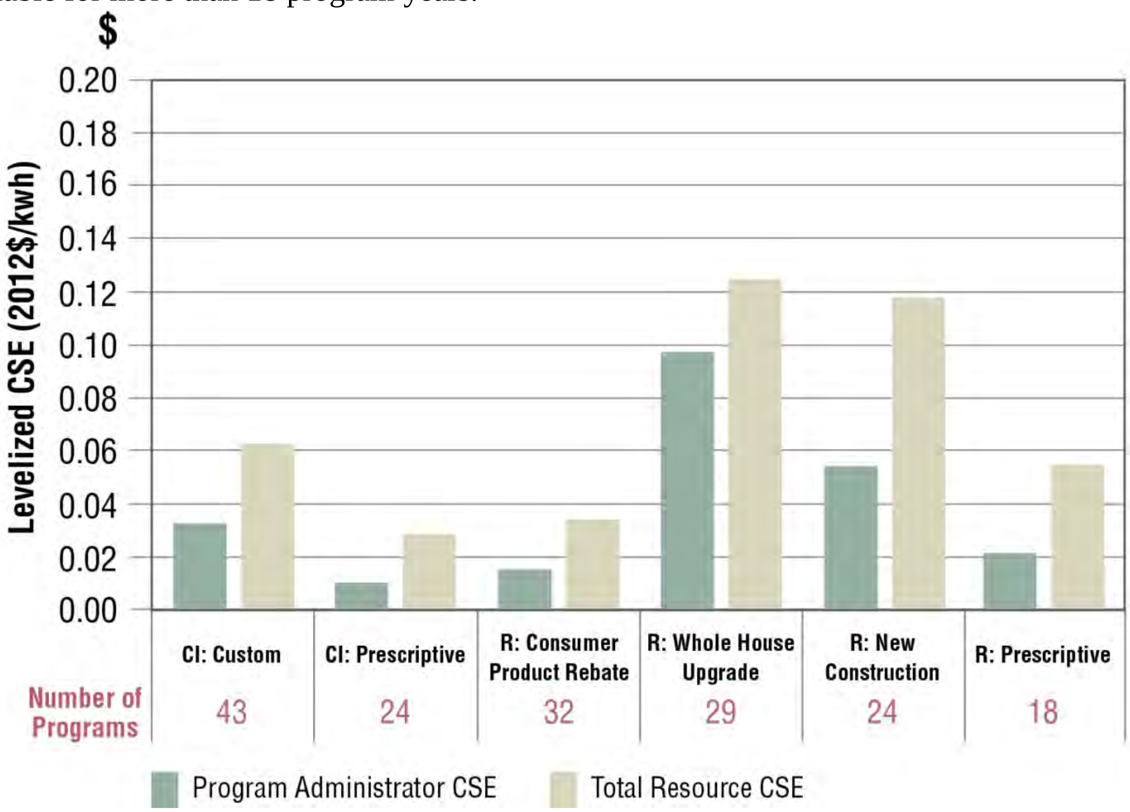

Figure ES-4. Levelized savings-weighted average CSE for electricity efficiency programs that include program administrator costs vs. total resource costs for select program categories[8]

[7] The "n" of 18 was selected because there was a natural break in the data and there were a meaningful number of programs from which to calculate average values.

[8] This chart includes a very small sample of programs from 11 states; thus, results may not reflect current practices in many jurisdictions.

For this small sample of programs, we found that the levelized total resource CSE values are typically double the program administrator CSE with the exception of the Residential Whole Home Upgrade program category (which has a savings-weighted total resource CSE about 25-30% higher than the program administrator CSE). Further data collection and analyses could better characterize the way in which the ratio of program administrator costs to participant costs varies as a function of sector, measure types, and market maturity; and how incentives and direct support might be optimized to pay no more than is necessary to meet a state's efficiency policy objectives.

Observations and Recommendations on Reporting

In calculating the CSE, we utilized information on program administrator costs, annual energy savings, estimated lifetime of measures installed in a program, and an assumed discount rate. However, with respect to current program reporting practices, we observed several challenges to the collection of this data for the purposes of calculating the CSE:

- Inconsistencies in the quality and quantity of the costs and savings data led LBNL to develop and attempt to apply consistent data definitions in reviewing and entering program data:
    - Program administrators in different states did not define savings metrics (e.g., varying definitions of net savings) and program costs consistently; and
    - Market sectors and program types were not characterized in a consistent fashion among program administrators.
- Many program administrators did not provide the basic data needed to calculate CSE values at the program level (i.e., program administrator costs, lifetime savings or program-average measure lifetimes), which can introduce uncertainties into the calculation of CSE values (as we developed and utilized methods to impute missing values in some cases).

As a practical matter, the quality and quantity of program data reported by program administrators is an important factor in assessing energy efficiency as a resource in the utility sector. Additional rigor, completeness, standard terms, and consensus on at least essential elements of reporting could pay significant dividends for program administrators and increase confidence in energy efficiency savings among policymakers and other stakeholders, particularly in situations where efficiency is treated as a resource in utility procurement decisions, ISO/RTO forward capacity markets or as an environmental compliance or mitigation option by state or federal environmental agencies.

Of the 45 states currently running utility-customer funded efficiency programs (Barbose et. al. 2013), only 31 states provided reporting with sufficient transparency to complete a program-level CSE analysis, and almost all of the 31 states' data required some interpretation for purposes of regional or national comparison. With more consistent and comprehensive reporting of program results, additional insights can quite possibly be obtained on trends in the costs of energy efficiency as a resource as program administrators scale up efforts, what saving energy costs among an array of strategies, and what and how cost efficiencies might be achieved.

Therefore, we urge state regulators and program administrators to consider annually reporting certain essential data fields at a portfolio level and more comprehensive reporting of program-level data in order to facilitate the comparison of efficiency program results at state, regional and national levels. A diagram illustrating this reporting hierarchy approach can be found in Chapter 5, Figure 5-1.

As part of the LBNL CSE Project, we intend to continue collecting energy efficiency program data and analyzing and reporting the CSE for efficiency actions funded by utility customers. We also plan to:

- Work with state, regional and national stakeholders to encourage the collection of program cost and impact data using a common terminology and program typology as defined in this report and a companion policy brief (Hoffman et al. 2013). This is important for organizing program data into appropriate and consistent categories so that programmatic energy efficiency, as a regional and national resource, can be reliably assessed.
- Annually compile data reported by program administrators and state agencies from across the United States.
- Conduct additional analyses to help increase understanding of factors that influence EE program impacts, costs and the cost of saved energy.

1. Introduction

Demand side management (DSM), and end-use energy efficiency specifically, is increasingly being relied upon as a resource for meeting electricity and natural gas system needs within the United States, often because efficiency is quite cost-effective compared to other resource options. For example, 15 states have enacted long-term, binding energy savings targets, often called Energy Efficiency Resource Standards (EERS), and another five states have mandates that program administrators must acquire "all cost-effective energy efficiency."[9] In 2011, U.S. energy efficiency program administrators that manage utility customer-funded efficiency programs spent about $5.4 billion on electric and gas energy efficiency programs (CEE 2013), with spending projected to possibly more than double by 2025 (Barbose et al. 2013).

Electric and natural gas energy efficiency in the United States is pursued through a diverse mix of policies and programmatic efforts, which support and supplement private investments by individuals and businesses. These efforts include federal and state minimum efficiency standards for electric and gas end-use products; state building energy codes; a national efficiency labeling program (ENERGY STAR®); tax credits; and a broad array of largely incentive-based programs for consumers, funded primarily by electric and natural gas utility customers (Dixon et al. 2010) (Barbose et al. 2013).[10]

These utility customer-funded efficiency programs are overseen by state regulators and administered by more than 100 different entities (e.g., utilities, state energy agencies, non-profit and for-profit third parties) and are the focus of this study. Policymakers, regulators, program administrators and implementers rely on information about lifetime costs and savings of these customer-funded efficiency programs to assess efficiency's potential, to design and implement programs in a cost-effective manner or to improve program cost effectiveness. Given the expected growth in efficiency funding and the importance of understanding the cost of saved energy (CSE), we initiated this LBNL Cost of Saved Energy Project (CSE Project) to provide a resource for policy makers, regulators and the efficiency industry as a whole.

1.1 Assessing Energy Efficiency as a Resource

The cost and cost effectiveness of utility-customer funded end-use efficiency programs depend on perspective. From the perspective of a participant in a program, their cost is the cost of an efficiency project net of any incentives or support that might be provided by a program administrator. From the program administrator's perspective, it is the cost of planning, designing, and implementing a program and providing incentives to market allies and end users to take actions that result in energy savings; costs incurred by participants are not considered as part of the program administrator's costs. The total resource or societal cost perspective takes into

[9] States with an EERS as of the date of this report are: AZ, CA, CO, HI, IL, IN, MD, MI, MN, MO, NM, NY, OH, PA, and TX. Six states have a mandate to achieve all cost-effective savings: CA, CT, MA, RI, VT, and WA.

[10] For additional energy efficiency market background, please see: The Future of Utility Customer-Funded Energy Efficiency Programs in the United States: Projected Spending and Savings to 2025. http://emp.lbl.gov/publications/future-utility-customer-funded-energy-efficiency-programs-united-states-projected-spend

account the costs paid by both the program administrator and the participant to implement the efficiency action.

Numerous researchers have estimated the CSE for efficiency programs funded by utility customers (see Appendix A for a description of past and current efforts). These researchers have typically focused on the program administrator perspective (i.e., the program administrator CSE), for two primary reasons. First, in some cases, participant costs are often not collected or reported by program administrators in annual reports (see Chapter 2). Second, when comparing efficiency with supply side resources, some consider that the proper metric is the money paid to obtain the resource by the program administrator as supply-side resources do not consider, or have, participant costs. For this report, primarily because of the first reason, we present program administrator CSE data and analyses.

Another consideration for assessing efficiency as a resource is whether CSE values are based on net or gross savings. Net savings are those attributed to a program (for both program participants and non-participants). Gross savings are those associated with the program participants' efficiency actions, irrespective of the cause of those actions. There is debate about the proper use of net and gross savings in CSE calculations (SEE Action 2012); however, since there is neither sufficient nor consistent data available on net savings, we present CSE values based on gross savings in this study.

1.2 Objectives and Scope

This CSE Project presents and analyzes the costs of acquiring energy savings for different efficiency program types and in different market sectors across the United States. Our objectives are to provide insight into the costs associated with saving a unit of energy and the potential factors that influence those costs. To this end, we hope our work will:

- Benefit policy makers, system planners and other stakeholders by providing continually improving CSE indicators that enable projections of future spending and savings.
- Enable more cost-effective efficiency programs by:
    - Benchmarking and comparing program implementation approaches across different markets (e.g., industrial, commercial, small commercial), delivery mechanisms (e.g., direct install versus do it yourself), and design approaches (e.g., prescriptive versus custom rebates);
    - Analyzing contextual factors that affect CSE, such as types of programs, measures, program administrator experience, changes in building energy codes and standards, labor costs, climate, state-level policies, and the scale of efficiency investments.

This study is the first technical report of the LBNL CSE Project and provides an overview of project scope, approach and initial findings, including:

- Providing a *proof of concept* that the program-level cost and savings data can be collected, organized and analyzed in a systematic fashion;

- Presenting initial program, sector and portfolio level results for the cost of saved energy for a recent time period (2009-2011); and
- Encouraging state and regional entities to establish common reporting definitions and formats that would make the collection and comparison of CSE data more reliable.

Specifically, this report includes and discusses elements of our approach, including the following:

- Developing the data collection, documentation, and analyses procedures LBNL used to calculate the CSE (Chapter 2);
- Defining program categories as well as cost and savings definitions that allow for consistent, standardized entry of program administrator data into a CSE database (Chapter 2);
- Developing a database of program-level data on energy efficiency program impacts and costs from states with significant utility customer-funded energy efficiency programs (Chapter 2);
- Presenting the range of regional-, state-, sector-, and portfolio-level energy-efficiency program administrator CSE and program-level CSE for a defined set of over 60 program categories (Chapter 3);
- Exploring potential relationships between the program administrator costs of saved energy for specific types of programs and climate zones and adopted building energy codes (Chapter 3);
- Conduct a preliminary statistical analysis that explores factors that may be associated with and influence the cost of saved energy at the portfolio or program level and set the stage for future analyses that will assess additional hypotheses and a broader, more refined range of factors (Chapter 4); and
- Present recommendations for future data collection and analyses (Chapter 5).

1.3 Report Organization

The remainder of this report is organized as follows. Chapter 2 provides an overview of approach used to collect data in the LBNL DSM Program Impacts Database and the challenges associated with collecting, organizing and analyzing the data in a consistent fashion. In Chapter 3, we present descriptive statistics on efficiency program costs and savings followed by presentation of CSE statistics at a national, sector, regional, and state level and for certain program types and in relation to climate zones and building code status. In Chapter 4, we discuss our efforts to define and statistically test some factors that may influence the CSE. Chapter 5 presents a discussion of the key findings and recommendations for regulators and program administrators to consider with respect to CSE-related data collection and reporting.

The appendices contain documentation on topics covered in the chapters, including tables of CSE metrics by region, sectors, and program types in Appendix E.

2. Approach

The state-by-state evolution of utility customer-funded energy efficiency programs has fostered diversity in these programs' oversight, design, administration and evaluation. Thus, not surprisingly, information provided to state regulators by program administrators on the impacts and costs of efficiency programs is diverse with respect to the level of specificity and detail required as well as terms and definitions used to describe the costs and impacts of individual programs. In this chapter, we summarize our assembled program data, discuss our approach to compiling, organizing and analyzing the data in a manner that addresses the diversity in reporting practices yet allows for consistent reporting on the cost of saved energy across the country and on the basis of region, market sector, and type of program. This approach included developing an energy efficiency program typology and adopting standard definitions for program characteristics, cost and savings data. We also discuss several major challenges associated with collecting and analyzing program cost and impact data and calculating CSE values given data quality issues.

2.1 Data Summary

The data for this study were drawn from annual reports, mostly for the years 2009–2011, which were prepared by program administrators of efficiency programs funded by the customers of U.S. investor-owned utilities in 31 states. Our energy efficiency program data set comprises expenditure, energy savings and program participation data (where available) reported by 107 program administrators, for a total of 4,184 program records (see Table 2-1).

We relied primarily on annual DSM or efficiency reports filed by program administrators with state regulatory agencies because they both typically include data for a portfolio of programs and are publicly available from state regulatory commission filings.[11] In some cases, when data were not found or were ambiguous in annual reports, we consulted other reports (e.g., other performance metrics reports filed by investor-owned utilities in California) or solicited additional information directly from the program administrator or regulatory staff. Where required data were not provided in a program administrator's filed annual report, but provided in third-party program evaluation reports that were included as attachments to the program administrator annual reports, we used data from both to populate what we are calling the LBNL DSM Program Impacts Database (database).[12,13]

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[11] The states included in this analysis were selected based on the availability and transparency of program cost and savings data at the individual program level as identified by LBNL researchers in a recent review of customer-funded energy-efficiency programs (Barbose et al. 2013). To the extent that reports were accessible, we collected data for all investor-owned utilities (IOUs) in the target states. Many program administrators had not yet released 2012 program year results during the data collection period for this study; thus our analysis focuses on the 2009-2011 period. We did not include program data from publicly-owned electric utilities and rural electric cooperatives because these utilities often do not report program level data that is publicly available. Future efforts may include data collected from public utilities.

[12] We did not rely on individual impact evaluation studies of efficiency programs because the data of interest to this project are usually reported in relatively easily accessible summary form and per program in the annual reports filed with regulators. Moreover, evaluations of individual programs are not always publicly available nor do they always include program or portfolio-related costs.

[13] Appendix C describes data that was collected for this research effort, the database configuration, and the data quality assurance/quality control process and procedures.

Table 2-1. Summary of energy efficiency program data in LBNL DSM Program Impacts Database[14]

State	First Year of Data	Last Year of Data	Total # of Years	Number of Program Administrators*	Number of Program Records
AZ	2010	2011	2	3	65
CA	2010	2012	3	4	1210
CO	2009	2011	3	1	110
CT	2009	2011	3	4	60
FL	2011	2011	1	5	88
HI	2009	2011	3	1	21
IA	2009	2011	3	3	171
ID	2010	2011	2	1	40
IL	2008	2011	4	2	85
IN	2009	2012	4	5	244
MA	2009	2011	3	11	403
MD	2010	2011	2	4	126
ME	2009	2011	3	2	22
MI	2009	2011	3	2	81
MN	2009	2011	3	2	141
MT	2011	2011	1	1	19
NC	2009	2011	3	2	37
NH	2009	2011	3	4	90
NJ	2009	2011	3	1	40
NM	2010	2011	2	4	101
NV	2009	2011	3	3	209
NY	2009	2011	3	11	111
OH	2009	2011	3	7	170
OR	2009	2011	3	2	16
PA	2009	2010	2	6	143
RI	2010	2011	2	2	36
TX	2010	2011	2	10	202

[14] "Number of Program Records" includes programs that produced energy savings (e.g., residential or commercial rebate programs), programs for which the program administrator did not claim savings (e.g., education and outreach programs or pilot programs), and, in some cases, sector- or portfolio-wide activities (e.g., marketing or internal program evaluation activities).

State	First Year of Data	Last Year of Data	Total # of Years	Number of Program Administrators*	Number of Program Records
UT	2009	2011	3	1	41
VT	2009	2011	3	1	18
WA	2010	2011	2	1	42
WI	2009	2011	3	1	42
	Totals			**107**	**4184**

** In some cases, program administrators who run both gas and electric programs are counted twice for the purposes of separating the reported effects of each program.*

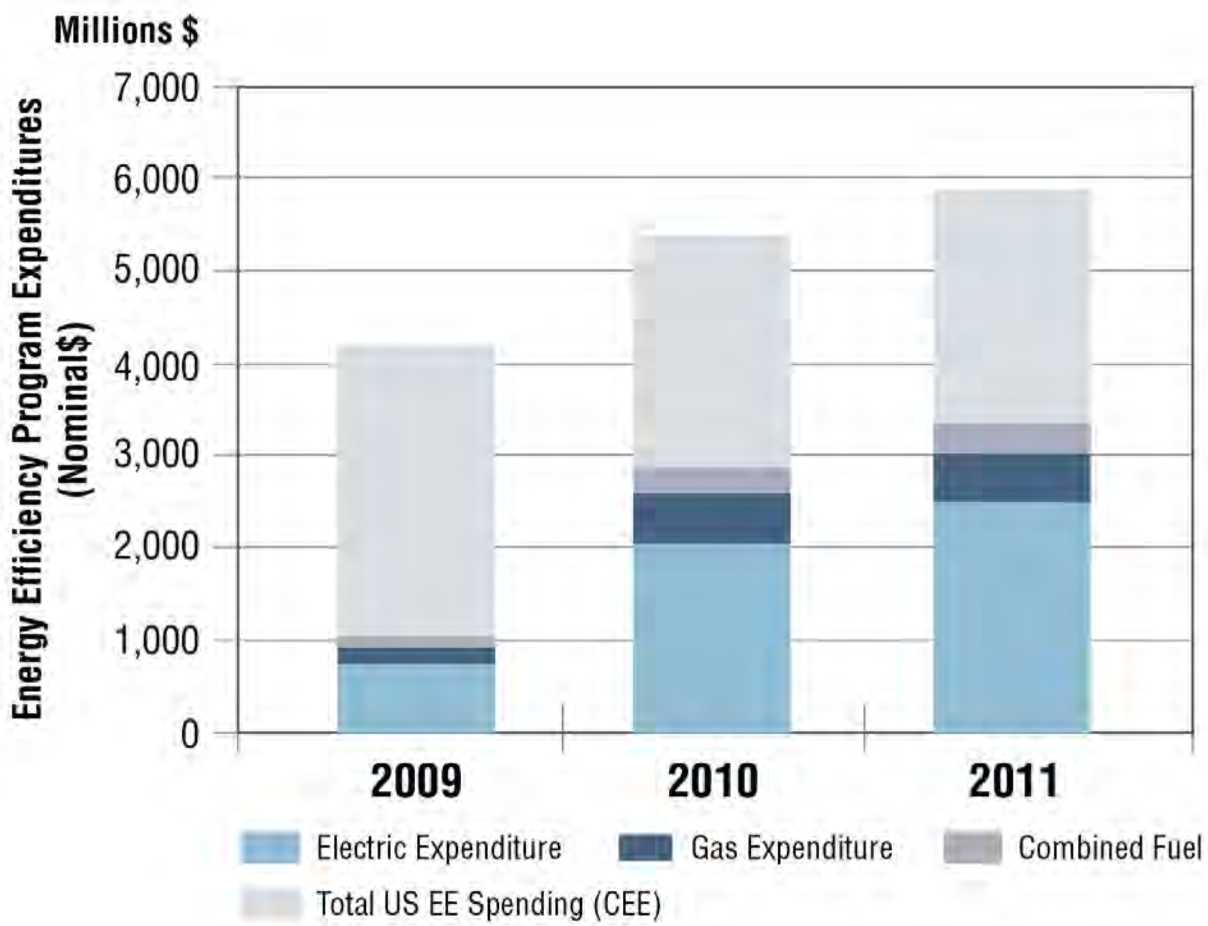

Figure 2-1. LBNL DSM Program Impacts Database coverage as compared to national efficiency spending reported by Consortium for Energy Efficiency (CEE)[15]

[15] CEE Annual Industry Reports can be found here: http://www.cee1.org/annual-industry-reports

The efficiency program data that were compiled by LBNL staff into the database represent a significant share of all efficiency programs funded by utility customers in the United States. The database contains programs with total program administrator expenditures of about $7.6 billion (see light and dark blue shading in Figure 2-1). Programs in the LBNL database represent about 25% ($1.1 billion) of 2009 national program expenditures by gas and electric utilities and about 50% of program expenditures in 2010 and 2011 ($2.9B in 2010 and $3.2B in 2011), compared to national efficiency spending as reported by the Consortium for Energy Efficiency (CEE) (see Figure 2-1).[16]

2.2 Program Typology and Standardized Definitions

We developed program categories in order to characterize and analyze similar types of efficiency program types, as defined by market sector and technology, action, delivery approach, or other common themes. Examples of program categories include commercial prescriptive HVAC programs, low-income programs, and residential whole home direct-install programs. Some program categories are relatively well defined and include a narrow set of technologies (e.g., high-efficiency windows or pool pumps), while other categories are cross-cutting, may span a wide variety of activities (e.g., statewide marketing, take-home energy efficiency kits), and/or target several market sectors (e.g., in-school education programs, lighting technology market transformation programs).

The typology grouped and classified energy efficiency programs into three tiers: (1) sector; (2) simplified program categories; and (3) detailed program categories. Figure 2-2 provides a partial snapshot of this three-tiered program typology approach: seven sectors (including one for demand response programs, which are not addressed in this report), 31 simplified efficiency program categories (27 for efficiency programs) and 66 detailed categories (62 for efficiency).[17] LBNL has prepared a policy brief that describes the typology in more detail as well as the standardized definitions (Hoffman et al 2013). Appendix B also includes the complete typology and set of definitions.

We determined that a three-tiered hierarchy was appropriate because it allowed for flexibility in grouping programs for comparison (e.g., single-measure versus comprehensive whole-building programs or by technology such as lighting vs. HVAC programs) and provides options for different levels of analysis. Moreover, in some cases, the detailed program category tier narrowed the range of installed measures for a program type, thus reducing the uncertainty in derivation of measure savings and lifetime savings across measures installed in that program. For example, we defined three detailed program categories that fall under the simplified program

[16] However, as noted below and in Chapter 3, some of the data were not utilized for the data presentations, CSE metrics and analyses due to missing data. For example, the programs indicated as Combined Fuel in this figure were not included in the cost of saved energy analyses, because the costs borne by electricity and gas utility customers could not be determined for this subset of programs. Without the useable data, the database still contains about 45-50% of the national spending estimate.

[17] The relatively large number of simplified and detailed categories was necessary to capture the wide range of common program offerings throughout the country. We also included some program types in the detailed typology because they have regional significance (e.g., pool pump programs in the Southwest, data center programs in New York, Washington and California), or the program types appear to be emergent (e.g., financing programs, residential behavior-based efficiency programs).

category of “Whole Home Upgrades”: Whole Home Audit Programs; Whole Home Direct-Install Programs; and Whole Home Retrofit Programs.[18]

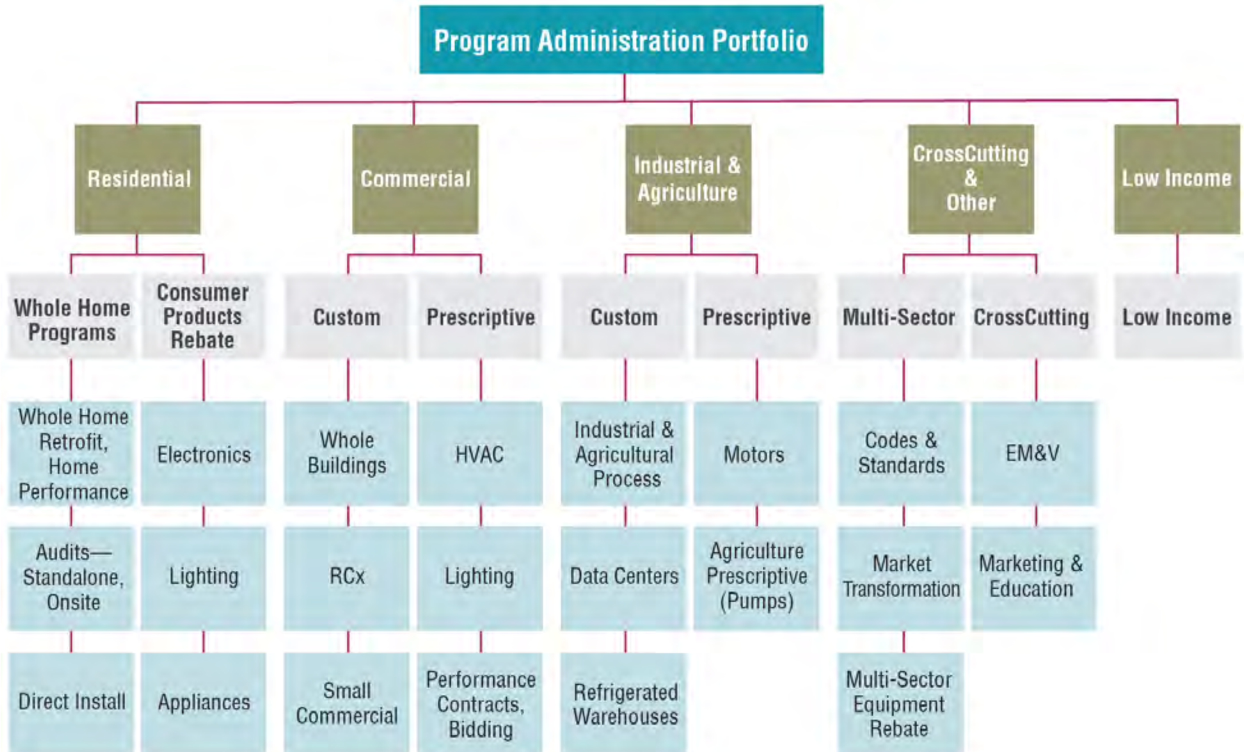

Figure 2-2. Selected program types in the LBNL program typology
Note: Not all sectors and simplified and detailed program categories are shown

We have relatively high confidence in the categorization of most programs. However, there are some programs where we were either not able to obtain much information about the measures offered under that program or where there was a wide array of measures offered under a single umbrella program. In both situations, programs were generally categorized under “prescriptive” or “other” categories. The mix of programs and measures in these two types of categories are likely to be less consistent than in other program categories.

The data fields and specification for the database and program categories were developed through an iterative process which included review of program administrator annual reports and review of several other sources that contain typologies and/or definitions, including the State and Local Energy Efficiency Action Network (SEE Action 2012), the Consortium for Energy Efficiency (CEE 2012), the Regional EM&V Forum of the Northeast Energy Efficiency

[18] We found that program names were not always indicative of the appropriate program category. Thus, in many cases, we reviewed program information as part of the process of classifying programs into program category. We defined a specific set of guidelines for classifying programs by type. For example, when the program name was ambiguous (e.g., EnergySaver) or when the program description indicated savings could fall into more than one detailed or simplified category (e.g., a single program that offered both prescriptive and custom rebates), we looked at the measure-level savings reported for that program (if available) and categorized the program according to the reported measure mix.

Partnerships (NEEP 2011), and the NEEP Regional Energy Efficiency Database (REED 2013). We shared a draft of our categories and definitions and had several discussions with representatives from CEE, NEEP and the American Council for an Energy-Efficient Economy (ACEEE); and made revisions based on their input. For the demand-response program categories, we relied on program categories defined by the Federal Energy Regulatory Commission (FERC) for its national surveys (FERC 2012), although demand-response program data are not included in this study.

We also defined program cost and energy savings (impacts) data fields as part of our effort to classify and report program information in a consistent fashion across program administrators and states.[19]

- **Program Administrator Costs:** The primary cost data used in this report are the *program administrator costs* which include: (1) program administration planning and delivery; (2) engineering or technical support; (3) services provided by implementation contractors; (4) marketing, education and outreach; (5) direct rebates or financial incentives to program participants; and (6) evaluation, measurement and verification costs (see Table 2-1).[20] Program administrator costs exclude participant costs and performance incentives for program administrators (e.g., utility shareholder incentives).[21] For each program we collected from one to four years of data.[22] We made inflation adjustments to the program cost data provided by program administrators so that all cost data are reported in 2012$.[23] We chose to use 2012 as our base year because 2012 is the most recent year for which an annual implicit price deflator for GDP is available from the U.S. Bureau of Economic Analysis. We would have preferred to also report CSE values based on participant, as well as program administrator, costs; however, we found that few program administrators reported participant costs in their annual reports (see Appendix C).
- **Program Savings:** The State and Local Energy Efficiency Action Network's Energy Efficiency Program Impact Evaluation Guide (SEE Action 2012) was the primary source used to describe and define the program energy savings indicators in a consistent fashion.[24] The SEE Action Guide was particularly important for providing

[19] Program cost and savings definitions tend to be consistent within a state, even if there are multiple program administrators.

[20] Some program administrators did not include program-level costs for activities such as marketing/outreach, education, and evaluation, but instead accounted for those expenditures at the sector or portfolio level.

[21] We did not report program administrator performance incentives because actual awards of performance incentives are not often included in annual reports filed by program administrators, and are frequently awarded at a significantly later date.

[22] Some program administrators included prior years' data in their reports in addition to the 2009–2011 period.

[23] Costs can be presented in nominal (or current) or real (or constant) dollar terms. Nominal values are economic units measured in terms of purchasing power of the date in question. Real dollar values are economic units measured in terms of constant purchasing power. A real value is not affected by general price inflation and can be estimated by deflating nominal values with a general price index, such as the implicit deflator for gross domestic product or the Consumer Price Index. From OMB *Circular A-94 Guidelines And Discount Rates For Benefit-Cost Analysis of Federal Programs.* We used the GDP implicit price deflator published regularly by the U.S. Bureau of Economic Analysis.

[24] The SEE Action Guide describes common terminology, structures, and approaches used for determining savings from energy efficiency programs guide. The definitions in the SEE Action Guide incorporated input from program

data definitions for net and gross energy savings and lifetime energy savings, which for this report are assumed to take place at the end-use site where the efficiency actions were implemented.

Table 2-2 provides abridged definitions for key program data in the Database (see Appendix B for the complete glossary of energy efficiency program data fields).

Table 2-2. Abridged definitions for selected program cost and savings data

Term	Definition
Program Administrator Costs	Program administrator costs include the costs of designing programs and portfolios; directing, managing and paying implementation contractors; marketing, education and outreach (ME&O); program and portfolio evaluations; and incentives to both program participants (or end users) and to both mid-stream and upstream allies in the market (e.g., financing and services such as installations or free audits).
Program Average Measure Lifetime	Weighted average economic lifetime (years) of all measures installed in a program year in a specified program.
Annual Gross Savings	Gross annual incremental savings (kWh or therm) as reported by the program administrator using their own staff or evaluation firm, after the subject energy efficiency activities have been completed. Gross savings are the change in energy consumption resulting from program-related actions taken by program participants regardless of why they participated. Note that these are annualized "full-year" savings, regardless of when measures were installed during the program year. Per the SEE Action reference (SEE Action 2012) these may be Claimed or Evaluated Savings.
Lifetime Gross Savings	The expected gross savings (GWh or therm) over the lifetime of the measures installed under the subject program. For our analysis, where available, we relied on lifetime savings reported by the program administrator.

The detailed program categories and data definitions described in this section have been adopted by CEE for its own 2013 annual surveys of the efficiency program industry.[25] We hope that other entities will consider using them as well and to support that objective, as part of the CSE Project, LBNL plans to gather feedback from stakeholders via an annual or biennial process to modify, add or subtract program categories as program offerings change or to address potentially needed clarifications in the definitions and categories.

administrators, state regulators, and other stakeholders from a number of states and regions and included a review and synthesis of definitions used in a broad set of energy efficiency glossaries.

[25] As part of its 2013 annual "State of the Industry" survey, CEE is collecting program-level energy efficiency and demand response program data from program administrators using the LBNL program categories described in this report as well as the definitions from the SEE Action guide.

2.3 Challenges in Consistent and Standardized Reporting of Program Data

When data are compiled from multiple states and program administrators, terminology differences can potentially make it difficult to conduct comparative analysis across states or program administrators. This was a primary rationale underlying our effort to develop a program typology and standardized definitions so that we could conduct a comparative analysis of energy efficiency program impacts and costs. However, even with the typology and definitions, there are two key data challenges.

First, we assume that all expenditure, savings and participation data reported by a program administrator are accurate. Given our time and resources, this is a reasonable starting assumption; however, it should be noted that the range of effort placed into documenting impacts by program administrators varies significantly among states (SEE Action 2012).

Second, in reviewing information on efficiency programs funded by U.S. utility customers, we found that program data are often not defined and reported consistently among states. Specifically, we identified three key concerns in compiling and analyzing program information on a regional or national basis, some of which are addressed by the common typology and standardized definitions:

1. ***Energy savings and program costs are not defined consistently.*** The most common discrepancies can be found in the definitions of net energy savings. Examples of other program data where differences are found across states include:
   - The term "annual energy savings" typically is understood as shorthand for annualized incremental energy savings, but some entities—including resource planners—apply a different meaning that includes savings resulting from prior years' activities.
   - The definition of measure lifetime, how a program's average measure lifetime is determined, and the estimated measure lifetime values for the same measures or program types varies among states.
   - Some program administrators report end-use site savings and others report savings at the power plant bus bar (for electricity efficiency programs).
   - Most program administrators do not count their own performance incentives among program costs, although some do. The definitions of other cost categories (e.g., marketing costs, general consumer education, and evaluation) also vary among states.
2. ***Program data are not reported consistently across states.*** For example, some states report just gross or net energy savings; others report both. Similarly, many efficiency annual reports only include first-year savings and not lifetime savings.[26] With respect to cost data, program administrators often classify costs differently among administration, marketing and outreach, incentives and participant costs. Some program administrators

[26] We found that only about a quarter of the program reports that were reviewed included information on measure lifetimes or lifetime savings, although this information is required to assess program cost effectiveness. See below, in the section on adjustments for missing data, for discussion of how measure lifetime variation creates uncertainty in the calculation of CSE.

also report certain costs (e.g., marketing, evaluation) at the portfolio or sector level, while others account for those costs at the program level.

3. ***Programs and sectors are not characterized in a standardized fashion.*** Programs targeting specific building types or consumers can be included under different sectors from state to state (e.g., multi-family residential structures are sometimes categorized as commercial programs). Moreover, the types of activities and measures that are included under the same program title (e.g., custom vs. combination custom/prescriptive programs) also vary.

We suggest that readers consider these above issues when utilizing the information in this report for their own uses and understanding of the cost of saved energy.

2.4 Calculating and Using the Cost of Saved Energy

The program administrator's CSE is a useful metric for comparing the relative costs of efficiency programs and for comparing an energy efficiency option to other demand and supply choices for serving electricity and natural gas needs[27]. However, the cost of saved energy is not a test of cost effectiveness (e.g., one of the screening tests used by program administrators) because: (1) it does not capture the full benefits to utility customers and shareholders (e.g., avoided generation capacity, avoided transmission and distribution investments, avoided environmental compliance costs); (2) benefits are not monetized but reflected simply in energy units of kilowatt hours or therms, the cost of which will vary by utility; and (3) energy is saved at the end use, not the power plant.[28]

In this report, we use gross energy savings (rather than net savings) in the CSE calculations primarily because of data availability and comparability reasons: (1) more administrators reported gross savings than net; and (2) net savings are defined relatively inconsistently, as compared to gross savings, among program administrators and states.
We also report savings at the end-user level (and not at the busbar or power plant source), because this is what most program administrators report. It is important to note that savings from electricity efficiency programs reported at the busbar would be higher than at the end-use level because we are accounting for distribution and transmission losses (losses also occur in the natural gas network as well).[29]

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[27] According to the Energy Information Administration, "levelized cost is often cited as a convenient summary measure of the overall competiveness of different generating technologies. It represents the per-kilowatt hour cost (in real dollars) of building and operating a generating plant over an assumed financial life and duty cycle. Key inputs… include overnight capital costs, fuel costs, fixed and variable operations and maintenance (O&M) costs, financing costs, and an assumed utilization rate for each plant type.
http://www.eia.gov/forecasts/aeo/electricity_generation.cfm

[28] The equation also is inverted, with costs in the numerator and benefits (in energy units) in the denominator—the reverse of the benefit/cost ratios that are a key determinant of cost effectiveness.

[29] This is an important consideration if the CSE values were to be compared with costs of electricity generation resources, which typically are indicated as busbar values.

We calculate the cost of saved energy (CSE) metrics in three ways: (1) a cost of lifetime saved energy; (2) a levelized cost of energy savings using two discount rates (3% and 6% real); and (3) a cost of first-year energy savings. See Table 2-3 for definitions of these CSE metrics and their common uses.

Table 2-3. Program administrator cost of saved energy metrics: definitions and potential uses

Program Administrator Cost Metric	Shortened Term	What is Measured	Potential Uses
Cost of Lifetime Energy Savings	Lifetime CSE	The cost of acquiring energy savings that accrues over the economic lifetime of the actions taken through a program/sector/portfolio. Calculated by dividing program administrators' costs by the gross savings.	• Used by program administrators for designing programs and portfolios, e.g., for depth of savings and cost effectiveness • Used by planners and other stakeholders to project efficiency as a resource, develop load forecasts, etc.
Levelized Cost of Energy Savings	Levelized CSE	The cost of acquiring energy savings that accrue over the economic lifetime of the actions taken through a program/sector/portfolio, amortized over that lifetime and discounted back to the year in which the costs are paid and the actions are taken	• Same uses as lifetime savings • Useful to program administrators, regulators and other stakeholders who want to compare particular demand-side options with other demand, and supply-side, resources
Cost of First-Year Energy Savings	First-Year CSE	The cost of acquiring a single year of annualized incremental energy savings through actions taken through a program/sector/portfolio. Calculated by dividing the program administrators' costs by the first year incremental savings.	• Useful for program administrators in program design

The cost of saved energy can be useful to various stakeholders. For example, state regulators can use both first-year and lifetime CSE values as quick metrics for assessing whether a program or portfolio looks like a reasonable expenditure of utility customer funds. A program administrator that is considering offering a comprehensive residential energy upgrade program may want to compare that program's estimated per-unit cost performance against average costs and the range of costs for similar programs. Based on the comparison, the program administrator may want to look at the design of comparable programs for potential cost efficiencies. Regulators and resource planners can use the levelized CSE in the initial screening analysis of various supply- and demand-side resources. Resource planners also can use the lifetime CSE to convert approved budgets for demand-side management plans into energy savings estimates that then can be used in scenario or sensitivity analysis of future load forecasts.

Finally, based on the limited participant cost data reported by program administrators, we calculate a total resource CSE for illustrative purposes in Chapter 3. This calculation presents the net total costs, including both program and participant costs, for the efficiency resource. A levelized total resource CSE might also be useful to program administrators, regulators and other stakeholders who want to compare particular demand-side options with other demand and supply-side resources.

2.4.1 Levelized Cost of Saved Energy

The lifetime cost of energy savings metric is a simple, straight-forward calculation although it ignores changes in the value of money between an initial investment and future energy savings. Meier (1982) included the time value of money (discount rate) to calculate the "cost of conserved energy" (CCE) or what we are calling the "levelized cost of saved energy". Meier found that inclusion of the discount rate raises the CCE because of discounting future benefits, yet provides a basis for comparing the CCE for measures that have different lifetimes and can be compared to retail rates and levelized costs of supply-side resources.[30] A similar accounting framework, the levelized cost of energy (LCOE), often is applied to assessing the economic competitiveness of diverse generation sources (U.S. Energy Information Administration 2013).

We calculated a levelized CSE using two discount rates[31] that are rough proxies for different perspectives on energy efficiency investments: a 6% real discount rate that can reflect the utility weighted average cost of capital (WACC) at present and a 3% real discount rate that can be a proxy for a societal perspective. The levelized CSE calculation is as follows:

$$Levelized\ CSE\ (in\ \$/unit\ energy, e.g., kWh, therm, Btu) = (C\ x\ (Capital\ Recovery\ Factor))/(D)$$

$$Capital\ Recovery\ Factor\ =\ [A*(1+A)\hat{}B]/[(1+A)\hat{}B-1]$$

Where:

A = Discount rate

[30] See Appendix A for further discussion of the history of efficiency CSE analyses

[31] Discount Rate: An interest rate applied to a stream of future costs and/or monetized benefits to convert those values to a common period, typically the current or near-term year, to measure and reflect the time value of money. It is used in benefit-cost analysis to determine the economic merits of proceeding with a proposed project, and in cost-effectiveness analysis to compare the value of projects. The discount rate for any analysis is either a nominal or a real discount rate. A nominal discount rate is used in analytic situations when the values are in then-current or nominal dollars (reflecting anticipated inflation rates). A real discount rate is used when the future values are in constant dollars and can be approximated by subtracting expected inflation from a nominal discount rate (SEE Action Network 2012).

B = Estimated program measure life in years

C = Total program cost in 2012$

D =Annual kWh saved that year by the energy efficiency program

This formula is the classic definition of a compound interest calculation used to calculate equivalent annual net disbursements.

The discount rate can have a significant impact on the calculated CSE. For example, for a program with an average measure lifetime of 20 years, a discount rate of 6% will indicate a levelized CSE that is about 30% higher than the same program if a discount rate of 3% were used. See Appendix D for further discussion of the factors considered in choosing these two illustrative interest rates.

2.5 Treatment and Adjustments for Missing Data

In calculating CSE for efficiency programs, we encountered several data completeness issues that needed to be resolved:

- Many programs' data included neither program measure lifetime nor gross lifetime savings. This information is necessary to calculate lifetime and levelized CSE;
- Some combined gas and electric program administrators reported separate savings for their electric and gas programs but did not separate their electric and gas program costs; and,
- Most program administrators reported end-use energy efficiency savings while others reported savings at the source of the electricity (generation or busbar savings). Natural gas savings are usually considered the same at the end-use site and at points along the gas distribution, although there is the potential for per unit losses from the natural gas source to the end user.

In addition, for the few program administrators that reported only net savings, we calculated gross savings by dividing reported net savings by a net-to-gross ratio[32] when this ratio was provided in related references for the subject programs.[33] Furthermore, some program reports provided no cost data and others provided no savings data; these programs were excluded from the CSE analysis. These adjustments resulted in program data from 100 program administrators in the database being utilized in calculating CSE values in this study.[34]

[32] The net-to-gross ratio is the net program impact (energy savings) divided by the gross program impact.

[33] In Massachusetts and New York, program administrators reported net savings and did not provide net-to-gross ratios in their annual efficiency reports. In these cases, we applied net-to-gross ratios reported in the 2011 REED database and applied the program level ratios to the previous two years included in this analysis (2009-2010). New Hampshire program administrators reported net lifetime savings for 2009-2010. We were not able to generate a gross lifetime or annual incremental savings values needed to calculate the CSE and therefore those years were dropped from the analysis.

[34] Data from 100 of the 107 program administrators whose data are in the LBNL DSM Program Impacts Database are included in this Chapter. The seven program administrators that were excluded represent about eight percent of the total costs for programs in the Database. Three program administrators are excluded because their combined gas and electric program costs could not be separated out by fuel type, three program administrators were excluded because they did not report expenditures at the program level, and one program administrator was excluded because it reported net savings in a manner that did not allow determination of gross savings. Two years of program data

2.5.1 Program Average Measure Lifetime

The CSE calculation takes into account the costs incurred to implement the measures, which in the database all occur during the program year,[35] and the savings that occur over the lifetime of the implemented measures. However, program administrators reported lifetime savings for only about 44% of the programs years in the collected annual reports (see Appendix C).[36] Another way to calculate the lifetime savings is to multiply the first-year savings by the program average measure lifetime (program lifetime)[37], which we interpret as the lifetimes of the various measures installed through a program weighted by their respective savings.

However, even fewer program administrators reported any form of a program lifetime—about 26% of electric and 30% of gas programs for the 2009–2011 period (see Appendix C). For the programs that did report a lifetime value, program average measure lifetimes varied widely within many of the detailed program categories.[38] For example, the median program lifetime for residential new construction programs is 18 years, with a program life of 14 and 25 years at the 25th and 75th percentile for programs in the database. Figure 2-3 shows the range, inter-quartile range, and median program lifetime values reported for a selected sample of detailed program categories.

Given the limited availability of lifetime savings and program lifetime values, we developed the following set of decision rules, or protocol, for defining lifetime savings for each program in the database:

1. When available, use the program lifetime savings reported for the program by the program administrator;
2. When program administrator did not report program lifetime savings, but did report program average lifetime value, we multiplied this value by the reported first-year savings to calculate the program's lifetime savings;[39]

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from three other program administrators were not used in the CSE analysis because these program administrators reported net savings in a manner that did not allow determination of gross savings; however, the third year of data for those three program administrators was used.

[35] Some project installations may be completed after the end of the program year but are accrued to the program year in which the project was initiated (e.g., customer has signed up, equipment installation has been scheduled, equipment installation has begun but not been completed). Some energy efficiency actions also may require ongoing, incremental operations and maintenance expenditures (compared to the baseline equipment), which are not considered in this study, which is consistent with most energy efficiency program assessments.

[36] There are more than 4,000 program years in the database, where we count each program in each year of implementation separately.

[37] Measure lifetime, also called effective useful life (EUL), is based on the lifetime of equipment installed or measures implemented and measure persistence (as opposed to savings persistence). In many energy efficiency programs, the estimated EUL takes into account both the expected remaining life of the measure being replaced and the expected changes in operational baselines over time (Mass Save 2011, SEE Action 2012).

[38] A number of factors may contribute to the variation in reported measure lifetimes including the unique mix of measures implemented for a program (particularly for programs that contain a wide range of longer- and shorter-lived measures) and different assumptions and/or methodologies used to determine measure lifetime used by program administrators.

[39] Some program administrators document the average measure lifetime for programs that installed a mix of measures. The most common approach used by program administrators is to weight the program average measure lifetime by respective measure savings. We applied this approach for all of the reported program measure lifetimes.

3. For programs where we did not have lifetime savings or measure lifetime data, we calculated a program average measure lifetime for similar programs in the database and used that imputed value along with the program's first-year savings to calculate program lifetime savings.[40]

For program categories that contained a broad unspecified mix of activities or too few data points to calculate a national program average measure lifetime values, we reviewed technical reference manual lifetime values for specific measures to generate a "national program average measure lifetime" value for that program.[41] Given the wide variation in reported measure lifetimes, our method of calculating a national program average measure lifetime and applying it to programs for which that data are not available introduces uncertainty into the final CSE calculation, particularly for program categories that contain mixes of measures with wide-ranging measure lifetimes. In Chapter 3, we include results of a sensitivity analysis that illustrates the impact of varying measure lifetime assumptions on CSE calculations.

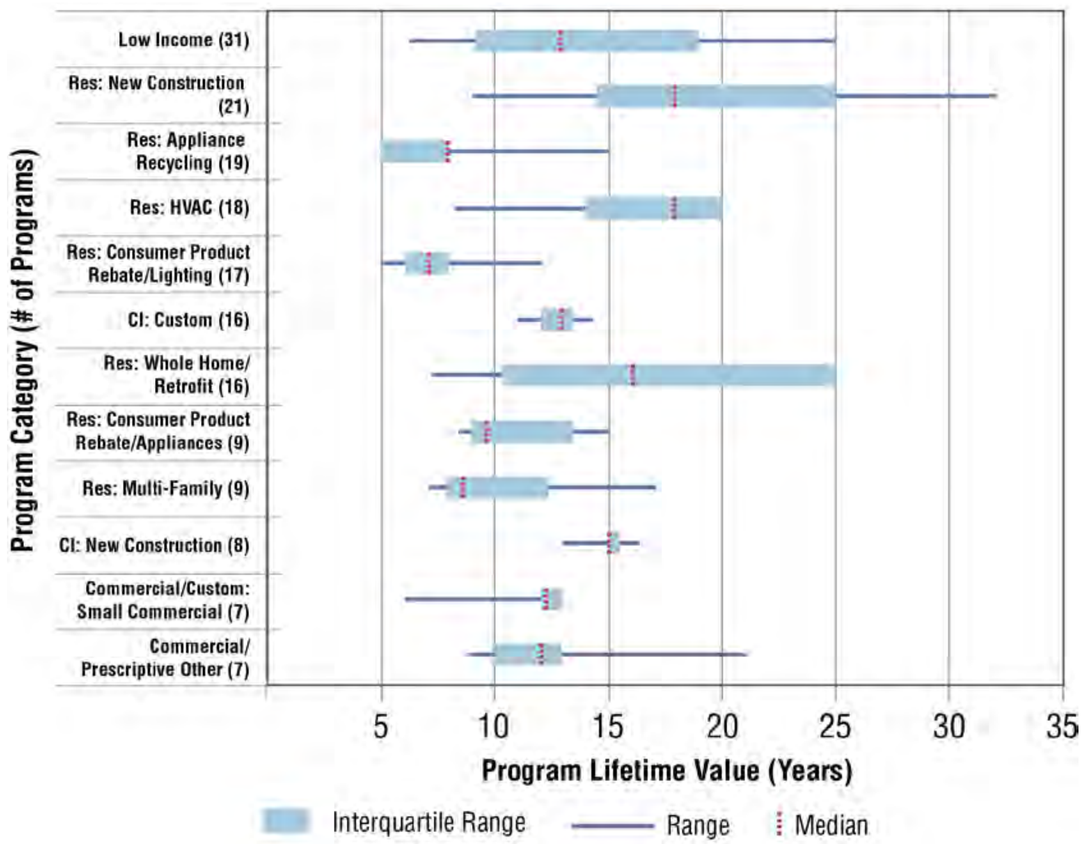

Figure 2-3. Range of reported program average measure lifetime values for select detailed program categories

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The authors' experience indicates that the way in which measure lifetimes are defined, determined and reported are not consistent among program administrators.

[40] We calculated a national program average measure lifetime as follows: divide reported lifetime savings by first-year savings values for each program in the database that reported this information in order to generate a national (un-weighted) program average measure lifetime by program type.

[41] See Table C-3 in Appendix C for the national program average measure lifetime values calculated for each of the detailed program categories.

2.5.2 Cost Data for Combined-Fuel Programs

Some program administrators of combined-fuel programs reported separate electric and gas savings values but did not report separate costs for electric and gas programs or measures. For those program administrators where we could not reliably calculate the per-kWh and per-therm CSE from the reported data, we obtained additional information that enabled us to calculate reasonable estimates of the disaggregated electric and gas expenditures for the following combined fuel utility cases:

- The California combined-fuel utilities did not provide separate electric and gas cost data. However, one of the utilities provided program-level data on the net monetized benefits of the programs, allocated by fuel. We were then able to estimate that utility's combined electric and gas program costs by fuel (electricity and natural gas) based on the program's share of savings allocated to each fuel.
- A New England combined-fuel utility that had not reported separate gas and electric cost data later provided estimates of the ratio of gas and electric costs which were applied to that utility's data.

Other program data from program administrators for which we could not disaggregate electric and gas program costs were included in the overview of program spending and savings presented at the beginning of Chapter 2, but excluded from the dataset used to calculate CSE.[42]

2.5.3 End-Use versus Source and Busbar Energy Savings

Most state program administrators reported end-use energy efficiency savings; however, there were a few program administrators that reported both end-use and busbar, and a handful that only reported busbar savings. For the purposes of this report, we followed the following decision rules:

- Where program administrators reported both end-use and busbar savings, we used end-use savings;
- Where program administrators are not clear, or do not explicitly state that the savings is end-use, we treat the savings values as end-use savings;

  Where program administrators only reported a busbar savings value, we identified a line loss estimate and calculated that end-use savings.[43]

[42] Wisconsin's single statewide program administrator was included in the program spending and savings overview but excluded from the CSE results because the program administrator did not provide disaggregated electric and gas program expenditures data.
[43] For a discussion on line losses, please see: http://www.raponline.org/ document/download/id/4537

3. Results—Utility Customer-Funded Programs: Costs and Savings

In this chapter, we first present a national overview of electric and gas energy end-use efficiency program administrator expenditures and savings, including summaries by market sector and region for the programs in the LBNL DSM Program Impacts Database (database). We then present ranges of program administrator cost of saved energy (CSE) values, mostly for electricity efficiency programs (as they represent about 80% of program expenditures), on a national, regional, and state basis. Some CSE values are presented at the sector and program level as well. We also include sensitivity analyses on the impact of assumed measure lifetimes on the CSE (one of the data issues raised in Chapter 2). Finally, we present CSE results for those programs where program administrators reported program administrator costs and participant costs (what some refer to as the total resource cost).

> **Attributes of Information Reported in this Chapter**
>
> Costs refer to **program administrator costs** only; the CSE values exclude participant costs unless specifically indicated otherwise.
>
> Savings are based on **gross savings** reported by the program administrator unless specifically indicated otherwise. For program administrators that only reported net savings values, we calculated gross savings values using net-to-gross ratios. Savings values are also based on **savings at the end-use site** and not at the power plant or natural gas pumping station and thus do not account for transmission and distribution losses. See Chapter 2 for more detailed explanation.
>
> Lifetime energy savings, when not reported by the program administrator (which was the case for about 50% of the programs), were calculated per the protocol described in Chapter 2.

The results presented in this chapter represent a significant portion of the efficiency programs funded by customers of U.S. investor-owned utilities during 2009, 2010, and 2011. However, when using the information, the reader should recognize that they are not necessarily a representative sample, particularly for some regions of the country where annual reporting is not prevalent.

3.1 Energy Efficiency Program Administrator Expenditures and Savings

3.1.1 Electric Programs

Program administrator expenditures for identifiable electricity efficiency programs[44] in the database, for the years 2009–2011, totaled just under $5.3 billion (in 2012$) with commercial/industrial programs (C&I) programs representing about 60% of expenditures and residential programs comprising about 30% of the expenditures (see Table 3-1).

In terms of how electricity savings vary by sector for the programs in the database, the answer depends on whether first year or lifetime savings are considered (see Figure 3-1). The savings accruing from C&I sector programs accounted for 53% of the aggregate first-year savings and 62% of the aggregate lifetime savings. Residential programs' share of first-year savings was higher than their share of expenditures; residential programs made up 29% of expenditures but garnered 40% of first-year savings and 31% of lifetime savings. On the other hand, low-income programs represent 6% of the total expenditures and 2% of first-year and lifetime savings.

[44] Eighty-eight program administrators reported electric program data.

Table 3-1. Program administrator expenditures for 2009–2011 electricity efficiency programs

Market Sector	Share of Total Program Administrator Expenditures	Total Program Administrator Expenditures (million 2012$)
C&I	61%	$3,214
Residential	29%	$1,515
Low Income	6%	$332
Cross Sector/Other	4%	$213
TOTAL	**100%**	**$5,274**

We also examined residential expenditure and savings data by simplified program type and found that consumer product rebate programs,[45] prescriptive rebate programs[46] and whole home programs[47] were the top three contributors to expenditures and lifetime electricity savings in the LBNL DSM Program Impacts Database. Combined, these three programs represented 84% of total expenditures and 90% of the lifetime savings for residential programs in our database (see Figure 3-2).

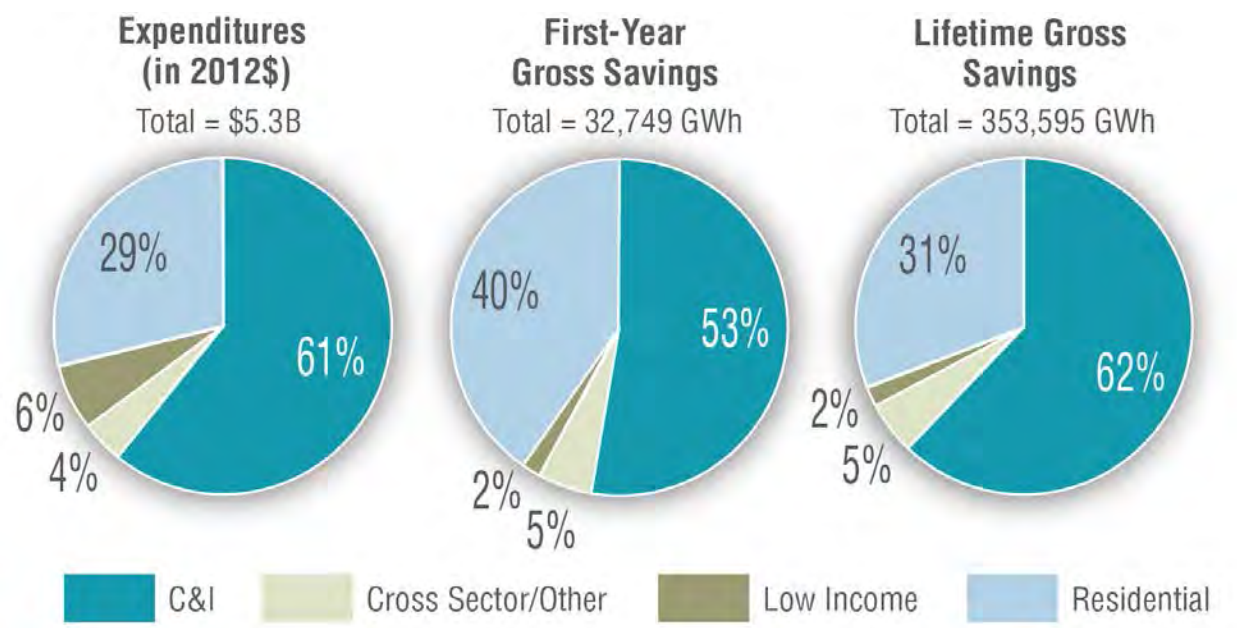

Figure 3-1. Program administrator expenditures, first year and lifetime gross savings for 2009–2011 electricity efficiency programs

[45] Programs that encourage use of more efficiency products such as appliances, electronics, lighting products, etc.
[46] Programs that provide pre-defined incentives for installation of cost efficient products such as insulation, windows, water heaters, etc.
[47] Programs that offer direct install services, audits or incentives for comprehensive packages of efficient products.

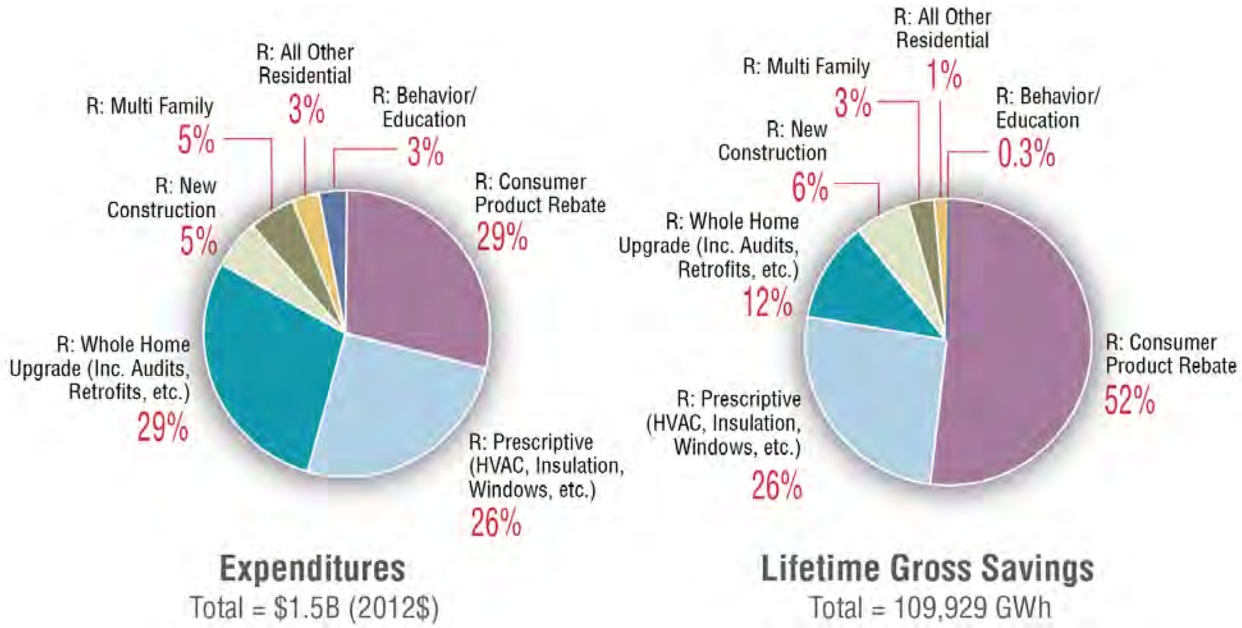

Figure 3-2. Program administrator expenditures and lifetime gross savings by simplified program category for 2009–2011 residential electricity efficiency programs

Other observations from the database's residential electricity program data, as shown in Figure 3-2, are:

- Consumer Product Rebates accounted for about 29% of total residential program expenditures, but over half of the lifetime savings;
- Residential Prescriptive programs accounted for similar percentages of expenditures and lifetime savings, both 26%;
- Whole Home Upgrade programs represented about 29% of aggregated expenditures and12% of the lifetime electricity savings;
- New Construction programs accounted for 5% of residential program expenditures and 6% of the sector's lifetime savings,
- Multifamily programs accounted for 5% of expenditures and 3% of lifetime savings, and
- Behavior and Education programs make up 3% of expenditures but less than 1% of lifetime savings.

To illustrate the power of a program-level database, we analyzed the four detailed program types that are included in the residential Consumer Product Rebate program category that covers 52% of the residential lifetime electricity savings (see Figure 3-3). This analysis indicated that lighting rebate programs accounted for over 80% of all gross electricity savings attributed to the consumer product rebates in the program administrator program reports we compiled. This means that lighting rebates represent at least 44% of total residential lifetime savings.[48] Appliance Recycling programs (which we also included in the product rebate category)

[48] We indicate at least 44% because other program types also can, and often do, include lighting related products.

accounted for 6% and appliance rebates made up 2% respectively of all residential sector lifetime gross savings. Consumer Electronics programs, the fourth detailed program type in the consumer product rebate category, garnered less than 1% of residential sector savings.

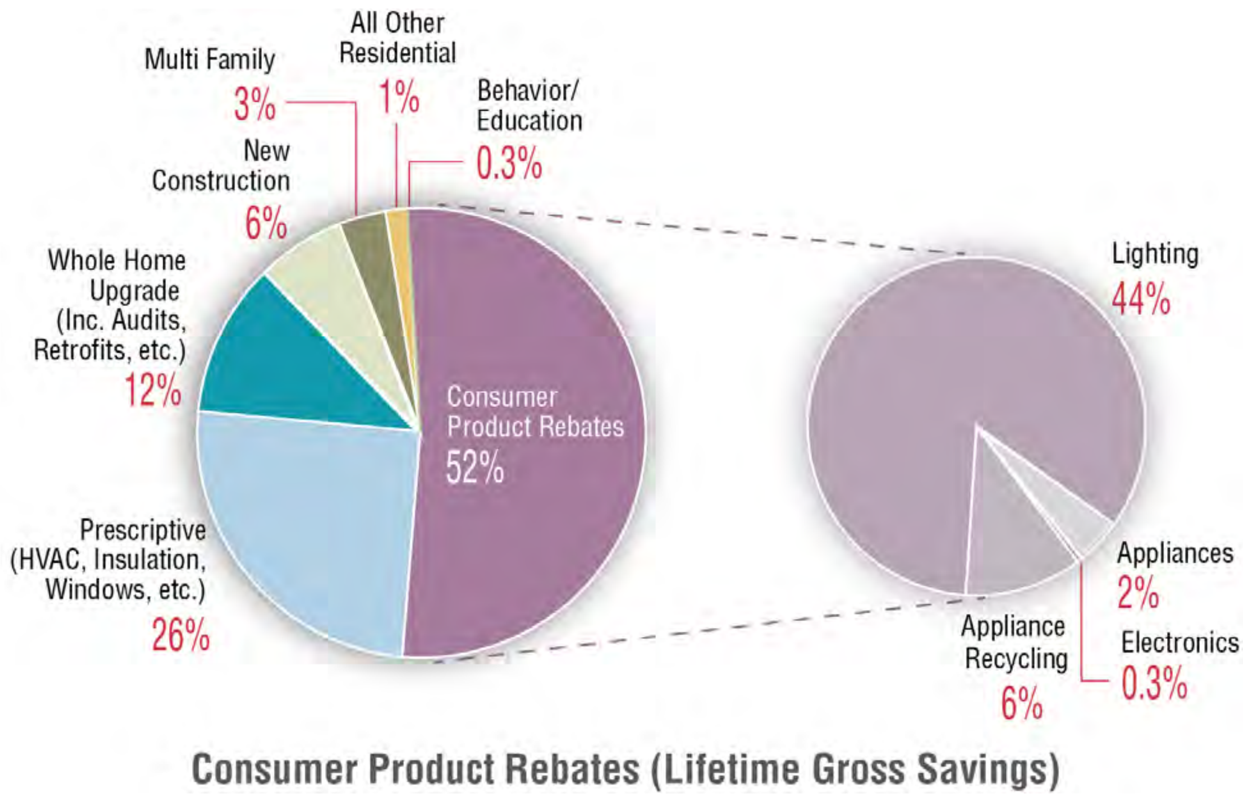

Figure 3-3. Lifetime gross electricity savings for 2009-2011 residential consumer product rebate programs

We also analyzed C&I sector expenditure and savings data by simplified program type (see Figure 3-4) and found the following:

- At 36%, custom programs represented the largest share of all C&I expenditures as well as the largest share of all C&I total lifetime savings at 38%.
- Prescriptive and small commercial programs accounted for comparable shares of C&I expenditures at about 21% each; although reported lifetime savings were much greater for prescriptive programs (30% of all savings) compared to small commercial programs (11% of all C&I savings).
- Commercial new construction programs accounted for 12% of C&I expenditures and 10% of the sector's savings.
- Programs specifically targeting the institutional market (municipal and state governments, universities, colleges, K-12 schools and hospital/healthcare facilities, also collectively known as the MUSH market) made up 7% of total C&I program expenditures and 4% of the savings, although it should be noted that institutional sector customers can and do participate in many other types of C&I programs as well.

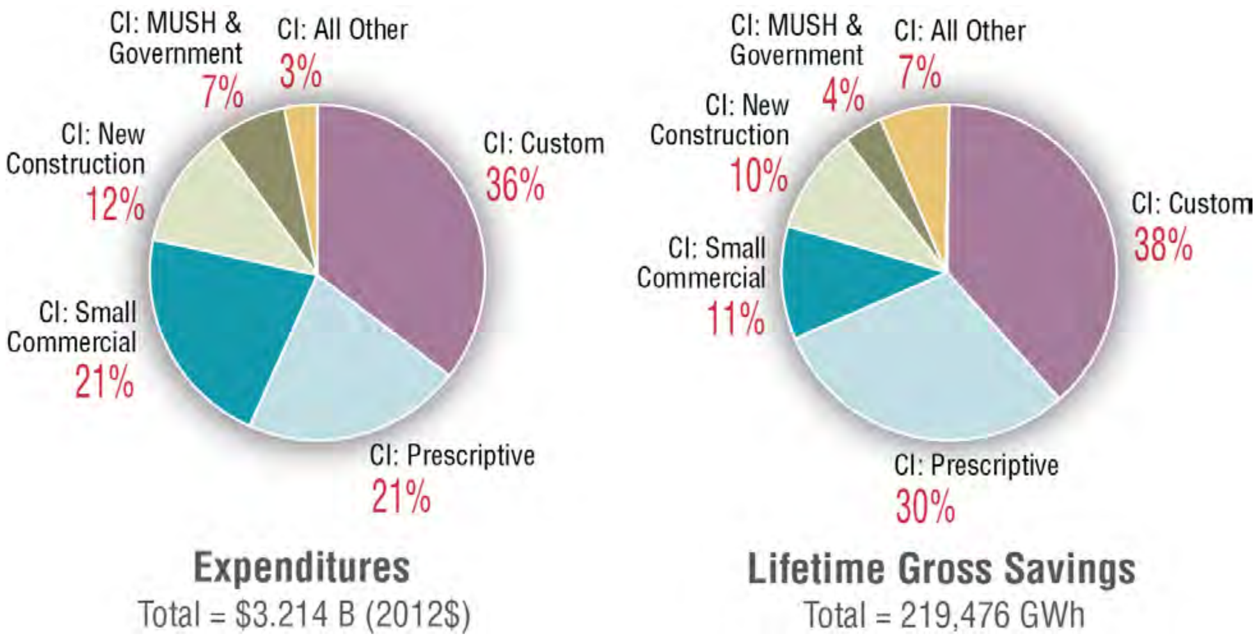

Figure 3-4. Program administrator expenditures and gross lifetime savings for 2009-2011 commercial and industrial electricity efficiency programs

We also created a region data field and coded efficiency program data provided by program administrators into the appropriate region, using U.S. Census region definitions (see Table 3-2). As can be seen from Table 3-2, we have a limited number of states (four) with program-level data from the South region as well as a relatively limited number of efficiency programs in total from southern states in the database.

Table 3-2. U.S. Census Regions and states in the LBNL DSM Program Impacts Database[49]

Region	States in the LBNL DSM Program Impacts Database
Midwest	MI, MN, IL, IA, OH, WI, IN
Northeast	PA, VT, CT, ME, NH, NY, RI, NJ, MA
South	MD, NC, FL, TX
West	CA, WA, MT, ID, OR, HI, CO, NV, UT, AZ, NM

For the programs in the database, program administrator costs for electricity programs were highest for the West at $2.0 billion, followed closely by the Northeast at just over $1.9 billion.

[49] U.S. Region Definitions may be found at: http://www.census.gov/econ/census07/www/geography/regions_and_divisions.html

Program administrator expenditures totaled just under $1 billion in the Midwest and about $505 million in the South (see Figure 3-5).

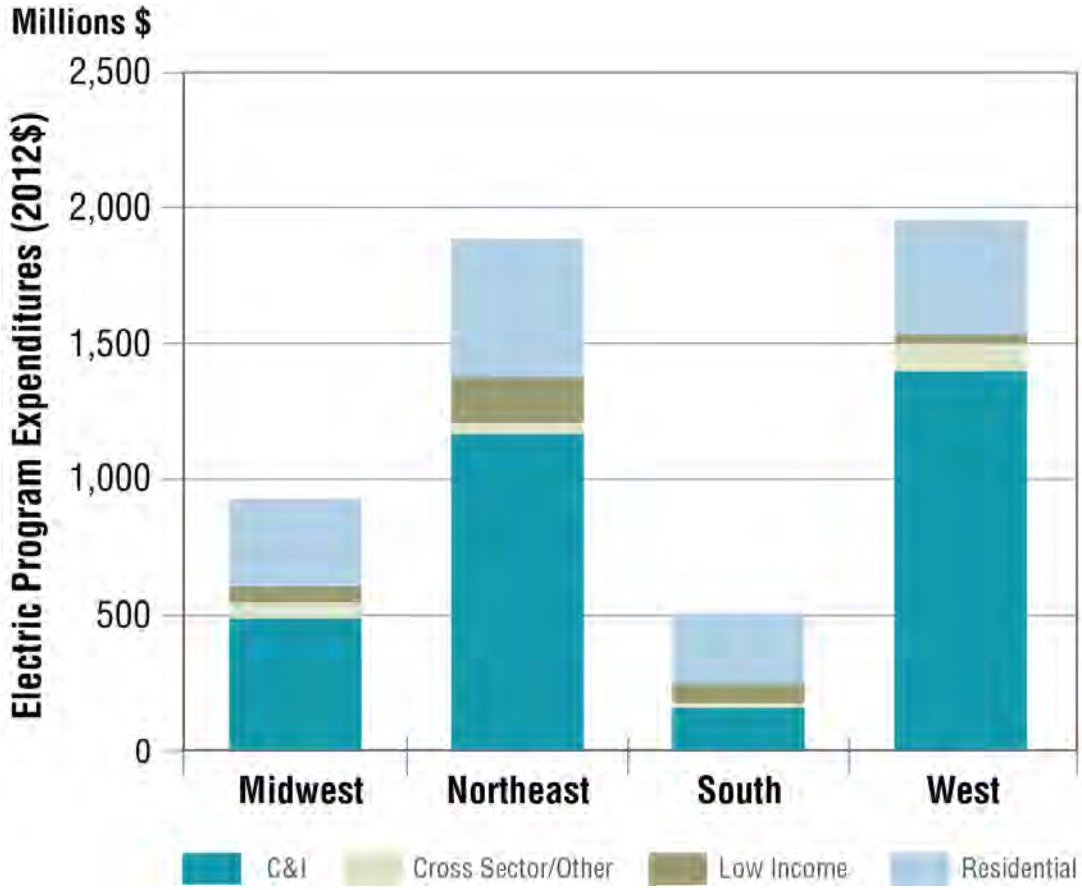

Figure 3-5. Program administrator expenditures by region for 2009-2011 electricity efficiency programs

The regional breakdown of lifetime savings for programs in the database looks much different compared to expenditures (see Figure 3-6). Program administrators in the Midwest reported about 20% more lifetime electricity savings than program administrators in the Northeast and about 75% of the savings for program administrators in the West, although expenditures in the Midwest were less than half of those in the West or Northeast.

As can be seen from Figure 3-5 and Figure 3-6, savings reported by program administrators come predominantly from the C&I sector, except for the South where residential and C&I program savings are more balanced. In the Midwest, C&I programs accounted for a little more than half of the region’s total expenditures, but C&I programs accounted for nearly 70% of the savings. In the West, the expenditure and savings proportions were more comparable; C&I programs accounted for about 60% of total expenditures and about 65% of the savings, while 27% of expenditures and 21% of savings occurred in the residential sector. Low-income program expenditures were significantly higher in the Northeast than in the other regions.

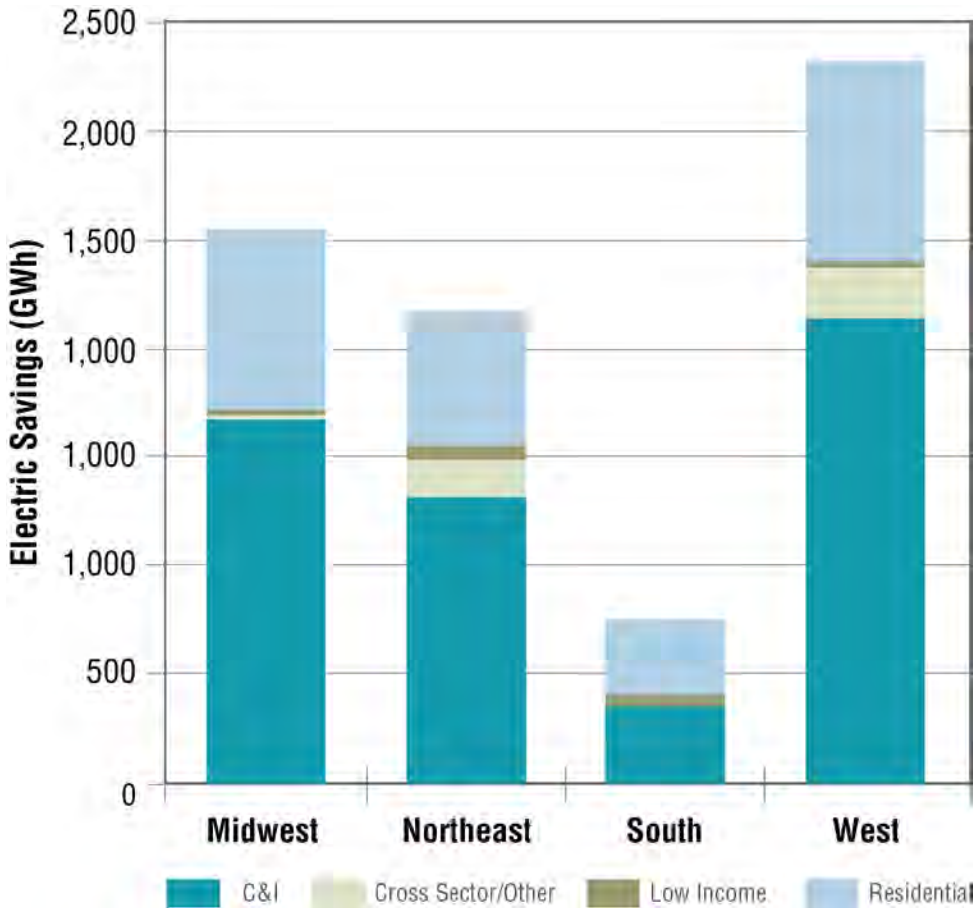

Figure 3-6. Program administrator lifetime savings by region for 2009-2011 electricity efficiency

3.1.2 Gas Program Expenditures and Savings

Program administrator expenditures for identifiable natural gas programs[50] in the LBNL DSM Program Impacts database for the years 2009–2011 totaled just under $1.3 billion, about 20% of program administrator expenditures for electric programs (see Table 3-3). Residential programs accounted for about 60% of aggregated gas program expenditures, while C&I programs accounted for about a quarter of total program expenditures, which is the converse of spending breakdown in electric efficiency programs (i.e., C&I programs account for 60% and residential programs about 30% of total spending).

[50] Fifty program administrators reported natural gas program data.

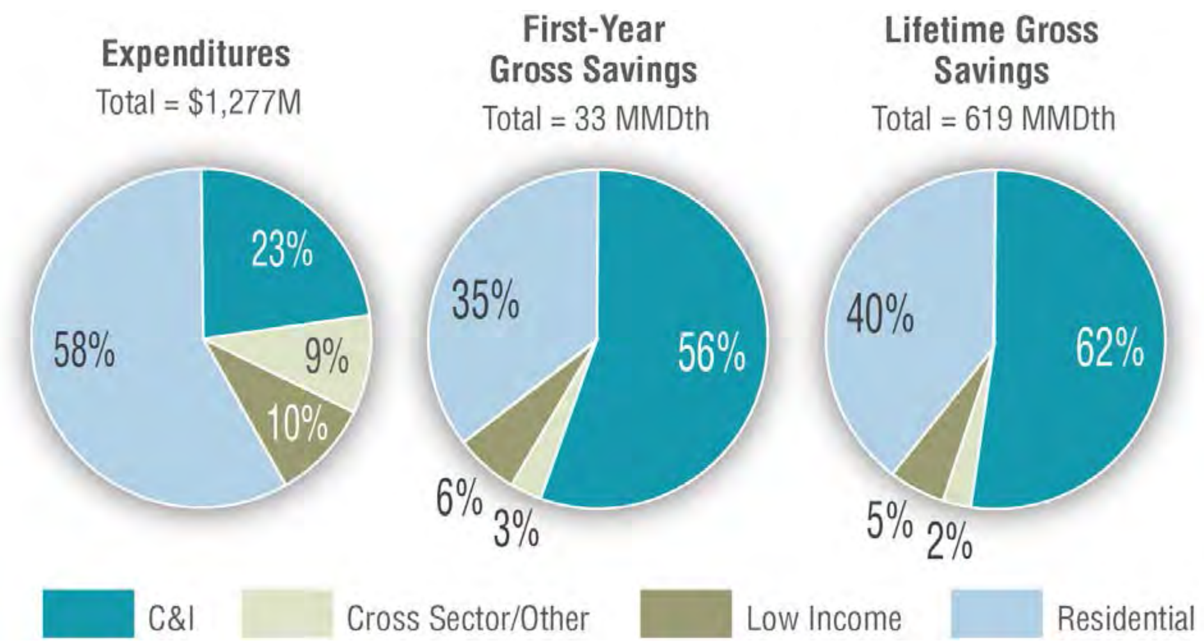

Figure 3-7. Program administrator expenditures, first- year and lifetime gross savings for 2009–2011 natural gas efficiency programs

As with the residential sector programs, we compared the share of total program administrator expenditures with the share of first-year and lifetime savings for each market sector (see Figure 3-7). Expenditures for the C&I sector accounted for about a quarter of total gas program expenditures, yet C&I programs generated more than half of total gas program savings (56% of first-year savings and 62% of the lifetime gross savings), indicating the importance of this sector for natural gas energy efficiency.

Table 3-3. Program administrator expenditures for 2009-2011 natural gas efficiency programs

Market Sector	Share of Total Program Administrator Expenditures	Total Program Administrator Expenditures (million 2012$)
Residential	58%	$742
C&I	23%	$291
Low Income	10%	$123
Cross Sector/Other	9%	$121
TOTAL	**100%**	**$1,277**

On the other hand, while residential programs made up about 60% of total gas program expenditures, they garnered 35% of first-year savings and 40% of the total lifetime savings for all programs. Low income gas programs follow a similar pattern as low-income electricity efficiency programs, accounting for 10% of total expenditures and 6% of first-year and 5% lifetime savings.

3.2 Observations on the Cost of Saved Energy

3.2.1 National Observations

CSE values are presented as either (a) savings-weighted average values; (b) as an inter-quartile range with median[51] values; or (c) both.[52] The savings-weighted average CSE is calculated using all savings and expenditures at the level of analysis (e.g., region, sector, program category).[53] For example, the national savings-weighted average CSE for the residential sector includes all the residential program portfolio costs in the database (even for programs without reported savings) divided by all the savings reported for the residential sector; thus "weighting" the CSE of larger programs more than small programs. The inter-quartile range and median CSE values are based on calculations for each individual program; thus giving equal weighting to all programs irrespective of their relative size (either in terms of savings or costs). The inter-quartile range and median CSE values exclude programs where a CSE cannot be calculated.[54]

CSE values are reported using three different metrics: a cost of lifetime saved energy, a levelized cost of energy savings using two discount rates (3% and 6% real), and a cost of first-year energy savings (see Table 2-2 for definitions of these CSE metrics). Appendix E contains detailed national and regional levelized CSE values by sector, simplified program type and detailed program type; tables in Appendix E show the savings-weighted average CSE, the first quartile, the median, and the third quartile levelized CSE values and the total number of programs for each category.

Table 3-4 shows national saving-weighted average CSE values for the identifiable electricity efficiency programs[55] in the database. Figure 3-8 depicts the lifetime and levelized CSE values ($/kWh) by sector. The national CSE values for electricity efficiency programs rounds to approximately $0.02/kWh for the levelized CSE using both the 3% and 6% real discount rates and a lifetime CSE (without discounting) of $0.015/kWh.

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[51] The *inter-quartile range* is the middle 50 percent of the range of program CSE values. The *median* is the numerical value separating the higher half of a data sample from the lower half.

[52] The CSE values in this section are based on *program administrator costs* and *gross energy savings*. When used, the lifetime energy savings may be based on reported values or values derived from estimates of program average measure lifetime. See Chapter 2 for a discussion of the basis for using program administrator costs and gross savings, the protocol for calculating lifetime energy savings, and discussion of the limitations in the efficiency program data used to calculate CSE values.

[53] We have observed that program administrators are not consistent in how they report program support costs (i.e. administration, EM&V, marketing & education, etc.). Some program administrators reported those costs at the program level, others reported those costs at the sector or portfolio level, and several reported those costs as, effectively, separate programs. For the purposes of this report, costs associated with specific programs stay associated with those programs. Costs that occur at the portfolio or sector levels are included in the analysis as separate programs. This allows us to account for those costs at the sector and portfolio levels but may appear as though individual programs within the same category cost less than their counterparts who report costs at the program level.

[54] Some programs did not report savings (e.g., education/information programs) and others were not designed to achieve savings (i.e. programmatic support programs including EM&V, marketing). Where savings are not reported, it was not possible to calculate a CSE for that particular program.

[55] Eighty-eight program administrators reported electric program data.

Table 3-4. The program administrator CSE for electricity efficiency programs by sector: national savings-weighted averages

Sector	Levelized CSE (6% Discount) ($/kwh)	Levelized CSE (3% Discount) ($/kwh)	Lifetime CSE ($/kwh)	First Year CSE ($/kwh)
Commercial & Industrial (C&I)	$ 0.021	$ 0.018	$ 0.015	$ 0.188
Residential	$ 0.018	$ 0.016	$ 0.014	$ 0.116
Low Income	$ 0.070	$ 0.059	$ 0.049	$ 0.569
Cross Sectoral/Other	$ 0.017	$ 0.014	$ 0.012	$ 0.120
National CSE	**$ 0.021**	**$ 0.018**	**$ 0.015**	**$ 0.162**

Values in this table are based on the 2009-2011 data in the LBNL DSM Program Impacts Database. CSE values are for program administrator costs and based on gross savings. Values are savings-weighted average CSE calculated using all savings and expenditures at the level of analysis.

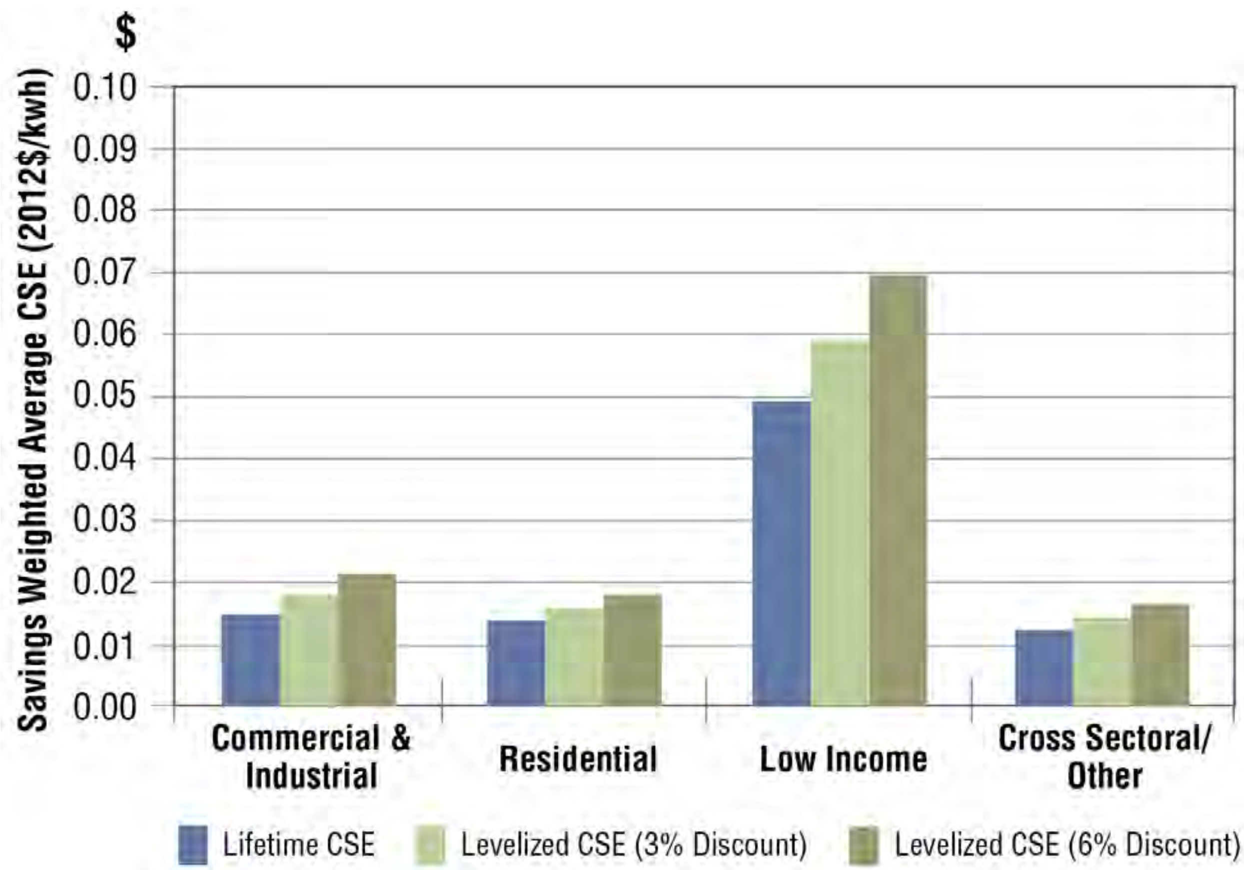

Figure 3-8. National savings-weighted average CSE for electricity efficiency programs by sector

Table 3-5 shows national saving-weighted average CSE values for the natural gas efficiency programs in the LBNL DSM Program Impacts Database. Figure 3-9 depicts the lifetime and levelized CSE values ($/therm) for gas efficiency programs by sector.[56,57] Gas efficiency programs targeted at C&I customers had a significantly lower CSE ($0.17/therm; 6% discount rate) than programs targeting residential ($0.56/therm) and low-income ($0.59/therm) customers, indicating the importance of the C&I sector for natural gas programs.

Table 3-5. The program administrator CSE for gas efficiency programs by sector: national savings-weighted averages ($/therm)

Sector (Natural Gas)	Levelized CSE (6% discount) ($/therm)	Levelized CSE (3% discount) ($/therm)	Lifetime CSE ($/therm)	First Year CSE ($/therm)
C&I	$ 0.17	$ 0.14	$ 0.11	$ 1.61
Residential	$ 0.56	$ 0.43	$ 0.32	$ 6.44
Low Income	$ 0.59	$ 0.47	$ 0.36	$ 6.26
Cross Sectoral/Other	$ 1.78	$ 1.55	$ 1.34	$ 12.37
National CSE	**$ 0.38**	**$ 0.31**	**$ 0.24**	**$ 3.93**

Values in this table are based on the 2009-2011 data in the LBNL DSM Program Impacts Database. CSE values are for program administrator costs and based on gross savings. Values are savings-weighted average CSE calculated using all savings and expenditures at the level of analysis.

[56] Fifty program administrators reported natural gas program data.
[57] There are a number of combined fuel programs that have reported interactive effects on natural gas. These impacts are not included in program level CSE calculations; however, they are included in portfolio and sector level calculations.

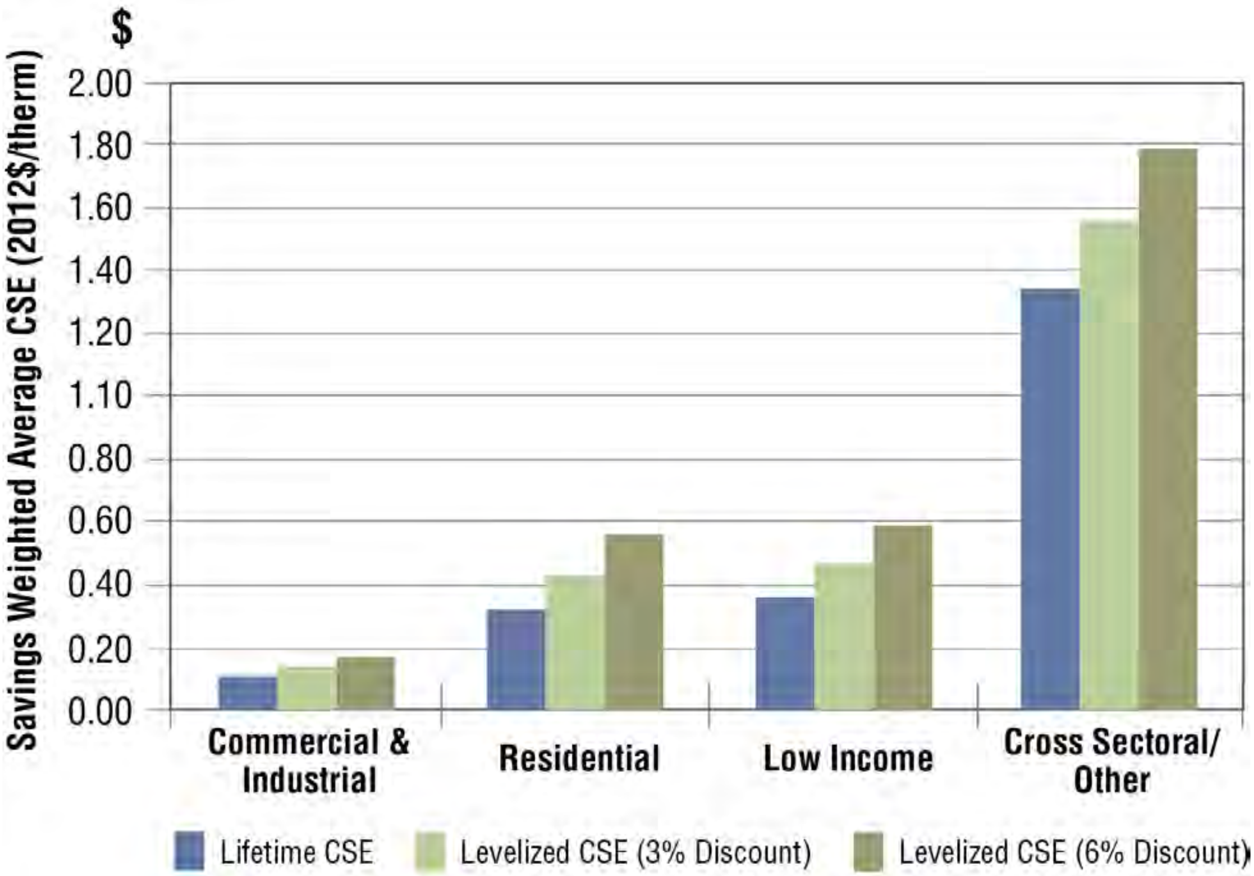

Figure 3-9. CSE for natural gas efficiency programs by sector

3.2.2 Sector and Program Level Observations for Electricity Efficiency Programs

We present CSE values at the sector and program level in this section. For simplicity, the remainder of this chapter presents CSE values using the levelized CSE for a 6% (real) discount rate (except where otherwise indicated).[58]

Figure 3-10 presents the levelized CSE results on a national basis, depicting the savings-weighted average, median and inter-quartile range for each sector. We found that both C&I and residential electricity efficiency programs included in our database had an average levelized CSE of about $0.02/kWh. Looking at these sectors in more detail shows that the residential sector had a slightly lower weighted-average CSE than the commercial sector but a higher median CSE (~$0.04/kWh). The CSE values for residential sector programs also had a larger inter-quartile range than commercial sector programs (e.g., inter-quartile range of CSE values ran from just

[58] We use a levelized CSE because we believe it is technically more appropriate for comparing resources. The 6% real discount rate is representative of a typical utility cost of capital. Lower discount rates result in lower CSE values. For example, for a program with an average measure life of 10 years for installed measures, a 6% discount rate results in a CSE that is about 15% higher than a 3% discount rate. There is significant interaction between discount rates and assumed measure lives. For example, the CSE value is 50% lower if we assume a 10 year measure life and 6% discount rate compared to a 20 year measure life and a 3% discount rate. See Appendix D for additional discussion of this issue.

under $0.02 to $0.09/kWh for residential programs vs. $0.015 to $0.05/kWh for commercial programs). We suspect that this is due to the very wide range of program types in the residential sector.

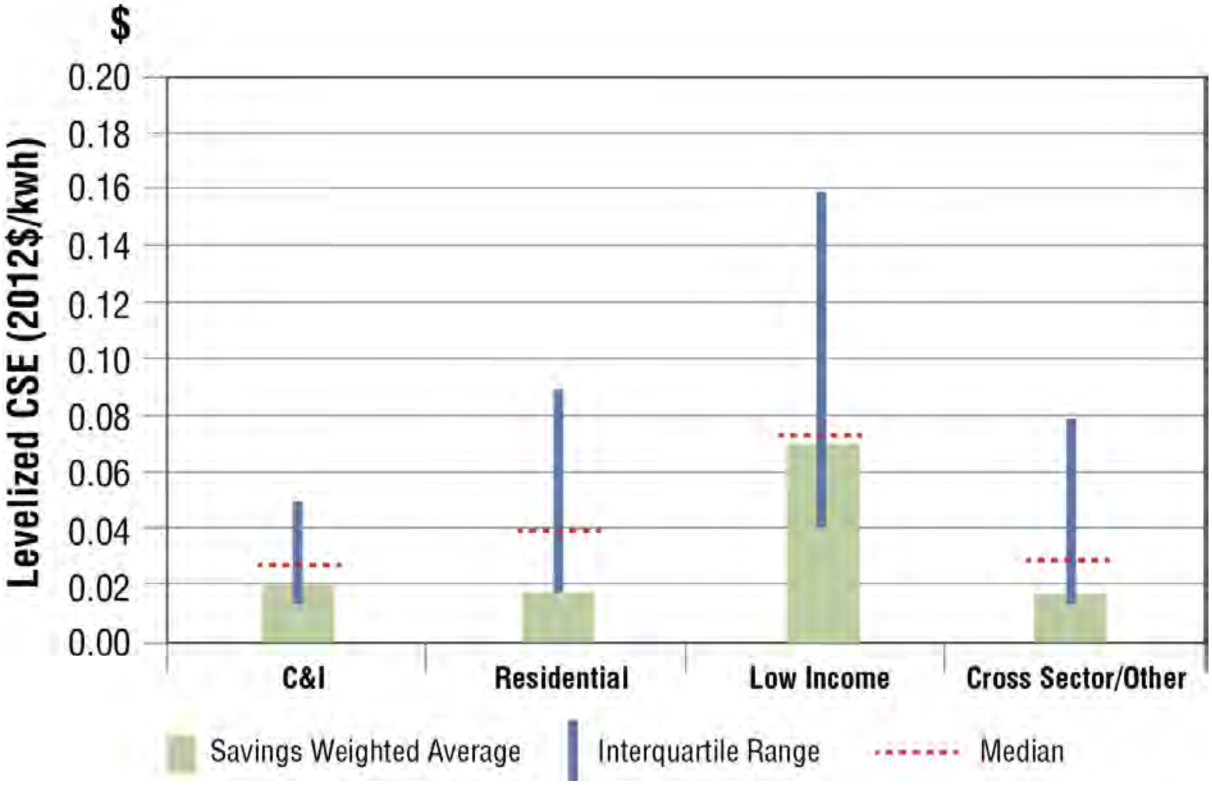

Figure 3-10. National levelized CSE for electricity efficiency programs by sector

Low-income programs have much higher savings-weighted average and median values for the program administrator CSE (on the order of $0.07 to $0.08/kWh). Low-income programs typically have a higher program administrator CSE for several reasons. Most notably, these programs are designed to achieve specific social policy objectives in addition to energy resource acquisition goals. These programs can include a variety of health and safety actions (correct structural issues, window replacement, mold removal, etc.) that need to be completed prior to completing any efficiency upgrades, adding to the program costs. Finally, low-income programs are often delivered at little or no cost to participants; thus the CSE for low-income programs is more comparable to an all-in or total resource cost perspective (i.e., including both program administrator and participant costs).

The cross sector/other program category, illustrated in Figure 3-10, is quite broad and includes a diverse mix of program types (e.g., equipment rebate programs that include both residential and non-residential customers, workforce development and training programs). Thus, at a high level, it is difficult to draw conclusions for the sample of programs included in this category.

At a national level, we observe a wide variation in CSE values for programs in most sectors (e.g., CSE values for programs in a sector have an inter-quartile range that varies by a factor of three to five). We also find that the savings-weighted average CSE was typically lower than the median value for CSE for a sector or program category (see Figure 3-11 and Figure 3-12). This suggests that much of the savings for each sector is coming from programs or program types on the low end of the CSE range for that program or sector.

Figure 3-11 and Figure 3-12 show levelized CSE values for the simplified program categories for C&I and residential sectors, respectively.[59]

The simplified C&I program categories had median values for the program administrator's CSE that range from $0.01/kWh to $0.05/kWh. It is worth noting that the savings-weighted average CSE for custom and prescriptive rebate program categories were $0.018/kWh and $0.015/kWh, respectively. Since these two program categories accounted for almost 70% of C&I sector savings (see Figure 3-4), they tended to drive the overall CSE results for the C&I sector: program administrators had an average levelized CSE of less than $0.02/kWh in the C&I sector. The C&I programs (Figure 3-11) also had a relatively smaller inter-quartile range of CSE values compared to the residential program categories (Figure 3-12).

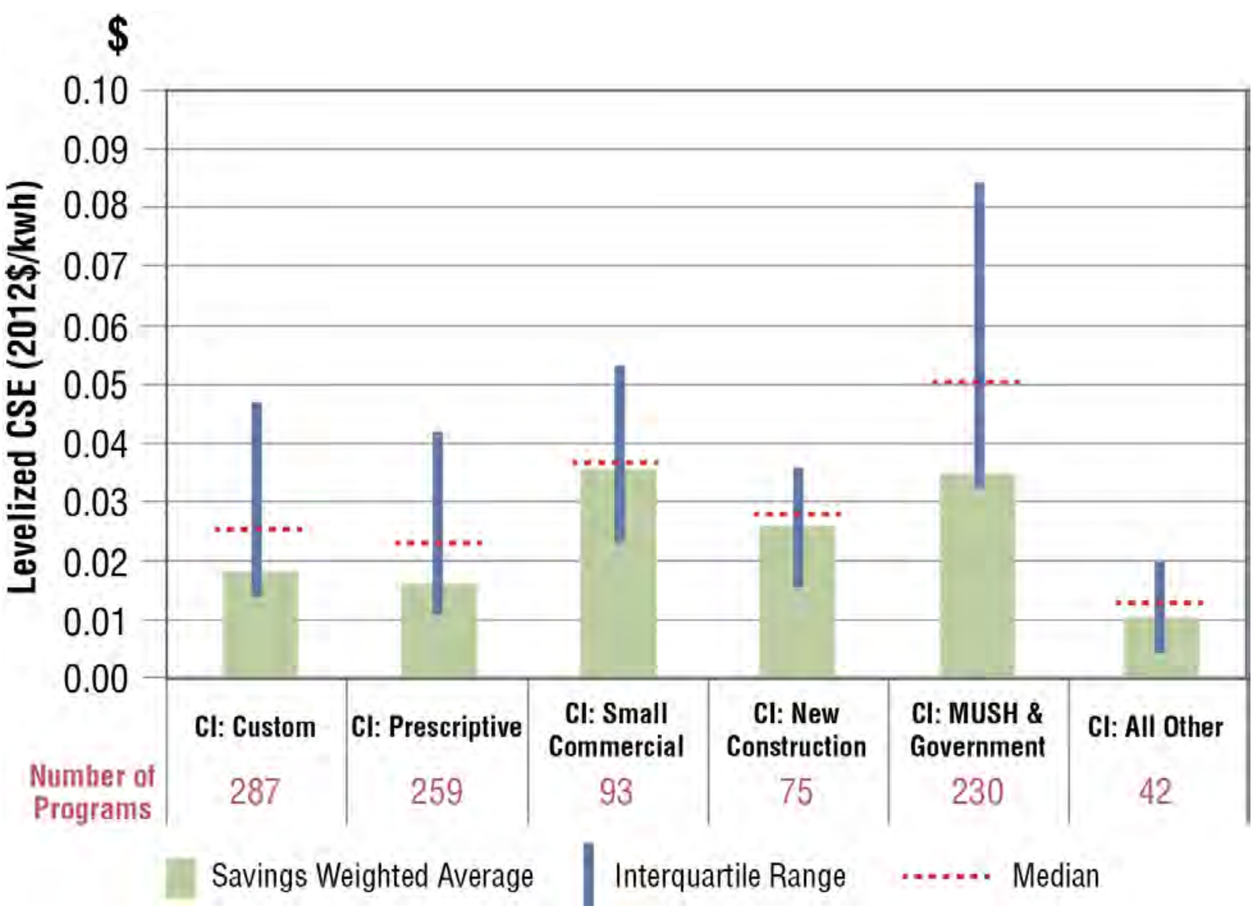

Figure 3-11. National levelized CSE for commercial and industrial sector simplified program categories

[59] Note that the y-axis scales for CSE are different in Figures 3-11 and 3-12, illustrating differences in the range of CSE values in C&I and residential sector programs.

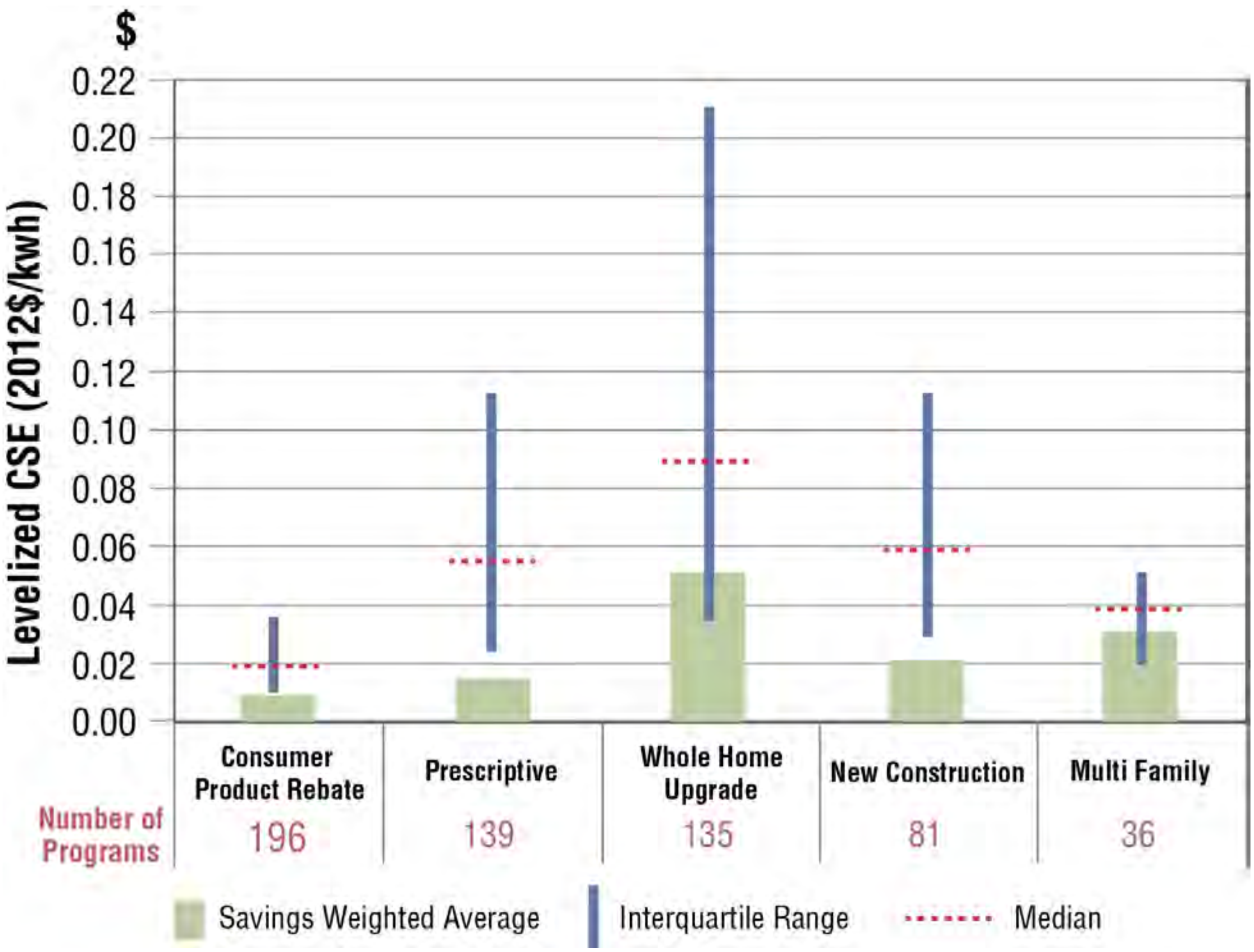

Figure 3-12. National levelized CSE for residential sector simplified program categories

For the residential programs, several program categories had a relatively tight range of program administrator CSE values. For example, Consumer Product Rebate programs had an inter-quartile range of $0.01/kWh to nearly $0.04/kWh and a low savings-weighted average (~$0.01/kWh). However, the Residential Prescriptive ($0.03/kWh to $0.11/kWh), New Construction ($0.03/kWh to $0.11/kWh) and Whole-Home Upgrade (slightly more than $0.03/kWh to $0.21/kWh) program types had significantly larger ranges. There are several possible reasons for the larger range of CSE values in each of these program categories. The prescriptive simplified program category includes detailed program types that implement a wide variety of measures (e.g., HVAC, insulation, windows, pool pumps) as well as some generic "prescriptive" programs[60] that often include measures also found in the Consumer Product Rebate category. This broad measure mix and the variation in costs and measure lifetimes associated with those measures are possible drivers for the wide range of CSE values for the prescriptive category.

[60] Some programs include all their rebated measures under the same program title and it is not possible to determine where the majority of the savings is coming from. In these cases, the programs were categorized as "Residential Prescriptive."

For the Whole-Home Upgrade program category, the broad range of program designs and delivery mechanisms (this category includes audit, direct install, and retrofit/upgrade programs) may help explain the relatively wide range of CSE values. Figure 3-13[61] shows program administrator CSE values for detailed program categories under the Whole-Home Upgrade program category. We observe that the inter-quartile range of CSE values for both direct install and whole-home upgrade programs ranged from about $0.03/kWh to about $0.26/kWh, with median values of $0.06/kWh and $0.12/kWh, respectively. Whole home audit programs have a much smaller inter-quartile range, from $0.03/kWh to $0.11/kWh, and a median value of $0.07/kWh.

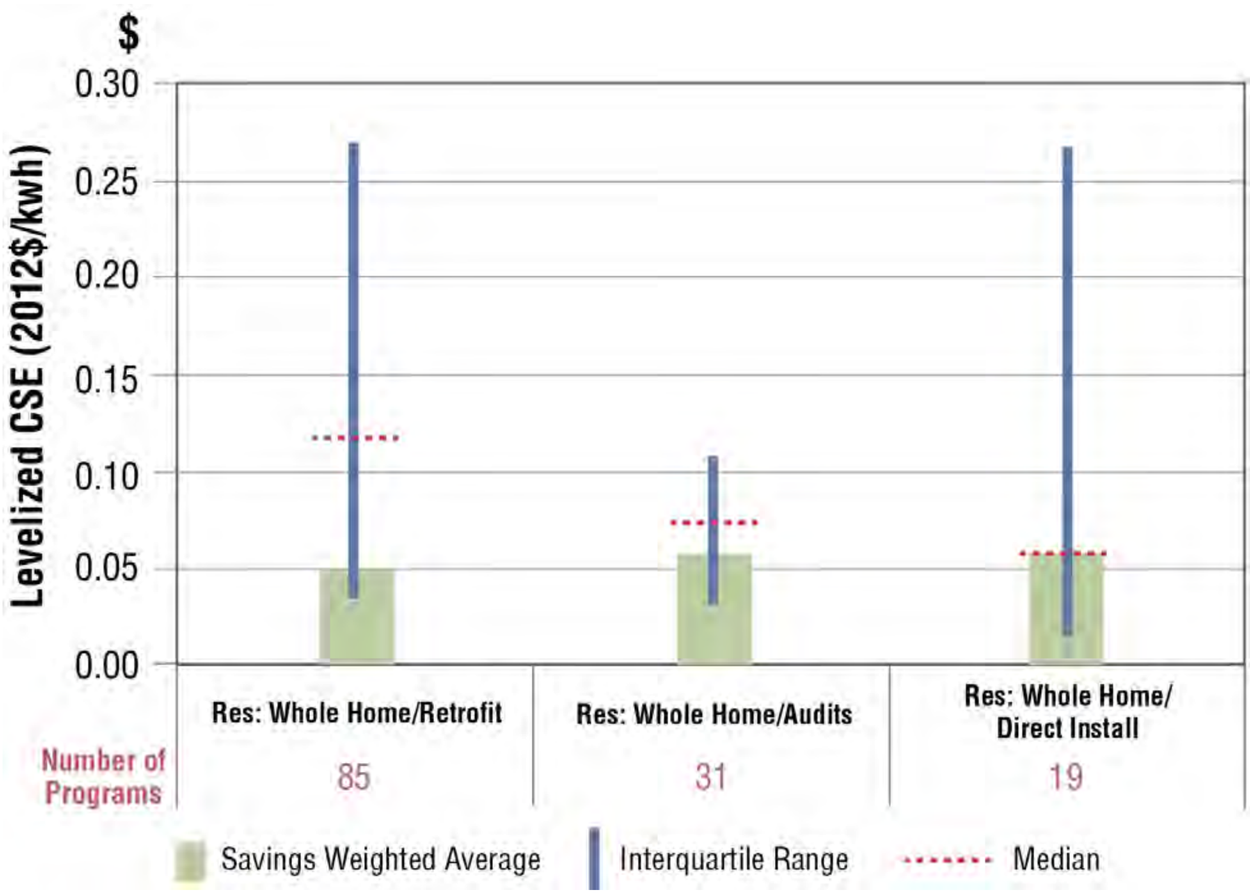

Figure 3-13. National levelized CSE for residential whole home detailed program category

Recall that about 44% of the residential sector lifetime gross savings came from lighting rebate programs that are part of the Consumer Product Rebate simplified program category (see Figure 3-13). Thus, we took a closer look at the CSE results for the four detailed program types within this category (see Figure 3-14).

The median and average levelized CSE values for lighting rebate programs were quite low (about $0.01/kWh) with a small inter-quartile range (see Figure 3-14). Future investigation of these programs' CSE values, savings estimates, and drivers is probably warranted given that a

[61] Note that the y-axis scale in Figure 3-13 has higher CSE values than other figures in this chapter.

large percentage of savings came from lighting measures and that lighting CSE may rise as baselines (and thus perhaps savings) are lowered for many of these measures given implementation of more aggressive lighting equipment standards.

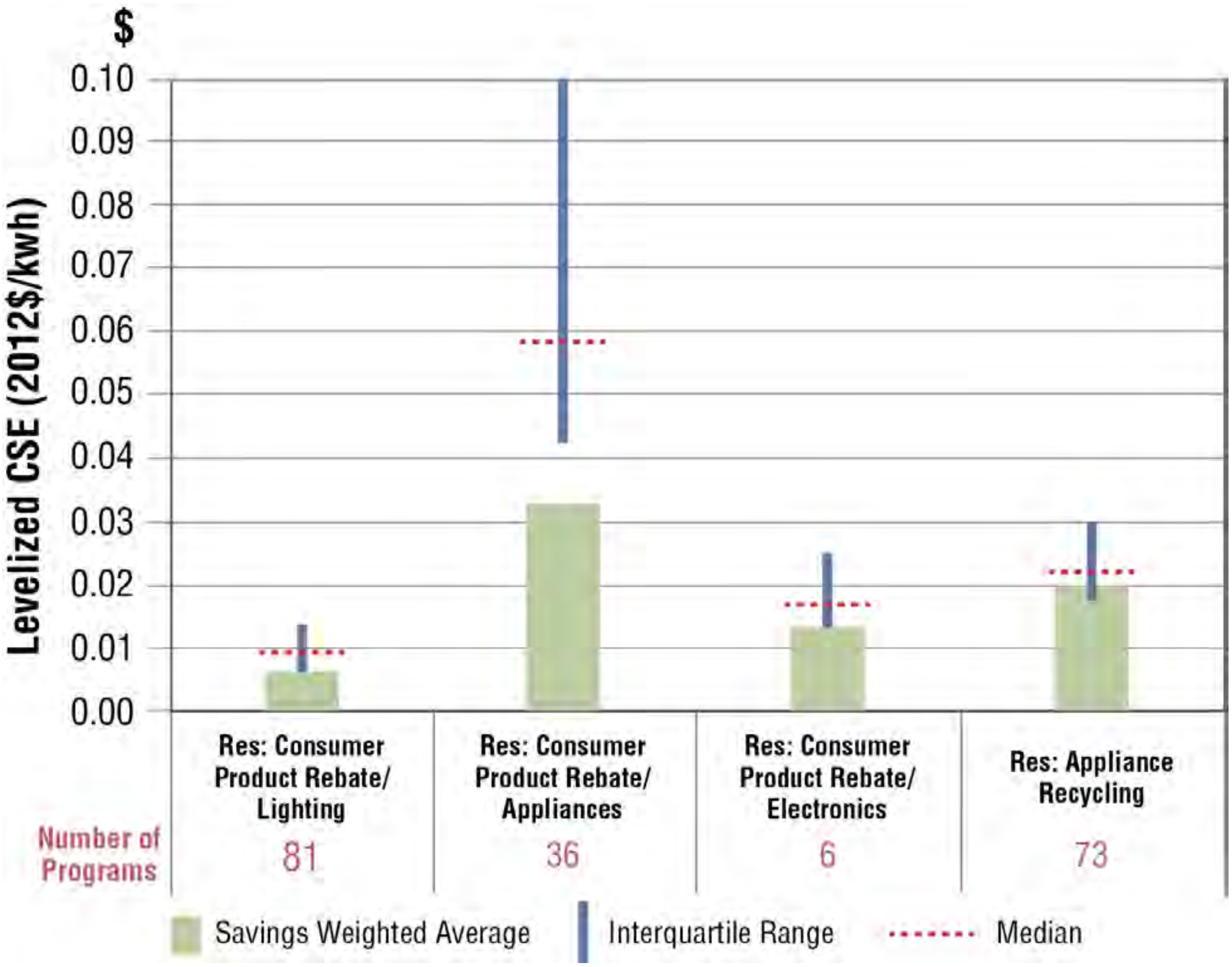

Figure 3-14. National levelized CSE for residential consumer product rebate detailed program categories

3.2.3 Regional Observations in Electricity Efficiency Programs

In this section, we examine some of the potential underlying drivers of CSE, including region (i.e., geographic location), climate, and baseline building efficiency requirements. Figure 3-15 presents regional CSE values for programs in the database (see Table 3-2 for assignment of states to region).

Across all programs, the savings-weighted average CSE ($0.014/kWh) and median CSE ($0.019/kWh) values were lowest in the Midwest. This is consistent with the information in Figure 3-5 and Figure 3-6, which shows that program administrators in the Midwest in aggregate reported relatively low expenditures and relatively high savings (compared to other regions). Possible explanations for this phenomenon include the relative "newness" of the Midwest energy efficiency programs and savings targets. Most of the states in this region enacted their first EERS targets in the late 2000s (Barbose et al. 2013). As a result, most of these states are perhaps still able to achieve significant savings from programs targeting low cost measures (i.e., lighting rebate programs). Another possible explanation is that gross savings values and/or measure lifetimes are higher because of baseline conditions or because EM&V practices are less mature in some states.

In contrast, many states in the Northeast region have consistently been running efficiency programs for many years, have much higher savings targets (e.g., "all cost effective" efficiency mandates) and relatively well established and rigorous savings evaluation requirements. In aggregate, program administrators in the Northeast have a higher savings-weighted CSE ($0.033/kWh) and a much wider range of CSE values among types of programs, which possibly indicates that there was a broader mix of program designs and delivery mechanisms, as well as desire to achieve more comprehensive savings driven by state policy objectives (e.g., regulatory decisions or legislation that directs program administrators to achieve all cost-effective efficiency).

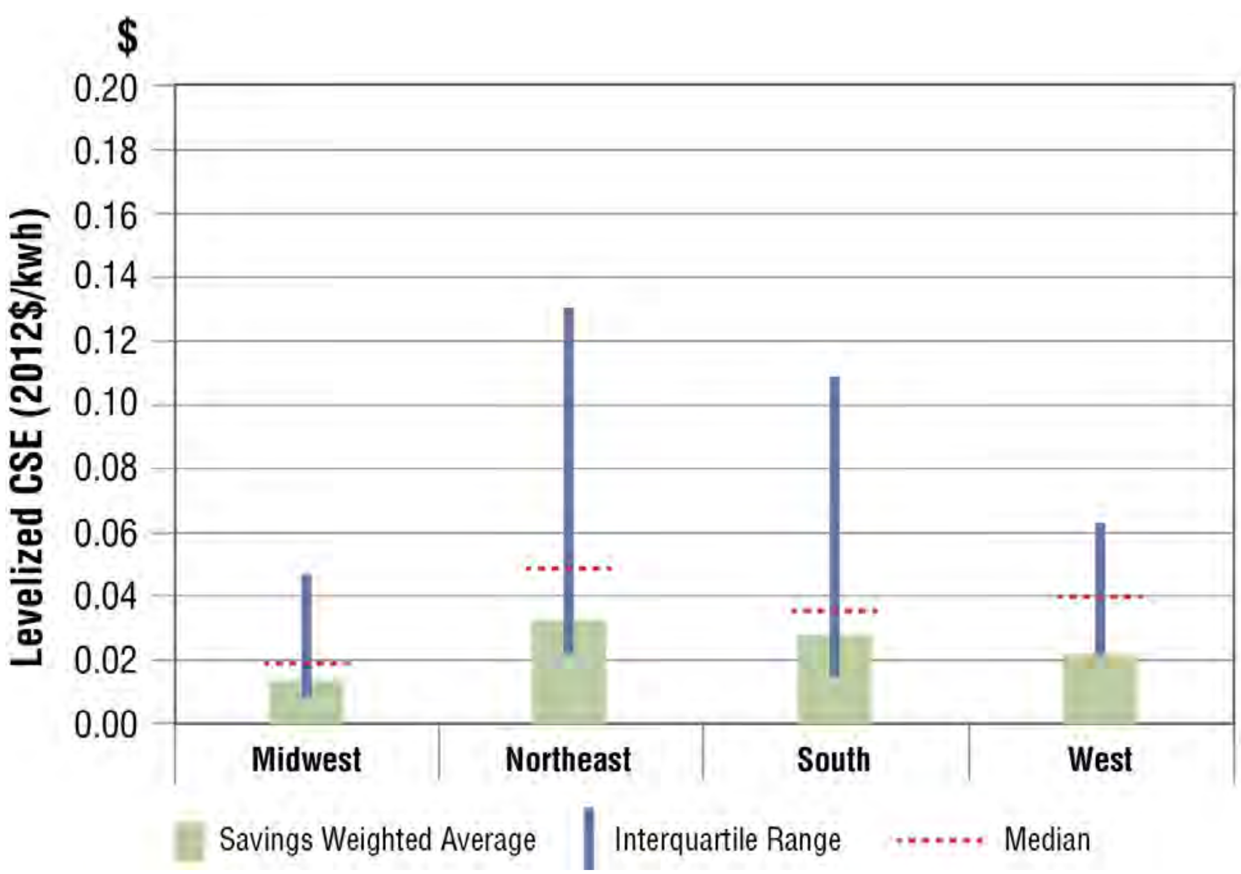

Figure 3-15. Levelized CSE for electricity efficiency programs by region

We also looked at average CSE values for all C&I and residential programs (excluding low-income programs) among program administrators in states (see Figure 3-16). Low-income programs were excluded for several reasons: (1) not all states either offer or reported information on their low-income programs; (2) the policy rationale(s) for low-income efficiency programs differs among states: some states require low-income programs to pass cost-effectiveness screening tests while other states use multiple criteria to assess budgets and design of low-income programs (e.g., equity reasons, cost-effectiveness); and (3) the scale of low-income programs varies significantly among states. Thus, including low-income program data has the potential to skew state by state observations in CSE.

With several exceptions, we observe some clustering of average CSE values for efficiency programs for states in a region (see Figure 3-16) with several exceptions (e.g., FL, PA, NJ). It is worth noting that Massachusetts and Vermont have all cost-effective efficiency mandates and both of those states had a savings-weighted average CSE over $0.04. Conversely, Pennsylvania has many characteristics that are typical of other states in the Midwest (e.g., relatively new efficiency programs, similar climate, economies) and had an average savings-weighted CSE more similar to program administrators in the Midwest than the Northeast. At this time, we cannot definitively explain the higher savings-weighted average CSE for program administrators in Florida.

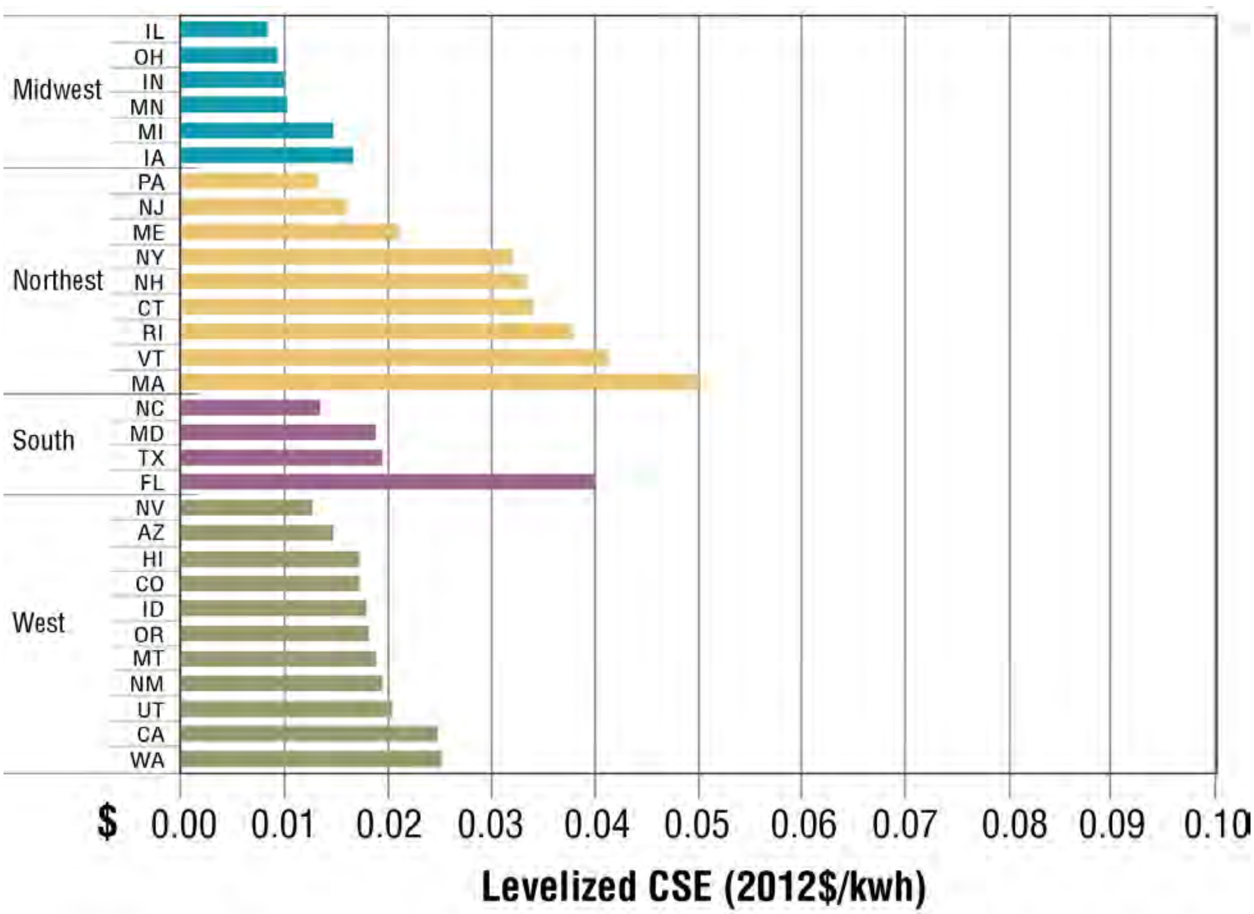

Figure 3-16. CSE values by state for electricity efficiency programs (excluding low-income programs)

A number of factors may influence the observed variation in the program-level CSE, including those that program administrators can influence (e.g., how program administrators report program costs, program design, incentive levels, and measure mix) and those largely outside of program administrator control (e.g., climate, area labor rates, building stock, regulatory requirements). We conducted exploratory analysis that examined two potential factors that may influence program-level CSE values: climate and building codes. First, we calculated the percentage of each region's lifetime gross savings by savings-weighted program administrator CSE and climate zone for all program categories in the database (see Figure 3-16). The size of the bubbles in Figure 3-17 represents the percentage of the total regional lifetime savings that falls within the respective climate zone in which the program was administered. For example, for the West, there are more savings in the database in the warm climate zone that includes much of California.

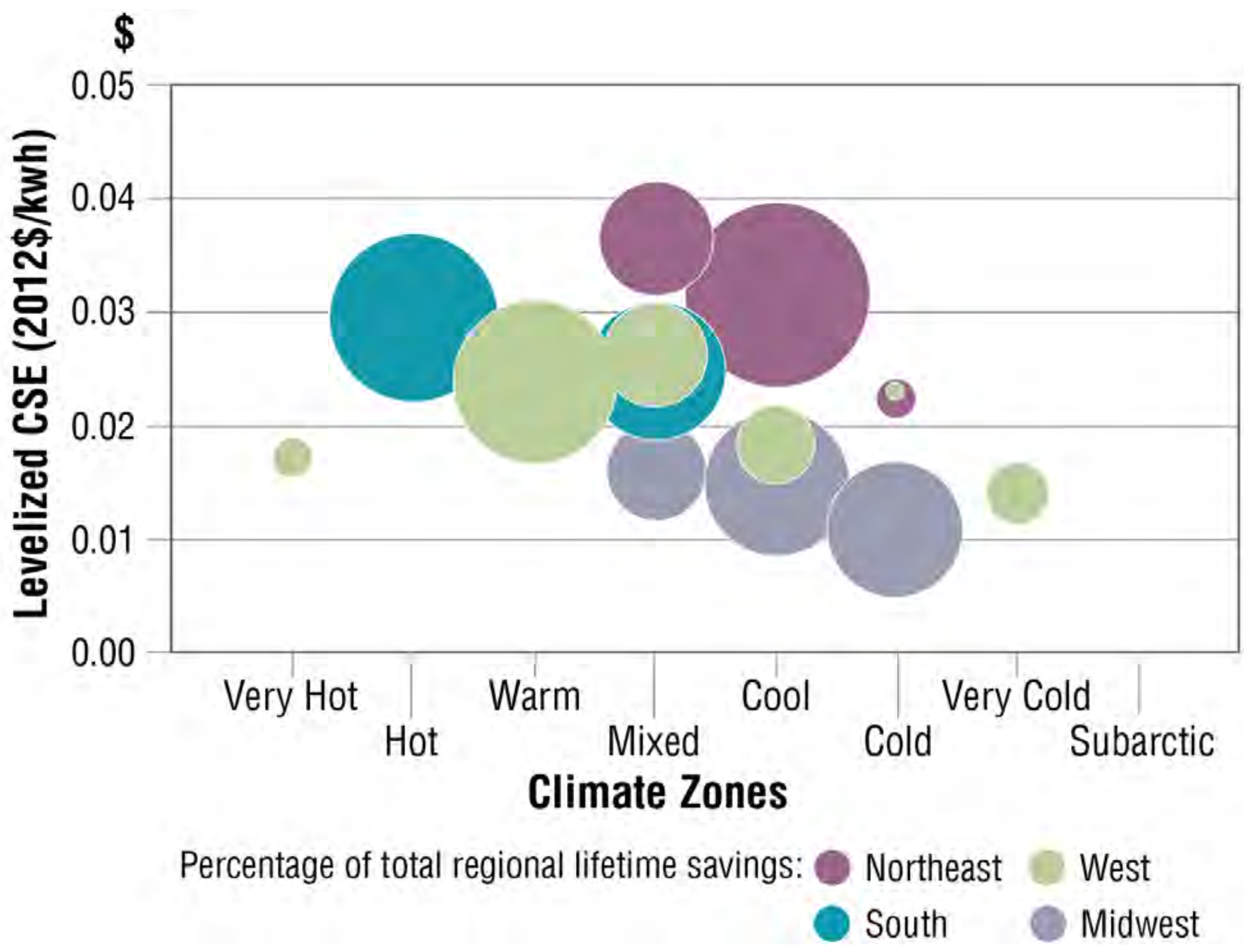

Figure 3-17. Percent of regional lifetime savings by climate zone and levelized CSE for electricity efficiency programs[62]

[62] States were assigned to climate zones adopted for the International Energy Conservation Code (IECC), in which the climate zones are delineated geographically as regions defined by certain historical averages for temperature, humidity and precipitation. A single zone was assigned to each state based on where the majority of the state's population—and presumably load—is concentrated. This method is imperfect but useful as a proof-of-concept test for an approximate relationship with levelized CSE. A description for the climate zones was adapted from the

In each region, we observe a pattern that as the climate gets cooler, the savings-weighted average CSE decreases for electricity efficiency programs. However, we also see that the savings-weighted average CSE varied significantly within a climate zone (see mixed and cool). Had climate been a significant driver for CSE, we would expect to see more agreement on the CSE by climate zone, even in different regions. This indicates that there are probably other factors that have more impact on the regional CSEs than climate zone. Additional analyses may be required to focus only on program types with climate dependent measures (e.g., cooling and heating system retrofits) or conduct more detailed analysis of participant costs and incentives which can vary by climate zone as cost effectiveness varies (e.g., a cooling system retrofit would be more cost-effective in a very hot climate than a cool one, possibly justifying higher incentives, but also perhaps not requiring them since the participant benefit to cost ratio would also be higher).

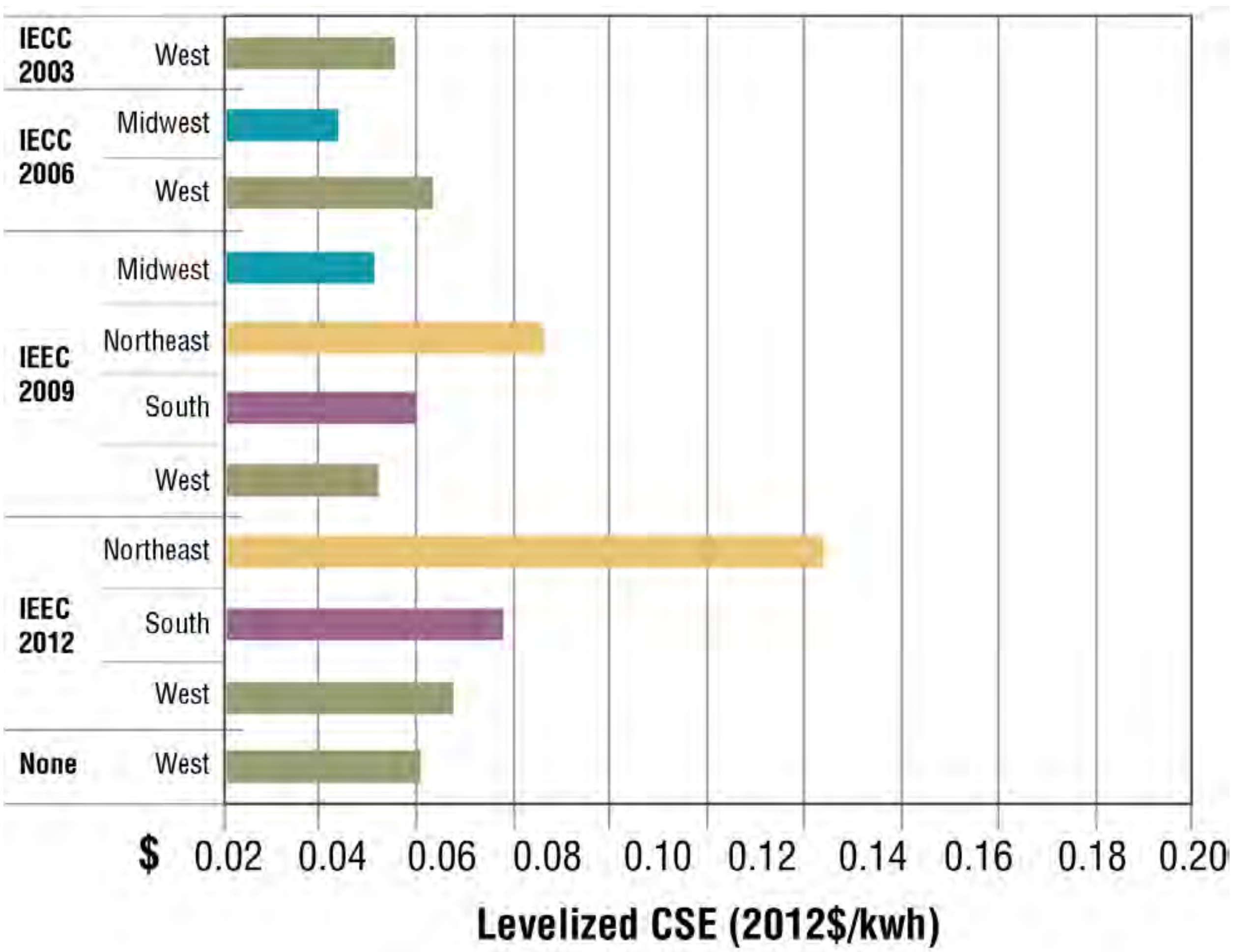

Figure 3-18. Levelized CSE for residential new construction programs compared to residential building energy codes adopted by states in each region[63]

Building America discussion of IECC and Building America climate zones found here: http://apps1.eere.energy.gov/buildings/publications/pdfs/building_america/ba_climateguide_7_1.pdf

[63] U.S. DOE. 2013. Building Energy Codes Program. Washington, DC. Accessed at: http://www.energycodes.gov/status-state-energy-code-adoption in September 2013.

Another potential influence on CSE values is differences in baseline building efficiency across states and regions. In Figure 3-18 and Figure 3-19, we examine the savings-weighted average CSE for new construction programs in the residential and commercial sectors, respectively. For the residential programs, we calculate the savings-weighted average electric levelized CSE for new construction programs in each region plotted against each state's current International Energy Conservation Code (IECC) status.[64,65] The newer the adopted code, the lower the assumed baseline energy consumption, which tends to reduce the incremental electricity savings for any given efficiency action. For example, the gross savings calculated for a fixed set of measures for a building than meets the 2006 IECC code would be greater than for the same set of measures for a building that meets the 2012 IECC code. Note that the West, as a region, has the most diversity among states in terms of building energy code requirements.

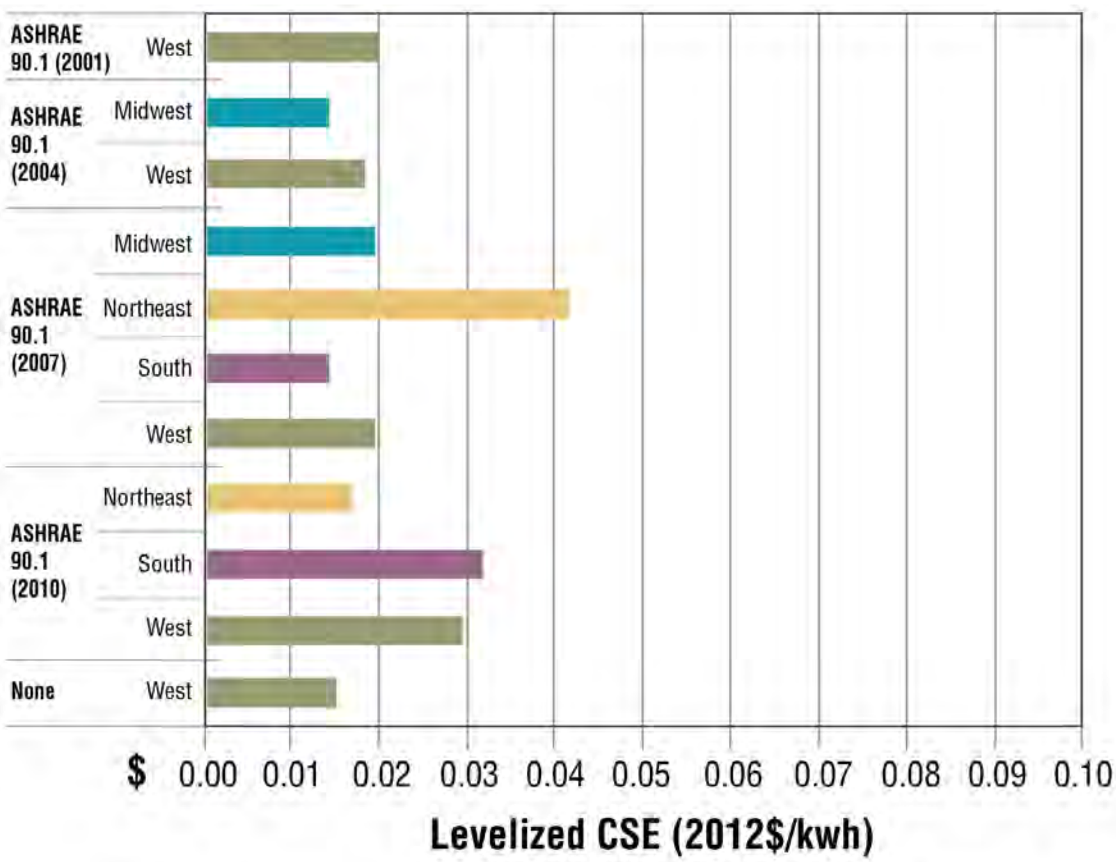

Figure 3-19. Regional levelized CSEs for commercial new construction programs compared to commercial building energy codes adopted by states in each region[66]

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[64] The IECC (http://www.iccsafe.org/gr/Pages/IECC-Resource.aspx) is a national model energy code for the United States. It sets minimum requirements for energy efficiency that new buildings—as well as additions and renovations to existing buildings—must meet wherever the code has been adopted into law, usually on state-by-state basis. The IECC is updated on a 3-year cycle, and the most recent version is 2012.

[65] By using current (2103) IECC code adoption status, we do not directly reflect the baseline status at time of program implementation (2009-2011). However, we expect that this approach may still be indicative of relative baseline status while not requiring state-by-state, year-by-year analysis of code status.

[66] U.S. DOE. 2013. Building Energy Codes Program. Washington, DC. Accessed at: http://www.energycodes.gov/status-state-energy-code-adoption in September 2013.

It might be reasonable to expect that the CSE would increase as the codes for new buildings set more stringent baseline efficiency requirements (e.g., incremental savings opportunities are less for any given investment). Some evidence for this pattern can be observed in the average CSE values for Midwest, Northeast and South residential programs segmented by the year of the building energy codes. However, the expected pattern in average CSE values does not readily emerge for states in the West that offer residential new construction programs.

The picture is even less clear when looking at the savings-weighted CSE for commercial new construction programs plotted against commercial codes (see Figure 3-19). CSE values do not follow the expected pattern for states in either the West or Midwest. The savings-weighted average CSE values for states in the Northeast seems to have been lower where more stringent codes exist, although there are a limited range of code requirements among states in the Northeast. Thus, the effects of code status on CSE values require further inquiry.

3.2.4 Sensitivity Analysis: Impact of Measure Lifetime

In Chapter 2, we discussed data gaps and inconsistent criteria for reporting lifetime energy savings (and by extension efficiency measure lifetimes), noting that lifetime savings (or program average measure lifetime) were not reported for about 50% of the program years in the database.[67] In this section, we illustrate and discuss results of a sensitivity analysis that explores the impact of varying assumptions regarding program measure lifetime on CSE values reported by program administrators.

Figure 3-20 compares the “LBNL approach” used to estimate lifetime savings for those programs that did not report this information to two other potential approaches in which we apply the minimum and maximum reported program average lifetimes for each detailed program type to all programs of that type.

The minimum and maximum values for each program type (see the light and dark green bars in Figure 3-20) dramatize the impact on levelized CSE values of varying assumptions for the average measure lifetime of efficiency programs. For five of the 12 reported program categories, if we use the minimum reported program average lifetime (and apply it to all other programs in that category), the levelized CSE values more than doubles compared to the CSE values using the LBNL measure lifetime approach. This underscores the importance of understanding and accurately reporting the average measure lifetime of measures installed in programs since it significantly impacts the cost of saved energy (and the underlying cost-effectiveness of efficiency actions).

[67] For those programs, we calculated a program-average measure lifetime by detailed program category and applied those values to the reported gross first-year savings to calculate lifetime savings.

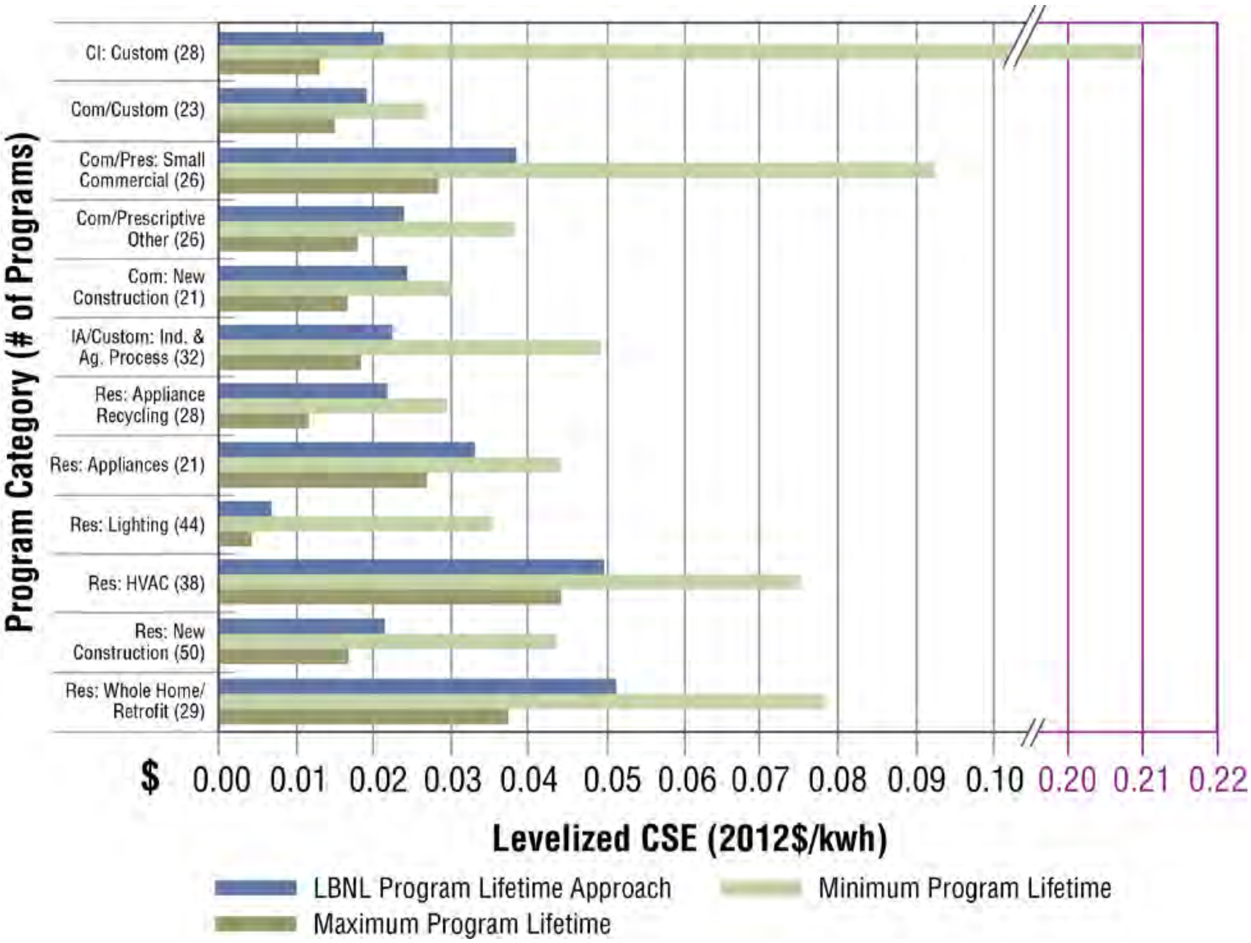

Figure 3-20. Impact of different program average measure lifetime assumptions on the levelized CSE for electricity efficiency programs

3.2.5 Program Administrator and Participant Cost Analysis: The Total Resource Cost of Saved Energy

This study focuses primarily on the program administrator CSE because participant costs were not consistently reported. We collected participant costs at the program level when reported, although this information was available for only 265 electric programs years (less than 10% of the programs in the database) in 11 states.[68] When reported, participant costs are subject to at least two additional sources of uncertainty: (1) whether the participant costs are based upon full program measure costs or incremental program measure costs; and (2) whether participant costs are based upon customer receipts and/or supplier invoices (i.e., actual participants paid those full costs) or whether incremental participant costs are based upon deemed values drawn from various sources (e.g., supplier surveys).

[68] In some of the 11 states, participant costs are only reported for select programs and not the entire portfolio.

Given small sample size and uncertain reporting of participant costs, it is difficult to assess the "all-in" or total resource cost of efficiency or analyze potential influences on the total cost of the efficiency resource. For these reasons, in Figure 3-21, we compare the program administrator's levelized CSE vs. a total resource CSE for illustrative purposes only. We calculate this total resource CSE for the simplified program categories where both program administrator and participant costs were available for more than 18 program years.[69]

For the small sample of programs, we found that the levelized total resource CSE values are typically double for most program types with the exception of the Residential Whole Home Upgrade program category (where the total resource CSE is about 25%–30% higher than the program administrator CSE). Further data collection and analyses could help understand how the ratio of program administrator to participant costs varies as a function of sector, measure types, and market maturity; and how incentives and direct support might be optimized to pay no more than is necessary to meet efficiency uptake objectives.

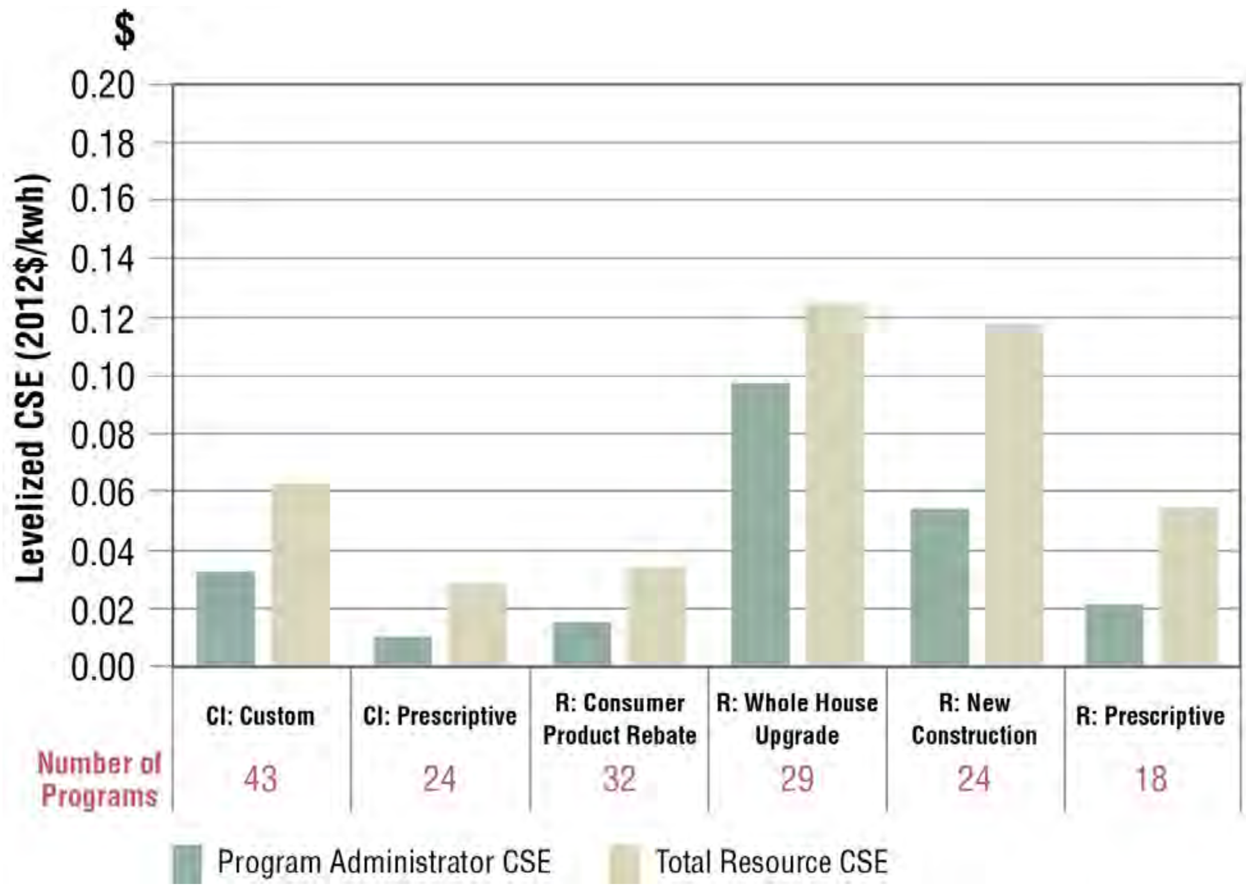

Figure 3-21. Levelized savings-weighted average CSE for electricity efficiency programs that include program administrator costs vs. total resource costs for select program categories[70]

[69] The "n" of 18 was selected because there was a natural break in the data and also that criteria resulted in only including results for which there was a meaningful number of programs from which to calculate average values.
[70] This chart includes a very small sample of programs from 11 states; thus, results may not reflect current practices in many jurisdictions.

4. Testing Influences on the Costs of Saved Energy

As shown in Chapter 3, we observe a wide range of values for the program administrator CSE from virtually every perspective—nationally, and across regions, states, portfolios, and sectors. Moreover, we find significant variability within the different types of programs. The inter-quartile range of CSE values (the "middle" 50% of programs) for the first-year CSE can vary by a factor of 10 or more within a program category. In this chapter, we explore some factors that may be associated with this variability in the CSE. We describe the results of statistical analyses aimed at quantifying the relationship of CSE and a few, selected independent variables.

To initiate these analyses, we postulated three sets of potential explanations for these ranges of CSE values:

- Differences internal to the programs themselves and over which program administrators have at least some influence (e.g., the mix of measures in programs and thus the adoption patterns of consumers, the scale of programs, the maturity of the programs, program design, and program implementation);
- Differences external to the programs and over which program administrators have very little or no influence (e.g., climate, labor costs, and the policy framework within which programs operate).
- Incorrect information arising from problems with the primary data or faulty categorization of programs, or both (e.g., if gross energy savings are inaccurately reported in the source reports).[71]

We suspect that most or all of these factors influence the CSE values, interacting in ways that can be difficult to disentangle. In this chapter, we focus on the first two explanations (i.e., potential internal and external program influences) in order to see if their hypothesized influences on CSE are observed or not, using the programs in the database.[72]

In the long run, we hope the collected data and this type of statistical analyses can:

- Inform policymakers and other stakeholders about the variability of the CSE to distinguish between controllable and uncontrollable sources of variability and, ideally, to identify ways of reducing costs or otherwise improving program design and delivery; and
- Lead to predictive models that specify and quantify major influences on CSE values and thus could inform cost or savings projections for use by portfolio planners, regulators, and resource planners.

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[71] See Chapter 2 for a discussion of data issues and Appendix C for a description of the quality control procedures implemented for this project.

[72] As noted in Chapter 3, CSE values are derived as follows: Program costs refer to program administrator costs only; the CSE values exclude participant costs. Savings are *gross savings* as reported by the program administrator. When program administrators only reported net savings values and we either had or could derive program-specific net-to-gross ratios, we used those ratios to calculate gross savings values from reported net savings. Savings values are based on savings at the end-use site and not at the power plant or natural gas pumping station and thus do not account for transmission and distribution losses.

4.1 Hypotheses

Table 4-1 indicates five hypotheses postulated as part of this research effort. We present results for three of these hypotheses in this report (shown in black).[73] Future reports may provide more in-depth results for these hypotheses and analyses of other hypotheses (shown in gray), both indicated in Table 4-1 and under development.

Table 4-1. Factors that may influence the cost of saved energy

Factors that May Influence the Cost of Saved Energy	Hypotheses	Proxy Variables	Level at which Variable Was Tested	Sources for Proxy Variable Data
Program Administrator Experience	**Program administrators with more experience learn to deliver programs more effectively and efficiently, with resulting lower CSE**	**Years of energy efficiency program spending from 1999-2012[74] above a *de minimis* threshold**	**Portfolio and sector levels**	**U.S. Energy Information Administration Form 861 survey[75] data, 1999-2012**
Scale of Program	**Larger programs reap economies of scale and thus have lower CSE**	**Number of program participants**	**Sector and simplified and detailed program level**	**LBNL DSM Program Impacts Database**
Labor Costs	**Areas with higher labor costs have higher CSE because labor is a significant component of both administrative and (indirectly) incentive costs.**	**State average wages for the construction industry**	**Portfolio, sector, and simplified and detailed program levels**	**U.S. Bureau of Labor Statistics**
State Policy Environment	Strong efficiency policies can both raise the baseline for energy savings potential and drive program administrators to reach deeper into the economy for savings; over time, both factors	Estimated statewide savings targets, as a percent of retail sales	Portfolio, sector, and program levels	Various reports by LBNL and ACEEE State Scorecards

[73] We plan to explore other hypotheses in future reports.
[74] This period was chosen largely because reporting of energy efficiency program spending and savings to EIA was less consistent in the early 1990s. See subsection on preliminary findings on program administrator experience for a discussion of the implications of selecting this period.
[75] We measured experience as the number of years that each program administrator has funded program portfolios at 0.1 percent of retail revenues for that program administrator or for utilities in that program administrator's territory. Where a time series of program funding could not be obtained (e.g., through gaps in reporting or delayed recognition of a non-utility program administrator in the survey data), we used the launch date for a multi-sector portfolio by that program administrator or, in a few cases, relied upon in-house knowledge of the level of energy-efficiency activity by that program administrator.

	are likely to result in higher CSE.			
Retail Rate Environment	Higher retail energy costs result in lower CSE because the higher energy costs encourage more customers to invest in energy savings, thus lowering the program administrator's costs of securing participation and savings	Residential, commercial and industrial retail rates	Commercial and Industrial (C&I) and residential sectors	U.S. EIA 826 and 861 reports (the Monthly Electric Sales and Revenue Report with State Distributions Report and the Annual Electric Power Industry Report)

Through the exercise of developing the hypotheses and identifying associated independent variables, it became clear that several of our theorized influences on the CSE interact in complex ways. Several variables operate in synergistic or countervailing ways. For example, some policies that are generally supportive of saving energy (e.g., energy savings targets) may dampen the costs of saving energy for program administrators in some circumstances and yet increase those costs under other circumstances. Further, the resulting effects may not operate uniformly or in the same direction from one market sector to another or across program types. Thus, the identification of potential influences on the CSEs, development of testable hypotheses and identification of valid independent variables is an iterative process, the early phases of which are described below.

4.2 Approach

For our dependent variable, we chose the first-year electric CSE, which is simply the program administrator cost (2012$) divided by first-year gross electricity savings (in kWh). The primary advantage of using first-year savings (versus lifetime savings) is eliminating uncertainties associated with the measure lifetime data; see Chapters 2 and 3 for discussion of limitations of lifetime energy savings data.

The disadvantage of using first-year savings is the inability to examine the ways that potential influences on CSEs vary for shorter- versus longer-lived efficiency measures, as using a levelized or lifetime CSE might allow. Since energy resources are generally evaluated over their economic lifetime, we anticipate analyzing factors that may be associated with levelized CSE values.

Statistical Regressions

Statistical regressions do not necessarily imply causality. Regressions can establish correlation or a probability that changing one or more independent variables is significantly associated with a quantifiable change in the dependent variable (e.g., the CSE).

We identified and collected data on the independent variables as proxies for the factors chosen to represent the potential influences over CSE. We then performed single-variable ordinary least squares regressions to screen independent variables, followed by a limited number of multivariate regressions to test the correlation between variables and the relative contributions of the variables. Appendix F describes our data collection procedures for the independent variables, the statistical analysis process and contains a table of these preliminary regression results.

4.3 Preliminary Results: Analysis of Factors that May Influence the Cost of Saved Energy

Our preliminary results to date suggest that many factors influence the CSE, and the degree of those influences varies across market sectors and programs. In the following subsections, we present an illustrative sampling of preliminary results and also discuss some of the challenges in identifying valid independent variables and interpreting results.

4.3.1 Program Administrator Experience

We hypothesized that program administrators with more experience would, to some demonstrable degree, have optimized the efficacy of program implementation and thus have lower CSE values for their portfolio of programs after an initial period. Experienced program administrators might realize these cost savings by one or more mechanisms, including having already established the necessary program infrastructure and trade alliances, identifying cost efficiencies in overhead expenses, and learning what measures and marketing approaches tend to elicit more customer participation or deeper savings.

We defined the program administrator experience variable as follows: each year of spending above a minimum program spending threshold (0.1% of revenues) as reported to the Energy Information Administration counted as a year of experience administering efficiency programs.[76] Years of experience were summed up for all years where spending exceeded the threshold to the program year for the data being tested. For example, utility X offered an informational energy audit program to customers in 2004 and expanded their programs in subsequent years such that spending exceeded 0.1% of revenues in 2006. Thus, we assumed that this utility had four years of experience for their 2010 programs and five years of experience for their 2011 programs.

The nature of the relationship between first-year CSE values and program administrator experience is depicted in Figure 4-1. The blue dots in Figure 4-1 represent CSE values for the portfolio of programs offered each year by individual program administrators**.** The cost of first-year gross electricity savings is plotted on the y-axis, the years of program administrator experience are shown on the x-axis.

There may be a quadratic relationship, such that program administrator experience and the cost of first-year savings may trace a curve in which first-year CSE declines as program administrators gain experience and then, beyond a certain number of years, costs increase, as

[76] See Appendix F for a more detailed explanation of the basis for determining program administrator years of experience. Response rates vary among program administrators from year to year in providing EIA Form-861 information. Third-party program administrators were not included in the EIA datasets until very recently. The names and parent companies for some program administrators changed over time. Some EIA survey data terms and definitions have changed over time and program administrators may have interpreted those terms (e.g., direct vs. indirect spending) in different ways. These limitations increase as the data reaches back to the early years of the EIA survey. We therefore chose to limit the count of years above the spending threshold to a period from 1999 to 2012. We recognize that bounding our metric for program administrator experience to this 14-year period imposes an artificial ceiling on the level of experience for the most mature program administrators. This may affect the correlation between program administrator maturity and the cost of saved energy. However, this impact is likely to be limited because 80% of the program administrator s in our dataset have spent above the designated spending threshold for 10 or fewer years.

saturation of low cost measures increases and program administrators offer programs that include more costly measures or target harder to reach market segments. However, a regression analysis with a quadratic specification using the first-year CSE values at the portfolio level does not show a statistically significant relationship,[77] and the magnitude of the effect, if it exists, is small (see a table of regression results in Appendix F). We plan to gather additional data, refine our method to estimate program administrator experience variable, and re-examine evidence for this relationship.

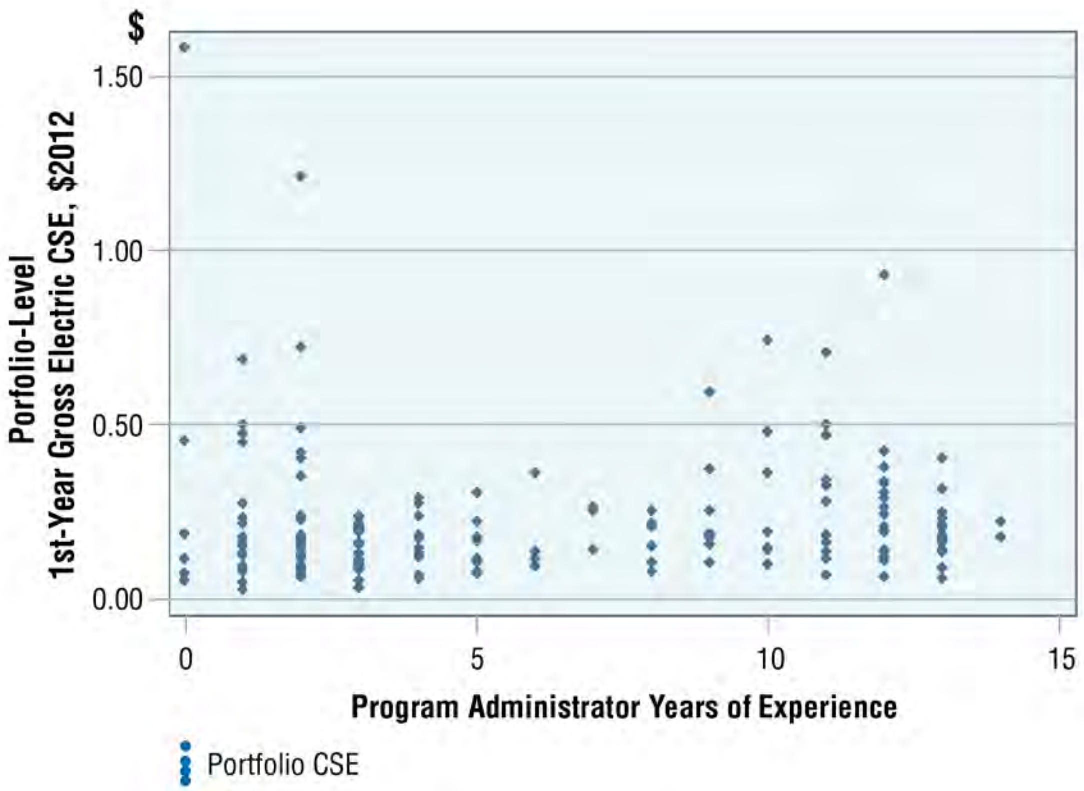

Figure 4-1. First-year portfolio-level CSE and program administrator experience, as measured by years of program spending above a minimal level.

4.3.2 Scale of Program

Based on economic theory, we would expect to see increasing economies of scale (i.e., lower CSE values as program fixed overhead costs are spread among more participant projects) at least up to a certain point. We found that the size of a program, as measured by number of participants, is often, but not always, indirectly associated with a decline in costs for some program types. This result is statistically significant for only certain program types. More reporting of participation levels could help determine, for different program types, when scaling up a program is likely to reduce the cost of saved energy.

As an example, Figure 4-2 depicts the relationship of participant count to first-year CSE for residential appliance recycling programs. The blue dots in Figure 4-2 represent first-year CSEs

[77] We use a 5% level as a threshold for statistical significance.

and reported participation for individual program years for appliance recycling programs. The red line is a linear fit across the data points, with the slope of the line indicating the predicted relationship between first-year cost performance and participation. For appliance recycling programs in our database, a doubling, or 100% increase, in the number of participants would, on average, be associated with about 0.01% of a reduction in the first-year CSE. This effect is statistically significant at the 5% level.

However, we also found that this effect is not statistically significant[78] for many other program types.

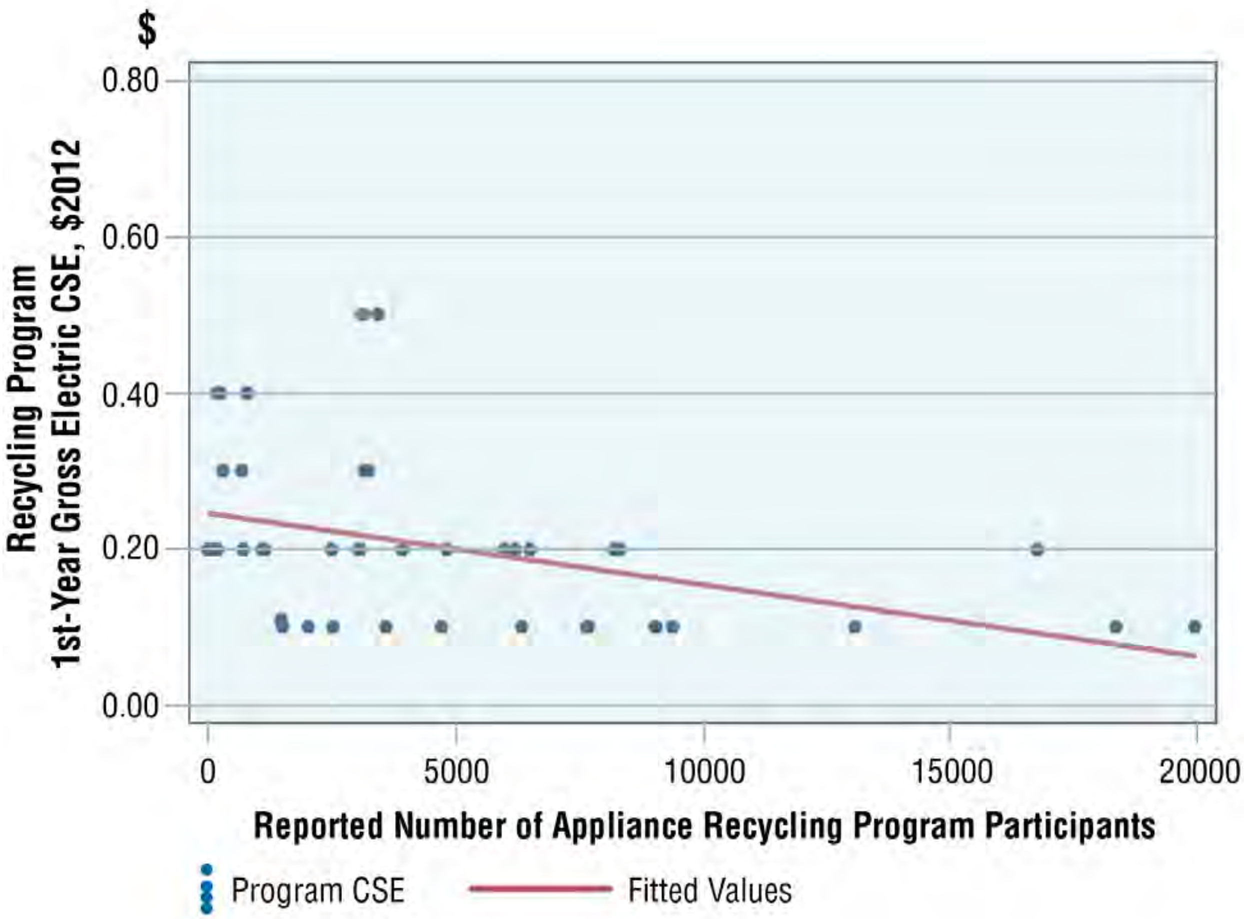

Figure 4-2. First-year CSE for appliance recycling programs and the reported number of recycling program participants

[78] The relationship between participation and first-year gross CSE for some other residential programs is statistically significant at the 20% level.

4.3.3 Labor Costs

We also theorized that higher labor costs result in higher CSE values (see Table 4-1). We present portfolio-wide CSE values as a function of state average hourly wages for construction industry employees in Figure 4-3. The blue dots represent CSE values for individual program administrator portfolios with the cost of first-year gross electricity savings plotted on the y-axis and the average hourly construction wages for the state in which the portfolios are administered on the x-axis.

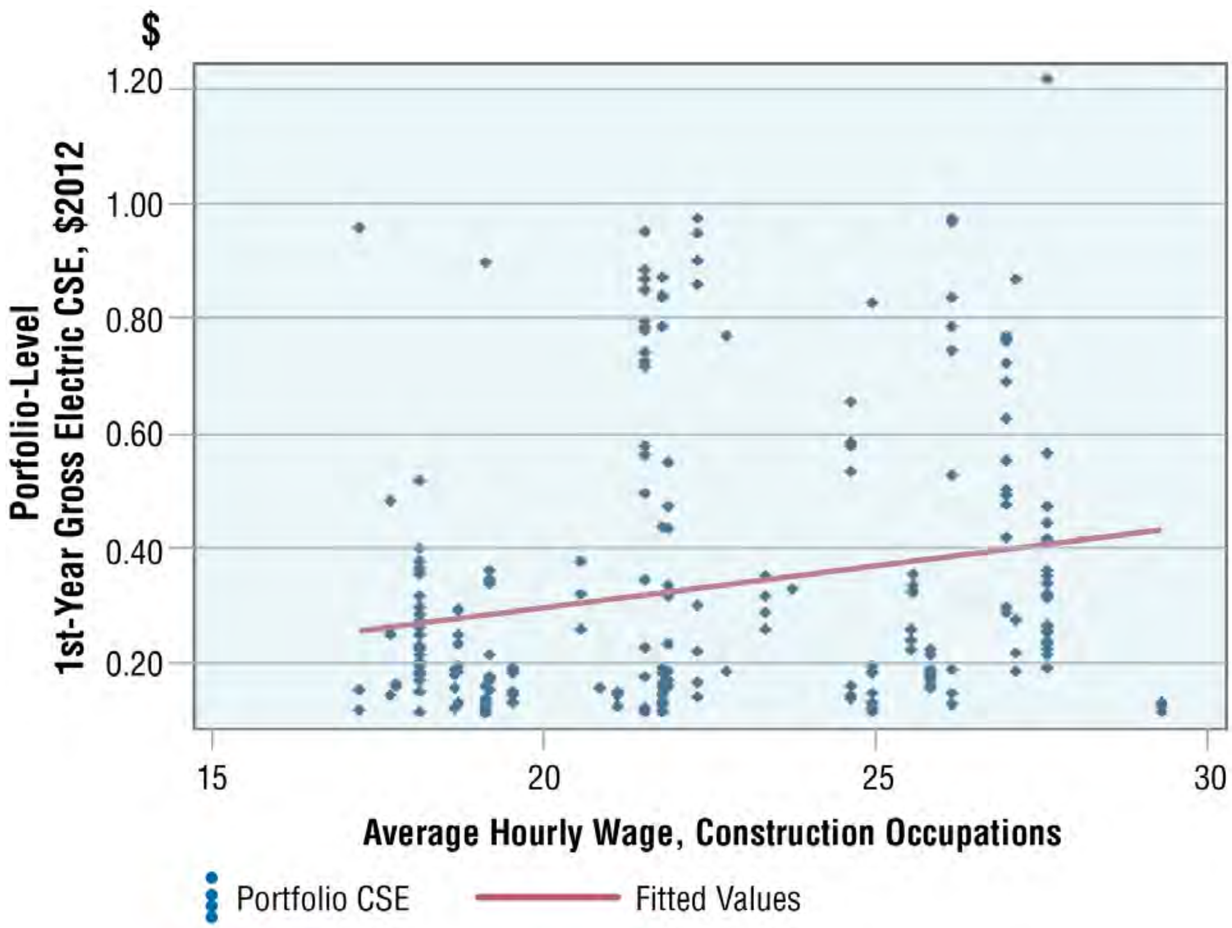

Figure 4-3. First-year portfolio-level CSE values and state average wages for construction industry employees ($/hour)

We selected construction hourly wages at the state level as our independent variable because research on the makeup of the energy-efficiency program workforce suggests that the construction industry is generally representative of that workforce (Goldman et al., 2010; Carol Zabin, UC-Berkeley Labor Center, personal communication). Our analysis shows that there is a positive correlation between construction wages and portfolio-level first-year gross CSEs. This result is statistically significant at a 5% level. However, the demonstrated effect is generally small, as can be seen from the fairly shallow slope of the fitted line in Figure 4-3. The effect is also neither uniform nor statistically significant across individual program types. As an aside, we also tried state average per capita income as the independent variable and found that the results are similar to those using construction hourly wages; this seems to indicate that labor costs are likely to play some role in the cost of saving energy.

4.4 Analytical Challenges

We also conducted exploratory analysis of other hypotheses (e.g., policy and retail price environments in which programs operate) and found that results varied substantially by market sector and program type. Many of these theorized relationships with the CSE are significant only at the 10%-15% level; further study is warranted.

The statistical analysis results described in this chapter depend critically on defining valid independent variables as well as the quality and quantity of the primary data underlying both the independent and dependent variables. Some of the difficulty in parsing these effects is a function of limitations in the underlying data for the independent variables. Drawing on an example noted earlier, we used data that program administrators voluntarily reported to the Energy Information Agency (EIA) to develop proxies for years of administrator experience. Program administrators sometimes do not report spending for every year or have interpreted EIA survey questions in different ways. More work is needed to minimize these and other sources of error or uncertainty in values for the independent variables.

Another challenge is specifying independent variables that are not highly correlated with other variables, that is, some proxies for influences on CSE can be overlapping in effect. For example, program administrators with more experience usually are required to achieve higher levels of savings. States that have higher labor costs also often have higher retail rates.

Likewise, it can be difficult to examine economies-of-scale questions when participation data are not provided. No participation data are reported for more than two-thirds of the program years in the database. In other cases, the data may be incorrect (numbers identified as participants are actually units sold or assumed installed) or ambiguous (unit and participant numbers are co-mingled or undifferentiated). Finally, many other questions pertinent to program design and delivery could be tested if spending breakdowns were available by program (i.e., program expenditures disaggregated into customer incentives, various categories of administration, marketing and outreach, and evaluation).

The primary data contained in the database have limitations, as discussed earlier. For the regression analysis, our total sample size was 2,035 data points. Many of the program years in the database are for gas-only programs, which are not included in an analysis of electricity program CSEs. Moreover, for some programs, the administrator did not report a key value (e.g., did not include program-level spending or allocate program costs by fuel for combination electric-gas programs).

5. Discussion of Key Findings and Recommendations

In this chapter, we summarize key findings from this initial report of the LBNL CSE Project and discuss opportunities for improving information provided by program administrators on the costs and impacts of efficiency programs.

5.1 Key Findings

We calculated the administrator costs of saving a unit of natural gas or electricity and reported the CSE in several ways, through first-year savings, lifetime savings and levelized savings. It is important to note that the CSE values presented in this report are retrospective and may not necessarily reflect future CSE for specific programs, particularly given updated appliance and lighting standards. The cost of efficiency as a function of first-year energy savings may be useful for budgeting to meet incremental annual savings targets. The cost of lifetime energy savings captures the efficiency that accrues throughout the effective lifetime of the implemented measures and therefore is more broadly applicable in designing programs and portfolios. In this study, we focused more attention on the program administrators' levelized cost of energy savings based on gross savings because relatively few program administrators reported the cost contributions of participants (or incremental measure costs) or net savings values. In future reports, our goals are to also provide the "all-in" or total resource CSE and to include CSE values based on net savings as well.

Key findings from this study are:[79]

- The U.S. average electricity CSE was slightly more than two cents per kilowatt-hour in the period 2009-2011 when gross savings and spending are aggregated at the national level and the CSE is weighted by savings.[80] This levelized CSE is somewhat lower than reported by other previous studies. In a 2009 study, for example, Friedrich et al. found an average program administrator levelized CSE of $0.025/kWh in constant 2007 dollars or $0.027/kWh in constant 2012 dollars—about 29% higher than is reported here.[81] The LBNL DSM Program Impacts Database contains a larger sample of program administrators, many of whom may have used longer program measure lifetimes that could affect CSE values. Moreover, nearly 40% of the program administrators in the database that administer electric efficiency programs have offered programs for less than four years and so may be early in accessing energy savings in their respective state economies or be targeting the least costly savings opportunities first.[82]
- Other findings for electricity efficiency programs include:

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[79] All values reported here are program administrator CSEs for gross energy savings, levelized at a 6% real discount rate and given in constant 2012 dollars.

[80] This average value is based on the efficiency program portfolios of 100 electric and electric-gas program administrators that represent just less than half of the program spending in the U.S. during 2009 through 2011. These PAs are a large and diverse group in terms of geography, baseline efficiency, and historic levels of program activity.

[81] Friedrich et al. used a slightly lower discount rate (5 percent vs. 6 percent used in this report), so that the actual difference is larger.

[82] See Appendix A for summary of current and previous CSE research.

    - Residential electricity efficiency programs had the lowest average levelized CSE at $0.018/kWh. Commercial, industrial and agricultural (C&I) programs had a slightly higher average levelized CSE at $0.021/kWh. Low-income programs show an average levelized CSE at $0.070/kWh.
    - In reviewing regional results, the Midwest programs had the lowest average levelized CSE ($0.014/kWh) and the Northeast programs the highest ($0.033/kWh). The average levelized CSE values for programs in the West and South, to the extent sufficient reporting was found, were $0.023/kWh and $0.028/kWh, respectively.
    - The database provides a valuable resource for understanding the composition and the CSE for various efficiency measures and program types. For example, at least 44% of the reported gross savings in the residential sector came from dedicated lighting programs and lighting rebate programs had a savings-weighted average CSE of $0.007/kWh with a small inter-quartile range.
- Natural gas efficiency programs had a national, program administrator savings weighted CSE range of $0.24 (lifetime CSE) to $0.38 per therm (levelized CSE, 6% discount rate), with significant differences between the commercial/industrial and residential sectors ($0.11–$0.17 vs. $0.32–$0.56 per therm respectively).
- Not surprisingly, the levelized CSE varied widely both among program types and within program types. We found that the median value was typically higher than the savings-weighted average for nearly all types of programs. One possible explanation is that our sample includes a number of very large programs and for any given program type, larger efficiency programs have lower CSE than smaller programs because administrative costs are spread over more projects (e.g., economies of scale). Some of our statistical analyses tend to demonstrate this relationship; however, other factors are probably at work as well.
- The "all-in" or total resource cost of energy savings is subject to the uncertainties and very limited availability of information on participant costs. Based on our small sample of programs that reported participant costs, we found that the program administrator costs account for about a third to a half of the total CSE (including program administrator and participant costs). One exception is residential Whole-Home Upgrade programs in our database, for which the median value for the program administrator's CSE is closer to three-quarters of the median CSE value that includes both program administrator and participant costs.
- We developed several hypotheses regarding factors that may influence the variability in the cost of saved energy. Preliminary statistical analyses of cost of first year energy savings suggest that myriad factors both internal and external to program design and implementation play some role in influencing the CSE:
    - Program administrator experience and the cost of first-year savings may show a curve where first-year CSE declines as new program administrators gain experience and then, beyond a certain number of years, costs increase, consistent with administration of portfolios that have matured beyond acquiring the least expensive resources. However, the demonstrated effect is generally small and not statistically significant at this time.

   - Higher construction labor costs are associated with higher costs of energy savings at the portfolio level. However, the demonstrated effect is generally small and is not uniform (or statistically significant) across all types of programs.
   - The size of a program, as measured by the number of participants, is associated with a decline in costs for some types of programs, suggesting that certain programs (e.g., Appliance Recycling programs) can achieve economies of scale by spreading fixed overhead across more projects. However, we also found that this result is not statistically significant for many other types of efficiency programs. More reporting of participation data could help determine when scaling up a program is likely to reduce costs and for what program types.

5.2 Discussion: Program Data Collection and Reporting

Program administrator annual reports are typically the product of state regulatory requirements or traditional practices that have evolved over time. In compiling and analyzing more than 4,000 program-years of data, we discovered a wide spectrum in the level of detail and completeness in annual program reporting. Barbose et al. (2013) found that over 45 states are running utility customer-funded efficiency programs. Many program administrators report program-level data at a very high level of completeness and transparency. However, we also found many examples of annual reports from program administrators that do not provide a complete picture of the impacts or costs of the efficiency investments at the program level. Although these reports may meet regulatory requirements in their state, they were not sufficient for the purposes of CSE analysis and therefore we were not able to include results from program administrators in many states.

With respect to current program reporting practices, we found:

- Inconsistencies in the quality and quantity of the costs and savings data which led LBNL to develop and attempt to apply consistent data definitions in reviewing and entering program data:
   - Program administrators in different states did not define savings metrics (e.g., varying definitions of net savings) and program costs consistently; and
   - Market sectors and program types were not characterized in a consistent fashion among program administrators.
- Many program administrators did not provide the basic data needed to calculate a CSE at the program level (i.e., program administrator costs and annual and lifetime savings), which introduced uncertainties into the calculation of CSE values.

This project brought into sharp relief the challenges of creating a program spending and savings database and calculating reliable, internally consistent metrics for assessing programmatic energy efficiency. For example, program measure lifetimes are essential for converting annual to lifetime savings while participant costs are essential for calculating the total resource costs of energy savings. We believe that nearly all program administrators must collect this information in order to satisfy cost-effectiveness screening requirements, yet many program administrators did not include this information in their annual efficiency reports:

- Less than 45% of electric program administrators reported lifetime savings;
- About 25% of electric program administrators reported program measure lifetimes;

- Only about half of electric program administrators reported both net and gross annual savings; and
- Less than a third of electric program administrators reported participant costs.

As a practical matter, the quality and quantity of program data reported by program administrators is an important factor in assessing energy efficiency as a resource in the utility sector. Therefore, we encourage further efforts to improve consistency in program administrator reporting of this information.

Regional and national policymakers have also expressed increasing interest in integrating energy efficiency as a resource and the value of transparent and complete reporting of program metrics as a foundation for increasing their confidence in this resource.[83] For example, ISO-New England, New York ISO and PJM Interconnection are collecting, or are considering collecting, demand-side spending and savings data from program administrators.[84] One objective is to develop better load forecasts in order to inform transmission planning, market development and operations. A second objective is to gain visibility into the future for wholesale energy and capacity markets. More rigorous and consistent reporting can help energy markets count and confidently value energy efficiency resources. Finally, all stakeholders that are engaged in any aspect of the efficiency effort share an interest in making energy-efficiency portfolios as cost effective as possible; consistent and more standardized reporting of efficiency program data and metrics are a prerequisite for this to occur.

We believe that there is a direct connection between the maturation of energy efficiency as a utility and national resource and increased consistency in periodic reporting of efficiency program costs and impacts. Additional rigor, completeness, standard terms, and consensus on at least essential elements of reporting could pay significant dividends for program administrators and increase confidence among policymakers and other stakeholders. With more consistent and comprehensive reporting of program results, we may obtain additional insights on trends in the costs of energy efficiency as a resource as program administrators scale up efforts, why those costs might vary from place to place and year to year, what saving energy costs among an array of strategies and what cost efficiencies might be achieved.

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[83] The Northeast Energy Efficiency Partnerships' (NEEP) Regional Evaluation, Measurement and Verification Forum (EM&V Forum) supports the development and use of common, consistent protocols to evaluate, measure, verify, and report the savings, costs, and emission impacts of energy efficiency. The EM&V Forum has developed the Regional Energy Efficiency Database (REED), launched in early 2013, which includes data from eight states, soon to be nine states and the District of Columbia. REED was informed by the Forum's "Common Statewide Energy Efficiency Reporting Guidelines," which were adopted by the Forum's Steering Committee in 2010. See http://neep.org/emv-forum/about-the-emv-forum/index.

[84] The NY ISO and ISO NE develop projections on efficiency program impacts based on future program budgets and cost information about past program performance. See, e.g., the NY ISO 2013 Gold Book (http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Planning_Data_and_Reference_Docs/Data_and_Reference_Docs/2013_GoldBook.pdf) and the 2014 Energy-Efficiency Data Review by the ISO NE Energy-Efficiency Working Group at http://www.iso-ne.com/committees/comm_wkgrps/othr/enrgy_effncy_frcst/2014mtrls/final_2014_eefwg_data_review.pdf

Therefore, we urge state regulators and program administrators to consider annually reporting certain essential data fields at a portfolio level and more comprehensive reporting of program-level data in order to facilitate benchmarking of efficiency program results at state, regional and national levels. The reporting hierarchy in Figure 5-1 illustrates this approach.

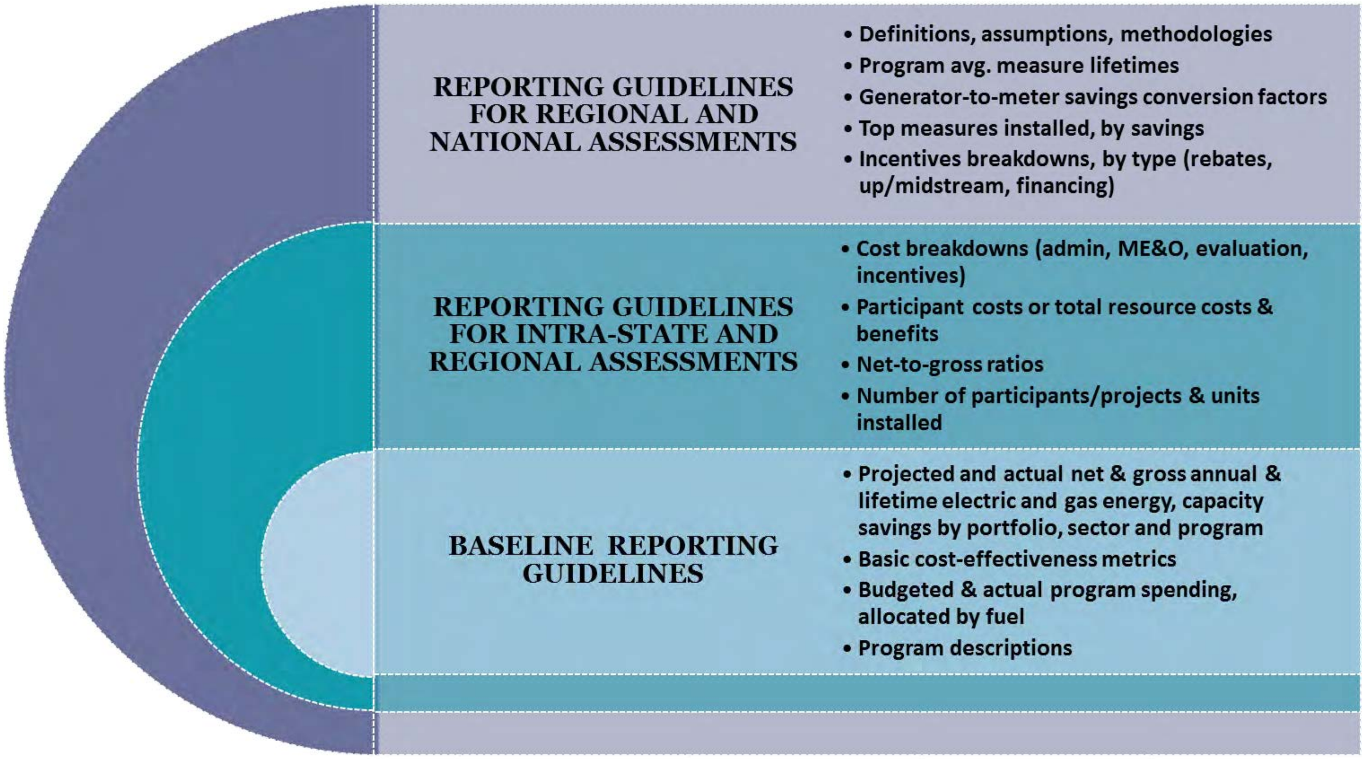

Figure 5-1. Components of annual energy efficiency program reporting

The program information included in each circle above correspond to gradually increasing visibility into program performance, increasing confidence in the reported values and potential relevance to policymakers and more stakeholders across broader geographic areas. The most basic level of reporting (light blue background) provides information that state regulators can use to ensure that programs are available to all customer classes and are cost-effective as implemented. The next level of reporting (teal background) provides critical information for calculating the CSE, assessing program efficacy and market penetration, and ensuring savings are attributable to program activities. The third level of reporting (purple background) enables comparisons of programs and cost performance in different states, reinforces assessments of program efficacy, and allows visibility into key assumptions to ensure those assumptions are valid and comparable to those used by other program administrators.[85]

[85] The components of annual reporting in Figure 5-1 are not exclusive. A number of states require significantly more, including indicators of performance on multiple fronts. Examples include estimates of market penetration; estimates of economic impacts; and cost breakdowns by internal spending, payments to or for external evaluations, payments to implementation contractors, payments to installation contractors, etc.

If program administrators were to report, at a minimum, the data under the baseline guidelines, this analysis would include nine additional program administrators among the 31 states included in this study, and programs from at least an additional 14 states. This would facilitate a more comprehensive national analysis of the impact of utility-customer funded energy efficiency.

We also encourage program administrators, regulators and other stakeholders to provide feedback on our efforts to encourage consistent reporting of efficiency program results, particularly the program typology and data definitions. We will be soliciting input more formally as we move forward with the next phases of this project. Given sufficient interest and resources, it is our hope to update the LBNL DSM Program Impacts Database on a periodic basis and prepare comprehensive reports and policy briefs that are publicly available that explore key issues in energy efficiency programs.

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Exhibit M

RAP | Energy solutions for a changing world

US Experience with Efficiency As a Transmission and Distribution System Resource

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February 2012

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Though we could not have completed this report without the help of those identified above, it is important to note that some of the feedback we received was conflicting. In addition, in a few cases, we disagreed with and therefore elected not to make some specific changes suggested by one or more reviewers. We make these points to underscore that we, the authors, are ultimately solely responsible for the information presented and the conclusions drawn in the report.

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Executive Summary

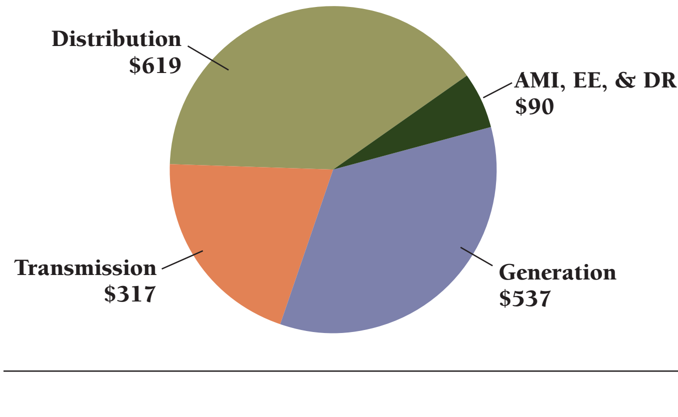
Improvements to electric efficiency in homes and business provide a variety of benefits to both the customers making the improvements and to the electric system as a whole. The most widely recognized are energy savings and system peak demand savings. A much less widely recognized or valued benefit is the potential to enhance the reliability of the transmission and distribution (T&D) system. This paper focuses on that potential, summarizing lessons learned from US initiatives in which geographically targeted efficiency programs have played a major role in electric utility funded efforts to defer T&D investments.

Importance of T&D Investments

The potential to defer T&D upgrades deserves much more serious consideration than it has received to date. The U.S. utility sector has invested on the order of $35 to $40 billion per year in the T&D system over the past decade and is forecast to invest nearly $50 billion per year over the next two decades. As Figure ES-1 shows, this represents approximately 60% of total forecast investments for the sector. Only 6% of the forecast capital investments are in advanced metering infrastructure (AMI), energy efficiency (EE) and demand response (DR). Not all forecast T&D investments will be deferrable. Some will be required to address time-related deterioration of equipment or other factors that are independent of load. However, a significant portion of T&D investment is likely to be associated with load growth. The potential benefits of deferring even a modest portion of such investments could be substantial.

Figure ES-1

US Power Sector Capital Investment Needs (2010 – 2030)
(in billions of 2009 dollars)



Passive Deferral vs. Active Deferral

Efficiency programs can defer T&D investments either passively or actively. We define "passive deferrals" as those that occur as a result of efficiency programs that were not undertaken primarily for the purpose of deferring T&D upgrades. For example, system-wide efficiency programs will reduce loads on virtually all major elements of the T&D system. As a result, at least some load growth-related investments in the T&D system will be deferred for at least some period of time. Indeed, Consolidated Edison (Con Ed) reduced its projected T&D capital expenditures by more than $1 billion after separately adjusting 10-year load forecasts for each of its 91 distribution networks and load areas in New York to reflect the expected impacts of system-wide efficiency programs.

In contrast, "active deferrals" are those that result from efficiency programs that are geographically-targeted for the express purpose of deferring the need for upgrades to specific elements of the T&D infrastructure. Though there are a number of notable exceptions, this concept has not yet been widely pursued due to a variety of inter-related factors:

- **Financial incentives –** utilities typically earn more from investing in "poles and wires" than from investing in efficiency and/or other alternatives;
- **Efficiency's multiple attributes/benefits –** because efficiency investments provide energy savings, peak capacity savings, reserve margin savings, and other benefits in addition to T&D reliability improvements, comparing them to "poles and wires" investments requires a holistic, systemic perspective that has not been universally adopted by utilities, their regulators, independent system operators (ISOs), or regional transmission operators (RTOs);
- **System planning is highly technical –** the technical specialization needed to do T&D planning fosters an environment biased to technical solutions;
- **System engineers distrust demand resources –** those charged with planning to meet reliability needs typically have limited interaction with efficiency program managers and limited direct experience with the performance of demand resources;

- **Risk aversion** – utilities are typically reluctant to try new approaches, particularly if they perceive any regulatory risk in doing so;
- **Socialization of transmission investment costs** – while the cost of transmission solutions are often socialized regionally, the cost of efficiency programs or other non-wires solutions that could meet the same reliability objectives are not; and
- **Responsibility for transmission planning is diffuse** – with state regulators, utilities, independent system operators or regional transmission operators and the Federal Energy Regulatory Commission all having roles, it is difficult for a new approach (i.e. non-wires solutions) to gain traction.

U.S. Experience with Active Deferrals of T&D Investments through Efficiency

Though far from widespread, a number of jurisdictions have tested and/or are in the process of testing the role that geographically-targeted efficiency programs could play in cost-effectively deferring T&D investments. This paper examines ten different initiatives or policies – four in the 1990s and six others that are much more recent and/or still underway. As summarized below, this experience provides valuable lessons to guide future policies for the successful deployment of energy efficiency as a T&D resource.

Pacific Gas and Electric's Delta Project (California, early 1990s)

The project aimed to defer the need for a new substation that would otherwise be required to serve a growing community of 25,000 homes and 3000 businesses in far eastern Contra Costa County. Several efficiency programs were quickly launched in the region to reduce peak loads, with more than 10% of homes receiving some major measures. The project did defer the need for the substation for at least two years, though at a higher cost than expected because some measures provided much lower peak savings than expected. While other measures provided greater savings than expected, the compressed timeframe for the project did not allow for switching of strategies early enough to keep average costs at more reasonable levels.

Portland General Electric's Downtown Portland Pilot (Oregon, early 1990s)

This project focused on several opportunities. In the case of individual buildings where load reductions were needed to defer transformer upgrades, the utility aggressively marketed existing system-wide efficiency programs to the building owners. For grid network objectives, where peak demand reductions of 10-20% for entire 10-15 block areas were needed, the utility contracted with energy service companies (ESCOs) to deliver savings. Results were mixed. For one building, savings were enough to defer and possibly permanently eliminate the need for a $250,000 upgrade. In another building an unexpected conversion from gas to electric cooling eliminated any opportunity to defer the upgrade. The ESCOs contracted to achieve savings in a grid area network succeeded in reducing peak load by more than the 20% required. However, the utility's distribution engineering staff decided to proceed with their construction project before the savings were documented.

BPA's Puget Sound Area Electric Reliability Plan (Washington, early 1990s)

The Bonneville Power Administration (BPA) and local utilities decided to address a transmission reliability concern through a strategy of adding voltage support to the existing transmission system (the most important part of the strategy) and more intensive deployment of energy efficiency programs (a complementary element). The project ended up delaying construction of a new cross-Cascade transmission line for more than a decade.

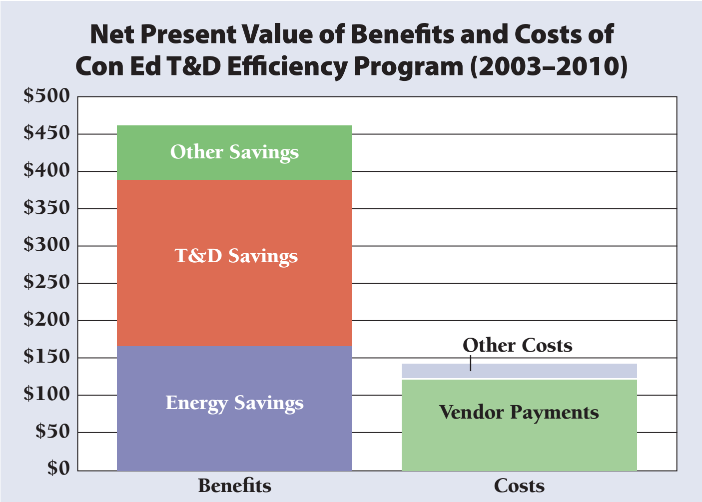
Green Mountain Power's Mad River Valley Project (Vermont, mid to late 1990s)

The project aimed to defer the need for a new distribution line in an area dominated by a large ski resort which had announced expansion plans that would add 15 MW of new load to the system. When it became clear that the resort may be required by Vermont regulations to bear most of the cost, negotiations between the utility, the resort and the state's rate-payer advocate led to an alternative plan in which the resort would better manage its load to ensure that total loads were within existing system tolerances and the utility would aggressively pursue efficiency improvements with its customers in the region. In the end, the project succeeded with the efficiency programs coming close to achieving overall savings goals.

Consolidated Edison (New York City, early 2000s to present)

In 2003, Con Ed launched a program to defer distribution system upgrades using a competitive bidding process to select the resources it would pursue. To date, only efficiency resources have been selected. To address reliability concerns, contracts for those resources include both significant upfront security and downstream liquidated damage provisions. All told, between 2003 and 2010, the Company employed geographically-targeted efficiency programs to defer upgrades in more than one third of its distribution networks. The resulting savings were very close to forecast needs and, as Figure ES-2 shows, provided more than $300 million in net benefits to ratepayers. In some cases, the efficiency investments not only deferred upgrades, but bought enough time to allow the utility to refine load forecasts to the point where it now believes that capacity extensions may never be needed.

Figure ES-2



Efficiency Vermont Geo-Targeted DSM (2007 to present)

Efficiency Vermont's performance goals were modified to include not only system wide savings targets, but also much more aggressive targets in selected geographic areas which the state's utilities had identified as candidates for deferring T&D investments. The initiative has had some success. Although peak demand savings in the targeted areas were at least 30% below targets, they were still three to five times greater than those achieved statewide (notable since the statewide savings were already the highest in the nation). The state's largest utility has observed that it has not had to schedule deployment of additional system upgrades in the targeted areas. The extent to which that is attributable to the geo-targeted efficiency programs, changes in economic conditions, other factors has not yet been determined.

NV Energy (Nevada, late 2000s)

NV Energy launched an efficiency initiative in and around Carson City in an effort to obviate the need to either run the locally situated but relatively expensive Fort Churchill generating station more frequently or construct a new transmission line and substation to bring less expensive power into the region. At the same time, the utility began re-conductoring the existing 120-kVA line to the region. An economic recession also hit at the same time, dampening growth. As a result, the Company has not had to revisit the need for either running the Fort Churchill station more often or adding new T&D capacity.

Central Maine Power (currently under development)

In 2010, the Maine regulators approved a settlement agreement that supported construction of most elements of a large transmission project, but identified two areas – the Mid-Coast region and the city of Portland – where pilot projects to test the efficacy of non-transmission alternatives would be launched. In March 2011, Central Maine Power filed a plan for the Mid-Coast region that proposed using a competitive process to identify and acquire needed distributed resources. The plan suggested that efficiency resources were expected to be "highly competitive". A variety of issues regarding both the forecast capacity needs and the process for acquiring distributed resources were unresolved as this report was being finalized.

National Grid (Rhode Island, currently under development)

In 2006, Rhode Island adopted a "System Reliability Procurement" policy that required utilities to file plans every three years. The plans must consider non-wires alternatives – including energy efficiency – whenever a T&D need is not based on an asset condition, would cost more than $1 million, would require no more than a 20% reduction in load to defer and would not require investment in a "wires solution" for at least three years. Based on these guidelines, in late 2011, National Grid proposed an initial pilot project to defer the upgrading of a substation through a combination of load management and energy efficiency.

Bonneville Power Authority (Washington, Oregon and Idaho, currently under consideration)

In 2002, the Bonneville Power Authority launched an initiative in which it committed to investigating options for deferring potential transmission reinforcement projects. A year later, it formed a Non-Wires Solutions Round Table of key stakeholder groups to provide input to its work. It then developed a formal process by which transmission alternatives – including efficiency – would be assessed. That process includes an initial screening to determine if a project is a possible candidate for a non-wires solution. The project qualifies if it is estimated to cost at least $5 million, it is driven by load growth and the need is at least eight years in the future. Bonneville is currently conducting detailed feasibility assessments of non-wires solutions to three projects – one each in Oregon, Washington and Idaho – that passed this initial screen. In each case, efficiency is part of a package of options being considered.

Lessons Learned

Our review of these efforts to use efficiency programs to defer T&D investments – alone or in concert with other resources – leads us to the following initial conclusions:

- **Geographically-targeted efficiency can defer T&D investments.** That appears to have been the case in New York City; Vermont's Mad River Valley; Portland, Oregon; and Contra Costa County, California.
- **Efficiency can be a cost-effective T&D resource.** There is less evidence regarding the cost-effectiveness of efficiency as an alternative to T&D investments. However, analysis of the most intensive and longest-standing effort – Con Ed's experience in New York City – concluded that T&D savings alone out-weighed the cost of efficiency. When all efficiency benefits are considered, the initiative had a three-to-one benefit-cost ratio.
- **Unexpected events can affect the benefits of efficiency.** In several of the cases analyzed, some or all of the T&D investment being considered for deferral ended up being constructed for reasons having nothing to do with the effectiveness of deployment of efficiency resources. However, forecasting uncertainty works in both directions. Indeed, in a couple of cases, efficiency investments bought enough time to enable a utility to conclude that – contrary to initial forecasts – a T&D upgrade may never be needed.
- **Sufficient lead time is critical.** It is necessary to allow for sufficient planning, for sufficient deployment of efficiency resources to meet needs (particularly for larger projects) and for refinement of efficiency strategies during the deployment process.
- **Smaller is easier.** The smaller the area being addressed, the easier it is to consider efficiency and other non-wires alternatives. It is easier to characterize the opportunity in small areas. Also, savings will need to be acquired from fewer customers. Both of those things mean shorter lead times will be required.
- **Distribution is easier than transmission.** Distribution deferral projects will be smaller in scope. They are also less technically complex, involve fewer parties, and do not involve ISOs/RTOs and associated regional cost allocation frameworks (i.e. cost socialization issues).
- **Cross-discipline communications is critical.** Collaboration between efficiency program managers and T&D planners is critical to considering deploying efficiency as an alternative to T&D investments. Both have much to learn from each other. Some level of trust must be developed between the two groups.
- **Efficiency should be integrated with other distributed resources.** Although efficiency programs can sometimes be sufficient to defer T&D investments, they will often need to be deployed in concert with demand response, distributed generation and other resources to enable deferment of T&D investments (particularly for larger projects).

Recommendations

The potential economic and other benefits of efficiency programs as a T&D resource are largely being ignored today. Some fundamental policy changes are required if that is to change:

- **Require least-cost T&D planning.** Experience in several jurisdictions suggest this is essential (though not sufficient) to beginning serious consideration of efficiency and other non-wires alternatives.
- **Require consideration of integrated solutions.** To ensure that potential synergies between efficiency and other non-wires alternatives are considered, any requirement for least cost-planning should make clear that all options, including different combinations of distributed resources, should be considered.
- **Institutionalize a long-term planning horizon.** The longer the lead time, the more likely it will be that efficiency and/or other distributed resources could cost-effectively defer T&D investments. At a minimum, T&D needs should be forecast at least 10 years into the future.
- **"Level the playing field" in payment for wires and non-wires alternatives.** Cost-allocation frameworks that socialize costs for transmission projects across a region but require all the cost of non-wires alternatives to be born locally create enormous disincentives to pursue least cost solutions.
- **Collect more data on efficiency's impacts.** In much of the country, relatively little data on the hourly and seasonal impacts of efficiency resources has been collected and made public over the past two decades. Better data should help address concerns of T&D system planners.
- **Start with pilot projects.** Pilots offer important, lower risk opportunities to bring together efficiency program and T&D planners.
- **Leverage "smart grid" investments.** Customer and end-use data collected through such systems may enable better assessments of the potential for efficiency to serve as a T&D resource.

Table Of Contents

1. Introduction

Improvements to electric efficiency in homes and businesses provide a variety of benefits to both the customers making the improvements and the electric system as a whole.[1] The most widely recognized are annual energy savings and system peak demand savings. Most consumers are primarily interested in energy savings because they typically drive cost savings on electricity bills. Utilities and grid operators are often most interested in reductions in load at the time of system peak, which enable them to avoid purchasing expensive peak generating capacity. A much less commonly recognized or valued benefit of efficiency investments is the potential for cost-effectively deferring upgrades to transmission and distribution (T&D) systems.

This paper focuses on that potential. In particular, it summarizes US experience to date and lessons learned from initiatives in which geographically targeted efficiency programs have played a major role in electric utility funded efforts to defer transmission and/or distribution system investments. Although other demand resources such as demand response and distributed generation can also be considered viable alternatives to T&D investments and have occasionally been deployed for that purpose, this paper does not explore those options in any detail, except when they are deployed as part of a multi-pronged strategy in conjunction with geographically targeted efficiency programs.

Context – Historic and Future Investments in Transmission and Distribution

The potential to defer upgrades to T&D warrants much more serious consideration than it has historically been given. As Figure 1 shows, T&D investments by investor-owned utilities, which collectively account for approximately two thirds of electricity sales in the United States, have averaged about $26 billion annually over the past decade.

If public utilities are investing in T&D at the same rate, then total T&D investment nationally would be on the order of $40 billion per year. That level of investment is expected to continue, if not increase, in the future. Indeed, as Figure 2 illustrates, the Edison Electric Institute recently commissioned a study that concluded the US power sector, including both investor-owned and public utilities, will require over $1.5 trillion in capital investments

Figure 1[2]

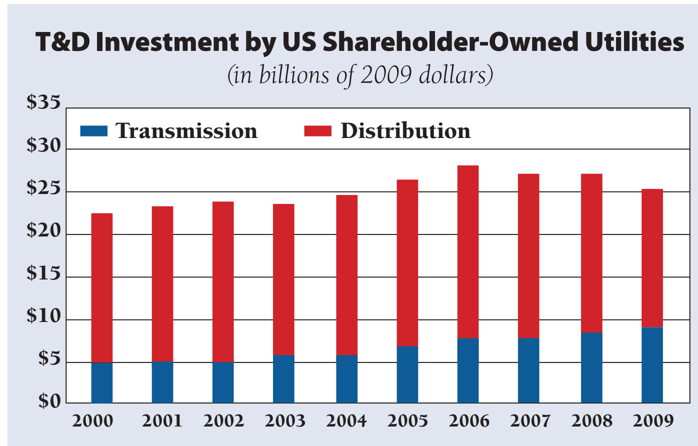
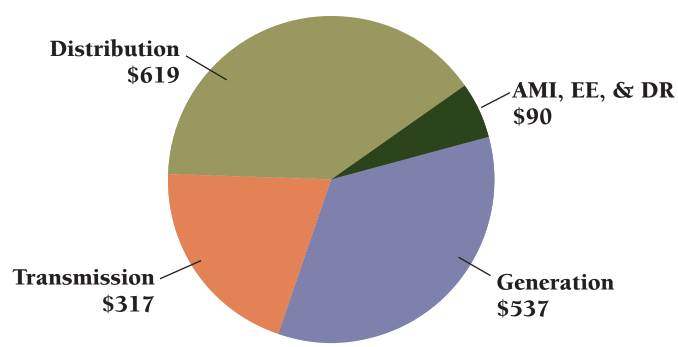


Figure 2[3]

US Power Sector Capital Investment Needs (2010 – 2030)

(in billions of 2009 dollars)



1 There are also often a number of non-energy benefits (e.g., improved comfort, water and/or other resource savings, reduced operation and maintenance costs, increased productivity) that we do not address in this paper.

2 Personal communication with Steve Frauenheim, Edison Electric Institute (EEI), August 5, 2011. Data are from EEI's Statistical Yearbook of the Electric Power Industry 2009 Data, Table 9.1.

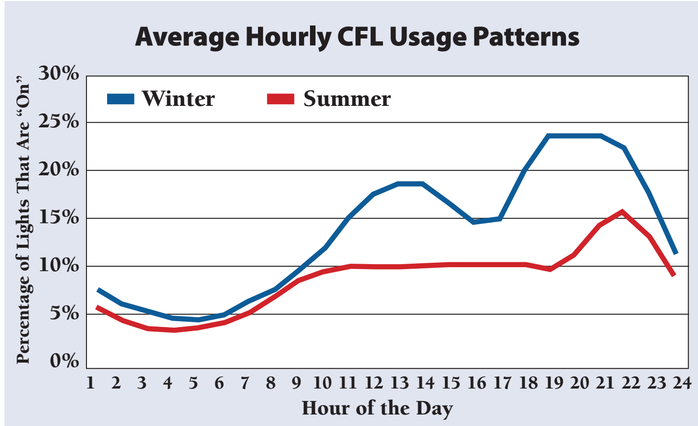
between 2010 and 2030 (2009 dollars), and that 40% of that investment – more than $600 billion (i.e., more than $30 billion/year) – will be in distribution system infrastructure and another 20% – more than $300 billion (i.e., more than $15 billion/year) – will be in transmission system infrastructure. Only about one third of the forecast investment is in new generation; another 6% is in advanced metering infrastructure, energy efficiency, and demand response.

"Passive Deferral" vs. "Active Deferral"

Deferrals of T&D investments can take two forms: passive deferral and active deferral. Passive deferral occurs when the growth in load or stress on feeders, substations, transmission lines, or other elements of the T&D system is reduced as a result of broad-based (e.g., statewide or utility service territory-wide) efficiency programs. For example, a statewide program to promote the sale and purchase of compact fluorescent light bulbs (CFLs) will have the effect of lowering loads on every element of the T&D system every hour of the day. To be sure, the amount of load reduction from such a program will vary considerably depending on the season (more during winter than summer), hour of the day (e.g., more during the evening than the day), and the customer mix served (e.g., more for feeders, substations, etc. serving primarily residential customers). As Figure 3 shows, however, the load shape of residential lighting is such that – across a population of program participants – some reductions in energy use will occur every hour of the year. Some reductions thus will occur during every hour of peak demand for every element of the T&D system.

Passive deferral benefits are sometimes reflected in average statewide or utility service territory-wide avoided T&D costs. Such avoided costs – along with avoided costs

Figure 3[4]



of energy and system peak capacity – are commonly used to assess whether efficiency programs are cost-effective (usually a regulatory requirement for funding approval). At the most general level, estimates of avoided T&D costs are typically developed by dividing the portion of forecast T&D capital investments that are associated with load growth (i.e., excluding the portion that is associated with replacement due to time-related deterioration or other factors that are independent of load) by the forecast growth in system load. Such estimates can vary considerably, often as a function of the utilities' assumptions regarding how much investment is deferrable. For example, in New England, utility estimates of avoided T&D costs typically have ranged from about $55 per kW-year to $120 per kW-year.[5] Avoided distribution costs typically account for 70% to 80% of those values (i.e., avoided distribution costs are typically two to four times greater than avoided transmission costs). Estimates for several utilities in California and the Pacific Northwest have ranged from $30 to $105 per kW-year, with an average of close to $50.[6] Again, avoided distribution costs are the larger

3 Chupka, Marc et al, (The Brattle Group). *Transforming America's Power Industry: The Investment Challenge 2010-2030*, prepared for the Edison Foundation, November 2008. The forecast presented here is for the report's base case scenario, including "realistically achievable potential" for energy efficiency and demand response. The report's 2006 costs were increased by 6.4% so that they could be presented in 2009 dollars (based on changes in the Consumer Price Index between 2006 and 2009).

4 Nexus Market Research, *Residential Lighting Markdown Impact Evaluation,* submitted to Markdown and Buydown Program Sponsors in Connecticut, Massachusetts, Rhode Island, and Vermont, January 20, 2009 (from Figures 5-1 and 5-2).

5 Most are in the range of $55 to $85 (Synapse Energy Economics, *Avoided Energy Supply Costs in New England: 2009 Report,* revised October 23, 2009, p. 6-66). Vermont's, however, is approximately $120 per kW-year for summer peak savings and $80 per kW-year for winter peak savings (personal communication with Erik Brown, Efficiency Vermont, December 23, 2011).

6 Northwest Power and Conservation Council, Sixth Northwest Conservation and Electric Power Plan, February 2010 (http://www.nwcouncil.org/energy/powerplan/6/final/SixthPowerPlan_Appendix_E.pdf), p. E-14.

of the two components – on the order of twice as large as avoided transmission costs.[7] At the other extreme, in some jurisdictions it is conservatively assumed that no T&D investments can be avoided.[8]

Active deferral of T&D investments can occur when a conscious decision is made to invest in energy efficiency measures or programs – in targeted geographic locations – for the specific purpose of lowering loads on local T&D system elements. This concept has been actively pursued in relatively few jurisdictions to date. A variety of factors likely contribute to its limited testing for both transmission and distribution needs:

- **Economic incentives.** Utilities typically earn rates of return on capital investments. In many jurisdictions they do not make money on investments in efficiency.[9]

- **Efficiency's multiple attributes/benefits.** Efficiency resources provide a variety of benefits, including energy savings, peak capacity savings, environmental emission reductions, and T&D reliability improvements. Properly assessing whether efficiency could be a cost-effective alternative to T&D investments requires accounting for all of those benefits (e.g., although efficiency may not be cost-effective when considering just its T&D reliability benefits, it may be when considering all its benefits). That requires a holistic, systemic perspective that has not been universally adopted by utilities or their regulators, however, and is generally not a concern of ISOs/RTOs.

- **System planning is highly technical.** The technical specialization needed to do T&D planning fosters an environment biased to technical solutions. Put another way, utilities and ISOs/RTOs tend to be engineering oriented, with a propensity toward building capacity to meet growing consumer demand.

- **System engineers distrust of demand-side resources.** System engineers trust assets that they can control, like "poles and wires," and tend to be more skeptical or distrustful of investments on the customer side of the meter to reduce demand.

- **Risk aversion.** Related to the point above, utilities (like many other businesses) are often reluctant to try something different, particularly if they perceive any regulatory risk from doing so.

In general, the barriers to deployment of non-wires solutions to transmission needs are greater than those for distribution system needs. To begin with, transmission needs are typically more technically complex. In addition, the magnitude of the demand resources needed to defer them are larger and spread across much larger populations of customers. That can enhance system planners' fear of the ability of demand resources to meet reliability needs. It also typically means that longer lead times for consideration of non-wires solutions are necessary. Two additional factors are also critically important.

- **Socialization of transmission investments, but not non-wires alternatives.** The costs of transmission investments are often socialized regionally (i.e., across the entire grid), whereas the costs of efficiency programs or other non-wires solutions must typically be borne entirely by the local utility and its customers. This creates a classic "tragedy of the commons" in which it is less expensive for the local utility to choose what is often the most expensive option for a region.

7 Ibid. Figures E-5 (avoided transmission costs) and E-6 (avoided distribution costs) each provide eight separate examples. Only three of those examples are common, however: PG&E, Pacificorp and PGE. For those three utilities, avoided distribution cost estimates were roughly double avoided transmission cost estimates.

8 For example, see: Consumers Energy, *2012-2015 Amended Energy Optimization Plan*, submitted to the Michigan Public Service Commission, Case No. U-16670, August 1, 2011, p. 25.

9 A recent ACEEE study identified 18 states that had a mechanism that allowed investor-owned utilities to earn shareholder incentives for good performance in administering efficiency programs (Hayes, Sara et al, *Carrots for Utilities: Providing Financial Returns for Utility Investments in Energy Efficiency,* ACEEE Report Number U111, January 2011).

- **Diffusion of responsibility for transmission planning and decision-making.** State regulators, utilities, ISOs/RTOs, and ultimately FERC all have roles in transmission planning and approval of transmission investments. It is difficult for a new approach (i.e., non-wires solutions) to get traction when there is no one entity "in charge" that can require consideration of such approaches. It is unclear how the recent FERC Order 1000, which requires ISOs/RTOs to consider state policies in their decisions, will change things.

Despite these barriers, aggressive geographically targeted energy efficiency programs have been implemented in several jurisdictions in an attempt to defer specific T&D projects. The purpose of this paper is to document the lessons learned from those efforts. Again, although there are a variety of potential non-wires alternatives that can be and have been deployed to defer T&D investments, the focus of this paper is only on those projects in which energy efficiency played or is playing a substantial role. It is also important to note that this paper documents the consideration of efficiency as a T&D resource as of late 2011. Several of the cases described below are still evolving, potentially in ways that could add significantly to information and ideas presented herein.

2. Active Deferral of T&D Investment – Selected Examples

A. Early History

The concept of using geographically targeted energy efficiency investments to cost-effectively defer T&D system upgrades is not a new one. One can find numerous papers on the concept in efficiency conference proceedings going back to at least the early 1990s. The Electric Power Research Institute (EPRI), a research organization serving the utility industry, began pursuing several projects to assess the potential for integrating demand-side management (DSM) into utility T&D planning during the same time period. Most important, several groundbreaking projects were undertaken in the 1990s to test the concept. What follows are brief descriptions of those projects.

Pacific Gas and Electric (California) – Delta Project

One of the most widely publicized of these early projects was the Pacific Gas and Electric (PG&E) Model Energy Communities Program, commonly known as the Delta Project, which ran from July 1991 through March 1993. Its purpose was to determine whether the need for a new substation that would otherwise be required to serve a growing "bedroom community" of 25,000 homes and 3,000 businesses in far eastern Contra Costa County, California could be deferred through intensive efficiency investments. Peak demand in this area occurred on summer weekdays between 7 pm and 8 pm – much later than PG&E's system peak (typically between 3 pm and 5 pm). This later local peak was driven by the fact that 74% of the peak load was residential, with many of the residential customers being two-income families who had long commutes from the San Francisco and Oakland areas and turned on their air conditioners when arriving home to 100° F heat.[10]

As a result, the largest portion of the project's savings was projected to come from a residential retrofit program targeted to homes with central air conditioning (the vast majority of homes in the targeted area). Under the initial design, participating homes would receive free installation of low-cost efficiency measures (e.g., CFLs, low flow showerheads, water heater blankets) during an initial site visit and would be scheduled for follow-up work with major measures such as duct sealing, air sealing, insulation, sun screening, and air conditioner tune-ups. More than 2,700 homes received such major measures. Later the program changed its focus to promoting early replacement of older, often over-sized and inefficient central air conditioners with new, efficient models. Other components of the Delta Project included commercial retrofits, a residential new construction program, and a small commercial new construction program.

Evaluations suggested that the project produced 2.3 MW of peak demand savings. The savings did come at a high cost – roughly $3,900 per kW. This can likely be attributed to a couple of key factors. First, the project had an extremely compressed timeframe. It was planned and launched within six months; the implementation phase was less than two years. A second related factor was that some of the efficiency strategies produced much lower levels of savings than initially estimated, whereas others produced more. Because of the compressed timeframe for the project, the switch in emphasis to the better performing program strategies could not occur early enough to keep total costs per kW at more reasonable levels. For example, the residential shell and duct repair efforts were initially projected to generate nearly 1.8 MW of peak demand savings, but in the end, produced only about 0.2 MW at a cost of over $16,000 per kW. In contrast, the early replacement residential central air conditioners produced 1.0 MW of peak savings – about 2.5 times the original forecast of about 0.4 MW – at a cost of about $900 per kW.

10 The Results Center, "Pacific Gas & Electric Model Energy Communities Program," Profile 81, 1994.

The final evaluation of the project suggested that the savings achieved succeeded in deferring the need for the substation for at least two years.[11] Although the project suggested that geographically targeted DSM could potentially defer T&D investments, no projects of this kind appear to have been pursued in California since.

Portland General Electric (Oregon) – Downtown Portland Pilot

In 1992, Portland General Electric (PGE) began planning the launch of a pilot initiative to assess the potential for using DSM to cost-effectively defer distribution system upgrades; implementation began in early 1993.[12] The pilot focused on several opportunities for deferring both transformer upgrades planned for large commercial buildings and grid network system upgrades planned for downtown Portland, Oregon. The projects were identified from a review of PGE's 5-year transmission and distribution plan. Although the PGE system was winter-peaking, downtown Portland was summer-peaking, so the focus would be on efficiency measures that reduced cooling and other summer peak loads. To be successful, deferrals would need to be achieved in one to three years, with the lead time varying by project. In each case, the value of deferring the capital improvements was estimated. The estimates varied by area, but averaged about $35 per kW-year.[13]

Two different strategies were pursued. In the case of the individual commercial buildings, where peak demand reductions of several hundred kW per building were needed to defer transformer upgrades, the utility relied on existing system-wide DSM programs, but target marketed the programs to the owners of the buildings of interest using sales staff that already had relationships with the building owner or property management firm. For the grid network system objectives, where peak reductions of 10% to 20% for entire 10- to 15-block areas were needed, the utility contracted with energy service companies (ESCOs) to deliver savings. The ESCO contracts had two-tier pricing structures designed to encourage comprehensive treatment of efficiency opportunities and deep levels of savings. The first tier addressed savings up to 20% of a building's electricity consumption. The second tier was a much higher price for savings beyond 20%.[14]

The results of the pilot were mixed. For example, savings in one of the targeted commercial buildings was nearly twice what was needed, deferring and possibly permanently eliminating the need for a $250,000 upgrade. Savings for another building, however, fell short of the amount of reduction needed to defer its transformer upgrade. While other options were being explored to bridge the gap, an unexpected conversion from gas to electric cooling of the building "eliminated any opportunity to defer the upgrade."[15] The results for the first grid area network targeted were also very instructive. Of the 100 accounts in the area, the largest 20 accounted for more than three quarters of the load. By ultimately treating 12 of those 20, the ESCOs contracted by PGE actually succeeded in reducing load through efficiency measures by nearly 25% in just one year. That was substantially more than the 20% estimated to be necessary to defer the need for a distribution system upgrade. The utility's distribution engineering staff decided to proceed with construction of the upgrade before the magnitude of the achieved savings was known, however, because they did not have sufficient confidence that the savings would be achieved and would be reliable and persistent. It is also worth noting that the utility's marketing staff who were managing the ESCO's work were not even made aware of the decision to proceed with the construction until after it had begun – a telling indication of the lack of communication and trust between those responsible for energy efficiency initiatives and those responsible for distribution system planning.[16]

Despite some notable successes with its pilot, PGE has not subsequently pursued any additional efforts to defer distribution system upgrades through energy efficiency.[17]

11 Pacific Gas and Electric Company Market Department, *Evaluation Report: Model Energy Communities Program, Delta Project 1991-1994*, July 1994.

12 Personal communication with Rick Weijo, Portland General Electric, August 10, 2011.

13 Weijo, Richard O. and Linda Ecker (Portland General Electric), "Acquiring T&D Benefits from DSM: A Utility Case Study," Proceedings of 1994 ACEEE Summer Study on Energy Efficiency in Buildings, Volume 2.

14 Ibid.

15 Ibid.

16 Ibid.

17 Personal communication with Rick Weijo, Portland General Electric, August 10, 2011.

Bonneville Power Administration

In the early 1990s, the Puget Sound area received more than three quarters of peak energy (i.e., during times of high demand for electric heat) via high voltage transmission lines that crossed the Cascade mountain range. Bonneville Power Administration (BPA) studies concluded the region could experience a voltage collapse – or blackout or brownout – if one of the lines failed during a cold snap.[18] The level of risk "violated transmission planning standards."[19]

The traditional option for addressing this reliability concern would have been to build additional high voltage transmission lines over the Cascades into the Puget Sound area. BPA and the local utilities chose instead, however, to pursue a lower cost path that included adding voltage support to the transmission system (e.g., "series capacitors to avoid building additional transmission corridors over the Cascades") and more intensive deployment of energy efficiency programs (focused on loads that would help avoid voltage collapse). The voltage support was by far the most important of these elements.[20] The project, known as the Puget Sound Area Electric Reliability Plan, ended up delaying construction of expensive new high voltage transmission lines for at least a decade.[21] Indeed, no new cross-Cascade transmission lines have been built to date.[22]

As discussed further below, BPA has not yet pursued an additional project to defer transmission system investments with efficiency programs.[23] It has, however, institutionalized a process for assessing whether non-transmission alternatives, including efficiency, would be preferable and, for the past decade or so, has initiated that process on several occasions (the most recent just getting started in the spring of 2011).

Green Mountain Power (Vermont) – Mad River Valley

In 1995, Green Mountain Power (GMP), Vermont's second largest investor-owned electric utility, launched an initiative – the first of its kind in the state – to defer the need for a new distribution line in the Mad River Valley – a region in the central part of the state made famous by the Sugarbush and Mad River ski resorts. The existing U-shaped 34.5-kV line serving the valley had a reliable capacity of 30 MW. Sugarbush, which was located at the base of the "U" (its weakest point) and was already the largest load on the line, had announced plans to add up to 15 MW of load associated with a new hotel, a new conference center, and additional snow-making equipment. The existing line could not accommodate that kind of increase. Studies suggested that a new parallel 34.5-kV line would need to be added at a cost of at least $5 million. Sugarbush initially requested that GMP

18 US Department of Energy, Bonneville Power Administration, Public Utility District Number 1 of Snohomish County, Puget Sound Power & Light, Seattle City Light and Tacoma City Light, "Puget Sound Reinforcement Project: Planning for Peak Power Needs," Scoping report, Part A, Summary of Public Comments, July 1990.

19 Bonneville Power Administration Non-Construction Alternatives Roundtable, "Who Funds? Who Implements?" Subcommitee, "Non-Construction Alternatives – A Cost-Effective Way to Avoid, Defer or Reduce Transmission System Investments," March 2004.

20 Indeed, although the plan included additional investments in efficiency, the additional capacitors, coupled with the addition of some local combustion turbines, were likely enough to defer the transmission lines even without the additional efficiency investments (personal communication with Frank Brown, BPA, 11/7/11).

21 Bonneville Power Authority, "Non-Wires Solutions Questions & Answers" fact sheet.

22 The system has been significantly altered over the past two decades as a result of substantial fuel-switching from electric heat to gas heat, the addition of significant wind generating capacity (much of it for sale to California), and other factors. At least until recently, BPA thus has had more "North-South issues" than "East-West issues" (personal communication with Frank Brown, BPA, 11/7/11). That may change in the future as utilities begin to rely more on wind generators east of the cascades (personal communication with Joshua Binus, BPA, 12/12/11).

23 In the mid to late 1990s, however, it did invest substantially in a demand response initiative in the San Juan islands to address reliability concerns after the newest of three underwater cables bringing power to the islands was accidentally severed. The initiative ran for five years and succeeded in keeping loads on the remaining cables at appropriate levels until a new cable was added.

pay for the new line. GMP was hesitant to do so, however, and Vermont's line extension rules were such that the utility and others could legitimately argue that much of the cost should be directly imposed on Sugarbush (and therefore less on other ratepayers).[24] Ensuing negotiations between GMP, Sugarbush, and the state's rate-payer advocate ultimately led to an alternative solution:

1. Sugarbush would ensure that load on the distribution line – *not just its load, but the total load of all customers* – would not exceed the safe 30 MW level;[25] and
2. GMP would invest in an aggressive effort to promote investment in energy efficiency among all residential and business customers in the region.[26]

To meet its end of the bargain, GMP filed and regulators approved the following four efficiency programs targeted to the Mad River Valley:

- Large commercial/industrial retrofit program (targeting the 10 largest customers in the valley);
- Small commercial/industrial retrofit program;
- Residential retrofit program, focusing particularly on homes with electric heat and hot water (promoting both fuel-switching and weatherization); and
- Residential new construction assessment fee program, which imposed a mandatory fee on all new homes being constructed in the valley to pay for a home energy rating and offered both repayment of the fee and an additional incentive for building the home efficiently.[27]

A couple of these programs were largely the same as programs GMP was offering to customers across its entire service territory, except that they were more aggressively marketed to Mad River Valley customers. In 1996, the year during which most of the project activity took place, GMP's efficiency program spending on the Mad River Valley represented about one quarter of its total DSM spending,[28] despite the fact that the area served represented no more than about 5% of its sales base.[29]

By the time the targeted efforts were concluded in early 1997, roughly half of the target populations had participated in the small commercial and industrial (C&I) retrofit and residential retrofit programs, and 7 of the 10 customers targeted by the large retrofit program had participated. Further, three of the four programs had achieved their savings goals. The large C&I retrofit program was the one exception, having achieved only about 20% of the forecasted savings (suggesting that the depth of savings achieved per participant was much lower than projected). Because that program represented less than one fifth of the total savings projected for the Mad River Valley project, however, the project as a whole came close to achieving its overall savings goal.

This project was initially touted as "the first of many" designed to address T&D constraints.[30] As discussed further below, it took more than a decade for that vision to begin to be realized. Nevertheless, it was an important stepping stone in the process of distributed utility planning in Vermont.

24 Cowart, Richard et al., "Distributed Resources and Electric System Reliability, Regulatory Assistance Project, September 2001. Available: http://www.raponline.org/document/download/id/682.

25 This was possible because Sugarbush was such a large portion of the load on the line. It subsequently installed a real-time meter to monitor the consumptions of its own operations and telemetry to monitor total load from all customers at the local substation. It used this information to manage its own operations, including the timing of its snow-making, to keep total loads on the substation below 30 MW. In addition to avoiding any costs associated with its responsibility for the need to upgrade the power line, Sugarbush also received a rate discount from GMP. (Ibid.)

26 Ibid.

27 Green Mountain Power Corporation, "Demand Side Management Program Filing," April 28, 1995 (Revised 5/5/95).

28 Green Mountain Power Corporation, "Demand Side Management Programs 1996 Annual Report," April 1, 1997.

29 Personal communication with Dave Grimason, former GMP efficiency program manager, November 7, 2011.

30 Green Mountain Power Corporation, "Demand Side Management Program Filing," April 28, 1995 (Revised 5/5/95), Executive Summary p. 2.

B. More Recent Developments

In the past several years, several additional efforts to defer T&D system investments have been undertaken. In a couple of additional jurisdictions, processes have been put in place to require that efficiency and other demand resources be considered as alternatives.

Consolidated Edison (New York City)

Consolidated Edison (Con Ed), the electric utility serving New York City and neighboring Westchester County, has been perhaps the most aggressive in the United States in integrating end-use energy efficiency into T&D planning. That integration has occurred on two levels.

First, as part of the annual development of its 10-year "load relief plan" (in which it forecasts any shortfalls in transmission, sub-transmission, and area substation capacity and establishes plans for addressing those shortfalls), the Company now routinely estimates the effects of system-wide efficiency programs on the individual peak demands of each of its 91 distribution networks and load areas, adjusting for the geographic variability in the market penetration of different efficiency programs, the load profiles of different efficiency programs, and the load profiles (and peak periods) of each distribution network. The company recently estimated that "including demand-side management in the 10-year forecast reduced projected capital expenditures by more than $1 billion."[31]

Second, Con Ed routinely assesses whether additional, geographically targeted investments in demand resources could cost-effectively defer investments in its distribution system. More important, where analysis suggests such cost-effective deferrals are possible, the utility invests in, closely tracks, and carefully evaluates the impacts of those resources. When Con Ed assesses cost-effectiveness, it considers all the benefits of efficiency investments, not just the T&D benefits (i.e., it compares the net present value of energy savings, system peak capacity savings, and T&D deferral benefits to the costs of the efficiency programs).

This geographically targeted investment in efficiency began in 2003, when growth in demand was causing a number of Con Ed's distribution networks to approach their peak capacity. Given the density of its customer base, much of the company's system is underground, making upgrades expensive and disruptive. The Company thus began to assess whether it would be feasible and cost-effective to defer such upgrades through locally targeted end-use efficiency, distributed generation, fuel-switching, and other demand-side investments. At least initially, the focus was on projects "with need dates that were up to five years out and… required load relief that totaled less than 3% to 4% of the predicted network load."[32] A decision was made to proceed with geographically targeted demand resource investments, however, whenever it was determined that such investments were likely to be both feasible and cost-effective.

To maximize the financial benefits of relying on demand resources, Con Ed has chosen "not to hedge its bets by continuing the T&D planning and implementation process" in parallel with its pursuit of alternative demand resources. Instead, the Company has chosen to contract out the acquisition of demand resources to ESCOs and – to address reliability risks – to include in those contracts both "significant upfront security and downstream liquidated damage provisions," as well as rigorous measurement and verification requirements. Contract prices are established through a competitive bidding process, with the Company's analysis of the economics of deferment being used to establish the highest price it would be willing to pay for demand resources. Those threshold prices have varied from network to network. When the amount of demand resources bid at prices below the cost-effectiveness threshold were insufficient to defer T&D upgrades, supply-side improvements have been pursued instead.

In its initial pilot phase, the Company established contracts with three ESCOs to provide load reductions in nine networks areas: five in midtown Manhattan, three in Brooklyn, and one in The Bronx. In subsequent phases, four different ESCOs were contracted to deliver load reductions in 21 additional network areas: 13 in Manhattan, four on Staten

31 Gazze, Chris and Madlen Massarlian, "Planning for Efficiency: Forecasting the Geographic Distribution of Demand Reductions," in *Public Utilities Fortnightly,* August 2011, pp. 36-41.

32 Gazze, Chris, Steven Mysholowsky, Rebecca Craft, and Bruce Appelbaum. "Con Edison's Targeted Demand Side Management Program: Replacing Distribution Infrastructure with Load Reduction," in Proceedings of the ACEEE 2010 Summer Study on Energy Efficiency in Buildings, Volume 5, pp. 117-129.

Island, and four in Westchester County. Although ESCOs were allowed to bid virtually any kind of permanent load reduction, all of the accepted bids to date have been solely for the installation of efficiency measures. There have been a couple of explorations of distributed generation, but they have not yet been shown to be cost-effective.[33] All told, between 2003 and 2010, the Company employed geographically targeted efficiency programs to defer T&D system upgrades in more than one third of its distribution networks.

This approach has had considerable, but not universal, success. As Figure 4 shows, in aggregate the level of peak load reduction for Phase 1, which ran through 2007, was approximately 40 MW – or 7 MW less than the contracted level. As a result, Con Ed collected considerable liquated damages from participating ESCOs. Load reductions in subsequent phases have been close to those contracted in aggregate. Those aggregate results mask some differences across network areas, however. In particular, reductions in areas dominated by residential loads with evening peaks were achieved ahead of schedule, whereas reductions in areas whose loads were dominated by commercial customers with mid-day peaks have lagged behind goals. On the other hand, much of that commercial sector savings shortfall appears attributable to the recent economic recession, which also had the effect of dampening baseline demand, offsetting most of the efficiency program shortfalls.[34] As shown in Figure 5, even when there was a shortfall relative to the savings target for the largest of the T&D deferral projects Con Ed undertook in Phase 1 – the Astor Substation deferral project – the efficiency investments still produced substantial economic benefits ($28 million, or about $1,950 per kW of savings) that were very cost-effective (benefit-cost ratio of 3:1).[35]

This highlights an important benefit of efficiency programs – they are often load-following. Put another way,

Figure 5 [37]

Summary of Results for Astor Substation

Project: Build new substation to relieve five adjacent networks
Cost: $85 million (original estimate)
$145 million (as built)
Deferral: 2007 to 2009

Shortfall	2005	2006	2007	2008
Shortfall (Incremental)	0	2	9	8
Contracted (Cumulative)	0	4	13	21
Delivered (Cumulative)	1	4	8	14

RFP: Jun 2003
Contract: Sep 2004 – Jan 2005
Savings: $28 million (~ $1,950/kW)
TRC: 3.1
Note: Load growth was slower than forecast, offsetting under delivery

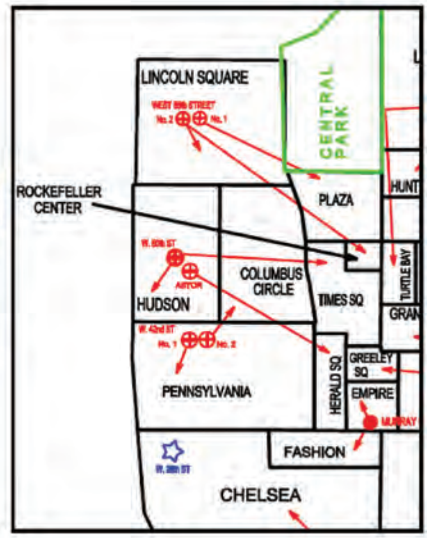
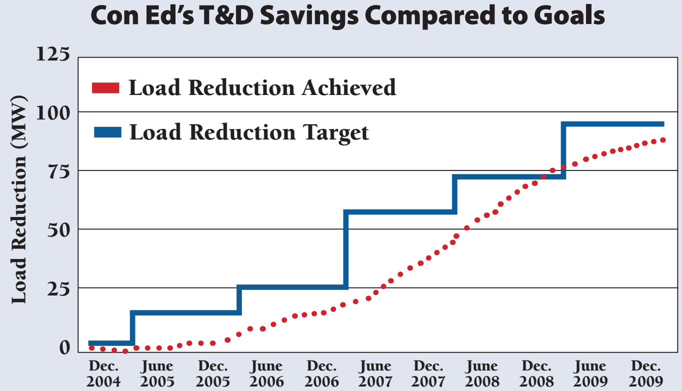


Figure 4 [36]

Con Ed's T&D Savings Compared to Goals



33 Although all types of demand resources have been considered, only energy efficiency has been pursued to date, because it is the only demand resource proven to be cost-effective (personal communication with Chris Gazze, February 2011).

34 Gazze, Mysholowsky, and Craft (2010).

35 Gazze, Chris (Con Ed) and Bruce Appelbaum (ICF), "Con Edison's Targeted DSM Program," presentation at ACEEE Summer Study on Energy Efficiency in Buildings, August 18, 2010, Pacific Grove, CA.

36 Graph reproduced from Gazze, Mysholowsky, Craft, and Appelbaum (2010) with permission from Con Ed.

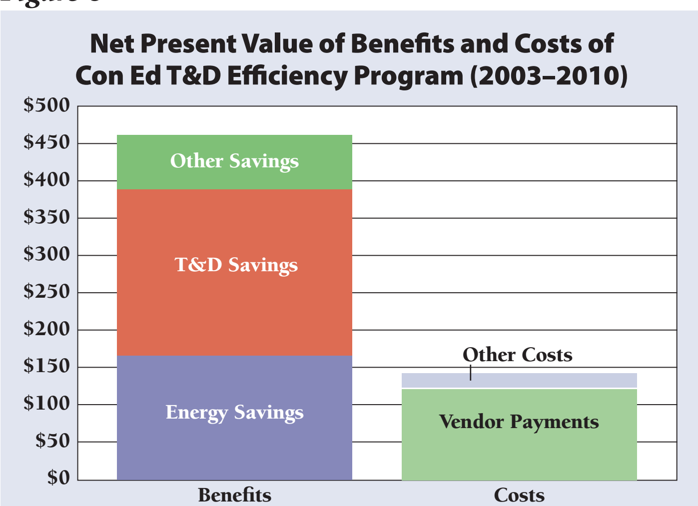
37 Graphic from Gazze and Appelbaum presentation, used with permission from Chris Gazze.

participation in efficiency programs tends to increase when load is growing more quickly and decrease when load is not growing quickly. In that sense, efficiency programs can help mitigate risk associated with forecast uncertainties. As Con Ed put it:

> *"…using DSM to defer projects bought time for demand uncertainty to resolve, leading to better capital decision making. Moreover, widespread policy and cultural shifts favoring energy efficiency may further defer some projects to the point where they are never needed…In fact, Con Edison has projected that in the absence of this program it would have installed up to $85 million in capacity extensions that may never be needed."*[38]

As Figure 6 shows, in aggregate, Con Ed has saved more than $75 million when comparing the full costs of the efficiency programs to just the T&D costs that were

Figure 6 [39]



avoided. When other efficiency benefits (e.g., energy savings and system peak capacity savings) are also considered, the efficiency investments have saved Con Ed and its customers more than $300 million.

Efficiency Vermont Geo-Targeted DSM

Shortly after the Mad River Valley project (see discussion earlier) was completed, negotiations began within the state to shift responsibility for efficiency program administration from the utilities to a dedicated "efficiency utility" – eventually to be named "Efficiency Vermont" – that would be selected through a competitive bidding process. The settlement agreement and subsequent September 1999 Public Service Board (the Board) order that created Efficiency Vermont made clear that, although Efficiency Vermont would be responsible for statewide efficiency programs, the utilities would still be responsible for funding and implementing any additional efficiency that could be justified as cost-effective alternatives to T&D system upgrades (although they could contract implementation to Efficiency Vermont). The Board also agreed to "initiate a collaborative process to establish guidelines for distributed utility planning."[40] That collaborative culminated in a set of guidelines approved by the Board in 2003,[41] as well as the creation of a number of "area specific collaboratives" in which opportunities for deferring specific T&D upgrades through non-wires alternatives would be explored. None of those discussions led to implementation of any such alternatives, however.

At roughly the same time (i.e., 2003), VELCO, the state's transmission utility, formally proposed a very controversial large project to upgrade transmission lines from West Rutland to South Burlington (known as the Northwest Reliability Project). As required by Vermont law, VELCO filed an analysis of non-transmission alternatives. In all, five different combinations of alternatives were analyzed – four combinations of different kinds of local generation and a fifth combination of local generation and aggressive DSM. The analysis suggested that the four generation-only options were more expensive than the transmission line, but that the fifth option including DSM had a lower societal cost than the transmission line.[42] That option, however, would involve much larger capital expenditures than the transmission line. Further, whereas much of the cost of the transmission option would be socialized across the New England Power Pool (Vermont pays a very small share of the portion of costs that are socialized across the region), the cost of the alternative path would be borne entirely by Vermont ratepayers due

38 Gazze, Mysholowsky, and Craft (2010).

39 Cost and benefit data provided by Chris Gazze, February 11, 2011. Note that "other costs" includes program administration ($2.9 million), M&V ($9.2 million), and customer costs ($9.9 million).

40 State of Vermont, Public Service Board Order, Docket No. 5980, pp. 54-58.

41 State of Vermont, Public Service Board Order, Docket No. 6290.

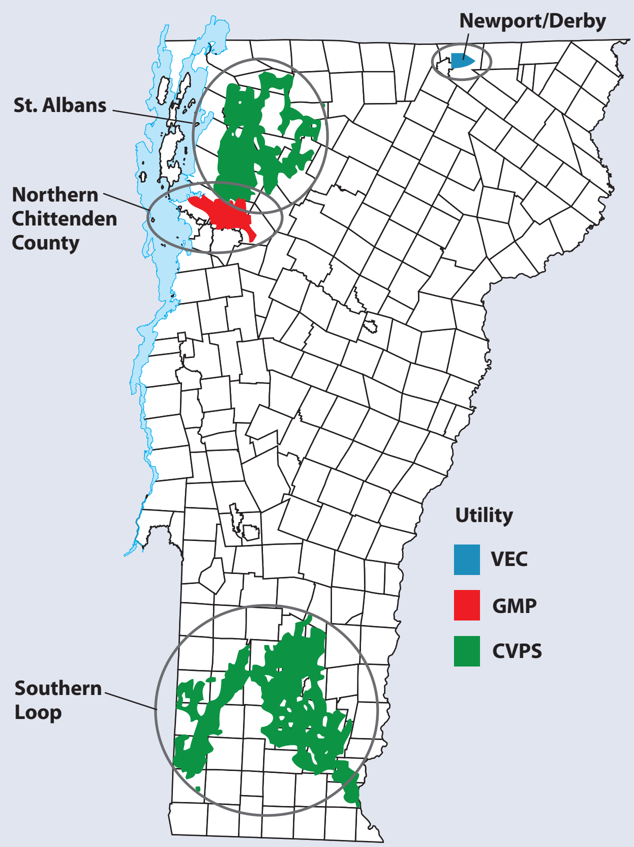
42 La Capra Associates, "Alternatives to VELCO's Northwest Reliability Project," January 29, 2003.

to New England ISO rules. Those concerns, coupled with VELCO's concerns that the level of DSM envisioned would be unprecedented, led the utility to argue in favor of the transmission option.[43] The Board ultimately approved VELCO's proposal in early 2005, but expressed concern and frustration with VELCO's planning process, namely that it did not consider alternatives, particularly efficiency, early enough in the process to make them truly viable options.[44]

The approval of the transmission line contributed to the passage later that year of legislation (Act 61) that eliminated the statutory spending cap for Efficiency Vermont, instructed the Board to determine the optimal level of efficiency spending, and made clear that cost-effectively deferring T&D upgrades should be one of the objectives the Board considers in establishing the budget. The Board subsequently increased Efficiency Vermont's budget by about $6.5 million (37%) in 2007 and $12.2 million (66%) in 2008 and ordered that all of the additional spending be focused on four geographically targeted areas: northern Chittenden County, Newport, St. Albans, and the "southern loop" (see Figure 7).[45] Those areas had been identified by the state's utilities as areas in which there may be potential for deferring significant T&D investment. Collectively, these efforts became known as Efficiency Vermont's "geo-targeting" initiative.[46]

Figure 7 [47]

Efficiency Vermont Geo-Targeting Regions (2007-2008)



As Table 1 shows, these areas were fairly diverse in terms of the density of population, the geographic area they cover, the relative importance of residential vs. commercial and industrial loads, and the number of large customers. Two of the areas were summer peaking, one was winter peaking, and one had similar summer and winter peaks. The peak loads in the area varied from 18 to 70 MW in 2007. Forecasted load growth without efficiency programs ranged from 1.7% to 4.3% per year. Collectively, the four areas contained 63,000 customers – or 18% of the state's customer base. A total of 167 were large users (greater than 500 MWh of annual consumption), 8,600 were other business customers (many of them quite small), and about 54,000 were residential customers.[48]

It is important to note that the investment in geo-targeting was viewed by the Board, utilities, and Efficiency Vermont as a "proof of concept" experiment. The selection of the targeted areas was rushed and probably not as well vetted as necessary to ensure deferral potential. Indeed, savings targets were not established from an analysis of how much was needed to defer the capital investments. Rather, they were set based on what was estimated to be achievable given available budget resources.

The original 18-month savings targets (from mid-2007 through the end of 2008) were 7.2 MW of summer peak savings (across the three areas with summer peaks) and 7.7

43 Ibid.

44 Vermont Public Service Board, "Board Approves Substantially Conditioned and Modified Transmission System Upgrade", press release, January 28, 2005.

45 State of Vermont Public Service Board, Order Re: Energy Efficiency Utility Budget for Calendar Years 2006, 2007 and 2008, 8/2/2006.

46 Efficiency Vermont Annual Plan, 2008-2009.

47 Efficiency Vermont Annual Plan, 2007-2008.

48 Massie, Jim, Nancy Wasserman, and Blair Hamilton, "Fast Capacity Reduction through Geographically Targeted, Aggressive Efficiency Investment: Early Results from a Vermont Experiment," in Proceedings of 2008 ACEEE Summer Study on Energy Efficiency in Buildings, Volume 5, pp. 194-205.

Table 1 [49]

Characteristics of Vermont Geographically Targeted Areas (2007-2008)

	Urban vs. Rural	Size of Area	C&I Sales %	Large C&I Customers	Peak Period	2007 Peak (MW)	Annual Load Growth w/o DSM	Projected Load Growth w/ Targeted DSM
N. Chittenden	Urban	Small	65%	72	Summer	64	4.3%	1.2%
Newport	Urban	Small	64%	15	Both	18	1.7%	-0.5%[50]
St. Albans	Urban	Moderate	64%	42	Summer	29	3.4%	-3.3%
Southern Loop	Rural	Large	48%	38	Winter	70	3.4%	-3.4%

MW of winter peak savings (across the two areas with winter peaks). These targets represented a 7- to 10-fold increase in the peak savings Efficiency Vermont had achieved in the same areas during the previous 18 months. It was estimated that peak demands would not only stop growing but would actually decline in three of the four areas. In the fourth area (Chittenden North), which had the fastest natural growth rate, load growth was projected to decline by about 75% (from 4.3% to 1.2% per year).

To meet these savings goals, Efficiency Vermont implemented a three-pronged strategy:

1. Intensive account management of large commercial and industrial customers (targeted to approximately 148 customers using more than 500 MWh/year) to identify opportunities for deep savings and to negotiate financial incentives (often greater than those offered in other parts of the state) designed to achieve those savings;
2. Launch of an aggressive small commercial/industrial program (targeting those using 40 to 500 MWh/year) in which high savings measures (primarily lighting measures, but also other cost-effective HVAC, refrigeration, and custom measures) designed to achieve an average of 15% savings per business are directly installed at no cost or very low cost to the customer; and
3. Aggressive local promotion of CFLs to residential and small business customers through both targeted marketing campaigns, community awareness campaigns, and the use of direct mail coupons.

All customers in the areas were also still eligible to participate in other statewide programs.

After the selection of the initial four targeted areas, a working group consisting of the state's largest utilities, Efficiency Vermont, and the Vermont Department of Public Service developed a set of criteria for future selections for geo-targeting:

- Areas experiencing high load growth;
- Areas with known concerns regarding the capacity of existing T&D infrastructure;
- Areas for which the minimum planning horizon for deferral was three years, with a preference for horizons of at least five years; and
- Areas for which there were "no other circumstances requiring immediate investment."[51]

Ultimately, decision-making on geo-targeting priorities was supposed to move to the Vermont System Planning Committee (VSPC), which VELCO was charged by the Board with initiating. Initially, "although the VSPC was formed and has been functioning, for all intents and purposes the selection process remained with the founding geotargeting utilities." This may have been because many parties still regarded geo-targeting as an experiment.[52] More recently, however, the VSPC has assumed the role it was intended to play and initiated a robust process to select targeted areas for future efforts.

Approximately one year into its delivery, one of the four initially targeted areas (Newport) was dropped from the geo-targeting program when the distribution utility determined

49 Massie et al and Navigant Consulting et al., "Process and Impact Evaluation of Efficiency Vermont's 2007-2009 Geotargeting Program," Final Report, Submitted to Vermont Department of Public Service, January 7, 2011, p. 103.

50 This is the forecasted growth in winter peak demand. The baseline peak demands for summer and winter were the same. Efficiency Vermont forecast that it could reduce summer peak by more than winter peak, however. That would make winter peak the more constraining variable.

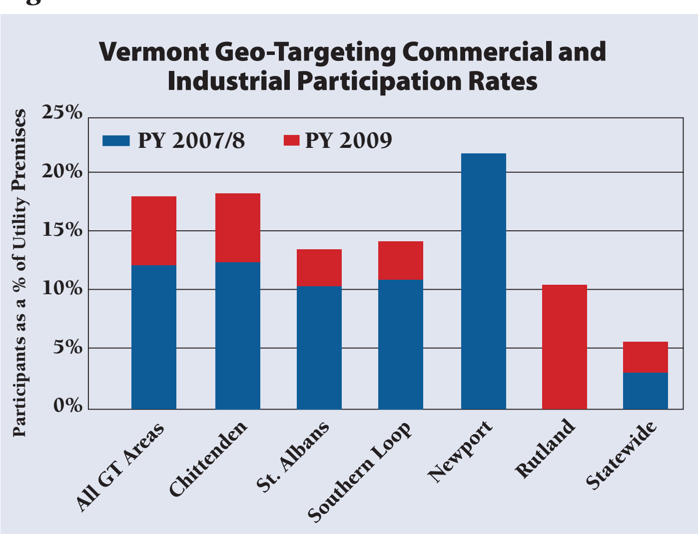
51 Navigant et al. (2011), p. 3.

52 Ibid.

that the substation whose rebuilding the program was intended to defer needed to be rebuilt for reasons other than load growth (i.e., "destabilization of the substation property due to river flooding").[53] Independent of that decision, a new target area – Rutland – was added to the program beginning in 2009.

A recent evaluation of the geo-targeting program suggests that it has had some success, although not all results were as good as hoped or projected. To begin with, efficiency program participation was considerably higher in geo-targeted areas than in the rest of the state. For example, as Figure 8 shows, commercial and industrial customers in geo-targeted areas participated at a rate nearly four times as great as their counterparts in the rest of the state. For those areas that were in their third year of geo-targeted DSM in 2009, the participation rate multiplier (compared to the rest of the state) declined to 2 to 1. The multiplier for the newly added geo-targeted region (Rutland), however, was roughly the same 4 to 1 ratio experienced by the other regions in their first two years.[54] Savings per participant were also higher than in the statewide programs – 20% to 25% higher for commercial and industrial customers and 30% higher for residential customers. That increase appears to reflect success in achieving greater depth of lighting savings per participant rather than increased penetration of non-lighting efficiency measures.[55] The net result of those two factors was summer peak demand savings that were three to five times greater (depending on the region) in the first couple of years of the program than would have been achieved under the statewide programs.[56]

Figure 8 [57]



All told, over the 2007 to 2009 time period, the program achieved summer peak demand reductions in the targeted areas of 10 MW – about 70% of its goal. Winter peak demand savings were more problematic, with the program achieving only 4.1 MW of reductions, or only about 40% of its goal. Nevertheless, analysis of loads on individual feeders in geo-targeted areas suggests that geo-targeting program impacts "are detectable at the system level" and that the magnitude of savings observed at the utility system level was consistent with those estimated through evaluation of customer savings.[58]

Evaluation of the impacts of the observed peak demand reductions on the potential deferral of T&D investments has not yet been conducted. Central Vermont Public Service (the state's largest utility), however, has observed that it "has not been required to schedule the deployment of additional system upgrades in Rutland, St. Albans and Southern Loop areas." While it is difficult to know the extent to which that situation should be attributed to the geo-targeting of DSM, to changes in economic conditions (i.e., the recent economic recession), or to other factors, the Company has recommended to the Board that geo-targeting of DSM continue.[59]

Central Maine Power

In June of 2010, the Maine Public Utilities Commission approved a settlement agreement reached by Central Maine Power (CMP) and a variety of other parties (including several public interest advocates) regarding a large transmission

53 Navigant et al. (2011), p. 26.

54 Navigant et al. (2011), pp. 85-87.

55 Navigant et al. (2011), pp. 89-91.

56 It is important to note that the statewide programs are already considered quite aggressive, achieving greater savings as a percent of sales than any state in the country in both 2007 (Eldridge, Maggie et al., *The 2009 State Energy Efficiency Scorecard*, ACEEE Report Number E097, October 2009) and 2008 (Molina, Maggie et al., *The 2010 State Energy Efficiency Scorecard*, ACEEE Report Number E107, October 2010).

57 Graphic courtesy of Navigant Consulting.

58 Navigant et al. (2011), p. 10.

59 Silver, Morris, Counsel for Central Vermont Public Service, letter to the Vermont Public Service Board regarding "EEU Demand Resources Plan – Track C, Geotargeting," January 18, 2011.

system upgrade project (the Maine Power Reliability Project) that the utility had proposed.[60] The settlement supported construction of most elements of the upgrade, but identified two areas – the Mid-Coast region and the city of Portland – where pilot projects to test the efficacy of non-transmission alternatives would be launched.

As part of the settlement, CMP was required to conduct a needs assessment for the two regions and develop a proposal for using non-transmission alternatives in conjunction with one of the intervening parties – Grid Solar. In March 2011, CMP and Grid Solar filed a proposed plan for the Mid-Coast region. The plan looked at a couple of different scenarios, ultimately recommending an approach that would require 25 to 29 MW of distributed resources in the Camden-Rockland area and another 10 MW of distributed resources in the Boothbay region to fully obviate the need for a transmission upgrade. It also proposed to use an RFP process to identify and acquire the least cost mix of resources to meet this need. It further suggested the resources be acquired in phases, with the first RFP covering needs from 2012 through 2015 (10 MW in Camden-Rockland and 6 MW in Boothbay). Subsequent RFPs would be developed and issued "based on load growth in the Mid-coast area, on the performance of distributed resources under contract pursuant to prior RFP(s), and on changes to the physical electric transmission and distribution system circuits in the Mid-Coast area." [61]

Under the proposal, any distributed resource would be eligible to respond to the RFP, including:

- Existing back-up generators (the plan identified 45 generators with a combined capacity of 25 MW in the region);
- New generators that could be acquired to provide both back-up capability to customers as well as distributed resources for the pilot;
- Demand response resources (as much as 15 MW were estimated to be in the region);
- Targeted energy efficiency (the plan estimating maximum achievable potential in the Mid-Coast region to be 15 MW, but suggested that 10 MW of that amount was already captured in CMP's load forecast, leaving only 5 MW to potentially be acquired);
- Solar PV (the plan suggested that solar PV would not likely be competitive with other resources, but that it may be appropriate to set aside a portion of the RFP as a "solar carve out" to test the applicability of PV as a transmission resource); and
- Storage (which was also estimated to be too expensive for initial rounds of procurement).

The plan noted that Vermont's experience with geographically targeted efficiency programs suggested that efficiency resources would likely be "highly competitive with other distributed resources." It also suggested that the Efficiency Maine Trust, which is responsible for and funded to implement statewide efficiency programs, could bid enhancements to its efficiency initiatives in the target region in response to the RFP. The plan left unaddressed, however, the question of how baseline levels of savings (from which additional savings from a more aggressive set of geographically targeted efforts would presumably be measured) would be established. It was also not clear whether the plan anticipated the possibility of other efficiency resource providers bidding in response to the RFP. [62]

These issues have not yet been fully explored. In the summer of 2011 the Maine PUC held a Technical Conference on the plan. Among the topics discussed were the impacts of both the economic recession and new (more stringent) reliability standards issued by the North American Electric Reliability Council (NERC) on the forecast resource needs. CMP and Grid Solar are expected to examine these issues and file a new needs analysis and plan in late November 2011. A second Technical Conference is expected to follow in December 2011.[63]

NV Energy

In 2008 NV Energy faced a situation in a relatively rural portion of its service territory, east of Carson City, in which growth in demand was going to need to be met by either running the locally situated but relatively expensive Fort Churchill generating station more frequently or constructing a 30-mile, 345-kVA transmission line and new substation

60 Maine Public Utilities Commission, Order Approving Stipulation, Docket No. 2008-255, June 10, 2010.

61 Central Maine Power and Grid Solar, Non-Transmission Alternative Pilot Plan and Smart Grid Proposal including Attachments 1-7, filed under Docket No. 2008-255 (Phase II), March 25, 2011.

62 Ibid.

63 Personal communication with Beth Nagursky, Environment Northeast, 11/16/11.

to bring less expensive power from the more efficient Tracy generating facility (situated further north, about 20 miles east of Reno) to the region. When the local county commission began expressing concerns about permitting construction of the substation, regulators instructed the Company to increase the intensity of its DSM efforts in the targeted region as an alternative to meeting the area's needs economically:

> *"…the concentration of DSM energy efficiency measures in Carson City, Dayton, Carson Valley and South Tahoe has the potential to reduce the run time required for the Ft. Churchill generation units. The increased marketing costs and increased incentives and subsequent reduction in program energy savings required to attain an increased participation in the smaller market area are estimated to be more than offset by reduced fuel costs. Sierra Pacific, d.b.a. NV Energy, will make a reasonable effort within the approved DSM budget and programs to concentrate DSM activities in this area…"* [64]

NV Energy pursued a variety of efforts to either focus its existing DSM programs more intensely on the Fort Churchill area and/or launch new initiatives. This included:[65]

- **Non-Profit Agency Grants.** NV Energy gave priority to projects in the impacted area and marketed the program accordingly. In the end, 12 of the 35 applications it received were from the targeted area.
- **Energy Education.** NV Energy concentrated its education events in the region, ultimately holding 19 in 2009 – up from just two the previous year.
- **Low Income Weatherization.** NV Energy asked its implementation contractor to make a special effort to solicit program participation in the targeted area. Participation in the targeted area increased from just eight homes in 2008 to 57 in 2009.
- **ENERGY STAR Lighting and Appliances.** NV Energy concentrated marketing and outreach events in the Fort Churchill area, leading to an increase in participation of nearly 20% (although estimated savings did not increase due to changes in assumptions regarding average run times of CFLs).
- **Second Refrigerator Collection and Recycling.** NV Energy increased marketing efforts in the targeted region, in part through a targeted door-to-door campaign that also included distribution of nearly 100,000 CFLs to more than 16,000 homes. This resulted in increased participation in the refrigerator recycling program of nearly 15% in the targeted region, as well as substantial lighting savings.
- **Energy Smart Schools.** NV Energy offered an "Energy Master Planning Service" to the Carson City and Douglas County School Districts, but both declined the service. The utility also launched a new initiative to distribute CFLs to school district employees.
- **Commercial Retrofit Incentive.** NV Energy renegotiated its contract with its program vendor to support increased marketing in the targeted area, increase financial incentives by 25% in the targeted area, and concentrate all direct install efforts in the target area. The result was a more than 260% increase in savings in the area.
- **Sure Bet Hotel Motel.** NV Energy increased marketing support and financial incentives for this program as well, but no increase in participation was realized.

Of these efforts, the second refrigerator collection and recycling program (primarily the CFL distributions) and the commercial retrofit program were together responsible for the vast majority of the increased DSM savings in the region.[66]

At the same time as these efficiency efforts were launched, NV Energy's transmission staff began re-conductoring the existing 120-kVA line to the region to increase its carrying capacity. The economic recession also hit at the same time, dampening growth. As a result, the Company has not had to revisit the need for either the additional power line and substation or increasing the run time of the Fort Churchill generating station. The project has also facilitated the beginnings of "rich conversations" between demand resource planners and transmission planners within the Company.[67]

64 Jarvis, Daniel et al., *Targeting Constrained Regions: A Case Study of the Fort Churchill Generating Area,* 2010 ACEEE Summer Study on Energy Efficiency in Buildings, Volume 5, pp. 178-189.

65 Sierra Pacific Power Company, 2010 Annual Demand Side Management Update Report, July 1, 2010, pp. 6-9.

66 Ibid, and Jarvis et al.

67 Personal communication with Larry Holmes, NV Energy, 11/9/11.

3. Lessons Learned

Although the actual implementation of efficiency as an alternative to T&D investments has not yet been what one might call "widespread," there are enough examples in sufficiently diverse circumstances to draw initial conclusions.

Geographically Targeted Energy Efficiency Can Defer T&D Investments

A number of studies have suggested that aggressive, geographically targeted efficiency programs can meet T&D reliability objectives. More important, analyses of the actual deployment of efficiency as alternatives to T&D in several jurisdictions have concluded that supply-side investments were deferred for at least some period of time (e.g., Con Ed in New York City, Green Mountain Power's Mad River Valley Project in Vermont, PG&E's Delta Project in California, portions of PGE's project in downtown Portland, Oregon).

Efficiency Can Be a Cost-Effective T&D Resource

There is less evidence regarding the cost-effectiveness of efficiency as an alternative to T&D upgrades. However, analysis of the most intensive and long-standing effort to defer T&D investments with efficiency programs – Con Ed's experience in New York City – clearly concluded that the geographically targeted programs were very cost-effective. Indeed, the T&D benefits alone were greater than the costs of the programs. When other benefits (e.g., energy savings and system peak demand savings) are included in the analysis, the geographically targeted efficiency programs had a benefit-to-cost ratio of about 3 to 1.

The realization that energy efficiency provides a variety of electric system benefits is critically important, as that broad range of benefits can often render the pursuit of more intensive efficiency programs in localized areas a "no regrets" strategy – at least from a purely economic perspective. Indeed, even though a determination of whether the recent Efficiency Vermont geo-targeting program has deferred T&D system upgrades has not yet been definitively made, evaluation of the program suggests it has been cost-effective – with a benefit cost-ratio of about 2 to 1 (under the Total Resource Cost Test) – even if no T&D investments are deferred.[68]

This suggests that, in most cases, the most important concerns regarding the deployment of efficiency as a T&D resource will likely be efficiency savings forecast issues (i.e., particularly uncertainty about whether enough customers will install enough efficiency measures to actually avoid a reliability-driven investment) and possibly equity issues (i.e., concerns about customers in targeted areas getting greater access to and/or greater financial incentives from efficiency programs than those in other areas).

Stuff Happens! Unexpected Events Can Affect Benefits of Efficiency

It is worth noting that in several of the case studies examined for this report some or all of the T&D investment being considered for deferral ultimately ended up being constructed for reasons having nothing to do with the effectiveness of the deployment of efficiency resources. For example, part of PGE's project in Portland, Oregon (to defer a transformer upgrade for one commercial building) ended when the conversion from gas to electric cooling for the building added too much load to be offset by demand-side measures. More recently in Vermont, one of the original areas targeted for locally intensive DSM programs (Newport) was removed from the program when the existing substation became destabilized due to flooding, necessitating an immediate supply-side investment. In each of those cases, it could be concluded that the investments in efficiency programs ultimately provided either no T&D

68 Navigant et al. (2011), p. 100. Similar analyses for other case studies examined are not available.

benefit or very little benefit.

It is important to recognize that forecasting uncertainty works in both directions, however. In several of the examples discussed in this paper it appears as if efficiency investments not only permitted deferral of a T&D investment, but permanently eliminated the need for the investment. This happened either because the efficiency savings realized were greater than forecast (e.g., in one of the commercial buildings treated by PGE's program in Portland, Oregon) or because the efficiency investments bought enough time for more fundamental changes in demand to take hold (e.g., Con Ed's conclusion that $85 million in T&D investments that it otherwise would have made may now never be needed).

The bottom line is that there are a variety of risks associated with forecasting of T&D system needs that can affect the potential benefits of using efficiency to defer T&D system investments. These include:

- The reliability risk of under-forecasting demand growth;
- The economic risk of over-building the T&D system due to over-forecasting of demand growth; and
- Both the reliability risk (if it takes longer than expected) and the economic risk (if it ends up costing more)[69] of siting new poles and wires.

It could be argued that efficiency programs are more likely to mitigate than to exacerbate these risks. To begin with, many efficiency programs are "load-following." For example, efficiency programs designed to promote efficiency in the construction of new buildings will generally have lower participation and savings when construction slows (i.e., when savings are least needed) and higher participation and savings when construction accelerates (i.e., when savings are most needed). Similarly, efficiency programs often have a harder time convincing home-owners and businesses to participate – and therefore have a harder time meeting savings goals – during difficult economic times (i.e., when loads are not growing fast and therefore concerns about exceeding T&D system capacity are lower); they often have an easier time recruiting participants and exceeding savings goals during good economic times (i.e., when loads are naturally growing faster, imposing greater strains on T&D systems). Indeed, the reality that Efficiency Vermont launched its geo-targeting program just before the recent deep economic recession was probably a contributing factor to their failure to meet initial savings goals. On the other hand, as Central Vermont Public Service has implied, the recession is likely part of the reason the Company has not had to deploy additional system upgrades in its portion of the targeted areas.

Sufficient Lead Time is Critical

It usually takes time to generate enough savings from energy efficiency programs to defer T&D system upgrades. The programs must be planned, developed, and then marketed to consumers before any savings are realized. Reaching a large segment of the eligible market requires on-going marketing and business development efforts. Initial strategies may not be as successful as anticipated, so programs are more likely to be successful if there is time to refine them in response to market feedback. As discussed above, PG&E's Delta Project did not have that luxury and, as a result, ended up falling short of overall savings goals and spending more per unit of savings than originally planned. Even though a very cost-effective strategy was identified part of the way through the project, there was not enough time for it to gain enough traction to offset the less effective results of some of the initially pursued elements. Sufficient lead time may also better enable efficiency program managers to demonstrate to T&D system planners and engineers that efficiency strategies are affecting localized peak loads. Parts of PGE's downtown Portland project ultimately failed to defer T&D upgrades not because the efficiency savings were inadequate, but rather because T&D planners and engineers did not have sufficient confidence that the savings would be achieved and be reliable and persistent.

To be sure, the amount of lead time necessary to enable efficiency programs to defer T&D investments will vary

69 For example, in July 2005, about six months after its proposal to construct a major new transmission line and make other related improvements was approved by the Vermont Board of Public Utilities, VELCO filed with the Board a revised cost estimate that was nearly double the estimate it had made two to three years earlier and presented during the course of the hearing on the project. In order of importance, the increase was attributed to a high rate of inflation for the materials and services needed, regulatory conditions of the approval, and better (higher) estimates of the materials it would need (State of Vermont Public Service Board, Order on Remand RE: Reopening Proceedings, Docket 6860, 9/23/2005).

from project to project. In general, shorter lead times will be needed when the number of customers that must be served by efficiency programs in order to generate sufficient savings is small. One key to ensuring there is sufficient lead time is to conduct more systematic planning for meeting T&D needs, including long-term forecasting of potential needs, integrating the forecasting of such needs with forecasting of savings from system-wide efficiency initiatives, and including analysis of potential additional, localized efficiency programs in early stages of assessment of options for meeting T&D needs.

Smaller is Easier

In general, the smaller the area being addressed, the easier it is to consider efficiency and other non-wires alternatives to T&D investments. Smaller areas mean that efficiency savings need to be acquired from fewer customers. That in turn means that it is often easier to characterize the opportunity for efficiency investments accurately. It also means that shorter lead times will be needed. For example, deferring a transformer upgrade on a single large commercial building may not require much time if one need just convince a single owner of the building to make an efficiency investment. Alternatively, deferring distribution substations or transmission lines serving many thousands of customers will usually take longer unless there are just a few large customers who, if served by an efficiency program, could impact localized peak demands significantly.

Distribution is Easier than Transmission

Deferring distribution system investments is generally easier than deferring transmission investments because the non-wires solutions will generally be smaller in scope (see discussion above). In addition, distribution system planning is generally less technically complex, involves fewer parties, does not involve regional ISOs/RTOs, and does not involve regional cost-allocation frameworks that often bias investments in favor of "poles and wires" solutions.

Cross-Discipline Communication is Critical

This may seem self-evident, but it is critical nonetheless. T&D planners and engineers are often skeptical of the potential for end-use efficiency to reliably substitute for poles, wires, and other T&D "hardware." They worry that customers themselves are unreliable. Similarly, staff responsible for administration of programs that promote efficiency, load control, distributed generation, or other demand resources typically do not fully understand the complexities of the reliability issues faced by T&D system planners. Both need to better understand the needs and capabilities of the other.

It can take time to develop the relationships and confidence necessary for efficiency program implementers and their evaluated results and T&D system engineers to work together effectively. Those relationships and that trust must be developed, however, if efficiency programs are to be as successful as possible in deferring T&D investments.

Upper management can be very important in setting expectations that such communication and cross-discipline learning take place within a utility. It is much more difficult to institutionalize such communication when transmission planning has regional elements and implications that necessarily involve the ISO/RTO.

Integrate Efficiency with Other Distributed Resources

Although efficiency programs can sometimes be sufficient to defer T&D investments, other times they will not be. They can, however, be married with promotion of demand-response and distributed generation initiatives to meet the same objective.

4. Recommendations

Though several pilot projects in the past and some more substantial projects today appear to have demonstrated that efficiency programs can be a cost-effective T&D resource, such efforts remain uncommon. Put another way, the potential economic and other benefits of using geographically targeted efficiency programs as a T&D resource are largely being ignored today. Some fundamental policy changes are required if that is to change. In this concluding section of the paper we discuss the policies that should be explored if efficiency's potential is to be realized.

Require Least-Cost T&D Planning

As noted above, both economic incentives in many states and system planning culture have made "poles and wires" (or T&D hardware) the default solution to T&D-related reliability issues almost everywhere. Experience to date suggests that the only way that will change is if T&D planners are required by legislators or regulators to analyze alternatives and choose the least-cost option.[70]

Over the past decade, several jurisdictions have institutionalized such processes. Several notable examples are summarized below. There are certainly costs to such processes – both for the utilities doing the planning and for regulatory oversight. Feedback from several jurisdictions, however, suggests that the process evolves – as it is tested and refined – to one in which the burden on the utility is not only manageable but also much more than offset by cost savings. Once that point is reached and utilities are meeting a high standard in their work, the burden on regulators should be quite modest.

Rhode Island

In 2006, Rhode Island adopted a "System Reliability Procurement" policy that requires utilities to submit system reliability procurement plans every three years. Guidelines detailing what to include in those plans were adopted more recently (see Appendix A). Those guidelines make clear that plans must consider non-wires alternatives – including energy efficiency, distributed generation, and demand response – whenever the T&D need:

- Is not based on an asset condition;
- Will likely cost more than $1 million to address;
- Would require no more than a 20% reduction in peak load to defer; and
- Would not require investment in a "wires solution" to begin for at least 36 months.

For such cases, the plans must include analysis of financial impacts, risks, the potential for synergistic benefits, and other aspects of both wires and non-wires alternatives.[71]

Vermont

Vermont has long imposed an integrated resource planning requirement on its utilities. However, the passage of Act 61 in 2005 – which reinforced those requirements by specifying minimum 10-year planning horizons, required the plans to be filed at least every three years, and required public meetings (in areas close to potential T&D upgrades) at which plans are presented (see Appendix B for legislative language) – has begun to make the process more rigorous. Indeed, VELCO and Efficiency Vermont are now working together to regularly reconcile and integrate

70 Note that this works only to the extent that states actually control the planning process. Although they do for distribution system investments, responsibility for transmission planning decisions is shared with regional ISOs/RTOs. That has lessened states ability to effectively impose least-cost planning requirements. Recent FERC Order 1000, which requires ISOs/RTOs to consider state policies in planning decisions, may give states more influence in the future.

71 Rhode Island Standards for Least Cost Procurement and System Reliability Planning.

their respective forecasts of baseline demand and efficiency program savings.[72]

Bonneville Power Administration

Although not required by legislation or regulation, in 2002 BPA launched a Non-Wires Solutions (NWS) initiative in which it committed to investigating "least-cost solutions that may result in deferring potential transmission reinforcement projects."[73] A year later, BPA formed a Non-Wires Solutions Round Table composed of key stakeholder groups in the region to assist it in these endeavors.[74] It then developed a formal process by which non-wires solutions – including energy efficiency, demand response, load control, and distributed generation – would be routinely assessed. To begin with, transmission planners annually assess potential transmission needs over the next 10 to 15 years. That assessment is tied to the Western Electricity Coordinating Council's power flow and planning framework.[75] Once a transmission need is identified by BPA's Transmission Business Line, an initial "screening" is conducted to determine whether the project is a candidate for possible non-wires solutions. A project qualifies for an analysis of non-wires solutions if it meets three criteria:

1. The transmission project cost is estimated to be at least $5 million;
2. The project need is driven by load growth; and
3. The project need is at least eight years out.[76]

If these criteria are met, a high level economic assessment is conducted using a simplified spreadsheet template that has been developed specifically for this purpose. The analysis includes all of the potential benefits of non-wires solutions. Estimates of energy savings and capacity savings benefits are based on results of the Northwest Power Planning Council's integrated resource plans (conducted every five years). Avoided transmission costs are estimated for the specific project under consideration. If the analysis suggests both that there are sufficient non-wires resources to defer a project and that the deferral could be cost-effective, a detailed feasibility study is conducted. If that study confirms that the non-wires solution is indeed feasible, then the benefits, costs, and risks of both traditional transmission and non-wires solutions are compared to decide which strategies to pursue. This process is summarized in Figure 9. BPA went through this process on four different occasions between 2002 and 2006. In all of those cases a determination was made that the traditional transmission strategy was needed.

BPA recently reconvened its Non-Wires Round Table to consider new regional transmission needs in this same framework. Three potential non-wires projects are currently undergoing intensive analysis and discussion. Energy efficiency is an element of the non-wires solution being considered for both the I-5 corridor in Oregon and the Hooper Springs area in Idaho. Efficiency plays a more central role in a third potential project that has not yet been made public.[77]

72 This has not been without its challenges, because assumptions about such things as treatment of baseline efficiency conditions, the level of "naturally occurring" efficiency (related to free rider assumptions in efficiency savings forecasts), and other key issues are sometimes different or inconsistent (see Enterline, Shawn and Eric Fox, *Integrating Energy Efficiency into Utility Load Forecasts*, in Proceedings of the 2010 ACEEE Summer Study on Energy Efficiency in Buildings, Volume 5, pp. 86-96).

73 GDS Associates, "Process Evaluation of the Non-Wires Solution Initiative," prepared for BPA, June 8, 2007.

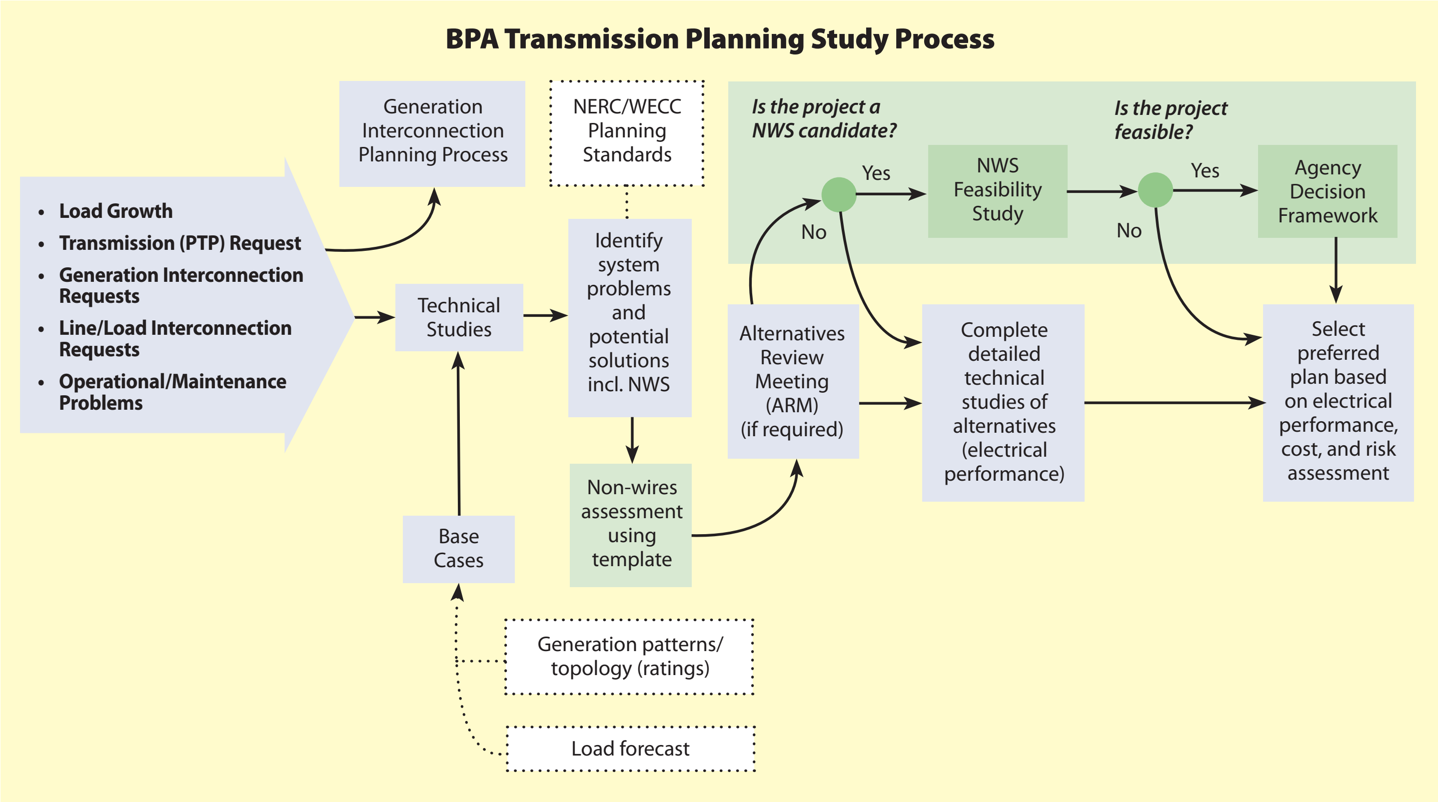
74 Although the Round Table has been organized to function collaboratively, its input is purely advisory. BPA makes all final decisions on how to address transmission needs.

75 Personal communication with Mike Weedall, Ottie Nabors, and Josh Binus, Bonneville Power Administration, 4/27/11.

76 Nabors, Ottie, "Non-Wires Alternatives Screening Process & Evaluation," presentation at the Non-Wires Round Table, April 15, 2011.

77 Personal communication with Mike Weedall, BPA, 12/23/11.

Figure 9 [78]



Require Consideration of Integrated Solutions

Efficiency is one of several types of distributed resources – demand response, load control, and distributed generation are other notable examples – that can help to cost-effectively defer T&D investments. Indeed, there may be important synergies in combining deployment of efficiency and other distributed resources (e.g., efficiency and demand response and potentially even distributed generation can often be "sold" to customers more effectively if sold together). Any requirement for least-cost planning thus should make clear that all options, including different combinations of distributed resources, should be considered.

The ability for states to require either least-cost planning or consideration of integrated solutions is clear with respect to distribution system planning, but more complicated for transmission planning because of transmission's regional implications and the involvement of regional ISOs/RTOs. Nevertheless, states have influenced transmission planning, and the recent FERC Order 1000, which requires ISOs/RTOs to consider state policies in their planning decisions, may give them more clout in the future.

Institutionalize a Long-Term Planning Horizon

The longer the lead time, the more likely it will be that efficiency (or other distributed resources) could cost-effectively defer traditional T&D investments. This suggests it is critical that assessments of T&D needs are both long-term and conducted on a regular basis. As noted above, although they are all still refining their processes, all of the jurisdictions that are currently seriously considering non-wires alternatives to T&D investments are routinely forecasting T&D needs at least 10 years into the future. Con Ed develops a 10-year plan for T&D needs. Vermont requires an annual plan that looks out a minimum of 10 years. VELCO, Vermont's transmission utility, has chosen to forecast 20 years out. Similarly BPA looks at transmission needs 10 to 15 years into the future.

78 Graphic from Nabors, Ottie, "Non-Wires Alternatives Screening Process & Evaluation," presentation at the Non-Wires Round Table, April 15, 2011.

"Level the Playing Field" in Payment for Wires and Non-Wires Alternatives

One of the biggest barriers to serious consideration of efficiency (and other demand resources) as alternatives to T&D investments is the unequal treatment of the costs of wires and non-wires solutions. For example, nearly 90% of the nearly $290 million cost of VELCO's Northwest Reliability Project in Vermont has been deemed by the New England ISO to be eligible for Pooled Transmission Facility (PTF) treatment – or spread across the New England region.[79] Because Vermont represents a relatively small portion of the total regional power pool load, its ratepayers pay only about 5% of PTF costs. Its rate-payers thus will ultimately bear less than 20% of total project costs. The ISO does not give PTF treatment to non-wires solutions. As a result, if the state had pursued a non-wires solution to its transmission reliability needs, it would have borne 100% of the costs of the project.

Such policies represent enormous disincentives to pursue non-wires solutions – even if they are less expensive than traditional transmission investments. Unbalanced treatment of wires and non-wires solutions needs to be addressed if least-cost solutions are to be routinely and seriously considered.

Collect More Data on Efficiency's Impacts

In much of the country, relatively little end-use metered data on the hourly and seasonal impacts of efficiency resources has been collected and made public over the past two decades. As a result, many jurisdictions now rely on very old end-use metering studies when developing hourly load shapes for efficiency measures. Such load shapes are essential to estimating the impacts of efficiency resources on localized transmission or distribution system peaks (peak hours can vary considerably from one distribution element to another, even within the same utility service territory). Having more data of this kind should make it easier to address concerns of T&D system planners.

It is worth noting that the New England region may be ahead of much of the rest of the country in this regard, in part because the region's forward capacity market requires efficiency resource providers to use studies that are less than five years old to document achievement of the system peak demand savings that are bidding into the market. That requirement has resulted in a number of different end-use metering studies that have not only documented savings at the time of the regional system peak, but also at all other hours of the day. In many cases, the studies have been undertaken at the regional level – with all states sharing the cost – as a way to make them affordable.

Start with Pilot Projects

Virtually every jurisdiction that genuinely considered efficiency as a potential cost-effective alternative to T&D investments started with pilot projects. Much has been learned from those pilots. The pilots also offered important venues for facilitating the mutual education of system engineers and efficiency program managers. Experience to date suggests that a pilot project or two will not bridge the cultural chasms between these two groups. They can be important steps in that process, however.

Leverage "Smart Grid" Investments

A number of utilities have recently made or are about to make significant investments in advanced metering, customer feedback mechanisms, and other "smart grid" features. Customer and end-use data collected through such systems may enable better assessments of the potential for efficiency to serve as a T&D resource in general, and perhaps more important, in specific geographic areas.

79 ISO New England, "Summary of ISO-NE Reviewed TCA Applications under Schedule 12C of the Tariff" – Status as of 2/18/2011 (http://www.iso-ne.com/trans/pp_tca/status/tca_application_status.pdf)

Appendix A

Rhode Island Standards for Least Cost Procurement and System Reliability Planning – Excerpt on Distributed Resources in Relation to T&D Investment

Chapter 2 - System Reliability Procurement

Section 2.1 Distributed/Targeted Resources in Relation to T&D Investment

A. The Utility System Reliability Procurement Plan ("The SRP Plan") to be submitted for the Commission's review and approval on September 1, 2011 and triennially thereafter on September 1, shall propose general planning principles and potential areas of focus that incorporate non-wires alternatives (NWA) into the Company's distribution planning process for the three years of implementation beginning January 1 of the following year.

B. Non-Wires Alternatives (NWA) may include but are not limited to:
   a. Least Cost Procurement energy efficiency baseline services
   b. Peak demand and geographically-focused supplemental energy efficiency strategies
   c. Distributed generation generally, including combined heat and power and renewable energy resources (predominately wind and solar, but not constrained)[80]
   d. Demand response
   e. Direct load control
   f. Energy storage
   g. Alternative tariff options

C. Identified transmission or distribution (T&D) projects with a proposed solution that meet the following criteria will be evaluated for potential NWA that could reduce, avoid or defer the T&D wires solution over an identified time period.
   a. The need is not based on asset condition;
   b. The wires solution, based on engineering judgment, will likely cost more than $1 million;
   c. If load reductions are necessary, then they are expected to be less than 20 percent of the relevant peak load in the area of the defined need;
   d. Start of wires alternative is at least 36 months in the future; and
   A more detailed version of these criteria may be developed by the distribution utility with input from the Council and other stakeholders.

D. Feasible NWAs will be compared to traditional solutions based on the following:
   a. Ability to meet the identified system needs
   b. Anticipated reliability of the alternatives
   c. Risks associated with each alternative (licensing and permitting, significant risks of stranded investment, sensitivity of alternatives to differences in load forecasts, emergence of new technologies)
   d. Potential for synergy savings based on alternatives that address multiple needs
   e. Operational complexity and flexibility
   f. Implementation issues
   g. Customer impacts
   h. Other relevant factors

E. Financial analyses of the preferred solution(s) and alternatives will be conducted to the extent feasible. The selection of analytical model(s) will be subject to Public Utilities Commission review and approval. Alternatives may include the determination of deferred investment savings from NWA through use of net present value of the deferred revenue requirement analysis or the net present value of the alternatives according to the Total Resource Cost Test (TRC). The selection of an NWA shall be informed by the considerations approved by the Public Utilities Commission which may include, but not be limited to, those issues enumerated in (D), the deferred revenue requirement savings and an evaluation of costs and benefits according to the TRC. Consideration of the net present value of resulting revenue

80 In order to meet the statute's environmental goals, generation technologies must comply with all applicable general permitting regulations for smaller-scale electric generation facilities.

requirements may be used to inform the structure of utility cost recovery of NWA investments and to assess anticipated ratepayer rate and bill impacts.

F. For each need where an NWA is the preferred solution, the distribution utility will develop an implementation plan that includes the following:
   a. Characterization of the need
      i. Identification of the load-based need, including the magnitude of the need, the shape of the load curve, the projected year and season by which a solution is needed, and other relevant timing issues
      ii. Identification and description of the T&D investment and how it would change as a result of the NWA
      iii. Identification of the level and duration of peak demand savings and/or other operational functionality required to avoid the need for the upgrade
      iv. Description of the sensitivity of the need and T&D investment to load forecast assumptions
   b. Description of the business as usual upgrade in terms of technology, net present value, costs (capital and O&M), revenue requirements, and schedule for the upgrade
   c. Description of the NWA solution, including description of the NWA solution(s) in terms of technology, reliability, cost (capital and O&M), net present value, and timing
   d. Development of NWA investment scenario(s)
      i. Specific NWA characteristics
      ii. Development of an implementation plan, including ownership and contracting considerations or options
      iii. Development of a detailed cost estimate (capital and O&M) and implementation schedule

G. Funding Plan
   The Utility shall develop a funding plan based on the following sources to meet the budget requirement of the system reliability procurement plan. The Utility may propose to utilize funding from the following sources for system reliability investments:
      i. Capital funds that would otherwise be applied towards traditional wires based alternatives
      ii. Existing Utility EE investments as required in Section I of these Standards and the resulting Annual Plans
      iii. Additional energy efficiency funds to the extent that the NWA can be shown to pass the TRC test with a benefit to cost ratio of greater than 1.0 and such additional funding is approved
      iv. Utility operating expenses to the extent that recovery of such funding is explicitly allowed
      v. Identification of significant customer contribution or third party investment that may be part of an NWA based on benefits that are expected to accrue to the specific customers or third parties
      vi. Any other funding that might be required and available to complete the NWA

H. Annual SRP Plan reports should be submitted on November 1. Such reports will include but are not limited to:
   a. A summary of projects where NWA were considered;
   b. Identification of projects where NWA were selected as a preferred solution; and a summary of the comparative analysis following the criteria outlined in sections (D) and (E) above;
   c. Implementation plan for the selected NWA projects;
   d. Funding plan for the selected NWA projects;
   e. Recommendations on pilot distribution and transmission project alternatives for which it will utilize selected NWA reliability and capacity strategies. These proposed pilot projects will be used to inform or revise the system reliability procurement process in subsequent plans;
   f. Status of any previously selected and approved projects and pilots;
   g. Identification of any methodological or analytical tools to be developed in the year;
   h. Total SRP Plan budget, including administrative and evaluation costs.

I. The Annual SRP Plan will be reviewed and funding approved by the Commission prior to implementation.

Appendix B

Excerpts from Vermont's Act 61

Sec. 8. Advocacy For Regional Electricity Reliability Policy

It shall be the policy of the state of Vermont, in negotiations and policy-making at the New England Independent System Operator, in proceedings before the Federal Energy Regulatory Commission, and in all other relevant venues, to support an efficient reliability policy, as follows:

(1) When cost recovery is sought through region-wide regulated rates or uplift tariffs for power system reliability improvements, all available resources – transmission, strategic generation, targeted energy efficiency, and demand response resources – should be treated comparably in analysis, planning, and access to funding.

(2) A principal criterion for approving and selecting a solution should be whether it is the least-cost solution to a system need on a total cost basis.

(3) Ratepayers should not be required to pay for system upgrades in other states that do not meet these least-cost and resource-neutral standards.

(4) For reliability-related projects in Vermont, subject to the review of the public service board, regional financial support should be sought and made available for transmission and for distributed resource alternatives to transmission on a resource-neutral basis.

(5) The public service department, public service board, and attorney general shall advocate for these policies in negotiations and appropriate proceedings before the New England Independent System Operator, the New England Regional Transmission Operator, the Federal Energy Regulatory Commission, and all other appropriate regional and national forums. This subdivision shall not be construed to compel litigation or to preclude settlements that represent a reasonable advance to these policies.

(6) In addressing reliability problems for the state's electric system, Vermont retail electricity providers and transmission companies shall advocate for regional cost support for the least cost solution with equal consideration and treatment of all available resources, including transmission, strategic distributed generation, targeted energy efficiency, and demand response resources on a total cost basis. This subdivision shall not be construed to compel litigation or to preclude settlements that represent a reasonable advance to these policies.

Transmission and Distribution Planning

Sec. 9. 30 V.S.A. § 218c is amended to read:
§ 218C. Least Cost Integrated Planning

(d)(1) Least cost transmission services shall be provided in accordance with this subsection. Not later than July 1, 2006, any electric company that does not have a designated retail service territory and that owns or operates electric transmission facilities within the state of Vermont, in conjunction with any other electric companies that own or operate these facilities, jointly shall prepare and file with the department of public service and the public service board a transmission system plan that looks forward for a period of at least ten years. A copy of the plan shall be filed with each of the following: the house committees on commerce and on natural resources and energy and the senate committees on finance and on natural resources and energy. The objective of the plan shall be to identify the potential need for transmission system improvements as early as possible, in order to allow sufficient time to plan and implement more cost-effective non-transmission alternatives to meet reliability needs, wherever feasible. The plan shall:

(A) identify existing and potential transmission system reliability deficiencies by location within Vermont;

(B) estimate the date, and identify the local or regional load levels and other likely system conditions at which these reliability deficiencies, in the absence of further action, would likely occur;

(C) describe the likely manner of resolving the identified deficiencies through transmission system improvements;

(D) estimate the likely costs of these improvements;

(E) identify potential obstacles to the realization of these improvements; and

(F) identify the demand or supply parameters that generation, demand response, energy efficiency or other non-transmission strategies would need to address to resolve the reliability deficiencies identified.

(2) Prior to the adoption of any transmission system plan, a utility preparing a plan shall host at least two public meetings at which it shall present a draft of the plan and facilitate a public discussion to identify and evaluate non-transmission alternatives. The meetings shall be at separate locations within

the state, in proximity to the transmission facilities involved or as otherwise required by the board, and each shall be noticed by at least two advertisements, each occurring between one and three weeks prior to the meetings, in newspapers having general circulation within the state and within the municipalities in which the meetings are to be held. Copies of the notices shall be provided to the public service board, the department of public service, any entity appointed by the public service board pursuant to subdivision 209(d)(2) of this title, the agency of natural resources, the division for historic preservation, the department of health, the scenery preservation council, the agency of transportation, the attorney general, the chair of each regional planning commission, each retail electricity provider within the state, and any public interest group that requests, or has made a standing request for, a copy of the notice. A verbatim transcript of the meetings shall be prepared by the utility preparing the plan, shall be filed with the public service board and the department of public service, and shall be provided at cost to any person requesting it. The plan shall contain a discussion of the principal contentions made at the meetings by members of the public, by any state agency, and by any utility.

(3) Prior to the issuance of the transmission plan or any revision of the plan, the utility preparing the plan shall offer to meet with each retail electricity provider within the state, with any entity appointed by the public service board pursuant to subdivision 209(d)(2) of this title, and with the department of public service, for the purpose of exchanging information that may be relevant to the development of the plan.

(4)(A) A transmission system plan shall be revised:

(i) within nine months of a request to do so made by either the public service board or the department of public service; and

(ii) in any case, at intervals of not more than three years.

(B) If more than 18 months shall have elapsed between the adoption of any version of the plan and the next revision of the plan, or since the last public hearing to address a proposed revision of the plan and facilitate a public discussion that identifies and evaluates nontransmission alternatives, the utility preparing the plan, prior to issuing the next revision, shall host public meetings as provided in subdivision (2) of this subsection, and the revision shall contain a discussion of the principal contentions made at the meetings by members of the public, by any state agency, and by any retail electricity provider.

(5) On the basis of information contained in a transmission system plan, obtained through meetings held pursuant to subdivision (2) of this subsection, or obtained otherwise, the public service board and the department of public service shall use their powers under this title to encourage and facilitate the resolution of reliability deficiencies through nontransmission alternatives, where those alternatives would better serve the public good. The public service board, upon such notice and hearings as are otherwise required under this title, may enter such orders as it deems necessary to encourage, facilitate or require the resolution of reliability deficiencies in a manner that it determines will best promote the public good.

(6) The retail electricity providers in affected areas shall incorporate the most recently filed transmission plan in their individual least cost integrated planning processes, and shall cooperate as necessary to develop and implement joint least cost solutions to address the reliability deficiencies identified in the transmission plan.

(7) Before the department of public service takes a position before the board concerning the construction of new transmission or a transmission upgrade with significant land use ramifications, the department shall hold one or more public meetings with the legislative bodies or their designees of each town, village, or city that the transmission lines cross, and shall engage in a discussion with the members of those bodies or their designees and the interested public as to the department's role as public advocate.

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The Executive Summary of this report is available separately in English and German at: http://raponline.org/document/download/id/4424.

The full report is available at: http://www.raponline.org/document/download/id/918

Prices and Policies: Carbon Caps and Efficiency Programmes for Europe's Low-Carbon Future

This paper was presented at the 2011 ECEEE Summer Study.

With the adoption of the Climate and Energy Package in 2008, European decision-makers created an integrated suite of policies to reduce carbon emissions, increase renewable energy production, and advance energy savings. As the EU ETS moves to carbon auctioning, decision-makers must continue to link carbon prices with other policy tools to meet Europe's adopted carbon and sustainable development goals. This paper demonstrates how energy efficiency (EE) policies can help meet ETS goals at lower cost, creating space to tighten carbon caps, and/or reduce the cost of protecting high-emitting industries and new Member States. Smart "complementary policies" can directly link ETS and EE strategies, especially by using auction revenue for EE programmes. Complementary policies are also needed to support low-carbon power markets, grid expansion, and renewable power investment across Europe.

The full paper is available at: http://www.raponline.org/document/download/id/931

Who Should Deliver Ratepayer Funded Energy Efficiency? A 2011 Update

This report describes policy options and approaches for administering ratepayer-funded electric energy efficiency programs in US states. It reviews how states have administered energy efficiency programs to learn what lessons their experience offers, and describes the most important factors states should consider with different administrative models. State legislators and utility regulators will find this report useful as they consider ways for energy efficiency administration to be more effective, both in states that are considering the question for the first time, and in more experienced states that are implementing significant increases in their savings goals. RAP's first version of this report was written in 2003.

The full report is available at: http://www.raponline.org/document/download/id/4707

Valuing the Contribution of Energy Efficiency to Avoided Marginal Line Losses and Reserve Requirements

While utilities and their regulators are familiar with the energy savings that energy efficiency measures can provide, they may not be aware of how these same measures also provide very valuable peak capacity benefits in the form of marginal reductions to line losses that are often overlooked in the program design and measure screening. This paper is the first of two that the Regulatory Assistance Project is publishing on the relationship between energy efficiency and avoiding line losses.

The full report is available at: http://www.raponline.org/document/download/id/4537

Achieving Energy Efficiency: A Global Best Practices Guide on Government Policies

This best practices guide provides a summary overview of the most effective policy mechanisms that regional, national, state or local governments at the executive, legislative or regulatory level can adopt to achieve significant energy efficiency in buildings, processes and equipment used in the residential, commercial, industrial, public and institutional sectors. By policy mechanism, we mean specific laws, regulations, processes and implementation strategies that foster the development and use of products and services which require less energy input to deliver the same or more productivity and output. Our focus is on how government policies can accelerate and increase efficiency investments to achieve additional savings. We do not address best practices in the design or delivery of efficiency programs that would flow from these policies. Nor do we address tariff structures or energy pricing and financing tools that can be employed to help end users invest in efficiency.

The full report is available at: http://www.raponline.org/document/download/id/4781

Regulatory Mechanisms to Enable Energy Provider Delivered Energy Efficiency

The Regulatory Mechanisms to Enable Energy Provider Delivered Energy Efficiency paper identifies varied, but complementary, government regulatory mechanisms utilized worldwide to mobilize the resources of energy providers to implement investments in energy. The paper identifies and describes twelve types of regulatory mechanisms that governments use effectively to: mobilize energy provider investments directly; facilitate investments in demand-side resources; or implement policies and programs that underpin important elements of successful investment programs. The paper also explains how each regulatory mechanism functions in different market settings to mobilize resources or enable effective programs, identifies key issues that ensure successful implementation, and then outlines an example of how at least one jurisdiction has achieved successful implementation of the mechanism.

The full report is available at: http://www.raponline.org/document/download/id/4872

Other documents on energy efficiency and other topics are available on The Regulatory Assistance Project website at:

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Acronym Glossary

ACEEE	American Council for an Energy Efficient Economy
AMI	Advanced Metering Infrastructure
BPA	Bonneville Power Administration
C & I	Commercial and Industrial
CFLs	Compact Fluorescent Light Bulbs
CMP	Central Maine Power
Con Ed	Consolidated Edison
DR	Demand Response
DSM	Demand-Side Management
EEI	Edison Electric Institute
EPRI	Electric Power Research Institute
ESCO	Energy Service Company
FCM	Forward Capacity Market
FERC	Federal Energy Regulatory Commission
GMP	Green Mountain Power
ISO	Independent System Operator
NERC	North American Electric Reliability Council
NWS	Non-Wires Solutions
PGE	Portland General Electric
PG&E	Pacific Gas and Electric
PTF	Pooled Transmission Facility
PTP	Point-to-point
RTO	Regional Transmission Organization
SPWG	State Program Working Group
SRP	System Reliability Procurement
T&D	Transmission and Distribution
TRC	Total Resource Cost
VELCO	Vermont Electric Power Company
VSPC	Vermont System Planning Committee
WECC	Western Electricity Coordinating Council

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MAR 25, 2014
DOCUMENT NO. 01311-14

Shawna Senko

From: Bradley Marshall <bmarshall@earthjustice.org>
Sent: Tuesday, March 25, 2014 11:05 AM
To: Records Clerk
Subject: Comments for Docket No. 130301-EI
Attachments: Docket No. 130301-EI - Sierra Club & Earthjustice Comments.pdf

Hello,

Please find attached to this e-mail comments from Sierra Club and Earthjustice as interested persons to Docket No. 130301-EI. If you have any questions or concerns, or would like a hard copy of the attached comments, please do not hesitate to ask. Thank you.

Sincerely,
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EARTHJUSTICE

March 25, 2014

Ms. Carlotta S. Stauffer
Director, Office of Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, Florida 32399-0850

Re: Docket No. 130301-EI, Petition To Modify Scope Of Existing Environmental Program By Duke Energy Florida, Inc.

Earthjustice and Sierra Club, on behalf of Sierra Club's over twenty-nine thousand Florida members, file these comments to reiterate that Duke Energy Florida, Inc. (Duke) should retire Crystal River units 1 and 2 (CR South) by 2016 because additional Mercury and Air Toxics Standards (MATS) compliance expenditures are not prudent. As we have shown in a series of filings before the Commission in recent years, Duke has yet to submit a plan for providing customers low-cost, low-risk power. *See* 2012 and 2013 Ten-Year Site Plan Comment Letters, attached as Exhibits A, B, and C ("TYSP Comments"). Duke continues this pattern here by failing to give the Commission—and the public—a full accounting of the costs associated with Duke's plan to temporarily comply with MATS while continuing to operate CR South. By presenting merely two options—continued operation of CR South or purchasing power—Duke offers a myopic and an unduly narrow account of what is possible over the next five years, until Duke's binding commitment to stop burning coal at CR South takes effect in 2020. Clean, low-cost, low-risk alternatives would allay concerns regarding Duke's over-reliance on natural gas. They would also continue to serve Duke's load requirements long after 2020. Yet Duke's plan for CR South would forgo any serious effort to advance such alternatives, instead opting to sink millions into old coal units that must go offline in six years to comply with the Regional Haze Rule. This is far from prudent.

The Commission should deny Duke's Petition for three key reasons: First, Duke has not fully accounted for the costs of continuing operations at CR South, especially the additional, reasonably foreseeable environmental compliance costs that arise within the next six years. Second, in the Petition and publicly available filings in Docket No. 130301-EI, Duke fails to account for how energy efficiency—the lowest-cost, lowest-risk resource—could help meet load requirements in the absence of CR South. Third, Duke has given short shrift to renewable resources, another low-cost, low-risk alternative, which could take the form of short or long-term power purchase agreements, expanded distributed generation, and even utility-scale renewable systems built by Duke to serve load requirements by 2018 and beyond.

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For these three reasons, detailed below, Earthjustice and Sierra Club maintain that Duke should retire CR South in 2016 and the Commission should deny Duke's petition. Section I discusses why additional MATS compliance expenditures are imprudent and liable to run up CR South's environmental compliance tab. Sections II and III show that to protect customers from any risk associated with retiring CR South and the possible over-dependence on natural gas which this retirement may promote, it is incumbent on Duke to emphasize efficiency and renewable energy options as alternatives to coal- and gas-burning capacity in resource planning.

I. Duke's Proposed Retrofit Is Imprudent and Duke Should Retire CR South Given The Hundreds of Millions of Additional Costs And Other Risks Associated With Continued Operation That Duke Has Failed to Disclose.

The continued operation of CR South is uneconomic for many reasons. Earthjustice and Sierra Club have repeatedly voiced our chief concern that new environmental rules will be taking effect and rendering CR South uneconomic. Compliance costs of EPA rules expected to take effect in the next six years alone will easily cost over $1 billion for CR South, dwarfing the estimated regulatory cost submitted by Duke in this docket. Units 1 and 2 were originally brought online in the late 1960s, and are operating without major pollution controls, including smokestack scrubbers. These units are an increasingly bad deal for Duke's customers: In addition to posing a serious threat to public health, as discussed in our earlier comments, they would require hundreds of millions of dollars more in compliance costs to operate—even in the short term. *See* 2012 TYSP Comments, Ex. A

Further, utilities and regulators around the country are recognizing that rising pollution control and fuel costs make coal power uneconomic. The Energy Information Administration (EIA) reports that since November 2013 utilities and generators have announced the planned retirement of 5,360 MW of coal-burning generation. *See* EIA, *Planned coal-fired power plant retirements continue to increase* (Mar. 20, 2014), http://www.eia.gov/todayinenergy/ detail.cfm?id=1549 ("EIA Coal Forecast"). Duke has a responsibility to address this industry trend favoring retirement over retrofit in Duke's plans surrounding CR South. Instead, through a piece-meal approach that only acknowledges two out of the possible six or more EPA rules that will impact CR South's continued operation over the relevant planning horizon, through 2020 and beyond, Duke has failed to substantiate the prudency of the proposed MATS and BART-only compliance expenditures. As detailed below, the upcoming EPA rules will impact CR South over the next few years, with some rules possibly impacting the units as early as this year. The resulting multi-million dollar life-extension projects that the aging units 1 and 2 would require to operate over the next six years—and that Duke has failed to disclose here—render these units uneconomic, consistent with the industry trend.

a. Impacts Of Dry Sorbent Injection On Electrostatic Precipitator (ESP) Performance – Approximately $125 Million More in Compliance Costs

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To show that the proposed MATS compliance measures will actually result in MATS compliance, Duke performed several test burns at CR South, monitoring emissions under several test conditions. The test burn results suggest—but Duke has failed to disclose—that Duke would have to spend approximately $125 million for baghouses to comply with MATS, even for just the few years CR South would operate beyond April 2016.

Recall that Duke's test conditions included the use of coal from a different source (West Elk Colorado coal as opposed to the normal Central Appalachian coal), and the addition of hydrated lime and activated carbon as injectants at varying rates. While these test results demonstrate that Duke *may* be able to meet the MATS emissions limitations using a combination of West Elk Coal, hydrated lime injection, *and* activated carbon injection, these test results also include very worrying data regarding the performance of the ESP in its ability to remove particulate matter (PM) from the emissions of CR South.

As shown in attached Exhibit D, the MATS test burn results show a marked increase in PM emissions over the baseline emissions established during the first test runs. Further, the test burn results show that PM emissions more than doubled during the test trials using hydrated lime and/or activated carbon. No surprise here; DSI can inhibit the efficiency of ESPs. Although Duke claims that Duke will make changes to CR South's ESP, such changes would likely be insufficient for Duke to avoid New Source Review, or to avoid going over PM emission limits (currently set at 0.1 lb/MMBtu). New Source Review is triggered by the addition of a "significant" increase of a criteria pollutant, defined as 25 tons per year, including PM, due to any kind of modification. As the test burn results show, New Source Review will be triggered by Duke's current MATS compliance plan, which will require the installation of the best available control technology. 42 U.S.C. § 7475. Based on the MATS test burn results, for example, for Crystal River unit 1, PM emissions for the baseline averaged approximately 0.05 lb/MMBtu (this baseline is not necessarily the baseline the utility would use in New Source Review calculations, but is illustrative of the approximate baseline Duke Energy would need to use). At 92% load, using the West Elk coal and the hydrated lime and activated carbon, PM was emitted at a rate of 0.119 lb/MMBtu, more than double the baseline rate under the same loading conditions. Heat input at the time was about 3,400 MMBtu per hour. PM was emitted at a rate of 0.069 lb/MMBtu in excess of baseline conditions. At that rate of excess emissions, Crystal River unit 1 will emit over 1,000 pounds of extra PM a year over baseline, well over significance thresholds. Crystal River unit 2 produced almost identical MATS test burn results.

To control the increased PM emissions due to the inhibited ESP performance, comply with current permit limits, and comply with New Source Review, Duke will have to install baghouses under the current MATS compliance plan for CR South. This retrofit will cost Duke—and Duke's customers—approximately $125 million. *See* attached Exhibit E (showing approximate costs of baghouse retrofit on coal unit). This is not the only area where Duke has grossly underestimated the environmental compliance costs of continuing to operate CR South.

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b. <u>1-Hour SO_2 National Ambient Air Quality Standards – Approximately $445 Million More in Compliance Costs</u>

MATS compliance aside, CR South will require a scrubber to comply with the SO_2 National Ambient Air Quality Standards ("NAAQS"), *see* 40 C.F.R. § 50.17, which would cost Duke—and Duke's customers—approximately $445 million. *See* Exhibit F, BART documentation at 47. The NAAQS are public health protections that aim to maintain the air quality at the minimum standard needed to protect public health. The new 1-hour annual ambient air quality standard for SO_2 is 7 parts per billion. As shown in the attached Exhibit G, Crystal River SO_2 emissions cause gross violations of this standard that Duke will be forced to correct.

More specifically, emissions at Crystal River will have to be reduced by 79.1%, with an average SO_2 emission rate of 0.25 lbs/MMBtu. *See* Exhibit G at 4. Based on the test burn results provided by Duke regarding MATS compliance, switching to lower sulfur coal for units 1 and 2 for MATS compliance will aid with NAAQS compliance, but not nearly enough to achieve full compliance. According to the Continuous Emissions Monitoring data during the test burn time period, and excluding when Appalachian coal was used (as SO_2 emissions were significantly higher during this time period, thus making the following analysis more conservative, assuming *arguendo* that Duke will switch to a lower sulfur coal), *see* Exhibit D, Crystal River unit 1 emissions for SO_2 averaged 0.739 lbs/MMBtu while burning low sulfur coal, and had an average heat input of 2954 MMBtu/hour. Notably, this average heat input rate is lower than normal for Crystal River unit 1, as Duke performed the test burn with loads as low as 70%, and only as high as 92% (see Exhibit D, test burn results). Crystal River unit 2 averaged 0.710 lbs/MMBtu for SO_2, and had an average heat input of 3851 MMBtu/hour. Unit 4, as a basis for comparison and because the NAAQS compliance will have to be accomplished on a facility wide basis, averaged 0.120 lbs/MMBtu for SO_2, with an average heat input of 5709 MMBtu/hour. Unit 5 averaged 0.105 lbs/MMBtu for SO_2, with an average heat input of 5108 MMBtu/ hour while operational. Even with the lower emissions rates from Crystal River units 4 and 5, the facility average for the plant was still 0.348 lbs/MMBtu for SO_2. Because of the conservative assumptions of these calculations, and the artificially lower loading at units 1 and 2 because of the nature of the MATS testing, in actual operation, this emissions rate is likely to be significantly higher, even assuming that Duke Energy will use low sulfur coal at units 1 and 2 as they did for most of the MATS compliance testing. In any case, this testing demonstrates that the Crystal River facility, because of units 1 and 2, is well in excess of the SO_2 emissions rate of 0.25 lbs/MMBtu needed for compliance with the NAAQS standard, even if Duke Energy switches to low sulfur coal (for the Continuous Emissions Monitoring Data used to calculate these averages, *see* Exhibit H).

This means that it is likely that a scrubber will be required for NAAQS compliance as long as CR South is operational. The installation of a scrubber at Crystal River will cost Duke Energy, and ultimately its ratepayers, approximately $445 million. *See* Exhibit F, BART documentation at 47. As is clear by now, any investments in the

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continued operation of CR South cannot be prudently incurred when such necessary and expensive environmental compliance measures are at hand.

c. Cross-State Air Pollution Rule – Approximately $182 Million More in Compliance Costs

The Cross-State Air Pollution Rule, also known as the Good Neighbor Rule, is designed to prevent upwind states from causing violations of the NAAQS in downwind states. Complying with this Rule would require Duke to spend significant sums on NOx allowances for CR South, if such allowances are even available on the market, or, more likely, Duke will have to retrofit CR South with selective catalytic reduction (SCR) at a cost of approximately $182 million.

The Cross-State Air Pollution Rule, 76 Fed. Reg. 48 (Aug. 8, 2011) is currently before the United States Supreme Court. *See Environmental Protection Agency v. EME Homer City Generation*, No. 12-1182 (2013). Under this version of the Good Neighbor Rule, the historic baseline of NO_x emissions for ozone season for the entire Crystal River facility is 17,881 tons per ozone season each year. With the installation of selective catalytic reduction (SCR) on Crystal River units 4 and 5, NO_x emissions have fallen on a facility-wide basis for Crystal River, but have not decreased enough. Crystal River will get allocations to emit 2,850 tons of NO_x per ozone season per year, but in 2013, emitted 3,940.6 tons of NO_x during the ozone season. *See* Exhibit I. CR South, on its own, emitted a total of 2,706 tons of NO_x during the ozone season. Under the Cross-State Air Pollution Rule, CR South will only be allocated 892 tons of NO_x to emit during the ozone season. Therefore, Duke would have to spend significant sums on buying the allowances, needed to make up the shortfall, if available, or, more likely, Duke would have to retrofit CR South with SCR at a cost of approximately $182 million. *See* Exhibit F at 49. Moreover, the Cross-State Air Pollution Rule could come into effect shortly after the Supreme Court renders a decision, which is expected this year. In other words, Duke—and Duke's customers—would likely face this cost by 2015 if CR South continues to operate.

d. Cooling Water Intake Structure Rule – Approximately $45 to $780 Million More in Compliance Costs

Another rule that will have a costly impact on CR South—likely between $45 million and $780 million—is the Cooling Water Intake Structure Rule, set to be finalized by April 17, 2014, *see* Exhibit J. This rule is intended to establish requirements under section 316(b) of the Clean Water Act. *See* 76 Fed. Reg. 22174 (Apr. 20, 2011). The Rule would establish national requirements regarding the location, design, construction, and capacity of existing cooling water intake structures with a technology standard reflecting the best technology available for minimizing adverse environmental impact. The purpose of this is to minimize adverse environmental impacts by substantially reducing the harmful effects of impingement and entrainment that currently occurs at cooling intake structures. Large coal plants with once through cooling water, including CR South, cause the greatest harm. The environmental harm these structures cause is

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immense, and thus, so are the proposed solutions by EPA. EPA proposed several options for addressing this problem. As shown in Duke's ten-year site plan, depending on which option EPA chooses, compliance costs for CR South would run between $45 million and $780 million. *See* Exhibit K at 42. EPA's decision should be published by the time the Commission makes a decision on this docket. Therefore, the Commission should include the expected environmental compliance costs of this rule in its consideration of Duke's Petition; there is absolutely no excuse for Duke's omission of such costs.

e. <u>Coal Ash Residuals Rule</u>

In 2010, EPA issued a proposed rule for regulating the disposal of coal combustion residuals under the Resource Conservation and Recovery Act. 75 Fed. Reg. 35,128 (June 21, 2010). Coal combustion residuals contain many harmful toxins, including mercury and arsenic. Coal ash spills around the country, most recently in the Dan River, illustrate the danger presented by coal combustion residuals which turn water into toxic sludge. Depending on the approach EPA adopts in the final rule, this could significantly increase the cost of disposal of coal combustion residuals, including for CR South. The final rule should be issued by December 2014.

f. <u>Effluent Limitations Rule</u>

EPA has also recently proposed an effluent limitations rule for existing power plants. 78 Fed. Reg. 34432 (June 7, 2013). Compliance will be required by July 2017. As noted by EPA, power plants alone contribute 50-60 percent of all toxic pollutants discharged to surface waters by all industrial categories currently regulated. EPA is considering 8 different regulatory options for establishing different technology standards that could include significant new treatment requirements to ensure coal power plants stop destroying our water. The costs for CR South to comply with this rule will certainly be millions of dollars, although an exact estimate is difficult considering it is unknown which option EPA will choose.

These new environmental compliance rules show that it will cost hundreds of millions of dollars, probably over $1 billion, just to bring CR South into compliance with environmental regulations. Considering that CR South is already mandated to retire by the end of 2020, investments of such large sums of money cannot be considered to be prudently incurred. Duke Energy's ratepayers are already on the hook for the failed Crystal River unit 3 nuclear power plant, and for the proposed and now indefinitely postponed Levy Nuclear project. These ratepayers should not be on the hook for hundreds of millions of more dollars spent on a power plant that will not be able to produce power because of a mandatory retirement. As described in more detail in sections II and III, Duke should be investing its money in energy efficiency and renewable energy to meet the energy needs of Floridians, instead of wasting money on two aging coal units that have no future and must go offline by 2020 to comply with the Regional Haze Rule.

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II. Energy Efficiency Is The Least-Cost, Least-Risk Resource, And The Commission Should Require Duke To Show To What Extent Energy Efficiency Investments Could Obviate The Need For The Proposed Expenditures.

Energy efficiency can rapidly produce hundreds of megawatts in savings; savings that are sufficient to replace, at least in part, load requirements now met by CR South. Notably, through utility-sponsored energy-saving measures Florida has already reduced total electric energy consumption by an estimated 8,937 gigawatt-hours (GWh), and achieved demand savings that have deferred the need for up to 60 typical 150 MW combustion turbine units. *See* FPSC, Annual Report on Activities Pursuant to FEECA (Sept. 2014), at 1 ("2014 FEECA Report"). The cost-effectiveness of such measures is beyond dispute. *See, e.g.*, Galligan et al., *Evaluation of Florida's Energy Efficiency and Conservation Act* (Dec. 7, 2012) at 9 (concluding "Florida's DSM program costs per unit of energy saved and capacity avoided are cost-effective compared with Florida's average costs for electricity, and are in line with costs in similarly situated states."); *see also* Billingsley et al., *The Program Administrator Cost of Saved Energy for Utility Customer-Funded Energy Efficiency Programs*, Lawrence Berkeley National Laboratory (Mar. 2014), at xi, attached as Exhibit L (reporting on energy efficiency program cost data from more than 100 program administrators in 31 states, primarily for the years 2009–2011 and finding that the national levelized cost of energy savings is 2.1 cents per kilowatt-hour, cheaper than any generation and most purchased power.).

Yet Duke's Petition and the publicly available filings are virtually silent on efficiency. This omission is inexcusable because Earthjustice and Sierra Club have repeatedly called on Duke to fully incorporate efficiency into resource planning, including the plans for CR South, as required by Florida law and recommended by industry best practice. *See* TYSP Comments, Ex. A–C.

Efficiency is a viable option here. Recall that units 1 and 2 are currently rated to produce 370 MW and 499 MW net, in the summer months. *See* Document No. 00692-14, CR South Environmental Compliance Study (Dec. 2013), at 3. Further, Duke estimates that continued operation would reduce the nominal full output of the units by 15%, but the changes needed to the electrostatic precipitators may drive down output even further. *Id*. In sum, Duke needs less than 740 MW to replace the capacity from the two units.

Potentially, Duke could cost-effectively replace roughly half of this capacity with energy efficiency, if Duke were to match other utilities—including Duke's very own sister subsidiaries—and move to incremental annual energy savings of 1% to 2% over the next five years. To be sure, Duke's subsidiaries in North Carolina and Ohio are more than doubling and quadrupling the incremental annual energy savings rates of Duke's Florida arm, thereby generating greater benefits for Duke's customers in those states as summarized in the following table.

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Table 1. Comparison of Job Growth, Net Benefits, and Participant Counts for Duke[1]

Scenario	Savings level by Duke Ohio	Savings level by Duke NC	Current Duke in Florida
Annual energy savings as a percent of sales (%)	1.50%	0.65%	0.31%
Annual energy savings estimates (GWh)	546	236	112
Annual energy savings relative to savings by Duke Florida (%)	485%	210%	100%
Potential net job creation in the first year (# of jobs)	273	118	56
Potential net benefits (lifetime) ($000)	3,023	1,310	623
Potential program participants	623,868	270,343	128,555

Given these disparate levels of energy savings and related benefits, the Commission should hold Duke to account for adding more energy efficiency to its power network as an alternative to CR South's continued operation.

Earthjustice and Sierra Club also urge Duke to evaluate the potential for efficiency to address the transmission concerns cited in this docket. Utilities around the country are deferring expensive transmission and distribution system upgrades through geographically-targeted energy efficiency programs. For example, Con Edison has dispatched demand-side efficiency measures to improve grid reliability in New York City and has effectively deferred upgrades in more than one third of its distribution networks. *See* Neme et al., *US Experience with Efficiency as a Transmission and Distribution System Resource*, Regulatory Assistance Project (Feb. 2012), at ii, iii, attached as Exhibit M. Notably, Con Edison's resulting savings were very close to forecast needs and provided more than $300 million in net benefits to customers. *Id.* As another example, in 2008, NV Energy in Nevada used targeted demand-side management programs such as rebates on Energy Star Appliances, commercial retrofit incentives, and low-income weatherization to avoid new transmission lines to growing parts of the state, which saved customers money on their bills through end-use efficiency and through the avoidance of costly transmission upgrades. *Id.* at 16–17. Here, in addition to accounting for efficient transmission and distribution investments options, Duke should investigate targeted non-wires alternatives, which could create immediate reductions in peak demand, decreases in congestion, and actively defer some of the costly transmission investments that Duke is currently considering.

The time is particularly ripe for Duke to advance energy efficiency due to the sweeping changes in Duke's power network, as discussed in our previous comment

[1] Synapse Energy Economics estimated potential DSM program impacts, excluding solar pilot programs, for Duke Florida regarding net job growth, net benefits, and program participants by scaling the current program impacts by Duke Florida to the levels currently achieved by Duke Ohio and Duke North Carolina. The summary of this analysis is presented in the table. Data source: Progress Energy "Progress Energy DSM Annual Report for Calendar Year 2012", May 1, 2013; ACEEE, "Positive Returns: State Energy Efficiency Analyses Can Inform U.S. Energy Policy Assessments," June 2008; and US EIA 861 database.

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letters, including: closure of Crystal River unit 3, the finalization of long-delayed public health and environmental rules, flattening load requirements, and risky over-reliance on natural gas. Fortunately, Florida's comprehensive resource planning processes—namely Ten-Year Site Planning and the Florida Energy Efficiency and Conservation Act goal-setting—require Duke to fully assess the potential demand-side and supply-side energy efficiency advancements in Duke's Florida power network. Therefore, Duke should already be modeling the viability of energy efficiency as a resource option throughout its power network, and have the results readily available to present to the Commission here.

III. Renewable Resources Are Low-Risk, Low-Cost Alternatives And There Is No Excuse For Omitting Them As An Option Here.

Florida has some of the best potential for solar power in the country, yet only a small portion of Duke's power network relies on solar generation or other renewable resources. By comparison, utilities around the country are opting to purchase renewable resources like solar power—even over natural gas—citing their low costs and risk-hedging value against fossil fuel-burning generation. Neighboring Georgia offers a good example: Within four years (2012–2016), Georgia Power Company will add over 700 MW of solar to its network. *See* Advanced Solar Initiative, http://www.georgiapower.com/about-energy/energy-sources/solar/asi/advanced-solar-initiative.cshtml; *see also,* Ivan Penn, *Georgia utility regulator: Sunshine State to lose solar race along with football title,* Tampa Bay Times (Nov. 19. 2013) http://www.tampabay.com/news/business/energy/ georgia-utility-regulator-sunshine-state-to-lose-solar-race-along-with/2153172. The following table shows other recent examples of renewable power purchase agreements:

Table 2. 2013–2014 Examples of Renewable Power Purchase Agreements

Date	State	Utility	Resource	MW	Cost	Source
11/8/13	NM	El Paso Electric Company	Solar	35	$57.90/MWh	NM Public Regulation Commission Case No. 12-00386-UT
11/8/13	NM	Southwestern Public Service Company	Wind	199	$19.18/MWh	NM Public Regulation Commission Case No. 12-00233-UT
11/8/13	NM	Southwestern Public Service Company	Wind	249	$21.20/MWh	NM Public Regulation Commission Case No. 12-00233-UT
11/8/13	NM	Southwestern Public Service Company	Wind	250	$20.15/MWh	NM Public Regulation Commission Case No. 12-00233-UT
12/10/13	CO	Public Service Company of Colorado	Solar	170	Bids for PV solar were the least cost resource in the portfolio	CO Public Utilities Commission Decision No. C13-1566
1/2/14	MN	Geronimo Energy	Solar	20 large arrays	Solar won out against natural gas in a head to	http://www.eenews.net/greenwire/stories/1059992330/print

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					head price comparison, without state subsidy	
3/10/14	TX	Austin Energy	Solar	150	5 cents/KWh	https://www.greentechmedia.com/articles/read/Cheapest-Solar-Ever-Austin-Energy-Buys-PV-From-SunEdison-at-5-Cents-Per-Ki
3/20/14	CA	Palo Alto	Solar	398 KW	4 cents/KWh	http://www.greentechmedia.com/articles/read/Anatomy-of-a-PPA-4-Cent-Per-Kilowatt-Hour-Solar-in-Palo-Alto-CA.

Despite these industry trends, here, Duke has failed to account for the option of adding solar and other renewable resources more rapidly to its network. Duke has no excuse. Sierra Club urged in comments last year that, at a minimum, Duke should test the market and disclose the results by issuing an RFP for renewable power like GPC did. *See* 2012 TYSP Supplemental Comments, Ex. C. Further, distributed generation and self-built utility-scale solar systems are also options that Duke must explore under the FEECA goal-setting and TYSP processes, and should present here—at least as an option to serve load requirements by 2018 given the additional time potentially needed to ramp up these types of renewable resources.

IV. Conclusion

For all the reasons reiterated in this Comment Letter, Earthjustice and Sierra Club respectfully request that the Commission deny Duke's Petition. Duke's proposed expenditures to temporarily comply with MATS and keep CR South operating are imprudent. Further, to protect Duke's customers from any risk associated with retiring these units and the possible over-dependence on natural gas which they may promote, the Commission should emphasize efficiency and renewable energy options as alternatives to coal- and natural gas-burning capacity. We look forward to continuing to working with the Commission to ensure that Florida ratepayers secure healthier air and a more reliable and efficient electricity system. Should Staff or Commissioners have any questions or wish to discuss this matter, please contact one of the undersigned.

Sincerely,

/s/

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Exhibit A

July 2, 2012

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Re: Comments on Progress Energy's Ten-Year Plan Submittal

Dear Mr. Ellis and Ms Matthews:

Thank you for accepting these comments on behalf of the Sierra Club and its more than 27,000 Florida members, and on behalf of Earthjustice. We look forward to participating in the Public Service Commission (PSC)'s Ten-Year Plan review process. We are writing to help inform the Commission of serious regulatory risks which should be addressed in this Ten-Year Plan.

As you know, Ten-Year Plans are designed to provide a broad overview of a utility's "power-generating needs and the general location of its proposed power plant sites;" accordingly, plans must be "suitable" for planning purposes. F.S. § 186.801; *see also* F.A.C. §§ 25-22.070 & 25-22.071. These plans are among the many tools used by the Commission as it fulfills its statutory responsibilities to maintain "sufficient, adequate, and efficient service" and "fair and reasonable rates" for all Floridians. *See, e.g.*, F.S. § 366.03.

To do so, the Commission will have to address the implications of substantial new environmental compliance obligations at several aging coal-fired units. A recent report for state utility commissioners, primarily authored by former Colorado PSC Chair Ron Binz, puts the problem succinctly, reminding regulators that "[t]he U.S. electric utility industry, which has remained largely stable and predictable during its first century of existence now faces tremendous challenges," including the prospect of substantial retirements of coal-fired power plants. *See* Ron Binz & CERES, *Practicing Risk-Aware Electricity Regulation: What Every State Regulator Needs to Know* (2012) at 5.[1] These "retrofit or retire" decisions will lead to significant changes in the Florida coal fleet, and the PSC will be charged with managing these shifts. As Commissioner Binz writes:

> The question for regulators is whether to approve coal plant closures in the face of new and future EPA regulations, or to approve utility investments in costly pollution controls to keep the plants running. Regulators should treat this much like an IRP proceeding: utilities

[1] Attached as Ex. 1.

should be required to present multiple scenarios differing in their disposition of the coal plants. The cost and risk of each scenario should be tested using sensitivities for fuel costs, environmental requirements, cost of capital, and so forth. In the end, regulators should enter a decision that addresses all of the relevant risks.

Id. at 9.

These comments highlight some of these important risks. The Commission should use the Ten-Year Plan informational docket to fully investigate them. We have submitted similar comments addressing plans filed by several different utilities; this filing focuses on coal-fired power plants operated by Progress Energy.

I. Progress Energy's Crystal River Plant Face Substantial Environmental Compliance Costs

Units 1 and 2 at Progress Energy's Crystal River plant were put into service in the late 1960s, and are operating without major pollution controls, including smokestack scrubbers. *See* FL DEP Air Operation Permit No. 0170004-025-AV (2011) at 6. These units are an increasingly bad deal for ratepayers: In addition to posing a serious threat to public health, they are not economic to operate. As utilities and PSCs around the country are increasingly recognizing, rising pollution control and fuel costs make coal power an unattractive proposition, especially as energy efficiency, demand-side resources, and renewable power become ever more available and as natural gas prices continue at record lows. Multi-million dollar life-extension projects for aging coal plants are not prudent in these circumstances. Progress has already told FL DEP that it will consider retiring units 1 and 2 within the next decade. *See* Progress Energy BART Implementation Plan for Crystal River Units 1 and 2 (June 2012) at 3.[2] Yet, Progress's Ten-Year Plan does not even mention these units, much less address their retirements.

Because of this striking gap, Progress's plan is not "suitable" for planning purposes. *See* F.S. § 186.801. The likely retirement of the Crystal River units has important implications for the "need … for electrical power" in its service territory, and for how that need is to be met, as well on "fuel diversity within the state," the "environmental impact" of any proposed replacement power, and the state "comprehensive plan." *See* F.S. § 186.801. The Commission should therefore ensure that Progress submits a corrected plan which discloses its intentions as fully as possible. It is particularly important to do so because Progress will face compliance obligations within the next few years that will lead to retirement decisions. The Commission can best protect Floridians by beginning the planning process for these likely retirements now.

Crystal River Units 1 and 2 are likely retirement targets because both units lack "scrubbers," the flue-gas desulfurization systems required to remove SO_2, which can cause deadly respiratory damage, from their emissions. Scrubber systems for these plants would cost tens of millions of dollars. Such an investment, and corresponding rate increase, would not be prudent

[2] Attached as Ex. 2.

when much cheaper sources of power are available. Accordingly, the Commission should work with Progress Energy to investigate retirement options for these plants.

In the discussion below, we explain the likely sources of scrubber liability for Crystal River, before briefly highlighting the many other environmental compliance costs which Progress is likely to face.

A. Likely Scrubber Liability for Crystal River Units 1 and 2

Three separate environmental and public health protection programs are likely to drive scrubber installation requirements, and hence "retire or retrofit" decisions, at Crystal River: the SO_2 National Ambient Air Quality Standards ("NAAQS"), 40 C.F.R. § 50.17, the Mercury and Air Toxics Standards ("MATS"), 40 C.F.R. Subpt. UUUUU, and the Regional Haze Rule, 40 C.F.R. § 51.308.

i. The SO_2 NAAQS

Just five minutes of exposure to SO_2 can make people sick; in fact, the causal link between this pollution and asthma attacks and other respiratory problems is the "strongest" such link which the EPA's scientific advisory board can identify. 75 Fed. Reg. 35,520, 35,525 (June 22, 2010). To protect the public from such pollutants, EPA is required to set NAAQS specifying the safe level of public exposure; states then develop state implementation plans (SIPs) to ensure that those standards are attained. *See* 42 U.S.C. §§ 7409 & 7410. EPA's decision to protect public health by lowering the NAAQS for SO_2 to a maximum allowable exposure of 75 ppb (a concentration equivalent to 196.2 $\mu g/m^3$) over an hour, *see* 75 Fed. Reg. 35,520 (June 22, 2010), thus obliges Florida to update its SIP to ensure that its citizens are protected from this dangerous air pollution.

States are generally required to submit updated SIPs "within 3 years" after EPA updates a NAAQS; because EPA finalized its NAAQS in 2010, Florida's plan is due in 2013. 42 U.S.C. § 7410(a)(1). The plan must "provide[] for implementation, maintenance, and enforcement of" the standard throughout Florida. *Id.* Although EPA's approval and review process may delay plan implementation for a year or two after submission, the Commission can reasonably expect Florida's SIP to be operating by 2015 or before.

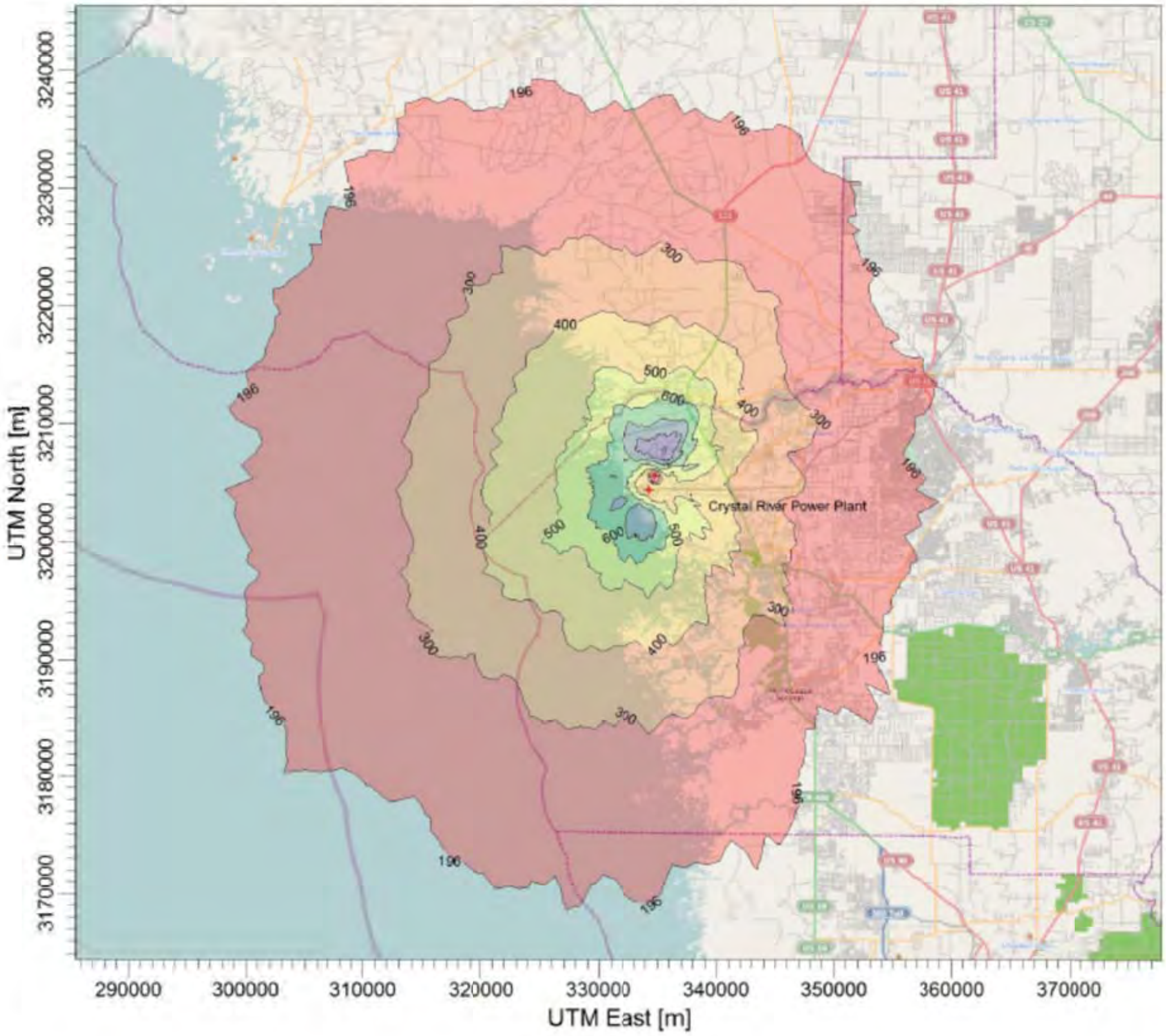
This tight timeline is directly relevant to the Commission's review of Progress Energy's plans because the Crystal River plant is causing violations of the NAAQS, and so will have to install controls under any legal SIP. Sierra Club engaged an expert air modeler, Steve Klafka of Wingra Engineering, to evaluate the plant's compliance with the NAAQS, using EPA's models and methodology.[3] We modeled both the plant's allowable emissions – those authorized by its Title V Air Operation Permit, No. 017000–025-AV, and its maximum emissions in 2011, the most recent year with complete data in EPA's Air Pollution Markets Database. Whether measured by

[3] The methodology is described in detail in the attached report, Ex. 3.

its permit or by its most recent maximum emissions, the plant causes pollutants in the air near Crystal River to reach dangerous levels.

The figure below shows the SO_2 pollution plume the plant would create when operating at its permit limits. All colored areas violate the NAAQS. While the NAAQS is set at 196.2 $\mu g/m^3$, Crystal River's permit allows pollution levels to soar to a maximum of 921.0 $\mu g/m^3$, over 460% of the safe value; even a bit further away from the plant, the pollution in the air directly over residential areas and over Crystal Bay is well above safe levels.

Crystal River Power Plant - Crystal River, Florida
Evaluation of Compliance with the 1-hour NAAQS for SO2



1-hour average SO2 concentrations (ug per cubic meter) - All colored areas exceed the NAAQS.

196 300 400 500 600 700 800 900

All concentrations include a background of 5.2 ug/m3. This figure is based on allowable emissions.	Total Sources **6**	**Conducted on behalf of the Sierra Club**	
	Total Receptors **22083**	**by Wingra Engineering, S.C.**	
	Output Type **Concentration**	SCALE: 1:580,926 0 — 20 km	
	Maximum **921.02714 ug/m^3**	DATE: **6/25/2012**	

Importantly, Crystal River causes NAAQS violations even when operating below its permitted maximums. Last year, the plant's highest operating hour emissions saw SO_2 concentrations reach 534.6 $\mu g/m^3$, which is nearly three times the safe value. *See* Ex. 2 at Table 1.

To reduce this illegal pollution, Crystal River would have to cut total facility emissions by 79.1% from its current permit. *Id.* at Table 3. To do so, it is highly likely to have to install a scrubber, thereby confronting hundreds of millions in control costs, which we document more fully below. Importantly, these costs will be far outweighed by public health benefits. EPA determined that the NAAQS will produce on the order of $36 billion in *net* benefits once safe levels of SO_2 have been attained. 75 Fed. Reg. at 35,588. Crystal River residents will secure a substantial portion of these benefits – in the form of fewer asthma attacks, emergency room visits, and premature deaths – once the plant's pollution has been controlled.

In short, the SO_2 NAAQS, a pollution control requirement which Progress Energy does not even acknowledge in its Ten-Year Plan, is highly likely to require Crystal River Units 1 and 2 to retrofit or retire. It is not the only requirement to do so, as we next discuss.

ii. MATS Requirements

In the Clean Air Act of 1990, Congress ordered EPA to investigate hazardous air pollutants emitted by power plants, and to promulgate emissions standards for these pollutants if they threatened public health. 42 U.S.C. § 7412(n)(1). Because coal power plants are dominant sources of mercury, acid gases, and other highly toxic pollutants, EPA was obligated to issue such standards, and finally did so in 2012, 22 years later. *See* 77 Fed. Reg. 9,304 (Feb. 16, 2012).

The final MATS rule issued in response to this Congressional mandate requires operators to control mercury and acid gases. A smoke stack scrubber can be required to comply with EPA's control requirements. In EPA's analysis of compliance options, it presumed that coal plants emitting more than 2 lbs/MMBtu of SO_2 would have to install scrubbers to comply with the standard. 77 Fed. Reg. at 9,412. Crystal River's air operation permit allows it to emit 2.1 lbs/MMBtu of SO_2, meaning that the MATS rule will likely drive scrubbers installation at the facility. *See* FL DEP Air Operation Permit 0170003-025-AV at 7. Notably, Crystal River is also the single largest source of mercury in Florida, dumping more than 300 kg of mercury a year into the air around the plant.[4] On both counts, MATS compliance will, accordingly, be a major focus for the facility.

[4] *See* Laura S. Sherman *et al.*, *Investigation of Local Mercury Deposition from a Coal-Fired Power Plant Using Mercury Isotopes*, Environment Science & Technology (2012), attached as Ex. 4.

The Clean Air Act requires that existing sources comply with MATS "as expeditiously as practicable, but in no event later than 3 years after the effective date" of the standard. 42 U.S.C. § 7412(i)(3). Because MATS was promulgated and effective on February 16, 2012, plants must comply by that date in 2015. Although limited compliance extension of up to 1-2 additional years may be available in some limited circumstances, *see id.*, these extensions are disfavored. Accordingly, Progress Energy will have to scrub Crystal River by 2015, or shortly thereafter, or retire the facility, yet it entirely fails to acknowledge this major shift in its operations in its Ten-Year Plan.

iii. Regional Haze Requirements

Since 1977, the Clean Air Act has required EPA and the states to make "reasonable progress" towards restoring natural visibility in Class I areas – which are, essentially, national parks and wildernesses. *See* 42 U.S.C. § 7491. EPA has been very slow to implement this mandatory duty, but its rule to address regional haze, promulgated in 1999, are now being implemented, and Florida is the process of a SIP revision intended to protect Class I areas affected by sources in the state. *See* FL DEP, *Regional Haze Plan for Florida Class I Areas* (Draft as amended May 2012).[5]

The regional haze rule requires that Florida impose controls at all sources of visibility-impairing pollutants to the extent such controls will be needed to make reasonable progress towards restoring natural visibility by 2064. *See* 40 C.F.R. § 51.308(d)(3). The Act and the Rule also require sources which were in existence by August 7, 1977, but which had not been in operation before August 7, 1962, to install "the best available retrofit technology" (BART) to control visibility-impairing pollutants. 42 U.S.C. § 7491(b)(2)(A) & 40 C.F.R. § 51.308(e). FL DEP has determined that the Crist facility is subject to BART. *See* FL Draft Regional Haze Plan at 102.

FL DEP had planned to rely upon a separate EPA SO_2 trading program, the Clean Air Interstate Rule ("CAIR") to address these requirements, but CAIR has been replaced with a new program which does not control SO_2 in Florida. *See* 77 Fed. Reg. 31,240, 31,248 (May 25, 2012). As such, FL DEP is reanalyzing control options and will have to propose source-specific control requirements for Crystal River Units 1 and 2.

These controls are likely to drive scrubber requirements because, according to FL DEP, SO_2 is the dominant source of visibility-impairing pollution in Florida. *See, e.g.*, FL Draft Regional Haze Plan at 91-92. Progress Energy has indicated as much to FL DEP. In a 2009 BART permit, Progress Energy agreed to retire the Crystal River units by December 31, 2020, as long as the second unit of its proposed Levy County nuclear facility was operating by that time.[6] Just a few weeks ago, Progress submitted an updated BART implementation plan to FL DEP indicating that, whether or not the Levy County facility comes online, it would either install a

[5] Available at http://www.dep.state.fl.us/air/rules/regulatory/regional_haze_imp.htm.
[6] *See* Air Permit No. 0170004-017-AC (Feb. 26, 2009) at 6, attached as Ex. 5.

scrubber (by 2018 or 5 years after Florida's haze SIP is approved), retire the units by December 31, 2020, or limit operations to keep the plant's operations below BART limits.[7] Because BART determinations will be approved within the next year, it is not at all clear how Progress expects to run its plants until 2020. Retirement within the next few years is the more likely option.

iv. Scrubber Costs

We have calculated the approximate cost of installing and running scrubbers (at 90% efficiency, a level which would likely be required, at a minimum, to meet the requirements of all three relevant rules) at Crystal River Units 1 and 2, based upon the EPA's Integrated Planning Model and a scrubber-focused appendix developed by Sargent & Lundy.[8] This model predicts that the capital costs for fitting these units with scrubbers as $486 million. The result (including operational costs) would be a $36.6/MWh spike in incremental costs. Progress Energy would no doubt seek to pass these costs on to rate-payers if it opted to continue to run the plant, rather than to retire it. These expenditures are extraordinarily high simply in order to extend the lives of these decades-old, expensive, coal-fired power plants.

B. Other Environmental Liabilities

Scrubber costs are not the only liabilities Crystal River faces. There are also pending rules requiring upgrades to coal plant cooling water systems, *see* 76 Fed. Reg. 22,174 (Apr. 20, 2011), better handling and disposal practices for coal combustion waste, *see* 75 Fed. Reg. 35,128 (June 21, 2010), and new treatment systems for liquid effluent discharges,[9] all of which are likely to be finalized in the next two years. EPA is also updating the NAAQS for particulate matter and for ozone. Moreover, EPA has recently proposed carbon controls for new electricity generating units. *See* 77 Fed. Reg. 22,39 (Apr. 13, 2012). Once finalized, these rules will obligate EPA to extend carbon controls to existing facilities, including Crystal River. *See* 42 U.S.C. § 7411(d). The cumulative impact of these liabilities on Progress Energy will be large and are likely to lend further weight to retirement decisions.

C. Likely Retirements

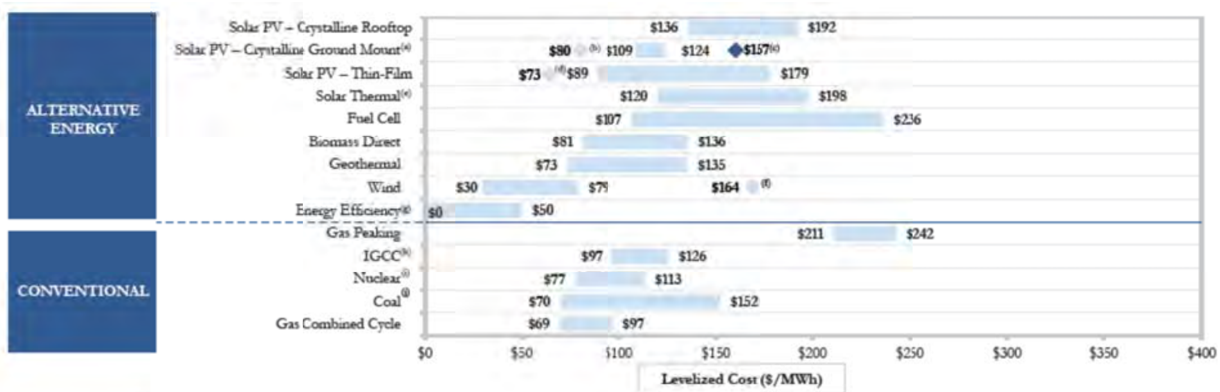
The cumulative compliance costs from all the rules which apply to Progress Energy's Crystal River units are substantial. Upon reviewing them, and considering the wide availability of more inexpensive power sources, Progress is highly likely to follow industry trends towards coal retirement.

Coal use is falling quickly, in response both to the cost of pollution controls and to national economic trends, including the growth of inexpensive wind power and the boom in shale gas production. As EPA has recently documented, "all indications suggest that very few new coal-

[7] *See* Ex. 2, *supra*.
[8] All modeling parameters can be found at http://www.epa.gov/airmarkt/progsregs/epa-ipm/BaseCasev410.html.
[9] *See* EPA's plans for this rule at http://water.epa.gov/scitech/wastetech/guide/steam_index.cfm

fired power plants will be constructed in the foreseeable future." 77 Fed. Reg. at 22,413, and the Energy Information Administration (EIA) is documenting increasing retirements of existing plants. In particular, the EIA's Annual Energy Outlook for 2012 forecasts no new unplanned coal capacity through 2020. RIA at 5-5. EIA's most recent Electric Power Monthly report confirms that this trend continues. Thus far this year, *none* of the 5,627 MW of new units to come online are coal-fired; instead, new capacity additions are largely in renewable power or natural gas. EIA, *Electric Power Monthly June 2012* at Table ES3.[10] Conversely, retirements to date have been predominantly coal-fired units. *See id.* at Table ES4. Utilities across the country have announced thousands of megawatts worth of coal retirements over the last few years.[11]

Industry-wide levelized cost figures compiled by independent analysts demonstrate why these retirements are occurring. The most recent (2011) edition of Lazard's Levelized Cost of Energy Analysis,[12] a widely-used reference, shows that energy efficiency, wind, and natural gas combined cycle levelized costs are already below those of coal, as the figure below demonstrates.



Under these circumstances, prudent operators are increasingly deciding not to impose additional costs on their ratepayers by running coal-fired units with costly new pollution technology. Instead, they are opting to retire older units and pursue cleaner, cheaper, energy options. Progress Energy could, and should, decide to follow the same course.

D. Recommended Commission Action

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[10] Available at: http://205.254.135.7/electricity/monthly/pdf/epm.pdf.

[11] *See, e.g.*, Progress Energy Press Release, "Progress Energy Carolinas to retire coal power plant ahead of schedule" (Apr. 1, 2011) (recording the retirement of four North Carolina coal plants), available at https://www.progress-energy.com/company/media-room/news-archive/press-release.page?title=Progress+Energy+Carolinas+to+retire+coal+power+plant+ahead+of+schedule&pubdate=04-01-2011; FirstEnergy Press Release, "FirstEnergy, Citing Impact of Environmental Regulations, Will Retire Six Coal-Fired Power Plants" (Jan. 29, 2012) (announcing the retirement of six coal plants in Ohio), available at https://www.firstenergycorp.com/content/fecorp/newsroom/news_releases/firstenergy_citingimpactofenvironmentalregulationswillretiresixc.html; Environment News Service, "Dominion Virginia to Replace Coal Plants with Gas, Nuclear" (Sept. 7, 2011) (documenting retirement of two Virginia coal plants), available at http://www.ens-newswire.com/ens/sep2011/2011-09-07-091.html.

[12] Attached as Ex. 6.

Progress Energy has entirely failed to address these environmental compliance issues, and the impacts of retirements at Crystal River upon its system and upon ratepayers. The failure renders the draft plan "unsuitable" as a planning document. *See* F.S. §186.801. The Commission, "may suggest alternatives to the plan," *id.*, however, and may classify a plan as suitable upon the submission of "additional data," *see* F.A.C. § 25-22.071(5). We respectfully request that the PSC exercise its authority to ensure that Progress's plan provides adequate data to allow the PSC and the public to address these plant retirements.

Specifically, we submit that the Commission should seek the following information from Progress and require resubmission of a complete plan addressing these submissions:

1. The utility should provide an analysis of all environmental compliance obligations which it will experience at the Crystal River plant. For each requirement, the utility should cite the relevant rule, explain how it is likely to apply to the plant, the likely costs of compliance to the utility and to ratepayers, and the timeline on which compliance will be required. The utility should also document any steps it has taken to address these compliance obligations, and alternative steps it might take. For instance, if the utility anticipates that it will have to install a scrubber to comply with MATS, it should report to the Commission on scrubber installation and operation costs, whether it has contracted to purchase a scrubber and on what timeline, and what other options it has considered. *See* F.S. § 186.801 (requiring utilities to document "[p]ossible alternatives to the proposed plan").

2. The utility should provide a comparative analysis of compliance costs and the cost costs of replacing the plant's power through energy efficiency, demand response, power purchase agreements, new generation facilities, or other means. *See* F.S. §186.801 (requiring utilities to explain the impact of their plans on fuel diversity and on the need for electric power in their regions). In light of this analysis, the utility should indicate whether it intends to retire any facility, and on what timeline, and the relative costs of retirement versus those of other options. If retirement has not been selected but is being considered, the utility should indicate when the decision will be made.

3. For any facility where retirement is possible, the utility should discuss how it intends to address any reliability issues which may be caused by the retirement. The Commission should play an active role in this regard, as it must maintain reliability of the electric grid. *See* F.S. § 366.05(7)-(8) (authorizing the Commission to "require reports from all electric utilities to assure the development of adequate and reliable energy grids" and to order "installation and repair of necessary facilities" to address reliability issues"). The Commission has determined that "[r]eserve margins in Florida typically remain well above" relevant minimums through 2020, so system-wide resource adequacy problems are unlikely, but the Commission may still need to address localized reliability issues. If such problems appear to be present, the

Commission should work proactively and transparently with the Florida Reliability Coordinating Council to address them well in advance of any planned retirement.

We appreciate this careful consideration of Progress Energy's environmental compliance options, and any resulting plant retirements, and remind the Commission that such thorough analysis is required to ensure that the Ten-Year Plan complies with legal requirements. We request that the Commission share the results of its inquiry with us and with the public, and request formal notice of the Commission's next steps.

Please contact the undersigned with any concerns or questions.

Sincerely,
s/ Craig Holt Segall
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Re: Comments on 2013 Ten-Year Plan Submittals

Dear Mr. Ellis and Ms Matthews:

Thank you for accepting these comments on behalf of the Sierra Club and its nearly 27,000 Florida members and on behalf of Earthjustice. We appreciated the opportunity to participate in the Public Service Commission (PSC)'s Ten-Year Plan review process in 2012, and are happy to continue our participation this year.

In last year's comments,[1] we asked that the PSC consider the implications of the retirement of Duke (then Progress) Energy's Crystal River Units 1 & 2, and of Gulf Power's Lansing Smith Units 1 & 2. We advised the PSC that the units had significant environmental compliance obligations which rendered them noneconomic to run in the near-term, but that neither company had included full analysis of that possibility in its submittal.

We appreciate that the PSC addressed these retirement issues in its review of the 2012 plans. *See, e.g.*, PSC, *Review of the 2012 Ten-Year Site Plans* ("*2012 Review*") at 3. We respectfully submit that that analysis should continue in further depth this year because both utilities have now confirmed our retirement predictions from last year. Duke has committed to retiring Crystal River 1 & 2 for economic reasons and Gulf, though it has not made a final decision, has deferred further environmental compliance work on Lansing Smith and has requested PSC approval for transmission upgrades which would allow for Lansing Smith 1 & 2 to shut down.

In its review, the PSC assumed that the capacity of these retiring units would be replaced by natural gas, which would increase natural gas's share in Florida's electric generation to 62.9% by 2022 (up from 56.7% without the retirements, and from 57.7% in 2011). *Id.* The PSC states that it views "the growing lack of fuel diversity" within Florida as a "major strategic concern." *Id.* at 39. Although we certainly welcome the retirements of these dangerous coal plants, we share this fuel diversity concern: Undue dependence on natural gas leaves the state overly vulnerable to fuel price volatility, even as potential LNG exports and other shifts in the gas market seem likely to increase gas prices in the medium term. For this reason, we strongly suggest that the PSC consider planning scenarios which employ other, less risky, resources to make up some or all of the share of generation now served by the retiring plants.

[1] Attached as Exhibits 1 & 2, for your reference.

In particular, we believe that demand-side management measures, including energy efficiency, other demand response programs, and demand-side renewable energy, can make up a significant portion of any resource gap left by the likely retirements. Increased supply side renewable energy can also increase the diversity of the state's resource mix. Because the PSC will be considering new goals for both Duke and Gulf under the Florida Energy Efficiency and Conservation Act (FEECA) this year, this is a particularly good time to develop the data needed for sensible planning.

I. Coal Retirements

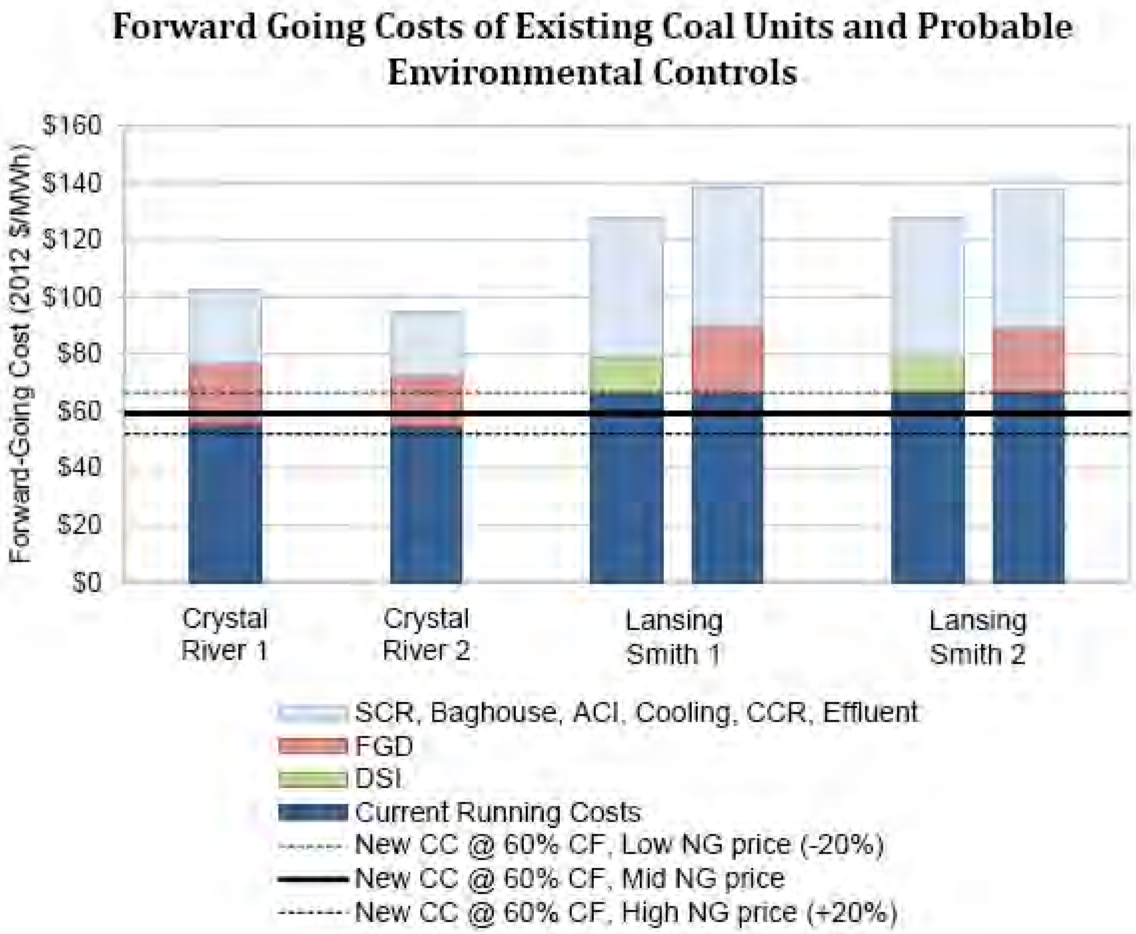
Both Duke and Gulf have confirmed that retirement is likely in the cards for their economically vulnerable plants, though Duke has gone further and confirmed that Crystal River 1 & 2 will certainly retire. Duke appears to be planning to address these retirements largely through adding new generating capacity. Gulf intends to rely on power imports in the near term.

Duke/Progress

Duke has confirmed "expected retirement of Crystal River 1 & 2 in 2016." Duke TYSP at 3-2. As Duke explains in testimony filed in the Environmental Cost Recovery Docket, the lifecycle projected system cost for retiring units 1 & 2 is far lower than the cost of retrofitting the units to comply with environmental compliance obligations: The difference between the retirement and retrofit scenarios is $ 1.32 billion in Duke's base case analysis; retrofit is unfavorable only in the extremely unlikely case of very high gas prices and no CO_2 regulation. Direct Testimony of Benjamin M. H. Borsch on Behalf of Progress Energy Florida (Apr. 1, 2013) at 4, Docket No. 130007-EI; *see also* Progress Energy Florida, *Review of Integrated Clean Air Compliance Plan* (Apr. 1, 2013) ("*Duke Compliance Plan*") at 25-26.

To be sure, Duke has held out the option of making short-term fuel mix adjustments which might allow the units to continue operating, perhaps as long as 2020. *Duke Compliance Plan* at 21. Continued operation would plainly be economically imprudent. As we demonstrated in our comments and workshop presentation on last year's plan, and as the figure below shows, the Crystal River units already verge on noneconomic when compared even against the substantial expense of constructing a new combined cycle natural gas plant to replace their capacity, much less against more sensible options, including demand side programs.[2]

[2] This figure is drawn from our 2012 workshop presentation and is based on work by Synapse Energy Economics, using public cost estimates from the Energy Information Administration's cost reporting forms and the EPA's Integrated Planning Model, developed by Sargent & Lundy.



Because Crystal River 1 & 2 are uneconomic by almost any measure (as Duke acknowledges), the pertinent question is how best to replace any portion of their 965 MW in nameplate capacity which will be required going forward. (In practice, this lost capacity is smaller: both units have been relatively little used in recent years.) Lost capacity from the 860 MW Crystal River 3, the retired nuclear unit at the site, will also play a substantial role in system planning, of course.

Over the period from 2013 to 2022, Duke expects its firm summer peak demand to grow by 1287 MW, TYSP at 3-7, and increase of just shy of 15% over the next decade, or about 1.5% per year. At present, Duke reports that it intends to make up necessary capacity to match this growth through "planned power purchases from 2016 through 2020 and planned installation of combined cycle facilities in 2018 and 2020 at undesignated sites." *Id.* at 3-2. According to Duke, these energy imports are likely to grow an additional 1470 MW above its current ~ 1900 MW of imported capacity, *id.* at Schedule 7.1. The addition of a 1307 MW (winter capacity) combined cycle facility in 2018, and a second 1307 MW facility in 2020 then replaces these imports. *See id.* at 3-7, 3-10 – 3-11. This additional capacity is 764 MW greater than the capacity which Duke is losing, leading to a 21% reserve margin by 2022.

As we discuss below, Duke's strategy of increasing its built generating capacity substantially in response to projected growth, and relying on natural gas generation to do so, is not the prudent one for either the company or for Florida.

Gulf Power

As the figure above indicates, Lansing Smith 1 & 2 are even less economically attractive to operate than the uncontrolled Crystal River coal units. Gulf has not yet committed to retirement publicly, but its filings in this docket and in the Environmental Cost Recovery docket make clear that it is preserving that option.

Specifically, Gulf has requested the PSC approve a $77 million transmission upgrade project, which it explains is necessary to ensure that Lansing Smith is not a must run unit. Gulf Power, *Third Supplemental Petition of Gulf Power Company Regarding its Environmental Compliance Program*, Docket No. 13007-EI (Mar. 29, 2013) at 8. According to Gulf, these upgrades will allow Plant Smith to run at lower levels or to close, and would be "required if these units retire or are controlled as a result of [the mercury and air toxics rule]." *Id.* at 8. Gulf, thus, maintains that it intends to "reserve the decision to install … controls or to retire the two units for a future time when more is known with regard to costs of compliance requirements associated with additional environmental regulations." *Id.*

Because Gulf Power – unlike Duke – has not shared cost information with the public comparing the cost of controlling versus retiring the plant, *see* Gulf Power, Environmental Compliance Program Update, Docket No. 13007-EI (Mar, 29, 2013) at 22-27, it is clear that it anticipates considerable additional compliance obligations at Plant Smith, including additional air, water, and waste rules. *Id.* at 22. Although Gulf has not provided economic analysis of a retirement option, it is clear that operating costs from the mercury rule alone would "greatly increase the variable operating cost of Smith Units 1 and 2," *id.* at 23, enough so that spending $77 million on transmission to reduce the operating need for the plant is more economic than continuing to run it, *id.* at 26.

We certainly agree that it is better to run Plant Smith less. The truth, however, is that Plant Smith is not economic to run *at all* under current conditions. It is certainly not economic to run going forward as environmental compliance costs increase. The appropriate course for Gulf Power is to retire the facility, rather than simply building transmission which will allow it to operate the costly plant somewhat less. Its transmission project, apparently, will enable that retirement, which remains an option. We urge the PSC to continue to analyze retirement possibilities.

In this regard, Gulf's Ten Year Site Plan submission does not clearly discuss all the implications of Plant Smith. It acknowledges, again, that "potential incremental capital expenditures for compliance may be substantial," Gulf TYSP at 3, but does not yet appear to provide a straightforward retirement analysis. Gulf anticipates 575 MW in summer peak demand growth by 2022 (about 20% growth over that period, or, according to Gulf, a 1.9% annual increase over the next decade). *See* Gulf TYSP at Schedule 3.1.

Gulf's plan indicates that capacity additions are not necessary to manage this projected growth. Gulf reports that a power purchase agreement (PPA) which it has signed with Shell Energy for use of 885 MW of capacity from an existing gas combined cycle plant will meet its needs through 2023, after which it will construct additional in-system capacity. *Id.* at 2-3. For this reason, the PSC's projection last year that Lansing Smith's retirement will lead to gas generation increases in Florida appears to be incorrect in the near term. As with Crystal River's retirement, however, we believe that demand-side options and other non-gas resources should be emphasized to meet any capacity needs that eventually arise.

II. Implications for the Ten-Year Plan and FEECA Goal-Setting Processes

Because the PSC will shortly move fully into the FEECA goal-setting process for the next five years, this is a particularly appropriate time to consider alternate futures for the Duke and Gulf power networks, with an emphasis on resources which the Legislature designed FEECA to encourage. The cost of adding new fossil capacity will almost always be higher than the cost of demand-side measures. The savings possible through an efficiency-focused strategy, coupled with efficiency's potential to help Florida avoid the undue dependence on natural gas which the PSC is seeking to avoid, argue strongly for a careful analysis of these questions in this year's Ten-Year Site Plan Review.

The Legislature has determined that it is "critical to utilize the most efficient and cost-effective demand-side renewable energy systems and conservation systems in order to protect the health, prosperity, and general welfare of the state and its citizens." Section 366.81, F.S. A study commissioned by the Legislature this past year confirmed these findings, concluding that "FEECA appears to provide a positive net benefit to ratepayers." Galligan *et al.*, *Evaluation of Florida's Energy Efficiency and Conservation Act* (Dec. 7, 2012) ("*FEECA Study*") at 9.

Despite these benefits, the PSC has, in the past, opted to suspend further program expansion for Duke and FPL, on cost grounds. *See*, e.g.*, Re: Progress Energy Florida, Inc.*, Docket No. 1000160-EG, 2001 WL 3659327 (Aug. 6, 2011). The PSC should revisit this position during this year's goal-setting process in view of the positive findings of the legislative study, and the pressing need to address the retirements of vulnerable coal units in ways that best protect the ratepayers from further risk from fossil fuel price shifts and regulatory uncertainty. Ratepayers will face costs associated with new capacity and loss of fuel supply diversity which are far greater than those imposed by demand-side programs --- programs which the legislative study have determined have net *benefits*.

In particular, the PSC should view with skepticism Duke's proposal to construct 2614 MW of natural gas generation in just the next few years in order to cope with a 1.5% annual average growth rate in its predicted demand. Initially, Duke has a history of significant positive errors in its forecasts. As the PSC explained in its 2012 Ten Year Site Plan Review, Duke overestimated net energy for load forecasts by 11.36% on average between 2007 and 2011, and by 6.17% between 2006 and 2010. *2012 Review at 19*. Certainly the recession contributed to some of this overage, but the size of the error should give the PSC pause.

More importantly, however, the 1.6% demand growth rate which Duke forecasts, even if accurate, is within the range of load growth rates which demand-side management can address. According to the legislative FEECA study, many states require annual reductions far greater. *See FEECA Study* at 177-180. States requiring savings of at least 1% a year, according to that study, include Arizona, Indiana, Maine, Maryland, Michigan, Minnesota, New York, Ohio, and Texas, with many other states not far behind (still other states, including California, are listed as having very large reduction goals, but a percentage reduction is not specified). *See id.* Such reduction rates would entirely offset Duke's projected load growth, obviating the need for much, if not all, of its projected capacity needs in light of the Crystal River retirements.

Duke plainly has the potential to greatly expand its programs. It reports that only 25% (405,000 customers out of 1.6 million) take part in its demand response program, for instance. Duke TYSP at 1-1. This low participation is likely one reason that Duke is well below its FEECA goals for summer MW and annual GWh reductions – missing the annual target by more than 60%. *See* PSC, *Annual Report on Activities Pursuant to [FEECA]* (Feb. 2013) at 19. Duke has told the PSC that it was unable to reach its performance levels because "of the Commission decision to not approve a new DSM plan" for the company. *Id.* at 20. Thus, if the PSC engages with Duke to approve an improved plan, Duke may well be able to increase efficiency programs sufficiently to greatly decrease its capacity needs.

This analysis also applies to Gulf. Although Gulf does not plan new capacity for the next decade, it, too, has potential for further improvements, failing to meet even its modest existing FEECA goal by 12%. *Id.* at 19. If Gulf were performing at the level of nationally leading utilities – saving more than 1.5% of its demand per year – it could likely avoid those projected capacity additions.

Such enhanced performance could help Florida, as a whole, to meet the Legislature's directive in FEECA. At present, Florida ranks in the bottom half of the states with regard to energy efficiency. *See* American Council for an Energy-Efficient Economy, *State Scorecard 2012* (ranking Florida #29).[3] The coal retirements before the PSC provide a strong incentive to do better.

We understand that the PSC will be conducting substantial analysis on this front during its FEECA goal-setting process, *see* Section 366.82, F.S., which requires careful consideration of the "full technical potential" of demand-side programs. We suggest that the PSC conduct that analysis in tandem with its Ten-Year Site Plan review, valuing demand-side programs as a resource which can be used to address capacity and energy issues arising from the coal retirements announced or likely in the site plan docket. Thus, in its 2013 Ten-Year Site Plan Review, the PSC could profitably evaluate the several different scenarios post-retirement, including scenarios in which capacity is replaced with more aggressive demand side measures. Other scenarios should also, of course, explore the potential of other energy sources, including enhanced in-state renewables, including solar, and out-of-state PPAs for renewable (and hence zero fuel cost) energy. In the FEECA process, meanwhile, the PSC can consider the costs and benefits of such measures, especially as compared with costly and risky new gas capacity. The two processes can and should reinforce each other as the PSC works to find ways to minimize risks and costs to ratepayers.

III. Conclusion

Last year, we cautioned that a significant amount of coal-fired capacity in Florida was set for retirement. That process has continued. To manage any ratepayer risk from these retirements and the possible over-dependence on natural gas which they may promote, the PSC should emphasize demand-side management options as alternatives to gas-fired capacity. We look forward to working with the Commission to ensure that Florida ratepayers secure healthier air and a more reliable and efficient electricity system.

Sincerely,

[3] Available at: http://aceee.org/energy-efficiency-sector/state-policy/aceee-state-scorecard-ranking.

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Exhibit C

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Re: Supplemental Information Following 2013 Ten-Year Site Plan Workshop

Dear Mr. Ellis and Ms. Matthews:

Thank you for the opportunity to present to the Commission at the September 25, 2013, Ten-Year Site Plan Workshop. At the Workshop the Commissioners raised a number of questions in response to our presentation and we agreed to provide supplemental information to more fully address those questions. This letter transmits and explains that supplemental information.

As discussed at the Workshop, the information supports deferring plan approval until the utilities provide a comparative analysis of the costs and quantified risks of all relevant energy resources, including supply side and demand side. Substantiating the cost-effectiveness of planned investments in this way is squarely within the utilities' ten-year site plan data requirements. See F.A.C. § 25-22.072 (incorporating by reference Form PSC/RAD 43-E (11/97), requiring evidence of "lowest cost possible" planned energy). Yet the utilities' plans lack the requisite comparative analysis of the costs and risks of the various energy resources available to Florida. Without this analysis by the utilities, the Commission cannot meaningfully review the plans for enumerated statutory criteria, such as "possible alternatives to the proposed plan," nor can the Commission evaluate and plan for risks like "disrupted energy supplies or unexpected prices surges." F.S. § 186.801 (citing State Comprehensive Plan, F. S. § 187.201). For these reasons, the information herein supports the Commission deferring plan approval, including approval of planned new gas-burning capacity, until the utilities provide the missing comparative cost-risk analysis to substantiate the cost-effectiveness of their proposed investments.

Moreover, the Sierra Club urges the Commission to follow the regulatory best practice of making the comparative cost-risk analysis available for public comment. Doing so would provide the Commission with a fuller critique of the options for addressing pressing issues, including the need to: (1) plan for significant coal and nuclear retirements; (2) appropriately minimize Florida's exposure to natural gas price shocks and supply disruptions; (3) evaluate and seize opportunities to pursue cost competitive energy resources; and 4) hedge against the costs and risks of fossil fuel-burning generation capacity.

I. A Comparative Analysis of Costs and Quantified Risks of All Relevant Resources (Supply Side and Demand Side) Is Critical for Prudent Resource Planning.

Prudent resource planning minimizes costs and risks. To minimize not just the present value of revenue requirements—alone, a limited focus of resource planning—but also risk, planners generally evaluate a wide range of scenarios (not just the scenario deemed most likely, the "reference case"). Planners do this through a number of different methods. Many planners use probabilistic modeling and sensitivity analyses for inputs including but not limited to: load growth, fuel prices, electricity spot prices, market structure, environmental regulations, and other risk factors. In addition, some planners also rely on other analytic aids, including market reports, requests for proposals, and stakeholder feedback. This section addresses the Commissioners' questions about planning for cost and risk with examples and explanations of emerging best practices.

a. CERES Report—Guidance Primarily for Commissions

Practicing Risk-Aware Electricity Regulation: What Every State Regulator Needs to Know offers guidance that is especially relevant to states like Florida that are "facing substantial coal generation retirements and evaluating a spectrum of resource investment options." Ron Binz & CERES, *Practicing RiskAware Electricity Regulation: What Every State Regulator Needs to Know* (2012)("*Risk- Aware*") at iii, Ex. 1. Like other reports discussed below, this report reviews existing practices and makes recommendations for valuing and selecting plans to minimize risk. What sets this report apart, and why the Sierra Club has highlighted it, is its focus on the role of state regulatory utility commissions in the planning process.

Risk-Aware urges commissions to proactively identify and address risks. *See, e.g., id*. at 14. This includes gathering information on all relevant future conditions and investment alternatives, not only the conditions and investments identified by the utilities. *Id*. at 46. Further, by fostering transparency and stakeholder engagement throughout the planning processes, commissions are able to build trust and enhance understanding of energy options among all interested parties. *Id*. at 11.

During the Workshop, Commissioner Graham expressed interest in risk assessment methodology. *Risk-Aware* shows one way that planners can systematically assess risk. The report draws on decades of relevant energy regulation and finance experience to develop a composite cost-risk analysis showing the relative cost and relative risk among a wide range of investment alternatives (e.g., nuclear, natural gas combined cycle, solar, efficiency programs). *See id*. at iii, Figures 14 and 15. Spurring commissions to develop tailored assessments like this for their respective jurisdictions, *see id*. at 34, *Risk-Aware* describes its risk assessment methodology in a step-by-step fashion. First, *Risk-Aware* examines twenty-two resources across seven risk categories, wherein the report describes and then quantifies the risks associated with each resource. *See id*. at 30 – 34; *see also id*. at Figures 13, 16. Next, *Risk-Aware* establishes composite risk indices for each resource. *Id*. at 34 – 36. Finally, *Risk-Aware* compares relative risk and relative cost. *Id*. at Figure 17.

b. Nicholas Institute Report—Risk Assessment Made Easier

Least-Risk Planning for Electric Utilities, recently published by the Nicholas Institute for Environmental Policy Solutions at Duke University, presents another relatively easy way to address risks in resource plans. *See* David Hoppock & Patrick Bean, *Least-Risk Planning for Electric Utilities* (2013) ("*Least-Risk Planning*"), Ex. 2. *Least-Risk Planning* emphasizes that "**evaluating a wide range of potential scenarios [such as 10 to 15] that fully capture the realistic range of all relevant sources of uncertainty is critical**." *Id*. at 11 (emphasis added). Picking up where traditional scenario analysis leaves off, *Least-Risk Planning* suggests that modeling outputs like production costs and fixed costs can be used to compare the costs and quantified risks of investment alternatives. *Id*. at 14. *Least-Risk Planning* illustrates how, with three, then four investment alternatives (deliberately simplified examples), it reviews the steps by which a utility would identify trends, risks, and the hedge value of energy efficiency programs and renewable resources like wind and solar. *Id.* at 8, 14. *Least-Risk Planning* maintains that utility planners and state regulators would find this method "attractive" (no new tools or modeling required), "sensible" (not too pessimistic or too optimistic about risks), and complementary to traditional scenario analysis. *Id.* at 5, 6. Indeed, some utilities like the Tennessee Valley Authority have adopted a similar risk assessment method already. *Id.* at 6 (citing 2011 TVA Integrated Resource Plan).

c. Regulatory Assistance Project & Synapse Report—A Survey of Several States

Best Practices in Electric Utility Integrate Resource Planning, recently commissioned by the Regulatory Assistance Project and prepared by Synapse Energy Economics, reviews emerging best practices in several states' resource planning processes. *See* Bruce Biewald & Rachel Wilson, *Best Practices in Electric Utility Integrate Resource Planning* (2013) ("*Best Practices*"), Ex. 3. To be sure, many other reports examine resource planning best practices, and *Best Practices* cites some of these reports. However, the strength of *Best Practices* is its breadth and depth of coverage, as it reviews the practices of several states from across the Nation and prepares case studies on three states in particular—Arizona, Colorado, and Oregon.

Overall, *Best Practices* recommends active commission oversight, stakeholder engagement, and transparency. *See id.* at 26, 27. For example, commissions in Arkansas and Hawaii promote transparency and robust stakeholder engagement through their planning rules. *Id.* at 26, 27. The Kentucky and Colorado commissions also allow interveners to file, and require utilities to respond to, written interrogatories and comments. *Id.* at 21, 27. In turn, the supplemental information from the interveners and utilities supports these commissions' planning oversight. *Id.*

Best Practices stresses transparent modeling because "[m]odeling in general is only as good as the *input assumptions* used to generate the portfolios." *Id.* at 25. Specifically, the report suggests: "A proper [resource plan] will include discussion of the inputs and results, and appendices with full technical details. Only items that are truly sensitive business information should be treated as confidential, because such treatment can hinder important stakeholder input processes." *Id.* at 32. Further, the best practice for commissions is to "take an active role in assessing the validity of inputs used by the utilities in their filings, the resulting outcomes, and whether these are consistent with both the [relevant state] rules and the state's energy policies and goals." *Id.* at 27. Limiting transparency hinders a commission's ability to perform this oversight. *See, e.g., id.* at 25.

Best Practices also offers several insights on how to optimize modeling results. The first insight is to avoid "inadvertently exclud[ing] combinations of options that deserve consideration." *Id.* at 31. This could happen when utilities define (potentially biased) future resource portfolios, rather than deferring to models to select the portfolios. *See id.* Alternatively, this could happen when "users constrain optimization models so that a model may not, given the cost, select the quantity of a specific resource that [the user] may want," such as where a utility may limit the amount of a resource that a model can consider—for instance, limiting investments in energy efficiency to the minimum level that a state policy may require, rather than allowing the model to consider larger investments in energy efficiency that the model may otherwise identify as the least-cost, least-risk means of addressing energy needs. *Id.* at 27. Against such defects, the report offers this cure:

> **The best [resource plans] create levelized cost curves for demand-side resources that are comparable to the levelized cost curves for supply-**

> **side resources**. … By developing cost curves for demand-side options, planners allow the model to choose an optimum level of investment. So if demand-side resources can meet customer demand for less cost than supply-side resources, as is frequently the case, this approach may result in more than the minimum investment levels required under other policies.

Id. at 29 (emphasis added) (quoting State and Local Energy Efficiency Action Network, *Using Integrated Resource Planning to Encourage Investment in Cost-Effective Energy Efficiency Measures* (2011), at 6, Ex. 4).

Best Practices also identifies the risks that are commonly addressed by scenario or sensitivity analyses in resource plans. These include: "fuel prices (coal, oil, and natural gas), load growth, electricity spot prices, variability of hydro resources, market structure, environmental regulations, and regulations on carbon dioxide (CO2) and other emissions." *Best Practices* at 5. The case studies on Arizona, Colorado, and Oregon illustrate how resource plans incorporate risk, as discussed below.

- **Arizona**: During the state's 2012 planning process, the Arizona utility modeled low and high scenarios for what it deemed to be "major cost inputs," including: natural gas prices, CO2 prices, production and investment tax credits for renewable resources, energy efficiency costs, and monetization of SO2, NOx, PM, and water. *See id.* at 16. During the modeling, the utility monitored certain metrics to compare and evaluate potential resource investment alternatives. *Id.* at 16-17. In addition to revenue requirements, these metrics included: fuel diversity, capital expenditures, natural gas burn, water use, and CO2 emissions. *Id.* at 16. Arizona's final 2012 resource plan and materials from five stakeholder meetings are available at www.aps.com/en/ourcompany/ratesregulationsresources/resourceplanning/Pages/resource-planning.aspx.

- **Colorado**: During the state's 2011 planning process, the Colorado utility evaluated its baseline case and eight alternative cases under several sensitivity scenarios, altering the price of CO2 emissions, renewable tax incentives, natural gas prices, and level of sales. *See Best Practices* at 19-22. Notably, per an intervener's recommendation the Colorado Public Utilities Commission asked the utility to adopt higher energy efficiency goals. *Id.* at 27 (citing Colorado Public Utilities Commission, Decision No. C11-0442; Docket No. 10A-554EG (2011)). The utility incorporated the new goals into its calculation of resource need in subsequent modeling. *See* Public Service Company of Colorado, *2011 Electric Resource Plan* (2011), available at www.xcelenergy.com/About_Us/Rates_&_Regulations/Resource_Plans/PSCo_2011_Electric_Resource_Plan.

- **Oregon**: Of the three case studies, Oregon's planning process was the most comprehensive. *Best Practices* at 23. During the state's 2012 planning process, the Oregon utility defined 67 input scenarios including: alternative transmission configurations, CO2 price levels and regulation types, natural gas prices, and renewable resource policies. *Id.* at 24. Sensitivity cases examined additional incremental costs for coal plants, alternative load forecasts, renewable generation costs and incentives, and demand-side management resource availability. *Id.* Top resource portfolios were identified through a combination of lowest average portfolio cost and worst-case portfolio cost resulting from 100 simulation runs. *Id.* Final portfolios were selected after considering such criteria as risk-adjusted portfolio cost, 10-year customer rate impact, CO2 emissions, supply reliability, resource diversity, and uncertainty and risk surrounding greenhouse gas and renewable portfolio standard policies. *Id.*; *see also* PacifiCorp, *2011 Integrated Resource Plan*, available at www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2011IRP/2011IRP-MainDocFinal_Vol1-FINAL.pdf.

II. The Commission Should Not Approve the Utilities' Ten-Year Site Plans: The Commission Cannot Determine What the Reliable, Least-Cost Energy Mix Is Because the Utilities' Plans Are Missing the Requisite Comparative Analysis of Costs and Quantified Risks of All Relevant Energy Resources, Including Supply Side and Demand Side.

Commissioner Brown requested clarification of the Sierra Club's recommendations for further action by the Commission. In short, we recommended that the Commission defer approval of the plans until the utilities provide the requisite comparative analysis of the costs and quantified risks of all relevant energy resources, including supply side and demand side. As discussed below, the missing analysis is legally required, and it will put the Commission—and the public—in a better position to ensure low-cost, low-risk power for Florida, and to understand the reasoning behind the investments that are ultimately selected. Moreover, subjecting such analysis to public notice and comment will provide the Commission with a fuller critique of the strengths and weaknesses of the plans.

a. The Utilities' Ten-Year Site Plans Must Provide an Analysis of the Relative Cost and Relative Risk of All Relevant Energy Resources that is Sufficient to Allow the Commission to Classify the Plans as Suitable or Unsuitable, Suggest Alternatives to the Plans, and Ensure a Reliable, Least Cost Power Supply for Florida.

Ten-year site plans are Florida's primary vehicle for collecting information about, and preparing for future conditions related to, the state's power supply. The Commission established the legally required data requirements in Form PSC/RAD 43-E (11/97), "Electric Utility Ten-Year Site Plan Information and Data Requirements" ("Form"). *See also* F.A.C. § 25-22.072 (incorporating the Form by reference). Notably, the Form requires utilities to describe their planning assumptions, modeling methods, and outcomes. *See* Form at 4-6 (enumerating these requirements in the section titled "Other Planning Assumptions and Information"). Moreover, each plan must "provide sufficient information to assure the Commission that an adequate and reliable supply of electricity at the lowest cost possible is planned for the state's electric needs." *Id.* at 4. Here, cost should be considered over the life of the investment, and to ensure at a robust understanding of potential costs, the plans should quantify the risks that could materially affect the costs, including factors identified above that are routinely considered by other commissions, such as fuel price surges and regulatory risks.

This reading of cost is supported by the governing Florida statutory provisions, F. S. § 186.601 (Ten-Year Site Plans) and § 187.201(11)(b)(10) (State Comprehensive Plan), which call for such circumspect planning. Under mandatory statutory criteria, the Commission must reviews each utilities' ten-year site plan for, among other things, "possible alternatives to the proposed plan," and must evaluate and prepare for risks like "disrupted energy supplies or unexpected prices surges." *See* F.S. § 186.801 (citing State Comprehensive Plan, F.S. § 187.201). Without a comparative cost-risk analysis, the Commission lacks the prerequisite information to perform this statutorily required planning oversight. Moreover, as discussed at the Workshop and in our comments, the missing analysis hinders the Commission's ability to fulfill its over-arching statutory duty to maintain "sufficient, adequate, and efficient service" and "fair and reasonable rates" for all Floridians. *See, e.g.*, F.S. § 366.03; *see also* Sierra Club, Comments on 2013 Ten-Year Plan Submittals Comments (2013) ("Sierra Club Comments"), Ex. 5.

b. The Utilities' Ten-Year Site Plans Fail to Provide the Required Analysis of the Relative Cost and Relative Risk Among the Relevant Energy Resources Available to Florida.

Our comments and Workshop presentation demonstrated how two utilities in particular have failed to include sufficient cost and risk information in their plans. To recap, Gulf Power and Duke Energy Florida's plans do not show the following:

◊ Alternative load forecasts, accounting for significant positive errors in historic forecasts;
◊ Implications, costs, and expected timelines of upcoming retirement/retrofit decisions;
◊ Alternative investment scenarios beyond the selected "reference case" or "base expansion case";
◊ A sensitivity analysis of fuel price, carbon price, supply disruptions, and other risks;
◊ A direct comparison of levelized cost curves for demand-side and supply-side resources;
◊ A direct comparison of the relative risk among all potential energy resource investment; and
◊ A full accounting of energy efficiency and renewable resource options, including (but not limited to) renewable energy contracts and self-build options for utility scale solar systems.

Without the missing analysis, the Commission cannot meaningfully verify whether the proposed investments—such as Duke's "planned power purchases from 2016 through 2020 and planned installation of combined cycle facilities in 2018 (1,307 MW, winter capacity) and 2020 (another 1,307 MW) at undesignated sites," Progress (now Duke) Energy Florida TYSP at 3-2—do in fact provide reliable, least-cost power.

c. The Commission Should Require the Utilities to Conduct a Comparative Cost-Risk Analysis and Subject the Analysis to a Public Comment Period.

As discussed at the Workshop, Florida's energy system is at a crossroads and planning presents a critical opportunity to enhance the understanding of energy options among all interested parties. The Sierra Club urges the Commission to require the utilities to conduct a comparative cost-risk analysis and invite interveners' comments on this analysis. Doing so now would help the Commission address pressing issues, including the need to: (1) plan for significant coal and nuclear retirements; (2) appropriately minimize Florida's exposure to natural gas price shocks and supply disruptions; (3) evaluate and seize opportunities to pursue cost competitive energy resources; and 4) hedge against the costs and risks of fossil fuel-burning generation capacity.

i. The Utilities Should Provide a Full Retirement/Retrofit Analysis of Existing Generation Capacity to Ensure an Accurate and Meaningful Cost-Risk Comparison of Energy Options Going Forward.

While Gulf Power and Duke Energy Florida have confirmed the Sierra Club's retirement predictions from last year, we expect (but have not seen plans that address) more coal-burning unit retirements within the planning horizon, such as Lansing Smith 1 and 2. As we have seen, the Federal

Government has and may well continue to ratchet down power plant emissions under the Clean Air Act to address public health and welfare concerns. These regulations could impact the economic viability of certain fossil-fuel burning capacity in Florida. Indeed, the Florida Reliability Coordinating Council (FRCC) has acknowledged "potential multiple generation retirements from the same site, starting as early as April 2015." FRCC, 2013 Load & Resource Reliability Assessment Report (2013). In any event, we continue to urge the Commission to require the utilities to provide a straightforward retirement/retrofit analysis, including decommissioning costs and timelines for existing generating capacity, as well as their implications for the utilities' generating needs. This information is critical for developing an accurate cost-risk comparison of all relevant energy resources available to Florida going forward.

ii. The Utilities Should Identify and Analyze Options to Minimize Florida's Exposure to Natural Gas Price Shocks and Supply Disruptions.

One of the utilities' plans most troubling defects is their unwarranted reliance on more natural gas imports—channeling money out-of-state and worsening Florida's exposure to natural gas price shocks and supply disruptions. As the Sierra Club has stressed, nowhere do the plans substantiate that proceeding this way is cost effective or necessary. For example, Duke and Gulf Power forecasted load growth near 1% per year over the planning horizon, which is well within the range that demand-side management could address at a lower cost. *See* Sierra Club Comments.

Moreover, natural gas-burning capacity is risky in ways that alternative (zero fuel cost) energy is not. Here, we recap three sources of risk. First, the U.S. Energy Information Administration (EIA) dramatically revised downward its estimates of the domestic shale gas reserves, by 42% nationally, and by 66% in the Marcellus. *See* EIA, *Advanced Energy Outlook 2012 Early Release Overview* (2012) at 9. Second, the natural gas industry is moving quickly to export liquefied natural gas. *See, e.g.,* Federal Energy Regulatory Commission, *Proposed/Potential North America LNG Import/Export Terminals*, available at www.ferc.gov/industries/gas/indus-act/lng/lng-proposed-potential.pdf (last visited October 11, 2013). Both of these factors—declining supply and increasing demand at international market prices—create a risk of materially higher natural gas prices in the future. To be sure, numerous studies examine the implications of natural gas exports, and at the Workshop we highlighted EIA's higher risk case predicting that rapid expansion of gas exports could drive up domestic natural gas prices at the wellhead by as much as 54% ($3.23/Mcf) by 2018. Whether or not this particular rate of price increase comes to pass, it certainly suggests that the Commission would benefit from a transparent analysis of price shock risks before it approves further natural gas generation in Florida—an analysis which is lacking in the plans.

Third, Florida's limited natural gas transport infrastructure raises the specter of supply disruptions. Planning should address such risks and should include the costs of building additional infrastructure, such as additional natural gas pipelines, in evaluating energy investment options. For all these reasons, the Commission should instruct the utilities to identify in their cost-risk comparisons all relevant energy resource investment options that minimize Florida's exposure to natural gas prices shocks and supply disruptions.

iii. The Utilities Should Identify and Justify How They Value and Select Alternative Energy Resources, Including the Value that Renewable Energy And Energy Efficiency Provide For Capacity and Energy Needs,

and As A Hedge Against the Risks and Costs of Further Natural Gas Generation.

As we identified at the Workshop, alternative energy investments are low-cost, low-risk, and compare favorably to conventional generation. The Commission would benefit from a full analysis of such resources in the utilities' ten-year site plans. Duke Energy Florida's plan has served as our example of just how little information the utilities have provided on alternative energy investments. This dearth of information prevents the Commission from verifying that cost-effective alternative energy investments (demand side and supply side) have been appropriately valued and incorporated into the plans. Duke's plan states that by March 2013 the utility's ongoing Request for Renewables logged over 310 responses—responses that are not disclosed or described in Duke's plan. *See* Duke TYSP at 3-21. Duke's plan also omits the option of self-building renewable energy projects. The plan plainly lacks the requisite comparative cost-risk analysis, and even lacks the statutorily required "statement describing how the production and purchase of renewable energy resources impact the utility's present and future capacity and energy needs." *See* F.S. § 186.801(2)(j).

The Commission should not approve such defective plans, especially since the 2012 legislative study determined that Florida has a track record of cost-effective alternative energy investments that have yielded net benefits to Florida's ratepayers. *See* Galligan et al., *Evaluation of Florida's Energy Efficiency and Conservation Act* (Dec. 7, 2012) ("*FEECA Study*") at 9, 10. Instead, we continue to strongly recommend that the Commission instruct the utilities to provide analyses that identify: (1) how they valued and selected alternative energy resources, (2) how these resources impact the utilities' capacity and generation needs, and (3) how the utilities have captured the hedge value of alternative energy resources against the risks associated with further expansion of fossil fuel-burning generation, especially of natural gas.

III. The Commission Should Demand a Clear and Thorough Analysis of the Comparative Costs and Risks of Energy Resources, Including Enhanced Energy Efficiency and Renewable Energy Investments, Because in Today's Market, the Analysis May Well Show that it is More Prudent to Invest in Energy Efficiency and Renewable Energy than Natural Gas.

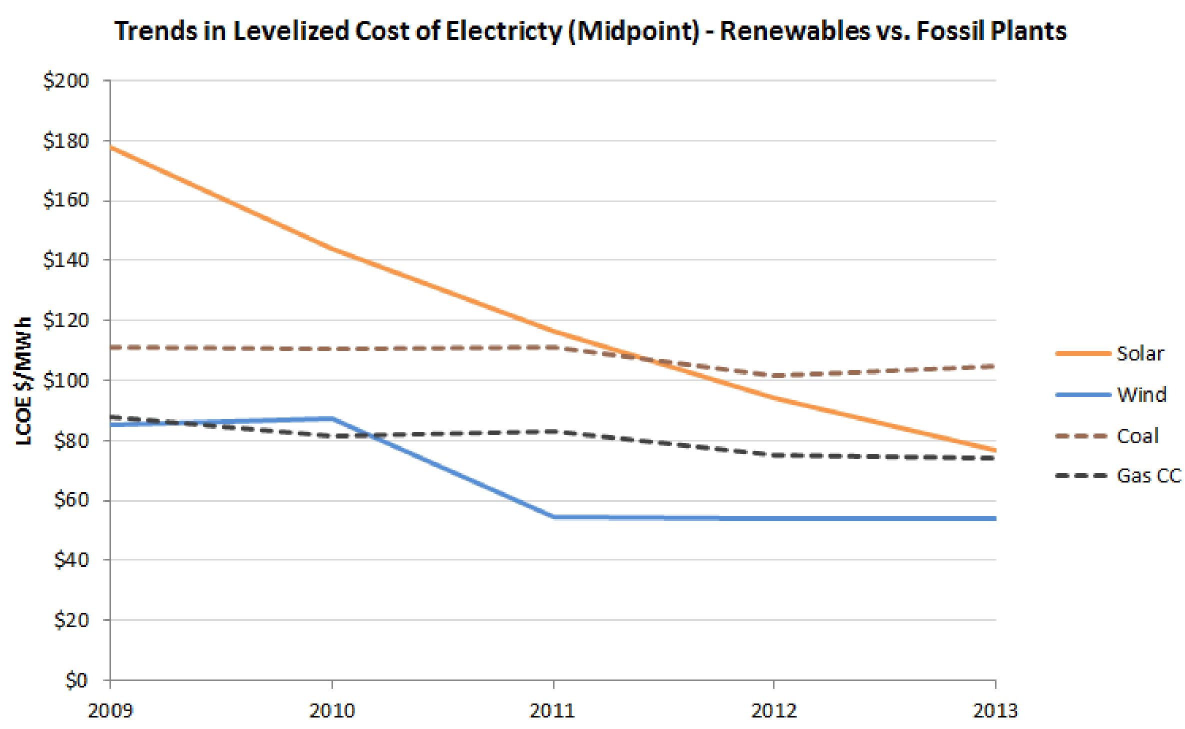
Although at the Workshop we spent a considerable amount of time addressing risks of further natural gas development, the other half of a cost and risk analysis is cost. As discussed at the Workshop, energy markets—and the costs of various types of energy resources, both supply and demand—are rapidly changing. Renewable energy generation continues to plummet in price, while coal and nuclear generation continue to increase, and natural gas is showing clear and increasing signs of significant upward pressure. In this mix, energy efficiency continues to be by far the cheapest energy resources in the market today.

As we noted at the Workshop, there are any number of ways to evaluate such costs. Below we identify some of the more common means of evaluating costs, and reiterate information indicating what those costs are in today's market.

a. Levelized Cost of Electricity Is One Common Comparative Metric of The Costs of Energy Resources.

Levelized cost of electricity (LCOE) is one key metric for comparing resource costs, and one commonly cited source of LCOE data is the international advisory and asset management firm Lazard Ltd, *Lazard's Levelized Cost of Energy Analysis—Version 7.0* (2013) ("*Lazard's Analysis*"). At the Workshop we emphasized that national LCOE data can reveal cost trends, while resource planning best practice is for utilities to create (generally using models) levelized cost curves for demand-side resources that are comparable to the levelized cost curves for supply-side resources available within the context of the regional grid. *See, e.g.*, State and Local Energy Efficiency Action, *Using Integrated Resource Planning to Encourage Investment in Cost-Effective Energy Efficiency Measures* (2011) at 7.

Since we have not seen evidence of such side-by-side levelized cost comparisons in the ten-year site plans, we have cited *Lazard's Analysis*: Energy efficiency programs average $0-$50 MWh, or better, since these figures do not fully account for the opportunity cost of foregone consumption due to demand response. *See Lazard's Analysis* at 4. Renewable resources are becoming increasingly cost competitive. Utility-scale solar photovoltaic systems are approaching "grid parity" without tax subsidies and may currently reach "grid parity" under certain conditions. *Id.* As discussed at the Workshop, the graph reproduced below plots Lazard's levelized cost of electricity data from 2009 to 2013 to show cost trends of renewable resources like solar and wind versus conventional fossil fuel-burning resources like coal and natural gas.



Source: Lazard 2009-2013.

The trends shown in this graph favor investments in renewable resources like wind and solar because they are already cost-competitive with conventional generation resources like coal and gas, and their prices keep falling fast—thanks largely to technological advances, such as larger wind turbines and cheaper components for solar-power arrays. As we have noted, the opposite is true for fossil fuel-burning generation; costs are generally increasing due to increasingly stringent pollution controls, fuel price volatility, and supply disruption risks.

a. Given Rapidly Changing Electricity Markets, Requests for Proposals are a Common, But Not Exclusive, Way of Identifying Resource Costs.

Commissioner Balbis requested clarification of the Sierra Club's suggestion of using requests for proposals (RFPs) to test resource costs for ten-year site planning purposes. In short, we suggested that, as an initial step, the Commission should obtain from the utilities more information about the renewable energy bids that they received in response to existing RFPs. Duke's plan, for example, states that the utility's ongoing Request for Renewables returned over 310 bids by March 2013. Bids like these are a potential trove of cost information that would enhance the understanding of energy options among all interested parties. *See* Duke TYSP at 3021. Indeed, the 2012 legislative study found that Florida jurisdictional utilities are missing opportunities to share information and best practices on saving energy. *See FEECA Study* at 13. Ten-year site planning is where the utilities can start to remedy this, and the Commission should instruct the utilities to make the bid information, other than the truly sensitive business information, available to the public.

Further, at the Workshop we suggested that a review of existing RFPs and responsive bids may well reveal opportunities for further market testing, perhaps through RFPs, to identify the cost-effective resources available to Florida. For instance, Connecticut recently issued an RFP to identify cost-effective resources for meeting that state's energy policy goals. *See* Connecticut Department of Energy and Environmental Protection, *Request for Proposals for Long Term Energy Contracts* (2013), available at www.ct.gov/deep/cwp/view.asp?a=4405&Q=527812&deepNav_GID=2121. Notably, *Power Purchase Agreement Checklist for States and Locals Governments*, produced by that National Renewable Energy Laboratory, offers guidance on developing RFPs for solar photovoltaic (PV) power purchase agreements in particular. *See* National Renewable Energy Laboratory, *Power Purchase Agreement Checklist for States and Locals Governments* (2009), Ex. 6.

Alternatively, as we discussed at the Workshop, the Commission could identify resource costs by reviewing examples of recent electricity purchase or production decisions, such as the new solar photovoltaic generation in Georgia and Colorado. *See* Georgia Public Service Commission, *PSC Approves Agreement to Resolve Georgia Power 2013 Integrated Resource Plan and Expands the Use of Solar Energy* (Aug. 2013); Xcel Energy, *Xcel Energy Proposes Adding Economic Solar, Wind to Meet Future Customer Energy Demands* (Sept. 2013). Additional cost data—especially from local or regional electricity markets—is essential for prudent planning, and the Commission should require the utilities to include sufficient cost data in their plans to substantiate the cost-effectiveness of their proposed investments.

IV. Conclusion

For all these reasons, the Commission should defer ten-year site plan approval, including approval of planned new gas-burning capacity, until the utilities provide the missing comparative cost-risk analysis. Moreover, the Sierra Club urges the Commission to follow the best practice of making the comparative cost-risk analysis available for public comment.

Sincerely,

/s/

Diana Csank
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Exhibit D

Robby A. Odom
Station Manager, Crystal River
Steam Plant & Fuel Operations

January 21, 2014

Submitted via email:
Erin.DiBacco@dep.state.fl.us
SWD_AIR@dep.state.fl.us
ftp://ftp.dep.state.fl.us/pub/incoming

Erin Anthony DiBacco
Compliance and Enforcement
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637

Dear Mr. DiBacco:

Re: Crystal River Energy Complex Units 1 and 2
Permit No.: 0170004-040-AC
Test Report for Coal Blend Testing / Post Combustion Controls

Please find attached the information to be submitted per the requirements of Air Permit No. 0170004-040-AC (Coal Blend Testing/Post Combustion Controls). The testing was conducted from September 16 through October 3, 2013 on Crystal River Unit 1 and from November 4 through November 21, 2013 on Crystal River Unit 2. Please note that no testing of sub-bituminous (Powder River Basin) coal blends occurred during the test burn, only various types of bituminous coal were tested, with and without hydrated lime and/or activated carbon injection.

Please contact Ron Johnson at (352) 501-5170 or Jamie Hunter at (727) 820-5764 if you have any questions.

Sincerely,

Mark Gillespie

for Robby A. Odom
Station Manager/Responsible Official

Enclosures

Appendix 1

(Schedule and Overall Description of each Test Burn Run)

Crystal River Unit 1 September Test Burn Results

Start Time	End Time	Load	Coal	Sootblowing?	Reagent Injection (lb/hr)		Unit 1				Notes
					Hydrated Lime	Activated Carbon	PM (lb/Mbtu)	HCl (lb/Mbtu)	Mercury (lb/Tbtu)	Opacity (%)	
9/16/13 0:00	9/16/13 0:00	92%	CAPP		0	0	0.047			15	
9/16/13 12:30	9/16/13 13:39	(363 MW)	CAPP		0	0					Run Void due to Rail Issue
9/16/13 19:10	9/16/13 20:20		CAPP	Yes	0	0	0.056			21	
9/18/13 11:30	9/18/13 12:32	70%	West Elk		0	0	0.030	0.007	1.715	7	
9/18/13 13:20	9/18/13 14:32	(277 MW)	West Elk		0	0	0.019	0.009	1.716	8	
9/18/13 15:10	9/18/13 16:22		West Elk	Yes	0	0	0.022	0.008	1.557	10	
9/19/13 8:30	9/19/13 9:42	85%	West Elk		0	0	0.045	0.012	1.794	15	
9/19/13 10:10	9/19/13 11:22	(335 MW)	West Elk		0	0	0.042	0.007	1.773	15	
9/19/13 12:00	9/19/13 13:12		West Elk	Yes	0	0	0.057	0.005	1.498	16	
9/20/13 9:00	9/20/13 10:12	92%	West Elk		0	0	0.057	0.003	1.145	20	
9/20/13 10:30	9/20/13 11:42	(363 MW)	West Elk		0	0	0.095	0.004	1.163	23	
9/20/13 12:05	9/20/13 13:17		West Elk	Yes	0	0	0.110	0.004	1.154	24	
9/23/13 9:00	9/23/13 10:12	70%	West Elk		75	150	0.053	0.005	0.893	14	
9/23/13 12:20	9/23/13 13:32	(277 MW)	West Elk		75	75	0.042	0.004	0.895	15	
9/23/13 14:00	9/23/13 15:12		West Elk	Yes	75	75	0.041	0.003	0.861	14	
9/24/13 9:35	9/24/13 10:47	85%	West Elk		75	75	0.074	0.003	1.040	21	
9/24/13 11:25	9/24/13 12:37	(335 MW)	West Elk		75	75	0.073	0.003	1.029	23	
9/24/13 13:05	9/24/13 14:17		West Elk	Yes	75	75	0.080	0.003	0.916	25	
9/30/13 9:35	9/30/13 10:47	92%	CAPP		50	75	0.102	0.079	2.995	16	High Ash CAPP
9/30/13 11:35	9/30/13 12:47	(363 MW)	CAPP		50	75	0.093	0.090	3.026	18	
9/30/13 13:15	9/30/13 14:27		CAPP	Yes	50	75	0.139	0.088	2.601	21	
10/1/13 8:10	10/1/13 9:22	85%	West Elk		50	75	0.105	0.002	0.776	19	
10/1/13 10:05	10/1/13 11:17	(335 MW)	West Elk		50	75	0.079	0.002	0.704	20	
10/1/13 12:00	10/1/13 13:12		West Elk	Yes	50	75	0.088	0.002	0.749	22	
10/2/13 8:35	10/2/13 9:42	85%	West Elk		50	0	0.080	0.002	1.037	20	
10/2/13 10:10	10/2/13 11:10	(335 MW)	West Elk		50	0			0.986		HCl & PM Run void due to filter temperature issue
10/2/13 12:10	10/2/13 13:22		West Elk	Yes	50	0	0.079	0.002	0.875	22	
10/2/13 14:10	10/2/13 15:22		West Elk		50	0	0.113	0.002	0.974	26	
10/3/13 7:25	10/3/13 8:37	92%	West Elk		50	75	0.119	0.004	0.858	28	
10/3/13 9:35	10/3/13 10:47	(365 MW)	West Elk		50	75		0.003	0.731		No PM run
10/3/13 13:50	10/3/13 15:02		West Elk		0	0		0.002	1.131		No PM run

Crystal River Unit 2 November Test Burn Results

Start Time	End Time	Load	Coal	Sootblowing?	Reagent Injection (lb/hr) Hydrated Lime	Reagent Injection (lb/hr) Activated Carbon	Unit 2 PM (lb/Mbtu)	Unit 2 HCl (lb/Mbtu)	Unit 2 Mercury (lb/Tbtu)	Unit 2 SO_3 (lb/MMBtu)	Unit 2 Opacity (%)	Notes
11/4/13 10:05	11/4/13 11:14	92% (480 MW)	CAPP		0	0	0.015	0.089	3.014	0.0013	5	
11/4/13 12:10	11/4/13 13:18		CAPP		0	0	0.012	0.085	3.578	0.0008	6	
11/4/13 13:55	11/4/13 15:03		CAPP	Yes	0	0	0.021	0.081	3.339	0.0011	6	
11/6/13 12:00	11/6/14 13:08	70% (365 MW)	West Elk		0	0	0.033	0.006	1.323		12	Unit 2 tripped the previous night, 11/5. Build-up of residual light oil on ESP plates appears to have adversely impacted collection performance.
11/6/13 13:35	11/6/14 15:03		West Elk		0	0	0.037	0.006	1.211		13	
11/6/13 15:10	11/6/14 15:18		West Elk	Yes	0	0	0.048	0.007	1.281		15	
11/7/13 9:00	11/7/14 9:30		West Elk		0	0	0.013				3	
11/7/13 11:15	11/7/13 12:23	85% (440 MW)	West Elk		0	0	0.062	0.011	1.267		16	
11/7/13 12:50	11/7/13 13:58		West Elk		0	0	0.056	0.012	1.127		16	
11/7/13 14:30	11/7/13 15:38		West Elk	Yes	0	0	0.071	0.010	1.185		17	
11/11/13 11:50	11/11/13 12:58	92% (480 MW)	West Elk		0	0	0.017	0.004	1.241	0.0002	9	
11/11/13 13:25	11/11/13 14:33		West Elk		0	0	0.038	0.003	1.140	0.0003	12	
11/11/13 15:10	11/11/13 16:23		West Elk	Yes	0	0	0.040	0.002	0.875	0.0012	13	
11/12/13 10:25	11/12/13 11:33	70% (365 MW)	West Elk		48	75	0.022	0.002	0.587		8	
11/12/13 12:00	11/12/13 13:08		West Elk		48	75	0.015	0.002	0.511		9	
11/12/13 13:30	11/12/13 14:38		West Elk	Yes	48	75	0.016	0.002	0.280		10	
11/13/13 10:30	11/13/13 11:38	85% (440 MW)	West Elk		48	75	0.061	0.002	0.422		16	
11/13/13 12:10	11/13/13 12:45		West Elk		48	75	0.045	0.002	0.371		17	30 minute run
11/14/13 10:15	11/14/13 11:23	85% (440 MW)	West Elk		0	0	0.063	0.002	1.027		16	
11/14/13 11:45	11/14/13 12:18		West Elk		0	0	0.040	0.002	0.975		16	Dropped 10MW during test
11/14/13 15:45	11/14/13 16:53	70%	West Elk		0	0	0.037	0.003	1.006		12	ID Fan biased flow to C ESP
11/14/13 17:25	11/14/13 17:58	85%	West Elk		0	0	0.048	0.011	0.974		17	
11/18/13 10:15	11/18/13 11:23	92% (480 MW)	West Elk		50	50	0.044	0.009	0.961	0.0017	13	
11/18/13 11:45	11/18/13 12:53		West Elk		50	50	0.072	0.005	0.722	0.0004	15	
11/18/13 13:15	11/18/13 14:23		West Elk		50	50	0.048	0.004	0.670	0.0005	16	
11/21/13 9:30	11/21/13 10:38	92% (480 MW)	West Elk		0	0	0.049	0.004	0.607	0.0007	12	
11/21/13 11:00	11/21/13 12:08		West Elk		0	0	0.029	0.004	0.398	0.0002	12	
11/21/13 12:30	11/21/13 13:38		West Elk		0	0	0.026	0.004	0.413	0.0003	9	
11/21/13 14:30	11/21/13 15:38		West Elk		0	0	0.029	0.004	0.450	0.0003	10	

Exhibit E

IPM Model – Revisions to Cost and Performance for APC Technologies

Particulate Control Cost Development Methodology

FINAL

March 2011

Project 12301-009

Systems Research and Applications Corporation

Prepared by

Sargent & Lundy LLC

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This work was funded and reviewed by the U.S. Environmental Protection Agency under the supervision of William A. Stevens, Senior Advisor – Power Technologies. Additional input and review was provided by Dr. Jim Staudt, President of Andover Technology Partners.

Particulate Control Cost Development Methodology – Final

Technology Description

There are two main particulate capture unit operations employed in the utility industry:

- Electrostatic Precipitator (ESP)
- Fabric Filter (FF)

ESPs have been implemented in the utility industry since the 1960's; there have been a great number of installations in the U.S. and around the world. The ESP collects PM in a three step process: charging, collecting, and cleaning the collected ash off the electrodes. The ESP relies on fly as resistivity to charge and collect the particles. ESPs can reduce PM emissions to below 0.015 lb/MMBtu and opacity below 10% depending on the ash characteristics and particulate loading. However, it is difficult to collect fly ash when burning low sulfur coal because of high fly ash resistivity requiring large ESP. ESPs are not well suited for processes that are highly variable because the collection efficiency is sensitive to fluctuations in gas stream conditions.

Recently fabric filters (specifically pulse-jet type or PJFF) have become the preferred choice for new and retrofit utility particulate capture. PJFFs have been utilized commercially for over 25 years and are considered a mature technology. Modern PJFFs are reliable, versatile and cost effective. In a PJFF, particulate matter is collected on a fabric bag; then the particles are cleaned off the bag surfaces with a pulse of air. During cleaning, the collected particulate falls into hoppers and is removed via an ash handling system to a silo. PJFF suppliers provide guarantees as low as 0.010 lb/MMBtu depending on the application.

Co-Benefits

Due to the filter cake inherent in PJFFs, PJFF units have additional benefits that are not available in ESPs:

- Mercury removal is enhanced by a PJFF by contacting the flue gas with the unburned carbon in the fly ash;
- Collection of injected activated carbon with a PJFF can dramatically increase the mercury removal from the flue gas versus an ESP particulate collector;
- With in-duct dry sorbent injection, the SO_2 removal can be greatly increased when an PJFF is used versus an ESP for the sorbent capture; and
- Acid gases are removed when the flue gas is passed through the filter cake in a PJFF.

Particulate Control Cost Development Methodology – Final

Establishment of Cost Basis

The major cost driver for a baghouse is the required gross air-to-cloth (A/C) ratio. When the baghouse is installed in a retrofit situation following another collection device, such as an ESP, then an A/C of 6.0 would be appropriate if activated carbon injection is applied for mercury removal.

If the baghouse will be used as the sole particulate capture unit operation, an A/C of 4.0 should be specified. The lower A/C ratio will provide better bag life with the high inlet particulate loading expected for the single particulate capture device in the process.

Cost data from the S&L current database of projects, for several different baghouse installations, was reviewed and a relationship was developed for the capital costs of the system on a flue gas rate basis. The capital costs include:

- Duct work modifications,
- Foundations,
- Structural steel,
- ID fan modifications or new booster fans, and
- Electrical modifications.

Methodology

Inputs

Several input variables are required in order to predict the total future retrofit costs:

- Type of coal,
- Unit size,
- Unit heat rate, and
- Baghouse required size.

A retrofit factor that equates to difficulty in construction of the system must be defined.

Outputs

Total Project Costs (TPC)

A base installed cost for the baghouse is calculated (BM). The base installed cost is then increased by:

- Engineering and construction management costs at 10% of the BM cost;
- Labor adjustment for 6 x 10 hour shift premium, per diem, etc., at 5% of the BM cost; and
- Contractor profit and fees at 5% of the BM cost.

A capital, engineering, and construction cost subtotal (CECC) is established as the sum of the BM and the additional engineering and construction fees.

Additional costs and financing expenditures for the project are computed based on the CECC. Financing and additional project costs include:

- Owner's home office costs (owner's engineering, management, and procurement) at 5% of the CECC; and
- Allowance for Funds Used During Construction (AFUDC) at 6% of the CECC is added to account for AFUDC based on a complete project duration of 2 years.

The total project cost is based on a multiple lump sum contract approach. Should a turnkey engineering procurement construction (EPC) contract be executed, the total project cost would be 10 to 15% higher than what is currently estimated.

Escalation is not included in the estimate. The total project cost (TPC) is the sum of the CECC and the additional costs and financing expenditures.

Fixed O&M (FOM)
The fixed operating and maintenance (O&M) cost is a function of the additional operations staff (FOMO), maintenance labor and materials (FOMM), and administrative labor (FOMA) associated with the baghouse installation. The FOM is the sum of the FOMO, FOMM, and FOMA.

The following factors and assumptions underlie calculations of the FOM:

- All of the FOM costs were tabulated on a per kilowatt-year (kW-yr) basis.
- In general, 0 additional operators are required for a baghouse.
- The fixed maintenance materials and labor is a direct function of the process capital cost (BM).
- The administrative labor is a function of the FOMO and FOMM.

Variable O&M (VOM)
Variable O&M is a function of:

- Bag and cage replacement.

The following factors and assumptions underlie calculations of the VOM:

- All of the VOM costs were tabulated on a per megawatt-hour (MWh) basis.
- Bag and cage replacement every 3 and 9 years respectively for unit operations with 6.0 A/C.
- Bag and cage replacement every 5 and 10 years respectively for unit operations with 4.0 A/C.

Input options are provided for the user to adjust the variable O&M costs per unit. Average default values are included in the base estimate. The variable O&M costs per unit options are:

- Bag and cage costs in $/item.

The variables that contribute to the overall VOM are:

VOMB = Variable O&M costs for bags and cage replacement

The total VOM is the VOMB. The additional auxiliary power requirement is reported as a percentage of the total gross power of the unit.

Table 1 contains an example of the complete capital and O&M cost estimate worksheet for a baghouse installation.

Particulate Control Cost Development Methodology – Final

Table 1. Example Complete Cost Estimate for a 4.0 A/C Baghouse Installation (Costs are all based on 2009 dollars)

Variable	Designation	Units	Value	Calculation
Unit Size (Gross)	A	(MW)	500	<--- User Input
Retrofit Factor	B		1	<--- User Input (An "average" retrofit has a factor = 1.0)
Gross Heat Rate	C	(Btu/kWh)	9500	<--- User Input
Type of Coal	D		Bituminous	<--- User Input
Baghouse Air-to-Cloth Ratio	E		4.0 A/C Ratio	<--- User Input
Heat Input	F	(Btu/hr)	4.75E+09	= A*C*1000
Flue Gas Rate	G	(acfm)	2,068,502	Downstream of an air preheater For Bituminous Coal = A*C*0.435 For PRB Coal = A*C*0.400 For Lignite Coal = A*C*0.362
Aux Power	**H**	**(%)**	**0.60**	0.6 default value **Should be used for model input.**
Aux Power Cost	J	($/kWh)	0.06	
Bag Cost	K	($/bag)	80	
Cage Cost	L	($/cage)	30	
Operating Labor Rate	M	($/hr)	60	Labor cost including all benefits

		Example	Comments
Capital Cost Calculation			
Includes - Equipment, installation, buildings, foundations, electrical, and retrofit difficulty			
BM ($) =	if(E = 6.0 Air-to-Cloth then 422, E = 4.0 Air-to-Cloth then 476)*B*G^0.81	$ 62,128,000	Base module for an additional baghouse including: ID or booster fans, piping, ductwork, etc...
BM ($/KW) =		124	Base module cost per kW
Total Project Cost			
A1 = 10% of BM		$ 6,213,000	Engineering and Construction Management costs
A2 = 5% of BM		$ 3,106,000	Labor adjustment for 6 x 10 hour shift premium, per diem, etc...
A3 = 5% of BM		$ 3,106,000	Contractor profit and fees
CECC ($) = BM+A1+A2+A3		**$ 74,553,000**	Capital, engineering and construction cost subtotal
CECC ($/kW) =		**149**	Capital, engineering and construction cost subtotal per kW
B1 = 5% of CECC		$ 3,728,000	Owners costs including all "home office" costs (owners engineering, management, and procurement activities)
B2 = 6% of CECC + B1		$ 4,697,000	AFUDC for baghouse. 6% for a 2 year engineering and construction cycle
TPC ($) = CECC + B1 + B2 + C1 + C2		**$ 82,978,000**	Total project cost
TPC ($/kW) =		**166**	Total project cost per kW
Fixed O&M Cost			
FOMO ($/kW yr) = (0 additional operators)*2080*M/(A*1000)		$ -	Fixed O&M additional operating labor costs
FOMM ($/kW yr) = BM*0.005/(B*A*1000)		$ 0.62	Fixed O&M additional maintenance material and labor costs
FOMA ($/kW yr) = 0.03*(FOMO+0.4*FOMM)		$ 0.01	Fixed O&M additional administrative labor costs
FOM ($/kW yr) = FOMO + FOMM + FOMA		**$ 0.63**	Total Fixed O&M costs
Variable O&M Cost			
VOMB ($/MWh) = if(E = 6.0 Air-to-Cloth then 0.004, E = 4.0 Air-to-Cloth then 0.005)*(K/3+L/9)		$ 0.15	Variable O&M costs for bags and cages.
VOM ($/MWh) = VOMB		**$ 0.15**	

Particulate Control Cost Development Methodology – Final

Table 2. Example Complete Cost Estimate for a 6.0 A/C Baghouse Installation (Costs are all based on 2009 dollars)

Variable	Designation	Units	Value	Calculation
Unit Size (Gross)	A	(MW)	500	<--- User Input
Retrofit Factor	B		1	<--- User Input (An "average" retrofit has a factor = 1.0)
Gross Heat Rate	C	(Btu/kWh)	9500	<--- User Input
Type of Coal	D		Bituminous	<--- User Input
Baghouse Air-to-Cloth Ratio	E		6.0 A/C Ratio	<--- User Input
Heat Input	F	(Btu/hr)	4.75E+09	= A*C*1000
Flue Gas Rate	G	(acfm)	2,068,502	Downstream of an air preheater For Bituminous Coal = A*C*0.435 For PRB Coal = A*C*0.400 For Lignite Coal = A*C*0.362
Aux Power	**H**	**(%)**	**0.60**	0.6 default value **Should be used for model input.**
Aux Power Cost	J	($/kWh)	0.06	
Bag Cost	K	($/bag)	80	
Cage Cost	L	($/cage)	30	
Operating Labor Rate	M	($/hr)	60	Labor cost including all benefits

		Example	Comments
Capital Cost Calculation			
Includes - Equipment, installation, buildings, foundations, electrical, and retrofit difficulty			
BM ($) = if(E = 6.0 Air-to-Cloth then 422, E = 4.0 Air-to-Cloth then 476)*B*G^0.81	$	55,080,000	Base module for an additional baghouse including: ID or booster fans, piping, ductwork, etc...
BM ($/KW) =		110	Base module cost per kW
Total Project Cost			
A1 = 10% of BM	$	5,508,000	Engineering and Construction Management costs
A2 = 5% of BM	$	2,754,000	Labor adjustment for 6 x 10 hour shift premium, per diem, etc...
A3 = 5% of BM	$	2,754,000	Contractor profit and fees
CECC ($) = BM+A1+A2+A3	**$**	**66,096,000**	Capital, engineering and construction cost subtotal
CECC ($/kW) =		**132**	Capital, engineering and construction cost subtotal per kW
B1 = 5% of CECC	$	3,305,000	Owners costs including all "home office" costs (owners engineering, management, and procurement activities)
B2 = 6% of CECC + B1	$	4,164,000	AFUDC for baghouse: 6% for a 2 year engineering and construction cycle
TPC ($) = CECC + B1 + B2 + C1 + C2	**$**	**73,565,000**	Total project cost
TPC ($/kW) =		**147**	Total project cost per kW
Fixed O&M Cost			
FOMO ($/kW yr) = (0 additional operators)*2080*M/(A*1000)	$	-	Fixed O&M additional operating labor costs
FOMM ($/kW yr) = BM*0.005/(B*A*1000)	$	0.55	Fixed O&M additional maintenance material and labor costs
FOMA ($/kW yr) = 0.03*(FOMO+0.4*FOMM)	$	0.01	Fixed O&M additional administrative labor costs
FOM ($/kW yr) = FOMO + FOMM + FOMA	**$**	**0.56**	Total Fixed O&M costs
Variable O&M Cost			
VOMB ($/MWh) = if(E = 6.0 Air-to-Cloth then 0.004, E = 4.0 Air-to-Cloth then 0.005)*(K/3+L/9)	$	0.12	Variable O&M costs for bags and cages.
VOM ($/MWh) = VOMB	**$**	**0.12**	

D. Progress Energy – Crystal River

Florida Department of Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Sent by Electronic mail – Received Receipt Requested

Mr. Robby Odom, Plant Manager
Progress Energy Florida, Inc
299 First Avenue, North
St. Petersburg, Florida 3370

Re: Project No. 0170004-036-AC
Progress Energy Florida, Crystal River Power Plant
Regional Haze Implementation

Dear Mr Odom:

On June 15, 2012, you submitted an application requesting a sulfur dioxide (SO_2) emissions standard of 0.15 lb/MMBtu heat input on a 30-day rolling average basis from Units 1 and 2. The application also requested the installation of SO_2 control technologies to meet the Florida Regional Haze Implementation Plan. The second alternative in the application was a shutdown date of December 31, 2020 for firing coal in Crystal River Power Plant's Units 1 and 2. The third option requested was an emission limit to exempt out of the Florida Regional Haze Implementation Plan for Units 1 and 2. The existing facility is located in Citrus County at 15760 West Power Line Street in Crystal River, Florida. Enclosed are the following documents: the Written Notice of Intent to Issue Air Permit; the Public Notice of Intent to Issue Air Permit; the Technical Evaluation and Preliminary Determination; and the Draft Permit with Appendices. The Public Notice of Intent to Issue Air Permit is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project. If you have any questions, please contact the project engineer, Leigh-Ann Pell at 850-717-9033.

Sincerely,

Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

Enclosures

JFK/al/lp

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

In the Matter of an
Application for Air Permit by:

Progress Energy Florida, Inc
299 First Avenue, North
St. Petersburg, Florida 3370

Authorized Representative:
Robby Odom, Plant Manager

Project No. 0170004-036-AC
Minor Air Construction Permit

Crystal River Power Plant
Regional Haze Implementation
Citrus County, Florida

Facility Location: Progress Energy Florida proposes to operate the existing Crystal River Power Plant, which is located in Citrus County at 15760 West Power Line Street in Crystal River, Florida.

Project: The project establishes a sulfur dioxide (SO_2) emission standard of 0.15 pounds per million Btu of heat input or 95 percent (%) reduction, whichever is less stringent, for coal-fired Units 1 and 2. The limit will be accomplished by a combination of dry flue gas desulfurization (FGD) and changes to the electrostatic precipitators and/or addition of baghouses to capture the reacted sorbent. This condition shall become effective upon the effective date of EPA's approval of these specific requirements in the Florida Regional Haze State Implementation Plan. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Division of Air Resource Management's (DARM) Office of Permitting and Compliance is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/717-9000.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a final permit in accordance with the conditions of the draft permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the draft permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the draft permit, the Permitting Authority shall revise the draft permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.

____
Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intent to Issue Air Permit package (including the Written Notice of Intent to Issue Air Permit, the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination and the Draft Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Robby Odom, Plant Manager, PEF: robby.odom@PGNmail.com
Scott Osbourn, P.E., Golder Associates, Inc: sosbourn@golder.com
Robert Wong, Administrator, DEP SWD: robert.wong@dep.state.fl.us
Anne Harvey, Earth Justice: aharvey@earthjustice.org
Heather Ceron, US EPA Region 4: ceron.heather@epa.gov
Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us
Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

PERMITTEE

Florida Power Corporation
d/b/a Progress Energy Florida, Inc.
299 First Avenue, North
St. Petersburg, Florida 33701

Authorized Representative:
Robby Odom, Plant Manager

Air Permit No. 0170004-036-AC
Crystal River Power Plant Units 1 and 2
Standard Industrial Classification Code No. 4911
Expiration Date: December 31, 2018

Sulfur Dioxide Emission Standards/Controls
Citrus County

PROJECT

This is the final air construction permit, which establishes an additional sulfur dioxide (SO_2) emission standard for Units 1 and 2, authorizes installation of dry flue gas desulfurization (FGD) systems and authorizes physical changes to the electrostatic precipitators and plant components or installation of baghouses to facilitate installation of the dry FGD systems. The proposed work will be conducted at the existing Crystal River Power Plant, located in Citrus County at 15760 West Power Line Street in Crystal River, Florida. The UTM coordinates are Zone 17, 334.3 km East and 3204.5 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

(DRAFT)

____

Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Robby Odom, Plant Manager PEF: robby.odom@pgnmail.com
Scott Osbourn, P.E., Golder Associates, Inc: sosbourn@golder.com
Robert Wong, Air Program Administrator, DEP SWD: robert.wong@dep.state.fl.us
Anne Harvey, Earth Justice: aharvey@earthjustice.org
Heather Ceron, US EPA Region 4: ceron.heather@epa.gov
Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us
Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

(DRAFT)

FACILITY DESCRIPTION

The existing facility consists of the following emissions units (E.U.).

E.U. No.	Brief Description
Regulated Emission Units	
001	Fossil Fuel Steam Generator, Unit 1
002	Fossil Fuel Steam Generator, Unit 2
004	Fossil Fuel Steam Generator, Unit 4
003	Fossil Fuel Steam Generator, Unit 5
006	Fly ash transfer (Source 1) from FFSG Unit 1
008	Fly ash storage silo (Source 3) for FFSG Units 1 and 2
009	Fly ash transfer (Source 4) from FFSG Unit 2
010	Fly ash transfer (Source 5) from FFSG Unit 2
014	Bottom ash storage silo for FFSG Units 1 and 2
012	Relocatable diesel generators
013	Cooling towers for FFSG Units 1, 2, and 3
015	Cooling towers for FFSG Units 4 and 5
016	Material handling activities for coal-fired steam units
020	Portable Cooling Towers for Fossil Fuel Steam Generators Units 1 and 2
028	3500 kW diesel generator associated with Unit 3
029	Diesel fire pump, south yard
030	Emergency generator (meteorological weather station)
Unregulated Emissions Units and/or Activities	
017	Fuel and lube oil tanks and vents
018	Sewage treatment, water treatment, lime storage
019	Two 3,500 kW diesel generators associated with Unit 3

PROPOSED PROJECT

This project addresses coal-fired Units 1 and 2. The project supplements permit No. 0170004-017-AC (issued February 26, 2009) by providing additional options for complying with Florida's Regional Haze State Implementation Plan. The three emission reduction scenarios authorized by this project include:

A) Discontinuation of operation of Units 1 and 2 as coal-fired units by December 31, 2020;

B) Installation and operation of a Dry Flue Gas Desulfurization (DFGD) system before January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze SIP, whichever is later, and establishment of emissions standards of 95 percent (%) sulfur dioxide SO_2 removal efficiency or 0.15 pounds per million Btu heat input (lb/MMBtu); or

C) Agree to a permit limit for SO_2 applicable on January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze State Implementation Plan, whichever is later, at a level sufficient to exempt out of Best Available Retrofit Technology (BART) requirements.

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the DEP Southwest District Office at: 13051 N. Telecom Parkway Temple Terrace, Florida 33637-0926.

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); and Appendix C (Common Conditions).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification.
[Rules 62-210.300(1) & 62-212.300(1)(a), F.A.C.]

7. New Permit Specific Conditions: The applicant has proposed three emission reduction scenarios to satisfy the Florida Regional Haze Implementation Plan for the eligible emissions units at the Crystal River Power Plant. The applicant shall make a decision regarding the scenario that will be pursued and shall notify the Department of this decision no later than January 1, 2015, at which time the scenarios (and corresponding permit conditions) which were not selected will become obsolete. The applicant shall comply with one of the following three scenarios:

   a. Discontinuation of operation of Crystal River Units 1 and 2 as coal-fired units by December 31, 2020. Refer to Section 3, Scenario A. This scenario is currently in effect pursuant to Permit No. 0170004-AV with certain contingencies related to other projects planned by the applicant.

   b. Install and operate a sulfur dioxide (SO_2) Dry Flue Gas Desulfurization (DFGD) system before January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later, and establish additional emissions standards of 95 percent sulfur dioxide SO_2 removal efficiency or 0.15 pounds per million Btu heat input (lb/MMBtu), whichever is less stringent, for Crystal River Units 1 and 2 as presumptive Best Available Retrofit Technology (BART). Refer to Section 3, Scenario B.

   c. Agree to and demonstrate compliance with a permit limit for SO_2 by January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later, at a level sufficient to exempt out of BART. Refer to Section 3, Scenario C.

[Application No. 0170004-036-AC; Rule 62-296.340(5)(c), F.A.C.; and, Rules 62-4.070(1)&(3), and 62-213.440(1), F.A.C.]

8. Application for Title V Permit: This permit establishes optional emissions reduction scenarios as detailed in Section 3. A Title V air operation permit is required for regular operation of the permitted emissions unit. If Scenario A is chosen, an application to revise the facility's Title V air operation permit shall be submitted by January 1, 2015. If Scenario B is chosen, an application to incorporate the conditions of Scenario B of this permit into the facility's Title V air operation permit shall be submitted within 180 days after completing the physical changes authorized by this permit, but no later than 90 days prior to the expiration date shown above. If Scenario C is chosen, a Title V revision application shall be submitted as specified in the air construction permit that will issued pursuant to this option. To apply for a Title V air operation permit, the applicant shall submit the appropriate application form and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

Emission Units 1 and 2

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
001	Fossil Fuel Steam Generator, Unit 1 - 3,750 MMBtu/hour
002	Fossil Fuel Steam Generator, Unit 2 - 4,795 MMBtu/hour

SCENARIO A: CEASE OPERATION OF UNITS 1 & 2 AS COAL-FIRED UNITS BY 12/31/2020.

A.1. Compliance With Permit No. 0170004-017-AC. If the chosen emission reduction scenario is to cease operating Units 1 and 2 as coal fired units by December 31, 2020, then PEF shall comply with the existing emissions and operation limitations contain in Permit No. 0170004-017-AC, except that Condition 3.C.16. is changed as follows (~~strike through~~ indicates deleted text, double underline indicates added text):

Shut Down of Units 1 and 2. Units 1 and 2 shall cease to be operated as coal-fired units by December 31, 2020. ~~This date assumes timely licensing, construction and commencement of commercial operation of PEF's proposed new nuclear units (Levy County Units 1 and 2). The shutdown (or repowering) of Units 1 and 2 coal-fired units is contingent upon completion of the first fuel cycle for Levy County Unit 2. PEF shall timely advise the Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond the completion of the first fuel cycle for Levy County Unit 2. [Rule 62-296.340 (BART), F.A.C. and Applicant Request]~~ [Application No. 0170004-036-AC]

SCENARIO B: INSTALL DRY FLUE GAS DESULFURIZATION (DFGD) SYSTEM.

Authorized Construction

B.1. Previous Permits: The conditions of this section supplement all previously issued air construction permits and regulations affecting Units 1 and 2. Relevant provisions of these permits are incorporated in the Facility Title V Operation Permit No. 0170004-025-AV.

B.2. Sulfur Dioxide (SO_2) Control Project: For Units 1 and 2, the permittee is authorized to install a dry flue gas desulfurization (FGD) system including vessels, pumps, metering equipment, slaking equipment, bins, silos and other equipment required to store, feed and contact lime or similar sorbent with exhaust gas. [Application 0170004-036-AC]

B.3. Particulate Matter (PM) Control: If the permittee actually conducts the SO_2 Control Project on Units 1 and 2, then the permittee is required to make physical or operational changes to the PM control systems to avoid significantly increasing PM emissions caused by use of the dry FGD. The changes may include but are not limited to:

a. Replacement or addition of wires, collection plates, transformer/rectifier sets, rappers, dust hoppers, conveyors and duct work on the existing electrostatic precipitators (ESPs);

b. Conversion of ESPs or portions of ESPs to baghouses;

c. Addition of baghouses, hoppers and conveyance equipment; and

d. Installation of modern micro-processor controls.

[Application 0170004-036-AC]

B.4. Coal and Ash Handling Equipment: The permittee is authorized to make changes and improvements to the coal and ash handling equipment to facilitate the use of lower or higher sulfur coal blends and facilitate removal of dry FGD reaction products while achieving the SO_2 emission standard specified in Condition 6, below. [Application 0170004-036-AC]

Performance Restrictions

B.5. Emission Increases: This permit does not authorize major modifications or increases in capacity. [Rule 62-210.200, F.A.C. (Definitions: Major Modification, Potential-to-Emit, Actual Baseline Emissions; Projected Actual Emissions and Significant Emissions Rate)]

B.6. Sulfur Dioxide (SO_2) Emission Standard: When combusting coal in Units 1 and 2, the owner or operator shall not cause to be discharged into the atmosphere from either unit any gases that contain SO_2 in excess of 0.15 pounds per million of heat input (lb/MMBtu) or 5 percent of the potential combustion concentration (95 percent reduction) on a 30-day rolling average basis, whichever is less stringent. Compliance with the emission standard shall be determined on a 30-day rolling average basis in accordance with the procedures contained in 40 Code of Federal Regulation (CFR), Part 60, Subpart Da. This condition shall become effective no later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later. [Application No. 0170004-036-AC]

{Note: This condition will apply in addition to other SO_2 requirements contained in Facility Title V Air Operation Permit 0170004-025-AV, its renewals and its revisions. Reference is made to certain procedures contained in 40 CFR 60, Subpart Da strictly for convenience. Units 1 and 2 are not affected facilities under this subpart.}

B.7. Particulate Matter (PM) Emissions: No later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later, PM emissions shall not exceed 0.015 lb/MMBtu, as determined by EPA Method 5. [Rule 62-4.070, F.A.C.; avoidance of Rule 62-212.400 (PSD), F.A.C.]

B.8. Visible Emissions: No later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later, visible emissions shall not exceed 15% opacity under normal operations and 20% opacity under soot blowing and load change operations, as determined by data collected from the existing COMS. [Rule 62-4.070, F.A.C.; avoidance of Rule 62-212.400 (PSD), F.A.C.]

B.9. SO_2 Continuous Emissions Monitoring Systems (CEMS): The permittee shall use data collected from each of the previously installed and certified Acid Rain SO_2 CEMS to demonstrate compliance with the emissions standards specified in this permit. An additional SO_2 CEMS shall be installed prior to the new DFGD and shall be calibrated and certified to record pre-control SO_2 emissions in order to demonstrate the SO_2 removal efficiency of the DFGD. The SO_2 CEMS shall be operated and data recorded during all periods of operation including periods of startup, shutdown, malfunction, or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments. [40 CFR 60 Appendix A; 40 CFR 75]

Testing Requirements

B.10. Initial Compliance Tests. Following installation of the control devices authorized by Conditions B.2. and B.3., compliance tests shall be conducted for particulate matter and visible emissions to demonstrate compliance with the emissions standards specified in Conditions B.7. and B.8. Compliance with the PM standard shall be demonstrated on the average of the 3 required 1-hour test runs. [Rule 62-297.310, F.A.C.]

Design Details and Projected Actual Emission Update

B.11. Preliminary Design: The permittee shall as soon as practicable and no later than January 1, 2015, submit to the Department updated project details including the selection of implementation strategies including but not limited to: the capacity and location of the DFGD systems and associated silos; approximate fuel sulfur specifications; contemplated improvements to the electrostatic precipitators, reorientation of components; and contemplated modifications and improvements to coal, ash and any new coal combustion products handling systems. [Rule 62-4.070, F.A.C. (Reasonable Assurance)]

B.12. Estimates of Projected Actual Emissions: The permittee shall as soon as practicable and no later than January 1, 2015, submit to the Department updated estimates of baseline actual emissions and future actual emissions of SO_2, Nitrogen oxides (NO_X), carbon monoxide (CO), PM, PM smaller than 10 microns (PM_{10}) and ($PM_{2.5}$) in accordance with the procedures specified in Rule 62-210.200, F.A.C. [Rules 62-4.070, F.A.C. (Reasonable Assurance) and Rule 62-210.200, F.A.C. (Definitions: Potential-to-Emit, Actual Baseline Emissions; Projected Actual Emissions and Significant Emissions Rate)]

SCENARIO C: ESTABLISH A PERMIT LIMIT TO EXEMPT OUT OF BART.

C.1. Submission of Permit Application: If PEF chooses to establish permit conditions sufficient to exempt out of BART, an application for an air construction permit containing a complete 5-factor BART determination clearly indicating control strategies and necessary emissions limits shall be submitted to the Department no later than January 1, 2015. This application shall be submitted along with the notification required in Condition 2.7, above, indicating that exempting out of BART is the chosen emission reduction scenario. [Rules 62-4.070 & 62-296.340, F.A.C.; and, Application No. 0170004-036-AC]

C.2. Physical Changes Authorized by Exemption Permit: The authority to make any necessary physical changes pursuant to emissions reduction Scenario C shall be effective upon the effective date of the air construction permit issued according to that chosen scenario. The emissions limitations established by that permit shall become effective as soon as practicable following completion of the physical changes authorized by that permit, but no later than 5 years after the effective date of EPA's approval of these specific requirements in the Florida Regional Haze State Implementation Plan. [Rule 62-4.070, F.A.C. and Application No. 0170004-036-AC]

C.3. Compliance With Chosen BART Exemption Conditions: PEF shall complete all necessary physical changes and shall comply with the proposed BART exemption emissions limits no later than January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze SIP, whichever is later. [Rules 62-4.070 & 62-296.340, F.A.C.; and, Application No. 0170004-036-AC]

TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Florida Power Corporation d/b/a
Progress Energy Florida, Inc.
299 First Avenue, North
St. Petersburg, Florida 33701

Crystal River Energy Complex
Facility ID No. 0170004

PROJECT

Project No. 0170004-036-AC
Sulfur Dioxide Emission Standards/Controls for Boilers 1 and 2

COUNTY

Citrus County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

July 31, 2012

1. GENERAL PROJECT INFORMATION

1.1. Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Chapters 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations in Rule 62-204.800, F.A.C.

1.2. Facility Description and Location

The Progress Energy Crystal River Energy Complex is an existing power plant, which is categorized under Standard Industrial Classification Code No. 4911. Refer to Figures 1 and 2. The existing Crystal River Power Plant is located in Citrus County at 15760 West Power Line Street in Crystal River, Florida.

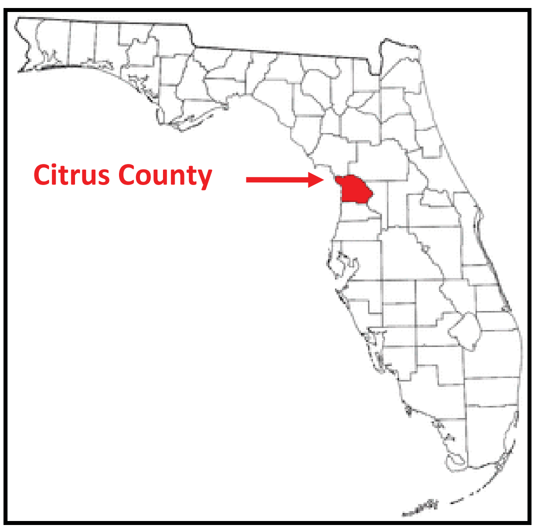


Figure 1. Citrus County, Florida

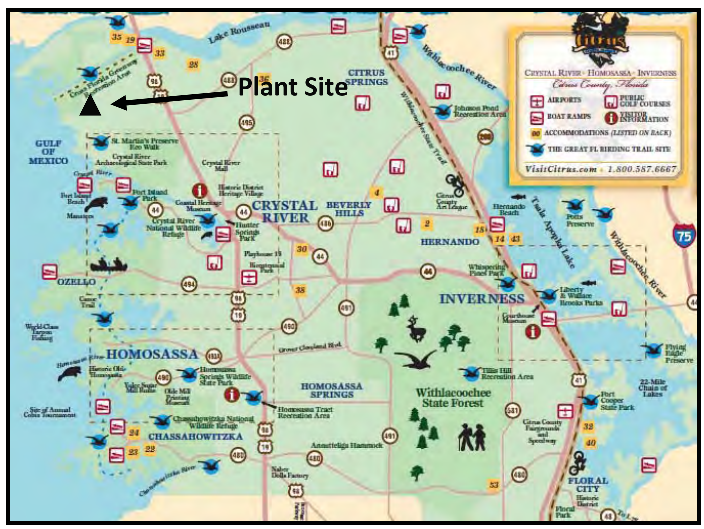


Figure 2. Location of Crystal River Energy Complex

The UTM coordinates of the existing facility are Zone 17, 334.3 km East and 3204.5 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to Ambient Air Quality Standards (AAQS).

Table 1 is a summary of Emissions Units (E.U.) from the Facility Title V Air Operation Permit 0170004-036-AV. Units 1 and 2 are the subject of the present permit application. Units 1 and 2 are tangentially-fired, dry bottom pulverized coal-fueled boilers with gross capacity ratings of 440.5 and 523.8 megawatts (MW), respectively. The units commenced commercial operation in 1966 and 1969, respectively.

Table 1. Summary of Emissions Units

E.U. No.	Brief Description
Regulated Emission Units	
001	Fossil Fuel Steam Generator, Unit 1
002	Fossil Fuel Steam Generator, Unit 2
004	Fossil Fuel Steam Generator, Unit 4
003	Fossil Fuel Steam Generator, Unit 5
006	Fly ash transfer (Source 1) from Unit 1
008	Fly ash storage silo (Source 3) for Units 1 and 2
009	Fly ash transfer (Source 4) from Unit 2
010	Fly ash transfer (Source 5) from Unit 2
014	Bottom ash storage silo for Units 1 and 2
012	Relocatable diesel generators
013	Cooling towers for Units 1, 2, and 3
015	Cooling towers for Units 4 and 5
016	Material handling activities for coal-fired steam units
020	Portable Cooling Towers for Units 1 and 2
028	3500 kW diesel generator associated with Unit 3
023	Limestone and Gypsum Material Handling Activities
029	Diesel fire pump, south yard
030	Emergency generator (meteorological weather station)
Unregulated Emissions Units and/or Activities	
017	Fuel and lube oil tanks and vents
018	Sewage treatment, water treatment, lime storage
019	Two 3500 kW diesel generators associated with Unit 3

Unit 1 is equipped with a 499 foot stack and Unit 2 has a 502 foot stack. Each has an electrostatic precipitator (ESP) to control particulate matter (PM) and Low NO_X burners to control nitrogen oxides (NO_X). Each is equipped with Continuous emissions monitoring systems (CEMS) to measure and record NO_X and sulfur dioxide (SO_2) emissions and a continuous opacity monitoring system (COMS) to measure and record the opacity of the exhaust gas.

1.3. Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

1.4. Application

On June 15, 2012, Progress Energy Florida submitted an air construction permit application for Crystal River Power Plant Units 1 and 2. Link to Application The application includes the three options listed below.

1. Commit to cease operation of Crystal River Units 1 and 2 as coal-fired units by December 31, 2020.
2. Install and operate a sulfur dioxide (SO_2) Flue Gas Desulfurization (FGD) system before January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze SIP, whichever is later, and establish emissions standards of 95 percent sulfur dioxide SO_2 removal efficiency or 0.15 pounds per million Btu heat input (lb/MMBtu) from Crystal River Units 1 and 2 as presumptive Best Available Retrofit Technology (BART).
3. Agree to a permit limit for SO_2 by January 1, 2018 or within 5 years of EPA's final approval of Florida's final Regional Haze State Implementation Plan, whichever is later, at a level sufficient to exempt out of BART.

Details on the SO_2 project are available in a separate document submitted to the Department on May 30, 2012 as the Best Available Retrofit Technology (BART) proposal for Units 1 and 2.

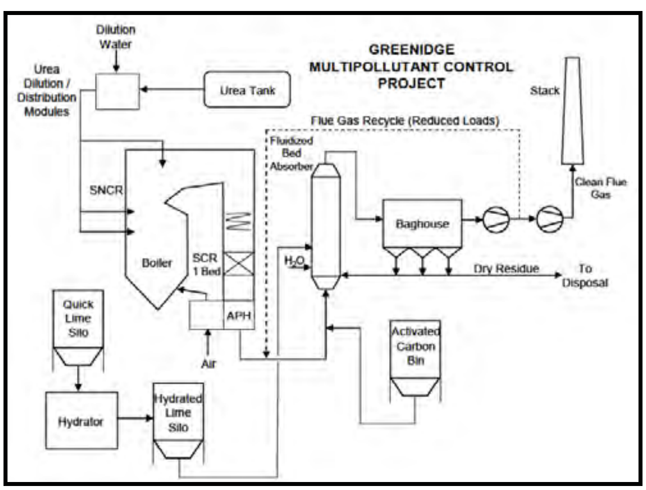
1.5. Project Description

If Crystal River Units 1 and 2 continue to operate as coal-fueled units beyond 2020, the company will install FGD technology. The supplementary information included analyses of wet FGD and dry FGD options. However, the document indicated a preference by the applicant towards the latter due to lower impacts related to water use, volume of coal combustion products (calcium sulfite sludge or gypsum product), and lower capital costs (e.g. less expensive carbon steel).

Fabric filters are often used in conjunction with dry FGD technologies, especially when high efficiency SO_2 removal is required. The reason is that the filter cake (e.g. lime) that builds up in the bags provides additional contact between exhaust gases and reagent compared with an ESP. The Department infers from the information reviewed to-date that a dry FGD technology, including fabric filters is the most likely scenario for the second option listed above.

Refer to Figures 3 and 4. There are various types of dry and semi-dry FGD designs. The discussion below features one of dozens of possible arrangements possible for dry FGD installations at coal-fueled power plants. It is shown here for convenience to explain principles of dry scrubbing. It is not a design proposed by the company or an arrangement specifically recommended by the Department.

The arrangement in Figure 3 was installed at the small AES Greenidge Unit 4 in New York. It features a hydrated lime [$Ca(OH)_2$] based scrubber and a fabric filter (baghouse) associated with the scrubber to optimize use of the hydrated lime sorbent. The circulating fluidized bed (CFB) scrubber (called TurboSorp®) shown in Figure 4 was used within AES Greenidge project.



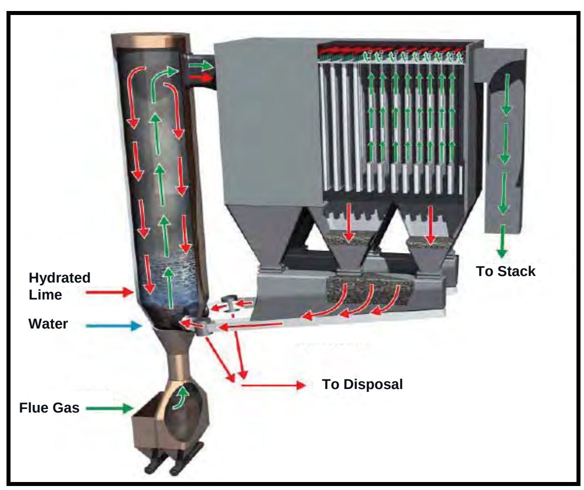


Figure 3. Control System at AES Greenidge **Figure 4. Circulating Fluidized Bed Dry Scrubber**

To achieve 95% efficiency with a dry scrubber will require a baghouse. To achieve 0.15 lb SO_2/MMBtu without a baghouse will likely require use of lower sulfur coal and require substantial upgrades to the existing ESPs.

1.6. Processing Schedule

May 30, 2012 Received control options document in advance of application.

June 15, 2012 Received application.

July 31, 2012 Issued Draft Permit Package.

2. PSD APPLICABILITY FOR DRY SCRUBBING OPTION

2.1. General PSD Applicability

The Department regulates major stationary sources in accordance with Florida's PSD program pursuant to Rule 62-212.400(PSD), F.A.C. PSD preconstruction review is required in areas that are currently in attainment with the state and federal ambient air quality standards (AAQS) or areas designated as "unclassifiable" for these regulated pollutants.

Commonly addressed PSD pollutants in the power industry include: CO, SO_2, NO_X, PM, PM smaller than 10 micrometers (μm) (PM_{10}), PM smaller than 2.5 μm ($PM_{2.5}$), volatile organic compounds (VOC), sulfuric acid mist (SAM), lead (Pb), fluorides (F), and mercury (Hg).

Additional PSD pollutants that are more common to certain other industries include: hydrogen sulfide (H_2S), TRS including H_2S, reduced sulfur compounds (RSC) including H_2S, municipal waste combustor (MWC) organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans (dioxin/furan), MWC metals measured as PM; MWC acid gases measured as SO_2 and HCl, and municipal solid waste (MSW) landfill emissions as non-methane organic compounds (NMOC).

As defined in Rule 62-210.200(Definitions), F.A.C., a stationary source is a "major stationary source" (major PSD source) if it emits or has the potential to emit (PTE):

- 250 tons per year (tons/year) or more of any PSD pollutant; or
- 100 tons/year or more of any PSD pollutant and the facility belongs to one of the 28 listed PSD major facility categories.

The list given in the citation includes the category of "fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input". The given category applies to the Crystal River Energy Complex. The Crystal River Energy Complex is a major stationary source based on actual emissions of and potential to emit 100 tons/year or more of several individual PSD pollutants.

For major stationary sources such as the Crystal River Energy Complex, PSD applicability for modification projects is based on thresholds known as the significant emission rates (SER) as defined in Rule 62-210.200 (Definitions), F.A.C. Any "net emissions increase" as defined in Rule 62-210.200 (Definitions), F.A.C. of a PSD pollutant from the project that equals or exceeds the respective SER is considered "significant".

SER also means any emissions rate or any net emissions increase of a PSD pollutant associated with a major stationary source or major modification which would construct within 10 km of a Class I area and have an impact on such area equal to or greater than 1 gram per cubic meter, 24-hour average. Although a facility may be "major" (i.e. emits or has the potential to emit 100 or 250 tons/year as applicable) for only one PSD pollutant, a project must include Best Available Control Technology (BACT) for any PSD pollutant increase in that equals or exceeds the corresponding significant emission rate given in Table1.

Table 1. List of Significant Emission Rates by PSD-Pollutant Relevant to the Facility [2]

Pollutant	SER (tons/year)	Pollutant	SER (tons/year)
PM	25	PM_{10}	15
$PM_{2.5}$	10	$PM_{2.5}$ (NO_X) [1]	40
$PM_{2.5}$ (SO_2) [1]	40	CO	100
SO_2		NO_X	40
Ozone (NO_X) [1]	40	Ozone (VOC) [1]	40
Sulfuric acid mist (SAM)	7	fluoride	3
mercury	0.1	lead	0.6

1. $PM_{2.5}$ is also regulated through precursors (NO_X and SO_2); Ozone (O_3) is regulated through precursors (VOC and NO_X).
2. There is federal SER of 75,000 tons/year for Greenhouse Gases (GHG) as carbon dioxide equivalent (CO_2e) that has not been incorporated into Department rules.

According to 40 CFR 52.21, six greenhouse gases (GHG), are also subject to regulation at new stationary sources According to 40 CFR 52.21, six greenhouse gases (GHG), are also subject to regulation at new stationary sources that will emit or have the potential to emit 100,000 tons/year (SER equal to 75,000 tons/year) expressed as the carbon dioxide equivalent emissions (CO_2e). This requirement has not been incorporated into Department rules but is a separate requirement of the EPA.

2.2. PSD Applicability for Project

The project is located in Citrus County, which is in an area that is currently in attainment with the state and federal AAQS or otherwise designated as unclassifiable.

Methodology for Calculations of Baseline Actual Emissions and Projected Actual Emissions

To determine whether the project causes net emissions increases equal to or greater than the respective SER (triggering PSD) requires a comparison of recent “baseline actual emissions” with future “projected actual emissions”. According to Rule 62-210.200(Definitions), F.A.C., for any existing electric utility steam generating unit:

“Baseline actual emissions" means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the date a complete permit application is received by the Department. The Department shall allow the use of a different time period upon a determination that it is more representative of normal source operation”.

1. The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups and shutdowns.
2. The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the consecutive 24-month period.
3. For a PSD pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period can be used for each PSD pollutant.
4. The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by subparagraph 2., above.

According to Rule 62-210.200(Definitions), F.A.C., for an existing unit (other than an electric steam generating unit):

"Projected Actual Emissions" means the maximum annual rate, in tons/year, at which an existing emissions unit is projected to emit a PSD pollutant in any one of the 5 years following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that PSD pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source. One year is one 12-month period. In determining the projected actual emissions, the Department:

(a) Shall consider all relevant information, including historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans or orders, including consent orders; and

(b) Shall include fugitive emissions to the extent quantifiable and emissions associated with startups and shutdowns; and

(c) Shall exclude that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project including any increased utilization due to product demand growth; or

(d) In lieu of using the method set out in paragraphs (a) through (c) above, may be directed by the owner or operator to use the emissions unit's potential to emit, in tons per year.

Department's Assessment of PSD Applicability

Figure 5 is a summary of information derived from the EPA Air Markets Website pertinent to operation of Crystal River Units 1 and 2. During 2007-2008 the combined gross generation capacity of the two units was approximately 61.5% based on the annual gross electric generation reported for these units per EPA and the gross capacity descriptions in the recent permits. In 2011, the combined gross capacity factor was only 33%.

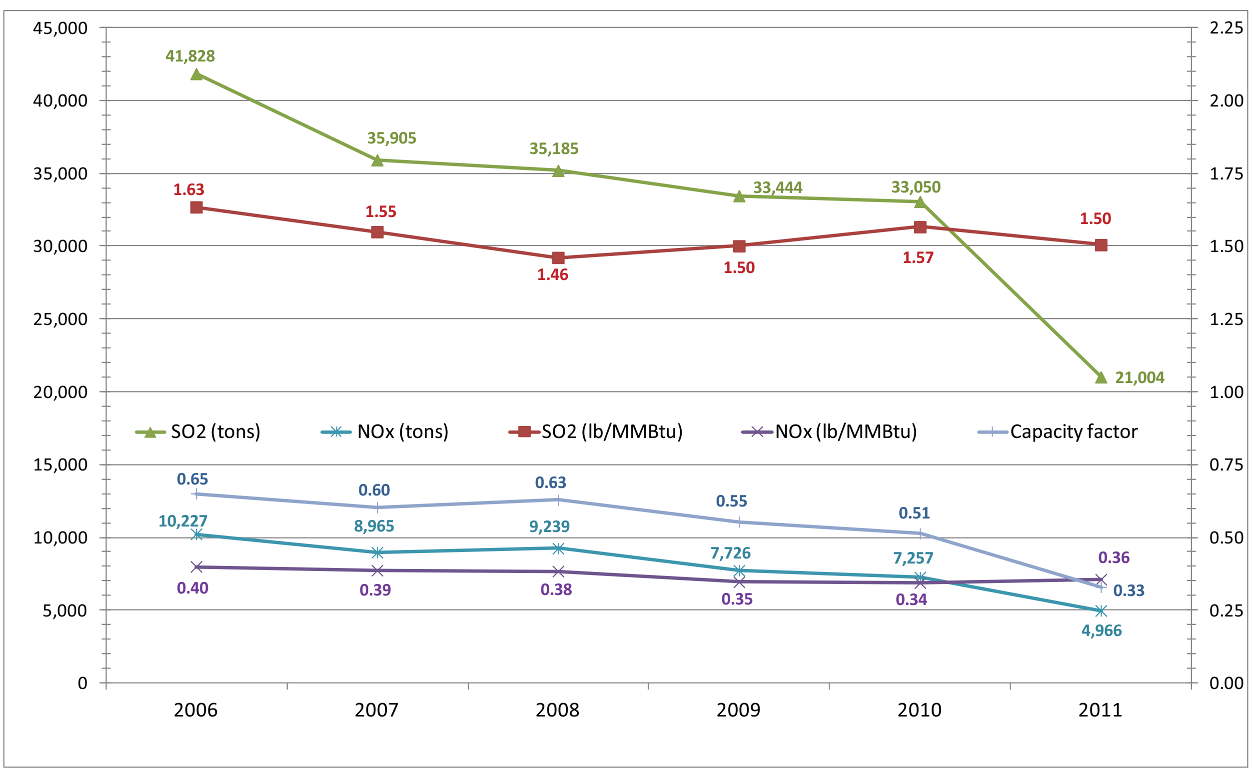


Figure 5. Combined Units 1 and 2 NO_X, SO_2 Emissions and Gross Generation Capacity Factors

Average combined emissions of SO_2 and NO_X during 2007-2008 were 35,545 tons per year (tons/year) of SO_2 and 9,102 tons/year of NO_X. During 2011, SO_2 and NO_X emissions for 2011 were 21,004 and 4,966 tons/year, respectively.

During 2007-2008, the SO_2 and NO_X emissions factors were 1.5 and 0.385 pounds per million Btu per hour of heat input (lb/MMBtu/hr), respectively. During 2011, the values were 1.5 and 0.33 lb/MMBtu. The permitted SO_2 emission factor for Units 1 and 2 is 2.1 lb SO_2/MMBtu. The annual NO_X emission factor limit is 0.40 lb/MMBtu based on the Acid Rain Program (there is also an alternative limit based on company-wide averaging). Since 2006 emissions of SO_2 and NO_X from Units 1 and 2 have been reduced by approximately 50%.

Although not the subject of the present application, the emission trends at the adjacent Units 4 and 5 are relevant. Refer to Figure 6. Annual emissions and emission factors of both SO_2 and NO_X have been reduced by more than 90%. These reductions equate to 70,000 tons/year of SO_2 and NO_X combined. The reductions were achieved by installation of SCR and wet FGD scrubbers.

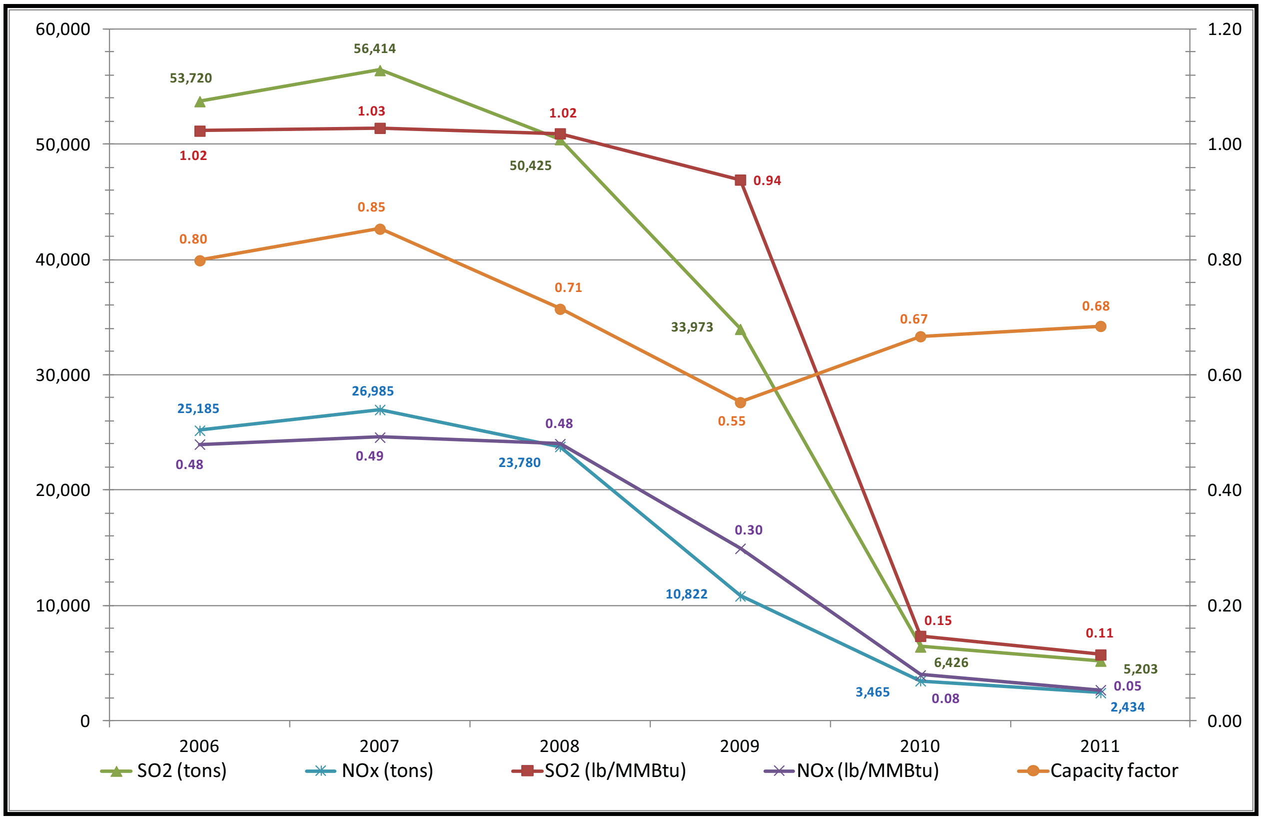


Figure 6. Combined Units 4 and 5 NO_X, SO_2 Emissions and Gross Generation Capacity Factors

Considering the four fossil fuel-fired units at the Crystal River Energy Complex, emissions of SO_2 and NO_X have been reduced by 72.5 and 79.2% since 2006. The reductions in total annual SO_2 and NO_X emissions are approximately 100,000 tons/year.

Because Progress Energy can take credit for the emission reductions to-date (by the PSD netting process) when considering future actual emissions, there is no reasonable scenario under which a future SO_2 control project ***including dry scrubbers and baghouses (or ESP improvements)*** on Units 1 and 2 can possibly trigger PSD.

On February 26, 2009 the Department issued a permit (0170004-017-AC) incorporating Best Available Retrofit Technology (BART) for Units 1 and 2. Link to BART Permit The permit includes PM limits for normal and soot blowing operations as follows:

3. Particulate Matter Emissions Standard – Steady State Operations. As determined by EPA Method 5 or 17, particulate matter emissions from Units 1 and 2 combined shall not exceed 0.04 lb/MMBtu, on a weighted average basis of the total heat input. Compliance shall be demonstrated on the average of the 3 required 1-hour test runs. [Rule 62-296.340 (BART), F.A.C.]
4. Particulate Matter Emissions Standard – Soot Blowing and Load Change Operations. As determined by EPA Method 5 or 17, particulate matter emissions from Units 1 and 2 combined shall not exceed 0.12 lb/MMBtu, on a weighted average basis of the total heat input. Compliance shall be demonstrated on the average of the 3 required 1-hour test runs. [Rule 62-296.340 (BART), F.A.C.]
5. Opacity Standard – Steady State Operations. As determined by data collected from the existing COMS or EPA 9, visible emissions during steady-state operations from: Unit 1 shall not exceed 30% opacity based on a 6-minute average except for one 6-minute average per hour not to exceed 35% opacity; Unit 2 shall not exceed 15% opacity based on a 6-minute average except for one 6-minute average per hour not to exceed 20% opacity. [Rule 62-296.340 (BART), F.A.C.]
6. Opacity Standard – Soot Blowing and Load Change Operations. As determined by data collected from the existing COMS or EPA 9, visible emissions resulting from soot-blowing and load change operations shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized. In no case shall the duration of such emissions exceed 3 hours in any 24-hour period and visible emissions from: Unit 1 shall not exceed 40% opacity based on a 6-minute average; Unit 2 shall not exceed 25% opacity based on a 6-minute average. A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.
[Rule 62-296.340 (BART), F.A.C.]

The foregoing conditions and described limitations would not be compatible with the purpose and actual function of new dry scrubbers, if actually installed, on Units 1 and 2. With these conditions, there is not reasonable assurance that increases in PM will not occur once the substantial additional reagent and reaction product loadings are added to the existing fly ash loading.

As an example, it would be reasonable to assume Crystal River Units 1 and 2 (after installing significant air pollution control equipment) will during some years operate at an annual gross capacity factor on the order of 61.5% (like baseline years 2007-2008). To remove on the order of 30,000 tons/year and achieve 0.15 lb SO_2/MMBtu requires formation of roughly 60,000 tons/year of coal combustion products of calcium sulfate or calcium sulfite excluding hydration water present in each species.

If the existing ESPs removed 99% of the additional solids, then the remaining 1% would equal 600 tons/year of PM. At 99.9% removal, the additional PM would equal 60 tons/year.

To provide reasonable assurance that PSD is not triggered for PM/PM_{10} under the dry FGD option, the Department will limit PM in this permit 0.015 lb PM/MMBtu at both units and limit visible emissions to 15% opacity at both units and 20% under soot blowing and load change operations.

If NO_X reductions such as by further combustion controls are implemented in the future, it is possible that PSD could be triggered for carbon monoxide (CO). Most likely the same combustion controls used for NO_X can be optimized to achieve low CO consistent with a Best Available Control Technology (BACT) determination.

3. RETIREMENT OPTION FOR UNITS 1 AND 2

In late 2008 Progress Energy announced that it planned to shut down Units 1 and 2 in conjunction with the construction of a 1,100 MW nuclear power plant in nearby Levy County. The previously mentioned permit includes the following relevant condition:

16. Shutdown of Units 1 and 2. Units 1 and 2 shall cease to operate as coal-fired units by December 31, 2020. This date assumes timely licensing, construction and commencement of commercial operation of PEF's proposed new nuclear units (Levy County Units 1 and 2). The shutdown of Units 1 and 2 coal-fired units is contingent upon completion of the first fuel cycle for Levy County Unit 2. PEF shall timely advise the Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond the completion of the first fuel cycle for Levy County Unit 2. [Rule 62-296.340 (BART), F.A.C. and Applicant Request].

The Department will in this permitting action supersede the contingent language under the shutdown option contemplated within the present application. The description of the option creates a possible new contingency put forward by the applicant based upon a "remaining useful life" cost-effectiveness evaluation. The procedures for the evaluation are not clear and the caveat will not be included in this condition as it is implicit in the other options.

4. ALTERNATIVE REQUEST

The applicant's third option is to agree a permit limit for SO_2 by January 1, 2018 or within 5 years of EPA's final approval of Florida's final Regional Haze State Implementation Plan, whichever is later, at a level sufficient to exempt out of BART.

This option will be included as a new condition with some minor rewording to clarify that the new permit limit will be effective on January 1, 2018 and that the agreement will occur well before that date. The Department would require additional information in the future to insure that PSD is not triggered or would require submittal of a PSD application for increases in foreseen or as-yet unforeseen collateral emission increases in PSD pollutants such as PM, PM_{10} and CO.

5. PRELIMINARY DETERMINATION

The permit will authorize the applicant to proceed with a DFGD project and will require improvements to the existing ESPs and/or installation of baghouses in conjunction with the DFGD systems. The Department will include the requested SO_2 emission standard of 95% SO_2 removal or 0.15 lb/MMBtu, whichever is less stringent. The emissions standard shall become effective upon the effective date of EPA's approval of these specific requirements in the Florida Regional Haze State Implementation Plan. Thereafter, the compliance date for the requested emission standards shall be no later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later.

Additional details of this analysis may be obtained by contacting the project engineer at leigh.pell@dep.state.fl.us, 850/717-9033, or the Department's Office of Permitting and Compliance, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400.

REPORT

BART DETERMINATION FOR CRYSTAL RIVER POWER PLANT UNITS 1 AND 2

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May 2012 **123-89547**

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1.0 INTRODUCTION

This submission is made in a cooperative effort to address regional haze rule (RHR) implementation issues resulting from recent regulatory developments related to EPA's Clean Air Interstate Rule (CAIR) and its successor, the Cross-State Air Pollution Rule (CSAPR). CSAPR is currently stayed, and CAIR remains in effect, pending judicial review of CSAPR. Depending on the court's decision on CSAPR, Progress may revisit, revise, or withdraw this proposal.

Progress Energy Florida, Inc. (PEF) owns and operates the Crystal River Power Plant (Facility ID No. 0170004) located on Power Line Road, West of U.S. Highway 19, Crystal River, in Citrus County, Florida. A Best Available Retrofit Technology (BART) determination analysis for particulate matter (PM) emissions from the BART-eligible emissions units (i.e., Unit No. 1 and Unit No. 2) at the Crystal River Power Plant was previously submitted to the Florida Department of Environmental Protection (FDEP) in 2007. This current report presents a revised BART determination analysis, which includes BART determinations for nitrogen oxides (NO_x) and sulfur dioxide (SO_2) emissions from the BART-eligible emissions units at the Crystal River Plant.

Pursuant to Section 403.061(35), Florida Statutes, the federal Clean Air Act (CAA), and the regional haze regulations contained in Title 40, Part 51 of the Code of Federal Regulations (40 CFR 51), Subpart P – Protection of Visibility, the Florida Department of Environmental Protection (FDEP) is required to ensure that certain sources of visibility impairing pollutants in Florida use BART to reduce the impact of their emissions on regional haze in federal Prevention of Significant Deterioration (PSD) Class I areas. Requirements for individual source BART control technology determinations and for BART exemptions are contained in Rule 62-296.340 of the Florida Administrative Code (F.A.C.), which states that a BART-eligible source may demonstrate that it is exempt from the requirement for BART determination for all pollutants by performing an individual source attribution analysis in accordance with the procedures contained in 40 CFR 51, Appendix Y. A BART-eligible source is exempt from BART determination requirements if its contribution to visibility impairment, as determined below, does not exceed 0.5 deciview (dv) above natural conditions in any Class I area [Rule 62-296.340(5)(c), F.A.C.].

The previous BART analysis for PM was based on Rule 62-296.340(5)(c), F.A.C., which states that, for electric generating units subject to the Clean Air Interstate Rule (CAIR) Program, the source attribution analysis need only consider PM emissions (including primary sulfate) for comparison with the contribution threshold. A BART permit was issued on February 25, 2009 (permit No. 0170004-017-AC), which imposed a revised allowable PM emission limit. Specifically, PM emissions from Units 1 and 2 combined are not to exceed 0.04 lb/mmBtu on a weighted average basis of the total heat input during steady state operations and 0.12 lb/mmBtu on a weighted average basis of the total heat input (not to exceed 3 hours in any 24-hour period) during steady state operations. Compliance with these revised standards is to be demonstrated no later than December 31, 2013. Further, the permit assumes that Units 1 and 2 will cease to be operated as coal-fired units by December 31, 2020. The permit requires PEF to notify the

Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond this date.

On July 6, 2011, EPA finalized the Cross-State Air Pollution Rule (CSAPR), which was to replace CAIR starting in 2012. CSAPR has different emission requirements for NO_x and SO_2. Under CSAPR, the understanding under CAIR that compliance with CAIR requirements satisfied BART requirements for EGUs is no longer valid. EPA is developing a rule that would determine whether CSAPR is better than BART using a two-prong test and appropriate air quality modeling. The Federal Register notice for the final rule of CSAPR said that "EPA has not conducted any technical analysis to determine whether compliance with the Transport Rule would satisfy Reasonably Available Control Technology (RACT) requirements for EGUs in any nonattainment areas or Regional Haze BART-related requirements. For that reason, EPA is neither making determinations nor establishing any presumptions that compliance with the Transport Rule satisfies any RACT- or BART-related requirements for EGUs."

However, on December 30, 2011, the United States Court of Appeals for the D.C. Circuit issued its ruling to stay CSAPR pending judicial review. As a result, CAIR has been put back into effect. The court set a speedy path to hear the legal arguments in the case, which were presented to the U.S. Court of Appeals in Washington, D.C. on April 13, 2012. However, a final ruling on CSAPR may not come until later this year or possibly in 2013.

It is expected that CSAPR is most likely to be reinstated in principal with the similar provisions as currently promulgated. If CSAPR is determined to be an alternative program that may substitute for source-specific BART, then the same BART modeling analyses for the Crystal River Power Plant conducted in 2007 should still be valid. However, the current version of CSAPR has different requirements for different states. For example, in Florida, it does not regulate SO_2 emissions and only has ozone-season NO_x emissions requirements. As a result, the BART exemption analysis for the Crystal River Power Plant, which was previously based on visibility impacts due to PM emissions only, needs to be re-evaluated, including PM, NO_x and SO_2 and sulfate emissions.

A description of the BART-eligible emissions units, a description of the modeling methodology, and the results of the BART exemption analysis are presented in Section 2.0. Regulatory requirements for the BART determination (control options) analysis are presented in Section 3.0. The BART determination analysis is presented in Section 4.0.

The source information and methodologies used for the BART determination are the same as those presented in the document entitled "Air Modeling Protocol to Evaluate Best Available Retrofit Technology (BART) Options for Affected Progress Energy Florida Plants", commonly known as the "BART Protocol". The BART Protocol was previously submitted to FDEP in January 2007.

2.0 DESCRIPTION OF BART-ELIGIBLE EMISSIONS UNITS

The BART-eligible emissions units at the Crystal River Power Plant include two fossil fuel steam generators (FFSGs), further characterized as pulverized coal dry bottom, tangentially-fired boilers, designated as Unit No. 1 and Unit No. 2. Unit No. 1 is a nominal 440.5 megawatt (MW) class (electric) steam generator while Unit No. 2 is a nominal 523.8 MW class (electric) steam generator. The units may burn bituminous coal or a bituminous coal and bituminous coal briquette mixture. Distillate fuel oil may be burned as a startup fuel.

The Crystal River Power plant is located at Universal Transverse Mercator (UTM) coordinates: 334.3 kilometers (km) East, 3,204.5 km North in UTM Zone 17. An area map showing the Plant and PSD Class I areas located within 300 km of the plant is presented in Figure 1-1 of the BART Protocol. The PSD Class I areas which were evaluated include:

- Saint Marks NWA - 174 km
- Chassahowitzka National Wilderness Area (NWA) - 21 km
- Wolf Island NWA - 293 km
- Okefenokee NWA- 178 km

The PSD Class I of the Bradwell Bay NWA is located within 300 km of the Crystal River Power Plant; however visibility impairment is not required to be addressed for this area.

The stack, operating, and PM emission data, including PM speciation, for the BART-eligible emissions units were presented in detail in the BART Protocol previously submitted to FDEP. The emissions units are regulated under Acid Rain-Phase II, Fossil Fuel Steam Generators with more than 250 million Btu per Hour Heat Input (Rule 62-296.405, F.A.C.), Best Available Retrofit Technology (BART) requirements (Rule 62-296.340, F.A.C.) and the Clean Air Interstate Rule (CAIR) requirements under 62-296.470, F.A.C.

As noted in the BART protocol and based on discussions with FDEP, building downwash effects were considered for the Crystal River Power Plant as the facility is located within 50 km of the closest PSD Class I area.

2.1 EMISSION RATES

Emission rates used in the Crystal River BART analysis were presented in the BART Protocol previously submitted to FDEP (only PM emission rates were included). This revised BART analysis includes SO_2 and NO_x emissions in addition to the PM emissions.

The EPA BART guidelines indicate that the emission rate to be used for BART modeling is the highest 24-hour actual emission rate representative of normal operations for the modeling period. Depending on the availability of the source data, the source emissions information should be based on the following, in order of priority based on the BART common protocol:

- 24-hour maximum emissions based on continuous emission monitoring (CEM) data for the period 2001 to 2003
- Facility stack test emissions
- Potential to emit
- Allowable permit limits
- AP-42 emission factors

Table 1A presents the stack data, operating parameters, and emissions of SO_2, NO_x, and PM for the baseline (i.e., exemption) scenario. The SO_2 and NO_x emission rates are based on the maximum actual 24-hour average rate from the period 2001 to 2003 which were obtained from the CEM data.

The PM emissions rates are based on stack test data. Based on the latest regulatory guidance, PM emissions by size category are required to be considered in the appropriate species for the visibility analysis. The effect that each species has on visibility impairment is related to a parameter called the extinction coefficient. The higher the extinction coefficient, the greater the species' affect on visibility. Filterable PM is speciated into coarse (PMC), fine (PMF), and elemental carbon (EC), with default extinction efficiencies of 0.6, 1.0, and 10.0, respectively. PMC is PM with aerodynamic diameter between 10 microns and 2.5 microns. Both EC and PMF have aerodynamic diameters equal to or less than 2.5 microns. Condensable PM is comprised of inorganic PM such as sulfate (SO_4) and organic PM such as secondary organic aerosols (SOA).

The PM emissions from the BART-eligible units at the Crystal River plant were speciated into the recommended size and species categories using EPA's Compilation of Air Pollutant Emission Factors, AP-42 (fifth edition). The species categories for Crystal River Units 1 and 2 were determined from the speciation profile for a "dry bottom boiler burning pulverized coal with ESP" provided in Table 1.1-5 in AP-42. The different size categories were determined from particle size distribution for "dry bottom PC boilers with ESP" provided in Table 1.1-6 in AP-42. The PM speciation data for the exemption scenario are presented in Table 2A (also presented with the BART Protocol previously submitted to FDEP).

2.2 MODELING METHODOLOGY

The CALPUFF model, Version 5.756, also known as the "BART Version CALPUFF", was used to predict the maximum visibility impairment at each of the four PSD Class I areas located within 300 km of the Crystal River Power Plant identified above. This version of CALPUFF, together with the post-processing programs associated with the BART Version of CALPUFF (i.e., POSTUTIL, CALPOST), were also used in the current BART modeling which includes SO_2 and NO_x emissions.

The methods and assumptions used in the CALPUFF model were previously presented in the BART Protocol. The 4-km spacing Florida domain was used for the BART exemption. The refined CALMET domain used for the BART modeling analysis has been provided by FDEP. The major features used in preparing these CALMET data have also been described in Section 4.0 of the BART Protocol.

Based on FDEP guidelines, the 98th percentile, i.e., the 8th highest 24-hour average visibility impairment value in any year or the 22nd highest 24-hour average visibility impairment value over 3 years combined, whichever is higher, is compared to 0.5 dv in the source attribution analysis.

Based on the Visibility Improvement State and Tribal Association of the Southeast (VISTAS) recommendation, Visibility Method 6 was used in the BART-related modeling, which will compute extinction coefficients for hygroscopic species (modeled and background) using a monthly f(RH) in lieu of calculating hourly RH factors. Monthly RH values from Table A-3 of EPA's *Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule* (Haze Guideline) was used. Monthly f(RH) factors for the Class I areas within 300 km of the Crystal River Plant are as follows:

Month	Saint Marks NWA	Chassahowitzka NWA	Wolf Island NWA	Okefenokee NWA
January	3.7	3.8	3.4	3.5
February	3.4	3.5	3.1	3.2
March	3.4	3.4	3.0	3.1
April	3.4	3.2	3.0	3.0
May	3.5	3.3	3.3	3.6
June	4.0	3.9	3.7	3.7
July	4.1	3.9	3.7	3.7
August	4.4	4.2	4.1	4.1
September	4.2	4.1	4.0	4.0
October	3.8	3.9	3.7	3.8
November	3.7	3.7	3.5	3.5
December	3.8	3.9	3.5	3.6

Method 6 requires input of natural background (BK) concentrations of ammonium sulfate (BKSO4), ammonium nitrate (BKNO3), coarse particulates (BKPMC), organic carbon (BKOC), soil (BKSOIL), and elemental carbon (BKEC) in micrograms per cubic meter (μg/m^3). The model then calculates the natural background light extinction and haze index based on these values.

According to FDEP recommendations, the natural background light extinction may be based on haze index (HI) values (in dv) for either the annual average or the 20-percent best visibility days provided by EPA in Appendix B of the Haze Guideline document (using the 10th percentile HI value). For this BART analysis, the annual average HI values were used to determine natural background light extinction of the Class I areas. The light extinction coefficient in inverse megameters (Mm-1) is based on the concentration of the visibility impairing components and the extinction efficiency, in square meters per gram (m^2/g), for each component.

Per VISTAS and FDEP recommendations, the natural background light extinction that is equivalent to EPA-provided background HI values for each Class I area, based on the annual average, were estimated using the following background values:

- Rayleigh scattering = 10 Mm-1;
- Concentrations of $BKSO_4$, $BKNO_3$, BKPMC, BKEC, and BKEC = 0.0; and
- BKSOIL concentration, which is estimated from the extinction coefficient that corresponds to EPA's HI value (corresponding to the annual average) and then subtracting the Rayleigh scattering of 10 Mm-1 (assumes that the extinction efficiency of soil is 1 m^2/g). The BKSOIL concentration is estimated by subtracting the Rayleigh scattering of 10 Mm-1 from the extinction coefficient that corresponds to EPA's haze index value for the annual average light extinction coefficient, then dividing the remainder by the BKSOIL extinction efficiency of 1 m^2/g.

According to Appendix B of the Haze Guidance document, the annual average light extinction coefficients for each Class I area and corresponding calculated BKSOIL concentrations are as follows:

- Saint Marks NWA – 21.53 Mm-1 (equivalent to 7.67 dv); 11.53 μg/m^3;
- Chassahowitzka NWA – 21.45 Mm-1 (equivalent to 7.63 dv); 11.45 μg/m^3;
- Wolf Island – 21.33 Mm-1 (equivalent to 7.58 dv); 11.33 μg/m^3; and
- Okefenokee NWA – 21.40 Mm-1 (equivalent to 7.61 dv); 11.40 μg/m^3.

The atmospheric light extinction estimation technique using an algorithm developed by the Interagency Monitoring of Protected Visual Environments (IMPROVE) committee, which was adopted by the EPA under the 1999 Regional Haze Rule (RHR) and referred to as the "1999 IMPROVE" algorithm, was used in this revised analysis. This algorithm for estimating light extinction from particle speciation data tends to underestimate light extinction for the highest haze conditions and overestimate it for the lowest haze conditions, and does not include light extinction due to sea salt, which is important at sites near seacoasts. As a result of these limitations, the IMPROVE Steering Committee developed the "new IMPROVE algorithm" for estimating light extinction from particulate matter component concentrations, which provides a better correspondence between measured visibility and that calculated from particulate matter component concentrations. A detailed description of the new IMPROVE algorithm and its implementation was presented in Section 3.4 of the BART Protocol.

Visibility impacts were predicted at the PSD Class I areas using receptors provided by the National Park Service (NPS).

2.3 BART EXEMPTION MODELING RESULTS

Summaries of the maximum visibility impairment values for the Crystal River BART-eligible emission units estimated using the new IMPROVE algorithm, are presented in Tables 3A and 4A. The 98th percentile (i.e., 8th highest) 24-hour average visibility impairment values for the years 2001, 2002, and 2003, and the 22nd highest 24-average visibility impairment values over the three years, are presented in Table 3A. The 8th highest visibility impairment values predicted at each PSD Class I area for each year are presented in Table 4A.

As shown in Tables 3A and 4A, the 8th highest visibility impairment values predicted for each year at all of the PSD Class I areas using the 1999 IMPROVE algorithm are greater than 0.5 dv. The 22nd highest visibility impairment value predicted over the 3-year period at this PSD Class I area is also greater than 0.5 dv. As a result, the Crystal River Power Plant is subject to the BART requirements, and a BART determination analysis for PM, SO_2, and NO_x is required for each of the BART-eligible emissions units at the plant.

3.0 REQUIREMENTS FOR ANALYSIS OF BART CONTROL OPTIONS

The visibility regulations define BART as follows:

> *Best Available Retrofit Technology (BART) means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by . . . [a BART-eligible source]. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.*

The BART analysis identifies the best system of continuous emission reduction, taking into account:

(1) The available retrofit control options;

(2) Any pollution control equipment in use at the source (which affects the availability of options and their impacts);

(3) The costs of compliance with control options;

(4) The remaining useful life of the facility;

(5) The energy and non-air quality environmental impacts of control options; and

(6) The visibility impacts analysis.

Once it is determined that a source is subject to BART for a particular pollutant, then for each affected emission unit, BART must be established for that pollutant. The BART determination must address air pollution control measures for each emissions unit or pollutant emitting activity subject to review.

The five basic steps of a case-by-case BART analysis are:

STEP 1 – Identify All Available Retrofit Control Technologies

STEP 2 – Eliminate Technically Infeasible Options

STEP 3 – Evaluate Control Effectiveness of Remaining Control Technologies

STEP 4 – Evaluate Impacts and Document the Results

STEP 5 – Evaluate Visibility Impacts

Based on descriptions provided in 40 CFR 51 Appendix Y, Guidelines for BART Determinations Under the Regional Haze Rule, each of these steps is described briefly in the following sections.

STEP 1 – Identify All Available Retrofit Control Technologies

Available retrofit control options are those air pollution control technologies with a practical potential for application to the emissions unit and the regulated pollutant under evaluation. In identifying “all” options, the most stringent option and a reasonable set of options for analysis that reflects a comprehensive list of available technologies must be identified. It is not necessary to list all permutations of available control levels that exist for a given technology – the list is complete if it includes the maximum level of control each technology is capable of achieving.

Air pollution control technologies can include a wide variety of available methods, systems, and techniques for control of the affected pollutant. Technologies required as Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) are available for BART purposes and must be included as control alternatives. The control alternatives can include not only existing controls for the source category in question but also take into account technology transfer of controls that have been applied to similar source categories and gas streams. Technologies that have not yet been applied to (or permitted for) full scale operations do not need to be considered, and purchase or construction of a process or control device that has not already been demonstrated in practice is not expected.

Where a New Source Performance Standard (NSPS) exists for a source category (which is the case for most of the categories affected by BART), a level of control equivalent to the NSPS as one of the control options should be included. The NSPS standards are codified in 40 CFR 60.

Potentially applicable retrofit control alternatives can be categorized in three ways.

- Pollution prevention: use of inherently lower-emitting processes/practices, including the use of control techniques (e.g. low-NO_x burners) and work practices that prevent emissions and result in lower “production-specific” emissions
- Use of (and where already in place, improvement in the performance of) add-on controls, such as scrubbers, fabric filters, thermal oxidizers, and other devices that control and reduce emissions after they are produced
- Combinations of inherently lower-emitting processes and add-on controls

In the course of the BART review, one or more of the available control options may be eliminated from consideration because they are demonstrated to be technically infeasible or to have unacceptable energy, cost, or non-air quality environmental impacts on a case-by-case (or site-specific) basis.

EPA does not consider BART as a requirement to redesign the source when considering available control alternatives. For example, where the source subject to BART is a coal-fired electric generator, EPA does not require the BART analysis to consider building a natural gas-fired electric turbine although the turbine may be inherently less polluting on a per unit basis.

For emission units subject to a BART review, there will often be control measures or devices already in place. For such emission units, it is important to include control options that involve improvements to existing controls and not to limit the control options only to those measures that involve a complete replacement of control devices.

If a BART source has controls already in place that are the most stringent controls available (this means that all possible improvements to any control devices have been made), then it is not necessary to comprehensively complete each following step of the BART analysis. As long as these most stringent controls available are made federally enforceable for the purpose of implementing BART for that source, the remaining analyses may be skipped, including the visibility analysis in Step 5. Likewise, if a source commits to a BART determination that consists of the most stringent controls available, then there is no need to complete the remaining analyses.

STEP 2 – Eliminate Technically Infeasible Options

In Step 2, the source evaluates the technical feasibility of the control options identified in Step 1. The source should document a demonstration of technical infeasibility and should explain, based on physical, chemical, or engineering principles, why technical difficulties would preclude the successful use of the control option on the emissions unit under review. The source may then eliminate such technically infeasible control options from further consideration in the BART analysis.

Control technologies are technically feasible if either (1) they have been installed and operated successfully for the type of source under review under similar conditions, or (2) the technology could be applied to the source under review. Two key concepts are important in determining whether a technology could be applied: “availability” and “applicability.” A technology is considered “available” if the source owner may obtain it through commercial channels, or it is otherwise available within the common sense meaning of the term. An available technology is “applicable” if it can reasonably be installed and operated on the source type under consideration. A technology that is available and applicable is technically feasible.

Where it is concluded that a control option identified in Step 1 is technically infeasible, the source should demonstrate that the option is either commercially unavailable, or that specific circumstances preclude its application to a particular emission unit. Generally, such a demonstration involves an evaluation of the characteristics of the pollutant-bearing gas stream and the capabilities of the technology. Alternatively, a demonstration of technical infeasibility may involve showing that there are un-resolvable technical difficulties with applying the control to the source (e.g., size of the unit, location of the proposed site, operating problems related to specific circumstances of the source, space constraints, reliability, or adverse side effects on the rest of the facility). Where the resolution of technical difficulties is merely a matter of increased cost, the technology should be considered as technically feasible. The cost of a control alternative is considered later in the process.

STEP 3 – Evaluate Control Effectiveness of Remaining Control Technologies

Step 3 involves evaluating the control effectiveness of all the technically feasible control alternatives identified in Step 2 for the pollutant and emissions unit under review. Two key issues in this process include:

(1) Ensuring that the degree of control is expressed using a metric that ensures an "apples to apples" comparison of emissions performance levels among options

(2) Giving appropriate treatment and consideration of control techniques that can operate over a wide range of emission performance levels

This issue is especially important when comparing inherently lower-polluting processes to one another or to add-on controls. In such cases, it is generally most effective to express emissions performance as an average steady state emissions level per unit of product produced or processed, such as pounds of emissions per million British thermal units (lb/MMBtu) of heat input.

Many control techniques, including both add-on controls and inherently lower polluting processes, can perform at a wide range of levels. Scrubbers and high and low efficiency electrostatic precipitators (ESPs) are two of the many examples of such control techniques that can perform at a wide range of levels. It is important that in analyzing the technology one take into account the most stringent emission control level that the technology is capable of achieving. Recent regulatory decisions and performance data (e.g., manufacturer's data, engineering estimates and the experience of other sources) should be considered when identifying an emissions performance level or levels to evaluate.

For retrofitting existing sources in addressing BART, one should consider ways to improve the performance of existing control devices, particularly when a control device is not achieving the level of control that other similar sources are achieving in practice with the same device. For example, one should consider improving performance when sources with ESPs are performing below currently achievable levels.

STEP 4 – Evaluate Impacts and Document the Results

After identifying the available and technically feasible control technology options, the following analyses should be conducted when making the BART determination:

- Costs of compliance
- Energy impacts
- Non-air quality environmental impacts
- Remaining useful life

The source should discuss and, where possible, quantify both beneficial and adverse impacts. In general, the analysis should focus on the direct impact of the control alternative.

Costs of Compliance

To conduct a cost analysis, the following steps are used:

(1) Identify the emissions units being controlled
(2) Identify design parameters for emission controls
(3) Develop cost estimates based upon those design parameters

It is important to identify clearly the emission units being controlled, i.e., to specify a well-defined area or process segment within the plant. In some cases, multiple emission units can be controlled jointly. Then, the control system design parameters should be specified. The value selected for the design parameter should ensure that the control option will achieve the level of emission control being evaluated. The source should include documentation of the assumptions regarding design parameters. Examples of supporting references include the EPA Office of Air Quality Planning and Standards (OAQPS) Control Cost Manual and background information documents used for NSPS and hazardous pollutant emission standards.

Once the control technology alternatives and achievable emissions performance levels have been identified, the source must develop estimates of capital and annual costs. The basis for equipment cost estimates should also be documented, either with data supplied by an equipment vendor (i.e., budget estimates or bids) or by a referenced source (such as the OAQPS Control Cost Manual, Sixth Edition, February 2002). To maintain and improve consistency, cost estimates should be based on the OAQPS Control Cost Manual, where possible. The Control Cost Manual addresses most control technologies in sufficient detail for a BART analysis. The cost analysis should also take into account any site-specific design or other conditions identified above that affect the cost of a particular BART technology option.

Cost effectiveness, in general, is a criterion used to assess the potential for achieving an objective in the most economical way. For purposes of air pollutant analysis, “effectiveness” is measured in terms of tons of pollutant emissions removed, and “cost” is measured in terms of annualized control costs. EPA recommends two types of cost-effectiveness calculations – average cost effectiveness, and incremental cost effectiveness.

Average cost effectiveness means the total annualized costs of control divided by annual emissions reductions (the difference between baseline annual emissions and the estimate of emissions after controls). Because costs are calculated in (annualized) dollars per year ($/yr) and emission rates are calculated in tons per year (tons/yr), the result is an average cost-effectiveness number in (annualized) dollars per ton ($/ton) of pollutant removed.

The baseline emissions rate should represent a realistic depiction of anticipated annual emissions for the source. In general, for the existing sources subject to BART, the anticipated annual emissions will be estimated based upon actual emissions from a baseline period.

When future operating parameters (e.g., limited hours of operation or capacity utilization, type of fuel, raw materials or product mix or type) are projected to differ from past practice, and if this projection has a deciding effect in the BART determination, then these parameters or assumptions are to be translated into enforceable limitations. In the absence of enforceable limitations, baseline emissions are calculated based upon continuation of past practice.

In addition to the average cost effectiveness of a control option, the incremental cost effectiveness should also be calculated. The incremental cost effectiveness calculation compares the costs and performance level of a control option to those of the next most stringent option, as shown in the following formula (with respect to cost per emissions reduction):

Incremental Cost Effectiveness (dollars per incremental ton removed) =
[(Total annualized costs of control option) − (Total annualized costs of next control option)] ÷
[(Control option annual emissions) − (Next control option annual emissions)]

Energy Impacts

The energy requirements of the control technology should be analyzed to determine whether the use of that technology results in energy penalties or benefits. If such benefits or penalties exist, they should be quantified to the extent practicable. Because energy penalties or benefits can usually be quantified in terms of additional cost or income to the source, the energy impact analysis can, in most cases, simply be factored into the cost impacts analysis.

The energy impact analysis should consider only direct energy consumption and not indirect energy impacts. The energy requirements of the control options should be shown in terms of total (and in certain cases, also incremental) energy costs per ton of pollutant removed. Then these units can be converted into dollar costs and, where appropriate, can be factored into the control cost analysis. Indirect energy impacts (such as energy to produce raw materials for construction of control equipment) are generally not considered.

The energy impact analysis may also address concerns over the use of locally scarce fuels. The designation of a scarce fuel may vary from region to region. However, in general, a scarce fuel is one that is in short supply locally and can be better used for alternative purposes, or one that may not be reasonably available to the source either at the present time or in the near future.

Non-Air Quality Environmental Impacts

In the non-air quality related environmental impacts portion of the BART analysis, environmental impacts other than air quality due to emissions of the pollutant in question are addressed. Such environmental impacts include solid or hazardous waste generation and discharges of polluted water from a control device.

Any significant or unusual environmental impacts associated with a control alternative that have the potential to affect the selection or elimination of a control alternative should be identified. Some control technologies may have potentially significant secondary environmental impacts. Scrubber effluent, for example, may affect water quality and land use. Alternatively, water availability may affect the feasibility and costs of wet scrubbers. Other examples of secondary environmental impacts could include hazardous waste discharges, such as spent catalysts or contaminated carbon.

In general, the analysis need only address those control alternatives with any significant or unusual environmental impacts that have the potential to affect the selection of a control alternative, or elimination of a more stringent control alternative. Thus, any important relative environmental impacts (both positive and negative) of alternatives can be compared with each other.

Remaining Useful Life

The requirement to consider the "remaining useful life" of the source for BART determinations may be treated as one element of the overall cost analysis. The "remaining useful life" of a source, if it represents a relatively short time period, may affect the annualized costs of retrofit controls. For example, the methods for calculating annualized costs in EPA's OAQPS Control Cost Manual require the use of a specified time period for amortization that varies based upon the type of control. If the remaining useful life will clearly not exceed this time period, the remaining useful life has an effect on control costs and on the BART determination process. Where the remaining useful life is less than the time period for amortizing costs, this shorter time period should be considered in the cost calculations.

The remaining useful life is the difference between:

(1) The date that controls will be put in place (capital and other construction costs incurred before controls are put in place can be rolled into the first year, as suggested in EPA's OAQPS Control Cost Manual); and

(2) The date the facility permanently stops operations. Where this affects the BART determination, this date should be assured by a federally- or State-enforceable restriction preventing further operation.

EPA recognizes that there may be situations where a source operator intends to shut down a source by a given date, but wishes to retain the flexibility to continue operating beyond that date in the event, for example, that market conditions change. Where this is the case, the BART analysis may account for this, but it must maintain consistency with the statutory requirement to install BART within 5 years. Where the source chooses not to accept a federally enforceable condition requiring the source to shut down by a given date, it is necessary to determine whether a reduced time period for the remaining useful life changes the level of controls that would have been required as BART.

STEP 5 – Evaluate Visibility Impacts

The following is an approach EPA suggests to determine visibility impacts (the degree of visibility improvement for each source subject to BART) for the BART determination. Once it is determined that a source is subject to BART, a visibility improvement determination for the source must be conducted as part of the BART determination.

The permitting agency has flexibility in making this determination, i.e., in setting absolute thresholds, target levels of improvement, or *de minimis* levels, since the deciview improvement must be weighed among the five factors, and the agency is free to determine the weight and significance to be assigned to each factor. For example, a 0.3-dv improvement may merit a stronger weighting in one case versus another, so one "bright line" may not be appropriate.

CALPUFF or another appropriate dispersion model must be used to determine the visibility improvement expected at a Class I area from the potential BART control technology applied to the source. Modeling should be conducted for SO_2, NO_x, and direct PM emissions ($PM_{2.5}$ and/or PM_{10}). There are several steps for determining the visibility impacts from an individual source using a dispersion model:

- Develop a modeling protocol.
- For each source, run the model at pre-control and post-control emission rates according to the accepted methodology in the protocol. Use the 24-hour average actual emission rate from the highest emitting day of the meteorological period modeled (for the pre-control scenario). Calculate the model results for each receptor as the change in dv compared against natural visibility conditions. Post-control emission rates are calculated as a percentage of pre-control emission rates. For example, if the 24-hour pre-control emission rate is 100 pounds per hour (lb/hr) of SO_2 and the control efficiency being evaluated is 95 percent, then the post-control rate is 5 lb/hr.
- Make the net visibility improvement determination. Assess the visibility improvement based on the modeled change in visibility impacts for the pre-control and post-control emission scenarios. The assessment of visibility improvements due to BART controls is flexible and can be done by one or more methods. The frequency, magnitude, and duration components of impairment may be considered. Suggestions for making the determination are:
  - Use of a comparison threshold, as is done for determining if BART-eligible sources should be subject to a BART determination. Comparison thresholds can be used in a number of ways in evaluating visibility improvement (e.g., the number of days or hours that the threshold was exceeded, a single threshold for determining whether a change in impacts is significant, or a threshold representing a given percentage change in improvement).
  - Compare the 98th percentile days for the pre- and post-control runs.

Each of the modeling options may be supplemented with source apportionment data or source apportionment modeling.

Selecting the "Best" Alternative

From the alternatives evaluated in Step 3, EPA recommends developing a chart (or charts) displaying for each of the alternatives the following:

(1) Expected emission rate (tons per year, lb/hr)

(2) Emissions performance level (e.g., percent pollutant removed, emissions per unit product, lb/MMBtu, parts per million)

(3) Expected emissions reductions (tons per year)

(4) Costs of compliance – total annualized costs ($), cost effectiveness ($/ton), incremental cost effectiveness ($/ton), and/or any other cost-effectiveness measures (such as $/dv)

(5) Energy impacts

(6) Non-air quality environmental impacts

(7) Modeled visibility impacts

The source has the discretion to determine the order in which control options for BART should be evaluated. The source should provide a justification for adopting the technology selected as the "best" level of control, including an explanation of the CAA factors that led to the choice of that option over other control levels.

In the case where the source is conducting a BART determination for two regulated pollutants on the same source, if the result is two different BART technologies that do not work well together, then a different technology or combination of technologies can be substituted.

Even if the control technology is cost effective, there may be cases where the installation of controls would affect the viability of continued plant operations. There may be unusual circumstances that justify taking into consideration the conditions of the plant and the economic effects of requiring the use of a given control technology. These effects would include effects on product prices, the market share, and profitability of the source. Where there are such unusual circumstances that are judged to affect plant operations, the conditions of the plant and the economic effects of requiring the use of a control technology may be taken into consideration. Where these effects are judged to have a severe impact on plant operations, they may be considered in the selection process, but an economic analysis that demonstrates, in sufficient detail for public review, the specific economic effects, parameters, and reasoning may have to be provided. Any analysis may also consider whether other competing plants in the same industry have been required to install BART controls if this information is available.

4.0 BART ANALYSIS

4.1 SO_2 Emissions

As shown in Table 3A, the highest 8th highest visibility impact due to Units 1 and 2 is 7.93 dv, more than 90 percent of which is due to sulfate particles. Since sulfate particles are formed due to SO_2 and sulfuric acid mist (SAM) emissions, reduction of SO_2 emissions from Units 1 and 2 is the most effective way to reduce visibility impacts due to the BART-eligible emissions units at the site. The SO_2 emissions from the two boilers are currently not controlled.

The BART control analysis, which is similar to the BACT analysis under PSD regulations, is presented in the following sections for SO_2 emissions from the two units. The analysis includes consideration of the available retrofit control technologies, analyzing the feasibility of these technologies, evaluating control effectiveness of the feasible control technologies, evaluating the impacts from cost of compliance, energy, non air-quality environmental, remaining useful life, and finally evaluating the improvement in visibility that may result from the control technology.

4.1.1 Available Retrofit Control Technologies

As part of the BART analysis, a review of previous SO_2 BACT determinations for coal-fired utility and large industrial-sized boilers was performed using the RACT/BACT/LAER Clearinghouse (RBLC) on EPA's webpage. Numerous examples are available in the RBLC database for large coal-fired boilers, which typically use flue gas desulfurization (FGD) as the BACT for SO_2 emissions. However, it should be noted that this database does not reflect the use of FGD systems as a retrofit to existing units. For existing units, the use of lower sulfur fuels is much more cost-effective than the retrofit of an FGD system. These determinations are presented in Table 5.

4.1.2 Control Technology Feasibility

The following control technologies were analyzed:

Low Sulfur Fuel

Units 1 and 2 currently burn bituminous coal. Sulfur content of bituminous coal can range from 0.3 percent to more than 3 percent. Switching to a lower-sulfur coal can reduce SO_2 emissions; however, the cost of compliance depends on the following:

- Cost difference of low sulfur coal and the coal currently used
- Difference in delivery cost for the lower-sulfur coal
- Costs associated with modifications to the units to enable use of lower sulfur coals

Use of low sulfur fuel is considered to be a technically feasible option to reduce SO_2 emissions.

Flue Gas Desulfurization

FGD systems are post-combustion control technologies that rely on chemical reactions within the control device to reduce the concentration of SO_2 in the flue gas. The chemical reaction with an alkaline chemical, which can be performed in a wet or dry contact system, converts SO_2 to sulfite or sulfate salts. In a wet FGD system, a reagent is slurried with water and sprayed into the flue gas stream in an absorber vessel. The SO_2 is removed from the flue gas by sorption and reaction with the slurry. The by-products of the sorption and reaction are in a wet form upon leaving the system and must be dewatered prior to transport/disposal.

The most widely used system for large-scale SO_2 removal is the calcium-based wet lime/limestone FGD system. SO_2 control efficiencies for wet limestone FGD range from 50 to 98 percent, depending on the type of device and design, with an average of 90 percent.

In a dry FGD system, SO_2-containing flue gas comes into contact with an alkaline sorbent such as lime. The sorbent can be delivered to flue gas in an aqueous slurry form (lime spray drying process) or as a dry powder (sorbent injection process). After the sorption and reaction process, a dry waste is produced which is similar to fly ash. The by-product is subsequently captured in a downstream particulate collection device, typically an ESP or a baghouse.

A dry scrubber can use either lime or sodium carbonate as reagent. A typical dry scrubber will use lime as the reagent because it is more readily available than sodium carbonate and the sodium-based reactions produce a soluble by-product that requires special handling.

Lime spray drying efficiency ranges from 70 to 96 percent, with an average of 90 percent. The use of a PM control device after the dry scrubber differs from the wet scrubber system, in which the slurry leaving the wet system must be dewatered and the gas cooled to adiabatic saturation temperature, which requires the particulate control device to be located upstream of the scrubber. The dry byproduct from the dry scrubber system is generally not marketable, since the byproducts includes fly ash and reacted SO_2 and calcium compounds. In contrast, the wet limestone FGD system can produce a marketable byproduct (i.e., gypsum).

Because the dry scrubber absorber construction material is usually carbon steel, the capital costs are usually less expensive as compared with wet scrubbers. However, the necessary use of lime in the process increases its annual operational costs. Based on the EPA Fact Sheet on FGD systems, typical industrial applications of FGD systems are stationary coal and oil-fired combustion units such as utility and industrial boilers.

The RBLC database review also shows that post-combustion controls are typically applied to coal-fired boilers. The EPA Fact Sheet mentions the high capital cost of an FGD system as a disadvantage.

4.1.3 Control Effectiveness of Options

The effectiveness of SO_2 emissions control by the use of an FGD system is assumed to result in approximately 95 percent control. PEF has preliminary estimates of the costs to retrofit dry FGD (DFGD) systems on Units 1 and 2, based on a Worley Parsons (WP) study conducted in 2010. The effectiveness of SO_2 emissions control by the use of low sulfur coal depends on the sulfur content of the lower sulfur coal that is available and economically feasible.

4.1.4 Impacts of Control Technology Options

LOW SULFUR FUELS

To achieve SO_2 emissions below current levels, Units 1 and 2 would require use of lower sulfur coal. The annual average fuel sulfur level for Crystal River Units 1 and 2 during the baseline years was approximately 1.02 percent. Based on the highest average fuel sulfur of 1.02 percent and an average fuel heating value of approximately 12,000 Btu/lb, an average baseline SO_2 emission rate of 1.7 lb/mmBtu was achieved. PEF has indicated that commercially available coal sulfur contents are as follows:

- 0.68 percent sulfur (equivalent to 1.2 lb/mmBtu, based on a fuel heating value of 12,000 Btu/lb)
- 0.35 percent sulfur (equivalent to 0.8 lb/mmBtu, based on a fuel heating value of 8,500 Btu/lb)

However, it is important to note that the 0.35 percent sulfur coal is representative of sub-bituminous coal, also referred to as Powder River Basin (PRB) coal. This coal requires special handling and modifications to existing equipment. While lower sulfur coal is potentially available from the Powder River Basin (PRB), PRB coal is sub-bituminous coal that has unique combustion characteristics requiring specific boiler designs and modifications to existing coal transport, handling and storage equipment. Moreover, the transportation of this coal from Wyoming to Florida would not only add significant cost but involve considerable secondary environmental impacts from unit trains travelling such a distance.

Based on information provided by PEF, the current delivered fuel (1.02 percent sulfur) cost is $4.25 per mmBtu of heating value. The cost of compliance to use reduced sulfur coal is represented by the additional cost of the lower sulfur coal versus the current 1.02 percent sulfur coal used in the boilers, plus any other capital costs that may be associated with the conversion to a different coal. According to PEF, reduced sulfur coal with 0.68 percent and 0.35 percent sulfur costs $4.37 per mmBtu and $4.04 per mmBtu, respectively, excluding additional capital and operating costs.

The cost analysis for the lower sulfur fuel options was prepared following EPA's Control Cost Manual, and is presented in Table 6 for Units 1 and 2. There are additional equipment costs and indirect capital costs for using the lower sulfur bituminous coal (i.e., the 0.68 percent sulfur case), that could be required due to the anticipated reduction in control efficiency of the ESPs while burning lower sulfur coal. It is unknown at this time if ESP upgrades will be required to meet the current BART PM limit of 0.04 lb/mmBtu normal operation and 0.12 lb/mmBtu limit for soot blowing operation after a switch to compliance coal. The high-level cost estimates provided are based on previous analyses to meet the lowered PM BART limit while burning coal with the current sulfur content. Additional analyses would be required to determine unit-specific modifications needed to maintain reliable ESP operation at this same PM BART limit, but taking into account the reduced efficiency expected while burning a lower sulfur coal.

Given the above qualifications on the cost estimates, Table 6 presents the total capital and annualized costs of switching Units 1 and 2 from the coal currently used to 0.68 percent sulfur coal. Annualized operating costs are estimated at more than $97 million, resulting in an average cost effectiveness of approximately $8,665 per ton of SO_2 removed if 0.68 percent sulfur fuel is used instead of the current coal.

To calculate the emissions reduction due to the control options, an apples-to-apples comparison of baseline emissions and controlled emissions were calculated based on future projected actual fuel usage. For the remaining useful life of these units, PEF has estimated annual fuel usage to be approximately 45,000,000 mmBtu/yr for both units combined. This represents a capacity factor of approximately 60 percent for these units.

Regarding the PRB coal option, there would be additional equipment costs and indirect capital costs for using the lower sulfur sub-bituminous coal (i.e., the 0.35 percent sulfur case), that could be required due to the anticipated reduction in control efficiency of the ESPs while burning lower sulfur coal, as well as the additional capital costs required for other equipment modifications. This cost estimate is based on a 2005 Sargent and Lundy Crystal River 4 & 5 study on costs of converting to 100 percent PRB. Significant increased scope is not included in this estimate, as an engineering evaluation would have to be completed to accurately define the required scope. Excluded scope includes, but is not limited to, pressure part modifications, ESP modifications, electrical system upgrades, and fan modifications. The 2005 costs were escalated to 2012 costs using the Global Insight Ash and Coal Handling cost category. In addition this cost estimate does not include any O&M, reagent, byproduct or fuel cost impacts, nor does it include a risk adjustment for potential safety hazards and associated issues related to the use of PRB coal at the Crystal River site.

Given the above qualifications and exclusions from the cost estimates, Table 6 presents the capital and annualized costs of switching Units 1 and 2 from the coal currently used to 0.35 percent sulfur coal.

Annualized operating costs are estimated at more than $296 million, resulting in an average cost effectiveness of approximately $14,652 per ton of SO_2 removed from the current base case and an incremental cost effectiveness of approximately $22,137 per ton of SO_2 removed when compared to the 0.68 percent sulfur case.

However, it should be noted that the Mercury and Air Toxics Standards (MATS) or Utility MACT, was issued with an effective date of April 16, 2012 and requires the installation of maximum achievable control technology (MACT). For existing EGUs, MATS contains an alternative, surrogate emission limit for PM with a compliance deadline of April 16, 2015, and an optional possibility of two one-year extensions. Relating MATS to BART, EPA has stated in 40 CFR Part 51, Appendix Y that facilities may rely on the MACT standards for purposes of BART. Ultimately, MATS will require the installation of controls on Crystal River Units 1 & 2 or force their retirement.

Energy Impacts

There are energy impacts associated with using lower sulfur coals, such as PRB coal, since the heating value of the PRB coal is much lower than the current coals being used (e.g., 8,500 Btu/lb versus 12,000 Btu/lb).

Non-Air Quality Environmental Impacts

Use of low or reduced sulfur coal does not result in any non-air quality environmental impacts.

Remaining Useful Life

A BART permit was issued for these units on February 25, 2009 (permit No. 0170004-017-AC), which imposed a revised allowable PM emission limit. The permit assumes that Units 1 and 2 will cease to be operated as coal-fired units by December 31, 2020. The permit requires PEF to notify the Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond this date.

For the low sulfur fuel control options, it is assumed that some level of capital improvement will be required for ESP upgrades to accommodate the 0.68 percent sulfur coal, and that replacement of the ESPs with baghouses and other equipment modifications would be required for the firing of PRB coal. For this analysis, it is assumed that ESP upgrades or replacements and other equipment modifications would not be complete until 2018. Since the proposed unit retirement date is the end of 2020, this would result in a useful control option equipment life of two years.

FLUE GAS DESULFURIZATION

PEF has preliminary estimates of the costs to retrofit dry FGD (DFGD) systems on Units 1 and 2, based on a Worley Parsons (WP) study conducted in 2010. This estimate is characterized as a Class 5 estimate with an approximate accuracy rate of +/- 30 percent. The study also has several qualifications on the cost estimates, which are not included in this report, as follows:

- Based on the location at Crystal River for construction (i.e. site constraints, conditions of the current units, etc), a 20 percent productivity factor is recommended to be added to the EPC
- Estimate does not provide funds for transformers
- Reasonable Progress Energy owner's cost would be approximately 2.5 percent
- Add owner's contingency on the EPC contract at 5 percent
- This estimate does not factor in any escalation - assume 5 percent per year
- This estimate is project view and does not include any AFUDC, burdens or allocations. A rough estimate for financial view (AFUDC, burdens, allocations) costs would be approximately 8 percent

It is estimated that the capital costs for installation of DFGD systems are approximately $445 million for Units 1 and 2 combined. As shown in Table 7, the total annualized cost for installation and operation of the DFGD systems is $364 million for Units 1 and 2 combined. These annualized costs represent the annualized capital cost, as well as recurring annual operating costs for each unit.

To calculate the emissions reduction due to the DFGD control option, an apples-to-apples comparison of baseline emissions and controlled emissions were calculated based on future projected actual fuel usage. For the remaining useful life of these units, PEF has estimated annual fuel usage to be approximately 45,000,000 mmBtu/yr for both units combined. This represents a capacity factor of approximately 60 percent for these units. In addition, it is assumed that the baseline sulfur coal will continue to be fired and that the design DFGD control efficiency will be 95 percent.

As shown in Table 7, the average cost effectiveness is calculated to be approximately $10,034 per ton of SO_2 removed for Units 1 and 2 combined.

Energy Impacts

There are energy impacts associated with operation of DFGD systems. These additional energy impacts, due to use of auxiliary power and additional pressure drop in the system, are factored into the control cost analysis.

Non-Air Quality Environmental Impacts

Non-air quality impacts would potentially include increased energy use, increased water use and generation of additional solid wastes.

Remaining Useful Life

A BART permit was issued for these units on February 25, 2009 (permit No. 0170004-017-AC), which imposed a revised allowable PM emission limit. The permit assumes that Units 1 and 2 will cease to be operated as coal-fired units by December 31, 2020. The permit requires PEF to notify the Department of any developments that would delay the shutdown (or repowering) of Units 1 and 2 beyond this date.

Installation of DFGD controls for Units 1 and 2 would require time for project design and construction, as well as consideration for scheduling that allows for the continued operation to allow PEF to supply reliable electric power to its customers. For this analysis, it is assumed that these upgrades would not be complete until 2018. This would result in a useful control option equipment life of two years.

4.1.5 Visibility Impacts

To calculate the visibility improvement due to the lower sulfur content fuel and the DFGD control options, first the baseline visibility impacts were estimated based on the maximum 8th highest 24-hour average visibility impacts presented in Table 3A, which is 7.93 dv. Since sulfate particles contributed to more than 90-percent of the total visibility impact, instead of using just the sulfate contribution, the total impact (due to all pollutants) was used as a baseline.

Future or controlled visibility impacts were estimated based on modeling the reduced SO_2 emissions rates, which will result from the burning of lower sulfur coal and the installation of FGD systems of 95 percent control efficiency. These emission rates were calculated by multiplying the SO_2 emissions rates used in the baseline impact analysis by the ratio of: 1) the specific sulfur content (0.68 percent or 0.35 percent) and the baseline sulfur content (estimated to be 1.02 percent) for the fuel sulfur option and 2) by the uncontrolled baseline and the estimated control efficiency of the add on control equipment for the FGD option. The SO_2, NO_x and PM emission rates for the 0.68 percent sulfur coal, 0.35 percent sulfur coal and FGD systems scenarios are provided in Tables 1B, 1C and 1D, respectively. The PM speciation profiles for the 0.68 percent sulfur coal, 0.35 percent sulfur coal and FGD unit scenarios are shown in Tables 1B, 1C and 1D, respectively. Visibility improvements were determined by subtracting future dv impacts from the baseline dv impacts. Tables 3B, 3C and 3D provide a summary of the BART modeling results, including the relative contributions of SO2, NOx and PM, for the 0.68 percent sulfur coal, 0.35 percent sulfur coal and FGD systems cases, respectively. Tables 4B, 4C and 4D show the visibility rankings at each Class I area for 0.68 percent sulfur coal, 0.35 percent sulfur coal and FGD unit scenarios, respectively.

The visibility cost effectiveness numbers were calculated from the annual costs and the visibility improvement in dv. Visibility cost effectiveness numbers for the two units together are also presented in Table 6. As shown, visibility cost effectiveness for switching from the approximate 1.02 percent sulfur currently used to 0.68 percent sulfur is more than $40.4 million/dv for a total visibility improvement of 2.41 dv. Incremental visibility cost effectiveness for switching to 0.35 percent sulfur fuel is $145 million/dv for an additional improvement of 1.37 dv. Finally, the visibility cost effectiveness for installation of an DFGD system on Units 1 and 2 combined is $79.4 million/dv for an additional improvement of 4.59 dv. This visibility improvement is extremely small for a very large cost.

4.1.6 Selection of BART

As the pollutant and visibility cost effectiveness values above indicate, the cost of improvement is extremely high for switching from the current coal to 0.68 or 0.35 percent sulfur coal. As a result, switching to either of these lower sulfur coals has been determined to be cost prohibitive. Further, the capital cost and annual operating costs associated with retrofitting FGD systems on Units 1 and 2 was also demonstrated to be prohibitive.

In addition, it should be noted that the Mercury and Air Toxics Standards (MATS) or Utility MACT, was issued with an effective date of April 16, 2012 and requires the installation of maximum achievable control technology (MACT). For existing EGUs, MATS contains an alternative, surrogate emission limit for PM with a compliance deadline of April 16, 2015, and an optional possibility of two one-year extensions. Relating MATS to BART, EPA has stated in 40 CFR Part 51, Appendix Y that facilities may rely on the MACT standards for purposes of BART. Ultimately, MATS will require the installation of controls on Crystal River Units 1 & 2 or force their retirement.

4.2 NO_x Emissions

PEF has actual capital and annual operating costs for the SCR systems that were installed at Crystal River for Units 4 and 5. These are actual costs for retrofit SCR systems at existing coal-fired units at Crystal River and are considered representative, when scaled to MW capacity, of the costs to install and operate SCR systems for Units 1 and 2. It is estimated that the capital costs for installation of SCR systems are approximately $83 MM and $99 MM for Units 1 and 2, respectively. These are significant costs and cannot be justified for an approximate two years of useful control equipment life (i.e., 2018 until retirement in 2020).

Further, due to recent regulatory developments related to EPA's Clean Air Interstate Rule (CAIR) and its successor, the Cross-State Air Pollution Rule (CSAPR), CSAPR is currently stayed, and CAIR remains in effect, pending judicial review of CSAPR. PEF believes that compliance with CAIR (and CSAPR, depending on the court's decision) will serve to demonstrate compliance with applicable NOx standards under the BART program.

In addition, as shown in Table 3A, the visibility contribution of nitrate particles (which are formed by NO_x emissions) corresponding to the maximum 8^{th} highest 24-hour average visibility impact is only 7.0 percent. Therefore, control of NO_x emissions will provide minimal effect in reducing visibility impacts due to Units 1 and 2 at the receptor corresponding to the maximum 8^{th} highest visibility impact at the nearest Class I area (i.e., Chassohowitzka NRA).

Additional add-on control technologies, such as a selective catalytic reduction (SCR) system, will require a direct capital investment, as well as continuing annual operating costs for each unit, which will not result in any meaningful reduction in visibility. As demonstrated by modeling, the visibility contribution of nitrate particles is not significant. Further, PEF believes that compliance with CAIR (and CSAPR, depending on the court's decision) will serve to demonstrate compliance with applicable NOx standards under the BART program. As a result, PEF proposes that existing combustion processes, low NO_x burners, and good combustion practices be considered as BART for NO_x emissions for Units 1 and 2.

TABLE 1A
BART MODELING DATA INPUT
CRYSTAL RIVER POWER PLANT, UNITS 1 & 2
BASELINE (EXEMPTION) SCENARIO

Parameter	Units	Value			
Emission Unit		Unit 1		Unit 2	
Location					
UTM Coordinates[a]					
East	km	334.30		334.30	
North	km	3,204.50		3,204.50	
Zone		17		17	
Lambert Conformal Coordinates [a]					
x	km	1,398.50		1,398.50	
y	km	-1,116.10		-1,116.10	
Stack Data					
Height	ft (m)	499	(152.1)	502	(153.0)
Diameter	ft (m)	15	(4.57)	16.0	(4.88)
Base elevation	ft (m)	3.3	(1.00)	3.3	(1.00)
Hourly heat input[b]	MMBtu/hr	3630.0	-	4390.0	-
Operating Data					
Exit gas temperature	^{o}F (K)	291	(417)	300	(422)
Exit gas velocity	ft/s (m/s)	132.7	(40.5)	160.0	(48.8)
Emission Data[c,d,e,f]					
SO_2	lb/hr (g/s)	7,238.4	(912.0)	8,968.1	(1130.0)
NO_x	lb/hr (g/s)	1,601.2	(201.7)	2,913.0	(367.0)
PM Filterable	lb/hr (g/s)	140.8	(17.7)	115.2	(14.5)
SO_4	lb/hr (g/s)	50.4	(6.4)	61.0	(7.7)

Notes:

a. Based on common location using UTM coordinates of: East 567.4 km; North 2,813.5 km

b. Hourly heat input for each unit corresponds to the maximum hourly PM emissions for 2001 - 2006.

c. SO_2 emissions data based on CEMS data for 2001 - 2003.

d. NO_x emissions data based on CEMS data for 2001 - 2003.

e. PM filterable emissions data based on monitoring data from 2001 - 2006.

f. SO_4 emissions data calculated based on 0.8% conversion of sulfur to H_2SO_4 and 37% removal of H_2SO_4 in electrostatic precipitator (Southern Company methodology).

TABLE 2A
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 1
BASELINE (EXEMPTION) SCENARIO

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	140.8	78.23	60.27	2.32	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	283.14	NA	NA	NA	50.4	232.7
		%	100%	NA	NA	NA	18%	82%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	424.0	78.23	60.27	2.32	50.43	232.7
		%	100%	18.5%	14.2%	0.5%	11.9%	54.9%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	373.5	78.23	60.27	2.32	0.0	232.7
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	20.9%	16.1%	0.6%	0.0%	62.3%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						140.8	232.7	373.5
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	46.9	116.4	163.2
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	116.4	116.4
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	18.7	0.0	18.7
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	75.2	0.0	75.2
Totals				100.0%	100.0%	140.8	232.7	373.5

Total Modeled PM_{10}: 373.5

[a] Heat input rate for unit and fuel heat content 3,630 MMBtu/hr 3,630 Unit 1
1.08 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
Total 0.1 x S - 0.03
0.08

Golder Associates

TABLE 2A (CONTINUED)
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 2
BASELINE (EXEMPTION) SCENARIO

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	115.2	64.00	49.31	1.89	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	342.42	NA	NA	NA	61.0	281.4
		%	100%	NA	NA	NA	18%	82%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	457.6	64.00	49.31	1.89	61.0	281.4
		%	100%	14.0%	10.8%	0.4%	13.3%	61.5%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	396.6	64.00	49.31	1.89	0.0	281.44
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	16.1%	12.4%	0.5%	0.0%	71.0%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						115.2	281.4	396.6
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	38.3	140.7	179.0
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	140.7	140.7
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	15.3	0.0	15.3
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	61.5	0.0	61.5
Totals				100.0%	100.0%	115.2	281.4	396.6

Total Modeled PM_{10} 396.6

[a] Heat input rate for unit and fuel heat content 4,390 MMBtu/hr 4,390 Unit 1
1.08 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
Total 0.1 x S - 0.03
0.08

TABLE 3A
SUMMARY OF BART BASELINE (EXEMPTION) MODELING RESULTS WITH NEW IMPROVE ALGORITHM
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2 - COAL FIRING

Class I Area	Distance (km) of Source to Nearest Class I Area Boundary	Visibility Impact >0.5 dv 2001		2002		2003		22nd Highest Impact (dv) Over 3-Yr Period
			8th Highest Impact (dv)		8th Highest Impact (dv)		8th Highest Impact (dv)	
Saint Marks NWA	174		4.08		3.40		3.99	3.96
Pollutant Contribution		Sulfate	88.1%	Sulfate	89.8%	Sulfate	85.2%	
		Nitrate	9.2%	Nitrate	7.5%	Nitrate	10.1%	
		Particulate Matter	2.7%	Particulate Matter	2.6%	Particulate Matter	4.8%	
Chassahowitzka NWA	21		7.93		7.18		6.43	6.97
Pollutant Contribution		Sulfate	90.4%	Sulfate	47.8%	Sulfate	42.6%	
		Nitrate	7.0%	Nitrate	23.8%	Nitrate	29.5%	
		Particulate Matter	2.7%	Particulate Matter	28.4%	Particulate Matter	27.9%	
Wolf Island NWA	293		1.23		1.22		1.78	1.52
Pollutant Contribution		Sulfate	96.7%	Sulfate	96.2%	Sulfate	94.4%	
		Nitrate	2.2%	Nitrate	2.3%	Nitrate	1.8%	
		Particulate Matter	1.1%	Particulate Matter	1.5%	Particulate Matter	3.7%	
Okefenokee NWA	178		2.50		2.82		2.14	2.70
Pollutant Contribution		Sulfate	95.3%	Sulfate	83.4%	Sulfate	95.0%	
		Nitrate	3.3%	Nitrate	13.1%	Nitrate	3.0%	
		Particulate Matter	1.4%	Particulate Matter	3.5%	Particulate Matter	2.0%	

TABLE 4A
VISIBILITY IMPACT RANKINGS AT PSD CLASS I AREAS WITH NEW IMPROVE ALGORITHM, BASELINE (EXEMPTION) ANALYSIS CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2

Class I Area	Rank	2001 Predicted Impact (dv)	2002 Predicted Impact (dv)	2003 Predicted Impact (dv)
Saint Marks NWA	1	8.14	7.93	5.09
	2	6.13	5.75	4.99
	3	5.57	4.26	4.98
	4	5.27	4.14	4.69
	5	4.74	3.63	4.64
	6	4.46	3.50	4.56
	7	4.24	3.42	4.44
	8	4.08	3.40	3.99
Chassahowitzka NWA	1	10.59	9.82	9.21
	2	9.85	9.29	9.19
	3	9.58	8.21	8.26
	4	9.56	7.84	7.65
	5	8.79	7.84	6.97
	6	8.62	7.56	6.66
	7	8.36	7.56	6.47
	8	7.93	7.18	6.43
Wolf Island NWA	1	3.31	3.59	2.62
	2	2.26	2.90	2.51
	3	2.14	2.14	2.39
	4	1.54	1.80	2.35
	5	1.52	1.54	2.16
	6	1.43	1.48	1.94
	7	1.38	1.34	1.81
	8	1.23	1.22	1.78
Okefenokee NWA	1	4.66	4.53	4.57
	2	3.99	4.37	3.98
	3	3.55	3.29	3.96
	4	2.98	3.15	3.44
	5	2.83	3.02	3.35
	6	2.83	2.90	2.81
	7	2.55	2.85	2.78
	8	2.50	2.82	2.14

TABLE 1B
BART MODELING DATA INPUT
CRYSTAL RIVER POWER PLANT, UNITS 1 & 2
COMPLIANCE COAL, 0.68 WEIGHT % SULFUR

Parameter	Units	Value			
Emission Unit		Unit 1		Unit 2	
Location					
UTM Coordinates[a]					
East	km	334.30		334.30	
North	km	3,204.50		3,204.50	
Zone		17		17	
Lambert Conformal Coordinates [a]					
x	km	1,398.50		1,398.50	
y	km	-1,116.10		-1,116.10	
Stack Data					
Height	ft (m)	499	(152.1)	502	(153.0)
Diameter	ft (m)	15	(4.57)	16.0	(4.88)
Base elevation	ft (m)	3.3	(1.00)	3.3	(1.00)
Hourly heat input[b]	MMBtu/hr	3630.0	-	4390.0	-
Operating Data					
Exit gas temperature	^{o}F (K)	291	(417)	300	(422)
Exit gas velocity	ft/s (m/s)	132.7	(40.5)	160.0	(48.8)
Emission Data[c,d,e,f]					
SO_2	lb/hr (g/s)	4,356.0	(548.9)	5,268.0	(663.8)
NO_x	lb/hr (g/s)	1,601.2	(201.7)	2,913.0	(367.0)
PM Filterable	lb/hr (g/s)	140.8	(17.7)	115.2	(14.5)
SO_4	lb/hr (g/s)	33.6	(4.2)	40.7	(5.1)

Notes:

a. Based on common location using UTM coordinates of: East 567.4 km; North 2,813.5 km

b. Hourly heat input for each unit corresponds to the maximum hourly PM emissions for 2001 - 2006.

c. SO_2 emissions calculated based on vendor SO_2 emission factor and hourly heat input

d. NO_x emissions data based on CEMS data for 2001 - 2003.

e. PM filterable emissions data based on monitoring data from 2001 - 2006.

f. SO_4 emissions data calculated based on 0.8% conversion of sulfur to H_2SO_4 and 37% removal of H_2SO_4 in electrostatic precipitator (Southern Company methodology).

TABLE 2B
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 1
COMPLIANCE COAL, 0.68 WT% SULFUR

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	140.8	78.23	60.27	2.32	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	137.94	NA	NA	NA	33.6	104.3
		%	100%	NA	NA	NA	24%	76%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	278.8	78.23	60.27	2.32	33.62	104.3
		%	100%	28.1%	21.6%	0.8%	12.1%	37.4%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	245.1	78.23	60.27	2.32	0.0	104.3
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	31.9%	24.6%	0.9%	0.0%	42.6%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						140.8	104.3	245.1
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	46.9	52.2	99.0
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	52.2	52.2
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	18.7	0.0	18.7
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	75.2	0.0	75.2
Totals				100.0%	100.0%	140.8	104.3	245.1

Total Modeled PM_{10} 245.1

[a] Heat input rate for unit and fuel heat content 3,630 MMBtu/hr 3,630 Unit 1
0.68 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon — lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) — PM2.5 0.24 lb/ton — Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) — PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon — 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon — 0.43 PM soil/PM10
PM2.5 — 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) — lb/MMBtu
Total — 0.1 x S - 0.03
0.04

TABLE 2B (CONTINUED)
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 2
COMPLIANCE COAL, 0.68 WT% SULFUR

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	115.2	64.00	49.31	1.89	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	166.82	NA	NA	NA	40.7	126.2
		%	100%	NA	NA	NA	24%	76%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	282.0	64.00	49.31	1.89	40.7	126.2
		%	100%	22.7%	17.5%	0.7%	14.4%	44.7%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	241.4	64.00	49.31	1.89	0.0	126.16
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	26.5%	20.4%	0.8%	0.0%	52.3%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						115.2	126.2	241.4
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	38.3	63.1	101.4
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	63.1	63.1
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	15.3	0.0	15.3
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	61.5	0.0	61.5
Totals				100.0%	100.0%	115.2	126.2	241.4

Total Modeled PM_{10} 241.4

[a] Heat input rate for unit and fuel heat content 4,390 MMBtu/hr 4,390 Unit 1
0.68 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
Total 0.1 x S - 0.03
0.04

TABLE 3B
SUMMARY OF COMPLIANCE COAL MODELING RESULTS WITH NEW IMPROVE ALGORITHM
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2 - COAL FIRING

Class I Area	Distance (km) of Source to Nearest Class I Area Boundary	Visibility Impact >0.5 dv						22nd Highest Impact (dv) Over 3-Yr Period
			2001		2002		2003	
			8th Highest Impact (dv)		8th Highest Impact (dv)		8th Highest Impact (dv)	
Saint Marks NWA	174		2.89		2.22		2.67	2.66
Pollutant Contribution		Sulfate	64.1%	Sulfate	95.6%	Sulfate	80.0%	
		Nitrate	33.6%	Nitrate	2.7%	Nitrate	16.1%	
		Particulate Matter	2.2%	Particulate Matter	1.7%	Particulate Matter	3.8%	
Chassahowitzka NWA	21		5.52		5.22		4.62	4.97
Pollutant Contribution		Sulfate	86.3%	Sulfate	81.4%	Sulfate	78.8%	
		Nitrate	11.5%	Nitrate	11.8%	Nitrate	16.3%	
		Particulate Matter	2.2%	Particulate Matter	6.8%	Particulate Matter	4.8%	
Wolf Island NWA	293		0.76		0.79		1.11	0.95
Pollutant Contribution		Sulfate	95.5%	Sulfate	81.2%	Sulfate	63.5%	
		Nitrate	3.7%	Nitrate	17.3%	Nitrate	34.6%	
		Particulate Matter	0.8%	Particulate Matter	1.5%	Particulate Matter	1.9%	
Okefenokee NWA	178		1.64		1.81		1.39	1.71
Pollutant Contribution		Sulfate	66.5%	Sulfate	90.2%	Sulfate	81.1%	
		Nitrate	27.4%	Nitrate	6.4%	Nitrate	16.5%	
		Particulate Matter	6.1%	Particulate Matter	3.4%	Particulate Matter	2.4%	

TABLE 4B
VISIBILITY IMPACT RANKINGS AT PSD CLASS I AREAS
WITH NEW IMPROVE ALGORITHM, COMPLIANCE COAL ANALYSIS
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2

Class I Area	Rank	2001 Predicted Impact (dv)	2002 Predicted Impact (dv)	2003 Predicted Impact (dv)
Saint Marks NWA	1	5.61	5.63	3.46
	2	4.33	4.00	3.33
	3	4.01	2.74	3.24
	4	3.62	2.68	3.05
	5	3.10	2.32	3.02
	6	2.94	2.24	2.97
	7	2.91	2.23	2.91
	8	2.89	2.22	2.67
Chassahowitzka NWA	1	7.51	7.08	6.49
	2	6.94	6.96	6.41
	3	6.80	6.03	5.75
	4	6.68	6.00	5.31
	5	6.13	5.81	4.95
	6	5.95	5.36	4.95
	7	5.94	5.27	4.63
	8	5.52	5.22	4.62
Wolf Island NWA	1	2.11	2.36	1.66
	2	1.50	1.83	1.63
	3	1.34	1.35	1.59
	4	0.96	1.15	1.49
	5	0.93	1.04	1.34
	6	0.88	1.04	1.23
	7	0.87	0.82	1.18
	8	0.76	0.79	1.11
Okefenokee NWA	1	3.00	3.14	2.96
	2	2.74	2.94	2.66
	3	2.27	2.13	2.51
	4	1.93	2.09	2.29
	5	1.85	1.90	2.12
	6	1.84	1.89	1.78
	7	1.71	1.82	1.78
	8	1.64	1.81	1.39

TABLE 1C
BART MODELING DATA INPUT
CRYSTAL RIVER POWER PLANT, UNITS 1 & 2
POWDER RIVER BASIN COAL, 0.35 WEIGHT % SULFUR

Parameter	Units	Value			
Emission Unit		Unit 1		Unit 2	
Location					
UTM Coordinates[a]					
East	km	334.30		334.30	
North	km	3,204.50		3,204.50	
Zone		17		17	
Lambert Conformal Coordinates [a]					
x	km	1,398.50		1,398.50	
y	km	-1,116.10		-1,116.10	
Stack Data					
Height	ft (m)	499	(152.1)	502	(153.0)
Diameter	ft (m)	15	(4.57)	16.0	(4.88)
Base elevation	ft (m)	3.3	(1.00)	3.3	(1.00)
Hourly heat input[b]	MMBtu/hr	3630.0	-	4390.0	-
Operating Data					
Exit gas temperature	^oF (K)	291	(417)	300	(422)
Exit gas velocity	ft/s (m/s)	132.7	(40.5)	160.0	(48.8)
Emission Data[c,d,e,f]					
SO_2	lb/hr (g/s)	2,904.0	(365.9)	3,512.0	(442.5)
NO_x	lb/hr (g/s)	1,601.2	(201.7)	2,913.0	(367.0)
PM Filterable	lb/hr (g/s)	140.8	(17.7)	115.2	(14.5)
SO_4	lb/hr (g/s)	23.1	(2.9)	27.9	(3.5)

Notes:

a. Based on common location using UTM coordinates of: East 567.4 km; North 2,813.5 km

b. Hourly heat input for each unit corresponds to the maximum hourly PM emissions for 2001 - 2006.

c. SO_2 emissions calculated based on vendor SO_2 emission factor and hourly heat input

d. NO_x emissions data based on CEMS data for 2001 - 2003.

e. PM filterable emissions data based on monitoring data from 2001 - 2006.

f. SO_4 emissions data calculated based on 0.8% conversion of sulfur to H_2SO_4 and 37% removal of H_2SO_4 in electrostatic precipitator (Southern Company methodology).

TABLE 2C
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 1
POWDER RIVER BASIN (PRB) COAL, 0.35 WEIGHT % SULFUR

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	140.8	78.23	60.27	2.32	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	36.30	NA	NA	NA	23.1	13.2
		%	100%	NA	NA	NA	64%	36%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	177.1	78.23	60.27	2.32	23.07	13.2
		%	100%	44.2%	34.0%	1.3%	13.0%	7.5%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	154.0	78.23	60.27	2.32	0.0	13.2
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	50.8%	39.1%	1.5%	0.0%	8.6%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						140.8	13.2	154.0
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	46.9	6.6	53.5
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	6.6	6.6
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	18.7	0.0	18.7
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	75.2	0.0	75.2
Totals				100.0%	100.0%	140.8	13.2	154.0

Total Modeled PM_{10} 154.0

[a] Heat input rate for unit and fuel heat content 3,630 MMBtu/hr 3,630 Unit 1
0.35 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
0.010 for sulfur content =< 0.4% wt

TABLE 2C (CONTINUED)
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 2
POWDER RIVER BASIN (PRB) COAL, 0.35 WEIGHT % SULFUR

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	115.2	64.00	49.31	1.89	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	43.90	NA	NA	NA	27.9	16.0
		%	100%	NA	NA	NA	64%	36%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	159.1	64.00	49.31	1.89	27.9	16.0
		%	100%	40.2%	31.0%	1.2%	17.5%	10.1%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	131.2	64.00	49.31	1.89	0.0	16.00
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	48.8%	37.6%	1.4%	0.0%	12.2%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						115.2	16.0	131.2
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	38.3	8.0	46.3
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	8.0	8.0
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	15.3	0.0	15.3
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	61.5	0.0	61.5
Totals				100.0%	100.0%	115.2	16.0	131.2

Total Modeled PM_{10} 131.2

[a] Heat input rate for unit and fuel heat content 4,390 MMBtu/hr 4,390 Unit 1
0.35 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
0.010 for sulfur content =< 0.4% wt

TABLE 3C
SUMMARY OF PRB COAL MODELING RESULTS WITH NEW IMPROVE ALGORITHM
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2 - COAL FIRING

Class I Area	Distance (km) of Source to Nearest Class I Area Boundary	Visibility Impact >0.5 dv 2001	8th Highest Impact (dv)	2002	8th Highest Impact (dv)	2003	8th Highest Impact (dv)	22nd Highest Impact (dv) Over 3-Yr Period
Saint Marks NWA	174		2.17		1.60		1.95	1.90
Pollutant Contribution		Sulfate	45.0%	Sulfate	81.4%	Sulfate	75.3%	
		Nitrate	53.7%	Nitrate	17.6%	Nitrate	22.9%	
		Particulate Matter	1.3%	Particulate Matter	1.0%	Particulate Matter	1.8%	
Chassahowitzka NWA	21		4.15		3.79		3.43	3.92
Pollutant Contribution		Sulfate	78.6%	Sulfate	79.7%	Sulfate	74.3%	
		Nitrate	20.4%	Nitrate	17.0%	Nitrate	23.5%	
		Particulate Matter	1.0%	Particulate Matter	3.3%	Particulate Matter	2.3%	
Wolf Island NWA	293		0.59		0.56		0.85	0.66
Pollutant Contribution		Sulfate	42.7%	Sulfate	94.9%	Sulfate	72.3%	
		Nitrate	54.8%	Nitrate	4.7%	Nitrate	26.1%	
		Particulate Matter	2.5%	Particulate Matter	0.4%	Particulate Matter	1.6%	
Okefenokee NWA	178		1.23		1.25		1.01	1.23
Pollutant Contribution		Sulfate	60.1%	Sulfate	92.6%	Sulfate	75.8%	
		Nitrate	37.3%	Nitrate	6.6%	Nitrate	23.2%	
		Particulate Matter	2.5%	Particulate Matter	0.8%	Particulate Matter	1.0%	

TABLE 4C
VISIBILITY IMPACT RANKINGS AT PSD CLASS I AREAS
WITH NEW IMPROVE ALGORITHM, PRB COAL ANALYSIS
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2

Class I Area	Rank	2001 Predicted Impact (dv)	2002 Predicted Impact (dv)	2003 Predicted Impact (dv)
Saint Marks NWA	1	4.13	4.32	2.56
	2	3.31	3.03	2.40
	3	3.14	1.90	2.25
	4	2.69	1.89	2.13
	5	2.29	1.76	2.12
	6	2.24	1.62	2.09
	7	2.18	1.60	2.07
	8	2.17	1.60	1.95
Chassahowitzka NWA	1	5.63	5.56	4.87
	2	5.16	5.21	4.72
	3	5.15	4.76	4.29
	4	4.95	4.43	3.94
	5	4.57	4.38	3.92
	6	4.55	4.11	3.55
	7	4.30	3.93	3.49
	8	4.15	3.79	3.43
Wolf Island NWA	1	1.46	1.69	1.29
	2	1.11	1.26	1.11
	3	0.93	0.93	1.11
	4	0.66	0.82	1.02
	5	0.63	0.82	0.91
	6	0.60	0.79	0.87
	7	0.60	0.57	0.86
	8	0.59	0.56	0.85
Okefenokee NWA	1	2.09	2.39	2.08
	2	2.08	2.16	1.95
	3	1.59	1.60	1.73
	4	1.37	1.45	1.68
	5	1.37	1.40	1.47
	6	1.34	1.29	1.26
	7	1.32	1.26	1.22
	8	1.23	1.25	1.01

TABLE 1D
BART MODELING DATA INPUT
CRYSTAL RIVER POWER PLANT, UNITS 1 & 2
WITH FLUE GAS DESULFURIZATION (FGD) UNIT

Parameter	Units	Value			
Emission Unit		Unit 1		Unit 2	
Location					
UTM Coordinates[a]					
East	km	334.30		334.30	
North	km	3,204.50		3,204.50	
Zone		17		17	
Lambert Conformal Coordinates [a]					
x	km	1,398.50		1,398.50	
y	km	-1,116.10		-1,116.10	
Stack Data					
Height	ft (m)	499	(152.1)	502	(153.0)
Diameter	ft (m)	15	(4.57)	16.0	(4.88)
Base elevation	ft (m)	3.3	(1.00)	3.3	(1.00)
Hourly heat input[b]	MMBtu/hr	3630.0	-	4390.0	-
Operating Data					
Exit gas temperature	^oF (K)	291	(417)	300	(422)
Exit gas velocity	ft/s (m/s)	132.7	(40.5)	160.0	(48.8)
FGD unit control efficiency	%	95.0	-	95.0	-
Emission Data[c,d,e,f]					
SO_2	lb/hr (g/s)	361.9	(45.6)	448.4	(56.5)
NO_x	lb/hr (g/s)	1,601.2	(201.7)	2,913.0	(367.0)
PM Filterable	lb/hr (g/s)	140.8	(17.7)	115.2	(14.5)
SO_4	lb/hr (g/s)	50.4	(6.4)	61.0	(7.7)

Notes:

a. Based on common location using UTM coordinates of: East 567.4 km; North 2,813.5 km

b. Hourly heat input for each unit corresponds to the maximum hourly PM emissions for 2001 - 2006.

c. SO_2 emissions calculated based on vendor SO_2 emission factor, hourly heat input and FGD control efficiency

d. NO_x emissions data based on CEMS data for 2001 - 2003.

e. PM filterable emissions data based on monitoring data from 2001 - 2006.

f. SO_4 emissions data calculated based on 0.8% conversion of sulfur to H_2SO_4 and 37% removal of H_2SO_4 in electrostatic precipitator (Southern Company methodology).

Golder Associates

TABLE 2D
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 1
FLUE GAS DESULFURIZATION UNIT SCENARIO, 95% SO_2 EMISSIONS CONTROL

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	140.8	78.23	60.27	2.32	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	283.14	NA	NA	NA	50.4	232.7
		%	100%	NA	NA	NA	18%	82%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	424.0	78.23	60.27	2.32	50.43	232.7
		%	100%	18.5%	14.2%	0.5%	11.9%	54.9%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	373.5	78.23	60.27	2.32	0.0	232.7
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	20.9%	16.1%	0.6%	0.0%	62.3%

PM Particle Size Distribution for CALPUFF Assessment

Species	Size Distribution by Category (%)					Emission Rate (lb/hr)		
	AP-42 (Table 1.1-6)		Cumulative	Individual Categories				
Name	Particle Size (microns)	Cumulative (%)	Normalized PM10 (%)	Filterable (%)	Organic Condensable	Filterable	Organic Condensable	Total
Total PM_{10}						140.8	232.7	373.5
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	46.9	116.4	163.2
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	116.4	116.4
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	18.7	0.0	18.7
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	75.2	0.0	75.2
Totals				100.0%	100.0%	140.8	232.7	373.5

Total Modeled PM_{10} 373.5

[a] Heat input rate for unit and fuel heat content 3,630 MMBtu/hr 3,630 Unit 1
1.08 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
Total 0.1 x S - 0.03
0.08

TABLE 2D (CONTINUED)
PM SPECIATION SUMMARY - PEF CRYSTAL RIVER POWER PLANT, UNIT 2
FLUE GAS DESULFURIZATION UNIT SCENARIO, 95% SO_2 EMISSIONS CONTROL

PM Category	Emission Unit [a]	Units	Total	Coarse PM	Soil (Fine PM)	Elemental Carbon (EC)	Inorganic (as H_2SO_4)	Organic
PM Filterable [b]	Unit 1	lb/hr	115.2	64.00	49.31	1.89	NA	NA
		%	100%	56%	43%	1.6%	NA	NA
PM Condensable [c]	Unit 1	lb/hr	342.42	NA	NA	NA	61.0	281.4
		%	100%	NA	NA	NA	18%	82%
Total PM_{10} (filterable+condensable)	Unit 1	lb/hr	457.6	64.00	49.31	1.89	61.0	281.4
		%	100%	14.0%	10.8%	0.4%	13.3%	61.5%
Total PM_{10} (filterable+Organic Condensable PM)	Unit 1	lb/hr	396.6	64.00	49.31	1.89	0.0	281.44
Modeled PM Speciation % (SO_4 modeled separately)		%	100%	16.1%	12.4%	0.5%	0.0%	71.0%

PM Particle Size Distribution for CALPUFF Assessment

Species Name	AP-42 (Table 1.1-6) Particle Size (microns)	AP-42 (Table 1.1-6) Cumulative (%)	Cumulative Normalized PM10 (%)	Individual Categories Filterable (%)	Individual Categories Organic Condensable	Emission Rate (lb/hr) Filterable	Emission Rate (lb/hr) Organic Condensable	Emission Rate (lb/hr) Total
Total PM_{10}						115.2	281.4	396.6
PM0063	0.63	18.5%	33.3%	33.3%	50.0%	38.3	140.7	179.0
PM0100	1	0.0%	0.0%	0.0%	50.0%	0.0	140.7	140.7
PM0125	1.25	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM0250	2.5	25.9%	46.6%	13.3%	0	15.3	0.0	15.3
PM0600	6	0.0%	0.0%	0.0%	0	0.0	0.0	0.0
PM1000	10	55.6%	100.0%	53.4%	0	61.5	0.0	61.5
Totals				100.0%	100.0%	115.2	281.4	396.6

Total Modeled PM_{10} 396.6

[a] Heat input rate for unit and fuel heat content 4,390 MMBtu/hr 4,390 Unit 1
1.08 sulfur content (%)

[b] PM fine consists of PM soil and PM elemental carbon lb/1000 gal
PM fine based on ratio of PM2.5 (fine) to PM10 (filterable) PM2.5 0.24 lb/ton Ratio = 0.44 PM2.5/PM10
emission factor (Table 1.1-5, AP-42) PM10 0.54 lb/ton

PM elemental carbon based on EPA's "Catalog of Global Emissions Inventories and Emission Inventory Tools for Black Carbon", Table 5, January 2002 DRAFT
0.037 of PM2.5

PM elemental carbon 0.016 PM elemental carbon/PM10
PM soil= PM2.5 - PM elemental carbon 0.43 PM soil/PM10
PM2.5 0.44 PM2.5/PM10
PM coarse= PM10 - PM2.5

[c] Condensable PM (Table 1.1-6, AP-42) lb/MMBtu
Total 0.1 x S - 0.03
0.08

TABLE 3D
SUMMARY OF BART FGD UNIT MODELING RESULTS WITH NEW IMPROVE ALGORITHM
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2 - COAL FIRING

Class I Area	Distance (km) of Source to Nearest Class I Area Boundary	Visibility Impact >0.5 dv						22nd Highest Impact (dv) Over 3-Yr Period
		2001		2002		2003		
			8th Highest Impact (dv)		8th Highest Impact (dv)		8th Highest Impact (dv)	
Saint Marks NWA	174		1.18		0.81		0.98	0.98
Pollutant Contribution		Sulfate	25.3%	Sulfate	16.0%	Sulfate	28.7%	
		Nitrate	63.9%	Nitrate	73.1%	Nitrate	54.9%	
		Particulate Matter	10.8%	Particulate Matter	10.9%	Particulate Matter	16.4%	
Chassahowitzka NWA	21		3.34		4.22		4.29	3.88
Pollutant Contribution		Sulfate	25.4%	Sulfate	25.2%	Sulfate	25.3%	
		Nitrate	42.9%	Nitrate	45.6%	Nitrate	42.4%	
		Particulate Matter	31.6%	Particulate Matter	29.2%	Particulate Matter	32.2%	
Wolf Island NWA	293		0.24		0.29		0.31	0.30
Pollutant Contribution		Sulfate	13.7%	Sulfate	38.9%	Sulfate	29.0%	
		Nitrate	75.8%	Nitrate	50.3%	Nitrate	57.9%	
		Particulate Matter	10.5%	Particulate Matter	10.9%	Particulate Matter	13.1%	
Okefenokee NWA	178		0.55		0.58		0.51	0.55
Pollutant Contribution		Sulfate	66.3%	Sulfate	48.4%	Sulfate	20.3%	
		Nitrate	15.5%	Nitrate	16.0%	Nitrate	67.9%	
		Particulate Matter	18.1%	Particulate Matter	35.6%	Particulate Matter	11.8%	

TABLE 4D
VISIBILITY IMPACT RANKINGS AT PSD CLASS I AREAS
WITH NEW IMPROVE ALGORITHM, FGD UNIT ANALYSIS
CRYSTAL RIVER POWER PLANT - UNITS 1 AND 2

Class I Area	Rank	2001 Predicted Impact (dv)	2002 Predicted Impact (dv)	2003 Predicted Impact (dv)
Saint Marks NWA	1	1.96	2.15	1.37
	2	1.91	1.48	1.24
	3	1.83	1.34	1.16
	4	1.67	1.11	1.10
	5	1.46	0.86	1.10
	6	1.41	0.82	1.05
	7	1.35	0.82	1.04
	8	1.18	0.81	0.98
Chassahowitzka NWA	1	5.44	7.21	5.54
	2	4.96	6.97	5.25
	3	3.94	6.75	5.23
	4	3.92	6.52	4.88
	5	3.88	5.81	4.42
	6	3.75	5.11	4.41
	7	3.57	4.40	4.32
	8	3.34	4.22	4.29
Wolf Island NWA	1	0.55	0.78	0.88
	2	0.50	0.54	0.54
	3	0.42	0.42	0.49
	4	0.31	0.42	0.37
	5	0.31	0.39	0.32
	6	0.30	0.37	0.32
	7	0.29	0.31	0.32
	8	0.24	0.29	0.31
Okefenokee NWA	1	1.04	1.19	0.94
	2	0.93	1.11	0.71
	3	0.90	1.03	0.71
	4	0.67	0.80	0.65
	5	0.66	0.74	0.58
	6	0.66	0.64	0.55
	7	0.61	0.59	0.53
	8	0.55	0.58	0.51

TABLE 5
SUMMARY OF SO_2 BACT DETERMINATIONS FOR COAL FUEL FIRED LARGE INDUSTRIAL BOILERS (>250 MMBTU/HR) (2007-2012)

Facility Name	State	Permit Issued	Process Info	Fuel	Heat Input	Control Method	SO_2 Limit	Basis
John W. Turk Jr. Power Plant	AR	11/5/2008	PC Boiler	PRB Sub-Bit Coal	6,000 MMBtu/hr	Dry Flue Gas Desulfurization (Spray Dry Absorber)	0.08 LB/MMBTU	BACT-PSD
Ottumwa Generating Station	IA	2/27/2007	Boiler #1	Coal	6,370 MMBtu/hr	Low Sulfur Coal	1.2 LB/MMBTU	BACT-PSD
J.K. Smith Generating Station	KY	4/9/2010	Circulating Fluidized Bed Boiler Cfb1 And CFB2	Coal	3,000 MMBtu/hr	Limestone Injection (CFB) and a Flash Dryer Absorber with Fresh Lime Injection	0.075 LB/MMBTU	BACT-PSD
Karn Weadock Generating Complex	MI	12/29/2009	Boiler	PRB Coal Or 50/50 Blend	8,190 MMBtu/hr	Limestone Forced Oxidation, Wet Fluidized Gas Desulfurization (Fgd) and Low Sulfur Coal.	0.06 LB/MMBTU	BACT-PSD
Spiritwood Station	ND	9/14/2007	Atmospheric Circulating Fluidized Bed Boiler	Lignite	1,280 MMBtu/hr	Limestone injection into the unit with a Spray Dryer following.	0.06 LB/MMBTU	BACT-PSD
Smart Papers Holdings, Llc	OH	1/31/2008	Pulverized Dry Bottom Boiler	Coal	420 MMBtu/hr		1.7 LB/MMBTU	BACT-PSD
Hugo Generating Sta	OK	2/9/2007	Coal-Fired Steam EGU Boiler (HU-Unit 2)		2,561 MMBtu/hr	Wet Limestone Flue Gas Desulfurization	0.065 LB/MMBTU	BACT-PSD
Sunnyside Ethanol,Llc	PA	5/7/2007	CFB Boiler	Coal	497 MMBtu/hr	Limestone Injection and add on Dry Flue Gas Desulfedrization, CEM	0.2 LB/MMBTU	BACT-PSD
Coleto Creek Unit 2	TX	5/3/2010	Coal-Fired Boiler Unit 2	PRB Coal	6,670 MMBtu/hr	Spray Dry Adsorber/Fabric Filter	0.06 LB/MMBTU	BACT-PSD
White Stallion Energy Center	TX	12/16/2010	CFB Boiler	Coal & Pet Coke	3,300 MMBtu/hr	"Limestone Bed CFB and Lime Spray Dryer Permit Design Sulfur Content of Ill Basin Coal is 3.9 Wt% and of Pet Coke 4.3 Avg/6.0 Max	0.114 LB/MMBTU	BACT-PSD
Tenaska Trailblazer Energy Center	TX	12/30/2010	Coal-Fired Boiler	Sub-Bituminous Coal	8,307 MMBtu/hr	HI Weighting of Limits Used for Fuel Blending"	0.06 LB/MMBTU	BACT-PSD
Bonanza Power Plant Waste Coal Fired Unit	UT	8/30/2007	Circulating Fluidized Bed Boiler, 1445 MMbtu/Hr Waste Coal Fired	Waste Coal/Bituminous Blend	-- --	Wet Limestone Scrubber	0.055 LB/MMBTU	BACT-PSD
Virginia City Hybrid Energy Center	VA	6/30/2008	2 Circulating Fluidized Bed Boilers	Coal And Coal Refuse	3,132 MMBtu/hr		0.035 LB/MMBTU	BACT-PSD
Western Greenbrier Co-Generation, Llc	WV	4/26/2006	Circulating Fluidized Bed Boiler (CFB)	Waste Coal	1,070 MMBtu/hr	Dry SO2 Scrubber (Spray Dry Absorber)"	0.14 LB/MMBTU	BACT-PSD
Wygen 3	WY	2/5/2007	PC Boiler	Subbituminous Coal	1,300 MMBtu/hr	Good Combustion Practices Low Sulfur Content Coal and CEM System	0.09 LB/MMBTU	BACT-PSD
Dry Fork Station	WY	10/15/2007	PC Boiler (ES1-01)	Coal	-- --	Limestone Injection and Flue Gas Desulfurization and CEM System	0.07 LB/MMBTU	BACT-PSD

Source: EPA 2012 (RBLC database)

TABLE 6
COST EFFECTIVENESS OF FUEL SWITCHING
PEF CRYSTAL RIVER POWER PLANT, UNITS 1 AND 2

Cost Items	Cost Factors	Baseline Current Fuel Cost ($)	Projected Future 0.68% S Fuel Cost ($)	Projected Future 0.35% S Fuel Cost ($)
DIRECT CAPITAL COSTS (DCC):				
(1a) Equipment Cost - Upgrade ESP for 0.68%S Coal			100,000,000	
(1b) Equipment Cost - Performance, Coal Handling Performance, Safety for 0.35% Coal [a]				82,500,000
(1c) Equipment Cost - Replace ESP with Baghouse for 0.35%S Coal				250,000,000
(3) Sales Tax	NA	0.0	0.0	0.0
Subtotal: Total Equipment Cost (TEC)		0.0	100,000,000	332,500,000
(4) Direct Installation Costs	NA	0.0	0.0	0.0
Total DCC:		0.0	100,000,000	332,500,000
INDIRECT CAPITAL COSTS (ICC): [b]				
(1) Indirect Installation Costs				
(a) Engineering	10% of TEC	0.0	10,000,000	33,250,000
(b) Construction & Field Expenses	10% of TEC	0.0	10,000,000	33,250,000
(c) Construction Contractor Fee	10% of TEC	0.0	10,000,000	33,250,000
(d) Contingencies	3% of TEC	0.0	3,000,000	9,975,000
(2) Other Indirect Costs				
(a) Startup	1% of TEC	0.0	1,000,000	3,325,000
(b) Performance Test'	1% of TEC	0.0	1,000,000	3,325,000
Total ICC:		0.0	35,000,000	116,375,000
PROJECT CONTINGENCY	15% of (DCC+ICC)	0.0	20,250,000	67,331,250
TOTAL CAPITAL INVESTMENT (Total Plant Cost) (TCI):	DCC + ICC+Project Contingency	0.0	155,250,000	516,206,250
DIRECT OPERATING COSTS (DOC):				
(1) Variable Operation & Maintenance Cost	Progress Energy Data	0	0	0
(3) Fuels				
Existing Fuel Cost (Coal with 1.0%S)	$4.25/mmBtu coal; 45,000,000 mmBtu/yr; 12,000 Btu/lb	191,250,000	--	--
Proposed Fuel Cost (Coal with 0.68%S)	$4.37/mmBtu coal; 45,000,000 mmBtu/yr; 12,000 Btu/lb	--	196,650,000	--
Proposed Fuel Cost (Coal with 0.35%S)	$4.04/mmBtu coal; 45,000,000 mmBtu/yr; 8,800 Btu/lb	--	--	181,800,000
Differential Fuel Cost (Proposed - Existing)	Proposed fuel cost - existing fuel cost		5,400,000	-9,450,000
Total DOC:			5,400,000	-9,450,000
INDIRECT OPERATING COSTS (IOC): [b]				
(1) Overhead	60% of oper. labor & maintenance, CCM Chapter 2	0.0	0.0	0.0
(2) Property Taxes	1% of total capital investment, CCM Chapter 2	0.0	1,552,500	5,162,063
(3) Insurance	1% of total capital investment, CCM Chapter 2	0.0	1,552,500	5,162,063
(4) Administration	2% of total capital investment, CCM Chapter 2	0.0	3,105,000	10,324,125
Total IOC:	(1) + (2) + (3) + (4)	0.0	6,210,000	20,648,250
CAPITAL RECOVERY COSTS (CRC):	CRF of 0.55309 times TCI (2 yrs @ 7%)	0.0	85,867,223	285,508,515
ANNUALIZED COSTS (AC):	DOC + IOC + CRF	0.0	97,477,223	296,706,765
Baseline Emissions:	Based on projected operation for Units 1 & 2	38,250	38,250	38,250
Projected Future Emissions:	1.2 lb/mmBtu and 0.8 lb/mmBtu; 45,000,000 mmBtu/yr	--	27,000	18,000
Emissions Reduction (TPY)(AC):	Baseline - Future Projected (TPY)	--	11,250	20,250
Average Cost Effectiveness ($/ton):	AC/Emissions Reduction	--	8,665	14,652
Incremental Cost ($)	Incremental Cost for using 0.35% S instead of 0.68% S coal	--	--	199,229,542
Incremental Emissions Reduction (TPY):	Emissions Reduction 0.35% S coal - 0.68% S coal	--	--	9,000
Incremental Cost Effectiveness ($/ton):	Incremental Cost/Incremental Emissions Reduction	--	--	22,137
Modeled Baseline Visibility Impact - Haze Index (HI) (dv):	8th Highest Visibility Impact for Both Units 1 and 2	7.93	--	--
Modeled Visibility Impact w 0.68% & 0.35% S Coal - HI (dv	8th Highest Visibility Impact for Both Units 1 and 2	--	5.52	4.15
Improvement in Visibility (dv)	Future - Baseline	--	2.41	3.78
Average Visibility Improvement Cost Effectiveness ($/dv):	AC/Visibility Improvement	--	40,446,980	78,493,853
Incremental Visibility Improvement (dv):	Visibility Improvement 0.35% S coal - 0.68% S coal	--	--	1.37
Incremental Visibility Improvement Cost Effectiveness ($/dv	Incremental Cost/Incremental Visibility Improvement	--	--	145,423,024

Notes:

[a] This estimate is based on a 2005 Sargent and Lundy Crystal River 4 & 5 study on costs of converting to 100% PRB. Significant increased scope is not included in this estimate, as an engineering evaluation would have to be completed to accurately define the required scope. Excluded scope includes, but is not limited to, pressure part modifications, ESP modifications, electrical system upgrades, and fan modifications. The 2005 costs were escalated to 2012 costs using the Global Insight ash and coal handling cost category. In addition this cost estimate does not include any O&M, reagent, byproduct or fuel cost impacts, nor does it include a risk adjustment for potential safety hazards and associated issues related to the use of PRB coal at the Crystal River site.

[b] Factors and cost estimates reflect OAQPS Cost Manual, 6th Edition, January 2002.

TABLE 7
COST EFFECTIVENESS OF FUEL GAS DESULFURIZATION (FGD) SYSTEMS
PEF CRYSTAL RIVER POWER PLANT, UNITS 1 AND 2

Cost Items	Cost Factors	Baseline Uncontrolled Cost ($)	Projected Future FGD Systems Cost ($)
DIRECT CAPITAL COSTS (DCC):			
(1) Equipment Cost			286,653,406
(3) Sales Tax	NA	0.0	0.0
Subtotal: Total Equipment Cost (TEC)		0.0	286,653,406.0
(4) Direct Installation Costs	NA	0.0	0.0
Total DCC:		0.0	286,653,406.0
INDIRECT CAPITAL COSTS (ICC): [a]			
(1) Indirect Installation Costs			
(a) Engineering	10% of TEC	0.0	28,665,340.6
(b) Construction & Field Expenses	10% of TEC	0.0	28,665,340.6
(c) Construction Contractor Fee	10% of TEC	0.0	28,665,340.6
(d) Contingencies	3% of TEC	0.0	8,599,602.2
(2) Other Indirect Costs			
(a) Startup	1% of TEC	0.0	2,866,534.1
(b) Performance Test'	1% of TEC	0.0	2,866,534.1
Total ICC:		0.0	100,328,692.1
PROJECT CONTINGENCY	15% of (DCC+ICC)	0.0	58,047,314.7
TOTAL CAPITAL INVESTMENT (Total Plant Cost) (TCI):	DCC + ICC+Project Contingency	0.0	445,029,412.8
DIRECT OPERATING COSTS (DOC): [a],[b]			
(1) Limestone	133,000 tpy x $32.8 per ton	0	4,362,400
(2) Filtered water	315 Mgal x $0.82 per 1000 gal	0	258,300
(3) Electrical power	1.9% of gross power production of Units 1 & 2 x 8760 hours x $0.05 per KWhr	0	71,111,490
(4) By-product disposal	380,000 tpy by-product x $65.6 per ton	0	24,928,000
Total DOC:		0	100,660,190
INDIRECT OPERATING COSTS (IOC): [c]			
(1) Overhead	60% of oper. labor & maintenance, CCM Chapter 2	0.0	0.0
(2) Property Taxes	1% of total capital investment, CCM Chapter 2	0.0	4,450,294.1
(3) Insurance	1% of total capital investment, CCM Chapter 2	0.0	4,450,294.1
(4) Administration	2% of total capital investment, CCM Chapter 2	0.0	8,900,588.3
Total IOC:	(1) + (2) + (3) + (4)	0.0	17,801,176.5
CAPITAL RECOVERY COSTS (CRC):	CRF of 0.55309 times Total Capital Cost (2 yrs @ 7%)	0.0	246,141,318
ANNUALIZED COSTS (AC):	DOC + IOC + CRF	0.0	364,602,684
Baseline Emissions:	Based on projected operation for Units 1 & 2	38,250	38,250
Projected Future Emissions:	Assumes 95% control	--	1,913
Emissions Reduction (TPY)(AC):	Baseline - Future Projected (TPY)	--	36,338
Average Cost Effectiveness ($/ton):	AC/Emissions Reduction	--	10,034
Incremental Cost ($)	Incremental Cost for using FGD instead of 0.68% S coal	--	--
Incremental Emissions Reduction (TPY):	Emissions Reduction 0.35% S coal - 0.68% S coal	--	--
Incremental Cost Effectiveness ($/ton):	Incremental Cost/Incremental Emissions Reduction	--	--
Modeled Baseline Visibility Impact - Haze Index (HI) (dv):	8th Highest Visibility Impact for Both Units 1 and 2	7.93	--
Modeled Visibility Impact w FGD System - HI (dv):	8th Highest Visibility Impact for Both Units 1 and 2	--	3.34
Improvement in Visibility (dv)	Future - Baseline	--	4.59
Average Visibility Improvement Cost Effectiveness ($/dv):	AC/Visibility Improvement	--	79,434,136
Incremental Visibility Improvement (dv):		--	--
Incremental Visibility Improvement Cost Effectiveness ($/dv):	Incremental Cost/Incremental Visibility Improvement	--	--

Notes:

[a] Direct operating costs include primary cost elements only.

[b] Direct operating costs estimated based on "Dry Flue Gas Desulfurization (DFGD)/Puff Jet Fabric Filter (PJFF) and Selective Catalytic Reduction (SCR) System Retrofit and Conceptual Design and Cost Estimate" for Crystal River Units 1 & 2, Progress Energy Florida, July 2010; CRCA-0-LI-022-0006.

[c] Factors and cost estimates reflect OAQPS Cost Manual, 6th Edition, January 2002.

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Exhibit G

Crystal River Power Plant

Crystal River, Florida

Sierra Club Evaluation of Compliance with 1-hour SO_2 NAAQS

June 25, 2012

Conducted by:

Steven Klafka, P.E., BCEE

Wingra Engineering, S.C.

Madison, Wisconsin

1. Introduction

The Sierra Club prepared an air modeling impact analysis to help USEPA, state and local air agencies identify facilities that are likely causing violations of the 1-hour sulfur dioxide (SO_2) national ambient air quality standard (NAAQS). This document describes the results and procedures for an evaluation conducted for the Crystal River Power Plant located in Crystal River, Florida.

The dispersion modeling analysis predicted ambient air concentrations for comparison with the one hour SO_2 NAAQS. The modeling was performed using the most recent version of AERMOD, AERMET, and AERMINUTE, with data provided to the Sierra Club by regulatory air agencies and through other publicly-available sources as documented below. The analysis was conducted in adherence to all available USEPA guidance for evaluating source impacts on attainment of the 1-hour SO_2 NAAQS via aerial dispersion modeling, including the AERMOD Implementation Guide; USEPA's Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard, August 23, 2010; modeling guidance promulgated by USEPA in Appendix W to 40 CFR Part 51; and, USEPA's March 2011 Modeling Guidance for SO_2 NAAQS Designations, available at http://www.epa.gov/ttn/scram/SO2%20Designations%20Guidance%202011.pdf.

2. Compliance with the 1-hour SO_2 NAAQS

2.1 1-hour SO_2 NAAQS

The 1-hour SO_2 NAAQS takes the form of a three-year average of the 99^{th}-percentile of the annual distribution of daily maximum 1-hour concentrations, which cannot exceed 75 ppb.[1] Compliance with this standard was verified using USEPA's AERMOD air dispersion model, which produces air concentrations in units of $\mu g/m^3$. The 1-hour SO_2 NAAQS of 75 ppb equals 196.2 $\mu g/m^3$, and this is the value used for determining whether modeled impacts exceed the NAAQS.[2] The 99^{th}-percentile of the annual distribution of daily maximum 1-hour concentrations corresponds to the fourth-highest value at each receptor for a given year.

2.2 Modeling Results

Modeling results for Crystal River Power Plant are summarized in Table 1. It was determined that based on either currently permitted emissions or measured actual emissions, the Crystal River Power Plant is estimated to create downwind SO_2 concentrations which exceed the 1-hour NAAQS.

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[1] USEPA, Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard, August 23, 2010.

[2] The ppb to $\mu g/m^3$ conversion is found in the source code to AERMOD v. 11103, subroutine Modules. The conversion calculation is $75/0.3823 = 196.2\ \mu g/m^3$.

The currently permitted emissions and measured actual emissions used for the modeling analysis are summarized in Table 2. Based on the modeling results, emission reductions from current rates considered necessary to achieve compliance with the 1-hour NAAQS were calculated and presented in Table 3.

Predicted exceedences of the 1-hour NAAQS for SO_2 extend throughout the region to a maximum distance of 40 kilometers.

Figure 1 provided at the end of this report shows the extent of NAAQS violations throughout the entire 50 kilometer modeling domain.

Figure 2 provides a close-up local view of NAAQS violations.

Air quality impacts in Florida are based on a background concentration of 5.2 $\mu g/m^3$. This is the 2008-10 design value for Miami - Dade County, Florida - the lowest measured background concentration in the state. This is the most recently available design value.

2.3 Conservative Modeling Assumptions

A dispersion modeling analysis requires the selection of numerous parameters which affect the predicted concentrations. For the enclosed analysis, several parameters were selected which under-predict facility impacts.

Assumptions used in this modeling analysis which likely under-estimate concentrations include the following:

- Allowable emissions are based on a limitation with an averaging period which is greater than the 1-hour average used for the SO_2 air quality standard. Emissions and impacts during any 1-hour period may be higher than assumed for the modeling analysis.
- No consideration of facility operation at less than 100% load. Stack parameters such as exit flow rate and temperature are typically lower at less than full load, reducing pollutant dispersion and increasing predicted air quality impacts.
- No consideration of building or structure downwash. These downwash effects typically increase predicted concentrations near the facility.
- No consideration of off-site sources. These other sources of SO_2 will increase the predicted impacts.

Table 1 - SO_2 Modeling Results for Crystal River Power Plant Modeling Analysis

Emission Rates	Averaging Period	99th Percentile 1-hour Daily Maximum ($\mu g/m^3$)				Complies with NAAQS?
		Impact	Background	Total	NAAQS	
Allowable	1-hour	915.8	5.2	921.0	196.2	No
Maximum	1-hour	529.4	5.2	534.6	196.2	No

Table 2 - Modeled SO_2 Emissions from Crystal River Power Plant[3,4]

Stack ID	Unit ID	Allowable Emissions 24-hour Average (lbs/hr)	Maximum Emissions 1-hour Average (lbs/hr)
S01	Unit 1	7,875.0	4,319.0
S02	Unit 2	10,069.5	5,092.0
S45	Units 4 and 5	17,280.0	10,531.0
Stack Total	All Units	32,224.5	19,942.0

Table 3 - Required Emission Reductions for Compliance with 1-hour SO_2 NAAQS

Acceptable Impact (NAAQS - Background) 99th Percentile 1-hour Daily Max ($\mu g/m^3$)	Required Total Facility Reduction Based on Allowable Emissions (%)	Required Total Facility Emission Rate (lbs/hr)	Required Total Facility Emission Rate (lbs/mmbtu)
191.0	79.1%	6,720.8	0.25

[3] Florida Department of Environmental Protection, Division of Air Resource Management, Title V Air Operation Permit No. 0170004-025-AV, April 11, 2011. All units have an emission limitation of 1.2 lbs/mmbtu.
[4] Maximum emissions are measured hourly rates reported for 2011 in USEPA, Clean Air Markets - Data and Maps.

3. Modeling Methodology

3.1 Air Dispersion Model

The modeling analysis used USEPA's AERMOD program, version 12060. AERMOD, as available from the Support Center for Regulatory Atmospheric Modeling (SCRAM) website, was used in conjunction with a third-party modeling software program, *AERMOD View*, sold by Lakes Environmental Software.

3.2 Control Options

The AERMOD model was run with the following control options:

- 1-hour average air concentrations
- Regulatory defaults
- Flagpole receptors

To reflect a representative inhalation level, a flagpole height of 1.5 meters was used for all modeled receptors. This parameter was added to the receptor file when running AERMAP, as described in Section 4.4.

An evaluation was conducted to determine if the modeled facility was located in a rural or urban setting using USEPA's methodology outlined in Section 7.2.3 of the Guideline on Air Quality Models.[5] For urban sources, the URBANOPT option is used in conjunction with the urban population from an appropriate nearby city and a default surface roughness of 1.0 meter. Methods described in Section 4.1 to determine whether rural or urban dispersion coefficients were used.

3.3 Output Options

The AERMOD analysis was based on five years of recent meteorological data. The modeling analyses used one run with five years of sequential meteorological data from 2007-2011. Consistent with USEPA's Modeling Guidance for SO_2 NAAQS Designations, AERMOD provided a table of fourth-high 1-hour SO_2 impacts concentrations consistent with the form of the 1-hour SO_2 NAAQS.[6]

Please refer to Table 1 for the modeling results.

---

[5] USEPA, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions, Appendix W to 40 CFR Part 51, November 9, 2005.
[6] USEPA, Area Designations for the 2010 Revised Primary Sulfur Dioxide National Ambient Air Quality Standards, Attachment 3, March 24, 2011, pp. 24-26.

4. Model Inputs

4.1 Geographical Inputs

The “ground floor” of all air dispersion modeling analyses is establishing a coordinate system for identifying the geographical location of emission sources and receptors. These geographical locations are used to determine local characteristics (such as land use and elevation), and also to ascertain source to receptor distances and relationships.

The Universal Transverse Mercator (UTM) NAD83 coordinate system was used for identifying the easting (x) and northing (y) coordinates of the modeled sources and receptors. Stack locations were obtained from facility permits and prior modeling files provided by the state regulatory agency. The stack locations were then verified using aerial photographs.

The facility was evaluated to determine if it should be modeled using the rural or urban dispersion coefficient option in AERMOD. A GIS was used to determine whether rural or urban dispersion coefficients apply to a site. Land use within a three-kilometer radius circle surrounding the facility was considered. USEPA guidance states that urban dispersion coefficients are used if more than 50% of the area within 3 kilometers has urban land uses. Otherwise, rural dispersion coefficients are appropriate.[7]

USEPA’s AERSURACE model Version 08009 was used to develop the meteorological data for the modeling analysis. This model was also used to evaluate surrounding land use within 3 kilometers. Based on the output from the AERSURFACE, approximately 20.2% of surrounding land use around the airport was of urban land use types including: 21 – Low Intensity Residential, 22 – High Intensity Residential, and 23 - Commercial/Industrial/Transportation.

This is less than the 50% value considered appropriate for the use of urban dispersion coefficients. Based on the AERSURFACE analysis, it was concluded that the rural option would be used for the modeling summarized in this report. Please refer to Section 4.5.3 for a discussion of the AERSURFACE analysis.

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[7] USEPA, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions, Appendix W to 40 CFR Part 51, November 9, 2005, Section 7.2.3.

4.2 Emission Rates and Source Parameters

The modeling analyses only considered SO_2 emissions from the facility. Off-site sources were not considered. Concentrations were predicted for two scenarios shown in Table 2:

1) approved or allowable emissions based on permits issued by the regulatory agency, and

2) measured actual hourly SO_2 emissions obtained from USEPA's Clean Air Markets Database. To assure realistic emission rates were used, emissions from all units at the facility were combined and the hour with the maximum total facility emissions was used to determine the actual emissions.

Stack parameters and emissions used for the modeling analysis are summarized in Table 4.

Table 4 – Facility Stack Parameters and Emissions [8]

Stack	S01	S02	S45
Description	Unit 1	Unit 2	Units 4 and 5
X Coord. [m]	334265.16	334329.64	334783.6
Y Coord. [m]	3204413.63	3204413.63	3205565.58
Base Elevation [m]	2.74	2.96	2.89
Release Height [m]	152.1	153.01	167.64
Gas Exit Temperature [°K]	417.039	422.039	327.594
Gas Exit Velocity [m/s]	40.473	48.796	15.333
Inside Diameter [m]	4.572	4.877	9.296
Allowable Emission Rate [g/s]	992.2	1,269.0	2,177.0
Maximum Emission Rate [g/s]	544.2	641.6	1,327.0

The above stack parameters and emissions were obtained from regulatory agency documents and databases identified in Section 2.3. The analysis was conducted based on 100% operating load using maximum exhaust flow rates and emission rates. Operation at less than full capacity loads was not considered. This assumption tends to under-predict impacts since stack parameters such as exit flow rate and temperature are typically lower at less than full load, reducing pollutant dispersion and increasing predicted air quality impacts. Stack location, height and diameter were verified using aerial photographs, and flue gas flow rate and temperature were verified using combustion calculations.

[8] Florida Department of Environmental Protection, Division of Air Resource Management, Title V Air Operation Permit No. 0170004-025-AV, April 11, 2011.

4.3 Building Dimensions and GEP

No building dimensions or prior downwash evaluations were available. Therefore this modeling analysis did not address the effects of downwash which may increase predicted concentrations.

4.4 Receptors

For Crystal River Power Plant, three receptor grids were employed:

1. A 100-meter Cartesian receptor grid centered on Crystal River Power Plant and extending out 5 kilometers.
2. A 500-meter Cartesian receptor grid centered on Crystal River Power Plant and extending out 10 kilometers.
3. A 1,000-meter Cartesian receptor grid centered on Crystal River Power Plant and extending out 50 kilometers. 50 kilometers is the maximum distance accepted by USEPA for the use of the AERMOD dispersion model.[9]

A flagpole height of 1.5 meters was used for all these receptors.

Elevations from stacks and receptors were obtained from National Elevation Dataset (NED) GeoTiff data. GeoTiff is a binary file that includes data descriptors and geo-referencing information necessary for extracting terrain elevations. These elevations were extracted from 1 arc-second (30 meter) resolution NED files. The USEPA software program AERMAP v. 11103 is used for these tasks.

4.5 Meteorological Data

To improve the accuracy of the modeling analysis, recent meteorological data for the 2007 to 2011 period were prepared using the USEPA's program AERMET which creates the model-ready surface and profile data files required by AERMOD. Required data inputs to AERMET included surface meteorological measurements, twice-daily soundings of upper air measurements, and the micrometeorological parameters surface roughness, albedo, and Bowen ratio. One-minute ASOS data were available so USEPA methods were used to reduce calm and missing hours.[10] The USEPA software program AERMINUTE v. 11325 is used for these tasks.

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[9] USEPA, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions, Appendix W to 40 CFR Part 51, Section A.1.(1), November 9, 2005.

[10] USEPA, Area Designations for the 2010 Revised Primary Sulfur Dioxide National Ambient Air Quality Standards, Attachment 3, March 24, 2011, p. 19.

This section discusses how the meteorological data was prepared for use in the 1-hour SO_2 NAAQS modeling analyses. The USEPA software program AERMET v. 11059 is used for these tasks.

4.5.1 Surface Meteorology

Surface meteorology was obtained for Hernando County Airport located near the Crystal River Power Plant. Integrated Surface Hourly (ISH) data for the 2007 to 2011 period were obtained from the National Climatic Data Center (NCDC). The ISH surface data was processed through AERMET Stage 1, which performs data extraction and quality control checks.

4.5.2 Upper Air Data

Upper-air data are collected by a "weather balloon" that is released twice per day at selected locations. As the balloon is released, it rises through the atmosphere, and radios the data back to the surface. The measuring and transmitting device is known as either a radiosonde, or rawindsonde. Data collected and radioed back include: air pressure, height, temperature, dew point, wind speed, and wind direction. The upper air data were processed through AERMET Stage 1, which performs data extraction and quality control checks.

For Crystal River Power Plant, the concurrent 2007 through 2011 upper air data from twice-daily radiosonde measurements obtained at the most representative location were used. This location was the Tampa Bay/Ruskin, Florida measurement station. These data are in Forecast Systems Laboratory (FSL) format and were downloaded in ASCII text format from NOAA's FSL website.[11] All reporting levels were downloaded and processed with AERMET.

4.5.3 AERSURFACE

AERSURFACE is a non-guideline program that extracts surface roughness, albedo, and daytime Bowen ratio for an area surrounding a given location. AERSURFACE uses land use and land cover (LULC) data in the U.S. Geological Survey's 1992 National Land Cover Dataset to extract the necessary micrometeorological data. LULC data was used for processing meteorological data sets used as input to AERMOD.

AERSURFACE v. 08009 was used to develop surface roughness, albedo, and daytime Bowen ratio values in a region surrounding the meteorological data collection site. AERSURFACE was used to develop surface roughness in a one kilometer radius surrounding the data collection site. Bowen ratio and albedo was developed for a 10 kilometer by 10 kilometer area centered on the meteorological data collection site. These micrometeorological data were processed for seasonal

[11] Available at: http://esrl.noaa.gov/raobs/

periods using 30-degree sectors. Seasonal moisture conditions were considered average with no months with continuous snow cover.

4.5.4 Data Review

Missing meteorological data were not filled as the data file met USEPA's 90% data completeness requirement.[12] The AERMOD output file shows there were 6.0% missing data.

The representativeness of airport meteorological data is a potential concern in modeling industrial source sites.[13] The surface characteristics of the airport data collection site and the modeled source location were compared. Since the Hernando County Airport is located close to Crystal River Power Plant, this meteorological data set was considered appropriate for this modeling analysis.

5. Background SO_2 Concentrations

Background concentrations were determined consistent with USEPA's Modeling Guidance for SO_2 NAAQS Designations.[14] To preserve the form of the 1-hour SO_2 standard, based on the 99th percentile of the annual distribution of daily maximum 1-hour concentrations averaged across the number of years modeled, the <u>background</u> fourth-highest daily maximum 1-hour SO_2 concentration was added to the <u>modeled</u> fourth-highest daily maximum 1-hour SO_2 concentration.[15]

Background concentrations were based on the 2008-10 design value measured by the ambient monitors located in Florida.[16]

6. Reporting

All files from the programs used for this modeling analysis are available to regulatory agencies. These include analyses prepared with AERSURFACE, AERMET, AERMAP, and AERMOD.

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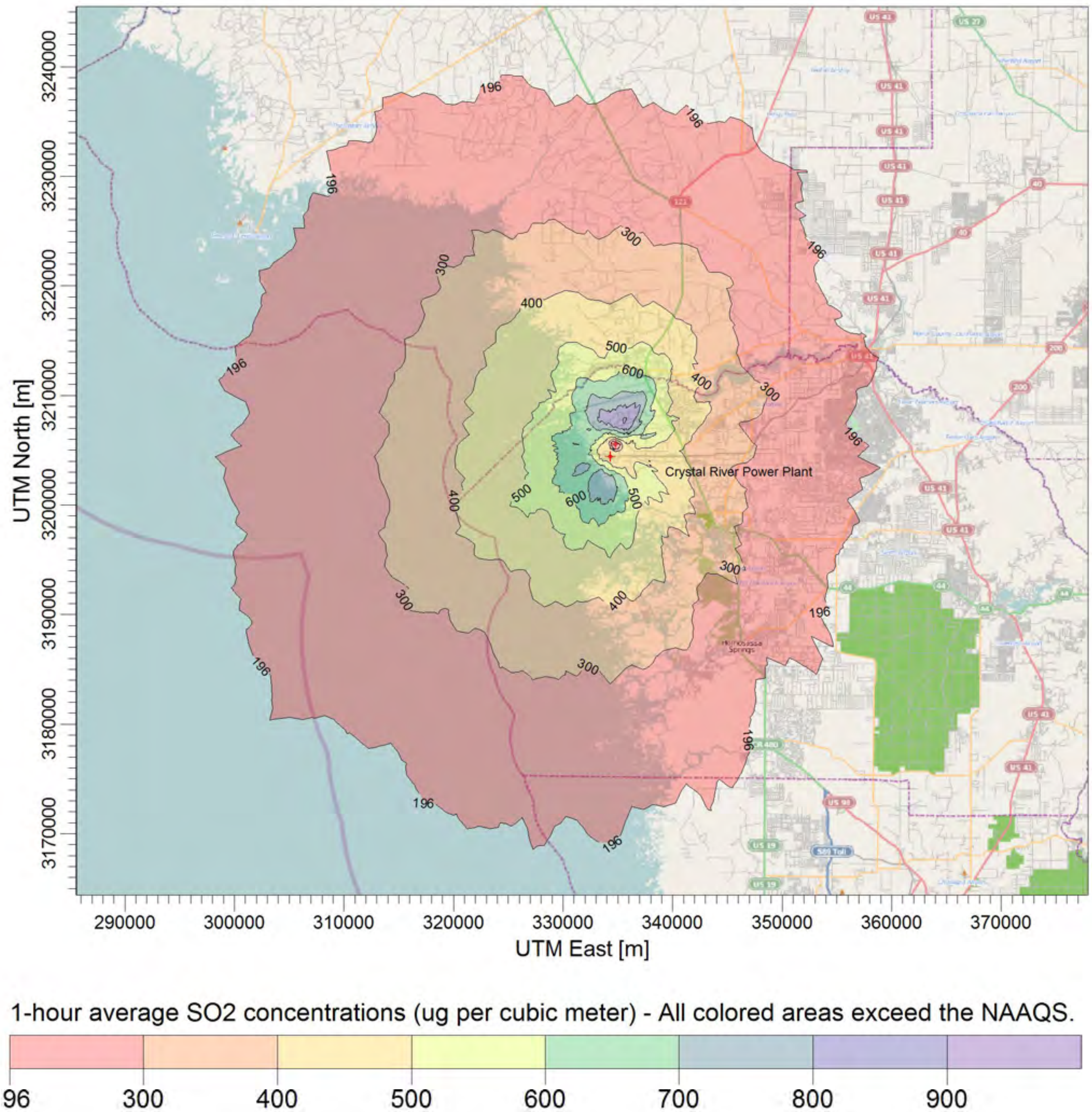
[12] USEPA, Meteorological Monitoring Guidance for Regulatory Modeling Applications, EPA-454/R-99-05, February 2000, Section 5.3.2, pp. 5-4 to 5-5.
[13] USEPA, AERMOD Implementation Guide, March 19, 2009, pp. 3-4.
[14] USEPA, Area Designations for the 2010 Revised Primary Sulfur Dioxide National Ambient Air Quality Standards, Attachment 3, March 24, 2011, pp. 20-23.
[15] USEPA, Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard, August 23, 2010, p. 3.
[16] http://www.epa.gov/airtrends/values.html

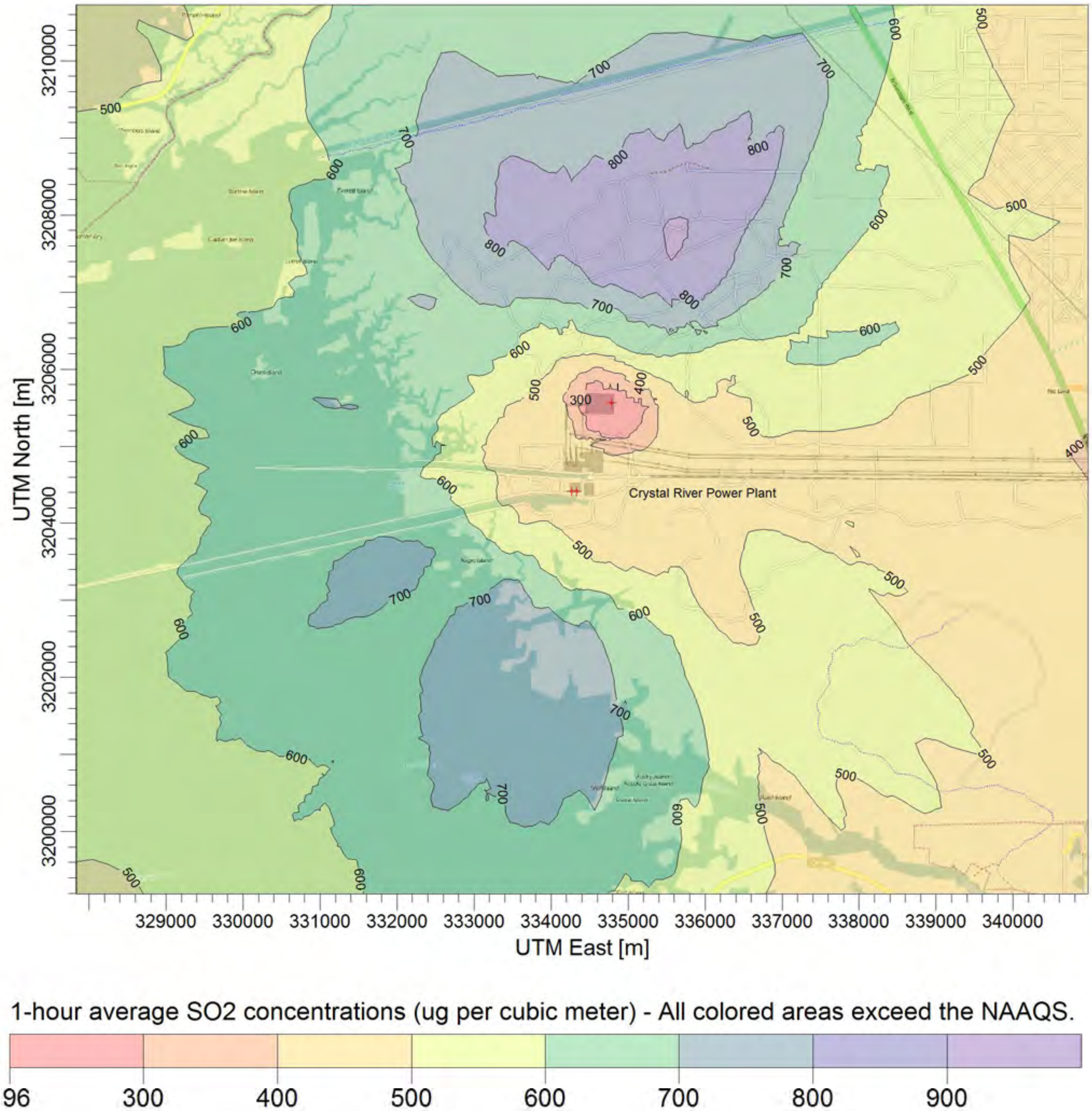
Crystal River Power Plant - Crystal River, Florida
Evaluation of Compliance with the 1-hour NAAQS for SO2



All concentrations include a background of 5.2 ug/m3. This figure is based on allowable emissions.	Total Sources **6**	**Conducted on behalf of the Sierra Club**	
	Total Receptors **22083**	**by Wingra Engineering, S.C.**	
	Output Type **Concentration**	SCALE: 1:580,926 0 — 20 km	
	Maximum **921.02714 ug/m^3**	DATE: **6/25/2012**	

AERMOD View - Lakes Environmental Software

Crystal River Power Plant - Crystal River, Florida
Evaluation of Compliance with the 1-hour NAAQS for SO2



All concentrations include a background of 5.2 ug/m3. This figure is based on allowable emissions.	Total Sources **6**	**Conducted on behalf of the Sierra Club**	
	Total Receptors **22083**	**by Wingra Engineering, S.C.**	
	Output Type **Concentration**	SCALE: 1:82,636 0 — 3 km	
	Maximum **921.02714 ug/m^3**	DATE: **6/25/2012**	

AERMOD View - Lakes Environmental Software

Exhibit H

State	Facility Name	Unit ID	Year	Date	Hour	SO2 (pounds)	SO2 Rate (lbs/MMBtu)	NOx (pounds)	CO2 (tons)	Heat Input (MMBtu)	Gross Load (MW)
FL	Crystal River	1	2013	9/1/2013	0	2267	1.649567052	511	141	1374.3	119
FL	Crystal River	1	2013	9/1/2013	1	2295	1.667756704	522	141	1376.1	119
FL	Crystal River	1	2013	9/1/2013	2	2313	1.673298126	507	141	1382.3	119
FL	Crystal River	1	2013	9/1/2013	3	2367	1.669605699	517	145	1417.7	119
FL	Crystal River	1	2013	9/1/2013	4	2351	1.673905304	523	144	1404.5	119
FL	Crystal River	1	2013	9/1/2013	5	2386	1.672977142	530	146	1426.2	119
FL	Crystal River	1	2013	9/1/2013	6	2307	1.663781913	522	142	1386.6	119
FL	Crystal River	1	2013	9/1/2013	7	2300	1.644384071	524	143	1398.7	120
FL	Crystal River	1	2013	9/1/2013	8	2409	1.614394853	544	153	1492.2	134
FL	Crystal River	1	2013	9/1/2013	9	2572	1.57791411	546	167	1630	150
FL	Crystal River	1	2013	9/1/2013	10	3074	1.577704783	627	199	1948.4	191
FL	Crystal River	1	2013	9/1/2013	11	5254	1.580150376	1123	341	3325	338
FL	Crystal River	1	2013	9/1/2013	12	6379	1.593913196	1500	410	4002.1	367
FL	Crystal River	1	2013	9/1/2013	13	6678	1.604285783	1536	427	4162.6	373
FL	Crystal River	1	2013	9/1/2013	14	5730	1.644897373	1281	357	3483.5	365
FL	Crystal River	1	2013	9/1/2013	15	5575	1.642362645	1262	348	3394.5	354
FL	Crystal River	1	2013	9/1/2013	16	5269	1.616108947	1232	334	3260.3	339
FL	Crystal River	1	2013	9/1/2013	17	4142	1.576943577	1050	269	2626.6	275
FL	Crystal River	1	2013	9/1/2013	18	2853	1.513849093	578	193	1884.6	189
FL	Crystal River	1	2013	9/1/2013	19	2040	1.486988848	474	140	1371.9	123
FL	Crystal River	1	2013	9/1/2013	20	2013	1.484513274	461	139	1356	119
FL	Crystal River	1	2013	9/1/2013	21	2026	1.490911767	468	139	1358.9	119
FL	Crystal River	1	2013	9/1/2013	22	2025	1.487985892	477	139	1360.9	119
FL	Crystal River	1	2013	9/1/2013	23	2018	1.479580614	477	139	1363.9	119
FL	Crystal River	1	2013	9/2/2013	0	2029	1.483837941	482	140	1367.4	119
FL	Crystal River	1	2013	9/2/2013	1	2085	1.480718699	497	144	1408.1	119
FL	Crystal River	1	2013	9/2/2013	2	2091	1.48392591	498	144	1409.1	119
FL	Crystal River	1	2013	9/2/2013	3	2110	1.496878547	483	144	1409.6	119
FL	Crystal River	1	2013	9/2/2013	4	2121	1.520212156	481	143	1395.2	119
FL	Crystal River	1	2013	9/2/2013	5	2179	1.530626581	495	146	1423.6	119
FL	Crystal River	1	2013	9/2/2013	6	2171	1.558171248	484	143	1393.3	119
FL	Crystal River	1	2013	9/2/2013	7	2132	1.560647098	479	140	1366.1	119
FL	Crystal River	1	2013	9/2/2013	8	2122	1.568018917	470	138	1353.3	121

FL	Crystal River	1	2013	9/2/2013	9	3211	1.573942454	579	209	2040.1	197
FL	Crystal River	1	2013	9/2/2013	10	3987	1.584910161	787	258	2515.6	256
FL	Crystal River	1	2013	9/2/2013	11	6496	1.600315333	1485	416	4059.2	366
FL	Crystal River	1	2013	9/2/2013	12	6646	1.577872745	1651	432	4212	378
FL	Crystal River	1	2013	9/2/2013	13	6558	1.544403363	1673	435	4246.3	379
FL	Crystal River	1	2013	9/2/2013	14	5573	1.544323441	1403	370	3608.7	372
FL	Crystal River	1	2013	9/2/2013	15	5604	1.56457647	1393	367	3581.8	372
FL	Crystal River	1	2013	9/2/2013	16	5628	1.585084211	1381	364	3550.6	369
FL	Crystal River	1	2013	9/2/2013	17	5595	1.636443405	1347	350	3419	356
FL	Crystal River	1	2013	9/2/2013	18	5488	1.666464229	1264	337	3293.2	342
FL	Crystal River	1	2013	9/2/2013	19	5591	1.696607392	1318	338	3295.4	341
FL	Crystal River	1	2013	9/2/2013	20	3351	1.653426753	871	207	2026.7	206
FL	Crystal River	1	2013	9/2/2013	21	2220	1.639828631	472	138	1353.8	121
FL	Crystal River	1	2013	9/2/2013	22	2236	1.605629757	466	142	1392.6	125
FL	Crystal River	1	2013	9/2/2013	23	2111	1.563935398	469	138	1349.8	119
FL	Crystal River	1	2013	9/3/2013	0	2073	1.528084918	477	139	1356.6	119
FL	Crystal River	1	2013	9/3/2013	1	2091	1.511056511	481	142	1383.8	119
FL	Crystal River	1	2013	9/3/2013	2	2090	1.496277205	490	143	1396.8	119
FL	Crystal River	1	2013	9/3/2013	3	2090	1.507066628	493	142	1386.8	119
FL	Crystal River	1	2013	9/3/2013	4	2084	1.511349627	493	141	1378.9	119
FL	Crystal River	1	2013	9/3/2013	5	2151	1.519175083	504	145	1415.9	121
FL	Crystal River	1	2013	9/3/2013	6	2037	1.492089071	466	140	1365.2	121
FL	Crystal River	1	2013	9/3/2013	7	2189	1.481356162	472	151	1477.7	132
FL	Crystal River	1	2013	9/3/2013	8	2521	1.47616817	488	175	1707.8	158
FL	Crystal River	1	2013	9/3/2013	9	3147	1.509569722	560	213	2084.7	206
FL	Crystal River	1	2013	9/3/2013	10	4442	1.58275432	934	287	2806.5	291
FL	Crystal River	1	2013	9/3/2013	11	6285	1.617885551	1429	398	3884.7	360
FL	Crystal River	1	2013	9/3/2013	12	6760	1.605243161	1490	432	4211.2	379
FL	Crystal River	1	2013	9/3/2013	13	6721	1.588025424	1549	434	4232.3	378
FL	Crystal River	1	2013	9/3/2013	14	6112	1.577086828	1422	397	3875.5	379
FL	Crystal River	1	2013	9/3/2013	15	5488	1.581966504	1245	355	3469.1	366
FL	Crystal River	1	2013	9/3/2013	16	5357	1.560351858	1201	352	3433.2	359
FL	Crystal River	1	2013	9/3/2013	17	5407	1.568746917	1237	353	3446.7	361
FL	Crystal River	1	2013	9/3/2013	18	5684	1.588685785	1252	367	3577.8	374
FL	Crystal River	1	2013	9/3/2013	19	5725	1.619839855	1198	362	3534.3	370

FL	Crystal River	1	2013	9/3/2013	20	4372	1.646890421	910	272	2654.7	278
FL	Crystal River	1	2013	9/3/2013	21	2321	1.667385057	444	142	1392	120
FL	Crystal River	1	2013	9/3/2013	22	2393	1.727797834	423	142	1385	119
FL	Crystal River	1	2013	9/3/2013	23	2464	1.797228301	431	140	1371	119
FL	Crystal River	1	2013	9/4/2013	0	2465	1.795731041	435	140	1372.7	119
FL	Crystal River	1	2013	9/4/2013	1	2382	1.726462274	441	141	1379.7	119
FL	Crystal River	1	2013	9/4/2013	2	2269	1.700644581	444	136	1334.2	119
FL	Crystal River	1	2013	9/4/2013	3	2250	1.686656672	442	136	1334	119
FL	Crystal River	1	2013	9/4/2013	4	2320	1.710536017	447	139	1356.3	122
FL	Crystal River	1	2013	9/4/2013	5	2470	1.738212526	476	145	1421	125
FL	Crystal River	1	2013	9/4/2013	6	2337	1.722689076	459	139	1356.6	119
FL	Crystal River	1	2013	9/4/2013	7	2330	1.708336388	458	139	1363.9	121
FL	Crystal River	1	2013	9/4/2013	8	3116	1.689346706	461	189	1844.5	176
FL	Crystal River	1	2013	9/4/2013	9	4609	1.685500091	768	280	2734.5	284
FL	Crystal River	1	2013	9/4/2013	10	6680	1.666625084	1358	411	4008.1	372
FL	Crystal River	1	2013	9/4/2013	11	6868	1.646015578	1431	428	4172.5	375
FL	Crystal River	1	2013	9/4/2013	12	6796	1.642498067	1444	424	4137.6	377
FL	Crystal River	1	2013	9/4/2013	13	6036	1.653336255	1281	374	3650.8	377
FL	Crystal River	1	2013	9/4/2013	14	5954	1.691092933	1264	361	3520.8	375
FL	Crystal River	1	2013	9/4/2013	15	5729	1.70136311	1208	345	3367.3	357
FL	Crystal River	1	2013	9/4/2013	16	5645	1.707914801	1180	339	3305.2	350
FL	Crystal River	1	2013	9/4/2013	17	4494	1.667718113	821	276	2694.7	291
FL	Crystal River	1	2013	9/4/2013	18	4609	1.693924804	783	279	2720.9	290
FL	Crystal River	1	2013	9/4/2013	19	3433	1.757358587	588	200	1953.5	198
FL	Crystal River	1	2013	9/4/2013	20	2486	1.760623229	471	144	1412	123
FL	Crystal River	1	2013	9/4/2013	21	2415	1.757514009	445	141	1374.1	121
FL	Crystal River	1	2013	9/4/2013	22	2467	1.736956981	448	145	1420.3	125
FL	Crystal River	1	2013	9/4/2013	23	2349	1.676061363	454	143	1401.5	119
FL	Crystal River	1	2013	9/5/2013	0	2276	1.65190884	446	141	1377.8	119
FL	Crystal River	1	2013	9/5/2013	1	2252	1.64044289	442	140	1372.8	119
FL	Crystal River	1	2013	9/5/2013	2	2216	1.624871682	421	139	1363.8	119
FL	Crystal River	1	2013	9/5/2013	3	2259	1.642550716	430	141	1375.3	119
FL	Crystal River	1	2013	9/5/2013	4	2248	1.644236396	429	140	1367.2	119
FL	Crystal River	1	2013	9/5/2013	5	2281	1.641834017	439	142	1389.3	119
FL	Crystal River	1	2013	9/5/2013	6	2193	1.630362055	441	138	1345.1	119

FL	Crystal River	1	2013	9/5/2013	7	2261	1.629314693	457	142	1387.7	124
FL	Crystal River	1	2013	9/5/2013	8	3106	1.649845958	513	193	1882.6	193
FL	Crystal River	1	2013	9/5/2013	9	3820	1.698683742	647	230	2248.8	227
FL	Crystal River	1	2013	9/5/2013	10	4500	1.727646178	778	267	2604.7	274
FL	Crystal River	1	2013	9/5/2013	11	7199	1.738217114	1532	424	4141.6	373
FL	Crystal River	1	2013	9/5/2013	12	6968	1.71820289	1545	416	4055.4	367
FL	Crystal River	1	2013	9/5/2013	13	7138	1.715741653	1572	426	4160.3	377
FL	Crystal River	1	2013	9/5/2013	14	7159	1.716992445	1567	427	4169.5	378
FL	Crystal River	1	2013	9/5/2013	15	7207	1.725318395	1574	428	4177.2	378
FL	Crystal River	1	2013	9/5/2013	16	7020	1.718734698	1535	419	4084.4	377
FL	Crystal River	1	2013	9/5/2013	17	5710	1.70188668	1321	344	3355.1	352
FL	Crystal River	1	2013	9/5/2013	18	5477	1.684919707	1251	333	3250.6	345
FL	Crystal River	1	2013	9/5/2013	19	5906	1.711288827	1328	354	3451.2	367
FL	Crystal River	1	2013	9/5/2013	20	5365	1.715153453	1210	320	3128	333
FL	Crystal River	1	2013	9/5/2013	21	3193	1.689954483	566	193	1889.4	192
FL	Crystal River	1	2013	9/5/2013	22	2601	1.690278139	474	157	1538.8	147
FL	Crystal River	1	2013	9/5/2013	23	2199	1.6732613	445	134	1314.2	119
FL	Crystal River	1	2013	9/6/2013	0	2227	1.666666667	445	137	1336.2	119
FL	Crystal River	1	2013	9/6/2013	1	2234	1.671154997	446	137	1336.8	119
FL	Crystal River	1	2013	9/6/2013	2	2235	1.693951796	448	135	1319.4	119
FL	Crystal River	1	2013	9/6/2013	3	2226	1.698847592	445	134	1310.3	119
FL	Crystal River	1	2013	9/6/2013	4	2255	1.711445052	451	135	1317.6	119
FL	Crystal River	1	2013	9/6/2013	5	2283	1.717186912	450	136	1329.5	119
FL	Crystal River	1	2013	9/6/2013	6	2224	1.68881464	451	135	1316.9	119
FL	Crystal River	1	2013	9/6/2013	7	2322	1.695633124	447	140	1369.4	126
FL	Crystal River	1	2013	9/6/2013	8	4106	1.717847879	666	245	2390.2	244
FL	Crystal River	1	2013	9/6/2013	9	6303	1.746225239	1230	370	3609.5	347
FL	Crystal River	1	2013	9/6/2013	10	7366	1.74446418	1613	433	4222.5	385
FL	Crystal River	1	2013	9/6/2013	11	7367	1.748095769	1614	432	4214.3	387
FL	Crystal River	1	2013	9/6/2013	12	7383	1.74671146	1631	433	4226.8	387
FL	Crystal River	1	2013	9/6/2013	13	7355	1.733811084	1595	435	4242.1	384
FL	Crystal River	1	2013	9/6/2013	14	7315	1.730541755	1614	433	4227	386
FL	Crystal River	1	2013	9/6/2013	15	6833	1.723546475	1518	406	3964.5	382
FL	Crystal River	1	2013	9/6/2013	16	4811	1.703069135	1079	289	2824.9	305
FL	Crystal River	1	2013	9/6/2013	17	3340	1.682619647	625	203	1985	196

FL	Crystal River	1	2013	9/6/2013	18	2476	1.637674449	488	155	1511.9	129
FL	Crystal River	1	2013	9/6/2013	19	2443	1.636083579	476	153	1493.2	128
FL	Crystal River	1	2013	9/6/2013	20	2297	1.646713026	456	143	1394.9	120
FL	Crystal River	1	2013	9/6/2013	21	2283	1.656147987	453	141	1378.5	121
FL	Crystal River	1	2013	9/6/2013	22	2237	1.637148712	452	140	1366.4	121
FL	Crystal River	1	2013	9/6/2013	23	2280	1.634994622	463	143	1394.5	121
FL	Crystal River	1	2013	9/7/2013	0	2286	1.620701879	475	144	1410.5	121
FL	Crystal River	1	2013	9/7/2013	1	2317	1.613060429	489	147	1436.4	121
FL	Crystal River	1	2013	9/7/2013	2	2343	1.618988391	503	148	1447.2	121
FL	Crystal River	1	2013	9/7/2013	3	2386	1.620373514	516	151	1472.5	121
FL	Crystal River	1	2013	9/7/2013	4	2338	1.59764931	521	150	1463.4	121
FL	Crystal River	1	2013	9/7/2013	5	2402	1.599307544	534	154	1501.9	121
FL	Crystal River	1	2013	9/7/2013	6	2387	1.595588235	529	153	1496	121
FL	Crystal River	1	2013	9/7/2013	7	2297	1.579345435	516	149	1454.4	121
FL	Crystal River	1	2013	9/7/2013	8	2265	1.573463008	511	147	1439.5	123
FL	Crystal River	1	2013	9/7/2013	9	2665	1.587916344	527	172	1678.3	154
FL	Crystal River	1	2013	9/7/2013	10	4530	1.628266417	856	285	2782.1	286
FL	Crystal River	1	2013	9/7/2013	11	5951	1.675346978	1371	364	3552.1	378
FL	Crystal River	1	2013	9/7/2013	12	6643	1.681814729	1587	405	3949.9	386
FL	Crystal River	1	2013	9/7/2013	13	7172	1.689318102	1706	435	4245.5	388
FL	Crystal River	1	2013	9/7/2013	14	7142	1.678377553	1740	436	4255.3	388
FL	Crystal River	1	2013	9/7/2013	15	7050	1.657068986	1748	436	4254.5	388
FL	Crystal River	1	2013	9/7/2013	16	6180	1.652980983	1536	383	3738.7	388
FL	Crystal River	1	2013	9/7/2013	17	5496	1.675048002	1391	336	3281.1	351
FL	Crystal River	1	2013	9/7/2013	18	4520	1.653739207	1005	280	2733.2	291
FL	Crystal River	1	2013	9/7/2013	19	5238	1.677340848	1186	320	3122.8	328
FL	Crystal River	1	2013	9/7/2013	20	3422	1.665044764	696	210	2055.2	212
FL	Crystal River	1	2013	9/7/2013	21	2185	1.626228044	460	137	1343.6	119
FL	Crystal River	1	2013	9/7/2013	22	2214	1.631179548	453	139	1357.3	119
FL	Crystal River	1	2013	9/7/2013	23	2223	1.640227256	454	139	1355.3	119
FL	Crystal River	1	2013	9/8/2013	0	2235	1.641933588	457	139	1361.2	119
FL	Crystal River	1	2013	9/8/2013	1	2251	1.650172275	465	140	1364.1	119
FL	Crystal River	1	2013	9/8/2013	2	2266	1.648239744	468	141	1374.8	119
FL	Crystal River	1	2013	9/8/2013	3	2253	1.634148111	467	141	1378.7	119
FL	Crystal River	1	2013	9/8/2013	4	2255	1.627101522	479	142	1385.9	119

FL	Crystal River	1	2013	9/8/2013	5	2250	1.600739898	475	144	1405.6	119
FL	Crystal River	1	2013	9/8/2013	6	2217	1.583119109	478	143	1400.4	119
FL	Crystal River	1	2013	9/8/2013	7	2217	1.587199313	480	143	1396.8	119
FL	Crystal River	1	2013	9/8/2013	8	2237	1.591944207	491	144	1405.2	123
FL	Crystal River	1	2013	9/8/2013	9	3147	1.603566879	586	201	1962.5	190
FL	Crystal River	1	2013	9/8/2013	10	5521	1.684515637	1163	336	3277.5	344
FL	Crystal River	1	2013	9/8/2013	11	6111	1.719229146	1329	364	3554.5	381
FL	Crystal River	1	2013	9/8/2013	12	6895	1.731237603	1493	408	3982.7	387
FL	Crystal River	1	2013	9/8/2013	13	7089	1.728813559	1537	420	4100.5	386
FL	Crystal River	1	2013	9/8/2013	14	6186	1.713383559	1364	370	3610.4	387
FL	Crystal River	1	2013	9/8/2013	15	6142	1.70006643	1409	370	3612.8	387
FL	Crystal River	1	2013	9/8/2013	16	6138	1.695111848	1408	371	3621	387
FL	Crystal River	1	2013	9/8/2013	17	5222	1.704196854	1182	314	3064.2	330
FL	Crystal River	1	2013	9/8/2013	18	4761	1.734363047	952	281	2745.1	294
FL	Crystal River	1	2013	9/8/2013	19	6179	1.788215547	1240	354	3455.4	366
FL	Crystal River	1	2013	9/8/2013	20	5115	1.791530945	1190	292	2855.1	304
FL	Crystal River	1	2013	9/8/2013	21	4108	1.802782288	811	233	2278.7	240
FL	Crystal River	1	2013	9/8/2013	22	2863	1.793634883	547	163	1596.2	154
FL	Crystal River	1	2013	9/8/2013	23	2365	1.737054719	480	139	1361.5	119
FL	Crystal River	1	2013	9/9/2013	0	2482	1.685568761	500	151	1472.5	124
FL	Crystal River	1	2013	9/9/2013	1	2335	1.643903126	542	145	1420.4	119
FL	Crystal River	1	2013	9/9/2013	2	2268	1.595273264	553	145	1421.7	119
FL	Crystal River	1	2013	9/9/2013	3	2220	1.554404145	561	146	1428.2	119
FL	Crystal River	1	2013	9/9/2013	4	2167	1.521235521	575	146	1424.5	119
FL	Crystal River	1	2013	9/9/2013	5	2206	1.496100373	573	151	1474.5	124
FL	Crystal River	1	2013	9/9/2013	6	2033	1.46734031	559	142	1385.5	120
FL	Crystal River	1	2013	9/9/2013	7	2258	1.470339259	563	157	1535.7	138
FL	Crystal River	1	2013	9/9/2013	8	2517	1.466185123	547	176	1716.7	162
FL	Crystal River	1	2013	9/9/2013	9	2743	1.472672608	542	191	1862.6	183
FL	Crystal River	1	2013	9/9/2013	10	2658	1.463414634	572	186	1816.3	178
FL	Crystal River	1	2013	9/9/2013	11	4407	1.56765794	851	288	2811.2	298
FL	Crystal River	1	2013	9/9/2013	12	5529	1.613694072	1305	351	3426.3	368
FL	Crystal River	1	2013	9/9/2013	13	6009	1.605568321	1414	384	3742.6	386
FL	Crystal River	1	2013	9/9/2013	14	5748	1.607652291	1330	366	3575.4	388
FL	Crystal River	1	2013	9/9/2013	15	5711	1.597840076	1336	366	3574.2	387

FL	Crystal River	1	2013	9/9/2013	16	5680	1.580851656	1333	368	3593	387
FL	Crystal River	1	2013	9/9/2013	17	5582	1.600252279	1322	357	3488.2	377
FL	Crystal River	1	2013	9/9/2013	18	5351	1.627383595	1285	337	3288.1	352
FL	Crystal River	1	2013	9/9/2013	19	5396	1.676088712	1281	330	3219.4	345
FL	Crystal River	1	2013	9/9/2013	20	4195	1.682239243	1017	255	2493.7	267
FL	Crystal River	1	2013	9/9/2013	21	2888	1.753810652	564	169	1646.7	161
FL	Crystal River	1	2013	9/9/2013	22	2403	1.768211921	540	139	1359	120
FL	Crystal River	1	2013	9/9/2013	23	2381	1.738844665	554	140	1369.3	119
FL	Crystal River	1	2013	9/10/2013	0	2363	1.710459645	560	141	1381.5	119
FL	Crystal River	1	2013	9/10/2013	1	2390	1.700704476	573	144	1405.3	119
FL	Crystal River	1	2013	9/10/2013	2	2391	1.711647219	581	143	1396.9	119
FL	Crystal River	1	2013	9/10/2013	3	2420	1.720216093	585	144	1406.8	119
FL	Crystal River	1	2013	9/10/2013	4	2484	1.755104925	593	145	1415.3	119
FL	Crystal River	1	2013	9/10/2013	5	2524	1.760357093	593	147	1433.8	119
FL	Crystal River	1	2013	9/10/2013	6	2486	1.791324398	588	142	1387.8	119
FL	Crystal River	1	2013	9/10/2013	7	2529	1.800128123	578	144	1404.9	120
FL	Crystal River	1	2013	9/10/2013	8	2920	1.822949182	567	164	1601.8	149
FL	Crystal River	1	2013	9/10/2013	9	3811	1.838309778	605	212	2073.1	208
FL	Crystal River	1	2013	9/10/2013	10	5225	1.779268542	992	301	2936.6	313
FL	Crystal River	1	2013	9/10/2013	11	6201	1.761197421	1327	361	3520.9	380
FL	Crystal River	1	2013	9/10/2013	12	6153	1.789026837	1303	352	3439.3	374
FL	Crystal River	1	2013	9/10/2013	13	6261	1.777027219	1324	361	3523.3	382
FL	Crystal River	1	2013	9/10/2013	14	6312	1.768612177	1349	366	3568.9	387
FL	Crystal River	1	2013	9/10/2013	15	6338	1.775897335	1352	366	3568.9	387
FL	Crystal River	1	2013	9/10/2013	16	6403	1.803560363	1352	364	3550.2	387
FL	Crystal River	1	2013	9/10/2013	17	6002	1.804678574	1247	341	3325.8	360
FL	Crystal River	1	2013	9/10/2013	18	5813	1.786526523	1106	333	3253.8	351
FL	Crystal River	1	2013	9/10/2013	19	6158	1.764419358	1305	358	3490.1	378
FL	Crystal River	1	2013	9/10/2013	20	4960	1.717392057	1074	296	2888.1	312
FL	Crystal River	1	2013	9/10/2013	21	2877	1.689967105	572	174	1702.4	165
FL	Crystal River	1	2013	9/10/2013	22	2494	1.66255583	507	153	1500.1	129
FL	Crystal River	1	2013	9/10/2013	23	2367	1.65408805	515	146	1431	119
FL	Crystal River	1	2013	9/11/2013	0	2353	1.649029364	519	146	1426.9	119
FL	Crystal River	1	2013	9/11/2013	1	2342	1.627858483	526	147	1438.7	119
FL	Crystal River	1	2013	9/11/2013	2	2292	1.628303495	526	144	1407.6	119

FL	Crystal River	1	2013	9/11/2013	3	2283	1.606954318	524	145	1420.7	119
FL	Crystal River	1	2013	9/11/2013	4	2282	1.611695741	526	145	1415.9	119
FL	Crystal River	1	2013	9/11/2013	5	2725	1.633007731	512	171	1668.7	151
FL	Crystal River	1	2013	9/11/2013	6	2351	1.634682242	545	147	1438.2	125
FL	Crystal River	1	2013	9/11/2013	7	2427	1.633133706	552	152	1486.1	128
FL	Crystal River	1	2013	9/11/2013	8	3184	1.647010139	566	198	1933.2	191
FL	Crystal River	1	2013	9/11/2013	9	5257	1.690190657	948	319	3110.3	333
FL	Crystal River	1	2013	9/11/2013	10	5949	1.698743575	1320	359	3502	379
FL	Crystal River	1	2013	9/11/2013	11	5829	1.666857306	1314	358	3497	380
FL	Crystal River	1	2013	9/11/2013	12	5352	1.692920858	1248	324	3161.4	345
FL	Crystal River	1	2013	9/11/2013	13	5235	1.711119827	1070	313	3059.4	335
FL	Crystal River	1	2013	9/11/2013	14	6019	1.726620769	1328	357	3486	382
FL	Crystal River	1	2013	9/11/2013	15	6074	1.705461182	1353	365	3561.5	384
FL	Crystal River	1	2013	9/11/2013	16	5982	1.704564883	1326	360	3509.4	383
FL	Crystal River	1	2013	9/11/2013	17	5703	1.686828951	1278	346	3380.9	371
FL	Crystal River	1	2013	9/11/2013	18	5790	1.706655662	1241	348	3392.6	370
FL	Crystal River	1	2013	9/11/2013	19	5966	1.715501625	1311	356	3477.7	377
FL	Crystal River	1	2013	9/11/2013	20	5408	1.70518682	1125	325	3171.5	344
FL	Crystal River	1	2013	9/11/2013	21	5337	1.711619255	1032	319	3118.1	337
FL	Crystal River	1	2013	9/11/2013	22	4636	1.680806323	979	283	2758.2	298
FL	Crystal River	1	2013	9/11/2013	23	2465	1.631477927	533	155	1510.9	135
FL	Crystal River	1	2013	9/12/2013	0	2292	1.616817156	548	145	1417.6	119
FL	Crystal River	1	2013	9/12/2013	1	2286	1.610085928	543	145	1419.8	119
FL	Crystal River	1	2013	9/12/2013	2	2277	1.62156388	533	144	1404.2	119
FL	Crystal River	1	2013	9/12/2013	3	2279	1.612081771	541	145	1413.7	119
FL	Crystal River	1	2013	9/12/2013	4	2258	1.604832978	543	144	1407	119
FL	Crystal River	1	2013	9/12/2013	5	2578	1.613872543	538	163	1597.4	143
FL	Crystal River	1	2013	9/12/2013	6	2250	1.60944206	580	143	1398	122
FL	Crystal River	1	2013	9/12/2013	7	2377	1.607275678	579	151	1478.9	130
FL	Crystal River	1	2013	9/12/2013	8	3161	1.627619587	607	199	1942.1	197
FL	Crystal River	1	2013	9/12/2013	9	4537	1.669672101	836	278	2717.3	294
FL	Crystal River	1	2013	9/12/2013	10	5152	1.660275209	1104	318	3103.1	333
FL	Crystal River	1	2013	9/12/2013	11	6129	1.645943551	1437	382	3723.7	366
FL	Crystal River	1	2013	9/12/2013	12	6846	1.647772402	1545	426	4154.7	385
FL	Crystal River	1	2013	9/12/2013	13	6470	1.648911769	1459	402	3923.8	360

FL	Crystal River	1	2013	9/12/2013	14	6678	1.652070655	1523	414	4042.2	377
FL	Crystal River	1	2013	9/12/2013	15	6659	1.66358549	1525	410	4002.8	383
FL	Crystal River	1	2013	9/12/2013	16	5891	1.644795622	1407	367	3581.6	372
FL	Crystal River	1	2013	9/12/2013	17	5431	1.647654875	1308	338	3296.2	355
FL	Crystal River	1	2013	9/12/2013	18	4878	1.634225602	1041	306	2984.9	324
FL	Crystal River	1	2013	9/12/2013	19	5347	1.642047723	1299	334	3256.3	351
FL	Crystal River	1	2013	9/12/2013	20	3702	1.622119008	791	234	2282.2	243
FL	Crystal River	1	2013	9/12/2013	21	2288	1.593536704	542	147	1435.8	124
FL	Crystal River	1	2013	9/12/2013	22	2239	1.603638447	552	143	1396.2	120
FL	Crystal River	1	2013	9/12/2013	23	2214	1.601678362	586	141	1382.3	119
FL	Crystal River	1	2013	9/13/2013	0	2185	1.592797784	581	140	1371.8	119
FL	Crystal River	1	2013	9/13/2013	1	2177	1.591723331	581	140	1367.7	119
FL	Crystal River	1	2013	9/13/2013	2	2208	1.589175184	591	142	1389.4	119
FL	Crystal River	1	2013	9/13/2013	3	2206	1.589108198	590	142	1388.2	119
FL	Crystal River	1	2013	9/13/2013	4	2217	1.589931153	596	143	1394.4	119
FL	Crystal River	1	2013	9/13/2013	5	2254	1.588890455	602	145	1418.6	119
FL	Crystal River	1	2013	9/13/2013	6	2206	1.607520222	590	140	1372.3	119
FL	Crystal River	1	2013	9/13/2013	7	2221	1.622707679	584	140	1368.7	119
FL	Crystal River	1	2013	9/13/2013	8	2323	1.650092343	547	144	1407.8	130
FL	Crystal River	1	2013	9/13/2013	9	2817	1.653654241	565	174	1703.5	171
FL	Crystal River	1	2013	9/13/2013	10	4820	1.662298248	919	297	2899.6	285
FL	Crystal River	1	2013	9/13/2013	11	7046	1.670380731	1548	432	4218.2	386
FL	Crystal River	1	2013	9/13/2013	12	7111	1.669248826	1589	437	4260	391
FL	Crystal River	1	2013	9/13/2013	13	7081	1.666784361	1686	435	4248.3	392
FL	Crystal River	1	2013	9/13/2013	14	7045	1.653911165	1729	437	4259.6	391
FL	Crystal River	1	2013	9/13/2013	15	6188	1.640291584	1520	387	3772.5	389
FL	Crystal River	1	2013	9/13/2013	16	5924	1.638410266	1435	371	3615.7	388
FL	Crystal River	1	2013	9/13/2013	17	5441	1.640337655	1346	340	3317	354
FL	Crystal River	1	2013	9/13/2013	18	4310	1.620666316	1047	272	2659.4	282
FL	Crystal River	1	2013	9/13/2013	19	4482	1.624030727	1040	283	2759.8	291
FL	Crystal River	1	2013	9/13/2013	20	2403	1.592761981	567	154	1508.7	144
FL	Crystal River	1	2013	9/13/2013	21	2077	1.574558411	534	135	1319.1	119
FL	Crystal River	1	2013	9/13/2013	22	2060	1.586934751	528	133	1298.1	119
FL	Crystal River	1	2013	9/13/2013	23	2067	1.582574075	523	134	1306.1	119
FL	Crystal River	1	2013	9/14/2013	0	2085	1.58002425	530	135	1319.6	119

FL	Crystal River	1	2013	9/14/2013	1	2082	1.579186893	530	135	1318.4	119
FL	Crystal River	1	2013	9/14/2013	2	2083	1.571601026	535	136	1325.4	119
FL	Crystal River	1	2013	9/14/2013	3	2117	1.577496274	547	137	1342	119
FL	Crystal River	1	2013	9/14/2013	4	2120	1.586588834	549	137	1336.2	119
FL	Crystal River	1	2013	9/14/2013	5	2145	1.575352526	558	139	1361.6	119
FL	Crystal River	1	2013	9/14/2013	6	2117	1.563400044	549	138	1354.1	119
FL	Crystal River	1	2013	9/14/2013	7	2091	1.567701305	549	136	1333.8	119
FL	Crystal River	1	2013	9/14/2013	8	2494	1.557971014	550	164	1600.8	152
FL	Crystal River	1	2013	9/14/2013	9	2627	1.554897899	581	173	1689.5	167
FL	Crystal River	1	2013	9/14/2013	10	3734	1.568841645	778	244	2380.1	242
FL	Crystal River	1	2013	9/14/2013	11	6559	1.607046602	1559	418	4081.4	369
FL	Crystal River	1	2013	9/14/2013	12	6266	1.602393617	1486	401	3910.4	367
FL	Crystal River	1	2013	9/14/2013	13	5899	1.610296727	1278	375	3663.3	369
FL	Crystal River	1	2013	9/14/2013	14	6805	1.600047026	1501	436	4253	389
FL	Crystal River	1	2013	9/14/2013	15	6902	1.625989446	1532	435	4244.8	391
FL	Crystal River	1	2013	9/14/2013	16	6453	1.62921632	1485	406	3960.8	391
FL	Crystal River	1	2013	9/14/2013	17	5800	1.62797878	1368	365	3562.7	381
FL	Crystal River	1	2013	9/14/2013	18	5437	1.617817717	1219	344	3360.7	357
FL	Crystal River	1	2013	9/14/2013	19	4861	1.612806901	1154	309	3014	322
FL	Crystal River	1	2013	9/14/2013	20	3269	1.584355159	662	211	2063.3	216
FL	Crystal River	1	2013	9/14/2013	21	2055	1.560957083	499	135	1316.5	124
FL	Crystal River	1	2013	9/14/2013	22	2057	1.539209817	493	137	1336.4	122
FL	Crystal River	1	2013	9/14/2013	23	2037	1.544703117	510	135	1318.7	119
FL	Crystal River	1	2013	9/15/2013	0	2057	1.532786885	540	137	1342	119
FL	Crystal River	1	2013	9/15/2013	1	2061	1.537142005	544	137	1340.8	119
FL	Crystal River	1	2013	9/15/2013	2	2078	1.540286117	547	138	1349.1	119
FL	Crystal River	1	2013	9/15/2013	3	2099	1.523664344	545	141	1377.6	120
FL	Crystal River	1	2013	9/15/2013	4	2151	1.532597079	734	144	1403.5	119
FL	Crystal River	1	2013	9/15/2013	5	2176	1.581395349	679	141	1376	119
FL	Crystal River	1	2013	9/15/2013	6	2152	1.580145385	649	139	1361.9	119
FL	Crystal River	1	2013	9/15/2013	7	2274	1.571201548	686	148	1447.3	127
FL	Crystal River	1	2013	9/15/2013	8	2661	1.578385432	748	173	1685.9	156
FL	Crystal River	1	2013	9/15/2013	9	2604	1.600491703	771	166	1627	158
FL	Crystal River	1	2013	9/15/2013	10	4975	1.650630392	1259	309	3014	316
FL	Crystal River	1	2013	9/15/2013	11	6197	1.656199054	1485	383	3741.7	362

FL	Crystal River	1	2013	9/15/2013	12	6771	1.665723634	1613	417	4064.9	368
FL	Crystal River	1	2013	9/15/2013	13	6758	1.655682681	1575	418	4081.7	369
FL	Crystal River	1	2013	9/15/2013	14	6651	1.671945701	1527	408	3978	369
FL	Crystal River	1	2013	9/15/2013	15	4792	1.652527761	1217	297	2899.8	310
FL	Crystal River	1	2013	9/15/2013	16	2930	1.62263942	678	185	1805.7	209
FL	Crystal River	1	2013	9/15/2013	17	2227	1.579768745	555	144	1409.7	122
FL	Crystal River	1	2013	9/15/2013	18	2391	1.57541016	499	155	1517.7	166
FL	Crystal River	1	2013	9/15/2013	19	2171	1.539388783	555	144	1410.3	126
FL	Crystal River	1	2013	9/15/2013	20	2196	1.530526903	586	147	1434.8	119
FL	Crystal River	1	2013	9/15/2013	21	2198	1.528405535	606	147	1438.1	119
FL	Crystal River	1	2013	9/15/2013	22	2189	1.529378886	601	146	1431.3	119
FL	Crystal River	1	2013	9/15/2013	23	2161	1.519690577	557	145	1422	119
FL	Crystal River	1	2013	9/16/2013	0	2080	1.514930808	483	140	1373	119
FL	Crystal River	1	2013	9/16/2013	1	2094	1.525127458	464	140	1373	119
FL	Crystal River	1	2013	9/16/2013	2	2113	1.522553682	453	142	1387.8	119
FL	Crystal River	1	2013	9/16/2013	3	2111	1.521112552	458	142	1387.8	119
FL	Crystal River	1	2013	9/16/2013	4	2074	1.526908636	468	139	1358.3	119
FL	Crystal River	1	2013	9/16/2013	5	2098	1.528040787	473	140	1373	119
FL	Crystal River	1	2013	9/16/2013	6	2060	1.516601634	476	139	1358.3	120
FL	Crystal River	1	2013	9/16/2013	7	2091	1.522942462	479	140	1373	122
FL	Crystal River	1	2013	9/16/2013	8	3742	1.547431974	645	248	2418.2	226
FL	Crystal River	1	2013	9/16/2013	9	5263	1.591328274	1144	339	3307.3	355
FL	Crystal River	1	2013	9/16/2013	10	5845	1.594424289	1708	376	3665.9	364
FL	Crystal River	1	2013	9/16/2013	11	5818	1.587059112	1352	376	3665.9	363
FL	Crystal River	1	2013	9/16/2013	12	5861	1.598788838	1253	376	3665.9	364
FL	Crystal River	1	2013	9/16/2013	13	5885	1.59148683	1242	379	3697.8	364
FL	Crystal River	1	2013	9/16/2013	14	6030	1.589561091	1198	389	3793.5	364
FL	Crystal River	1	2013	9/16/2013	15	5917	1.586454675	1305	382	3729.7	364
FL	Crystal River	1	2013	9/16/2013	16	5885	1.59148683	1327	379	3697.8	363
FL	Crystal River	1	2013	9/16/2013	17	5412	1.582594964	1231	350	3419.7	363
FL	Crystal River	1	2013	9/16/2013	18	5456	1.588632658	1243	352	3434.4	364
FL	Crystal River	1	2013	9/16/2013	19	5405	1.597222222	1177	347	3384	356
FL	Crystal River	1	2013	9/16/2013	20	3099	1.550120048	663	205	1999.2	204
FL	Crystal River	1	2013	9/16/2013	21	2103	1.519508671	474	142	1384	119
FL	Crystal River	1	2013	9/16/2013	22	2083	1.510624411	474	141	1378.9	119

FL	Crystal River	1	2013	9/16/2013	23	2063	1.490606936	488	142	1384	119
FL	Crystal River	1	2013	9/17/2013	0	2036	1.472481377	488	141	1382.7	119
FL	Crystal River	1	2013	9/17/2013	1	1883	1.394711503	472	138	1350.1	119
FL	Crystal River	1	2013	9/17/2013	2	1727	1.253811529	461	141	1377.4	119
FL	Crystal River	1	2013	9/17/2013	3	1522	1.088308902	444	143	1398.5	119
FL	Crystal River	1	2013	9/17/2013	4	1320	0.947663149	429	142	1392.9	119
FL	Crystal River	1	2013	9/17/2013	5	1215	0.854610677	436	145	1421.7	119
FL	Crystal River	1	2013	9/17/2013	6	1092	0.776229741	429	144	1406.8	119
FL	Crystal River	1	2013	9/17/2013	7	1097	0.763024275	435	147	1437.7	120
FL	Crystal River	1	2013	9/17/2013	8	1066	0.75618926	425	144	1409.7	123
FL	Crystal River	1	2013	9/17/2013	9	1892	0.856496152	567	226	2209	218
FL	Crystal River	1	2013	9/17/2013	10	3751	1.082914718	1208	355	3463.8	361
FL	Crystal River	1	2013	9/17/2013	11	3784	1.100928108	1223	352	3437.1	364
FL	Crystal River	1	2013	9/17/2013	12	3714	1.079745327	1155	352	3439.7	363
FL	Crystal River	1	2013	9/17/2013	13	3512	1.024055985	1124	351	3429.5	364
FL	Crystal River	1	2013	9/17/2013	14	3195	0.929616806	1110	352	3436.9	364
FL	Crystal River	1	2013	9/17/2013	15	2906	0.846243448	1095	352	3434	364
FL	Crystal River	1	2013	9/17/2013	16	2834	0.820070606	1078	354	3455.8	363
FL	Crystal River	1	2013	9/17/2013	17	2256	0.78856304	921	293	2860.9	301
FL	Crystal River	1	2013	9/17/2013	18	1108	0.755488886	491	150	1466.6	138
FL	Crystal River	1	2013	9/17/2013	19	1012	0.746312684	417	139	1356	119
FL	Crystal River	1	2013	9/17/2013	20	1008	0.74611399	425	138	1351	119
FL	Crystal River	1	2013	9/17/2013	21	1018	0.744750896	429	140	1366.9	119
FL	Crystal River	1	2013	9/17/2013	22	1022	0.737906137	430	142	1385	119
FL	Crystal River	1	2013	9/17/2013	23	1033	0.735859809	433	144	1403.8	119
FL	Crystal River	1	2013	9/18/2013	0	1038	0.733568905	438	145	1415	119
FL	Crystal River	1	2013	9/18/2013	1	1054	0.737630345	445	146	1428.9	119
FL	Crystal River	1	2013	9/18/2013	2	1064	0.737301642	448	148	1443.1	119
FL	Crystal River	1	2013	9/18/2013	3	1091	0.749673607	448	149	1455.3	119
FL	Crystal River	1	2013	9/18/2013	4	1110	0.75310401	458	151	1473.9	119
FL	Crystal River	1	2013	9/18/2013	5	1123	0.751874665	470	153	1493.6	119
FL	Crystal River	1	2013	9/18/2013	6	1100	0.755027799	464	149	1456.9	119
FL	Crystal River	1	2013	9/18/2013	7	1097	0.755821965	461	148	1451.4	119
FL	Crystal River	1	2013	9/18/2013	8	1437	0.766195681	504	192	1875.5	174
FL	Crystal River	1	2013	9/18/2013	9	1789	0.773822397	684	237	2311.9	230

FL	Crystal River	1	2013	9/18/2013	10	2108	0.791618161	836	273	2662.9	276
FL	Crystal River	1	2013	9/18/2013	11	2110	0.795745965	835	272	2651.6	275
FL	Crystal River	1	2013	9/18/2013	12	2134	0.805891239	823	271	2648	275
FL	Crystal River	1	2013	9/18/2013	13	2173	0.814834258	832	273	2666.8	275
FL	Crystal River	1	2013	9/18/2013	14	2150	0.816187078	819	270	2634.2	275
FL	Crystal River	1	2013	9/18/2013	15	2212	0.790056433	795	287	2799.8	287
FL	Crystal River	1	2013	9/18/2013	16	2436	0.792298185	876	315	3074.6	315
FL	Crystal River	1	2013	9/18/2013	17	2246	0.795917644	753	289	2821.9	296
FL	Crystal River	1	2013	9/18/2013	18	1740	0.796776262	565	224	2183.8	224
FL	Crystal River	1	2013	9/18/2013	19	1287	0.834792761	434	158	1541.7	138
FL	Crystal River	1	2013	9/18/2013	20	1359	0.951147816	415	146	1428.8	120
FL	Crystal River	1	2013	9/18/2013	21	1402	0.95037961	421	151	1475.2	124
FL	Crystal River	1	2013	9/18/2013	22	1317	0.890165596	430	151	1479.5	121
FL	Crystal River	1	2013	9/18/2013	23	1231	0.832994993	424	151	1477.8	121
FL	Crystal River	1	2013	9/19/2013	0	1226	0.806950569	446	155	1519.3	121
FL	Crystal River	1	2013	9/19/2013	1	1214	0.787034036	468	158	1542.5	121
FL	Crystal River	1	2013	9/19/2013	2	1240	0.798146241	469	159	1553.6	120
FL	Crystal River	1	2013	9/19/2013	3	1259	0.799822121	464	161	1574.1	121
FL	Crystal River	1	2013	9/19/2013	4	1328	0.833542556	474	163	1593.2	121
FL	Crystal River	1	2013	9/19/2013	5	1323	0.850639748	468	159	1555.3	121
FL	Crystal River	1	2013	9/19/2013	6	2268	0.892316166	622	260	2541.7	241
FL	Crystal River	1	2013	9/19/2013	7	2807	0.872335136	978	330	3217.8	334
FL	Crystal River	1	2013	9/19/2013	8	2647	0.828067322	994	328	3196.6	334
FL	Crystal River	1	2013	9/19/2013	9	2577	0.811960426	1904	325	3173.8	334
FL	Crystal River	1	2013	9/19/2013	10	2552	0.802389561	1036	326	3180.5	335
FL	Crystal River	1	2013	9/19/2013	11	2483	0.78226899	882	325	3174.1	334
FL	Crystal River	1	2013	9/19/2013	12	2543	0.796005885	936	327	3194.7	338
FL	Crystal River	1	2013	9/19/2013	13	2726	0.792395791	1004	353	3440.2	362
FL	Crystal River	1	2013	9/19/2013	14	2760	0.780609215	1028	362	3535.7	373
FL	Crystal River	1	2013	9/19/2013	15	2744	0.776874947	1027	362	3532.1	372
FL	Crystal River	1	2013	9/19/2013	16	2605	0.781460927	973	342	3333.5	352
FL	Crystal River	1	2013	9/19/2013	17	2405	0.780565382	927	316	3081.1	326
FL	Crystal River	1	2013	9/19/2013	18	2414	0.803247596	877	308	3005.3	313
FL	Crystal River	1	2013	9/19/2013	19	2099	0.776429681	873	277	2703.4	285
FL	Crystal River	1	2013	9/19/2013	20	1107	0.754344123	475	150	1467.5	127

FL	Crystal River	1	2013	9/19/2013	21	1073	0.745604892	434	147	1439.1	119
FL	Crystal River	1	2013	9/19/2013	22	1064	0.743276284	402	146	1431.5	119
FL	Crystal River	1	2013	9/19/2013	23	1058	0.738362761	382	147	1432.9	119
FL	Crystal River	1	2013	9/20/2013	0	1049	0.739096738	380	145	1419.3	119
FL	Crystal River	1	2013	9/20/2013	1	1129	0.739503504	377	156	1526.7	131
FL	Crystal River	1	2013	9/20/2013	2	1109	0.734777712	365	154	1509.3	130
FL	Crystal River	1	2013	9/20/2013	3	1047	0.741974346	365	144	1411.1	119
FL	Crystal River	1	2013	9/20/2013	4	1038	0.747300216	359	142	1389	119
FL	Crystal River	1	2013	9/20/2013	5	1060	0.747848173	368	145	1417.4	119
FL	Crystal River	1	2013	9/20/2013	6	1945	0.785192362	844	254	2477.1	244
FL	Crystal River	1	2013	9/20/2013	7	2702	0.786929171	1253	352	3433.6	359
FL	Crystal River	1	2013	9/20/2013	8	2662	0.775121568	937	352	3434.3	363
FL	Crystal River	1	2013	9/20/2013	9	2687	0.782834169	950	352	3432.4	363
FL	Crystal River	1	2013	9/20/2013	10	2706	0.791482641	953	350	3418.9	364
FL	Crystal River	1	2013	9/20/2013	11	2699	0.791379563	944	349	3410.5	364
FL	Crystal River	1	2013	9/20/2013	12	2558	0.789286926	901	332	3240.9	346
FL	Crystal River	1	2013	9/20/2013	13	2435	0.781902254	840	319	3114.2	328
FL	Crystal River	1	2013	9/20/2013	14	2441	0.776152623	858	322	3145	331
FL	Crystal River	1	2013	9/20/2013	15	2470	0.768991283	860	329	3212	337
FL	Crystal River	1	2013	9/20/2013	16	2439	0.766402715	872	326	3182.4	334
FL	Crystal River	1	2013	9/20/2013	17	2302	0.760639704	874	310	3026.4	319
FL	Crystal River	1	2013	9/20/2013	18	2308	0.76464352	863	309	3018.4	318
FL	Crystal River	1	2013	9/20/2013	19	2189	0.763888889	811	294	2865.6	303
FL	Crystal River	1	2013	9/20/2013	20	1437	0.788650458	552	186	1822.1	183
FL	Crystal River	1	2013	9/20/2013	21	1379	0.98338444	443	143	1402.3	122
FL	Crystal River	1	2013	9/20/2013	22	1595	1.140507687	450	143	1398.5	122
FL	Crystal River	1	2013	9/20/2013	23	1700	1.213678875	460	143	1400.7	121
FL	Crystal River	1	2013	9/21/2013	0	1806	1.276505513	474	145	1414.8	121
FL	Crystal River	1	2013	9/21/2013	1	1909	1.347402597	483	145	1416.8	121
FL	Crystal River	1	2013	9/21/2013	2	1834	1.289098194	490	146	1422.7	120
FL	Crystal River	1	2013	9/21/2013	3	1806	1.260821	505	147	1432.4	119
FL	Crystal River	1	2013	9/21/2013	4	1886	1.320266013	521	146	1428.5	120
FL	Crystal River	1	2013	9/21/2013	5	2015	1.384594242	538	149	1455.3	119
FL	Crystal River	1	2013	9/21/2013	6	2073	1.451782338	522	146	1427.9	119
FL	Crystal River	1	2013	9/21/2013	7	2105	1.440005473	535	150	1461.8	126

FL	Crystal River	1	2013	9/21/2013	8	2332	1.497271268	534	159	1557.5	145
FL	Crystal River	1	2013	9/21/2013	9	2322	1.570616883	456	151	1478.4	138
FL	Crystal River	1	2013	9/21/2013	10	2421	1.580080929	462	157	1532.2	145
FL	Crystal River	1	2013	9/21/2013	11	3994	1.457557842	770	281	2740.2	284
FL	Crystal River	1	2013	9/21/2013	12	5060	1.482262648	1048	350	3413.7	362
FL	Crystal River	1	2013	9/21/2013	13	5302	1.543477628	1088	352	3435.1	365
FL	Crystal River	1	2013	9/21/2013	14	5152	1.536626104	1015	344	3352.8	354
FL	Crystal River	1	2013	9/21/2013	15	5174	1.541762269	1003	344	3355.9	355
FL	Crystal River	1	2013	9/21/2013	16	5208	1.555880859	1010	343	3347.3	353
FL	Crystal River	1	2013	9/21/2013	17	4792	1.560048182	1124	315	3071.7	325
FL	Crystal River	1	2013	9/21/2013	18	5318	1.604949449	1173	340	3313.5	350
FL	Crystal River	1	2013	9/21/2013	19	4566	1.63914417	1089	285	2785.6	296
FL	Crystal River	1	2013	9/21/2013	20	2945	1.625365638	614	185	1811.9	180
FL	Crystal River	1	2013	9/21/2013	21	2243	1.624067772	515	141	1381.1	122
FL	Crystal River	1	2013	9/21/2013	22	2277	1.610780985	508	145	1413.6	127
FL	Crystal River	1	2013	9/21/2013	23	2207	1.606142202	523	141	1374.1	121
FL	Crystal River	1	2013	9/22/2013	0	2229	1.592825497	522	143	1399.4	123
FL	Crystal River	1	2013	9/22/2013	1	2284	1.592747559	532	147	1434	123
FL	Crystal River	1	2013	9/22/2013	2	2335	1.60657768	536	149	1453.4	120
FL	Crystal River	1	2013	9/22/2013	3	2297	1.616012382	520	145	1421.4	120
FL	Crystal River	1	2013	9/22/2013	4	2281	1.620143476	518	144	1407.9	120
FL	Crystal River	1	2013	9/22/2013	5	2302	1.614758698	521	146	1425.6	119
FL	Crystal River	1	2013	9/22/2013	6	2303	1.613649103	520	146	1427.2	119
FL	Crystal River	1	2013	9/22/2013	7	2372	1.596446359	521	152	1485.8	124
FL	Crystal River	1	2013	9/22/2013	8	2847	1.60042723	540	182	1778.9	169
FL	Crystal River	1	2013	9/22/2013	9	4546	1.618196704	868	288	2809.3	291
FL	Crystal River	1	2013	9/22/2013	10	5332	1.623234291	1143	337	3284.8	347
FL	Crystal River	1	2013	9/22/2013	11	5363	1.614826413	1232	340	3321.1	352
FL	Crystal River	1	2013	9/22/2013	12	4658	1.598764373	1002	298	2913.5	310
FL	Crystal River	1	2013	9/22/2013	13	4467	1.595072309	1039	287	2800.5	299
FL	Crystal River	1	2013	9/22/2013	14	4706	1.593040181	1087	303	2954.1	310
FL	Crystal River	1	2013	9/22/2013	15	5017	1.596855306	1102	322	3141.8	332
FL	Crystal River	1	2013	9/22/2013	16	4765	1.593645485	1136	306	2990	320
FL	Crystal River	1	2013	9/22/2013	17	4336	1.550786838	1006	286	2796	297
FL	Crystal River	1	2013	9/22/2013	18	5024	1.488504385	1171	346	3375.2	356

FL	Crystal River	1	2013	9/22/2013	19	3804	1.277796439	1149	305	2977	315
FL	Crystal River	1	2013	9/22/2013	20	1698	1.061913696	543	164	1599	149
FL	Crystal River	1	2013	9/22/2013	21	1257	0.872613676	479	147	1440.5	122
FL	Crystal River	1	2013	9/22/2013	22	1097	0.772317657	453	145	1420.4	121
FL	Crystal River	1	2013	9/22/2013	23	1013	0.728776978	439	142	1390	120
FL	Crystal River	1	2013	9/23/2013	0	1012	0.719823601	440	144	1405.9	120
FL	Crystal River	1	2013	9/23/2013	1	1020	0.717450939	446	145	1421.7	121
FL	Crystal River	1	2013	9/23/2013	2	1018	0.71119184	450	146	1431.4	121
FL	Crystal River	1	2013	9/23/2013	3	1026	0.712104386	456	147	1440.8	121
FL	Crystal River	1	2013	9/23/2013	4	1140	0.714643932	433	163	1595.2	138
FL	Crystal River	1	2013	9/23/2013	5	1300	0.719504096	404	185	1806.8	162
FL	Crystal River	1	2013	9/23/2013	6	1548	0.790199081	509	201	1959	185
FL	Crystal River	1	2013	9/23/2013	7	2191	0.809921632	697	277	2705.2	275
FL	Crystal River	1	2013	9/23/2013	8	2067	0.770463695	689	275	2682.8	276
FL	Crystal River	1	2013	9/23/2013	9	1991	0.746140009	683	273	2668.4	276
FL	Crystal River	1	2013	9/23/2013	10	2028	0.763180672	680	272	2657.3	275
FL	Crystal River	1	2013	9/23/2013	11	1971	0.753901469	669	268	2614.4	276
FL	Crystal River	1	2013	9/23/2013	12	1955	0.747981788	669	268	2613.7	276
FL	Crystal River	1	2013	9/23/2013	13	1958	0.748814441	661	268	2614.8	275
FL	Crystal River	1	2013	9/23/2013	14	1745	0.744422166	607	240	2344.1	238
FL	Crystal River	1	2013	9/23/2013	15	1028	0.716326388	460	147	1435.1	120
FL	Crystal River	1	2013	9/23/2013	16	1034	0.712219314	461	149	1451.8	119
FL	Crystal River	1	2013	9/23/2013	17	1042	0.712673552	467	150	1462.1	119
FL	Crystal River	1	2013	9/23/2013	18	1037	0.709690665	458	149	1461.2	119
FL	Crystal River	1	2013	9/23/2013	19	1037	0.707174032	460	150	1466.4	118
FL	Crystal River	1	2013	9/23/2013	20	1052	0.707464694	453	152	1487	119
FL	Crystal River	1	2013	9/23/2013	21	1096	0.732375543	454	153	1496.5	119
FL	Crystal River	1	2013	9/23/2013	22	1126	0.738748196	431	156	1524.2	119
FL	Crystal River	1	2013	9/23/2013	23	1126	0.720824531	432	160	1562.1	119
FL	Crystal River	1	2013	9/24/2013	0	1139	0.717435122	441	162	1587.6	119
FL	Crystal River	1	2013	9/24/2013	1	1138	0.717121432	442	162	1586.9	119
FL	Crystal River	1	2013	9/24/2013	2	1157	0.718722823	450	165	1609.8	120
FL	Crystal River	1	2013	9/24/2013	3	1190	0.737252958	471	165	1614.1	119
FL	Crystal River	1	2013	9/24/2013	4	1176	0.721738063	474	167	1629.4	119
FL	Crystal River	1	2013	9/24/2013	5	1207	0.752869261	463	164	1603.2	119

FL	Crystal River	1	2013	9/24/2013	6	2077	0.775781571	701	274	2677.3	258
FL	Crystal River	1	2013	9/24/2013	7	2525	0.775681986	999	334	3255.2	334
FL	Crystal River	1	2013	9/24/2013	8	2430	0.747922438	1000	333	3249	335
FL	Crystal River	1	2013	9/24/2013	9	2410	0.747541797	1015	330	3223.9	335
FL	Crystal River	1	2013	9/24/2013	10	2394	0.747470963	1012	328	3202.8	335
FL	Crystal River	1	2013	9/24/2013	11	2382	0.746170473	1008	327	3192.3	335
FL	Crystal River	1	2013	9/24/2013	12	2388	0.746833464	1013	328	3197.5	335
FL	Crystal River	1	2013	9/24/2013	13	2397	0.745776423	1015	329	3214.1	335
FL	Crystal River	1	2013	9/24/2013	14	2412	0.755804844	1030	327	3191.3	335
FL	Crystal River	1	2013	9/24/2013	15	2164	0.75937818	954	292	2849.7	297
FL	Crystal River	1	2013	9/24/2013	16	2030	0.754562688	882	276	2690.3	278
FL	Crystal River	1	2013	9/24/2013	17	2022	0.75097493	880	276	2692.5	279
FL	Crystal River	1	2013	9/24/2013	18	2466	0.7487248	1001	337	3293.6	338
FL	Crystal River	1	2013	9/24/2013	19	2147	0.749991267	1027	293	2862.7	300
FL	Crystal River	1	2013	9/24/2013	20	1586	0.742578893	779	219	2135.8	218
FL	Crystal River	1	2013	9/24/2013	21	1202	0.81524688	608	151	1474.4	124
FL	Crystal River	1	2013	9/24/2013	22	1497	0.941924118	599	163	1589.3	141
FL	Crystal River	1	2013	9/24/2013	23	1359	0.975662287	593	142	1392.9	119
FL	Crystal River	1	2013	9/25/2013	0	1411	1.010383101	571	143	1396.5	119
FL	Crystal River	1	2013	9/25/2013	1	1472	1.046569499	436	144	1406.5	119
FL	Crystal River	1	2013	9/25/2013	2	1615	1.137804706	452	145	1419.4	119
FL	Crystal River	1	2013	9/25/2013	3	1604	1.144161495	452	143	1401.9	120
FL	Crystal River	1	2013	9/25/2013	4	1761	1.148727984	449	157	1533	134
FL	Crystal River	1	2013	9/25/2013	5	2170	1.147298298	493	194	1891.4	179
FL	Crystal River	1	2013	9/25/2013	6	2377	1.195914671	481	203	1987.6	199
FL	Crystal River	1	2013	9/25/2013	7	2365	1.282329339	492	189	1844.3	172
FL	Crystal River	1	2013	9/25/2013	8	2012	1.356434976	528	152	1483.3	123
FL	Crystal River	1	2013	9/25/2013	9	2032	1.394646534	498	149	1457	122
FL	Crystal River	1	2013	9/25/2013	10	1978	1.394037635	490	145	1418.9	119
FL	Crystal River	1	2013	9/25/2013	11	1999	1.409135768	480	145	1418.6	122
FL	Crystal River	1	2013	9/25/2013	12	2107	1.463194444	504	147	1440	128
FL	Crystal River	1	2013	9/25/2013	13	2432	1.481301011	464	168	1641.8	155
FL	Crystal River	1	2013	9/25/2013	14	2772	1.504151066	495	189	1842.9	181
FL	Crystal River	1	2013	9/25/2013	15	2540	1.518957063	511	171	1672.2	159
FL	Crystal River	1	2013	9/25/2013	16	2279	1.511975055	697	154	1507.3	138

FL	Crystal River	1	2013	9/25/2013	17	2754	1.520958745	581	185	1810.7	173
FL	Crystal River	1	2013	9/25/2013	18	4752	1.437777979	1160	339	3305.1	344
FL	Crystal River	1	2013	9/25/2013	19	4819	1.457696845	1259	339	3305.9	351
FL	Crystal River	1	2013	9/25/2013	20	4434	1.464671489	1201	310	3027.3	323
FL	Crystal River	1	2013	9/25/2013	21	2700	1.422325238	880	194	1898.3	195
FL	Crystal River	1	2013	9/25/2013	22	1982	1.368028713	640	148	1448.8	128
FL	Crystal River	1	2013	9/25/2013	23	1937	1.398959988	624	142	1384.6	119
FL	Crystal River	1	2013	9/26/2013	0	1982	1.419567397	638	143	1396.2	121
FL	Crystal River	1	2013	9/26/2013	1	2046	1.451166749	648	144	1409.9	122
FL	Crystal River	1	2013	9/26/2013	2	1996	1.457359813	641	140	1369.6	119
FL	Crystal River	1	2013	9/26/2013	3	2069	1.503415201	652	141	1376.2	119
FL	Crystal River	1	2013	9/26/2013	4	2067	1.51617399	653	139	1363.3	119
FL	Crystal River	1	2013	9/26/2013	5	2048	1.497732924	656	140	1367.4	119
FL	Crystal River	1	2013	9/26/2013	6	2050	1.4856149	662	141	1379.9	123
FL	Crystal River	1	2013	9/26/2013	7	2108	1.480961079	680	146	1423.4	129
FL	Crystal River	1	2013	9/26/2013	8	2061	1.493478261	672	141	1380	123
FL	Crystal River	1	2013	9/26/2013	9	2032	1.524152415	647	136	1333.2	124
FL	Crystal River	1	2013	9/26/2013	10	2052	1.503847563	655	140	1364.5	125
FL	Crystal River	1	2013	9/26/2013	11	3180	1.544889234	876	211	2058.4	209
FL	Crystal River	1	2013	9/26/2013	12	5275	1.602758872	1382	337	3291.2	352
FL	Crystal River	1	2013	9/26/2013	13	5262	1.616838224	1311	333	3254.5	350
FL	Crystal River	1	2013	9/26/2013	14	5317	1.640441812	1303	332	3241.2	349
FL	Crystal River	1	2013	9/26/2013	15	5442	1.652144874	1314	338	3293.9	354
FL	Crystal River	1	2013	9/26/2013	16	4544	1.637536488	1218	284	2774.9	296
FL	Crystal River	1	2013	9/26/2013	17	3778	1.60998892	1107	240	2346.6	251
FL	Crystal River	1	2013	9/26/2013	18	3082	1.626385224	739	194	1895	198
FL	Crystal River	1	2013	9/26/2013	19	2723	1.624604737	558	172	1676.1	156
FL	Crystal River	1	2013	9/26/2013	20	2353	1.609659324	530	150	1461.8	119
FL	Crystal River	1	2013	9/26/2013	21	2419	1.599867725	539	155	1512	119
FL	Crystal River	1	2013	9/26/2013	22	2561	1.607355802	572	163	1593.3	119
FL	Crystal River	1	2013	9/26/2013	23	2748	1.600559147	618	176	1716.9	119
FL	Crystal River	1	2013	9/27/2013	0	2838	1.595906203	627	182	1778.3	119
FL	Crystal River	1	2013	9/27/2013	1	2883	1.591938156	641	185	1811	119
FL	Crystal River	1	2013	9/27/2013	2	2921	1.589919443	657	188	1837.2	119
FL	Crystal River	1	2013	9/27/2013	3	2866	1.574379257	653	186	1820.4	119

FL	Crystal River	1	2013	9/27/2013	4	2896	1.566590934	647	189	1848.6	119
FL	Crystal River	1	2013	9/27/2013	5	2990	1.56922431	659	195	1905.4	122
FL	Crystal River	1	2013	9/27/2013	6	2946	1.569609462	679	192	1876.9	120
FL	Crystal River	1	2013	9/27/2013	7	3004	1.57203412	665	196	1910.9	120
FL	Crystal River	1	2013	9/27/2013	8	2715	1.589578454	558	175	1708	132
FL	Crystal River	1	2013	9/27/2013	9	2588	1.593694193	553	166	1623.9	146
FL	Crystal River	1	2013	9/27/2013	10	2444	1.598430347	501	156	1529	140
FL	Crystal River	1	2013	9/27/2013	11	3951	1.627131208	672	249	2428.2	253
FL	Crystal River	1	2013	9/27/2013	12	5593	1.649365969	1203	347	3391	363
FL	Crystal River	1	2013	9/27/2013	13	5580	1.640549202	1282	349	3401.3	366
FL	Crystal River	1	2013	9/27/2013	14	5474	1.646315789	1250	341	3325	359
FL	Crystal River	1	2013	9/27/2013	15	5498	1.65184473	1248	341	3328.4	360
FL	Crystal River	1	2013	9/27/2013	16	5501	1.638372647	1249	344	3357.6	361
FL	Crystal River	1	2013	9/27/2013	17	5428	1.640523468	1220	339	3308.7	359
FL	Crystal River	1	2013	9/27/2013	18	5394	1.63370385	1198	338	3301.7	354
FL	Crystal River	1	2013	9/27/2013	19	5426	1.658819933	1171	335	3271	351
FL	Crystal River	1	2013	9/27/2013	20	4698	1.649868306	1047	292	2847.5	304
FL	Crystal River	1	2013	9/27/2013	21	3403	1.640711634	736	212	2074.1	213
FL	Crystal River	1	2013	9/27/2013	22	2338	1.626661101	485	147	1437.3	119
FL	Crystal River	1	2013	9/27/2013	23	2472	1.623858635	476	156	1522.3	119
FL	Crystal River	1	2013	9/28/2013	0	2574	1.618053809	486	163	1590.8	119
FL	Crystal River	1	2013	9/28/2013	1	2719	1.605171498	518	173	1693.9	119
FL	Crystal River	1	2013	9/28/2013	2	2781	1.595158885	538	178	1743.4	119
FL	Crystal River	1	2013	9/28/2013	3	2818	1.586979783	575	182	1775.7	119
FL	Crystal River	1	2013	9/28/2013	4	2771	1.553686571	576	183	1783.5	119
FL	Crystal River	1	2013	9/28/2013	5	2911	1.552781778	601	192	1874.7	122
FL	Crystal River	1	2013	9/28/2013	6	2821	1.541782806	631	187	1829.7	122
FL	Crystal River	1	2013	9/28/2013	7	2903	1.537931765	588	193	1887.6	144
FL	Crystal River	1	2013	9/28/2013	8	3174	1.55390189	584	209	2042.6	201
FL	Crystal River	1	2013	9/28/2013	9	5194	1.596385542	1119	333	3253.6	342
FL	Crystal River	1	2013	9/28/2013	10	5645	1.629148629	1337	355	3465	371
FL	Crystal River	1	2013	9/28/2013	11	5638	1.646275586	1356	351	3424.7	368
FL	Crystal River	1	2013	9/28/2013	12	5709	1.664382963	1327	351	3430.1	368
FL	Crystal River	1	2013	9/28/2013	13	5724	1.686306858	1310	348	3394.4	365
FL	Crystal River	1	2013	9/28/2013	14	5630	1.684872063	1279	342	3341.5	358

FL	Crystal River	1	2013	9/28/2013	15	5567	1.67812142	1270	340	3317.4	358
FL	Crystal River	1	2013	9/28/2013	16	4725	1.646398829	1257	294	2869.9	303
FL	Crystal River	1	2013	9/28/2013	17	4445	1.640402997	1186	278	2709.7	286
FL	Crystal River	1	2013	9/28/2013	18	5149	1.670505791	1223	316	3082.3	329
FL	Crystal River	1	2013	9/28/2013	19	5551	1.670478483	1259	340	3323	354
FL	Crystal River	1	2013	9/28/2013	20	4793	1.653328734	1214	297	2899	311
FL	Crystal River	1	2013	9/28/2013	21	4336	1.617306975	1179	275	2681	283
FL	Crystal River	1	2013	9/28/2013	22	3667	1.615347342	839	232	2270.1	240
FL	Crystal River	1	2013	9/28/2013	23	2392	1.558712368	604	157	1534.6	131
FL	Crystal River	1	2013	9/29/2013	0	2391	1.556336653	568	157	1536.3	119
FL	Crystal River	1	2013	9/29/2013	1	2452	1.549251279	561	162	1582.7	118
FL	Crystal River	1	2013	9/29/2013	2	2571	1.545629434	567	170	1663.4	119
FL	Crystal River	1	2013	9/29/2013	3	2623	1.557971014	572	172	1683.6	119
FL	Crystal River	1	2013	9/29/2013	4	2693	1.569073006	583	176	1716.3	119
FL	Crystal River	1	2013	9/29/2013	5	2774	1.577122065	601	180	1758.9	119
FL	Crystal River	1	2013	9/29/2013	6	2761	1.567325159	609	180	1761.6	119
FL	Crystal River	1	2013	9/29/2013	7	2844	1.56720119	566	186	1814.7	142
FL	Crystal River	1	2013	9/29/2013	8	3015	1.563958917	551	197	1927.8	184
FL	Crystal River	1	2013	9/29/2013	9	5038	1.610819798	972	320	3127.6	330
FL	Crystal River	1	2013	9/29/2013	10	5762	1.62186506	1328	364	3552.7	383
FL	Crystal River	1	2013	9/29/2013	11	5663	1.640403221	1301	354	3452.2	377
FL	Crystal River	1	2013	9/29/2013	12	5417	1.638783845	1213	339	3305.5	361
FL	Crystal River	1	2013	9/29/2013	13	5365	1.62600394	1197	338	3299.5	358
FL	Crystal River	1	2013	9/29/2013	14	5407	1.63437415	1214	339	3308.3	359
FL	Crystal River	1	2013	9/29/2013	15	5331	1.63127295	1205	335	3268	354
FL	Crystal River	1	2013	9/29/2013	16	5283	1.646409873	1180	329	3208.8	349
FL	Crystal River	1	2013	9/29/2013	17	5186	1.638650152	1161	324	3164.8	342
FL	Crystal River	1	2013	9/29/2013	18	5290	1.648951093	1171	329	3208.1	347
FL	Crystal River	1	2013	9/29/2013	19	4715	1.651720031	1070	292	2854.6	310
FL	Crystal River	1	2013	9/29/2013	20	4455	1.637145377	963	279	2721.2	295
FL	Crystal River	1	2013	9/29/2013	21	3824	1.628689467	828	240	2347.9	250
FL	Crystal River	1	2013	9/29/2013	22	2615	1.602917739	482	167	1631.4	145
FL	Crystal River	1	2013	9/29/2013	23	2403	1.603068712	479	153	1499	120
FL	Crystal River	1	2013	9/30/2013	0	2396	1.603319058	485	153	1494.4	119
FL	Crystal River	1	2013	9/30/2013	1	2409	1.590308952	501	155	1514.8	119

FL	Crystal River	1	2013	9/30/2013	2	2367	1.579158049	508	153	1498.9	119
FL	Crystal River	1	2013	9/30/2013	3	2358	1.562520708	505	154	1509.1	119
FL	Crystal River	1	2013	9/30/2013	4	2340	1.547823786	503	155	1511.8	119
FL	Crystal River	1	2013	9/30/2013	5	3016	1.544844542	538	200	1952.3	182
FL	Crystal River	1	2013	9/30/2013	6	5016	1.620678514	934	317	3095	323
FL	Crystal River	1	2013	9/30/2013	7	5588	1.643771143	1247	348	3399.5	363
FL	Crystal River	1	2013	9/30/2013	8	5509	1.639046741	1226	344	3361.1	364
FL	Crystal River	1	2013	9/30/2013	9	5410	1.624819798	1198	341	3329.6	363
FL	Crystal River	1	2013	9/30/2013	10	5373	1.614822829	1201	341	3327.3	364
FL	Crystal River	1	2013	9/30/2013	11	5349	1.60780306	1204	341	3326.9	363
FL	Crystal River	1	2013	9/30/2013	12	5347	1.61049366	1158	340	3320.1	363
FL	Crystal River	1	2013	9/30/2013	13	5266	1.593680961	1093	339	3304.3	355
FL	Crystal River	1	2013	9/30/2013	14	4443	1.586445762	1072	287	2800.6	302
FL	Crystal River	1	2013	9/30/2013	15	4807	1.577099738	1027	312	3048	330
FL	Crystal River	1	2013	9/30/2013	16	4493	1.443951665	1095	319	3111.6	334
FL	Crystal River	1	2013	9/30/2013	17	3733	1.241477934	1013	308	3006.9	322
FL	Crystal River	1	2013	9/30/2013	18	3297	1.025314094	1022	329	3215.6	343
FL	Crystal River	1	2013	9/30/2013	19	2583	0.826004925	994	320	3127.1	334
FL	Crystal River	1	2013	9/30/2013	20	2234	0.713806435	923	321	3129.7	330
FL	Crystal River	1	2013	9/30/2013	21	1496	0.690578406	645	222	2166.3	225
FL	Crystal River	1	2013	9/30/2013	22	980	0.663058187	379	151	1478	120
FL	Crystal River	1	2013	9/30/2013	23	984	0.672682527	383	150	1462.8	122
FL	Crystal River	1	2013	10/1/2013	0	977	0.673607281	390	148	1450.4	120
FL	Crystal River	1	2013	10/1/2013	1	984	0.674295895	395	149	1459.3	119
FL	Crystal River	1	2013	10/1/2013	2	1004	0.674142214	408	152	1489.3	119
FL	Crystal River	1	2013	10/1/2013	3	1006	0.672055582	411	153	1496.9	119
FL	Crystal River	1	2013	10/1/2013	4	992	0.668148447	405	152	1484.7	119
FL	Crystal River	1	2013	10/1/2013	5	1332	0.672150174	434	203	1981.7	182
FL	Crystal River	1	2013	10/1/2013	6	2154	0.680869895	974	324	3163.6	326
FL	Crystal River	1	2013	10/1/2013	7	2156	0.685227562	950	322	3146.4	333
FL	Crystal River	1	2013	10/1/2013	8	2133	0.679862306	934	321	3137.4	334
FL	Crystal River	1	2013	10/1/2013	9	2137	0.688266933	903	318	3104.9	334
FL	Crystal River	1	2013	10/1/2013	10	2125	0.683125985	902	319	3110.7	333
FL	Crystal River	1	2013	10/1/2013	11	2146	0.687445943	874	320	3121.7	333
FL	Crystal River	1	2013	10/1/2013	12	2153	0.68792536	857	321	3129.7	334

FL	Crystal River	1	2013	10/1/2013	13	2072	0.69316205	813	306	2989.2	316
FL	Crystal River	1	2013	10/1/2013	14	2033	0.70183312	898	297	2896.7	306
FL	Crystal River	1	2013	10/1/2013	15	2007	0.694247466	858	296	2890.9	309
FL	Crystal River	1	2013	10/1/2013	16	2051	0.692671395	861	303	2961	315
FL	Crystal River	1	2013	10/1/2013	17	2052	0.684319349	869	307	2998.6	320
FL	Crystal River	1	2013	10/1/2013	18	2003	0.676986514	899	303	2958.7	313
FL	Crystal River	1	2013	10/1/2013	19	1854	0.686209194	829	277	2701.8	286
FL	Crystal River	1	2013	10/1/2013	20	1528	0.681321621	782	230	2242.7	238
FL	Crystal River	1	2013	10/1/2013	21	959	0.656939307	407	149	1459.8	126
FL	Crystal River	1	2013	10/1/2013	22	927	0.652036295	375	145	1421.7	119
FL	Crystal River	1	2013	10/1/2013	23	926	0.647643027	386	146	1429.8	119
FL	Crystal River	1	2013	10/2/2013	0	932	0.644447518	394	148	1446.2	119
FL	Crystal River	1	2013	10/2/2013	1	960	0.641325406	399	153	1496.9	119
FL	Crystal River	1	2013	10/2/2013	2	965	0.640260085	414	154	1507.2	119
FL	Crystal River	1	2013	10/2/2013	3	965	0.639284531	415	154	1509.5	119
FL	Crystal River	1	2013	10/2/2013	4	960	0.638510143	415	154	1503.5	119
FL	Crystal River	1	2013	10/2/2013	5	1438	0.647106471	513	228	2222.2	211
FL	Crystal River	1	2013	10/2/2013	6	2142	0.671073655	970	327	3191.9	331
FL	Crystal River	1	2013	10/2/2013	7	2091	0.666008409	935	322	3139.6	334
FL	Crystal River	1	2013	10/2/2013	8	2062	0.665225667	905	318	3099.7	334
FL	Crystal River	1	2013	10/2/2013	9	2057	0.663783923	830	317	3098.9	333
FL	Crystal River	1	2013	10/2/2013	10	2044	0.655212207	889	320	3119.6	333
FL	Crystal River	1	2013	10/2/2013	11	2024	0.658511192	836	315	3073.6	333
FL	Crystal River	1	2013	10/2/2013	12	2048	0.65877509	833	319	3108.8	334
FL	Crystal River	1	2013	10/2/2013	13	2046	0.656168821	848	319	3118.1	334
FL	Crystal River	1	2013	10/2/2013	14	1805	0.659770451	804	280	2735.8	297
FL	Crystal River	1	2013	10/2/2013	15	850	0.638473672	387	136	1331.3	129
FL	Crystal River	1	2013	10/2/2013	16	812	0.634424564	336	131	1279.9	119
FL	Crystal River	1	2013	10/2/2013	17	814	0.635490671	342	131	1280.9	119
FL	Crystal River	1	2013	10/2/2013	18	825	0.63583815	350	133	1297.5	119
FL	Crystal River	1	2013	10/2/2013	19	854	0.639508761	364	137	1335.4	119
FL	Crystal River	1	2013	10/2/2013	20	881	0.643958775	387	140	1368.1	119
FL	Crystal River	1	2013	10/2/2013	21	904	0.649938888	402	142	1390.9	119
FL	Crystal River	1	2013	10/2/2013	22	939	0.650502251	410	148	1443.5	119
FL	Crystal River	1	2013	10/2/2013	23	978	0.650698603	420	154	1503	119

FL	Crystal River	1	2013	10/3/2013	0	1008	0.653908531	434	158	1541.5	119
FL	Crystal River	1	2013	10/3/2013	1	1030	0.661996272	445	159	1555.9	119
FL	Crystal River	1	2013	10/3/2013	2	1054	0.663226781	448	163	1589.2	119
FL	Crystal River	1	2013	10/3/2013	3	1105	0.678705239	455	167	1628.1	119
FL	Crystal River	1	2013	10/3/2013	4	1420	0.689286928	455	211	2060.1	179
FL	Crystal River	1	2013	10/3/2013	5	2180	0.694555071	765	322	3138.7	317
FL	Crystal River	1	2013	10/3/2013	6	2457	0.715075669	1099	352	3436	362
FL	Crystal River	1	2013	10/3/2013	7	2440	0.7082523	1074	353	3445.1	364
FL	Crystal River	1	2013	10/3/2013	8	2414	0.706157671	1063	350	3418.5	364
FL	Crystal River	1	2013	10/3/2013	9	2366	0.70251492	1030	345	3367.9	361
FL	Crystal River	1	2013	10/3/2013	10	1774	0.69473272	817	262	2553.5	275
FL	Crystal River	1	2013	10/3/2013	11	1615	0.692627697	701	239	2331.7	249
FL	Crystal River	1	2013	10/3/2013	12	2097	0.698278446	873	308	3003.1	319
FL	Crystal River	1	2013	10/3/2013	13	2348	0.70282567	1029	342	3340.8	357
FL	Crystal River	1	2013	10/3/2013	14	2047	0.69973337	927	300	2925.4	312
FL	Crystal River	1	2013	10/3/2013	15	2063	0.734738942	876	288	2807.8	299
FL	Crystal River	1	2013	10/3/2013	16	2600	0.933438644	891	285	2785.4	298
FL	Crystal River	1	2013	10/3/2013	17	3032	1.088064308	922	285	2786.6	298
FL	Crystal River	1	2013	10/3/2013	18	3428	1.229026244	951	286	2789.2	298
FL	Crystal River	1	2013	10/3/2013	19	3798	1.364616269	951	285	2783.2	299
FL	Crystal River	1	2013	10/3/2013	20	4145	1.497741644	954	283	2767.5	298
FL	Crystal River	1	2013	10/3/2013	21	4087	1.595985629	893	262	2560.8	278
FL	Crystal River	1	2013	10/3/2013	22	2640	1.621721236	501	167	1627.9	158
FL	Crystal River	1	2013	10/3/2013	23	2285	1.64034458	463	142	1393	119
FL	Crystal River	1	2013	10/4/2013	0	2285	1.646135005	456	142	1388.1	119
FL	Crystal River	1	2013	10/4/2013	1	2319	1.680678359	463	141	1379.8	119
FL	Crystal River	1	2013	10/4/2013	2	2375	1.716412517	474	142	1383.7	119
FL	Crystal River	1	2013	10/4/2013	3	2411	1.717358786	480	144	1403.9	119
FL	Crystal River	1	2013	10/4/2013	4	2392	1.71518715	485	143	1394.6	119
FL	Crystal River	1	2013	10/4/2013	5	2505	1.724731479	505	149	1452.4	123
FL	Crystal River	1	2013	10/4/2013	6	2453	1.723217422	495	146	1423.5	125
FL	Crystal River	1	2013	10/4/2013	7	2644	1.729461015	481	156	1528.8	138
FL	Crystal River	1	2013	10/4/2013	8	3587	1.747369447	541	210	2052.8	210
FL	Crystal River	1	2013	10/4/2013	9	5394	1.687048447	1042	328	3197.3	342
FL	Crystal River	1	2013	10/4/2013	10	5803	1.735658312	1106	343	3343.4	361

FL	Crystal River	1	2013	10/4/2013	11	6000	1.762632197	1143	349	3404	371
FL	Crystal River	1	2013	10/4/2013	12	5314	1.752349547	1028	311	3032.5	332
FL	Crystal River	1	2013	10/4/2013	13	5937	1.763238395	1117	345	3367.1	364
FL	Crystal River	1	2013	10/4/2013	14	6097	1.796193731	1147	348	3394.4	371
FL	Crystal River	1	2013	10/4/2013	15	6100	1.800100333	1165	347	3388.7	367
FL	Crystal River	1	2013	10/4/2013	16	5533	1.779442979	1088	319	3109.4	338
FL	Crystal River	1	2013	10/4/2013	17	4921	1.765951339	969	285	2786.6	304
FL	Crystal River	1	2013	10/4/2013	18	5374	1.758968316	1038	313	3055.2	330
FL	Crystal River	1	2013	10/4/2013	19	5191	1.688899011	1094	315	3073.6	332
FL	Crystal River	1	2013	10/4/2013	20	4551	1.594380605	1019	292	2854.4	309
FL	Crystal River	1	2013	10/4/2013	21	4305	1.544062265	995	286	2788.1	303
FL	Crystal River	1	2013	10/4/2013	22	4162	1.539599748	913	277	2703.3	293
FL	Crystal River	1	2013	10/4/2013	23	3057	1.548867609	637	202	1973.7	207
FL	Crystal River	1	2013	10/5/2013	0	2177	1.571727673	508	142	1385.1	121
FL	Crystal River	1	2013	10/5/2013	1	2172	1.566873467	493	142	1386.2	120
FL	Crystal River	1	2013	10/5/2013	2	2159	1.565627266	479	141	1379	120
FL	Crystal River	1	2013	10/5/2013	3	2184	1.579632576	470	141	1382.6	120
FL	Crystal River	1	2013	10/5/2013	4	2216	1.610114074	477	141	1376.3	120
FL	Crystal River	1	2013	10/5/2013	5	2264	1.634893125	486	142	1384.8	121
FL	Crystal River	1	2013	10/5/2013	6	2318	1.653824201	496	143	1401.6	121
FL	Crystal River	1	2013	10/5/2013	7	2569	1.664506933	497	158	1543.4	142
FL	Crystal River	1	2013	10/5/2013	8	3887	1.691029322	680	235	2298.6	238
FL	Crystal River	1	2013	10/5/2013	9	5408	1.678096006	1153	330	3222.7	344
FL	Crystal River	1	2013	10/5/2013	10	5750	1.679175306	1205	351	3424.3	370
FL	Crystal River	1	2013	10/5/2013	11	5706	1.653385877	1176	354	3451.1	373
FL	Crystal River	1	2013	10/5/2013	12	5630	1.628249993	1196	354	3457.7	375
FL	Crystal River	1	2013	10/5/2013	13	5564	1.609394886	1244	354	3457.2	373
FL	Crystal River	1	2013	10/5/2013	14	5583	1.614517062	1224	354	3458	374
FL	Crystal River	1	2013	10/5/2013	15	5530	1.603270324	1272	353	3449.2	374
FL	Crystal River	1	2013	10/5/2013	16	5461	1.572234698	1271	356	3473.4	374
FL	Crystal River	1	2013	10/5/2013	17	5380	1.557028333	1247	354	3455.3	373
FL	Crystal River	1	2013	10/5/2013	18	4299	1.525983246	1104	289	2817.2	304
FL	Crystal River	1	2013	10/5/2013	19	4009	1.516951718	1014	271	2642.8	285
FL	Crystal River	1	2013	10/5/2013	20	4548	1.528688111	1032	305	2975.1	318
FL	Crystal River	1	2013	10/5/2013	21	4083	1.542151382	812	271	2647.6	287

FL	Crystal River	1	2013	10/5/2013	22	3160	1.51022749	690	214	2092.4	218
FL	Crystal River	1	2013	10/5/2013	23	2098	1.47954866	517	145	1418	124
FL	Crystal River	1	2013	10/6/2013	0	2122	1.478333566	511	147	1435.4	124
FL	Crystal River	1	2013	10/6/2013	1	2072	1.480634558	516	143	1399.4	119
FL	Crystal River	1	2013	10/6/2013	2	2059	1.465793408	525	144	1404.7	120
FL	Crystal River	1	2013	10/6/2013	3	2065	1.464435146	568	144	1410.1	119
FL	Crystal River	1	2013	10/6/2013	4	2044	1.424390244	569	147	1435	120
FL	Crystal River	1	2013	10/6/2013	5	2048	1.417987953	570	148	1444.3	120
FL	Crystal River	1	2013	10/6/2013	6	1999	1.406656815	555	145	1421.1	120
FL	Crystal River	1	2013	10/6/2013	7	2123	1.415899693	557	153	1499.4	133
FL	Crystal River	1	2013	10/6/2013	8	2930	1.429756502	600	210	2049.3	204
FL	Crystal River	1	2013	10/6/2013	9	4992	1.486510631	1198	344	3358.2	354
FL	Crystal River	1	2013	10/6/2013	10	4986	1.500045128	1226	341	3323.9	357
FL	Crystal River	1	2013	10/6/2013	11	5248	1.511433673	1229	356	3472.2	373
FL	Crystal River	1	2013	10/6/2013	12	5243	1.520459357	1227	353	3448.3	370
FL	Crystal River	1	2013	10/6/2013	13	5237	1.527668388	1189	351	3428.1	368
FL	Crystal River	1	2013	10/6/2013	14	4965	1.539343957	1154	330	3225.4	345
FL	Crystal River	1	2013	10/6/2013	15	5128	1.591607437	1163	330	3221.9	345
FL	Crystal River	1	2013	10/6/2013	16	5129	1.641963057	1224	320	3123.7	336
FL	Crystal River	1	2013	10/6/2013	17	4430	1.66104237	1061	273	2667	289
FL	Crystal River	1	2013	10/6/2013	18	5520	1.700554529	1197	333	3246	347
FL	Crystal River	1	2013	10/6/2013	19	4433	1.713369149	1053	265	2587.3	281
FL	Crystal River	1	2013	10/6/2013	20	4071	1.743394287	758	239	2335.1	254
FL	Crystal River	1	2013	10/6/2013	21	4138	1.739020803	742	244	2379.5	259
FL	Crystal River	1	2013	10/6/2013	22	3025	1.711941143	622	181	1767	176
FL	Crystal River	1	2013	10/6/2013	23	2314	1.684869667	477	140	1373.4	120
FL	Crystal River	1	2013	10/7/2013	0	2345	1.679558802	481	143	1396.2	120
FL	Crystal River	1	2013	10/7/2013	1	2376	1.689059501	489	144	1406.7	119
FL	Crystal River	1	2013	10/7/2013	2	2433	1.707368421	494	146	1425	120
FL	Crystal River	1	2013	10/7/2013	3	2467	1.728559417	496	146	1427.2	120
FL	Crystal River	1	2013	10/7/2013	4	2554	1.725209403	503	151	1480.4	126
FL	Crystal River	1	2013	10/7/2013	5	3280	1.750360211	532	192	1873.9	180
FL	Crystal River	1	2013	10/7/2013	6	2838	1.762185657	581	165	1610.5	155
FL	Crystal River	1	2013	10/7/2013	7	3430	1.742886179	568	201	1968	194
FL	Crystal River	1	2013	10/7/2013	8	5356	1.745705811	981	314	3068.1	326

FL	Crystal River	1	2013	10/7/2013	9	6111	1.739241803	1279	360	3513.6	375
FL	Crystal River	1	2013	10/7/2013	10	6118	1.76626826	1243	355	3463.8	373
FL	Crystal River	1	2013	10/7/2013	11	5929	1.785897166	1178	340	3319.9	360
FL	Crystal River	1	2013	10/7/2013	12	5991	1.807839705	1166	340	3313.9	359
FL	Crystal River	1	2013	10/7/2013	13	6091	1.836740848	1173	340	3316.2	358
FL	Crystal River	1	2013	10/7/2013	14	6269	1.88507337	1197	341	3325.6	359
FL	Crystal River	1	2013	10/7/2013	15	6190	1.910611766	1195	332	3239.8	350
FL	Crystal River	1	2013	10/7/2013	16	6270	1.940455558	1192	331	3231.2	349
FL	Crystal River	1	2013	10/7/2013	17	6351	1.9614565	1214	332	3237.9	349
FL	Crystal River	1	2013	10/7/2013	18	6470	1.990156875	1225	333	3251	349
FL	Crystal River	1	2013	10/7/2013	19	6552	2.017676223	1208	333	3247.3	349
FL	Crystal River	1	2013	10/7/2013	20	6427	1.980341406	1204	333	3245.4	349
FL	Crystal River	1	2013	10/7/2013	21	5373	1.850652706	1094	297	2903.3	312
FL	Crystal River	1	2013	10/7/2013	22	3930	1.750478821	752	230	2245.1	236
FL	Crystal River	1	2013	10/7/2013	23	2369	1.702112372	496	142	1391.8	119
FL	Crystal River	1	2013	10/8/2013	0	2346	1.676792224	465	143	1399.1	119
FL	Crystal River	1	2013	10/8/2013	1	2326	1.651050539	463	144	1408.8	119
FL	Crystal River	1	2013	10/8/2013	2	2303	1.63067337	464	144	1412.3	119
FL	Crystal River	1	2013	10/8/2013	3	2285	1.603959006	471	146	1424.6	119
FL	Crystal River	1	2013	10/8/2013	4	2255	1.570553002	473	147	1435.8	123
FL	Crystal River	1	2013	10/8/2013	5	2470	1.55963882	478	162	1583.7	139
FL	Crystal River	1	2013	10/8/2013	6	2414	1.538265469	503	161	1569.3	140
FL	Crystal River	1	2013	10/8/2013	7	2261	1.542291951	482	150	1466	126
FL	Crystal River	1	2013	10/8/2013	8	2326	1.546953977	470	154	1503.6	134
FL	Crystal River	1	2013	10/8/2013	9	2698	1.57134537	473	176	1717	163
FL	Crystal River	1	2013	10/8/2013	10	2477	1.60802389	486	158	1540.4	143
FL	Crystal River	1	2013	10/8/2013	11	4974	1.683248731	877	303	2955	312
FL	Crystal River	1	2013	10/8/2013	12	5877	1.694978802	1192	355	3467.3	372
FL	Crystal River	1	2013	10/8/2013	13	5860	1.69178359	1181	355	3463.8	374
FL	Crystal River	1	2013	10/8/2013	14	5861	1.682406637	1187	357	3483.7	374
FL	Crystal River	1	2013	10/8/2013	15	5259	1.655491548	1140	325	3176.7	343
FL	Crystal River	1	2013	10/8/2013	16	5101	1.645271578	1023	318	3100.4	335
FL	Crystal River	1	2013	10/8/2013	17	5511	1.66626353	1167	339	3307.4	360
FL	Crystal River	1	2013	10/8/2013	18	5653	1.676850973	1190	345	3371.2	362
FL	Crystal River	1	2013	10/8/2013	19	5559	1.669519777	1178	341	3329.7	356

FL	Crystal River	1	2013	10/8/2013	20	4832	1.635415962	1108	303	2954.6	319
FL	Crystal River	1	2013	10/8/2013	21	3415	1.563358359	766	224	2184.4	228
FL	Crystal River	1	2013	10/8/2013	22	2196	1.495709031	481	150	1468.2	121
FL	Crystal River	1	2013	10/8/2013	23	2222	1.454664484	491	156	1527.5	120
FL	Crystal River	1	2013	10/9/2013	0	2323	1.419839863	513	167	1636.1	120
FL	Crystal River	1	2013	10/9/2013	1	2375	1.412009512	531	172	1682	120
FL	Crystal River	1	2013	10/9/2013	2	2432	1.405455386	567	177	1730.4	120
FL	Crystal River	1	2013	10/9/2013	3	2502	1.400033574	605	183	1787.1	119
FL	Crystal River	1	2013	10/9/2013	4	2556	1.406482144	617	186	1817.3	120
FL	Crystal River	1	2013	10/9/2013	5	2768	1.40357994	635	202	1972.1	130
FL	Crystal River	1	2013	10/9/2013	6	2669	1.403924044	646	195	1901.1	120
FL	Crystal River	1	2013	10/9/2013	7	2752	1.422369237	652	198	1934.8	119
FL	Crystal River	1	2013	10/9/2013	8	2479	1.411972433	600	180	1755.7	119
FL	Crystal River	1	2013	10/9/2013	9	2329	1.398630795	577	170	1665.2	120
FL	Crystal River	1	2013	10/9/2013	10	2138	1.396472894	531	157	1531	120
FL	Crystal River	1	2013	10/9/2013	11	1994	1.400969578	489	146	1423.3	121
FL	Crystal River	1	2013	10/9/2013	12	1974	1.404082794	476	144	1405.9	121
FL	Crystal River	1	2013	10/9/2013	13	2040	1.425178147	483	146	1431.4	123
FL	Crystal River	1	2013	10/9/2013	14	2174	1.421937341	469	156	1528.9	138
FL	Crystal River	1	2013	10/9/2013	15	2104	1.456256921	504	148	1444.8	127
FL	Crystal River	1	2013	10/9/2013	16	2233	1.480278422	523	154	1508.5	127
FL	Crystal River	1	2013	10/9/2013	17	2284	1.514588859	512	154	1508	128
FL	Crystal River	1	2013	10/9/2013	18	3412	1.557990868	556	224	2190	207
FL	Crystal River	1	2013	10/9/2013	19	3492	1.583529839	582	226	2205.2	196
FL	Crystal River	1	2013	10/9/2013	20	3260	1.564900154	670	213	2083.2	149
FL	Crystal River	1	2013	10/9/2013	21	3056	1.561813257	747	200	1956.7	121
FL	Crystal River	1	2013	10/9/2013	22	3118	1.536036258	726	208	2029.9	121
FL	Crystal River	1	2013	10/9/2013	23	3114	1.502388189	706	212	2072.7	122
FL	Crystal River	1	2013	10/10/2013	0	2970	1.47299509	691	206	2016.3	120
FL	Crystal River	1	2013	10/10/2013	1	2800	1.419878296	684	202	1972	119
FL	Crystal River	1	2013	10/10/2013	2	2595	1.348892816	698	197	1923.8	119
FL	Crystal River	1	2013	10/10/2013	3	2457	1.253955292	728	201	1959.4	119
FL	Crystal River	1	2013	10/10/2013	4	2367	1.208516287	738	201	1958.6	121
FL	Crystal River	1	2013	10/10/2013	5	2413	1.162779491	753	212	2075.2	128
FL	Crystal River	1	2013	10/10/2013	6	2215	1.097512635	791	207	2018.2	126

FL	Crystal River	1	2013	10/10/2013	7	2083	1.074486743	730	198	1938.6	122
FL	Crystal River	1	2013	10/10/2013	8	1852	1.072131527	613	177	1727.4	127
FL	Crystal River	1	2013	10/10/2013	9	1692	1.074899943	543	161	1574.1	132
FL	Crystal River	1	2013	10/10/2013	10	1707	1.07297756	512	163	1590.9	146
FL	Crystal River	1	2013	10/10/2013	11	3577	1.233320691	838	297	2900.3	308
FL	Crystal River	1	2013	10/10/2013	12	4375	1.325396104	1204	338	3300.9	359
FL	Crystal River	1	2013	10/10/2013	13	4441	1.326265492	1192	343	3348.5	365
FL	Crystal River	1	2013	10/10/2013	14	4453	1.328976035	1229	343	3350.7	365
FL	Crystal River	1	2013	10/10/2013	15	4425	1.336817619	1194	339	3310.1	359
FL	Crystal River	1	2013	10/10/2013	16	4492	1.356525941	1165	339	3311.4	359
FL	Crystal River	1	2013	10/10/2013	17	4589	1.391196265	1062	338	3298.6	358
FL	Crystal River	1	2013	10/10/2013	18	4403	1.408058842	991	320	3127	339
FL	Crystal River	1	2013	10/10/2013	19	4162	1.371018217	944	311	3035.7	329
FL	Crystal River	1	2013	10/10/2013	20	3908	1.29640073	937	309	3014.5	325
FL	Crystal River	1	2013	10/10/2013	21	2565	1.222651223	618	215	2097.9	226
FL	Crystal River	1	2013	10/10/2013	22	1946	1.169541439	592	170	1663.9	162
FL	Crystal River	1	2013	10/10/2013	23	1582	1.125978648	607	144	1405	118
FL	Crystal River	1	2013	10/11/2013	0	1590	1.096400496	604	148	1450.2	118
FL	Crystal River	1	2013	10/11/2013	1	1603	1.077284946	596	152	1488	119
FL	Crystal River	1	2013	10/11/2013	2	1552	1.075388027	578	148	1443.2	118
FL	Crystal River	1	2013	10/11/2013	3	1663	1.080852723	610	157	1538.6	118
FL	Crystal River	1	2013	10/11/2013	4	1776	1.088635528	660	167	1631.4	119
FL	Crystal River	1	2013	10/11/2013	5	1786	1.095772747	653	167	1629.9	119
FL	Crystal River	1	2013	10/11/2013	6	1686	1.101888765	622	157	1530.1	119
FL	Crystal River	1	2013	10/11/2013	7	1502	1.099480272	560	140	1366.1	119
FL	Crystal River	1	2013	10/11/2013	8	1463	1.106489185	542	135	1322.2	121
FL	Crystal River	1	2013	10/11/2013	9	1461	1.113567073	549	134	1312	124
FL	Crystal River	1	2013	10/11/2013	10	1751	1.115855213	566	161	1569.2	153
FL	Crystal River	1	2013	10/11/2013	11	2591	1.145142756	685	232	2262.6	238
FL	Crystal River	1	2013	10/11/2013	12	3803	1.189032016	997	328	3198.4	346
FL	Crystal River	1	2013	10/11/2013	13	3980	1.216604512	1046	335	3271.4	353
FL	Crystal River	1	2013	10/11/2013	14	3939	1.238796113	1011	326	3179.7	344
FL	Crystal River	1	2013	10/11/2013	15	3934	1.25214845	983	322	3141.8	339
FL	Crystal River	1	2013	10/11/2013	16	3941	1.254975639	989	322	3140.3	338
FL	Crystal River	1	2013	10/11/2013	17	3908	1.261296153	985	317	3098.4	336

FL	Crystal River	1	2013	10/11/2013	18	3267	1.259687681	907	266	2593.5	283
FL	Crystal River	1	2013	10/11/2013	19	2107	1.289473684	629	167	1634	163
FL	Crystal River	1	2013	10/11/2013	20	1788	1.316351322	487	139	1358.3	119
FL	Crystal River	1	2013	10/11/2013	21	1965	1.320298327	480	152	1488.3	137
FL	Crystal River	1	2013	10/11/2013	22	1821	1.350790001	485	138	1348.1	119
FL	Crystal River	1	2013	10/11/2013	23	1925	1.380324107	514	143	1394.6	119
FL	Crystal River	1	2013	10/12/2013	0	1958	1.376546682	520	145	1422.4	119
FL	Crystal River	1	2013	10/12/2013	1	2052	1.383495146	536	152	1483.2	119
FL	Crystal River	1	2013	10/12/2013	2	2026	1.374584436	530	151	1473.9	119
FL	Crystal River	1	2013	10/12/2013	3	1981	1.363573789	527	149	1452.8	119
FL	Crystal River	1	2013	10/12/2013	4	2036	1.347898047	543	155	1510.5	119
FL	Crystal River	1	2013	10/12/2013	5	2253	1.33701264	596	172	1685.1	119
FL	Crystal River	1	2013	10/12/2013	6	2156	1.341797361	568	164	1606.8	121
FL	Crystal River	1	2013	10/12/2013	7	1925	1.356111307	495	145	1419.5	126
FL	Crystal River	1	2013	10/12/2013	8	1959	1.356366406	478	148	1444.3	137
FL	Crystal River	1	2013	10/12/2013	9	2201	1.354628262	487	166	1624.8	156
FL	Crystal River	1	2013	10/12/2013	10	2090	1.333163233	509	160	1567.7	152
FL	Crystal River	1	2013	10/12/2013	11	2766	1.317770367	520	215	2099	219
FL	Crystal River	1	2013	10/12/2013	12	4077	1.300271089	1009	321	3135.5	336
FL	Crystal River	1	2013	10/12/2013	13	4231	1.288446312	1086	336	3283.8	355
FL	Crystal River	1	2013	10/12/2013	14	4321	1.302055083	1071	340	3318.6	359
FL	Crystal River	1	2013	10/12/2013	15	4150	1.313706869	998	324	3159	341
FL	Crystal River	1	2013	10/12/2013	16	4093	1.343332568	981	312	3046.9	330
FL	Crystal River	1	2013	10/12/2013	17	3380	1.363673041	815	254	2478.6	271
FL	Crystal River	1	2013	10/12/2013	18	2787	1.362036947	603	209	2046.2	216
FL	Crystal River	1	2013	10/12/2013	19	2370	1.380073371	518	176	1717.3	170
FL	Crystal River	1	2013	10/12/2013	20	1878	1.370602832	530	140	1370.2	121
FL	Crystal River	1	2013	10/12/2013	21	1953	1.359838463	610	147	1436.2	123
FL	Crystal River	1	2013	10/12/2013	22	1917	1.378541637	581	142	1390.6	119
FL	Crystal River	1	2013	10/12/2013	23	2025	1.435762904	605	144	1410.4	119
FL	Crystal River	1	2013	10/13/2013	0	2117	1.516584283	614	143	1395.9	119
FL	Crystal River	1	2013	10/13/2013	1	2222	1.60839667	618	141	1381.5	119
FL	Crystal River	1	2013	10/13/2013	2	2449	1.677971908	661	149	1459.5	119
FL	Crystal River	1	2013	10/13/2013	3	2601	1.719555732	701	155	1512.6	119
FL	Crystal River	1	2013	10/13/2013	4	3053	1.73584262	833	180	1758.8	119

FL	Crystal River	1	2013	10/13/2013	5	3194	1.755427315	855	186	1819.5	119
FL	Crystal River	1	2013	10/13/2013	6	3098	1.766248575	806	180	1754	119
FL	Crystal River	1	2013	10/13/2013	7	2841	1.786680083	729	163	1590.1	121
FL	Crystal River	1	2013	10/13/2013	8	2899	1.794268738	659	165	1615.7	148
FL	Crystal River	1	2013	10/13/2013	9	2531	1.808244624	655	143	1399.7	132
FL	Crystal River	1	2013	10/13/2013	10	2739	1.779149074	688	157	1539.5	147
FL	Crystal River	1	2013	10/13/2013	11	4083	1.779240021	876	235	2294.8	245
FL	Crystal River	1	2013	10/13/2013	12	5351	1.640857379	1072	334	3261.1	352
FL	Crystal River	1	2013	10/13/2013	13	5052	1.589428976	1096	326	3178.5	347
FL	Crystal River	1	2013	10/13/2013	14	4556	1.570330541	1053	297	2901.3	317
FL	Crystal River	1	2013	10/13/2013	15	4986	1.591496696	1058	321	3132.9	340
FL	Crystal River	1	2013	10/13/2013	16	4710	1.612682326	1045	299	2920.6	318
FL	Crystal River	1	2013	10/13/2013	17	5215	1.649585627	1160	324	3161.4	344
FL	Crystal River	1	2013	10/13/2013	18	5369	1.686349645	1197	326	3183.8	347
FL	Crystal River	1	2013	10/13/2013	19	4808	1.6994804	1168	290	2829.1	308
FL	Crystal River	1	2013	10/13/2013	20	2448	1.665532726	749	150	1469.8	138
FL	Crystal River	1	2013	10/13/2013	21	2280	1.675238795	691	139	1361	121
FL	Crystal River	1	2013	10/13/2013	22	2371	1.666901012	715	145	1422.4	120
FL	Crystal River	1	2013	10/13/2013	23	2540	1.652247447	787	157	1537.3	119
FL	Crystal River	1	2013	10/14/2013	0	2641	1.64538035	839	164	1605.1	119
FL	Crystal River	1	2013	10/14/2013	1	2666	1.628688374	890	167	1636.9	120
FL	Crystal River	1	2013	10/14/2013	2	2817	1.648525281	929	175	1708.8	118
FL	Crystal River	1	2013	10/14/2013	3	2907	1.643022664	999	181	1769.3	119
FL	Crystal River	1	2013	10/14/2013	4	2932	1.605783449	989	187	1825.9	120
FL	Crystal River	1	2013	10/14/2013	5	2997	1.606195402	1039	191	1865.9	118
FL	Crystal River	1	2013	10/14/2013	6	3010	1.579969555	1045	195	1905.1	119
FL	Crystal River	1	2013	10/14/2013	7	2851	1.557327798	988	187	1830.7	119
FL	Crystal River	1	2013	10/14/2013	8	2479	1.553452814	876	163	1595.8	120
FL	Crystal River	1	2013	10/14/2013	9	2248	1.556032394	774	148	1444.7	127
FL	Crystal River	1	2013	10/14/2013	10	2379	1.545005845	796	158	1539.8	142
FL	Crystal River	1	2013	10/14/2013	11	2867	1.613938302	934	182	1776.4	177
FL	Crystal River	1	2013	10/14/2013	12	5378	1.713393654	1330	322	3138.8	336
FL	Crystal River	1	2013	10/14/2013	13	5464	1.775813319	1280	315	3076.9	336
FL	Crystal River	1	2013	10/14/2013	14	6248	1.826046294	1348	351	3421.6	369
FL	Crystal River	1	2013	10/14/2013	15	6403	1.880193804	1321	349	3405.5	370

FL	Crystal River	1	2013	10/14/2013	16	6513	1.925271217	1282	347	3382.9	367
FL	Crystal River	1	2013	10/14/2013	17	6486	1.931046802	1246	344	3358.8	364
FL	Crystal River	1	2013	10/14/2013	18	6445	1.908837815	1232	346	3376.4	364
FL	Crystal River	1	2013	10/14/2013	19	5190	1.866772175	1059	285	2780.2	301
FL	Crystal River	1	2013	10/14/2013	20	4899	1.859203036	953	270	2635	283
FL	Crystal River	1	2013	10/14/2013	21	4319	1.84061368	896	240	2346.5	248
FL	Crystal River	1	2013	10/14/2013	22	2960	1.783454841	710	170	1659.7	127
FL	Crystal River	1	2013	10/14/2013	23	3296	1.841546542	735	183	1789.8	119
FL	Crystal River	1	2013	10/15/2013	0	3510	1.890552623	757	190	1856.6	119
FL	Crystal River	1	2013	10/15/2013	1	3684	1.914362918	796	197	1924.4	120
FL	Crystal River	1	2013	10/15/2013	2	3680	1.901022833	797	198	1935.8	120
FL	Crystal River	1	2013	10/15/2013	3	3688	1.888376856	789	200	1953	121
FL	Crystal River	1	2013	10/15/2013	4	3721	1.862828536	787	204	1997.5	125
FL	Crystal River	1	2013	10/15/2013	5	4303	1.854501573	740	238	2320.3	159
FL	Crystal River	1	2013	10/15/2013	6	3533	1.782093317	800	203	1982.5	127
FL	Crystal River	1	2013	10/15/2013	7	3418	1.763128031	785	198	1938.6	120
FL	Crystal River	1	2013	10/15/2013	8	3202	1.754616691	755	187	1824.9	121
FL	Crystal River	1	2013	10/15/2013	9	2872	1.74812831	662	168	1642.9	120
FL	Crystal River	1	2013	10/15/2013	10	2521	1.750816029	596	147	1439.9	120
FL	Crystal River	1	2013	10/15/2013	11	2568	1.757579906	606	149	1461.1	123
FL	Crystal River	1	2013	10/15/2013	12	2522	1.757368824	615	147	1435.1	122
FL	Crystal River	1	2013	10/15/2013	13	2619	1.74112485	628	154	1504.2	132
FL	Crystal River	1	2013	10/15/2013	14	3563	1.772460452	782	206	2010.2	200
FL	Crystal River	1	2013	10/15/2013	15	5338	1.85476025	1171	295	2878	302
FL	Crystal River	1	2013	10/15/2013	16	6020	1.840190744	1256	335	3271.4	347
FL	Crystal River	1	2013	10/15/2013	17	4270	1.809015421	1111	242	2360.4	250
FL	Crystal River	1	2013	10/15/2013	18	4105	1.739333079	899	242	2360.1	229
FL	Crystal River	1	2013	10/15/2013	19	4465	1.734182623	826	264	2574.7	244
FL	Crystal River	1	2013	10/15/2013	20	3039	1.699569375	717	183	1788.1	122
FL	Crystal River	1	2013	10/15/2013	21	3133	1.710432931	694	187	1831.7	120
FL	Crystal River	1	2013	10/15/2013	22	3133	1.741523068	678	184	1799	119
FL	Crystal River	1	2013	10/15/2013	23	3324	1.790658837	705	190	1856.3	119
FL	Crystal River	1	2013	10/16/2013	0	3388	1.833035763	704	189	1848.3	119
FL	Crystal River	1	2013	10/16/2013	1	3462	1.885929073	706	188	1835.7	119
FL	Crystal River	1	2013	10/16/2013	2	3513	1.909446679	719	188	1839.8	119

FL	Crystal River	1	2013	10/16/2013	3	3581	1.937036837	722	189	1848.7	119
FL	Crystal River	1	2013	10/16/2013	4	3689	1.970093458	730	192	1872.5	119
FL	Crystal River	1	2013	10/16/2013	5	3826	1.978078792	760	198	1934.2	119
FL	Crystal River	1	2013	10/16/2013	6	3805	2.010886798	751	194	1892.2	119
FL	Crystal River	1	2013	10/16/2013	7	3626	2.040288094	702	182	1777.2	119
FL	Crystal River	1	2013	10/16/2013	8	3376	1.955514365	842	177	1726.4	119
FL	Crystal River	1	2013	10/16/2013	9	2601	1.878520872	722	142	1384.6	119
FL	Crystal River	1	2013	10/16/2013	10	2458	1.863674274	641	135	1318.9	122
FL	Crystal River	1	2013	10/16/2013	11	3079	1.852587244	741	170	1662	162
FL	Crystal River	1	2013	10/16/2013	12	4714	1.905031319	1163	253	2474.5	264
FL	Crystal River	1	2013	10/16/2013	13	6664	1.981151708	1483	345	3363.7	364
FL	Crystal River	1	2013	10/16/2013	14	7278	2.042144841	1464	365	3563.9	387
FL	Crystal River	1	2013	10/16/2013	15	7475	2.06514532	1469	371	3619.6	390
FL	Crystal River	1	2013	10/16/2013	16	7561	2.114728422	1490	366	3575.4	385
FL	Crystal River	1	2013	10/16/2013	17	7545	2.143953171	1467	361	3519.2	380
FL	Crystal River	1	2013	10/16/2013	18	7610	2.140165364	1450	364	3555.8	380
FL	Crystal River	1	2013	10/16/2013	19	7680	2.165271082	1443	363	3546.9	381
FL	Crystal River	1	2013	10/16/2013	20	7571	2.127821028	1430	365	3558.1	381
FL	Crystal River	1	2013	10/16/2013	21	7338	2.079578303	1386	362	3528.6	381
FL	Crystal River	1	2013	10/16/2013	22	5307	1.954480168	1099	278	2715.3	294
FL	Crystal River	1	2013	10/16/2013	23	2466	1.740296401	566	145	1417	126
FL	Crystal River	1	2013	10/17/2013	0	2123	1.501626821	490	145	1413.8	119
FL	Crystal River	1	2013	10/17/2013	1	1840	1.26122421	482	149	1458.9	119
FL	Crystal River	1	2013	10/17/2013	2	1629	1.081816974	481	154	1505.8	119
FL	Crystal River	1	2013	10/17/2013	3	1482	0.954527889	478	159	1552.6	119
FL	Crystal River	1	2013	10/17/2013	4	1366	0.877271852	468	159	1557.1	119
FL	Crystal River	1	2013	10/17/2013	5	1369	0.828692494	490	169	1652	119
FL	Crystal River	1	2013	10/17/2013	6	1302	0.786231884	483	169	1656	119
FL	Crystal River	1	2013	10/17/2013	7	1203	0.758368531	469	162	1586.3	119
FL	Crystal River	1	2013	10/17/2013	8	1001	0.740275107	396	138	1352.2	121
FL	Crystal River	1	2013	10/17/2013	9	1452	0.788873194	450	188	1840.6	184
FL	Crystal River	1	2013	10/17/2013	10	3021	1.124511446	878	275	2686.5	284
FL	Crystal River	1	2013	10/17/2013	11	4176	1.279529369	1214	334	3263.7	337
FL	Crystal River	1	2013	10/17/2013	12	4931	1.20444553	1473	420	4094	379
FL	Crystal River	1	2013	10/17/2013	13	4359	1.168444754	1298	382	3730.6	372

FL	Crystal River	1	2013	10/17/2013	14	3718	1.109950145	1159	343	3349.7	359
FL	Crystal River	1	2013	10/17/2013	15	3678	1.098369468	1151	343	3348.6	359
FL	Crystal River	1	2013	10/17/2013	16	3831	1.146010949	1166	343	3342.9	356
FL	Crystal River	1	2013	10/17/2013	17	3979	1.203569268	1183	339	3306	352
FL	Crystal River	1	2013	10/17/2013	18	4205	1.266871535	1208	340	3319.2	354
FL	Crystal River	1	2013	10/17/2013	19	4469	1.339628297	1217	342	3336	354
FL	Crystal River	1	2013	10/17/2013	20	4753	1.42831385	1231	341	3327.7	354
FL	Crystal River	1	2013	10/17/2013	21	3911	1.460963765	1003	274	2677	290
FL	Crystal River	1	2013	10/17/2013	22	2070	1.547085202	524	137	1338	125
FL	Crystal River	1	2013	10/17/2013	23	1997	1.515404462	471	135	1317.8	119
FL	Crystal River	1	2013	10/18/2013	0	1979	1.514618093	471	134	1306.6	119
FL	Crystal River	1	2013	10/18/2013	1	2062	1.493986379	488	141	1380.2	119
FL	Crystal River	1	2013	10/18/2013	2	1985	1.510079878	465	134	1314.5	119
FL	Crystal River	1	2013	10/18/2013	3	1947	1.496771218	454	133	1300.8	119
FL	Crystal River	1	2013	10/18/2013	4	1958	1.514307811	452	132	1293	119
FL	Crystal River	1	2013	10/18/2013	5	2380	1.524175472	485	160	1561.5	152
FL	Crystal River	1	2013	10/18/2013	6	2614	1.539639534	536	174	1697.8	177
FL	Crystal River	1	2013	10/18/2013	7	2008	1.505811774	500	136	1333.5	124
FL	Crystal River	1	2013	10/18/2013	8	2699	1.525720746	523	181	1769	180
FL	Crystal River	1	2013	10/18/2013	9	4247	1.500600664	823	290	2830.2	301
FL	Crystal River	1	2013	10/18/2013	10	5230	1.492281793	1247	359	3504.7	376
FL	Crystal River	1	2013	10/18/2013	11	5300	1.509240539	1253	360	3511.7	380
FL	Crystal River	1	2013	10/18/2013	12	5141	1.531153205	1191	344	3357.6	359
FL	Crystal River	1	2013	10/18/2013	13	5361	1.556846232	1229	353	3443.5	370
FL	Crystal River	1	2013	10/18/2013	14	5352	1.561032522	1230	351	3428.5	367
FL	Crystal River	1	2013	10/18/2013	15	5343	1.574944731	1207	348	3392.5	364
FL	Crystal River	1	2013	10/18/2013	16	5316	1.574131651	1148	346	3377.1	362
FL	Crystal River	1	2013	10/18/2013	17	5066	1.593332285	1071	326	3179.5	341
FL	Crystal River	1	2013	10/18/2013	18	5112	1.608660079	1118	326	3177.8	340
FL	Crystal River	1	2013	10/18/2013	19	5036	1.62033462	1087	318	3108	334
FL	Crystal River	1	2013	10/18/2013	20	4931	1.636357603	1033	309	3013.4	322
FL	Crystal River	1	2013	10/18/2013	21	4396	1.627244124	967	277	2701.5	289
FL	Crystal River	1	2013	10/18/2013	22	2756	1.605125218	657	176	1717	175
FL	Crystal River	1	2013	10/18/2013	23	2087	1.577237001	471	135	1323.2	119
FL	Crystal River	1	2013	10/19/2013	0	2069	1.575540664	449	134	1313.2	120

FL	Crystal River	1	2013	10/19/2013	1	2089	1.57387177	442	136	1327.3	119
FL	Crystal River	1	2013	10/19/2013	2	2110	1.572514533	433	137	1341.8	119
FL	Crystal River	1	2013	10/19/2013	3	2109	1.561297009	440	138	1350.8	119
FL	Crystal River	1	2013	10/19/2013	4	2136	1.572901325	453	139	1358	119
FL	Crystal River	1	2013	10/19/2013	5	2382	1.583250249	484	154	1504.5	131
FL	Crystal River	1	2013	10/19/2013	6	2247	1.580391054	472	145	1421.8	122
FL	Crystal River	1	2013	10/19/2013	7	2492	1.58524173	429	161	1572	145
FL	Crystal River	1	2013	10/19/2013	8	3606	1.591420628	561	232	2265.9	236
FL	Crystal River	1	2013	10/19/2013	9	4365	1.61493211	827	277	2702.9	288
FL	Crystal River	1	2013	10/19/2013	10	4312	1.624901082	825	272	2653.7	285
FL	Crystal River	1	2013	10/19/2013	11	4685	1.611294538	959	298	2907.6	310
FL	Crystal River	1	2013	10/19/2013	12	5509	1.618104917	1195	349	3404.6	362
FL	Crystal River	1	2013	10/19/2013	13	5041	1.601029029	1161	323	3148.6	336
FL	Crystal River	1	2013	10/19/2013	14	5583	1.587432471	1206	360	3517	373
FL	Crystal River	1	2013	10/19/2013	15	5338	1.560590557	1231	350	3420.5	362
FL	Crystal River	1	2013	10/19/2013	16	4311	1.551277438	956	285	2779	298
FL	Crystal River	1	2013	10/19/2013	17	4430	1.579435254	956	287	2804.8	299
FL	Crystal River	1	2013	10/19/2013	18	5648	1.624996404	1195	356	3475.7	368
FL	Crystal River	1	2013	10/19/2013	19	5654	1.628503125	1256	356	3471.9	369
FL	Crystal River	1	2013	10/19/2013	20	5256	1.628051047	1194	331	3228.4	344
FL	Crystal River	1	2013	10/19/2013	21	4169	1.607790204	905	266	2593	279
FL	Crystal River	1	2013	10/19/2013	22	2303	1.561355932	482	151	1475	141
FL	Crystal River	1	2013	10/19/2013	23	2029	1.539336924	446	135	1318.1	119
FL	Crystal River	1	2013	10/20/2013	0	2034	1.560174887	439	133	1303.7	119
FL	Crystal River	1	2013	10/20/2013	1	2038	1.565524658	441	133	1301.8	119
FL	Crystal River	1	2013	10/20/2013	2	2072	1.554621849	451	136	1332.8	119
FL	Crystal River	1	2013	10/20/2013	3	2095	1.539083162	458	139	1361.2	120
FL	Crystal River	1	2013	10/20/2013	4	2155	1.516217547	464	145	1421.3	120
FL	Crystal River	1	2013	10/20/2013	5	2274	1.484915763	508	157	1531.4	119
FL	Crystal River	1	2013	10/20/2013	6	2245	1.447733282	525	159	1550.7	119
FL	Crystal River	1	2013	10/20/2013	7	2367	1.404831147	574	172	1684.9	119
FL	Crystal River	1	2013	10/20/2013	8	2474	1.397424311	524	181	1770.4	151
FL	Crystal River	1	2013	10/20/2013	9	2745	1.398013751	606	201	1963.5	184
FL	Crystal River	1	2013	10/20/2013	10	2036	1.378749915	518	151	1476.7	128
FL	Crystal River	1	2013	10/20/2013	11	2077	1.370957096	515	155	1515	136

FL	Crystal River	1	2013	10/20/2013	12	3950	1.442079515	819	281	2739.1	283
FL	Crystal River	1	2013	10/20/2013	13	5562	1.542942743	1304	369	3604.8	382
FL	Crystal River	1	2013	10/20/2013	14	5561	1.581806804	1293	360	3515.6	374
FL	Crystal River	1	2013	10/20/2013	15	5542	1.584198039	1280	358	3498.3	372
FL	Crystal River	1	2013	10/20/2013	16	5253	1.577524851	1232	341	3329.9	354
FL	Crystal River	1	2013	10/20/2013	17	4971	1.562519645	1158	326	3181.4	340
FL	Crystal River	1	2013	10/20/2013	18	5161	1.566217529	1159	338	3295.2	350
FL	Crystal River	1	2013	10/20/2013	19	5079	1.563346466	1163	333	3248.8	344
FL	Crystal River	1	2013	10/20/2013	20	4238	1.599064257	877	271	2650.3	281
FL	Crystal River	1	2013	10/20/2013	21	3353	1.639849367	635	209	2044.7	208
FL	Crystal River	1	2013	10/20/2013	22	2583	1.665377176	490	159	1551	128
FL	Crystal River	1	2013	10/20/2013	23	2641	1.677784131	516	161	1574.1	120
FL	Crystal River	1	2013	10/21/2013	0	2737	1.698839302	534	165	1611.1	120
FL	Crystal River	1	2013	10/21/2013	1	2794	1.694976947	557	169	1648.4	120
FL	Crystal River	1	2013	10/21/2013	2	2723	1.679930903	640	166	1620.9	111
FL	Crystal River	1	2013	10/21/2013	3	2586	1.666988977	705	159	1551.3	102
FL	Crystal River	1	2013	10/21/2013	4	2610	1.675439723	688	159	1557.8	103
FL	Crystal River	1	2013	10/21/2013	5	2581	1.654805411	684	160	1559.7	103
FL	Crystal River	1	2013	10/21/2013	6	2512	1.629581576	670	158	1541.5	103
FL	Crystal River	1	2013	10/21/2013	7	2313	1.603910963	624	148	1442.1	103
FL	Crystal River	1	2013	10/21/2013	8	2163	1.581834138	518	140	1367.4	112
FL	Crystal River	1	2013	10/21/2013	9	2605	1.5911312	501	168	1637.2	144
FL	Crystal River	1	2013	10/21/2013	10	3351	1.59275631	658	215	2103.9	201
FL	Crystal River	1	2013	10/21/2013	11	3306	1.557450417	870	217	2122.7	210
FL	Crystal River	1	2013	10/21/2013	12	3007	1.540866001	647	200	1951.5	186
FL	Crystal River	1	2013	10/21/2013	13	3033	1.539750228	693	202	1969.8	189
FL	Crystal River	1	2013	10/21/2013	14	3285	1.531682753	757	220	2144.7	214
FL	Crystal River	1	2013	10/21/2013	15	5559	1.560683905	1346	365	3561.9	371
FL	Crystal River	1	2013	10/21/2013	16	5754	1.579987918	1380	373	3641.8	384
FL	Crystal River	1	2013	10/21/2013	17	5619	1.563221589	1319	368	3594.5	378
FL	Crystal River	1	2013	10/21/2013	18	5485	1.546202853	1309	364	3547.4	374
FL	Crystal River	1	2013	10/21/2013	19	5074	1.523769483	1225	341	3329.9	349
FL	Crystal River	1	2013	10/21/2013	20	4337	1.507263502	992	295	2877.4	303
FL	Crystal River	1	2013	10/21/2013	21	3852	1.49186677	919	264	2582	272
FL	Crystal River	1	2013	10/21/2013	22	2424	1.38593482	531	179	1749	170

FL	Crystal River	1	2013	10/21/2013	23	1913	1.359340581	463	144	1407.3	120
FL	Crystal River	1	2013	10/22/2013	0	1899	1.370426499	460	142	1385.7	119
FL	Crystal River	1	2013	10/22/2013	1	1921	1.361542278	471	144	1410.9	119
FL	Crystal River	1	2013	10/22/2013	2	1888	1.349438925	498	143	1399.1	120
FL	Crystal River	1	2013	10/22/2013	3	1913	1.352039013	498	145	1414.9	120
FL	Crystal River	1	2013	10/22/2013	4	1943	1.337509465	462	149	1452.7	126
FL	Crystal River	1	2013	10/22/2013	5	2277	1.338466964	474	174	1701.2	150
FL	Crystal River	1	2013	10/22/2013	6	1956	1.316994344	494	152	1485.2	122
FL	Crystal River	1	2013	10/22/2013	7	1929	1.314122215	477	150	1467.9	119
FL	Crystal River	1	2013	10/22/2013	8	1975	1.319657891	462	153	1496.6	133
FL	Crystal River	1	2013	10/22/2013	9	3855	1.421040991	781	278	2712.8	275
FL	Crystal River	1	2013	10/22/2013	10	5066	1.484890231	1262	350	3411.7	358
FL	Crystal River	1	2013	10/22/2013	11	5331	1.482315649	1309	369	3596.4	379
FL	Crystal River	1	2013	10/22/2013	12	5213	1.460510464	1299	366	3569.3	375
FL	Crystal River	1	2013	10/22/2013	13	5091	1.439558886	1273	362	3536.5	369
FL	Crystal River	1	2013	10/22/2013	14	5152	1.450818056	1281	364	3551.1	369
FL	Crystal River	1	2013	10/22/2013	15	5111	1.458785249	1268	359	3503.6	364
FL	Crystal River	1	2013	10/22/2013	16	5040	1.477442617	1275	350	3411.3	358
FL	Crystal River	1	2013	10/22/2013	17	5042	1.469413925	1273	352	3431.3	359
FL	Crystal River	1	2013	10/22/2013	18	4983	1.454338499	1284	351	3426.3	359
FL	Crystal River	1	2013	10/22/2013	19	4850	1.447631555	1266	343	3350.3	354
FL	Crystal River	1	2013	10/22/2013	20	4259	1.436715693	1123	304	2964.4	314
FL	Crystal River	1	2013	10/22/2013	21	3822	1.427024605	969	274	2678.3	284
FL	Crystal River	1	2013	10/22/2013	22	2119	1.39352887	533	156	1520.6	138
FL	Crystal River	1	2013	10/22/2013	23	1969	1.412887486	480	143	1393.6	119
FL	Crystal River	1	2013	10/23/2013	0	2121	1.435532995	515	151	1477.5	119
FL	Crystal River	1	2013	10/23/2013	1	2275	1.460674157	548	159	1557.5	119
FL	Crystal River	1	2013	10/23/2013	2	2568	1.475777254	600	178	1740.1	119
FL	Crystal River	1	2013	10/23/2013	3	2682	1.496317786	652	183	1792.4	119
FL	Crystal River	1	2013	10/23/2013	4	2826	1.497774009	692	193	1886.8	127
FL	Crystal River	1	2013	10/23/2013	5	3543	1.515851624	670	239	2337.3	174
FL	Crystal River	1	2013	10/23/2013	6	3052	1.511115512	807	207	2019.7	143
FL	Crystal River	1	2013	10/23/2013	7	2637	1.456101601	807	185	1811	121
FL	Crystal River	1	2013	10/23/2013	8	2364	1.445429532	796	167	1635.5	123
FL	Crystal River	1	2013	10/23/2013	9	2229	1.46770264	757	155	1518.7	121

FL	Crystal River	1	2013	10/23/2013	10	2075	1.475293281	697	144	1406.5	119
FL	Crystal River	1	2013	10/23/2013	11	2491	1.498886816	714	170	1661.9	158
FL	Crystal River	1	2013	10/23/2013	12	2469	1.51305307	703	167	1631.8	150
FL	Crystal River	1	2013	10/23/2013	13	2334	1.516864886	661	157	1538.7	143
FL	Crystal River	1	2013	10/23/2013	14	3379	1.518719942	1054	228	2224.9	230
FL	Crystal River	1	2013	10/23/2013	15	4717	1.530350712	1192	316	3082.3	322
FL	Crystal River	1	2013	10/23/2013	16	4248	1.518987342	1331	286	2796.6	301
FL	Crystal River	1	2013	10/23/2013	17	2805	1.507416165	671	190	1860.8	187
FL	Crystal River	1	2013	10/23/2013	18	3199	1.495069402	554	219	2139.7	214
FL	Crystal River	1	2013	10/23/2013	19	2728	1.49832482	588	186	1820.7	173
FL	Crystal River	1	2013	10/23/2013	20	2521	1.4737519	715	175	1710.6	120
FL	Crystal River	1	2013	10/23/2013	21	2862	1.4550816	767	201	1966.9	125
FL	Crystal River	1	2013	10/23/2013	22	2980	1.462863875	802	209	2037.1	122
FL	Crystal River	1	2013	10/23/2013	23	2990	1.45103368	797	211	2060.6	119
FL	Crystal River	1	2013	10/24/2013	0	3007	1.436556469	791	214	2093.2	119
FL	Crystal River	1	2013	10/24/2013	1	3004	1.438421758	799	214	2088.4	119
FL	Crystal River	1	2013	10/24/2013	2	2890	1.430126683	790	207	2020.8	119
FL	Crystal River	1	2013	10/24/2013	3	2855	1.425789053	784	205	2002.4	119
FL	Crystal River	1	2013	10/24/2013	4	2877	1.431628185	775	206	2009.6	119
FL	Crystal River	1	2013	10/24/2013	5	2932	1.431221322	778	210	2048.6	119
FL	Crystal River	1	2013	10/24/2013	6	2900	1.44739469	795	205	2003.6	119
FL	Crystal River	1	2013	10/24/2013	7	2967	1.44830616	813	210	2048.6	119
FL	Crystal River	1	2013	10/24/2013	8	2994	1.453256965	811	211	2060.2	119
FL	Crystal River	1	2013	10/24/2013	9	3065	1.451643459	836	216	2111.4	121
FL	Crystal River	1	2013	10/24/2013	10	3114	1.446152417	848	220	2153.3	120
FL	Crystal River	1	2013	10/24/2013	11	2833	1.449475569	775	200	1954.5	121
FL	Crystal River	1	2013	10/24/2013	12	2593	1.450548221	716	183	1787.6	120
FL	Crystal River	1	2013	10/24/2013	13	2605	1.442094774	720	185	1806.4	121
FL	Crystal River	1	2013	10/24/2013	14	2612	1.444210992	714	185	1808.6	121
FL	Crystal River	1	2013	10/24/2013	15	2809	1.446372483	765	199	1942.1	121
FL	Crystal River	1	2013	10/24/2013	16	2901	1.44839982	795	205	2002.9	119
FL	Crystal River	1	2013	10/24/2013	17	3128	1.459363628	827	219	2143.4	128
FL	Crystal River	1	2013	10/24/2013	18	3642	1.459368489	801	256	2495.6	165
FL	Crystal River	1	2013	10/24/2013	19	3020	1.464597478	930	211	2062	119
FL	Crystal River	1	2013	10/24/2013	20	3125	1.466103683	895	218	2131.5	121

FL	Crystal River	1	2013	10/24/2013	21	3325	1.478566346	877	230	2248.8	132
FL	Crystal River	1	2013	10/24/2013	22	3195	1.475069252	937	222	2166	120
FL	Crystal River	1	2013	10/24/2013	23	3227	1.479257392	951	223	2181.5	119
FL	Crystal River	1	2013	10/25/2013	0	3196	1.444715668	1061	227	2212.2	121
FL	Crystal River	1	2013	10/25/2013	1	3278	1.466929204	1224	229	2234.6	123
FL	Crystal River	1	2013	10/25/2013	2	3259	1.460976375	1073	228	2230.7	123
FL	Crystal River	1	2013	10/25/2013	3	3254	1.459781975	1074	228	2229.1	123
FL	Crystal River	1	2013	10/25/2013	4	3330	1.457968476	1075	234	2284	129
FL	Crystal River	1	2013	10/25/2013	5	3184	1.449644873	1131	225	2196.4	123
FL	Crystal River	1	2013	10/25/2013	6	3138	1.442427028	1129	223	2175.5	123
FL	Crystal River	1	2013	10/25/2013	7	2942	1.451406019	1043	208	2027	121
FL	Crystal River	1	2013	10/25/2013	8	2881	1.437122762	890	205	2004.7	155
FL	Crystal River	1	2013	10/25/2013	9	2487	1.436907788	813	177	1730.8	149
FL	Crystal River	1	2013	10/25/2013	10	1980	1.41783029	695	143	1396.5	126
FL	Crystal River	1	2013	10/25/2013	11	1597	1.416533617	573	115	1127.4	121
FL	Crystal River	1	2013	10/25/2013	12	1657	1.409732857	595	120	1175.4	122
FL	Crystal River	1	2013	10/25/2013	13	2066	1.418663737	687	149	1456.3	142
FL	Crystal River	1	2013	10/25/2013	14	3230	1.446419775	937	229	2233.1	231
FL	Crystal River	1	2013	10/25/2013	15	2852	1.46414087	697	199	1947.9	204
FL	Crystal River	1	2013	10/25/2013	16	1823	1.449586514	554	129	1257.6	122
FL	Crystal River	1	2013	10/25/2013	17	1968	1.445889354	577	139	1361.1	119
FL	Crystal River	1	2013	10/25/2013	18	2509	1.436669721	724	179	1746.4	119
FL	Crystal River	1	2013	10/25/2013	19	2795	1.441985245	810	198	1938.3	119
FL	Crystal River	1	2013	10/25/2013	20	2981	1.434345378	864	213	2078.3	119
FL	Crystal River	1	2013	10/25/2013	21	3083	1.442339181	863	219	2137.5	119
FL	Crystal River	1	2013	10/25/2013	22	3111	1.432650242	862	222	2171.5	119
FL	Crystal River	1	2013	10/25/2013	23	3079	1.434160883	858	220	2146.9	119
FL	Crystal River	1	2013	10/26/2013	0	3039	1.436064644	846	217	2116.2	119
FL	Crystal River	1	2013	10/26/2013	1	2996	1.432670237	836	214	2091.2	119
FL	Crystal River	1	2013	10/26/2013	2	2961	1.429260993	830	212	2071.7	119
FL	Crystal River	1	2013	10/26/2013	3	2863	1.420632164	832	206	2015.3	119
FL	Crystal River	1	2013	10/26/2013	4	2756	1.430202387	805	197	1927	119
FL	Crystal River	1	2013	10/26/2013	5	2768	1.429678219	813	198	1936.1	119
FL	Crystal River	1	2013	10/26/2013	6	2740	1.430435918	800	196	1915.5	119
FL	Crystal River	1	2013	10/26/2013	7	2829	1.425404343	811	203	1984.7	123

FL	Crystal River	1	2013	10/26/2013	8	2984	1.412745005	832	216	2112.2	130
FL	Crystal River	1	2013	10/26/2013	9	2920	1.40014385	848	214	2085.5	120
FL	Crystal River	1	2013	10/26/2013	10	2624	1.403433706	755	191	1869.7	119
FL	Crystal River	1	2013	10/26/2013	11	2252	1.393133313	651	165	1616.5	120
FL	Crystal River	1	2013	10/26/2013	12	1850	1.386806597	567	136	1334	129
FL	Crystal River	1	2013	10/26/2013	13	1894	1.379461034	568	140	1373	122
FL	Crystal River	1	2013	10/26/2013	14	2439	1.35839599	721	184	1795.5	127
FL	Crystal River	1	2013	10/26/2013	15	2346	1.347501436	739	178	1741	122
FL	Crystal River	1	2013	10/26/2013	16	2500	1.320097159	808	194	1893.8	119
FL	Crystal River	1	2013	10/26/2013	17	2736	1.302299015	890	215	2100.9	120
FL	Crystal River	1	2013	10/26/2013	18	3555	1.31069572	819	278	2712.3	188
FL	Crystal River	1	2013	10/26/2013	19	2706	1.309143687	940	212	2067	121
FL	Crystal River	1	2013	10/26/2013	20	2802	1.317410315	893	218	2126.9	120
FL	Crystal River	1	2013	10/26/2013	21	3016	1.362055729	885	227	2214.3	132
FL	Crystal River	1	2013	10/26/2013	22	2938	1.365431984	875	220	2151.7	123
FL	Crystal River	1	2013	10/26/2013	23	2912	1.377874515	862	216	2113.4	119
FL	Crystal River	1	2013	10/27/2013	0	2951	1.390931373	878	217	2121.6	119
FL	Crystal River	1	2013	10/27/2013	1	2978	1.409103814	866	216	2113.4	120
FL	Crystal River	1	2013	10/27/2013	2	2955	1.409693732	855	215	2096.2	119
FL	Crystal River	1	2013	10/27/2013	3	2945	1.401580049	851	215	2101.2	119
FL	Crystal River	1	2013	10/27/2013	4	2919	1.383805822	837	216	2109.4	119
FL	Crystal River	1	2013	10/27/2013	5	2944	1.394005398	849	216	2111.9	120
FL	Crystal River	1	2013	10/27/2013	6	2910	1.393344506	847	214	2088.5	120
FL	Crystal River	1	2013	10/27/2013	7	2992	1.415594247	847	216	2113.6	120
FL	Crystal River	1	2013	10/27/2013	8	3015	1.421097285	848	217	2121.6	121
FL	Crystal River	1	2013	10/27/2013	9	2763	1.418377823	790	199	1948	120
FL	Crystal River	1	2013	10/27/2013	10	2555	1.410511207	735	185	1811.4	120
FL	Crystal River	1	2013	10/27/2013	11	2354	1.411609499	665	171	1667.6	124
FL	Crystal River	1	2013	10/27/2013	12	2292	1.415688697	660	166	1619	122
FL	Crystal River	1	2013	10/27/2013	13	2069	1.412961825	534	150	1464.3	125
FL	Crystal River	1	2013	10/27/2013	14	2279	1.440490487	607	162	1582.1	136
FL	Crystal River	1	2013	10/27/2013	15	2080	1.448871552	608	147	1435.6	124
FL	Crystal River	1	2013	10/27/2013	16	2040	1.43783479	603	145	1418.8	121
FL	Crystal River	1	2013	10/27/2013	17	2351	1.426750819	693	169	1647.8	123
FL	Crystal River	1	2013	10/27/2013	18	3548	1.454396393	702	250	2439.5	193

FL	Crystal River	1	2013	10/27/2013	19	2844	1.445342278	852	201	1967.7	126
FL	Crystal River	1	2013	10/27/2013	20	2928	1.448429384	847	207	2021.5	119
FL	Crystal River	1	2013	10/27/2013	21	3311	1.461229534	849	232	2265.9	143
FL	Crystal River	1	2013	10/27/2013	22	3083	1.45014111	890	218	2126	119
FL	Crystal River	1	2013	10/27/2013	23	3163	1.486721504	887	218	2127.5	119
FL	Crystal River	1	2013	10/28/2013	0	3158	1.483464863	887	218	2128.8	119
FL	Crystal River	1	2013	10/28/2013	1	3145	1.476525822	886	218	2130	119
FL	Crystal River	1	2013	10/28/2013	2	3158	1.470204842	867	220	2148	119
FL	Crystal River	1	2013	10/28/2013	3	3158	1.48061325	878	218	2132.9	119
FL	Crystal River	1	2013	10/28/2013	4	3147	1.47850599	874	218	2128.5	119
FL	Crystal River	1	2013	10/28/2013	5	3138	1.474970623	880	218	2127.5	119
FL	Crystal River	1	2013	10/28/2013	6	3085	1.465001425	867	216	2105.8	119
FL	Crystal River	1	2013	10/28/2013	7	3067	1.472042237	858	213	2083.5	119
FL	Crystal River	1	2013	10/28/2013	8	2995	1.469145492	827	209	2038.6	120
FL	Crystal River	1	2013	10/28/2013	9	2629	1.449922788	741	186	1813.2	123
FL	Crystal River	1	2013	10/28/2013	10	2294	1.441769845	652	163	1591.1	121
FL	Crystal River	1	2013	10/28/2013	11	1960	1.451314328	545	138	1350.5	132
FL	Crystal River	1	2013	10/28/2013	12	2532	1.462822809	526	177	1730.9	179
FL	Crystal River	1	2013	10/28/2013	13	3958	1.497937403	795	271	2642.3	281
FL	Crystal River	1	2013	10/28/2013	14	5216	1.531010596	1264	349	3406.9	367
FL	Crystal River	1	2013	10/28/2013	15	5273	1.519290057	1322	356	3470.7	379
FL	Crystal River	1	2013	10/28/2013	16	5208	1.517438303	1287	352	3432.1	373
FL	Crystal River	1	2013	10/28/2013	17	4155	1.505325701	960	283	2760.2	302
FL	Crystal River	1	2013	10/28/2013	18	5004	1.531118047	1127	335	3268.2	349
FL	Crystal River	1	2013	10/28/2013	19	4351	1.519575315	964	293	2863.3	308
FL	Crystal River	1	2013	10/28/2013	20	3616	1.506415597	691	246	2400.4	214
FL	Crystal River	1	2013	10/28/2013	21	3057	1.472472424	795	213	2076.1	130
FL	Crystal River	1	2013	10/28/2013	22	3185	1.476519401	811	221	2157.1	131
FL	Crystal River	1	2013	10/28/2013	23	3079	1.481713186	845	213	2078	119
FL	Crystal River	1	2013	10/29/2013	0	3129	1.485613902	844	216	2106.2	120
FL	Crystal River	1	2013	10/29/2013	1	3168	1.507781638	840	215	2101.1	119
FL	Crystal River	1	2013	10/29/2013	2	3189	1.515756452	835	215	2103.9	119
FL	Crystal River	1	2013	10/29/2013	3	3228	1.528988253	844	216	2111.2	120
FL	Crystal River	1	2013	10/29/2013	4	3213	1.524844573	836	216	2107.1	120
FL	Crystal River	1	2013	10/29/2013	5	3467	1.53570163	799	231	2257.6	135

FL	Crystal River	1	2013	10/29/2013	6	3398	1.530975445	816	227	2219.5	130
FL	Crystal River	1	2013	10/29/2013	7	3190	1.541137253	817	212	2069.9	120
FL	Crystal River	1	2013	10/29/2013	8	3240	1.53663742	757	216	2108.5	131
FL	Crystal River	1	2013	10/29/2013	9	2726	1.551684882	655	180	1756.8	125
FL	Crystal River	1	2013	10/29/2013	10	2336	1.576886729	576	152	1481.4	121
FL	Crystal River	1	2013	10/29/2013	11	2276	1.591831025	517	146	1429.8	138
FL	Crystal River	1	2013	10/29/2013	12	4154	1.599353174	766	266	2597.3	271
FL	Crystal River	1	2013	10/29/2013	13	5574	1.602276647	1301	356	3478.8	373
FL	Crystal River	1	2013	10/29/2013	14	5758	1.607078065	1361	367	3582.9	388
FL	Crystal River	1	2013	10/29/2013	15	5750	1.600467615	1358	368	3592.7	392
FL	Crystal River	1	2013	10/29/2013	16	5183	1.601421288	1239	332	3236.5	356
FL	Crystal River	1	2013	10/29/2013	17	4060	1.57132905	922	265	2583.8	284
FL	Crystal River	1	2013	10/29/2013	18	5585	1.60010314	1249	358	3490.4	375
FL	Crystal River	1	2013	10/29/2013	19	5429	1.595075802	1293	349	3403.6	366
FL	Crystal River	1	2013	10/29/2013	20	3095	1.544873715	783	205	2003.4	182
FL	Crystal River	1	2013	10/29/2013	21	3034	1.533329964	831	203	1978.7	119
FL	Crystal River	1	2013	10/29/2013	22	3300	1.540544326	824	219	2142.1	130
FL	Crystal River	1	2013	10/29/2013	23	3222	1.543251269	858	214	2087.8	119
FL	Crystal River	1	2013	10/30/2013	0	3230	1.534441805	865	216	2105	119
FL	Crystal River	1	2013	10/30/2013	1	3206	1.528413425	851	215	2097.6	119
FL	Crystal River	1	2013	10/30/2013	2	3211	1.52657602	851	215	2103.4	119
FL	Crystal River	1	2013	10/30/2013	3	3240	1.537804357	857	216	2106.9	119
FL	Crystal River	1	2013	10/30/2013	4	3244	1.546529367	849	215	2097.6	120
FL	Crystal River	1	2013	10/30/2013	5	3792	1.544602851	758	251	2455	159
FL	Crystal River	1	2013	10/30/2013	6	3334	1.516143702	859	225	2199	136
FL	Crystal River	1	2013	10/30/2013	7	3085	1.492429007	849	212	2067.1	120
FL	Crystal River	1	2013	10/30/2013	8	2858	1.464214355	769	200	1951.9	124
FL	Crystal River	1	2013	10/30/2013	9	2362	1.448635388	647	167	1630.5	123
FL	Crystal River	1	2013	10/30/2013	10	2847	1.467979788	591	199	1939.4	200
FL	Crystal River	1	2013	10/30/2013	11	5188	1.536092852	1158	346	3377.4	364
FL	Crystal River	1	2013	10/30/2013	12	4009	1.531965302	1010	268	2616.9	289
FL	Crystal River	1	2013	10/30/2013	13	4779	1.567090766	1058	312	3049.6	332
FL	Crystal River	1	2013	10/30/2013	14	5455	1.577182178	1342	354	3458.7	375
FL	Crystal River	1	2013	10/30/2013	15	5572	1.57387792	1377	363	3540.3	386
FL	Crystal River	1	2013	10/30/2013	16	5383	1.556500116	1348	354	3458.4	376

FL	Crystal River	1	2013	10/30/2013	17	4836	1.543322164	1137	321	3133.5	342
FL	Crystal River	1	2013	10/30/2013	18	5597	1.549814476	1361	370	3611.4	390
FL	Crystal River	1	2013	10/30/2013	19	5462	1.553823396	1332	360	3515.2	378
FL	Crystal River	1	2013	10/30/2013	20	4788	1.570247934	1234	312	3049.2	330
FL	Crystal River	1	2013	10/30/2013	21	2767	1.536112807	727	184	1801.3	162
FL	Crystal River	1	2013	10/30/2013	22	2651	1.538595473	713	176	1723	119
FL	Crystal River	1	2013	10/30/2013	23	2906	1.540745454	762	193	1886.1	119
FL	Crystal River	1	2013	10/31/2013	0	3029	1.549281367	787	200	1955.1	119
FL	Crystal River	1	2013	10/31/2013	1	3049	1.559032571	792	200	1955.7	119
FL	Crystal River	1	2013	10/31/2013	2	3019	1.571904613	779	197	1920.6	119
FL	Crystal River	1	2013	10/31/2013	3	3037	1.590468709	771	195	1909.5	119
FL	Crystal River	1	2013	10/31/2013	4	2995	1.602461209	755	191	1869	119
FL	Crystal River	1	2013	10/31/2013	5	3085	1.598362779	774	198	1930.1	119
FL	Crystal River	1	2013	10/31/2013	6	3097	1.60300207	763	198	1932	119
FL	Crystal River	1	2013	10/31/2013	7	2963	1.582968266	724	192	1871.8	119
FL	Crystal River	1	2013	10/31/2013	8	2462	1.57005293	611	160	1568.1	119
FL	Crystal River	1	2013	10/31/2013	9	3190	1.576710162	582	207	2023.2	208
FL	Crystal River	1	2013	10/31/2013	10	5407	1.603879924	1132	345	3371.2	360
FL	Crystal River	1	2013	10/31/2013	11	5643	1.63149069	1331	354	3458.8	375
FL	Crystal River	1	2013	10/31/2013	12	5028	1.642439486	1129	314	3061.3	333
FL	Crystal River	1	2013	10/31/2013	13	4303	1.642303729	969	268	2620.1	288
FL	Crystal River	1	2013	10/31/2013	14	5703	1.676613259	1190	349	3401.5	367
FL	Crystal River	1	2013	10/31/2013	15	5951	1.68131092	1337	363	3539.5	386
FL	Crystal River	1	2013	10/31/2013	16	5364	1.65955077	1273	331	3232.2	350
FL	Crystal River	1	2013	10/31/2013	17	4542	1.643865364	967	283	2763	303
FL	Crystal River	1	2013	10/31/2013	18	3869	1.647153987	859	241	2348.9	255
FL	Crystal River	1	2013	10/31/2013	19	3539	1.680117736	697	216	2106.4	223
FL	Crystal River	1	2013	10/31/2013	20	3103	1.761566846	569	180	1761.5	182
FL	Crystal River	1	2013	10/31/2013	21	2293	1.807931877	528	130	1268.3	122
FL	Crystal River	1	2013	10/31/2013	22	2393	1.845596175	538	133	1296.6	121
FL	Crystal River	1	2013	10/31/2013	23	2600	1.897533207	564	140	1370.2	122
FL	Crystal River	1	2013	11/1/2013	0	2943	1.921645446	641	157	1531.5	120
FL	Crystal River	1	2013	11/1/2013	1	3032	1.937256405	648	160	1565.1	120
FL	Crystal River	1	2013	11/1/2013	2	3217	1.924043062	688	171	1672	120
FL	Crystal River	1	2013	11/1/2013	3	3452	1.901195131	739	186	1815.7	121

FL	Crystal River	1	2013	11/1/2013	4	3524	1.876664181	747	192	1877.8	126
FL	Crystal River	1	2013	11/1/2013	5	3781	1.860911507	709	208	2031.8	139
FL	Crystal River	1	2013	11/1/2013	6	3384	1.80692012	739	192	1872.8	121
FL	Crystal River	1	2013	11/1/2013	7	3255	1.791710244	737	186	1816.7	120
FL	Crystal River	1	2013	11/1/2013	8	3555	1.779724656	647	204	1997.5	176
FL	Crystal River	1	2013	11/1/2013	9	4815	1.721487308	878	287	2797	290
FL	Crystal River	1	2013	11/1/2013	10	6120	1.701512456	1420	369	3596.8	383
FL	Crystal River	1	2013	11/1/2013	11	6041	1.677030703	1440	369	3602.2	389
FL	Crystal River	1	2013	11/1/2013	12	4911	1.64148673	1238	307	2991.8	324
FL	Crystal River	1	2013	11/1/2013	13	6016	1.682938428	1415	366	3574.7	382
FL	Crystal River	1	2013	11/1/2013	14	6284	1.749881652	1447	368	3591.1	386
FL	Crystal River	1	2013	11/1/2013	15	6408	1.784809069	1446	368	3590.3	386
FL	Crystal River	1	2013	11/1/2013	16	6410	1.795518207	1453	366	3570	382
FL	Crystal River	1	2013	11/1/2013	17	6487	1.789319799	1461	372	3625.4	388
FL	Crystal River	1	2013	11/1/2013	18	6414	1.781369772	1447	369	3600.6	386
FL	Crystal River	1	2013	11/1/2013	19	5599	1.760581096	1399	326	3180.2	343
FL	Crystal River	1	2013	11/1/2013	20	5374	1.7663106	1317	312	3042.5	327
FL	Crystal River	1	2013	11/1/2013	21	4416	1.774491682	1035	255	2488.6	268
FL	Crystal River	1	2013	11/1/2013	22	2489	1.762123894	556	144	1412.5	140
FL	Crystal River	1	2013	11/1/2013	23	2253	1.770669601	507	130	1272.4	119
FL	Crystal River	1	2013	11/2/2013	0	2310	1.768488746	504	134	1306.2	119
FL	Crystal River	1	2013	11/2/2013	1	2329	1.773800457	498	134	1313	119
FL	Crystal River	1	2013	11/2/2013	2	2389	1.769891836	502	138	1349.8	119
FL	Crystal River	1	2013	11/2/2013	3	2854	1.762163497	578	166	1619.6	119
FL	Crystal River	1	2013	11/2/2013	4	2970	1.758124667	598	173	1689.3	119
FL	Crystal River	1	2013	11/2/2013	5	3200	1.72385929	699	190	1856.3	119
FL	Crystal River	1	2013	11/2/2013	6	3137	1.659876184	725	193	1889.9	119
FL	Crystal River	1	2013	11/2/2013	7	3102	1.630829084	722	195	1902.1	119
FL	Crystal River	1	2013	11/2/2013	8	3403	1.604658839	755	217	2120.7	137
FL	Crystal River	1	2013	11/2/2013	9	3152	1.576472942	761	205	1999.4	123
FL	Crystal River	1	2013	11/2/2013	10	3085	1.577843699	743	200	1955.2	119
FL	Crystal River	1	2013	11/2/2013	11	3054	1.587978369	734	197	1923.2	121
FL	Crystal River	1	2013	11/2/2013	12	3131	1.588614339	752	202	1970.9	120
FL	Crystal River	1	2013	11/2/2013	13	3112	1.592956593	734	200	1953.6	120
FL	Crystal River	1	2013	11/2/2013	14	3023	1.610634557	715	192	1876.9	120

FL	Crystal River	1	2013	11/2/2013	15	2899	1.617113851	684	183	1792.7	120
FL	Crystal River	1	2013	11/2/2013	16	2731	1.61837037	644	173	1687.5	120
FL	Crystal River	1	2013	11/2/2013	17	2764	1.619689423	660	175	1706.5	120
FL	Crystal River	1	2013	11/2/2013	18	3326	1.615347256	753	211	2059	138
FL	Crystal River	1	2013	11/2/2013	19	3100	1.599587203	759	198	1938	119
FL	Crystal River	1	2013	11/2/2013	20	3135	1.607362592	747	200	1950.4	119
FL	Crystal River	1	2013	11/2/2013	21	3199	1.599659966	761	205	1999.8	119
FL	Crystal River	1	2013	11/2/2013	22	3302	1.613880743	783	209	2046	119
FL	Crystal River	1	2013	11/2/2013	23	3364	1.635868508	785	211	2056.4	119
FL	Crystal River	1	2013	11/3/2013	0	3418	1.636189564	793	214	2089	119
FL	Crystal River	1	2013	11/3/2013	1	3510	1.650677201	820	218	2126.4	119
FL	Crystal River	1	2013	11/3/2013	2	3575	1.660473758	833	220	2153	119
FL	Crystal River	1	2013	11/3/2013	3	3612	1.681720831	824	220	2147.8	119
FL	Crystal River	1	2013	11/3/2013	4	3571	1.672051318	818	219	2135.7	119
FL	Crystal River	1	2013	11/3/2013	5	3565	1.682079834	809	217	2119.4	119
FL	Crystal River	1	2013	11/3/2013	6	3524	1.688386355	797	214	2087.2	119
FL	Crystal River	1	2013	11/3/2013	7	3571	1.688735458	807	217	2114.6	119
FL	Crystal River	1	2013	11/3/2013	8	3604	1.696159639	818	218	2124.8	119
FL	Crystal River	1	2013	11/3/2013	9	3513	1.707245954	798	211	2057.7	119
FL	Crystal River	1	2013	11/3/2013	10	3326	1.715140264	752	199	1939.2	119
FL	Crystal River	1	2013	11/3/2013	11	3250	1.720395956	731	193	1889.1	119
FL	Crystal River	1	2013	11/3/2013	12	3220	1.719350705	724	192	1872.8	119
FL	Crystal River	1	2013	11/3/2013	13	3259	1.736373808	732	192	1876.9	119
FL	Crystal River	1	2013	11/3/2013	14	3043	1.718723524	694	181	1770.5	119
FL	Crystal River	1	2013	11/3/2013	15	3026	1.725494668	691	179	1753.7	119
FL	Crystal River	1	2013	11/3/2013	16	3026	1.713573815	686	181	1765.9	119
FL	Crystal River	1	2013	11/3/2013	17	3300	1.693002257	756	200	1949.2	119
FL	Crystal River	1	2013	11/3/2013	18	3692	1.695366671	842	223	2177.7	123
FL	Crystal River	1	2013	11/3/2013	19	3621	1.691265764	839	219	2141	119
FL	Crystal River	1	2013	11/3/2013	20	3604	1.687265918	837	219	2136	119
FL	Crystal River	1	2013	11/3/2013	21	3574	1.6905539	824	216	2114.1	119
FL	Crystal River	1	2013	11/3/2013	22	3524	1.67961489	814	215	2098.1	119
FL	Crystal River	1	2013	11/3/2013	23	3497	1.655854917	819	216	2111.9	119
FL	Crystal River	1	2013	11/4/2013	0	3488	1.651593352	832	216	2111.9	119
FL	Crystal River	1	2013	11/4/2013	1	3555	1.668622389	1012	218	2130.5	119

FL	Crystal River	1	2013	11/4/2013	2	3555	1.688916338	1035	216	2104.9	119
FL	Crystal River	1	2013	11/4/2013	3	3618	1.687736157	1041	219	2143.7	119
FL	Crystal River	1	2013	11/4/2013	4	3658	1.712626996	1031	219	2135.9	119
FL	Crystal River	1	2013	11/4/2013	5	3714	1.730177956	1023	220	2146.6	119
FL	Crystal River	1	2013	11/4/2013	6	3668	1.754855995	997	214	2090.2	119
FL	Crystal River	1	2013	11/4/2013	7	3736	1.760105531	1008	217	2122.6	119
FL	Crystal River	1	2013	11/4/2013	8	3745	1.759207065	1019	218	2128.8	119
FL	Crystal River	1	2013	11/4/2013	9	3481	1.753917469	944	203	1984.7	119
FL	Crystal River	1	2013	11/4/2013	10	3167	1.740205506	857	186	1819.9	120
FL	Crystal River	1	2013	11/4/2013	11	2965	1.743604822	802	174	1700.5	123
FL	Crystal River	1	2013	11/4/2013	12	2676	1.72879385	732	158	1547.9	123
FL	Crystal River	1	2013	11/4/2013	13	2725	1.703125	756	164	1600	120
FL	Crystal River	1	2013	11/4/2013	14	2753	1.675083663	779	168	1643.5	120
FL	Crystal River	1	2013	11/4/2013	15	2847	1.639032815	816	178	1737	120
FL	Crystal River	1	2013	11/4/2013	16	2934	1.62117361	859	185	1809.8	119
FL	Crystal River	1	2013	11/4/2013	17	3554	1.589445438	977	229	2236	136
FL	Crystal River	1	2013	11/4/2013	18	4406	1.595740828	1107	283	2761.1	199
FL	Crystal River	1	2013	11/4/2013	19	3380	1.57114303	1088	220	2151.3	132
FL	Crystal River	1	2013	11/4/2013	20	3341	1.572235294	1005	218	2125	119
FL	Crystal River	1	2013	11/4/2013	21	3355	1.563300871	1008	220	2146.1	119
FL	Crystal River	1	2013	11/4/2013	22	3326	1.553915156	1008	219	2140.4	119
FL	Crystal River	1	2013	11/4/2013	23	3324	1.551168977	1009	219	2142.9	119
FL	Crystal River	1	2013	11/5/2013	0	3363	1.550484094	919	222	2169	119
FL	Crystal River	1	2013	11/5/2013	1	3403	1.590186916	1010	219	2140	119
FL	Crystal River	1	2013	11/5/2013	2	3475	1.620651059	1014	220	2144.2	119
FL	Crystal River	1	2013	11/5/2013	3	3545	1.651602684	1019	220	2146.4	119
FL	Crystal River	1	2013	11/5/2013	4	3554	1.6578039	1020	220	2143.8	119
FL	Crystal River	1	2013	11/5/2013	5	3614	1.682495345	1031	220	2148	119
FL	Crystal River	1	2013	11/5/2013	6	3613	1.687529192	1014	219	2141	121
FL	Crystal River	1	2013	11/5/2013	7	3692	1.669455121	1021	226	2211.5	125
FL	Crystal River	1	2013	11/5/2013	8	3563	1.631111518	1015	224	2184.4	122
FL	Crystal River	1	2013	11/5/2013	9	3493	1.589171975	945	225	2198	134
FL	Crystal River	1	2013	11/5/2013	10	2958	1.54958353	868	195	1908.9	134
FL	Crystal River	1	2013	11/5/2013	11	3310	1.584490187	666	214	2089	197
FL	Crystal River	1	2013	11/5/2013	12	3899	1.616366802	1092	247	2412.2	253

FL	Crystal River	1	2013	11/5/2013	13	3525	1.557873337	742	232	2262.7	241
FL	Crystal River	1	2013	11/5/2013	14	3418	1.572940635	671	222	2173	231
FL	Crystal River	1	2013	11/5/2013	15	3239	1.615380779	655	205	2005.1	211
FL	Crystal River	1	2013	11/5/2013	16	1993	1.540304506	644	132	1293.9	123
FL	Crystal River	1	2013	11/5/2013	17	2720	1.511951084	836	184	1799	134
FL	Crystal River	1	2013	11/5/2013	18	5240	1.555727095	1471	345	3368.2	284
FL	Crystal River	1	2013	11/5/2013	19	5065	1.562741045	1497	332	3241.1	284
FL	Crystal River	1	2013	11/5/2013	20	3245	1.49140546	1044	223	2175.8	150
FL	Crystal River	1	2013	11/5/2013	21	3189	1.475091355	1016	221	2161.9	130
FL	Crystal River	1	2013	11/5/2013	22	3172	1.47028831	1018	221	2157.4	124
FL	Crystal River	1	2013	11/5/2013	23	3076	1.456784277	1007	216	2111.5	120
FL	Crystal River	1	2013	11/6/2013	0	2989	1.388101983	1016	220	2153.3	120
FL	Crystal River	1	2013	11/6/2013	1	2978	1.384601079	1045	220	2150.8	120
FL	Crystal River	1	2013	11/6/2013	2	2974	1.37265762	1070	222	2166.6	119
FL	Crystal River	1	2013	11/6/2013	3	2940	1.356151114	1068	222	2167.9	120
FL	Crystal River	1	2013	11/6/2013	4	2779	1.29684073	1052	219	2142.9	119
FL	Crystal River	1	2013	11/6/2013	5	2809	1.29950037	1065	221	2161.6	120
FL	Crystal River	1	2013	11/6/2013	6	2764	1.28349199	1063	221	2153.5	122
FL	Crystal River	1	2013	11/6/2013	7	2889	1.297901972	1077	228	2225.9	133
FL	Crystal River	1	2013	11/6/2013	8	2569	1.293034025	985	203	1986.8	127
FL	Crystal River	1	2013	11/6/2013	9	2338	1.295434397	832	185	1804.8	147
FL	Crystal River	1	2013	11/6/2013	10	3071	1.348408342	908	233	2277.5	231
FL	Crystal River	1	2013	11/6/2013	11	4792	1.548854197	1333	317	3093.9	329
FL	Crystal River	1	2013	11/6/2013	12	4127	1.56545158	1115	270	2636.3	282
FL	Crystal River	1	2013	11/6/2013	13	4128	1.584523261	1052	267	2605.2	279
FL	Crystal River	1	2013	11/6/2013	14	4155	1.583339684	1036	269	2624.2	280
FL	Crystal River	1	2013	11/6/2013	15	4063	1.551414716	1018	268	2618.9	279
FL	Crystal River	1	2013	11/6/2013	16	3958	1.499242424	1063	270	2640	279
FL	Crystal River	1	2013	11/6/2013	17	3880	1.437143492	1074	277	2699.8	282
FL	Crystal River	1	2013	11/6/2013	18	4407	1.41422245	1165	319	3116.2	321
FL	Crystal River	1	2013	11/6/2013	19	3558	1.393599937	1090	262	2553.1	263
FL	Crystal River	1	2013	11/6/2013	20	4109	1.410331217	1223	298	2913.5	290
FL	Crystal River	1	2013	11/6/2013	21	3698	1.425762424	1159	266	2593.7	259
FL	Crystal River	1	2013	11/6/2013	22	3037	1.418032404	1047	219	2141.7	197
FL	Crystal River	1	2013	11/6/2013	23	2370	1.395841922	915	174	1697.9	118

FL	Crystal River	1	2013	11/7/2013	0	2690	1.393854604	1007	198	1929.9	119
FL	Crystal River	1	2013	11/7/2013	1	2817	1.389395808	1042	208	2027.5	119
FL	Crystal River	1	2013	11/7/2013	2	2928	1.407015858	1078	213	2081	119
FL	Crystal River	1	2013	11/7/2013	3	2935	1.412143957	1089	213	2078.4	119
FL	Crystal River	1	2013	11/7/2013	4	2898	1.415522884	1062	210	2047.3	119
FL	Crystal River	1	2013	11/7/2013	5	2963	1.437581874	1067	211	2061.1	119
FL	Crystal River	1	2013	11/7/2013	6	2938	1.450577664	1024	207	2025.4	119
FL	Crystal River	1	2013	11/7/2013	7	2988	1.44823575	1013	211	2063.2	119
FL	Crystal River	1	2013	11/7/2013	8	2894	1.442456263	961	205	2006.3	120
FL	Crystal River	1	2013	11/7/2013	9	2662	1.432877597	847	190	1857.8	131
FL	Crystal River	1	2013	11/7/2013	10	2199	1.423853924	627	158	1544.4	153
FL	Crystal River	1	2013	11/7/2013	11	1956	1.407295489	651	142	1389.9	139
FL	Crystal River	1	2013	11/7/2013	12	2959	1.40483312	922	216	2106.3	218
FL	Crystal River	1	2013	11/7/2013	13	3690	1.391402715	1363	272	2652	280
FL	Crystal River	1	2013	11/7/2013	14	3716	1.412229696	1315	270	2631.3	281
FL	Crystal River	1	2013	11/7/2013	15	3512	1.410271855	1272	255	2490.3	266
FL	Crystal River	1	2013	11/7/2013	16	2738	1.431259801	1040	196	1913	205
FL	Crystal River	1	2013	11/7/2013	17	2237	1.445557351	705	158	1547.5	155
FL	Crystal River	1	2013	11/7/2013	18	3834	1.451063508	1231	271	2642.2	270
FL	Crystal River	1	2013	11/7/2013	19	2204	1.513008856	611	149	1456.7	140
FL	Crystal River	1	2013	11/7/2013	20	2489	1.527556156	606	167	1629.4	119
FL	Crystal River	1	2013	11/7/2013	21	2593	1.555582218	611	171	1666.9	119
FL	Crystal River	1	2013	11/7/2013	22	2912	1.545565522	678	193	1884.1	126
FL	Crystal River	1	2013	11/7/2013	23	2807	1.520255633	673	189	1846.4	119
FL	Crystal River	1	2013	11/8/2013	0	2845	1.478075644	704	197	1924.8	119
FL	Crystal River	1	2013	11/8/2013	1	2913	1.453230232	729	205	2004.5	119
FL	Crystal River	1	2013	11/8/2013	2	2929	1.455403727	728	206	2012.5	119
FL	Crystal River	1	2013	11/8/2013	3	3009	1.474566304	759	209	2040.6	119
FL	Crystal River	1	2013	11/8/2013	4	3161	1.485432331	795	218	2128	119
FL	Crystal River	1	2013	11/8/2013	5	3279	1.514969507	820	222	2164.4	119
FL	Crystal River	1	2013	11/8/2013	6	3465	1.576648314	848	225	2197.7	124
FL	Crystal River	1	2013	11/8/2013	7	3575	1.588959509	837	230	2249.9	124
FL	Crystal River	1	2013	11/8/2013	8	3517	1.594143777	845	226	2206.2	121
FL	Crystal River	1	2013	11/8/2013	9	3475	1.572825201	824	226	2209.4	123
FL	Crystal River	1	2013	11/8/2013	10	3288	1.554389448	789	217	2115.3	123

FL	Crystal River	1	2013	11/8/2013	11	3040	1.543930929	876	202	1969	123
FL	Crystal River	1	2013	11/8/2013	12	3766	1.556262655	771	248	2419.9	193
FL	Crystal River	1	2013	11/8/2013	13	3918	1.567325386	1059	256	2499.8	227
FL	Crystal River	1	2013	11/8/2013	14	3664	1.578697919	958	238	2320.9	221
FL	Crystal River	1	2013	11/8/2013	15	3183	1.614015516	820	202	1972.1	167
FL	Crystal River	1	2013	11/8/2013	16	2861	1.665890299	669	176	1717.4	120
FL	Crystal River	1	2013	11/8/2013	17	3282	1.642231674	697	205	1998.5	126
FL	Crystal River	1	2013	11/8/2013	18	72	1.63132137	13	4	44.136	131
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FL	Crystal River	2	2013	9/1/2013	11	6107	1.571741089	1220	398	3885.5	418
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FL	Crystal River	2	2013	9/1/2013	13	6791	1.585459809	1456	439	4283.3	466
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FL	Crystal River	2	2013	9/1/2013	16	6377	1.646952479	1165	397	3872	419
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FL	Crystal River	2	2013	9/1/2013	19	3944	1.533377396	455	263	2572.1	261
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FL	Crystal River	2	2013	9/2/2013	18	6377	1.60113488	1266	408	3982.8	432
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FL	Crystal River	2	2013	9/2/2013	21	2775	1.632641054	365	174	1699.7	156
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FL	Crystal River	2	2013	9/4/2013	6	2321	1.692307692	412	140	1371.5	120
FL	Crystal River	2	2013	9/4/2013	7	2449	1.699986117	387	147	1440.6	125
FL	Crystal River	2	2013	9/4/2013	8	4043	1.741396391	404	238	2321.7	221
FL	Crystal River	2	2013	9/4/2013	9	6171	1.713214881	976	369	3602	384
FL	Crystal River	2	2013	9/4/2013	10	7399	1.717821322	1567	441	4307.2	470
FL	Crystal River	2	2013	9/4/2013	11	7361	1.716330908	1526	440	4288.8	471
FL	Crystal River	2	2013	9/4/2013	12	7336	1.678411275	1551	448	4370.8	480
FL	Crystal River	2	2013	9/4/2013	13	7387	1.676196959	1577	452	4407	486
FL	Crystal River	2	2013	9/4/2013	14	7279	1.694051387	1491	440	4296.8	473
FL	Crystal River	2	2013	9/4/2013	15	6569	1.706411056	1174	395	3849.6	420
FL	Crystal River	2	2013	9/4/2013	16	6447	1.692659105	1157	390	3808.8	414

FL	Crystal River	2	2013	9/4/2013	17	5614	1.675120845	697	343	3351.4	360
FL	Crystal River	2	2013	9/4/2013	18	5695	1.672147513	742	349	3405.8	372
FL	Crystal River	2	2013	9/4/2013	19	4865	1.714174976	547	291	2838.1	300
FL	Crystal River	2	2013	9/4/2013	20	3015	1.781178	360	173	1692.7	163
FL	Crystal River	2	2013	9/4/2013	21	2448	1.74371394	404	144	1403.9	122
FL	Crystal River	2	2013	9/4/2013	22	2494	1.733509418	401	147	1438.7	126
FL	Crystal River	2	2013	9/4/2013	23	2313	1.693512959	405	140	1365.8	119
FL	Crystal River	2	2013	9/5/2013	0	2281	1.672532629	405	139	1363.8	119
FL	Crystal River	2	2013	9/5/2013	1	2236	1.619116582	400	141	1381	119
FL	Crystal River	2	2013	9/5/2013	2	2221	1.600028816	392	142	1388.1	119
FL	Crystal River	2	2013	9/5/2013	3	2189	1.595829992	371	140	1371.7	119
FL	Crystal River	2	2013	9/5/2013	4	2164	1.581177846	369	140	1368.6	119
FL	Crystal River	2	2013	9/5/2013	5	2184	1.592068815	369	140	1371.8	119
FL	Crystal River	2	2013	9/5/2013	6	2156	1.58692772	365	139	1358.6	119
FL	Crystal River	2	2013	9/5/2013	7	2296	1.595330739	365	147	1439.2	126
FL	Crystal River	2	2013	9/5/2013	8	3689	1.63948269	405	230	2250.1	219
FL	Crystal River	2	2013	9/5/2013	9	4678	1.653178782	594	290	2829.7	297
FL	Crystal River	2	2013	9/5/2013	10	5695	1.673523362	830	349	3403	368
FL	Crystal River	2	2013	9/5/2013	11	7374	1.702491169	1541	444	4331.3	482
FL	Crystal River	2	2013	9/5/2013	12	7139	1.69335136	1425	432	4215.9	467
FL	Crystal River	2	2013	9/5/2013	13	7765	1.703037614	1632	467	4559.5	507
FL	Crystal River	2	2013	9/5/2013	14	7810	1.699895525	1644	471	4594.4	507
FL	Crystal River	2	2013	9/5/2013	15	7847	1.695512197	1670	474	4628.1	511
FL	Crystal River	2	2013	9/5/2013	16	7855	1.697570885	1675	474	4627.2	512
FL	Crystal River	2	2013	9/5/2013	17	7878	1.707375219	1661	473	4614.1	511
FL	Crystal River	2	2013	9/5/2013	18	7911	1.717094982	1658	472	4607.2	511
FL	Crystal River	2	2013	9/5/2013	19	7689	1.716869488	1589	459	4478.5	499
FL	Crystal River	2	2013	9/5/2013	20	5461	1.713846347	774	326	3186.4	350
FL	Crystal River	2	2013	9/5/2013	21	4408	1.677065896	470	269	2628.4	276
FL	Crystal River	2	2013	9/5/2013	22	2926	1.652453832	421	181	1770.7	172
FL	Crystal River	2	2013	9/5/2013	23	2268	1.628374497	445	142	1392.8	122
FL	Crystal River	2	2013	9/6/2013	0	2240	1.633605601	455	140	1371.2	119
FL	Crystal River	2	2013	9/6/2013	1	2264	1.647623899	457	141	1374.1	119
FL	Crystal River	2	2013	9/6/2013	2	2274	1.648303856	467	141	1379.6	119
FL	Crystal River	2	2013	9/6/2013	3	2286	1.66460351	458	140	1373.3	119

FL	Crystal River	2	2013	9/6/2013	4	2269	1.669978656	448	139	1358.7	119
FL	Crystal River	2	2013	9/6/2013	5	2293	1.678132319	444	140	1366.4	119
FL	Crystal River	2	2013	9/6/2013	6	2259	1.672342316	422	138	1350.8	119
FL	Crystal River	2	2013	9/6/2013	7	2663	1.687900108	396	161	1577.7	144
FL	Crystal River	2	2013	9/6/2013	8	4399	1.716080206	512	263	2563.4	263
FL	Crystal River	2	2013	9/6/2013	9	6254	1.706784564	1000	375	3664.2	396
FL	Crystal River	2	2013	9/6/2013	10	7902	1.722394176	1587	470	4587.8	510
FL	Crystal River	2	2013	9/6/2013	11	8096	1.74761473	1579	475	4632.6	516
FL	Crystal River	2	2013	9/6/2013	12	8018	1.759606733	1499	467	4556.7	507
FL	Crystal River	2	2013	9/6/2013	13	7976	1.757563738	1488	465	4538.1	504
FL	Crystal River	2	2013	9/6/2013	14	7700	1.749642119	1403	451	4400.9	486
FL	Crystal River	2	2013	9/6/2013	15	7250	1.72569742	1289	431	4201.2	461
FL	Crystal River	2	2013	9/6/2013	16	5888	1.722796032	786	350	3417.7	377
FL	Crystal River	2	2013	9/6/2013	17	3419	1.690231362	349	207	2022.8	205
FL	Crystal River	2	2013	9/6/2013	18	2405	1.615069505	349	152	1489.1	133
FL	Crystal River	2	2013	9/6/2013	19	2884	1.629194441	359	181	1770.2	167
FL	Crystal River	2	2013	9/6/2013	20	2216	1.59873025	413	142	1386.1	120
FL	Crystal River	2	2013	9/6/2013	21	2260	1.595256582	386	145	1416.7	122
FL	Crystal River	2	2013	9/6/2013	22	2219	1.5973222	395	142	1389.2	119
FL	Crystal River	2	2013	9/6/2013	23	2210	1.613963339	386	140	1369.3	119
FL	Crystal River	2	2013	9/7/2013	0	2228	1.620953074	387	141	1374.5	119
FL	Crystal River	2	2013	9/7/2013	1	2230	1.609411085	374	142	1385.6	119
FL	Crystal River	2	2013	9/7/2013	2	2237	1.614113572	365	142	1385.9	119
FL	Crystal River	2	2013	9/7/2013	3	2241	1.618050542	360	142	1385	119
FL	Crystal River	2	2013	9/7/2013	4	2233	1.633145615	362	140	1367.3	119
FL	Crystal River	2	2013	9/7/2013	5	2191	1.620322438	367	138	1352.2	119
FL	Crystal River	2	2013	9/7/2013	6	2157	1.61827594	363	136	1332.9	119
FL	Crystal River	2	2013	9/7/2013	7	2169	1.615762813	362	137	1342.4	119
FL	Crystal River	2	2013	9/7/2013	8	2207	1.60754607	366	140	1372.9	122
FL	Crystal River	2	2013	9/7/2013	9	3071	1.615380569	340	195	1901.1	182
FL	Crystal River	2	2013	9/7/2013	10	4948	1.641890098	614	309	3013.6	319
FL	Crystal River	2	2013	9/7/2013	11	7198	1.654256297	1483	446	4351.2	480
FL	Crystal River	2	2013	9/7/2013	12	7573	1.675479546	1523	463	4519.9	505
FL	Crystal River	2	2013	9/7/2013	13	7687	1.675421198	1527	470	4588.1	507
FL	Crystal River	2	2013	9/7/2013	14	7664	1.674386088	1524	469	4577.2	507

FL	Crystal River	2	2013	9/7/2013	15	7671	1.6709142	1538	471	4590.9	507
FL	Crystal River	2	2013	9/7/2013	16	7686	1.686598934	1544	467	4557.1	507
FL	Crystal River	2	2013	9/7/2013	17	7177	1.690814427	1371	435	4244.7	474
FL	Crystal River	2	2013	9/7/2013	18	5856	1.681019635	843	357	3483.6	385
FL	Crystal River	2	2013	9/7/2013	19	6110	1.661771105	959	377	3676.8	405
FL	Crystal River	2	2013	9/7/2013	20	4624	1.66955517	504	284	2769.6	299
FL	Crystal River	2	2013	9/7/2013	21	3189	1.640516487	386	199	1943.9	190
FL	Crystal River	2	2013	9/7/2013	22	2335	1.637217782	373	146	1426.2	128
FL	Crystal River	2	2013	9/7/2013	23	2202	1.628939192	451	138	1351.8	119
FL	Crystal River	2	2013	9/8/2013	0	2214	1.632863781	444	139	1355.9	119
FL	Crystal River	2	2013	9/8/2013	1	2208	1.634465912	437	138	1350.9	119
FL	Crystal River	2	2013	9/8/2013	2	2206	1.643447813	429	137	1342.3	119
FL	Crystal River	2	2013	9/8/2013	3	2210	1.639465875	424	138	1348	119
FL	Crystal River	2	2013	9/8/2013	4	2188	1.626523937	406	138	1345.2	119
FL	Crystal River	2	2013	9/8/2013	5	2209	1.635932756	384	138	1350.3	119
FL	Crystal River	2	2013	9/8/2013	6	2161	1.628853546	379	136	1326.7	119
FL	Crystal River	2	2013	9/8/2013	7	2172	1.608888889	361	138	1350	119
FL	Crystal River	2	2013	9/8/2013	8	2220	1.592082616	359	143	1394.4	123
FL	Crystal River	2	2013	9/8/2013	9	3258	1.606112891	419	208	2028.5	199
FL	Crystal River	2	2013	9/8/2013	10	6248	1.633592177	1032	392	3824.7	412
FL	Crystal River	2	2013	9/8/2013	11	7677	1.680640995	1562	468	4567.9	510
FL	Crystal River	2	2013	9/8/2013	12	7909	1.702581103	1546	476	4645.3	516
FL	Crystal River	2	2013	9/8/2013	13	8057	1.727746446	1552	478	4663.3	517
FL	Crystal River	2	2013	9/8/2013	14	8053	1.733430915	1537	476	4645.7	513
FL	Crystal River	2	2013	9/8/2013	15	7731	1.697703017	1493	467	4553.8	502
FL	Crystal River	2	2013	9/8/2013	16	7208	1.67909057	1343	440	4292.8	472
FL	Crystal River	2	2013	9/8/2013	17	6345	1.666491569	1039	390	3807.4	418
FL	Crystal River	2	2013	9/8/2013	18	6138	1.716155008	890	367	3576.6	391
FL	Crystal River	2	2013	9/8/2013	19	7223	1.79582805	1190	412	4022.1	444
FL	Crystal River	2	2013	9/8/2013	20	6396	1.85246329	828	354	3452.7	384
FL	Crystal River	2	2013	9/8/2013	21	4173	1.8697912	450	229	2231.8	238
FL	Crystal River	2	2013	9/8/2013	22	2441	1.798953497	515	139	1356.9	119
FL	Crystal River	2	2013	9/8/2013	23	2411	1.768243491	505	139	1363.5	120
FL	Crystal River	2	2013	9/9/2013	0	2352	1.712288876	498	140	1373.6	120
FL	Crystal River	2	2013	9/9/2013	1	2303	1.683233445	504	140	1368.2	119

FL	Crystal River	2	2013	9/9/2013	2	2261	1.666912415	497	139	1356.4	119
FL	Crystal River	2	2013	9/9/2013	3	2215	1.627718989	480	139	1360.8	119
FL	Crystal River	2	2013	9/9/2013	4	2141	1.597165237	466	137	1340.5	119
FL	Crystal River	2	2013	9/9/2013	5	2183	1.571634269	454	142	1389	124
FL	Crystal River	2	2013	9/9/2013	6	2049	1.519691463	442	138	1348.3	120
FL	Crystal River	2	2013	9/9/2013	7	2576	1.505552309	359	175	1711	158
FL	Crystal River	2	2013	9/9/2013	8	3347	1.491931889	361	230	2243.4	221
FL	Crystal River	2	2013	9/9/2013	9	4139	1.528321394	457	277	2708.2	281
FL	Crystal River	2	2013	9/9/2013	10	5327	1.58089981	724	345	3369.6	366
FL	Crystal River	2	2013	9/9/2013	11	6307	1.61085996	1170	401	3915.3	430
FL	Crystal River	2	2013	9/9/2013	12	6576	1.60046729	1253	421	4108.8	455
FL	Crystal River	2	2013	9/9/2013	13	7305	1.597314849	1518	469	4573.3	507
FL	Crystal River	2	2013	9/9/2013	14	7353	1.60087958	1524	471	4593.1	507
FL	Crystal River	2	2013	9/9/2013	15	7340	1.596589302	1526	471	4597.3	507
FL	Crystal River	2	2013	9/9/2013	16	7230	1.583616252	1543	468	4565.5	507
FL	Crystal River	2	2013	9/9/2013	17	7046	1.570909415	1498	460	4485.3	496
FL	Crystal River	2	2013	9/9/2013	18	6052	1.595066154	1062	389	3794.2	419
FL	Crystal River	2	2013	9/9/2013	19	6121	1.669803857	956	376	3665.7	406
FL	Crystal River	2	2013	9/9/2013	20	5242	1.728492762	612	311	3032.7	328
FL	Crystal River	2	2013	9/9/2013	21	2672	1.724204685	458	159	1549.7	143
FL	Crystal River	2	2013	9/9/2013	22	2369	1.709852039	500	142	1385.5	121
FL	Crystal River	2	2013	9/9/2013	23	2349	1.712723296	500	140	1371.5	119
FL	Crystal River	2	2013	9/10/2013	0	2333	1.714936783	492	139	1360.4	119
FL	Crystal River	2	2013	9/10/2013	1	2299	1.714520098	492	137	1340.9	119
FL	Crystal River	2	2013	9/10/2013	2	2286	1.707499253	460	137	1338.8	119
FL	Crystal River	2	2013	9/10/2013	3	2273	1.682955723	428	138	1350.6	119
FL	Crystal River	2	2013	9/10/2013	4	2240	1.68130301	419	136	1332.3	119
FL	Crystal River	2	2013	9/10/2013	5	2298	1.668602963	418	141	1377.2	123
FL	Crystal River	2	2013	9/10/2013	6	2222	1.673192771	414	136	1328	120
FL	Crystal River	2	2013	9/10/2013	7	2294	1.6861448	400	139	1360.5	121
FL	Crystal River	2	2013	9/10/2013	8	3790	1.755848969	416	221	2158.5	215
FL	Crystal River	2	2013	9/10/2013	9	6138	1.804020691	768	349	3402.4	369
FL	Crystal River	2	2013	9/10/2013	10	6672	1.811419108	1049	377	3683.3	406
FL	Crystal River	2	2013	9/10/2013	11	7834	1.821775731	1406	441	4300.2	479
FL	Crystal River	2	2013	9/10/2013	12	8178	1.804143043	1523	465	4532.9	506

FL	Crystal River	2	2013	9/10/2013	13	8009	1.763630758	1530	465	4541.2	506
FL	Crystal River	2	2013	9/10/2013	14	7903	1.739944079	1539	466	4542.1	506
FL	Crystal River	2	2013	9/10/2013	15	8017	1.763295649	1545	466	4546.6	506
FL	Crystal River	2	2013	9/10/2013	16	8239	1.815957681	1515	465	4537	506
FL	Crystal River	2	2013	9/10/2013	17	8368	1.842319632	1512	466	4542.1	506
FL	Crystal River	2	2013	9/10/2013	18	7433	1.825079186	1250	417	4072.7	453
FL	Crystal River	2	2013	9/10/2013	19	7365	1.790184974	1291	422	4114.1	461
FL	Crystal River	2	2013	9/10/2013	20	5721	1.744686042	750	336	3279.1	361
FL	Crystal River	2	2013	9/10/2013	21	3320	1.71186965	347	199	1939.4	194
FL	Crystal River	2	2013	9/10/2013	22	2684	1.672795263	426	164	1604.5	147
FL	Crystal River	2	2013	9/10/2013	23	2271	1.658027305	526	140	1369.7	120
FL	Crystal River	2	2013	9/11/2013	0	2245	1.64940122	556	139	1361.1	120
FL	Crystal River	2	2013	9/11/2013	1	2256	1.651053864	547	140	1366.4	120
FL	Crystal River	2	2013	9/11/2013	2	2225	1.630633932	514	140	1364.5	119
FL	Crystal River	2	2013	9/11/2013	3	2216	1.622373527	499	140	1365.9	119
FL	Crystal River	2	2013	9/11/2013	4	2179	1.600088119	478	139	1361.8	119
FL	Crystal River	2	2013	9/11/2013	5	2853	1.629354654	432	179	1751	165
FL	Crystal River	2	2013	9/11/2013	6	2340	1.635563011	492	146	1430.7	137
FL	Crystal River	2	2013	9/11/2013	7	2461	1.6287227	433	155	1511	136
FL	Crystal River	2	2013	9/11/2013	8	4091	1.65246193	475	254	2475.7	252
FL	Crystal River	2	2013	9/11/2013	9	5930	1.666947771	775	365	3557.4	386
FL	Crystal River	2	2013	9/11/2013	10	6894	1.675334143	1201	422	4115	457
FL	Crystal River	2	2013	9/11/2013	11	6925	1.656500419	1291	428	4180.5	467
FL	Crystal River	2	2013	9/11/2013	12	6218	1.644103649	1055	388	3782	421
FL	Crystal River	2	2013	9/11/2013	13	6080	1.650693671	946	377	3683.3	405
FL	Crystal River	2	2013	9/11/2013	14	7198	1.68539852	1366	438	4270.8	477
FL	Crystal River	2	2013	9/11/2013	15	7339	1.69746733	1374	443	4323.5	485
FL	Crystal River	2	2013	9/11/2013	16	7296	1.703041479	1379	439	4284.1	484
FL	Crystal River	2	2013	9/11/2013	17	6447	1.678469149	1113	394	3841	434
FL	Crystal River	2	2013	9/11/2013	18	6389	1.686597503	1019	388	3788.1	423
FL	Crystal River	2	2013	9/11/2013	19	7033	1.693596937	1303	426	4152.7	468
FL	Crystal River	2	2013	9/11/2013	20	5566	1.691536241	756	337	3290.5	364
FL	Crystal River	2	2013	9/11/2013	21	3025	1.666942194	366	186	1814.7	175
FL	Crystal River	2	2013	9/11/2013	22	2615	1.644033698	397	163	1590.6	146
FL	Crystal River	2	2013	9/11/2013	23	2210	1.615260927	532	140	1368.2	120

FL	Crystal River	2	2013	9/12/2013	0	2201	1.605514625	504	140	1370.9	122
FL	Crystal River	2	2013	9/12/2013	1	2171	1.596793174	527	139	1359.6	120
FL	Crystal River	2	2013	9/12/2013	2	2167	1.612951247	519	137	1343.5	120
FL	Crystal River	2	2013	9/12/2013	3	2170	1.600885282	494	139	1355.5	120
FL	Crystal River	2	2013	9/12/2013	4	2136	1.608433735	482	136	1328	120
FL	Crystal River	2	2013	9/12/2013	5	2500	1.609476598	399	159	1553.3	144
FL	Crystal River	2	2013	9/12/2013	6	2138	1.59006396	493	138	1344.6	125
FL	Crystal River	2	2013	9/12/2013	7	2701	1.61601053	409	171	1671.4	158
FL	Crystal River	2	2013	9/12/2013	8	4394	1.631334695	503	276	2693.5	282
FL	Crystal River	2	2013	9/12/2013	9	5609	1.645929925	756	349	3407.8	378
FL	Crystal River	2	2013	9/12/2013	10	5842	1.646004733	926	364	3549.2	392
FL	Crystal River	2	2013	9/12/2013	11	6085	1.637777897	1006	381	3715.4	410
FL	Crystal River	2	2013	9/12/2013	12	6646	1.650237132	1212	413	4027.3	448
FL	Crystal River	2	2013	9/12/2013	13	6160	1.637513956	1045	386	3761.8	417
FL	Crystal River	2	2013	9/12/2013	14	6247	1.640579862	1051	390	3807.8	421
FL	Crystal River	2	2013	9/12/2013	15	6477	1.640079003	1153	405	3949.2	436
FL	Crystal River	2	2013	9/12/2013	16	6215	1.638199167	1077	389	3793.8	419
FL	Crystal River	2	2013	9/12/2013	17	6109	1.622188587	1054	386	3765.9	416
FL	Crystal River	2	2013	9/12/2013	18	5856	1.622834973	920	370	3608.5	399
FL	Crystal River	2	2013	9/12/2013	19	6057	1.627001182	1038	382	3722.8	416
FL	Crystal River	2	2013	9/12/2013	20	5307	1.621250076	707	335	3273.4	363
FL	Crystal River	2	2013	9/12/2013	21	4106	1.621771072	465	259	2531.8	270
FL	Crystal River	2	2013	9/12/2013	22	2130	1.592285266	529	137	1337.7	121
FL	Crystal River	2	2013	9/12/2013	23	2144	1.578211262	529	139	1358.5	119
FL	Crystal River	2	2013	9/13/2013	0	2147	1.587313322	528	138	1352.6	119
FL	Crystal River	2	2013	9/13/2013	1	2150	1.569686793	534	140	1369.7	119
FL	Crystal River	2	2013	9/13/2013	2	2138	1.567104009	521	140	1364.3	119
FL	Crystal River	2	2013	9/13/2013	3	2137	1.5669453	491	139	1363.8	119
FL	Crystal River	2	2013	9/13/2013	4	2108	1.561597155	463	138	1349.9	119
FL	Crystal River	2	2013	9/13/2013	5	2135	1.564446398	439	140	1364.7	120
FL	Crystal River	2	2013	9/13/2013	6	2089	1.561168821	440	137	1338.1	119
FL	Crystal River	2	2013	9/13/2013	7	2242	1.571348472	402	146	1426.8	126
FL	Crystal River	2	2013	9/13/2013	8	2585	1.58657092	382	167	1629.3	150
FL	Crystal River	2	2013	9/13/2013	9	3741	1.615564001	467	237	2315.6	231
FL	Crystal River	2	2013	9/13/2013	10	6204	1.645928952	1134	386	3769.3	410

FL	Crystal River	2	2013	9/13/2013	11	6601	1.65579692	1211	409	3986.6	439
FL	Crystal River	2	2013	9/13/2013	12	7039	1.648825279	1383	438	4269.1	471
FL	Crystal River	2	2013	9/13/2013	13	7179	1.659385618	1427	443	4326.3	478
FL	Crystal River	2	2013	9/13/2013	14	6201	1.660907995	1045	383	3733.5	411
FL	Crystal River	2	2013	9/13/2013	15	7058	1.661957238	1371	435	4246.8	465
FL	Crystal River	2	2013	9/13/2013	16	6272	1.64641029	1078	390	3809.5	417
FL	Crystal River	2	2013	9/13/2013	17	5531	1.632767528	796	347	3387.5	370
FL	Crystal River	2	2013	9/13/2013	18	5247	1.625112274	616	331	3228.7	351
FL	Crystal River	2	2013	9/13/2013	19	5357	1.62727825	651	337	3292	359
FL	Crystal River	2	2013	9/13/2013	20	3034	1.612371791	449	193	1881.7	186
FL	Crystal River	2	2013	9/13/2013	21	2184	1.579746835	503	141	1382.5	120
FL	Crystal River	2	2013	9/13/2013	22	2189	1.586002029	503	141	1380.2	119
FL	Crystal River	2	2013	9/13/2013	23	2173	1.569406327	509	142	1384.6	119
FL	Crystal River	2	2013	9/14/2013	0	2173	1.577724534	488	141	1377.3	119
FL	Crystal River	2	2013	9/14/2013	1	2182	1.574882714	468	142	1385.5	119
FL	Crystal River	2	2013	9/14/2013	2	2193	1.577811353	458	142	1389.9	119
FL	Crystal River	2	2013	9/14/2013	3	2188	1.581953583	442	141	1383.1	119
FL	Crystal River	2	2013	9/14/2013	4	2158	1.577831396	445	140	1367.7	119
FL	Crystal River	2	2013	9/14/2013	5	2169	1.56549982	406	142	1385.5	119
FL	Crystal River	2	2013	9/14/2013	6	2129	1.577037037	390	138	1350	119
FL	Crystal River	2	2013	9/14/2013	7	2165	1.573629888	416	141	1375.8	119
FL	Crystal River	2	2013	9/14/2013	8	3041	1.60086334	410	194	1899.6	179
FL	Crystal River	2	2013	9/14/2013	9	4063	1.601119168	464	260	2537.6	255
FL	Crystal River	2	2013	9/14/2013	10	6845	1.621884182	1392	433	4220.4	461
FL	Crystal River	2	2013	9/14/2013	11	6275	1.616185031	1172	398	3882.6	430
FL	Crystal River	2	2013	9/14/2013	12	5708	1.595750629	922	367	3577	391
FL	Crystal River	2	2013	9/14/2013	13	6778	1.607189434	1298	432	4217.3	464
FL	Crystal River	2	2013	9/14/2013	14	6896	1.609222225	1349	439	4285.3	472
FL	Crystal River	2	2013	9/14/2013	15	7233	1.617939828	1457	458	4470.5	494
FL	Crystal River	2	2013	9/14/2013	16	7551	1.619552162	1557	478	4662.4	512
FL	Crystal River	2	2013	9/14/2013	17	7339	1.633902531	1486	460	4491.7	499
FL	Crystal River	2	2013	9/14/2013	18	6196	1.616530564	1061	393	3832.9	421
FL	Crystal River	2	2013	9/14/2013	19	5784	1.620349619	899	366	3569.6	393
FL	Crystal River	2	2013	9/14/2013	20	4070	1.604130538	436	260	2537.2	263
FL	Crystal River	2	2013	9/14/2013	21	2486	1.56637893	373	162	1587.1	139

FL	Crystal River	2	2013	9/14/2013	22	2300	1.553004727	413	151	1481	122
FL	Crystal River	2	2013	9/14/2013	23	2199	1.551651143	463	145	1417.2	119
FL	Crystal River	2	2013	9/15/2013	0	2178	1.562634524	465	143	1393.8	119
FL	Crystal River	2	2013	9/15/2013	1	2174	1.555523755	465	143	1397.6	119
FL	Crystal River	2	2013	9/15/2013	2	2163	1.549648947	456	143	1395.8	119
FL	Crystal River	2	2013	9/15/2013	3	2158	1.555315315	438	142	1387.5	119
FL	Crystal River	2	2013	9/15/2013	4	2124	1.556614144	427	140	1364.5	119
FL	Crystal River	2	2013	9/15/2013	5	2142	1.549927641	409	141	1382	119
FL	Crystal River	2	2013	9/15/2013	6	2094	1.546528804	413	138	1354	119
FL	Crystal River	2	2013	9/15/2013	7	2264	1.545497986	391	150	1464.9	130
FL	Crystal River	2	2013	9/15/2013	8	4304	1.592894152	499	277	2702	273
FL	Crystal River	2	2013	9/15/2013	9	4872	1.581304771	727	316	3081	327
FL	Crystal River	2	2013	9/15/2013	10	6070	1.601878975	1110	388	3789.3	412
FL	Crystal River	2	2013	9/15/2013	11	6638	1.644249585	1243	414	4037.1	444
FL	Crystal River	2	2013	9/15/2013	12	6816	1.660899654	1235	421	4103.8	447
FL	Crystal River	2	2013	9/15/2013	13	6072	1.647761194	958	378	3685	401
FL	Crystal River	2	2013	9/15/2013	14	5805	1.640432927	845	363	3538.7	382
FL	Crystal River	2	2013	9/15/2013	15	5890	1.6440115	910	367	3582.7	392
FL	Crystal River	2	2013	9/15/2013	16	5506	1.625483423	721	347	3387.3	349
FL	Crystal River	2	2013	9/15/2013	17	4723	1.615695129	523	299	2923.2	318
FL	Crystal River	2	2013	9/15/2013	18	4643	1.602249983	481	297	2897.8	284
FL	Crystal River	2	2013	9/15/2013	19	4649	1.576680459	545	302	2948.6	321
FL	Crystal River	2	2013	9/15/2013	20	2499	1.529282174	428	167	1634.1	147
FL	Crystal River	2	2013	9/15/2013	21	1943	1.487862777	421	134	1305.9	119
FL	Crystal River	2	2013	9/15/2013	22	2024	1.495713863	445	138	1353.2	119
FL	Crystal River	2	2013	9/15/2013	23	1955	1.502690238	426	133	1301	119
FL	Crystal River	2	2013	9/16/2013	0	2156	1.501392758	389	147	1436	119
FL	Crystal River	2	2013	9/16/2013	1	2178	1.516713092	380	147	1436	119
FL	Crystal River	2	2013	9/16/2013	2	2169	1.510445682	392	147	1436	119
FL	Crystal River	2	2013	9/16/2013	3	2182	1.519498607	415	147	1436	119
FL	Crystal River	2	2013	9/16/2013	4	2153	1.534568781	430	143	1403	119
FL	Crystal River	2	2013	9/16/2013	5	2179	1.535047552	441	145	1419.5	119
FL	Crystal River	2	2013	9/16/2013	6	2143	1.527441197	429	143	1403	120
FL	Crystal River	2	2013	9/16/2013	7	2163	1.523775977	417	145	1419.5	121
FL	Crystal River	2	2013	9/16/2013	8	2452	1.547491322	353	162	1584.5	161

FL	Crystal River	2	2013	9/16/2013	9	2734	1.537855777	352	182	1777.8	169
FL	Crystal River	2	2013	9/16/2013	10	4524	1.560807314	495	297	2898.5	283
FL	Crystal River	2	2013	9/16/2013	11	6795	1.598259438	1254	436	4251.5	445
FL	Crystal River	2	2013	9/16/2013	12	6905	1.610608322	1384	439	4287.2	488
FL	Crystal River	2	2013	9/16/2013	13	7423	1.611978545	1505	472	4604.9	495
FL	Crystal River	2	2013	9/16/2013	14	7363	1.598948946	1533	472	4604.9	500
FL	Crystal River	2	2013	9/16/2013	15	6801	1.586350065	1410	439	4287.2	490
FL	Crystal River	2	2013	9/16/2013	16	6010	1.580040487	1015	390	3803.7	407
FL	Crystal River	2	2013	9/16/2013	17	5372	1.572461435	789	350	3416.3	352
FL	Crystal River	2	2013	9/16/2013	18	4622	1.567098393	516	302	2949.4	314
FL	Crystal River	2	2013	9/16/2013	19	6070	1.595814602	1030	390	3803.7	414
FL	Crystal River	2	2013	9/16/2013	20	3845	1.588908633	464	248	2419.9	240
FL	Crystal River	2	2013	9/16/2013	21	2101	1.546786424	532	139	1358.3	120
FL	Crystal River	2	2013	9/16/2013	22	2109	1.530034823	522	141	1378.4	119
FL	Crystal River	2	2013	9/16/2013	23	1995	1.52394775	484	134	1309.1	119
FL	Crystal River	2	2013	9/17/2013	0	2020	1.51118426	501	137	1336.7	119
FL	Crystal River	2	2013	9/17/2013	1	2043	1.505859807	484	139	1356.7	119
FL	Crystal River	2	2013	9/17/2013	2	1886	1.505067433	437	128	1253.1	119
FL	Crystal River	2	2013	9/17/2013	3	1705	1.508582552	363	116	1130.2	119
FL	Crystal River	2	2013	9/17/2013	4	1435	1.498068692	299	98	957.9	119
FL	Crystal River	2	2013	9/17/2013	5	1314	1.508957281	271	89	870.8	119
FL	Crystal River	2	2013	9/17/2013	6	2021	1.494822485	409	138	1352	119
FL	Crystal River	2	2013	9/17/2013	7	2049	1.497259773	427	140	1368.5	120
FL	Crystal River	2	2013	9/17/2013	8	2097	1.514079422	408	142	1385	126
FL	Crystal River	2	2013	9/17/2013	9	2217	1.509600981	440	150	1468.6	130
FL	Crystal River	2	2013	9/17/2013	10	3911	1.562962075	477	256	2502.3	255
FL	Crystal River	2	2013	9/17/2013	11	4803	1.564393199	749	315	3070.2	324
FL	Crystal River	2	2013	9/17/2013	12	5735	1.532275302	1111	384	3742.8	407
FL	Crystal River	2	2013	9/17/2013	13	6312	1.495486531	1375	433	4220.7	463
FL	Crystal River	2	2013	9/17/2013	14	6185	1.526105409	1199	415	4052.8	444
FL	Crystal River	2	2013	9/17/2013	15	6634	1.561345289	1363	435	4248.9	469
FL	Crystal River	2	2013	9/17/2013	16	6006	1.593441579	1119	386	3769.2	441
FL	Crystal River	2	2013	9/17/2013	17	5979	1.587836941	1009	386	3765.5	417
FL	Crystal River	2	2013	9/17/2013	18	5285	1.573666031	772	344	3358.4	366
FL	Crystal River	2	2013	9/17/2013	19	6008	1.55053164	1139	397	3874.8	429

FL	Crystal River	2	2013	9/17/2013	20	3333	1.503586412	443	227	2216.7	225
FL	Crystal River	2	2013	9/17/2013	21	2060	1.486613264	381	142	1385.7	120
FL	Crystal River	2	2013	9/17/2013	22	2072	1.474418274	371	144	1405.3	119
FL	Crystal River	2	2013	9/17/2013	23	2057	1.484019912	385	142	1386.1	119
FL	Crystal River	2	2013	9/18/2013	0	2053	1.471473624	379	143	1395.2	119
FL	Crystal River	2	2013	9/18/2013	1	2062	1.476654254	372	143	1396.4	119
FL	Crystal River	2	2013	9/18/2013	2	2046	1.480248879	367	141	1382.2	119
FL	Crystal River	2	2013	9/18/2013	3	2051	1.496315751	368	140	1370.7	119
FL	Crystal River	2	2013	9/18/2013	4	2031	1.498229566	359	139	1355.6	119
FL	Crystal River	2	2013	9/18/2013	5	2030	1.477653225	358	141	1373.8	119
FL	Crystal River	2	2013	9/18/2013	6	1958	1.442888725	344	139	1357	119
FL	Crystal River	2	2013	9/18/2013	7	1971	1.435333528	343	140	1373.2	119
FL	Crystal River	2	2013	9/18/2013	8	2025	1.446221968	331	143	1400.2	122
FL	Crystal River	2	2013	9/18/2013	9	2084	1.473728873	328	145	1414.1	123
FL	Crystal River	2	2013	9/18/2013	10	2110	1.491482293	331	145	1414.7	123
FL	Crystal River	2	2013	9/18/2013	11	2132	1.509487397	329	144	1412.4	123
FL	Crystal River	2	2013	9/18/2013	12	2167	1.527993231	330	145	1418.2	124
FL	Crystal River	2	2013	9/18/2013	13	3435	1.516288514	412	232	2265.4	214
FL	Crystal River	2	2013	9/18/2013	14	2769	1.554482681	395	182	1781.3	164
FL	Crystal River	2	2013	9/18/2013	15	3578	1.536281666	423	239	2329	228
FL	Crystal River	2	2013	9/18/2013	16	3702	1.559130728	396	243	2374.4	233
FL	Crystal River	2	2013	9/18/2013	17	3672	1.59575855	382	236	2301.1	223
FL	Crystal River	2	2013	9/18/2013	18	3786	1.622594608	350	239	2333.3	227
FL	Crystal River	2	2013	9/18/2013	19	3676	1.580259651	425	238	2326.2	236
FL	Crystal River	2	2013	9/18/2013	20	2079	1.544002971	472	138	1346.5	120
FL	Crystal River	2	2013	9/18/2013	21	2185	1.526690889	417	146	1431.2	127
FL	Crystal River	2	2013	9/18/2013	22	2146	1.539675707	444	143	1393.8	124
FL	Crystal River	2	2013	9/18/2013	23	2160	1.546170365	431	143	1397	124
FL	Crystal River	2	2013	9/19/2013	0	2176	1.552068474	437	143	1402	124
FL	Crystal River	2	2013	9/19/2013	1	2189	1.548747701	435	145	1413.4	124
FL	Crystal River	2	2013	9/19/2013	2	2191	1.562767475	437	143	1402	124
FL	Crystal River	2	2013	9/19/2013	3	2196	1.559991475	433	144	1407.7	124
FL	Crystal River	2	2013	9/19/2013	4	2172	1.562365127	433	142	1390.2	124
FL	Crystal River	2	2013	9/19/2013	5	2343	1.553919618	401	154	1507.8	136
FL	Crystal River	2	2013	9/19/2013	6	2105	1.562268072	447	138	1347.4	121

FL	Crystal River	2	2013	9/19/2013	7	2178	1.562858783	405	143	1393.6	125
FL	Crystal River	2	2013	9/19/2013	8	2176	1.548644225	413	144	1405.1	123
FL	Crystal River	2	2013	9/19/2013	9	2687	1.568501547	376	175	1713.1	156
FL	Crystal River	2	2013	9/19/2013	10	2909	1.557113799	394	191	1868.2	176
FL	Crystal River	2	2013	9/19/2013	11	4305	1.526433358	510	289	2820.3	291
FL	Crystal River	2	2013	9/19/2013	12	6677	1.569655367	1322	436	4253.8	472
FL	Crystal River	2	2013	9/19/2013	13	6897	1.570426704	1409	450	4391.8	490
FL	Crystal River	2	2013	9/19/2013	14	7027	1.5601341	1481	462	4504.1	502
FL	Crystal River	2	2013	9/19/2013	15	6995	1.552305712	1478	462	4506.2	502
FL	Crystal River	2	2013	9/19/2013	16	7087	1.574888889	1471	461	4500	502
FL	Crystal River	2	2013	9/19/2013	17	6544	1.583085371	1293	424	4133.7	465
FL	Crystal River	2	2013	9/19/2013	18	5408	1.572275846	736	352	3439.6	379
FL	Crystal River	2	2013	9/19/2013	19	6271	1.567162314	1132	410	4001.5	442
FL	Crystal River	2	2013	9/19/2013	20	4737	1.561665513	649	311	3033.3	331
FL	Crystal River	2	2013	9/19/2013	21	2603	1.520799252	407	175	1711.6	161
FL	Crystal River	2	2013	9/19/2013	22	2039	1.485177362	476	140	1372.9	121
FL	Crystal River	2	2013	9/19/2013	23	2012	1.486296816	503	138	1353.7	119
FL	Crystal River	2	2013	9/20/2013	0	2014	1.472114612	502	140	1368.1	119
FL	Crystal River	2	2013	9/20/2013	1	2007	1.474434323	488	139	1361.2	119
FL	Crystal River	2	2013	9/20/2013	2	1982	1.458210712	448	139	1359.2	119
FL	Crystal River	2	2013	9/20/2013	3	1951	1.447973876	447	138	1347.4	119
FL	Crystal River	2	2013	9/20/2013	4	1952	1.464475955	437	136	1332.9	119
FL	Crystal River	2	2013	9/20/2013	5	1978	1.460425281	430	139	1354.4	119
FL	Crystal River	2	2013	9/20/2013	6	1964	1.469839844	423	137	1336.2	119
FL	Crystal River	2	2013	9/20/2013	7	1999	1.47691171	419	138	1353.5	119
FL	Crystal River	2	2013	9/20/2013	8	2006	1.492781664	428	137	1343.8	119
FL	Crystal River	2	2013	9/20/2013	9	2032	1.495987632	463	139	1358.3	119
FL	Crystal River	2	2013	9/20/2013	10	2833	1.514568297	437	191	1870.5	177
FL	Crystal River	2	2013	9/20/2013	11	5205	1.535805966	725	347	3389.1	364
FL	Crystal River	2	2013	9/20/2013	12	6521	1.542738177	1369	433	4226.9	470
FL	Crystal River	2	2013	9/20/2013	13	6516	1.542175518	1330	433	4225.2	469
FL	Crystal River	2	2013	9/20/2013	14	6733	1.547424789	1353	446	4351.1	480
FL	Crystal River	2	2013	9/20/2013	15	7187	1.565761095	1491	470	4590.1	508
FL	Crystal River	2	2013	9/20/2013	16	6718	1.506075416	1422	457	4460.6	494
FL	Crystal River	2	2013	9/20/2013	17	5695	1.495417903	1032	390	3808.3	420

FL	Crystal River	2	2013	9/20/2013	18	6068	1.500902817	1148	414	4042.9	449
FL	Crystal River	2	2013	9/20/2013	19	5040	1.467206195	803	352	3435.1	379
FL	Crystal River	2	2013	9/20/2013	20	2797	1.429447539	393	200	1956.7	196
FL	Crystal River	2	2013	9/20/2013	21	1894	1.380969741	459	140	1371.5	121
FL	Crystal River	2	2013	9/20/2013	22	1971	1.403446312	443	144	1404.4	124
FL	Crystal River	2	2013	9/20/2013	23	1979	1.431050691	461	141	1382.9	122
FL	Crystal River	2	2013	9/21/2013	0	1999	1.445304027	475	141	1383.1	120
FL	Crystal River	2	2013	9/21/2013	1	2039	1.486368275	448	140	1371.8	121
FL	Crystal River	2	2013	9/21/2013	2	2044	1.49798461	436	140	1364.5	119
FL	Crystal River	2	2013	9/21/2013	3	2074	1.524663677	429	139	1360.3	120
FL	Crystal River	2	2013	9/21/2013	4	2123	1.569453685	446	138	1352.7	120
FL	Crystal River	2	2013	9/21/2013	5	2206	1.617539229	462	139	1363.8	121
FL	Crystal River	2	2013	9/21/2013	6	2294	1.696620072	443	138	1352.1	121
FL	Crystal River	2	2013	9/21/2013	7	2523	1.748804325	440	148	1442.7	129
FL	Crystal River	2	2013	9/21/2013	8	2899	1.762202906	383	168	1645.1	151
FL	Crystal River	2	2013	9/21/2013	9	3399	1.758861578	349	198	1932.5	185
FL	Crystal River	2	2013	9/21/2013	10	3560	1.707434053	364	213	2085	200
FL	Crystal River	2	2013	9/21/2013	11	5445	1.635872014	738	341	3328.5	356
FL	Crystal River	2	2013	9/21/2013	12	6742	1.611607783	1330	429	4183.4	464
FL	Crystal River	2	2013	9/21/2013	13	7110	1.637531956	1385	445	4341.9	484
FL	Crystal River	2	2013	9/21/2013	14	7460	1.650296434	1478	463	4520.4	503
FL	Crystal River	2	2013	9/21/2013	15	6983	1.638701805	1363	437	4261.3	477
FL	Crystal River	2	2013	9/21/2013	16	6063	1.649751027	933	377	3675.1	406
FL	Crystal River	2	2013	9/21/2013	17	5941	1.667274717	865	365	3563.3	394
FL	Crystal River	2	2013	9/21/2013	18	7002	1.688653081	1223	425	4146.5	461
FL	Crystal River	2	2013	9/21/2013	19	5918	1.681871146	890	361	3518.7	393
FL	Crystal River	2	2013	9/21/2013	20	4316	1.644378405	464	269	2624.7	276
FL	Crystal River	2	2013	9/21/2013	21	3127	1.627967514	380	197	1920.8	189
FL	Crystal River	2	2013	9/21/2013	22	2264	1.597516229	435	145	1417.2	127
FL	Crystal River	2	2013	9/21/2013	23	2141	1.563001898	479	140	1369.8	120
FL	Crystal River	2	2013	9/22/2013	0	2146	1.564367984	476	140	1371.8	121
FL	Crystal River	2	2013	9/22/2013	1	2244	1.569889464	424	146	1429.4	128
FL	Crystal River	2	2013	9/22/2013	2	2120	1.559511549	469	139	1359.4	120
FL	Crystal River	2	2013	9/22/2013	3	2129	1.566132117	456	139	1359.4	120
FL	Crystal River	2	2013	9/22/2013	4	2120	1.556763108	438	139	1361.8	120

FL	Crystal River	2	2013	9/22/2013	5	2152	1.574941452	456	140	1366.4	120
FL	Crystal River	2	2013	9/22/2013	6	2139	1.585854093	408	138	1348.8	120
FL	Crystal River	2	2013	9/22/2013	7	2230	1.595935018	415	143	1397.3	124
FL	Crystal River	2	2013	9/22/2013	8	3093	1.615312304	427	196	1914.8	184
FL	Crystal River	2	2013	9/22/2013	9	5100	1.631582315	722	320	3125.8	335
FL	Crystal River	2	2013	9/22/2013	10	5429	1.592782749	814	349	3408.5	377
FL	Crystal River	2	2013	9/22/2013	11	5377	1.587493726	765	347	3387.1	378
FL	Crystal River	2	2013	9/22/2013	12	5756	1.621911015	894	364	3548.9	394
FL	Crystal River	2	2013	9/22/2013	13	5455	1.569377715	855	356	3475.9	387
FL	Crystal River	2	2013	9/22/2013	14	5582	1.577816722	895	363	3537.8	394
FL	Crystal River	2	2013	9/22/2013	15	5676	1.571776695	946	370	3611.2	402
FL	Crystal River	2	2013	9/22/2013	16	5533	1.560525722	911	363	3545.6	394
FL	Crystal River	2	2013	9/22/2013	17	5404	1.552873563	866	357	3480	386
FL	Crystal River	2	2013	9/22/2013	18	6250	1.573435376	1144	407	3972.2	441
FL	Crystal River	2	2013	9/22/2013	19	5782	1.596972877	970	371	3620.6	403
FL	Crystal River	2	2013	9/22/2013	20	4249	1.609530664	464	270	2639.9	284
FL	Crystal River	2	2013	9/22/2013	21	2372	1.579543184	437	154	1501.7	137
FL	Crystal River	2	2013	9/22/2013	22	2185	1.565522677	471	143	1395.7	122
FL	Crystal River	2	2013	9/22/2013	23	2155	1.571616103	488	140	1371.2	120
FL	Crystal River	2	2013	9/23/2013	0	2127	1.557101025	479	140	1366	120
FL	Crystal River	2	2013	9/23/2013	1	2114	1.529445811	476	141	1382.2	120
FL	Crystal River	2	2013	9/23/2013	2	2112	1.529215842	461	141	1381.1	120
FL	Crystal River	2	2013	9/23/2013	3	2120	1.550954715	464	140	1366.9	120
FL	Crystal River	2	2013	9/23/2013	4	2564	1.571656246	383	167	1631.4	148
FL	Crystal River	2	2013	9/23/2013	5	3704	1.589290312	382	239	2330.6	227
FL	Crystal River	2	2013	9/23/2013	6	2305	1.571876705	456	150	1466.4	146
FL	Crystal River	2	2013	9/23/2013	7	2122	1.559262253	484	139	1360.9	121
FL	Crystal River	2	2013	9/23/2013	8	2339	1.563502674	426	153	1496	135
FL	Crystal River	2	2013	9/23/2013	9	3361	1.592966491	360	216	2109.9	203
FL	Crystal River	2	2013	9/23/2013	10	4093	1.552142586	456	270	2637	270
FL	Crystal River	2	2013	9/23/2013	11	5570	1.532746285	977	372	3634	399
FL	Crystal River	2	2013	9/23/2013	12	4336	1.530370946	617	290	2833.3	304
FL	Crystal River	2	2013	9/23/2013	13	4604	1.527132811	621	309	3014.8	321
FL	Crystal River	2	2013	9/23/2013	14	4924	1.543041584	651	327	3191.1	347
FL	Crystal River	2	2013	9/23/2013	15	5297	1.57344423	690	345	3366.5	372

FL	Crystal River	2	2013	9/23/2013	16	4899	1.580220631	601	318	3100.2	336
FL	Crystal River	2	2013	9/23/2013	17	4229	1.584844851	475	273	2668.4	278
FL	Crystal River	2	2013	9/23/2013	18	5153	1.599764056	628	330	3221.1	352
FL	Crystal River	2	2013	9/23/2013	19	4281	1.459697218	545	300	2932.8	316
FL	Crystal River	2	2013	9/23/2013	20	2038	1.354692901	424	154	1504.4	140
FL	Crystal River	2	2013	9/23/2013	21	1892	1.354039934	433	143	1397.3	124
FL	Crystal River	2	2013	9/23/2013	22	1931	1.386415853	442	142	1392.8	122
FL	Crystal River	2	2013	9/23/2013	23	2221	1.448415286	412	157	1533.4	138
FL	Crystal River	2	2013	9/24/2013	0	2246	1.500935579	425	153	1496.4	138
FL	Crystal River	2	2013	9/24/2013	1	2087	1.509911735	453	141	1382.2	121
FL	Crystal River	2	2013	9/24/2013	2	2165	1.532417894	404	145	1412.8	121
FL	Crystal River	2	2013	9/24/2013	3	2206	1.54970144	410	146	1423.5	121
FL	Crystal River	2	2013	9/24/2013	4	2416	1.56001808	384	158	1548.7	136
FL	Crystal River	2	2013	9/24/2013	5	2970	1.554241457	353	196	1910.9	176
FL	Crystal River	2	2013	9/24/2013	6	2103	1.482447483	421	145	1418.6	129
FL	Crystal River	2	2013	9/24/2013	7	3165	1.473395093	485	220	2148.1	208
FL	Crystal River	2	2013	9/24/2013	8	5772	1.528318373	1091	387	3776.7	412
FL	Crystal River	2	2013	9/24/2013	9	5719	1.551798991	998	378	3685.4	410
FL	Crystal River	2	2013	9/24/2013	10	5376	1.560884966	802	353	3444.2	383
FL	Crystal River	2	2013	9/24/2013	11	6269	1.574453123	1106	408	3981.7	441
FL	Crystal River	2	2013	9/24/2013	12	6913	1.593003963	1397	445	4339.6	487
FL	Crystal River	2	2013	9/24/2013	13	6644	1.579347723	1291	431	4206.8	469
FL	Crystal River	2	2013	9/24/2013	14	6252	1.541990381	1179	416	4054.5	452
FL	Crystal River	2	2013	9/24/2013	15	6319	1.537918614	1195	421	4108.8	457
FL	Crystal River	2	2013	9/24/2013	16	6418	1.542899728	1281	426	4159.7	465
FL	Crystal River	2	2013	9/24/2013	17	6953	1.574787099	1395	453	4415.2	493
FL	Crystal River	2	2013	9/24/2013	18	6479	1.593340383	1158	417	4066.3	453
FL	Crystal River	2	2013	9/24/2013	19	5839	1.596009293	925	375	3658.5	408
FL	Crystal River	2	2013	9/24/2013	20	5071	1.57123381	690	331	3227.4	354
FL	Crystal River	2	2013	9/24/2013	21	4233	1.581483972	471	274	2676.6	282
FL	Crystal River	2	2013	9/24/2013	22	4323	1.587762148	481	279	2722.7	283
FL	Crystal River	2	2013	9/24/2013	23	2321	1.550434202	411	153	1497	138
FL	Crystal River	2	2013	9/25/2013	0	2149	1.562454559	508	141	1375.4	120
FL	Crystal River	2	2013	9/25/2013	1	2142	1.559065434	519	141	1373.9	119
FL	Crystal River	2	2013	9/25/2013	2	2129	1.561079337	512	139	1363.8	119

FL	Crystal River	2	2013	9/25/2013	3	2152	1.568398805	498	140	1372.1	120
FL	Crystal River	2	2013	9/25/2013	4	2553	1.578752087	397	165	1617.1	148
FL	Crystal River	2	2013	9/25/2013	5	3696	1.602636372	389	236	2306.2	231
FL	Crystal River	2	2013	9/25/2013	6	3701	1.606545991	373	236	2303.7	236
FL	Crystal River	2	2013	9/25/2013	7	3726	1.605065909	366	238	2321.4	234
FL	Crystal River	2	2013	9/25/2013	8	3046	1.608321453	314	194	1893.9	184
FL	Crystal River	2	2013	9/25/2013	9	2281	1.592654657	432	146	1432.2	130
FL	Crystal River	2	2013	9/25/2013	10	2174	1.583394028	498	140	1373	120
FL	Crystal River	2	2013	9/25/2013	11	2613	1.600906752	355	167	1632.2	150
FL	Crystal River	2	2013	9/25/2013	12	3902	1.598983732	453	250	2440.3	245
FL	Crystal River	2	2013	9/25/2013	13	4493	1.563489578	566	294	2873.7	303
FL	Crystal River	2	2013	9/25/2013	14	5455	1.613094006	716	347	3381.7	370
FL	Crystal River	2	2013	9/25/2013	15	5353	1.623203348	679	338	3297.8	361
FL	Crystal River	2	2013	9/25/2013	16	5415	1.642601468	682	338	3296.6	363
FL	Crystal River	2	2013	9/25/2013	17	5924	1.665729389	775	364	3556.4	392
FL	Crystal River	2	2013	9/25/2013	18	7171	1.648051112	1435	446	4351.2	482
FL	Crystal River	2	2013	9/25/2013	19	7298	1.643841788	1562	455	4439.6	501
FL	Crystal River	2	2013	9/25/2013	20	5749	1.646523084	939	358	3491.6	393
FL	Crystal River	2	2013	9/25/2013	21	4427	1.649895647	520	275	2683.2	290
FL	Crystal River	2	2013	9/25/2013	22	2877	1.633081682	248	180	1761.7	165
FL	Crystal River	2	2013	9/25/2013	23	2194	1.606737459	456	140	1365.5	120
FL	Crystal River	2	2013	9/26/2013	0	2223	1.608887602	431	141	1381.7	121
FL	Crystal River	2	2013	9/26/2013	1	2297	1.609670638	419	146	1427	125
FL	Crystal River	2	2013	9/26/2013	2	2187	1.613069774	442	139	1355.8	119
FL	Crystal River	2	2013	9/26/2013	3	2186	1.606289955	430	139	1360.9	119
FL	Crystal River	2	2013	9/26/2013	4	2163	1.620467486	412	137	1334.8	119
FL	Crystal River	2	2013	9/26/2013	5	2163	1.609614526	419	137	1343.8	119
FL	Crystal River	2	2013	9/26/2013	6	2218	1.618623659	368	140	1370.3	123
FL	Crystal River	2	2013	9/26/2013	7	3050	1.646068325	392	190	1852.9	180
FL	Crystal River	2	2013	9/26/2013	8	4550	1.667827426	515	279	2728.1	280
FL	Crystal River	2	2013	9/26/2013	9	4447	1.655560106	467	275	2686.1	276
FL	Crystal River	2	2013	9/26/2013	10	4592	1.667513981	470	282	2753.8	286
FL	Crystal River	2	2013	9/26/2013	11	5883	1.682251008	800	358	3497.1	386
FL	Crystal River	2	2013	9/26/2013	12	6491	1.662909259	1194	400	3903.4	430
FL	Crystal River	2	2013	9/26/2013	13	6470	1.653716389	1122	401	3912.4	432

FL	Crystal River	2	2013	9/26/2013	14	6766	1.664903172	1320	417	4063.9	451
FL	Crystal River	2	2013	9/26/2013	15	6355	1.673249078	1055	389	3798	420
FL	Crystal River	2	2013	9/26/2013	16	5837	1.678504673	845	356	3477.5	386
FL	Crystal River	2	2013	9/26/2013	17	5731	1.659860399	845	354	3452.7	383
FL	Crystal River	2	2013	9/26/2013	18	5655	1.661378459	823	349	3403.8	380
FL	Crystal River	2	2013	9/26/2013	19	4823	1.650412346	616	299	2922.3	322
FL	Crystal River	2	2013	9/26/2013	20	2522	1.609547514	451	160	1566.9	148
FL	Crystal River	2	2013	9/26/2013	21	2100	1.575512041	373	136	1332.9	120
FL	Crystal River	2	2013	9/26/2013	22	2171	1.590126712	421	140	1365.3	120
FL	Crystal River	2	2013	9/26/2013	23	2165	1.601805268	427	138	1351.6	120
FL	Crystal River	2	2013	9/27/2013	0	2168	1.594469368	398	139	1359.7	120
FL	Crystal River	2	2013	9/27/2013	1	2157	1.600504563	378	138	1347.7	120
FL	Crystal River	2	2013	9/27/2013	2	2139	1.593889717	371	137	1342	120
FL	Crystal River	2	2013	9/27/2013	3	2158	1.579448145	401	140	1366.3	120
FL	Crystal River	2	2013	9/27/2013	4	2130	1.582466568	401	138	1346	120
FL	Crystal River	2	2013	9/27/2013	5	2214	1.585392052	400	143	1396.5	126
FL	Crystal River	2	2013	9/27/2013	6	2166	1.573327522	397	141	1376.7	123
FL	Crystal River	2	2013	9/27/2013	7	2735	1.581564795	399	177	1729.3	162
FL	Crystal River	2	2013	9/27/2013	8	3652	1.593994151	403	235	2291.1	229
FL	Crystal River	2	2013	9/27/2013	9	5091	1.63361571	638	319	3116.4	337
FL	Crystal River	2	2013	9/27/2013	10	4497	1.625460854	511	283	2766.6	292
FL	Crystal River	2	2013	9/27/2013	11	6031	1.64516217	912	376	3665.9	408
FL	Crystal River	2	2013	9/27/2013	12	6613	1.661724796	1205	408	3979.6	447
FL	Crystal River	2	2013	9/27/2013	13	7002	1.669726958	1341	430	4193.5	472
FL	Crystal River	2	2013	9/27/2013	14	7152	1.651846548	1363	444	4329.7	485
FL	Crystal River	2	2013	9/27/2013	15	7199	1.661128802	1391	444	4333.8	486
FL	Crystal River	2	2013	9/27/2013	16	7060	1.654441919	1344	437	4267.3	478
FL	Crystal River	2	2013	9/27/2013	17	6409	1.649126418	1115	398	3886.3	437
FL	Crystal River	2	2013	9/27/2013	18	6444	1.664256198	1091	397	3872	437
FL	Crystal River	2	2013	9/27/2013	19	6078	1.655454174	976	376	3671.5	415
FL	Crystal River	2	2013	9/27/2013	20	5838	1.673067003	844	358	3489.4	393
FL	Crystal River	2	2013	9/27/2013	21	5037	1.694704259	633	304	2972.2	331
FL	Crystal River	2	2013	9/27/2013	22	4580	1.690411161	490	278	2709.4	293
FL	Crystal River	2	2013	9/27/2013	23	3260	1.659117512	379	201	1964.9	196
FL	Crystal River	2	2013	9/28/2013	0	2178	1.63403106	477	136	1332.9	121

FL	Crystal River	2	2013	9/28/2013	1	2189	1.623164763	469	138	1348.6	121
FL	Crystal River	2	2013	9/28/2013	2	2175	1.605877141	471	139	1354.4	121
FL	Crystal River	2	2013	9/28/2013	3	2167	1.603047788	467	138	1351.8	121
FL	Crystal River	2	2013	9/28/2013	4	2127	1.584711667	428	137	1342.2	121
FL	Crystal River	2	2013	9/28/2013	5	2135	1.574599897	413	139	1355.9	121
FL	Crystal River	2	2013	9/28/2013	6	2137	1.552600988	379	141	1376.4	124
FL	Crystal River	2	2013	9/28/2013	7	3408	1.574206661	424	222	2164.9	215
FL	Crystal River	2	2013	9/28/2013	8	5168	1.592996733	707	332	3244.2	353
FL	Crystal River	2	2013	9/28/2013	9	6094	1.610635374	1131	388	3783.6	423
FL	Crystal River	2	2013	9/28/2013	10	6299	1.623202598	1168	398	3880.6	438
FL	Crystal River	2	2013	9/28/2013	11	6775	1.643699355	1331	422	4121.8	466
FL	Crystal River	2	2013	9/28/2013	12	7201	1.667747464	1407	443	4317.8	489
FL	Crystal River	2	2013	9/28/2013	13	7579	1.68827408	1508	460	4489.2	506
FL	Crystal River	2	2013	9/28/2013	14	7665	1.711013885	1447	459	4479.8	506
FL	Crystal River	2	2013	9/28/2013	15	7639	1.714856553	1412	457	4454.6	506
FL	Crystal River	2	2013	9/28/2013	16	7595	1.708738301	1422	456	4444.8	506
FL	Crystal River	2	2013	9/28/2013	17	7629	1.70778116	1438	458	4467.2	506
FL	Crystal River	2	2013	9/28/2013	18	7306	1.720718811	1346	435	4245.9	485
FL	Crystal River	2	2013	9/28/2013	19	6310	1.70840666	971	379	3693.5	420
FL	Crystal River	2	2013	9/28/2013	20	5792	1.682693704	802	353	3442.1	389
FL	Crystal River	2	2013	9/28/2013	21	5067	1.66387548	621	312	3045.3	338
FL	Crystal River	2	2013	9/28/2013	22	4728	1.630401048	530	297	2899.9	316
FL	Crystal River	2	2013	9/28/2013	23	3993	1.60761736	404	254	2483.8	261
FL	Crystal River	2	2013	9/29/2013	0	2528	1.614303959	388	160	1566	150
FL	Crystal River	2	2013	9/29/2013	1	2186	1.600878799	439	140	1365.5	122
FL	Crystal River	2	2013	9/29/2013	2	2149	1.604210212	466	137	1339.6	119
FL	Crystal River	2	2013	9/29/2013	3	2158	1.601603087	459	138	1347.4	119
FL	Crystal River	2	2013	9/29/2013	4	2122	1.580868658	417	137	1342.3	119
FL	Crystal River	2	2013	9/29/2013	5	2119	1.574411175	399	138	1345.9	119
FL	Crystal River	2	2013	9/29/2013	6	2071	1.559487952	385	136	1328	119
FL	Crystal River	2	2013	9/29/2013	7	3220	1.585113715	406	208	2031.4	202
FL	Crystal River	2	2013	9/29/2013	8	5207	1.581232918	711	337	3293	360
FL	Crystal River	2	2013	9/29/2013	9	6581	1.594582152	1308	423	4127.1	464
FL	Crystal River	2	2013	9/29/2013	10	6802	1.622266212	1345	430	4192.9	475
FL	Crystal River	2	2013	9/29/2013	11	7333	1.642586744	1459	458	4464.3	504

FL	Crystal River	2	2013	9/29/2013	12	7636	1.662747147	1547	471	4592.4	516
FL	Crystal River	2	2013	9/29/2013	13	7700	1.672168172	1538	472	4604.8	516
FL	Crystal River	2	2013	9/29/2013	14	7711	1.678457152	1539	471	4594.1	517
FL	Crystal River	2	2013	9/29/2013	15	7752	1.682839466	1538	472	4606.5	516
FL	Crystal River	2	2013	9/29/2013	16	7811	1.693221478	1545	473	4613.1	516
FL	Crystal River	2	2013	9/29/2013	17	7755	1.684880614	1546	472	4602.7	516
FL	Crystal River	2	2013	9/29/2013	18	7659	1.672891685	1533	469	4578.3	516
FL	Crystal River	2	2013	9/29/2013	19	7650	1.675170254	1525	468	4566.7	516
FL	Crystal River	2	2013	9/29/2013	20	6820	1.664551401	1253	420	4097.2	464
FL	Crystal River	2	2013	9/29/2013	21	5685	1.65026561	809	353	3444.9	385
FL	Crystal River	2	2013	9/29/2013	22	5659	1.647356777	831	352	3435.2	381
FL	Crystal River	2	2013	9/29/2013	23	4138	1.640175988	421	258	2522.9	266
FL	Crystal River	2	2013	9/30/2013	0	2575	1.620210155	403	163	1589.3	151
FL	Crystal River	2	2013	9/30/2013	1	2271	1.596036264	402	146	1422.9	124
FL	Crystal River	2	2013	9/30/2013	2	2215	1.594213329	432	142	1389.4	120
FL	Crystal River	2	2013	9/30/2013	3	2206	1.565094005	429	144	1409.5	121
FL	Crystal River	2	2013	9/30/2013	4	2425	1.550412378	351	160	1564.1	138
FL	Crystal River	2	2013	9/30/2013	5	3231	1.562076968	380	212	2068.4	202
FL	Crystal River	2	2013	9/30/2013	6	4235	1.58917783	506	273	2664.9	280
FL	Crystal River	2	2013	9/30/2013	7	4987	1.618840486	597	316	3080.6	337
FL	Crystal River	2	2013	9/30/2013	8	5336	1.618932039	685	338	3296	367
FL	Crystal River	2	2013	9/30/2013	9	6371	1.624384896	1149	402	3922.1	442
FL	Crystal River	2	2013	9/30/2013	10	6702	1.609471434	1303	427	4164.1	470
FL	Crystal River	2	2013	9/30/2013	11	6740	1.602282182	1274	431	4206.5	471
FL	Crystal River	2	2013	9/30/2013	12	7390	1.616607967	1513	469	4571.3	512
FL	Crystal River	2	2013	9/30/2013	13	7310	1.607724114	1491	466	4546.8	511
FL	Crystal River	2	2013	9/30/2013	14	7327	1.609268614	1484	467	4553	511
FL	Crystal River	2	2013	9/30/2013	15	7360	1.619183808	1472	466	4545.5	511
FL	Crystal River	2	2013	9/30/2013	16	7305	1.605741543	1487	466	4549.3	511
FL	Crystal River	2	2013	9/30/2013	17	7286	1.601002	1479	466	4550.9	511
FL	Crystal River	2	2013	9/30/2013	18	7307	1.605016913	1484	467	4552.6	511
FL	Crystal River	2	2013	9/30/2013	19	7122	1.608909773	1425	454	4426.6	499
FL	Crystal River	2	2013	9/30/2013	20	5810	1.617123135	880	368	3592.8	402
FL	Crystal River	2	2013	9/30/2013	21	4693	1.628383067	553	295	2882	312
FL	Crystal River	2	2013	9/30/2013	22	4132	1.62824605	433	260	2537.7	263

FL	Crystal River	2	2013	9/30/2013	23	2741	1.616060374	381	174	1696.1	160
FL	Crystal River	2	2013	10/1/2013	0	2194	1.584916564	465	142	1384.3	120
FL	Crystal River	2	2013	10/1/2013	1	2132	1.587845386	482	137	1342.7	119
FL	Crystal River	2	2013	10/1/2013	2	2122	1.574067206	486	138	1348.1	119
FL	Crystal River	2	2013	10/1/2013	3	2120	1.587420442	447	137	1335.5	119
FL	Crystal River	2	2013	10/1/2013	4	2109	1.586191336	418	136	1329.6	120
FL	Crystal River	2	2013	10/1/2013	5	3047	1.588965373	425	196	1917.6	194
FL	Crystal River	2	2013	10/1/2013	6	3579	1.58953633	394	231	2251.6	231
FL	Crystal River	2	2013	10/1/2013	7	5069	1.604824922	612	324	3158.6	342
FL	Crystal River	2	2013	10/1/2013	8	6655	1.609937828	1281	424	4133.7	463
FL	Crystal River	2	2013	10/1/2013	9	6838	1.616472034	1412	434	4230.2	477
FL	Crystal River	2	2013	10/1/2013	10	6854	1.605565837	1442	438	4268.9	478
FL	Crystal River	2	2013	10/1/2013	11	7074	1.58159501	1578	458	4472.7	502
FL	Crystal River	2	2013	10/1/2013	12	7092	1.56362995	1437	465	4535.6	506
FL	Crystal River	2	2013	10/1/2013	13	7142	1.57032607	1432	466	4548.1	507
FL	Crystal River	2	2013	10/1/2013	14	6975	1.547867383	1405	462	4506.2	499
FL	Crystal River	2	2013	10/1/2013	15	6778	1.52661096	1385	455	4439.9	495
FL	Crystal River	2	2013	10/1/2013	16	6551	1.512444013	1342	444	4331.4	484
FL	Crystal River	2	2013	10/1/2013	17	5249	1.503451436	834	358	3491.3	386
FL	Crystal River	2	2013	10/1/2013	18	6456	1.526890876	1293	433	4228.2	471
FL	Crystal River	2	2013	10/1/2013	19	5914	1.510716019	1103	401	3914.7	438
FL	Crystal River	2	2013	10/1/2013	20	5299	1.537858781	771	353	3445.7	385
FL	Crystal River	2	2013	10/1/2013	21	5205	1.557543839	748	342	3341.8	369
FL	Crystal River	2	2013	10/1/2013	22	3262	1.566537002	358	213	2082.3	211
FL	Crystal River	2	2013	10/1/2013	23	2815	1.560767354	238	185	1803.6	173
FL	Crystal River	2	2013	10/2/2013	0	2016	1.533779671	507	134	1314.4	119
FL	Crystal River	2	2013	10/2/2013	1	2003	1.518344451	496	135	1319.2	119
FL	Crystal River	2	2013	10/2/2013	2	1959	1.465549488	525	137	1336.7	119
FL	Crystal River	2	2013	10/2/2013	3	1941	1.424587156	512	139	1362.5	119
FL	Crystal River	2	2013	10/2/2013	4	1887	1.386990077	504	139	1360.5	119
FL	Crystal River	2	2013	10/2/2013	5	2038	1.38601741	452	150	1470.4	128
FL	Crystal River	2	2013	10/2/2013	6	1981	1.425179856	486	142	1390	124
FL	Crystal River	2	2013	10/2/2013	7	3177	1.479739171	461	220	2147	212
FL	Crystal River	2	2013	10/2/2013	8	4640	1.519418429	619	313	3053.8	327
FL	Crystal River	2	2013	10/2/2013	9	6365	1.546066215	1235	422	4116.9	462

FL	Crystal River	2	2013	10/2/2013	10	6504	1.537043602	1320	434	4231.5	475
FL	Crystal River	2	2013	10/2/2013	11	6857	1.49393233	1482	470	4589.9	516
FL	Crystal River	2	2013	10/2/2013	12	6617	1.434642153	1466	473	4612.3	516
FL	Crystal River	2	2013	10/2/2013	13	6584	1.447001165	1437	466	4550.1	506
FL	Crystal River	2	2013	10/2/2013	14	6705	1.471588789	1458	467	4556.3	507
FL	Crystal River	2	2013	10/2/2013	15	6766	1.486869575	1469	466	4550.5	506
FL	Crystal River	2	2013	10/2/2013	16	6872	1.513623048	1471	465	4540.1	506
FL	Crystal River	2	2013	10/2/2013	17	6751	1.595566165	1328	434	4231.1	473
FL	Crystal River	2	2013	10/2/2013	18	6442	1.701891578	1063	388	3785.2	424
FL	Crystal River	2	2013	10/2/2013	19	6561	1.74699116	984	385	3755.6	420
FL	Crystal River	2	2013	10/2/2013	20	6538	1.779967875	1028	376	3673.1	413
FL	Crystal River	2	2013	10/2/2013	21	3400	1.734870905	405	201	1959.8	195
FL	Crystal River	2	2013	10/2/2013	22	2303	1.679305819	453	140	1371.4	120
FL	Crystal River	2	2013	10/2/2013	23	2316	1.699691766	441	139	1362.6	120
FL	Crystal River	2	2013	10/3/2013	0	2343	1.699057288	438	141	1379	121
FL	Crystal River	2	2013	10/3/2013	1	2357	1.702050838	445	142	1384.8	120
FL	Crystal River	2	2013	10/3/2013	2	2339	1.703941138	443	140	1372.7	120
FL	Crystal River	2	2013	10/3/2013	3	2358	1.697379787	536	142	1389.2	120
FL	Crystal River	2	2013	10/3/2013	4	2390	1.722646677	453	142	1387.4	123
FL	Crystal River	2	2013	10/3/2013	5	2401	1.720037252	569	143	1395.9	122
FL	Crystal River	2	2013	10/3/2013	6	2822	1.776742429	551	163	1588.3	147
FL	Crystal River	2	2013	10/3/2013	7	3601	1.789050079	535	206	2012.8	195
FL	Crystal River	2	2013	10/3/2013	8	5949	1.799401107	929	339	3306.1	360
FL	Crystal River	2	2013	10/3/2013	9	7079	1.820028281	1166	399	3889.5	439
FL	Crystal River	2	2013	10/3/2013	10	7452	1.805057649	1259	423	4128.4	465
FL	Crystal River	2	2013	10/3/2013	11	8051	1.793255524	1459	460	4489.6	508
FL	Crystal River	2	2013	10/3/2013	12	8002	1.759106597	1446	466	4548.9	511
FL	Crystal River	2	2013	10/3/2013	13	8077	1.773839329	1443	467	4553.4	511
FL	Crystal River	2	2013	10/3/2013	14	8378	1.832739046	1481	469	4571.3	511
FL	Crystal River	2	2013	10/3/2013	15	8334	1.823113775	1490	469	4571.3	511
FL	Crystal River	2	2013	10/3/2013	16	8265	1.811348046	1478	468	4562.9	511
FL	Crystal River	2	2013	10/3/2013	17	8170	1.79916318	1480	465	4541	511
FL	Crystal River	2	2013	10/3/2013	18	8216	1.811287478	1478	465	4536	511
FL	Crystal River	2	2013	10/3/2013	19	8220	1.864368337	1432	452	4409	501
FL	Crystal River	2	2013	10/3/2013	20	7794	1.868034417	1293	428	4172.3	473

FL	Crystal River	2	2013	10/3/2013	21	6372	1.841724955	861	355	3459.8	389
FL	Crystal River	2	2013	10/3/2013	22	4880	1.800937373	493	278	2709.7	292
FL	Crystal River	2	2013	10/3/2013	23	3037	1.746606855	394	178	1738.8	164
FL	Crystal River	2	2013	10/4/2013	0	2373	1.727577169	489	140	1373.6	119
FL	Crystal River	2	2013	10/4/2013	1	2406	1.739067582	489	142	1383.5	119
FL	Crystal River	2	2013	10/4/2013	2	2417	1.766554597	502	140	1368.2	119
FL	Crystal River	2	2013	10/4/2013	3	2429	1.757597685	497	141	1382	119
FL	Crystal River	2	2013	10/4/2013	4	2406	1.774990778	478	139	1355.5	119
FL	Crystal River	2	2013	10/4/2013	5	3232	1.805284031	447	183	1790.3	179
FL	Crystal River	2	2013	10/4/2013	6	5151	1.816931217	575	290	2835	303
FL	Crystal River	2	2013	10/4/2013	7	5662	1.793134026	622	324	3157.6	349
FL	Crystal River	2	2013	10/4/2013	8	6429	1.781626715	851	370	3608.5	406
FL	Crystal River	2	2013	10/4/2013	9	7274	1.780922535	1245	419	4084.4	460
FL	Crystal River	2	2013	10/4/2013	10	7600	1.819357001	1269	428	4177.3	472
FL	Crystal River	2	2013	10/4/2013	11	7822	1.830906793	1328	438	4272.2	484
FL	Crystal River	2	2013	10/4/2013	12	8423	1.834956321	1487	471	4590.3	515
FL	Crystal River	2	2013	10/4/2013	13	8306	1.816035158	1477	469	4573.7	513
FL	Crystal River	2	2013	10/4/2013	14	8372	1.844337233	1457	465	4539.3	512
FL	Crystal River	2	2013	10/4/2013	15	8363	1.839194212	1459	466	4547.1	512
FL	Crystal River	2	2013	10/4/2013	16	8210	1.811602198	1468	465	4531.9	512
FL	Crystal River	2	2013	10/4/2013	17	7818	1.773673942	1401	452	4407.8	498
FL	Crystal River	2	2013	10/4/2013	18	7521	1.752044168	1382	440	4292.7	488
FL	Crystal River	2	2013	10/4/2013	19	7121	1.693862988	1362	431	4204	478
FL	Crystal River	2	2013	10/4/2013	20	5831	1.585717394	1014	377	3677.2	414
FL	Crystal River	2	2013	10/4/2013	21	5406	1.539556872	884	360	3511.4	393
FL	Crystal River	2	2013	10/4/2013	22	5025	1.541316484	769	334	3260.2	363
FL	Crystal River	2	2013	10/4/2013	23	3084	1.528473014	351	207	2017.7	201
FL	Crystal River	2	2013	10/5/2013	0	2145	1.558866279	506	141	1376	123
FL	Crystal River	2	2013	10/5/2013	1	2159	1.601394452	524	138	1348.2	120
FL	Crystal River	2	2013	10/5/2013	2	2136	1.580934054	520	138	1351.1	120
FL	Crystal River	2	2013	10/5/2013	3	2126	1.56300544	516	139	1360.2	120
FL	Crystal River	2	2013	10/5/2013	4	2091	1.552223294	502	138	1347.1	120
FL	Crystal River	2	2013	10/5/2013	5	2119	1.573008685	501	138	1347.1	120
FL	Crystal River	2	2013	10/5/2013	6	2112	1.588686626	471	136	1329.4	120
FL	Crystal River	2	2013	10/5/2013	7	2982	1.628529299	413	187	1831.1	175

FL	Crystal River	2	2013	10/5/2013	8	5080	1.679783083	620	310	3024.2	321
FL	Crystal River	2	2013	10/5/2013	9	6452	1.689801477	1130	391	3818.2	427
FL	Crystal River	2	2013	10/5/2013	10	6905	1.689048702	1295	419	4088.1	458
FL	Crystal River	2	2013	10/5/2013	11	7646	1.6999044	1538	461	4497.9	506
FL	Crystal River	2	2013	10/5/2013	12	7574	1.653242529	1571	470	4581.3	512
FL	Crystal River	2	2013	10/5/2013	13	7422	1.617099157	1569	470	4589.7	512
FL	Crystal River	2	2013	10/5/2013	14	7373	1.614938123	1570	468	4565.5	512
FL	Crystal River	2	2013	10/5/2013	15	7389	1.60766737	1608	471	4596.1	512
FL	Crystal River	2	2013	10/5/2013	16	7211	1.572188549	1609	470	4586.6	512
FL	Crystal River	2	2013	10/5/2013	17	6959	1.525527764	1637	468	4561.7	511
FL	Crystal River	2	2013	10/5/2013	18	6756	1.517145359	1576	456	4453.1	502
FL	Crystal River	2	2013	10/5/2013	19	6251	1.524002243	1361	420	4101.7	464
FL	Crystal River	2	2013	10/5/2013	20	5411	1.535296788	926	361	3524.4	394
FL	Crystal River	2	2013	10/5/2013	21	5123	1.581026448	661	332	3240.3	362
FL	Crystal River	2	2013	10/5/2013	22	4326	1.552931041	520	285	2785.7	301
FL	Crystal River	2	2013	10/5/2013	23	2456	1.526888405	381	165	1608.5	153
FL	Crystal River	2	2013	10/6/2013	0	2109	1.496593812	463	144	1409.2	124
FL	Crystal River	2	2013	10/6/2013	1	2044	1.483093891	498	141	1378.2	120
FL	Crystal River	2	2013	10/6/2013	2	2033	1.4794062	500	141	1374.2	120
FL	Crystal River	2	2013	10/6/2013	3	1988	1.456730417	502	140	1364.7	120
FL	Crystal River	2	2013	10/6/2013	4	1939	1.430468462	466	139	1355.5	120
FL	Crystal River	2	2013	10/6/2013	5	1923	1.414906924	467	139	1359.1	120
FL	Crystal River	2	2013	10/6/2013	6	1881	1.399033098	431	137	1344.5	120
FL	Crystal River	2	2013	10/6/2013	7	2306	1.411779111	388	167	1633.4	151
FL	Crystal River	2	2013	10/6/2013	8	4412	1.468610612	648	308	3004.2	316
FL	Crystal River	2	2013	10/6/2013	9	5635	1.482465602	1235	390	3801.1	420
FL	Crystal River	2	2013	10/6/2013	10	6010	1.497968645	1243	411	4012.1	445
FL	Crystal River	2	2013	10/6/2013	11	6927	1.520980173	1594	467	4554.3	506
FL	Crystal River	2	2013	10/6/2013	12	6900	1.521734336	1582	465	4534.3	506
FL	Crystal River	2	2013	10/6/2013	13	6908	1.508955876	1584	469	4578	506
FL	Crystal River	2	2013	10/6/2013	14	6939	1.511731771	1592	470	4590.1	506
FL	Crystal River	2	2013	10/6/2013	15	7069	1.565427287	1557	463	4515.7	502
FL	Crystal River	2	2013	10/6/2013	16	7112	1.640107926	1439	444	4336.3	481
FL	Crystal River	2	2013	10/6/2013	17	6892	1.710301015	1257	413	4029.7	448
FL	Crystal River	2	2013	10/6/2013	18	6296	1.760134191	922	367	3577	397

FL	Crystal River	2	2013	10/6/2013	19	6355	1.793778932	907	363	3542.8	394
FL	Crystal River	2	2013	10/6/2013	20	5411	1.796361463	590	309	3012.2	329
FL	Crystal River	2	2013	10/6/2013	21	3033	1.749336717	322	177	1733.8	166
FL	Crystal River	2	2013	10/6/2013	22	2686	1.702586207	383	161	1577.6	143
FL	Crystal River	2	2013	10/6/2013	23	2299	1.674923503	480	140	1372.6	122
FL	Crystal River	2	2013	10/7/2013	0	2247	1.653664999	478	139	1358.8	120
FL	Crystal River	2	2013	10/7/2013	1	2242	1.646108664	476	139	1362	120
FL	Crystal River	2	2013	10/7/2013	2	2249	1.663707649	475	138	1351.8	120
FL	Crystal River	2	2013	10/7/2013	3	2268	1.670964415	483	139	1357.3	120
FL	Crystal River	2	2013	10/7/2013	4	2625	1.715237846	434	157	1530.4	140
FL	Crystal River	2	2013	10/7/2013	5	3837	1.761384502	394	223	2178.4	217
FL	Crystal River	2	2013	10/7/2013	6	4980	1.79569466	563	284	2773.3	300
FL	Crystal River	2	2013	10/7/2013	7	6110	1.804595664	748	347	3385.8	379
FL	Crystal River	2	2013	10/7/2013	8	6715	1.781876078	1115	386	3768.5	424
FL	Crystal River	2	2013	10/7/2013	9	6967	1.786868428	1232	400	3899	441
FL	Crystal River	2	2013	10/7/2013	10	6928	1.781114225	1170	399	3889.7	439
FL	Crystal River	2	2013	10/7/2013	11	7759	1.794278843	1435	443	4324.3	490
FL	Crystal River	2	2013	10/7/2013	12	7862	1.810769727	1463	445	4341.8	492
FL	Crystal River	2	2013	10/7/2013	13	7887	1.852539108	1404	436	4257.4	486
FL	Crystal River	2	2013	10/7/2013	14	8158	1.896371371	1428	441	4301.9	485
FL	Crystal River	2	2013	10/7/2013	15	8445	1.962173842	1420	441	4303.9	485
FL	Crystal River	2	2013	10/7/2013	16	8613	1.999860685	1421	441	4306.8	485
FL	Crystal River	2	2013	10/7/2013	17	7935	2.053784036	1193	396	3863.6	436
FL	Crystal River	2	2013	10/7/2013	18	8589	2.071135761	1298	425	4147	465
FL	Crystal River	2	2013	10/7/2013	19	8264	2.080930678	1258	407	3971.3	448
FL	Crystal River	2	2013	10/7/2013	20	7053	2.04422932	883	354	3450.2	388
FL	Crystal River	2	2013	10/7/2013	21	5773	1.982826722	564	298	2911.5	318
FL	Crystal River	2	2013	10/7/2013	22	3924	1.872137405	358	215	2096	212
FL	Crystal River	2	2013	10/7/2013	23	2461	1.73799435	451	145	1416	129
FL	Crystal River	2	2013	10/8/2013	0	2285	1.682745416	487	139	1357.9	120
FL	Crystal River	2	2013	10/8/2013	1	2247	1.645912687	495	140	1365.2	120
FL	Crystal River	2	2013	10/8/2013	2	2222	1.629988263	492	139	1363.2	120
FL	Crystal River	2	2013	10/8/2013	3	2208	1.628919218	490	139	1355.5	120
FL	Crystal River	2	2013	10/8/2013	4	2211	1.60952173	457	140	1373.7	122
FL	Crystal River	2	2013	10/8/2013	5	3327	1.630163163	377	209	2040.9	203

FL	Crystal River	2	2013	10/8/2013	6	2897	1.584532079	407	187	1828.3	187
FL	Crystal River	2	2013	10/8/2013	7	2311	1.562225377	412	151	1479.3	133
FL	Crystal River	2	2013	10/8/2013	8	2587	1.576669917	421	168	1640.8	151
FL	Crystal River	2	2013	10/8/2013	9	4193	1.633869774	456	263	2566.3	263
FL	Crystal River	2	2013	10/8/2013	10	6044	1.722378958	986	360	3509.1	389
FL	Crystal River	2	2013	10/8/2013	11	7091	1.687810916	1331	431	4201.3	472
FL	Crystal River	2	2013	10/8/2013	12	7433	1.673985992	1452	455	4440.3	498
FL	Crystal River	2	2013	10/8/2013	13	7498	1.673922265	1460	459	4479.3	501
FL	Crystal River	2	2013	10/8/2013	14	7548	1.683205852	1452	460	4484.3	502
FL	Crystal River	2	2013	10/8/2013	15	7568	1.687402453	1448	460	4485	501
FL	Crystal River	2	2013	10/8/2013	16	7190	1.683801316	1357	438	4270.1	481
FL	Crystal River	2	2013	10/8/2013	17	6618	1.691934041	1110	401	3911.5	438
FL	Crystal River	2	2013	10/8/2013	18	6681	1.690151534	1083	405	3952.9	443
FL	Crystal River	2	2013	10/8/2013	19	6451	1.668347687	1078	396	3866.7	438
FL	Crystal River	2	2013	10/8/2013	20	5591	1.60306219	816	357	3487.7	394
FL	Crystal River	2	2013	10/8/2013	21	4843	1.536387285	643	323	3152.2	352
FL	Crystal River	2	2013	10/8/2013	22	3493	1.479332543	441	242	2361.2	251
FL	Crystal River	2	2013	10/8/2013	23	1849	1.368717152	366	138	1350.9	122
FL	Crystal River	2	2013	10/9/2013	0	1828	1.355278766	387	138	1348.8	121
FL	Crystal River	2	2013	10/9/2013	1	1846	1.36447631	466	138	1352.9	121
FL	Crystal River	2	2013	10/9/2013	2	1868	1.375653583	468	139	1357.9	121
FL	Crystal River	2	2013	10/9/2013	3	1889	1.387032822	478	139	1361.9	121
FL	Crystal River	2	2013	10/9/2013	4	1880	1.390224063	476	138	1352.3	121
FL	Crystal River	2	2013	10/9/2013	5	1981	1.402180068	418	145	1412.8	128
FL	Crystal River	2	2013	10/9/2013	6	1873	1.420015163	447	135	1319	120
FL	Crystal River	2	2013	10/9/2013	7	1895	1.410915047	441	137	1343.1	120
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FL	Crystal River	2	2013	10/9/2013	9	1937	1.437263486	451	138	1347.7	120
FL	Crystal River	2	2013	10/9/2013	10	1944	1.440426793	450	138	1349.6	120
FL	Crystal River	2	2013	10/9/2013	11	1946	1.432040621	444	139	1358.9	120
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FL	Crystal River	2	2013	10/10/2013	2	1762	1.304219097	470	138	1351	119
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FL	Crystal River	2	2013	10/10/2013	15	6009	1.367764551	1269	450	4393.3	495
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FL	Crystal River	2	2013	10/11/2013	13	5138	1.18630371	1312	444	4331.1	491
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FL	Crystal River	2	2013	11/1/2013	11	9	0.079646018	2	11	113	0
FL	Crystal River	2	2013	11/1/2013	12	6	0.06097561	1	10	98.4	0
FL	Crystal River	2	2013	11/1/2013	13	5	0.060753341	1	8	82.3	0
FL	Crystal River	2	2013	11/1/2013	14	4	0.040733198	1	10	98.2	0
FL	Crystal River	2	2013	11/1/2013	15	5	0.038314176	2	13	130.5	0
FL	Crystal River	2	2013	11/1/2013	16	5	0.0509684	1	10	98.1	0
FL	Crystal River	2	2013	11/1/2013	17	4	0.04252876	1	9	94.054	0
FL	Crystal River	2	2013	11/1/2013	18	5	0.0382263	2	13	130.8	0
FL	Crystal River	2	2013	11/1/2013	19	5	0.038080731	2	13	131.3	0
FL	Crystal River	2	2013	11/1/2013	20	5	0.043821209	1	11	114.1	0
FL	Crystal River	2	2013	11/1/2013	21	5	0.043821209	1	11	114.1	0
FL	Crystal River	2	2013	11/1/2013	22	10	0.087873462	1	11	113.8	0
FL	Crystal River	2	2013	11/1/2013	23	6	0.046224961	2	13	129.8	0
FL	Crystal River	2	2013	11/2/2013	0	7	0.043263288	4	16	161.8	0

FL	Crystal River	2	2013	11/2/2013	1	37	0.180224062	13	21	205.3	0
FL	Crystal River	2	2013	11/2/2013	2	371	0.709233416	129	53	523.1	21
FL	Crystal River	2	2013	11/2/2013	3	847	0.99623618	325	87	850.2	53
FL	Crystal River	2	2013	11/2/2013	4	1358	1.091113611	550	127	1244.6	96
FL	Crystal River	2	2013	11/2/2013	5	1630	1.148777222	471	145	1418.9	132
FL	Crystal River	2	2013	11/2/2013	6	2476	1.427089337	400	178	1735	151
FL	Crystal River	2	2013	11/2/2013	7	2534	1.48927417	474	174	1701.5	156
FL	Crystal River	2	2013	11/2/2013	8	3013	1.527890467	345	202	1972	186
FL	Crystal River	2	2013	11/2/2013	9	3295	1.552268337	320	217	2122.7	207
FL	Crystal River	2	2013	11/2/2013	10	3411	1.565325134	322	223	2179.1	213
FL	Crystal River	2	2013	11/2/2013	11	3690	1.540066778	433	245	2396	236
FL	Crystal River	2	2013	11/2/2013	12	3747	1.517618469	424	253	2469	252
FL	Crystal River	2	2013	11/2/2013	13	3595	1.528291459	479	241	2352.3	239
FL	Crystal River	2	2013	11/2/2013	14	4072	1.575729433	493	265	2584.2	264
FL	Crystal River	2	2013	11/2/2013	15	4466	1.630998466	443	280	2738.2	280
FL	Crystal River	2	2013	11/2/2013	16	4741	1.653356582	493	294	2867.5	300
FL	Crystal River	2	2013	11/2/2013	17	4934	1.642476698	537	308	3004	318
FL	Crystal River	2	2013	11/2/2013	18	5118	1.642595802	585	319	3115.8	336
FL	Crystal River	2	2013	11/2/2013	19	5380	1.666666667	642	331	3228	353
FL	Crystal River	2	2013	11/2/2013	20	5777	1.714904859	683	345	3368.7	374
FL	Crystal River	2	2013	11/2/2013	21	6280	1.722152142	773	374	3646.6	405
FL	Crystal River	2	2013	11/2/2013	22	5610	1.727535875	737	333	3247.4	357
FL	Crystal River	2	2013	11/2/2013	23	2467	1.747662227	518	144	1411.6	138
FL	Crystal River	2	2013	11/3/2013	0	2236	1.729445433	611	132	1292.9	119
FL	Crystal River	2	2013	11/3/2013	1	2219	1.728058562	599	131	1284.1	119
FL	Crystal River	2	2013	11/3/2013	2	2215	1.728847955	611	131	1281.2	119
FL	Crystal River	2	2013	11/3/2013	3	2193	1.712746017	599	131	1280.4	119
FL	Crystal River	2	2013	11/3/2013	4	2180	1.721686937	583	129	1266.2	119
FL	Crystal River	2	2013	11/3/2013	5	2205	1.722118088	585	131	1280.4	119
FL	Crystal River	2	2013	11/3/2013	6	2203	1.747580517	554	129	1260.6	119
FL	Crystal River	2	2013	11/3/2013	7	2417	1.746008813	476	142	1384.3	135
FL	Crystal River	2	2013	11/3/2013	8	3347	1.762228189	298	194	1899.3	192
FL	Crystal River	2	2013	11/3/2013	9	4358	1.778194875	362	251	2450.8	251
FL	Crystal River	2	2013	11/3/2013	10	5202	1.764705882	507	302	2947.8	312
FL	Crystal River	2	2013	11/3/2013	11	5844	1.753217532	666	342	3333.3	366

FL	Crystal River	2	2013	11/3/2013	12	6785	1.774969916	906	392	3822.6	425
FL	Crystal River	2	2013	11/3/2013	13	7081	1.778341454	983	408	3981.8	446
FL	Crystal River	2	2013	11/3/2013	14	7291	1.77051967	1107	422	4118	458
FL	Crystal River	2	2013	11/3/2013	15	7493	1.782901468	1231	431	4202.7	469
FL	Crystal River	2	2013	11/3/2013	16	7730	1.784559978	1260	444	4331.6	484
FL	Crystal River	2	2013	11/3/2013	17	7849	1.785121335	1301	451	4396.9	492
FL	Crystal River	2	2013	11/3/2013	18	7963	1.798572526	1306	454	4427.4	495
FL	Crystal River	2	2013	11/3/2013	19	7931	1.791911432	1310	454	4426	495
FL	Crystal River	2	2013	11/3/2013	20	7938	1.792237701	1306	454	4429.1	495
FL	Crystal River	2	2013	11/3/2013	21	7154	1.788365873	1068	410	4000.3	452
FL	Crystal River	2	2013	11/3/2013	22	5044	1.782395138	563	290	2829.9	315
FL	Crystal River	2	2013	11/3/2013	23	2371	1.75097851	585	138	1354.1	131
FL	Crystal River	2	2013	11/4/2013	0	2215	1.744231829	603	130	1269.9	119
FL	Crystal River	2	2013	11/4/2013	1	2234	1.754909662	604	130	1273	119
FL	Crystal River	2	2013	11/4/2013	2	2255	1.771127867	607	130	1273.2	119
FL	Crystal River	2	2013	11/4/2013	3	2254	1.769369652	591	130	1273.9	119
FL	Crystal River	2	2013	11/4/2013	4	2260	1.765073415	573	131	1280.4	119
FL	Crystal River	2	2013	11/4/2013	5	2262	1.754984871	560	132	1288.9	120
FL	Crystal River	2	2013	11/4/2013	6	5030	1.810981098	527	285	2777.5	291
FL	Crystal River	2	2013	11/4/2013	7	7904	1.838438816	1444	441	4299.3	472
FL	Crystal River	2	2013	11/4/2013	8	7873	1.845609264	1441	437	4265.8	475
FL	Crystal River	2	2013	11/4/2013	9	7798	1.836465546	1511	435	4246.2	476
FL	Crystal River	2	2013	11/4/2013	10	7775	1.822678576	1493	437	4265.7	476
FL	Crystal River	2	2013	11/4/2013	11	7708	1.817924528	1509	435	4240	476
FL	Crystal River	2	2013	11/4/2013	12	7588	1.776716306	1511	438	4270.8	476
FL	Crystal River	2	2013	11/4/2013	13	7419	1.752202357	1515	434	4234.1	476
FL	Crystal River	2	2013	11/4/2013	14	7348	1.728249877	1539	436	4251.7	476
FL	Crystal River	2	2013	11/4/2013	15	7341	1.713665437	1542	439	4283.8	476
FL	Crystal River	2	2013	11/4/2013	16	5402	1.650977995	808	335	3272	362
FL	Crystal River	2	2013	11/4/2013	17	3525	1.4688112	388	246	2399.9	247
FL	Crystal River	2	2013	11/4/2013	18	4235	1.258730866	595	345	3364.5	368
FL	Crystal River	2	2013	11/4/2013	19	2982	1.071274608	420	285	2783.6	298
FL	Crystal River	2	2013	11/4/2013	20	1374	0.927438407	445	152	1481.5	144
FL	Crystal River	2	2013	11/4/2013	21	1086	0.836092078	601	133	1298.9	119
FL	Crystal River	2	2013	11/4/2013	22	1019	0.778932885	613	134	1308.2	119

FL	Crystal River	2	2013	11/4/2013	23	965	0.735350149	628	134	1312.3	119
FL	Crystal River	2	2013	11/5/2013	0	932	0.711287491	635	134	1310.3	119
FL	Crystal River	2	2013	11/5/2013	1	905	0.690839695	627	134	1310	119
FL	Crystal River	2	2013	11/5/2013	2	899	0.684222544	624	134	1313.9	119
FL	Crystal River	2	2013	11/5/2013	3	894	0.675736961	624	135	1323	119
FL	Crystal River	2	2013	11/5/2013	4	885	0.678576905	614	133	1304.2	119
FL	Crystal River	2	2013	11/5/2013	5	889	0.677953176	613	134	1311.3	119
FL	Crystal River	2	2013	11/5/2013	6	954	0.680699251	512	143	1401.5	127
FL	Crystal River	2	2013	11/5/2013	7	992	0.684137931	462	148	1450	136
FL	Crystal River	2	2013	11/5/2013	8	1573	0.739400207	476	218	2127.4	214
FL	Crystal River	2	2013	11/5/2013	9	3242	0.961105182	718	346	3373.2	361
FL	Crystal River	2	2013	11/5/2013	10	2898	0.869408694	863	342	3333.3	362
FL	Crystal River	2	2013	11/5/2013	11	2742	0.8153192	800	345	3363.1	362
FL	Crystal River	2	2013	11/5/2013	12	2598	0.761586492	805	350	3411.3	362
FL	Crystal River	2	2013	11/5/2013	13	2465	0.717174362	759	352	3437.1	362
FL	Crystal River	2	2013	11/5/2013	14	2384	0.697402293	717	350	3418.4	362
FL	Crystal River	2	2013	11/5/2013	15	2183	0.691764109	631	323	3155.7	330
FL	Crystal River	2	2013	11/5/2013	16	1550	0.687391902	525	231	2254.9	223
FL	Crystal River	2	2013	11/5/2013	17	294	0.6575416	181	45	447.12	84
FL	Crystal River	2	2013	11/5/2013	18	75	0.331182853	28	23	226.461	13
FL	Crystal River	2	2013	11/5/2013	19	172	0.379690949	148	46	453	22
FL	Crystal River	2	2013	11/5/2013	20	460	0.533494155	461	88	862.24	70
FL	Crystal River	2	2013	11/5/2013	21	18	0.186480186	7	9	96.525	0
FL	Crystal River	2	2013	11/5/2013	22	194	0.405010438	148	49	479	17
FL	Crystal River	2	2013	11/5/2013	23	557	0.544743276	591	104	1022.5	75
FL	Crystal River	2	2013	11/6/2013	0	892	0.618156618	647	148	1443	114
FL	Crystal River	2	2013	11/6/2013	1	955	0.672629948	738	145	1419.8	110
FL	Crystal River	2	2013	11/6/2013	2	953	0.675311791	626	144	1411.2	119
FL	Crystal River	2	2013	11/6/2013	3	955	0.680781295	613	143	1402.8	119
FL	Crystal River	2	2013	11/6/2013	4	960	0.684491979	591	143	1402.5	119
FL	Crystal River	2	2013	11/6/2013	5	982	0.697195598	594	144	1408.5	119
FL	Crystal River	2	2013	11/6/2013	6	979	0.696103527	585	144	1406.4	119
FL	Crystal River	2	2013	11/6/2013	7	1009	0.717128643	572	144	1407	119
FL	Crystal River	2	2013	11/6/2013	8	1704	0.731236322	431	239	2330.3	214
FL	Crystal River	2	2013	11/6/2013	9	2192	0.729305297	658	308	3005.6	297

FL	Crystal River	2	2013	11/6/2013	10	2369	0.715601873	771	339	3310.5	342
FL	Crystal River	2	2013	11/6/2013	11	2473	0.719250793	739	352	3438.3	362
FL	Crystal River	2	2013	11/6/2013	12	2459	0.716053697	728	352	3434.1	362
FL	Crystal River	2	2013	11/6/2013	13	2467	0.715342013	731	353	3448.7	362
FL	Crystal River	2	2013	11/6/2013	14	2483	0.720252944	730	353	3447.4	362
FL	Crystal River	2	2013	11/6/2013	15	2488	0.721096716	734	354	3450.3	362
FL	Crystal River	2	2013	11/6/2013	16	2505	0.724197745	750	354	3459	363
FL	Crystal River	2	2013	11/6/2013	17	2474	0.721030543	737	352	3431.2	362
FL	Crystal River	2	2013	11/6/2013	18	2439	0.71766956	710	348	3398.5	361
FL	Crystal River	2	2013	11/6/2013	19	2310	0.718082626	662	330	3216.9	337
FL	Crystal River	2	2013	11/6/2013	20	2439	0.722067618	699	346	3377.8	357
FL	Crystal River	2	2013	11/6/2013	21	2379	0.737445753	664	331	3226	340
FL	Crystal River	2	2013	11/6/2013	22	1500	0.730175729	554	210	2054.3	201
FL	Crystal River	2	2013	11/6/2013	23	1038	0.738212076	497	144	1406.1	124
FL	Crystal River	2	2013	11/7/2013	0	1041	0.730116426	504	146	1425.8	124
FL	Crystal River	2	2013	11/7/2013	1	1047	0.741238938	514	144	1412.5	124
FL	Crystal River	2	2013	11/7/2013	2	1093	0.7668561	501	146	1425.3	124
FL	Crystal River	2	2013	11/7/2013	3	1052	0.741106023	519	145	1419.5	124
FL	Crystal River	2	2013	11/7/2013	4	1045	0.732408186	507	146	1426.8	124
FL	Crystal River	2	2013	11/7/2013	5	1070	0.74898502	507	146	1428.6	124
FL	Crystal River	2	2013	11/7/2013	6	1121	0.746288529	431	154	1502.1	132
FL	Crystal River	2	2013	11/7/2013	7	1555	0.759499853	421	210	2047.4	192
FL	Crystal River	2	2013	11/7/2013	8	2561	0.745191608	800	352	3436.7	358
FL	Crystal River	2	2013	11/7/2013	9	2587	0.743006491	769	357	3481.8	370
FL	Crystal River	2	2013	11/7/2013	10	2883	0.757348885	947	390	3806.7	405
FL	Crystal River	2	2013	11/7/2013	11	3173	0.771888	1122	421	4110.7	436
FL	Crystal River	2	2013	11/7/2013	12	3203	0.779110214	1134	421	4111.1	437
FL	Crystal River	2	2013	11/7/2013	13	3197	0.783597637	1130	418	4079.9	436
FL	Crystal River	2	2013	11/7/2013	14	3197	0.771253498	1131	425	4145.2	437
FL	Crystal River	2	2013	11/7/2013	15	3066	0.762421047	1077	412	4021.4	427
FL	Crystal River	2	2013	11/7/2013	16	2546	0.779594586	653	335	3265.8	344
FL	Crystal River	2	2013	11/7/2013	17	2770	0.947688939	584	299	2922.9	298
FL	Crystal River	2	2013	11/7/2013	18	3673	1.090234491	879	345	3369	357
FL	Crystal River	2	2013	11/7/2013	19	3302	1.195294118	599	283	2762.5	282
FL	Crystal River	2	2013	11/7/2013	20	2348	1.183646721	378	203	1983.7	192

FL	Crystal River	2	2013	11/7/2013	21	1593	1.173653577	552	139	1357.3	119
FL	Crystal River	2	2013	11/7/2013	22	1661	1.183554225	530	144	1403.4	122
FL	Crystal River	2	2013	11/7/2013	23	1661	1.204758105	557	141	1378.7	120
FL	Crystal River	2	2013	11/8/2013	0	1733	1.259356151	564	141	1376.1	120
FL	Crystal River	2	2013	11/8/2013	1	1844	1.340018894	567	141	1376.1	119
FL	Crystal River	2	2013	11/8/2013	2	1928	1.410800527	558	140	1366.6	119
FL	Crystal River	2	2013	11/8/2013	3	1996	1.472845336	565	139	1355.2	119
FL	Crystal River	2	2013	11/8/2013	4	2020	1.511976048	543	137	1336	119
FL	Crystal River	2	2013	11/8/2013	5	2031	1.518618214	556	137	1337.4	120
FL	Crystal River	2	2013	11/8/2013	6	2091	1.547627859	547	138	1351.1	122
FL	Crystal River	2	2013	11/8/2013	7	2186	1.56904967	522	142	1393.2	127
FL	Crystal River	2	2013	11/8/2013	8	3931	1.577447833	543	255	2492	249
FL	Crystal River	2	2013	11/8/2013	9	5753	1.487639636	1078	396	3867.2	408
FL	Crystal River	2	2013	11/8/2013	10	6672	1.487758106	1713	460	4484.6	485
FL	Crystal River	2	2013	11/8/2013	11	6758	1.484980993	1738	466	4550.9	486
FL	Crystal River	2	2013	11/8/2013	12	6965	1.525605642	1762	468	4565.4	486
FL	Crystal River	2	2013	11/8/2013	13	7065	1.567526791	1505	462	4507.1	481
FL	Crystal River	2	2013	11/8/2013	14	7146	1.610366197	1690	455	4437.5	474
FL	Crystal River	2	2013	11/8/2013	15	6739	1.623698921	1477	425	4150.4	445
FL	Crystal River	2	2013	11/8/2013	16	5158	1.647081364	792	321	3131.6	328
FL	Crystal River	2	2013	11/8/2013	17	2788	1.654894046	527	172	1684.7	162
FL	Crystal River	2	2013	11/8/2013	18	2211	1.640938103	595	138	1347.4	120
FL	Crystal River	2	2013	11/8/2013	19	2210	1.646305125	606	137	1342.4	119
FL	Crystal River	2	2013	11/8/2013	20	2184	1.632897196	600	137	1337.5	119
FL	Crystal River	2	2013	11/8/2013	21	2166	1.620893512	590	137	1336.3	119
FL	Crystal River	2	2013	11/8/2013	22	2152	1.612226551	574	137	1334.8	119
FL	Crystal River	2	2013	11/8/2013	23	2148	1.593826519	568	138	1347.7	119
FL	Crystal River	2	2013	11/9/2013	0	2152	1.600952239	568	137	1344.2	119
FL	Crystal River	2	2013	11/9/2013	1	2151	1.604984331	566	137	1340.2	119
FL	Crystal River	2	2013	11/9/2013	2	2159	1.609872493	565	137	1341.1	119
FL	Crystal River	2	2013	11/9/2013	3	2177	1.620273891	563	137	1343.6	119
FL	Crystal River	2	2013	11/9/2013	4	2177	1.629491018	550	137	1336	119
FL	Crystal River	2	2013	11/9/2013	5	2196	1.621262458	559	139	1354.5	119
FL	Crystal River	2	2013	11/9/2013	6	2178	1.633663366	547	136	1333.2	119
FL	Crystal River	2	2013	11/9/2013	7	2204	1.624290663	549	139	1356.9	119

FL	Crystal River	2	2013	11/9/2013	8	2193	1.624564783	549	138	1349.9	119
FL	Crystal River	2	2013	11/9/2013	9	2187	1.61402214	544	139	1355	119
FL	Crystal River	2	2013	11/9/2013	10	2210	1.612785521	550	140	1370.3	119
FL	Crystal River	2	2013	11/9/2013	11	2313	1.615110677	521	146	1432.1	126
FL	Crystal River	2	2013	11/9/2013	12	2350	1.600926494	525	150	1467.9	129
FL	Crystal River	2	2013	11/9/2013	13	2215	1.589408726	549	143	1393.6	120
FL	Crystal River	2	2013	11/9/2013	14	2344	1.592824137	515	151	1471.6	129
FL	Crystal River	2	2013	11/9/2013	15	2212	1.587256028	518	143	1393.6	123
FL	Crystal River	2	2013	11/9/2013	16	2163	1.572176188	543	141	1375.8	120
FL	Crystal River	2	2013	11/9/2013	17	2281	1.580406014	512	148	1443.3	129
FL	Crystal River	2	2013	11/9/2013	18	2369	1.592926304	487	152	1487.2	134
FL	Crystal River	2	2013	11/9/2013	19	2211	1.581658202	534	143	1397.9	123
FL	Crystal River	2	2013	11/9/2013	20	2198	1.583117257	519	142	1388.4	123
FL	Crystal River	2	2013	11/9/2013	21	2134	1.573862379	543	139	1355.9	120
FL	Crystal River	2	2013	11/9/2013	22	2125	1.558603491	529	139	1363.4	120
FL	Crystal River	2	2013	11/9/2013	23	2100	1.557516873	523	138	1348.3	120
FL	Crystal River	2	2013	11/10/2013	0	2076	1.547982999	516	137	1341.1	120
FL	Crystal River	2	2013	11/10/2013	1	2056	1.54111386	523	136	1334.1	120
FL	Crystal River	2	2013	11/10/2013	2	2044	1.524804178	508	137	1340.5	120
FL	Crystal River	2	2013	11/10/2013	3	2044	1.530169187	526	137	1335.8	120
FL	Crystal River	2	2013	11/10/2013	4	2036	1.542190577	510	135	1320.2	120
FL	Crystal River	2	2013	11/10/2013	5	2041	1.525297063	515	137	1338.1	120
FL	Crystal River	2	2013	11/10/2013	6	2034	1.529323308	482	136	1330	120
FL	Crystal River	2	2013	11/10/2013	7	2051	1.534720144	518	137	1336.4	120
FL	Crystal River	2	2013	11/10/2013	8	2057	1.544294294	516	136	1332	120
FL	Crystal River	2	2013	11/10/2013	9	2064	1.508992543	448	140	1367.8	120
FL	Crystal River	2	2013	11/10/2013	10	2231	1.504078743	740	152	1483.3	133
FL	Crystal River	2	2013	11/10/2013	11	2210	1.527086788	534	148	1447.2	130
FL	Crystal River	2	2013	11/10/2013	12	3605	1.557302691	618	237	2314.9	220
FL	Crystal River	2	2013	11/10/2013	13	6291	1.604396725	1415	402	3921.1	414
FL	Crystal River	2	2013	11/10/2013	14	7474	1.625913679	1898	471	4596.8	491
FL	Crystal River	2	2013	11/10/2013	15	7515	1.637897215	1867	470	4588.2	491
FL	Crystal River	2	2013	11/10/2013	16	7209	1.642964584	1698	450	4387.8	471
FL	Crystal River	2	2013	11/10/2013	17	6032	1.642477876	1197	376	3672.5	395
FL	Crystal River	2	2013	11/10/2013	18	7100	1.653855113	1614	440	4293	461

FL	Crystal River	2	2013	11/10/2013	19	6184	1.626940279	1277	390	3801	410
FL	Crystal River	2	2013	11/10/2013	20	4187	1.528436884	643	281	2739.4	283
FL	Crystal River	2	2013	11/10/2013	21	1913	1.342738822	514	146	1424.7	131
FL	Crystal River	2	2013	11/10/2013	22	1597	1.179903953	561	138	1353.5	119
FL	Crystal River	2	2013	11/10/2013	23	1382	1.024082994	553	138	1349.5	119
FL	Crystal River	2	2013	11/11/2013	0	1196	0.885925926	557	138	1350	119
FL	Crystal River	2	2013	11/11/2013	1	1066	0.787762341	542	138	1353.2	119
FL	Crystal River	2	2013	11/11/2013	2	978	0.718853363	544	139	1360.5	119
FL	Crystal River	2	2013	11/11/2013	3	958	0.706333407	549	139	1356.3	119
FL	Crystal River	2	2013	11/11/2013	4	945	0.704435334	536	137	1341.5	119
FL	Crystal River	2	2013	11/11/2013	5	935	0.69218241	540	138	1350.8	119
FL	Crystal River	2	2013	11/11/2013	6	918	0.686920084	541	137	1336.4	120
FL	Crystal River	2	2013	11/11/2013	7	961	0.675523689	513	146	1422.6	128
FL	Crystal River	2	2013	11/11/2013	8	3031	0.933850941	785	333	3245.7	324
FL	Crystal River	2	2013	11/11/2013	9	4398	0.976790672	1652	462	4502.5	474
FL	Crystal River	2	2013	11/11/2013	10	3806	0.842147188	1532	463	4519.4	476
FL	Crystal River	2	2013	11/11/2013	11	3327	0.741012963	1405	460	4489.8	476
FL	Crystal River	2	2013	11/11/2013	12	3126	0.689077483	1433	465	4536.5	476
FL	Crystal River	2	2013	11/11/2013	13	3079	0.677313623	1400	466	4545.9	476
FL	Crystal River	2	2013	11/11/2013	14	3078	0.673788363	1411	468	4568.2	476
FL	Crystal River	2	2013	11/11/2013	15	3063	0.66814999	1311	470	4584.3	476
FL	Crystal River	2	2013	11/11/2013	16	2923	0.666271569	1162	450	4387.1	457
FL	Crystal River	2	2013	11/11/2013	17	2446	0.663070292	800	378	3688.9	387
FL	Crystal River	2	2013	11/11/2013	18	2795	0.66569809	1003	430	4198.6	442
FL	Crystal River	2	2013	11/11/2013	19	2532	0.660717082	866	393	3832.2	406
FL	Crystal River	2	2013	11/11/2013	20	2075	0.654863347	605	325	3168.6	332
FL	Crystal River	2	2013	11/11/2013	21	939	0.641174462	508	150	1464.5	133
FL	Crystal River	2	2013	11/11/2013	22	876	0.641100703	522	140	1366.4	119
FL	Crystal River	2	2013	11/11/2013	23	880	0.637866048	536	141	1379.6	119
FL	Crystal River	2	2013	11/12/2013	0	881	0.639843126	549	141	1376.9	119
FL	Crystal River	2	2013	11/12/2013	1	880	0.637727372	547	141	1379.9	119
FL	Crystal River	2	2013	11/12/2013	2	877	0.641410078	546	140	1367.3	119
FL	Crystal River	2	2013	11/12/2013	3	880	0.640932265	545	140	1373	119
FL	Crystal River	2	2013	11/12/2013	4	881	0.640587508	541	141	1375.3	119
FL	Crystal River	2	2013	11/12/2013	5	898	0.639646698	543	144	1403.9	123

FL	Crystal River	2	2013	11/12/2013	6	1159	0.650137432	356	182	1782.7	160
FL	Crystal River	2	2013	11/12/2013	7	1048	0.645518941	371	166	1623.5	147
FL	Crystal River	2	2013	11/12/2013	8	884	0.644455785	524	140	1371.7	120
FL	Crystal River	2	2013	11/12/2013	9	1580	0.650152251	561	249	2430.2	239
FL	Crystal River	2	2013	11/12/2013	10	2284	0.659201108	644	355	3464.8	360
FL	Crystal River	2	2013	11/12/2013	11	2272	0.661176265	615	352	3436.3	362
FL	Crystal River	2	2013	11/12/2013	12	2285	0.663569043	616	353	3443.5	362
FL	Crystal River	2	2013	11/12/2013	13	2282	0.662851831	619	353	3442.7	362
FL	Crystal River	2	2013	11/12/2013	14	2288	0.662708182	621	354	3452.5	362
FL	Crystal River	2	2013	11/12/2013	15	2289	0.664730652	619	353	3443.5	362
FL	Crystal River	2	2013	11/12/2013	16	2301	0.667227281	675	353	3448.6	362
FL	Crystal River	2	2013	11/12/2013	17	2352	0.683025991	674	353	3443.5	362
FL	Crystal River	2	2013	11/12/2013	18	2280	0.663079831	670	352	3438.5	362
FL	Crystal River	2	2013	11/12/2013	19	1739	0.661845861	486	269	2627.5	270
FL	Crystal River	2	2013	11/12/2013	20	873	0.649940441	556	137	1343.2	119
FL	Crystal River	2	2013	11/12/2013	21	885	0.645137775	566	140	1371.8	119
FL	Crystal River	2	2013	11/12/2013	22	886	0.650084379	586	139	1362.9	119
FL	Crystal River	2	2013	11/12/2013	23	883	0.648644678	589	139	1361.3	119
FL	Crystal River	2	2013	11/13/2013	0	878	0.644261814	576	139	1362.8	119
FL	Crystal River	2	2013	11/13/2013	1	873	0.646140182	572	138	1351.1	119
FL	Crystal River	2	2013	11/13/2013	2	867	0.640845591	573	138	1352.9	119
FL	Crystal River	2	2013	11/13/2013	3	867	0.644657595	578	138	1344.9	119
FL	Crystal River	2	2013	11/13/2013	4	857	0.643780048	573	136	1331.2	119
FL	Crystal River	2	2013	11/13/2013	5	859	0.645282452	576	136	1331.2	119
FL	Crystal River	2	2013	11/13/2013	6	852	0.642146518	570	136	1326.8	119
FL	Crystal River	2	2013	11/13/2013	7	856	0.639856481	567	137	1337.8	119
FL	Crystal River	2	2013	11/13/2013	8	1101	0.643257771	482	175	1711.6	161
FL	Crystal River	2	2013	11/13/2013	9	1941	0.65490249	497	304	2963.8	304
FL	Crystal River	2	2013	11/13/2013	10	2672	0.659004587	875	416	4054.6	428
FL	Crystal River	2	2013	11/13/2013	11	2708	0.66060059	897	420	4099.3	436
FL	Crystal River	2	2013	11/13/2013	12	2660	0.660754651	853	413	4025.7	431
FL	Crystal River	2	2013	11/13/2013	13	1702	0.649667914	579	268	2619.8	256
FL	Crystal River	2	2013	11/13/2013	14	1413	0.647778847	340	223	2181.3	180
FL	Crystal River	2	2013	11/13/2013	15	1097	0.645635925	416	174	1699.1	149
FL	Crystal River	2	2013	11/13/2013	16	1039	0.648928861	497	164	1601.1	139

FL	Crystal River	2	2013	11/13/2013	17	1323	0.653172056	526	207	2025.5	168
FL	Crystal River	2	2013	11/13/2013	18	2702	0.664960378	877	416	4063.4	402
FL	Crystal River	2	2013	11/13/2013	19	2697	0.668998363	899	413	4031.4	417
FL	Crystal River	2	2013	11/13/2013	20	2691	0.667510046	774	413	4031.4	389
FL	Crystal River	2	2013	11/13/2013	21	1542	0.66015926	422	239	2335.8	242
FL	Crystal River	2	2013	11/13/2013	22	835	0.651173672	542	131	1282.3	119
FL	Crystal River	2	2013	11/13/2013	23	859	0.648840547	538	135	1323.9	119
FL	Crystal River	2	2013	11/14/2013	0	861	0.650646112	541	135	1323.3	119
FL	Crystal River	2	2013	11/14/2013	1	868	0.647761194	540	137	1340	119
FL	Crystal River	2	2013	11/14/2013	2	865	0.649204443	538	136	1332.4	119
FL	Crystal River	2	2013	11/14/2013	3	870	0.65295707	533	136	1332.4	119
FL	Crystal River	2	2013	11/14/2013	4	861	0.654205607	527	135	1316.1	119
FL	Crystal River	2	2013	11/14/2013	5	870	0.656306578	531	136	1325.6	119
FL	Crystal River	2	2013	11/14/2013	6	859	0.657985446	520	133	1305.5	119
FL	Crystal River	2	2013	11/14/2013	7	865	0.652534701	522	136	1325.6	121
FL	Crystal River	2	2013	11/14/2013	8	1709	0.656474475	468	267	2603.3	257
FL	Crystal River	2	2013	11/14/2013	9	2518	0.658180202	914	392	3825.7	402
FL	Crystal River	2	2013	11/14/2013	10	2696	0.659007578	969	419	4091	435
FL	Crystal River	2	2013	11/14/2013	11	2707	0.658621445	978	421	4110.1	436
FL	Crystal River	2	2013	11/14/2013	12	2648	0.65997059	874	411	4012.3	427
FL	Crystal River	2	2013	11/14/2013	13	2323	0.660543676	647	360	3516.8	374
FL	Crystal River	2	2013	11/14/2013	14	2183	0.659755803	572	339	3308.8	347
FL	Crystal River	2	2013	11/14/2013	15	2240	0.665280665	596	345	3367	354
FL	Crystal River	2	2013	11/14/2013	16	2341	0.685063795	618	350	3417.2	362
FL	Crystal River	2	2013	11/14/2013	17	2925	0.723687466	953	414	4041.8	426
FL	Crystal River	2	2013	11/14/2013	18	2961	0.760088305	864	399	3895.6	411
FL	Crystal River	2	2013	11/14/2013	19	3008	0.835927079	734	369	3598.4	383
FL	Crystal River	2	2013	11/14/2013	20	3290	0.940752602	716	358	3497.2	374
FL	Crystal River	2	2013	11/14/2013	21	3034	1.041144779	585	299	2914.1	307
FL	Crystal River	2	2013	11/14/2013	22	2102	1.134866645	407	190	1852.2	185
FL	Crystal River	2	2013	11/14/2013	23	1764	1.253285968	494	144	1407.5	132
FL	Crystal River	2	2013	11/15/2013	0	1878	1.34027976	498	143	1401.2	129
FL	Crystal River	2	2013	11/15/2013	1	1956	1.404768745	505	142	1392.4	129
FL	Crystal River	2	2013	11/15/2013	2	2028	1.439114391	508	144	1409.2	129
FL	Crystal River	2	2013	11/15/2013	3	2059	1.468197376	506	143	1402.4	129

FL	Crystal River	2	2013	11/15/2013	4	2084	1.488890477	512	143	1399.7	129
FL	Crystal River	2	2013	11/15/2013	5	2106	1.490551348	512	145	1412.9	129
FL	Crystal River	2	2013	11/15/2013	6	2317	1.506110244	384	157	1538.4	146
FL	Crystal River	2	2013	11/15/2013	7	2114	1.502487562	506	144	1407	130
FL	Crystal River	2	2013	11/15/2013	8	2152	1.508693214	510	146	1426.4	131
FL	Crystal River	2	2013	11/15/2013	9	2212	1.518083865	483	149	1457.1	134
FL	Crystal River	2	2013	11/15/2013	10	2321	1.532923849	457	155	1514.1	141
FL	Crystal River	2	2013	11/15/2013	11	2255	1.545685105	466	149	1458.9	136
FL	Crystal River	2	2013	11/15/2013	12	3290	1.545253863	485	218	2129.1	207
FL	Crystal River	2	2013	11/15/2013	13	4528	1.505068971	634	308	3008.5	303
FL	Crystal River	2	2013	11/15/2013	14	4566	1.544916258	617	303	2955.5	300
FL	Crystal River	2	2013	11/15/2013	15	4442	1.583092769	569	287	2805.9	283
FL	Crystal River	2	2013	11/15/2013	16	4355	1.613022705	550	277	2699.9	275
FL	Crystal River	2	2013	11/15/2013	17	4045	1.633155685	487	254	2476.8	249
FL	Crystal River	2	2013	11/15/2013	18	4822	1.657329438	628	298	2909.5	300
FL	Crystal River	2	2013	11/15/2013	19	2916	1.677501007	474	178	1738.3	174
FL	Crystal River	2	2013	11/15/2013	20	2403	1.68513324	500	146	1426	133
FL	Crystal River	2	2013	11/15/2013	21	2378	1.682467808	521	145	1413.4	129
FL	Crystal River	2	2013	11/15/2013	22	2469	1.696673997	494	149	1455.2	133
FL	Crystal River	2	2013	11/15/2013	23	2542	1.688812118	471	154	1505.2	138
FL	Crystal River	2	2013	11/16/2013	0	2555	1.70083877	462	154	1502.2	139
FL	Crystal River	2	2013	11/16/2013	1	2516	1.678228388	460	153	1499.2	139
FL	Crystal River	2	2013	11/16/2013	2	2463	1.642109474	459	153	1499.9	139
FL	Crystal River	2	2013	11/16/2013	3	2405	1.608157807	460	153	1495.5	139
FL	Crystal River	2	2013	11/16/2013	4	2363	1.575753534	454	153	1499.6	139
FL	Crystal River	2	2013	11/16/2013	5	2359	1.579088292	451	153	1493.9	139
FL	Crystal River	2	2013	11/16/2013	6	2339	1.587053874	446	151	1473.8	139
FL	Crystal River	2	2013	11/16/2013	7	2353	1.579512654	451	152	1489.7	139
FL	Crystal River	2	2013	11/16/2013	8	2427	1.579666753	444	157	1536.4	142
FL	Crystal River	2	2013	11/16/2013	9	2690	1.594168543	401	173	1687.4	159
FL	Crystal River	2	2013	11/16/2013	10	3075	1.613495645	404	195	1905.8	182
FL	Crystal River	2	2013	11/16/2013	11	4438	1.623797153	563	280	2733.1	271
FL	Crystal River	2	2013	11/16/2013	12	5489	1.612277868	854	349	3404.5	359
FL	Crystal River	2	2013	11/16/2013	13	5104	1.55424952	880	336	3283.9	348
FL	Crystal River	2	2013	11/16/2013	14	4891	1.575962623	788	318	3103.5	327

FL	Crystal River	2	2013	11/16/2013	15	4281	1.582449266	622	277	2705.3	274
FL	Crystal River	2	2013	11/16/2013	16	4655	1.606501933	709	297	2897.6	299
FL	Crystal River	2	2013	11/16/2013	17	4848	1.624066195	734	306	2985.1	306
FL	Crystal River	2	2013	11/16/2013	18	6507	1.659187108	1337	402	3921.8	420
FL	Crystal River	2	2013	11/16/2013	19	5542	1.666215688	947	341	3326.1	354
FL	Crystal River	2	2013	11/16/2013	20	4958	1.691630557	685	300	2930.9	305
FL	Crystal River	2	2013	11/16/2013	21	3587	1.698309739	443	216	2112.1	211
FL	Crystal River	2	2013	11/16/2013	22	2587	1.713131581	445	154	1510.1	140
FL	Crystal River	2	2013	11/16/2013	23	2613	1.720550471	448	155	1518.7	139
FL	Crystal River	2	2013	11/17/2013	0	2640	1.740276862	452	155	1517	139
FL	Crystal River	2	2013	11/17/2013	1	2672	1.766962042	450	155	1512.2	139
FL	Crystal River	2	2013	11/17/2013	2	2691	1.775768774	450	155	1515.4	139
FL	Crystal River	2	2013	11/17/2013	3	2708	1.788403117	445	155	1514.2	138
FL	Crystal River	2	2013	11/17/2013	4	2677	1.780985962	438	154	1503.1	138
FL	Crystal River	2	2013	11/17/2013	5	2668	1.7650172	438	155	1511.6	138
FL	Crystal River	2	2013	11/17/2013	6	2613	1.72577769	430	155	1514.1	138
FL	Crystal River	2	2013	11/17/2013	7	2804	1.741290443	425	165	1610.3	148
FL	Crystal River	2	2013	11/17/2013	8	3878	1.756420128	437	226	2207.9	212
FL	Crystal River	2	2013	11/17/2013	9	5322	1.744689221	658	313	3050.4	310
FL	Crystal River	2	2013	11/17/2013	10	6988	1.755426045	1289	408	3980.8	424
FL	Crystal River	2	2013	11/17/2013	11	7507	1.735080664	1609	443	4326.6	465
FL	Crystal River	2	2013	11/17/2013	12	7775	1.726090045	1738	462	4504.4	484
FL	Crystal River	2	2013	11/17/2013	13	7486	1.737576306	1581	442	4308.3	464
FL	Crystal River	2	2013	11/17/2013	14	7667	1.715980304	1662	458	4468	478
FL	Crystal River	2	2013	11/17/2013	15	7718	1.715377948	1691	461	4499.3	484
FL	Crystal River	2	2013	11/17/2013	16	7006	1.597136735	1552	450	4386.6	470
FL	Crystal River	2	2013	11/17/2013	17	5676	1.464698596	1166	397	3875.2	413
FL	Crystal River	2	2013	11/17/2013	18	6207	1.292855655	1752	492	4801	507
FL	Crystal River	2	2013	11/17/2013	19	4732	1.057879323	1462	458	4473.1	473
FL	Crystal River	2	2013	11/17/2013	20	3119	0.916544226	707	349	3403	357
FL	Crystal River	2	2013	11/17/2013	21	2716	0.780370072	560	357	3480.4	366
FL	Crystal River	2	2013	11/17/2013	22	2301	0.714041893	489	330	3222.5	336
FL	Crystal River	2	2013	11/17/2013	23	1374	0.692505418	319	203	1984.1	195
FL	Crystal River	2	2013	11/18/2013	0	1029	0.691718204	413	152	1487.6	134
FL	Crystal River	2	2013	11/18/2013	1	1041	0.701340699	417	152	1484.3	134

FL	Crystal River	2	2013	11/18/2013	2	1043	0.696308165	419	153	1497.9	134
FL	Crystal River	2	2013	11/18/2013	3	1044	0.696510775	415	153	1498.9	134
FL	Crystal River	2	2013	11/18/2013	4	1042	0.700174708	409	152	1488.2	134
FL	Crystal River	2	2013	11/18/2013	5	1150	0.70418223	365	167	1633.1	151
FL	Crystal River	2	2013	11/18/2013	6	1897	0.724986624	382	268	2616.6	253
FL	Crystal River	2	2013	11/18/2013	7	3578	0.826728899	1250	444	4327.9	450
FL	Crystal River	2	2013	11/18/2013	8	3793	0.83852854	1361	464	4523.4	476
FL	Crystal River	2	2013	11/18/2013	9	3398	0.811889231	1151	429	4185.3	441
FL	Crystal River	2	2013	11/18/2013	10	3560	0.791163855	1295	461	4499.7	474
FL	Crystal River	2	2013	11/18/2013	11	3409	0.754921718	1264	463	4515.7	476
FL	Crystal River	2	2013	11/18/2013	12	3316	0.735173484	1244	462	4510.5	476
FL	Crystal River	2	2013	11/18/2013	13	3282	0.726459781	1237	463	4517.8	476
FL	Crystal River	2	2013	11/18/2013	14	3178	0.717138666	1187	454	4431.5	467
FL	Crystal River	2	2013	11/18/2013	15	2595	0.706353095	793	376	3673.8	388
FL	Crystal River	2	2013	11/18/2013	16	2578	0.706185285	770	374	3650.6	382
FL	Crystal River	2	2013	11/18/2013	17	2631	0.706441479	834	382	3724.3	391
FL	Crystal River	2	2013	11/18/2013	18	2545	0.704615299	751	370	3611.9	378
FL	Crystal River	2	2013	11/18/2013	19	2530	0.701200078	743	370	3608.1	377
FL	Crystal River	2	2013	11/18/2013	20	2411	0.695674755	648	355	3465.7	359
FL	Crystal River	2	2013	11/18/2013	21	1499	0.691707812	318	222	2167.1	216
FL	Crystal River	2	2013	11/18/2013	22	1004	0.679618222	444	151	1477.3	133
FL	Crystal River	2	2013	11/18/2013	23	931	0.677781013	513	140	1373.6	119
FL	Crystal River	2	2013	11/19/2013	0	934	0.678927092	526	141	1375.7	119
FL	Crystal River	2	2013	11/19/2013	1	939	0.679106097	528	141	1382.7	119
FL	Crystal River	2	2013	11/19/2013	2	939	0.676707985	530	142	1387.6	119
FL	Crystal River	2	2013	11/19/2013	3	939	0.679155215	537	141	1382.6	119
FL	Crystal River	2	2013	11/19/2013	4	929	0.6813348	527	139	1363.5	119
FL	Crystal River	2	2013	11/19/2013	5	916	0.680433814	527	138	1346.2	119
FL	Crystal River	2	2013	11/19/2013	6	1216	0.688717716	301	181	1765.6	166
FL	Crystal River	2	2013	11/19/2013	7	1020	0.685069514	430	152	1488.9	136
FL	Crystal River	2	2013	11/19/2013	8	1786	0.693915611	406	264	2573.8	251
FL	Crystal River	2	2013	11/19/2013	9	2477	0.70235631	529	361	3526.7	361
FL	Crystal River	2	2013	11/19/2013	10	2228	0.703682648	455	324	3166.2	326
FL	Crystal River	2	2013	11/19/2013	11	2318	0.704152617	467	337	3291.9	340
FL	Crystal River	2	2013	11/19/2013	12	2664	0.708322255	1023	385	3761	396

FL	Crystal River	2	2013	11/19/2013	13	2498	0.708692692	916	361	3524.8	372
FL	Crystal River	2	2013	11/19/2013	14	2454	0.699643621	876	359	3507.5	365
FL	Crystal River	2	2013	11/19/2013	15	2329	0.700851614	761	340	3323.1	347
FL	Crystal River	2	2013	11/19/2013	16	2301	0.700499269	732	337	3284.8	342
FL	Crystal River	2	2013	11/19/2013	17	2284	0.700463091	733	334	3260.7	341
FL	Crystal River	2	2013	11/19/2013	18	2156	0.698706938	573	316	3085.7	319
FL	Crystal River	2	2013	11/19/2013	19	2218	0.693298325	550	328	3199.2	329
FL	Crystal River	2	2013	11/19/2013	20	2216	0.694779746	542	327	3189.5	328
FL	Crystal River	2	2013	11/19/2013	21	1335	0.684369713	386	200	1950.7	190
FL	Crystal River	2	2013	11/19/2013	22	1001	0.679058409	445	151	1474.1	131
FL	Crystal River	2	2013	11/19/2013	23	922	0.677144536	554	139	1361.6	120
FL	Crystal River	2	2013	11/20/2013	0	916	0.678971166	557	138	1349.1	119
FL	Crystal River	2	2013	11/20/2013	1	914	0.68163174	565	137	1340.9	119
FL	Crystal River	2	2013	11/20/2013	2	915	0.682682981	556	137	1340.3	119
FL	Crystal River	2	2013	11/20/2013	3	918	0.675596114	553	139	1358.8	119
FL	Crystal River	2	2013	11/20/2013	4	913	0.677149002	540	138	1348.3	119
FL	Crystal River	2	2013	11/20/2013	5	920	0.68340514	549	138	1346.2	119
FL	Crystal River	2	2013	11/20/2013	6	1058	0.68483397	397	158	1544.9	142
FL	Crystal River	2	2013	11/20/2013	7	974	0.680500245	425	146	1431.3	131
FL	Crystal River	2	2013	11/20/2013	8	1296	0.681244743	401	195	1902.4	177
FL	Crystal River	2	2013	11/20/2013	9	2359	0.69398682	843	348	3399.2	343
FL	Crystal River	2	2013	11/20/2013	10	2436	0.7	946	357	3480	362
FL	Crystal River	2	2013	11/20/2013	11	2442	0.704700892	914	355	3465.3	362
FL	Crystal River	2	2013	11/20/2013	12	2452	0.706078844	902	356	3472.7	362
FL	Crystal River	2	2013	11/20/2013	13	2474	0.705727978	904	359	3505.6	362
FL	Crystal River	2	2013	11/20/2013	14	2469	0.704301689	918	359	3505.6	362
FL	Crystal River	2	2013	11/20/2013	15	2458	0.702446273	909	359	3499.2	362
FL	Crystal River	2	2013	11/20/2013	16	2480	0.703486228	927	361	3525.3	366
FL	Crystal River	2	2013	11/20/2013	17	2699	0.705897738	1112	392	3823.5	399
FL	Crystal River	2	2013	11/20/2013	18	2712	0.707484413	1127	393	3833.3	403
FL	Crystal River	2	2013	11/20/2013	19	1886	0.699062234	634	276	2697.9	274
FL	Crystal River	2	2013	11/20/2013	20	1076	0.690939446	437	159	1557.3	144
FL	Crystal River	2	2013	11/20/2013	21	959	0.69522981	518	141	1379.4	123
FL	Crystal River	2	2013	11/20/2013	22	957	0.686661405	526	143	1393.7	123
FL	Crystal River	2	2013	11/20/2013	23	962	0.693833393	531	142	1386.5	123

FL	Crystal River	2	2013	11/21/2013	0	979	0.706706129	530	142	1385.3	123
FL	Crystal River	2	2013	11/21/2013	1	991	0.714594751	529	142	1386.8	123
FL	Crystal River	2	2013	11/21/2013	2	1002	0.720345075	531	142	1391	123
FL	Crystal River	2	2013	11/21/2013	3	998	0.716079501	531	143	1393.7	123
FL	Crystal River	2	2013	11/21/2013	4	1001	0.723579587	503	141	1383.4	123
FL	Crystal River	2	2013	11/21/2013	5	1019	0.728637826	506	143	1398.5	123
FL	Crystal River	2	2013	11/21/2013	6	980	0.72770476	402	138	1346.7	123
FL	Crystal River	2	2013	11/21/2013	7	1023	0.711058595	362	147	1438.7	122
FL	Crystal River	2	2013	11/21/2013	8	1896	0.709793351	507	274	2671.2	252
FL	Crystal River	2	2013	11/21/2013	9	2532	0.706650666	806	367	3583.1	362
FL	Crystal River	2	2013	11/21/2013	10	2511	0.71312942	714	361	3521.1	362
FL	Crystal River	2	2013	11/21/2013	11	2530	0.716368888	653	362	3531.7	362
FL	Crystal River	2	2013	11/21/2013	12	2554	0.720980126	662	363	3542.4	362
FL	Crystal River	2	2013	11/21/2013	13	2599	0.733434925	659	363	3543.6	362
FL	Crystal River	2	2013	11/21/2013	14	2563	0.728891164	671	360	3516.3	363
FL	Crystal River	2	2013	11/21/2013	15	2553	0.722635795	653	362	3532.9	362
FL	Crystal River	2	2013	11/21/2013	16	2468	0.725157196	622	349	3403.4	352
FL	Crystal River	2	2013	11/21/2013	17	1885	0.71916371	422	268	2621.1	259
FL	Crystal River	2	2013	11/21/2013	18	2388	0.728759766	599	336	3276.8	342
FL	Crystal River	2	2013	11/21/2013	19	2510	0.727557321	648	354	3449.9	361
FL	Crystal River	2	2013	11/21/2013	20	2552	0.729747505	671	358	3497.1	367
FL	Crystal River	2	2013	11/21/2013	21	2570	0.732924569	697	359	3506.5	368
FL	Crystal River	2	2013	11/21/2013	22	1601	0.72512342	401	226	2207.9	214
FL	Crystal River	2	2013	11/21/2013	23	944	0.706216803	526	137	1336.7	120
FL	Crystal River	2	2013	11/22/2013	0	946	0.714123953	498	135	1324.7	119
FL	Crystal River	2	2013	11/22/2013	1	954	0.716216216	515	136	1332	119
FL	Crystal River	2	2013	11/22/2013	2	967	0.721372622	514	137	1340.5	120
FL	Crystal River	2	2013	11/22/2013	3	993	0.723444558	569	140	1372.6	120
FL	Crystal River	2	2013	11/22/2013	4	965	0.726985084	592	136	1327.4	120
FL	Crystal River	2	2013	11/22/2013	5	1300	0.765155974	468	174	1699	156
FL	Crystal River	2	2013	11/22/2013	6	1955	0.799166088	415	251	2446.3	236
FL	Crystal River	2	2013	11/22/2013	7	2469	0.84979693	560	298	2905.4	292
FL	Crystal River	2	2013	11/22/2013	8	2624	0.83839223	588	321	3129.8	327
FL	Crystal River	2	2013	11/22/2013	9	2968	0.853364002	775	356	3478	368
FL	Crystal River	2	2013	11/22/2013	10	3303	0.867931469	1137	390	3805.6	406

FL	Crystal River	2	2013	11/22/2013	11	3406	0.899725275	1124	388	3785.6	403
FL	Crystal River	2	2013	11/22/2013	12	3457	0.926139256	1108	383	3732.7	397
FL	Crystal River	2	2013	11/22/2013	13	3553	0.951653944	1123	383	3733.5	397
FL	Crystal River	2	2013	11/22/2013	14	3669	0.979941775	1153	384	3744.1	397
FL	Crystal River	2	2013	11/22/2013	15	3706	0.991465796	1162	383	3737.9	397
FL	Crystal River	2	2013	11/22/2013	16	3780	1.016785023	1185	381	3717.6	397
FL	Crystal River	2	2013	11/22/2013	17	3387	1.059496997	770	328	3196.8	339
FL	Crystal River	2	2013	11/22/2013	18	3558	1.068725219	765	341	3329.2	352
FL	Crystal River	2	2013	11/22/2013	19	3680	1.081684842	809	349	3402.1	362
FL	Crystal River	2	2013	11/22/2013	20	3807	1.091644205	868	357	3487.4	370
FL	Crystal River	2	2013	11/22/2013	21	3530	1.096409492	746	330	3219.6	338
FL	Crystal River	2	2013	11/22/2013	22	3316	1.103090383	676	308	3006.1	314
FL	Crystal River	2	2013	11/22/2013	23	2439	1.092154756	502	229	2233.2	222
FL	Crystal River	2	2013	11/23/2013	0	1736	1.084796601	544	164	1600.3	153
FL	Crystal River	2	2013	11/23/2013	1	1452	1.076751947	645	138	1348.5	119
FL	Crystal River	2	2013	11/23/2013	2	1469	1.08509381	653	138	1353.8	120
FL	Crystal River	2	2013	11/23/2013	3	1456	1.082206035	657	138	1345.4	120
FL	Crystal River	2	2013	11/23/2013	4	1450	1.07359692	613	138	1350.6	120
FL	Crystal River	2	2013	11/23/2013	5	1458	1.07720724	584	138	1353.5	120
FL	Crystal River	2	2013	11/23/2013	6	1454	1.069196264	575	139	1359.9	120
FL	Crystal River	2	2013	11/23/2013	7	1561	1.072336333	563	149	1455.7	129
FL	Crystal River	2	2013	11/23/2013	8	2367	1.089026915	502	223	2173.5	208
FL	Crystal River	2	2013	11/23/2013	9	3180	1.093008868	672	298	2909.4	294
FL	Crystal River	2	2013	11/23/2013	10	3788	1.099468842	909	353	3445.3	361
FL	Crystal River	2	2013	11/23/2013	11	3904	1.093679964	953	366	3569.6	372
FL	Crystal River	2	2013	11/23/2013	12	3657	1.097506077	823	341	3332.1	348
FL	Crystal River	2	2013	11/23/2013	13	3909	1.095418243	934	366	3568.5	371
FL	Crystal River	2	2013	11/23/2013	14	3650	1.096853683	821	341	3327.7	344
FL	Crystal River	2	2013	11/23/2013	15	3588	1.099736407	783	334	3262.6	340
FL	Crystal River	2	2013	11/23/2013	16	3516	1.09929965	799	328	3198.4	332
FL	Crystal River	2	2013	11/23/2013	17	2713	1.100921154	554	252	2464.3	246
FL	Crystal River	2	2013	11/23/2013	18	3648	1.113723096	828	336	3275.5	340
FL	Crystal River	2	2013	11/23/2013	19	3072	1.115427907	627	282	2754.1	276
FL	Crystal River	2	2013	11/23/2013	20	3063	1.115196971	626	281	2746.6	274
FL	Crystal River	2	2013	11/23/2013	21	2695	1.114511393	558	248	2418.1	242

FL	Crystal River	2	2013	11/23/2013	22	2697	1.098619088	557	251	2454.9	246
FL	Crystal River	2	2013	11/23/2013	23	2412	1.074100463	496	230	2245.6	221
FL	Crystal River	2	2013	11/24/2013	0	1590	1.060707138	517	153	1499	142
FL	Crystal River	2	2013	11/24/2013	1	1477	1.071765474	527	141	1378.1	123
FL	Crystal River	2	2013	11/24/2013	2	1523	1.110220149	544	140	1371.8	120
FL	Crystal River	2	2013	11/24/2013	3	1588	1.163455198	555	140	1364.9	120
FL	Crystal River	2	2013	11/24/2013	4	1659	1.236583184	523	137	1341.6	120
FL	Crystal River	2	2013	11/24/2013	5	1759	1.313568815	530	137	1339.1	120
FL	Crystal River	2	2013	11/24/2013	6	1922	1.443484792	523	136	1331.5	120
FL	Crystal River	2	2013	11/24/2013	7	2037	1.537358491	520	135	1325	120
FL	Crystal River	2	2013	11/24/2013	8	4127	1.620592162	634	261	2546.6	253
FL	Crystal River	2	2013	11/24/2013	9	5083	1.648986212	779	316	3082.5	316
FL	Crystal River	2	2013	11/24/2013	10	6391	1.586131586	1502	413	4029.3	422
FL	Crystal River	2	2013	11/24/2013	11	6919	1.570394244	1824	452	4405.9	462
FL	Crystal River	2	2013	11/24/2013	12	6747	1.61508079	1662	428	4177.5	443
FL	Crystal River	2	2013	11/24/2013	13	7341	1.67445998	1815	449	4384.1	462
FL	Crystal River	2	2013	11/24/2013	14	7293	1.70329542	1734	439	4281.7	453
FL	Crystal River	2	2013	11/24/2013	15	6364	1.779592293	1190	366	3576.1	383
FL	Crystal River	2	2013	11/24/2013	16	6239	1.744735591	1137	366	3575.9	382
FL	Crystal River	2	2013	11/24/2013	17	7180	1.755715858	1513	419	4089.5	434
FL	Crystal River	2	2013	11/24/2013	18	8168	1.759283191	2024	476	4642.8	490
FL	Crystal River	2	2013	11/24/2013	19	7921	1.764535531	1898	460	4489	479
FL	Crystal River	2	2013	11/24/2013	20	6604	1.734653673	1362	390	3807.1	413
FL	Crystal River	2	2013	11/24/2013	21	4937	1.774750162	659	285	2781.8	298
FL	Crystal River	2	2013	11/24/2013	22	3987	1.7750768	462	230	2246.1	228
FL	Crystal River	2	2013	11/24/2013	23	2407	1.74724158	450	141	1377.6	133
FL	Crystal River	2	2013	11/25/2013	0	2242	1.714198333	457	134	1307.9	119
FL	Crystal River	2	2013	11/25/2013	1	2236	1.714855434	444	133	1303.9	120
FL	Crystal River	2	2013	11/25/2013	2	2244	1.718881655	447	133	1305.5	120
FL	Crystal River	2	2013	11/25/2013	3	2253	1.707206183	435	135	1319.7	120
FL	Crystal River	2	2013	11/25/2013	4	2237	1.709068684	429	134	1308.9	120
FL	Crystal River	2	2013	11/25/2013	5	2290	1.700831848	433	138	1346.4	124
FL	Crystal River	2	2013	11/25/2013	6	3075	1.711566292	442	184	1796.6	169
FL	Crystal River	2	2013	11/25/2013	7	3954	1.740393503	472	233	2271.9	226
FL	Crystal River	2	2013	11/25/2013	8	5440	1.767438838	738	315	3077.9	318

FL	Crystal River	2	2013	11/25/2013	9	6195	1.782272217	969	356	3475.9	370
FL	Crystal River	2	2013	11/25/2013	10	5816	1.791247036	840	333	3246.9	345
FL	Crystal River	2	2013	11/25/2013	11	4808	1.773646156	596	278	2710.8	277
FL	Crystal River	2	2013	11/25/2013	12	5708	1.762598814	829	332	3238.4	344
FL	Crystal River	2	2013	11/25/2013	13	6100	1.765710481	963	354	3454.7	372
FL	Crystal River	2	2013	11/25/2013	14	5559	1.706313883	983	334	3257.9	349
FL	Crystal River	2	2013	11/25/2013	15	4771	1.680284567	749	291	2839.4	297
FL	Crystal River	2	2013	11/25/2013	16	3865	1.685564762	573	235	2293	225
FL	Crystal River	2	2013	11/25/2013	17	5056	1.765794712	770	293	2863.3	293
FL	Crystal River	2	2013	11/25/2013	18	7816	1.748154775	1927	458	4471	476
FL	Crystal River	2	2013	11/25/2013	19	7891	1.749046901	1962	462	4511.6	484
FL	Crystal River	2	2013	11/25/2013	20	5826	1.781705863	1062	335	3269.9	354
FL	Crystal River	2	2013	11/25/2013	21	2932	1.840321366	509	163	1593.2	155
FL	Crystal River	2	2013	11/25/2013	22	2834	1.834898025	478	158	1544.5	145
FL	Crystal River	2	2013	11/25/2013	23	2592	1.832579186	529	145	1414.4	130
FL	Crystal River	2	2013	11/26/2013	0	2419	1.813615235	585	136	1333.8	120
FL	Crystal River	2	2013	11/26/2013	1	2428	1.808296716	588	137	1342.7	120
FL	Crystal River	2	2013	11/26/2013	2	2421	1.807120997	568	137	1339.7	120
FL	Crystal River	2	2013	11/26/2013	3	2644	1.795829654	562	151	1472.3	134
FL	Crystal River	2	2013	11/26/2013	4	2969	1.802780982	543	169	1646.9	159
FL	Crystal River	2	2013	11/26/2013	5	3864	1.82229768	517	217	2120.4	211
FL	Crystal River	2	2013	11/26/2013	6	5877	1.805363561	1038	334	3255.3	344
FL	Crystal River	2	2013	11/26/2013	7	6822	1.773837073	1511	394	3845.9	409
FL	Crystal River	2	2013	11/26/2013	8	7742	1.816390212	1815	437	4262.3	454
FL	Crystal River	2	2013	11/26/2013	9	8292	1.83682963	2085	463	4514.3	483
FL	Crystal River	2	2013	11/26/2013	10	8080	1.828012941	2011	453	4420.1	474
FL	Crystal River	2	2013	11/26/2013	11	8220	1.827560141	2042	461	4497.8	480
FL	Crystal River	2	2013	11/26/2013	12	8243	1.820370125	2087	464	4528.2	482
FL	Crystal River	2	2013	11/26/2013	13	8253	1.829527821	2070	462	4511	480
FL	Crystal River	2	2013	11/26/2013	14	7667	1.837771759	1802	428	4171.9	447
FL	Crystal River	2	2013	11/26/2013	15	7697	1.826400588	1748	432	4214.3	445
FL	Crystal River	2	2013	11/26/2013	16	7410	1.827734202	1674	416	4054.2	432
FL	Crystal River	2	2013	11/26/2013	17	8174	1.803976959	2075	464	4531.1	479
FL	Crystal River	2	2013	11/26/2013	18	8219	1.807485925	2146	466	4547.2	485
FL	Crystal River	2	2013	11/26/2013	19	8195	1.795416703	2127	468	4564.4	484

FL	Crystal River	2	2013	11/26/2013	20	7353	1.778449631	1773	424	4134.5	443
FL	Crystal River	2	2013	11/26/2013	21	6423	1.76243003	1326	373	3644.4	385
FL	Crystal River	2	2013	11/26/2013	22	7498	1.758277835	1893	437	4264.4	452
FL	Crystal River	2	2013	11/26/2013	23	5496	1.742991247	889	323	3153.2	332
FL	Crystal River	2	2013	11/27/2013	0	2712	1.716672997	500	162	1579.8	152
FL	Crystal River	2	2013	11/27/2013	1	2251	1.687406297	592	136	1334	120
FL	Crystal River	2	2013	11/27/2013	2	2295	1.691729323	588	139	1356.6	121
FL	Crystal River	2	2013	11/27/2013	3	2292	1.680844823	591	139	1363.6	120
FL	Crystal River	2	2013	11/27/2013	4	2334	1.668692357	609	143	1398.7	120
FL	Crystal River	2	2013	11/27/2013	5	2331	1.683883551	598	142	1384.3	127
FL	Crystal River	2	2013	11/27/2013	6	4290	1.719921421	616	255	2494.3	248
FL	Crystal River	2	2013	11/27/2013	7	4557	1.724568574	655	271	2642.4	260
FL	Crystal River	2	2013	11/27/2013	8	4396	1.734738171	600	260	2534.1	251
FL	Crystal River	2	2013	11/27/2013	9	5685	1.758591889	834	331	3232.7	333
FL	Crystal River	2	2013	11/27/2013	10	6479	1.768672199	1340	375	3663.2	386
FL	Crystal River	2	2013	11/27/2013	11	5430	1.762586425	973	316	3080.7	321
FL	Crystal River	2	2013	11/27/2013	12	5136	1.743262508	830	302	2946.2	302
FL	Crystal River	2	2013	11/27/2013	13	4636	1.741874883	721	273	2661.5	268
FL	Crystal River	2	2013	11/27/2013	14	3927	1.742236025	522	231	2254	227
FL	Crystal River	2	2013	11/27/2013	15	2815	1.736261025	687	166	1621.3	156
FL	Crystal River	2	2013	11/27/2013	16	2275	1.713876752	909	136	1327.4	119
FL	Crystal River	2	2013	11/27/2013	17	2601	1.709721948	885	156	1521.3	140
FL	Crystal River	2	2013	11/27/2013	18	5374	1.777704267	776	310	3023	306
FL	Crystal River	2	2013	11/27/2013	19	4241	1.787716562	555	243	2372.3	238
FL	Crystal River	2	2013	11/27/2013	20	4364	1.777813989	574	251	2454.7	249
FL	Crystal River	2	2013	11/27/2013	21	3820	1.758100147	469	222	2172.8	220
FL	Crystal River	2	2013	11/27/2013	22	3117	1.744654651	478	183	1786.6	178
FL	Crystal River	2	2013	11/27/2013	23	2531	1.70483632	430	152	1484.6	139
FL	Crystal River	2	2013	11/28/2013	0	2631	1.685998078	443	160	1560.5	142
FL	Crystal River	2	2013	11/28/2013	1	2925	1.690653719	460	177	1730.1	160
FL	Crystal River	2	2013	11/28/2013	2	3163	1.696615352	436	191	1864.3	177
FL	Crystal River	2	2013	11/28/2013	3	2647	1.68555782	441	161	1570.4	144
FL	Crystal River	2	2013	11/28/2013	4	3243	1.699685535	431	195	1908	179
FL	Crystal River	2	2013	11/28/2013	5	5626	1.719437653	808	335	3272	336
FL	Crystal River	2	2013	11/28/2013	6	5931	1.724378543	1062	352	3439.5	358

FL	Crystal River	2	2013	11/28/2013	7	5602	1.719248711	853	334	3258.4	340
FL	Crystal River	2	2013	11/28/2013	8	7107	1.711705202	1573	426	4152	441
FL	Crystal River	2	2013	11/28/2013	9	6445	1.710774295	1299	386	3767.3	409
FL	Crystal River	2	2013	11/28/2013	10	6851	1.714078411	1466	410	3996.9	435
FL	Crystal River	2	2013	11/28/2013	11	6165	1.692844198	1176	373	3641.8	396
FL	Crystal River	2	2013	11/28/2013	12	6201	1.701841535	1198	373	3643.7	397
FL	Crystal River	2	2013	11/28/2013	13	5959	1.699124633	1087	359	3507.1	381
FL	Crystal River	2	2013	11/28/2013	14	6019	1.711353103	1100	360	3517.1	379
FL	Crystal River	2	2013	11/28/2013	15	4441	1.73816047	590	262	2555	265
FL	Crystal River	2	2013	11/28/2013	16	2358	1.722299321	569	140	1369.1	130
FL	Crystal River	2	2013	11/28/2013	17	2235	1.710677382	621	134	1306.5	121
FL	Crystal River	2	2013	11/28/2013	18	2288	1.692307692	570	138	1352	124
FL	Crystal River	2	2013	11/28/2013	19	2187	1.663117871	614	134	1315	120
FL	Crystal River	2	2013	11/28/2013	20	2270	1.642784773	558	141	1381.8	129
FL	Crystal River	2	2013	11/28/2013	21	2433	1.620811405	481	154	1501.1	140
FL	Crystal River	2	2013	11/28/2013	22	3143	1.658312668	462	194	1895.3	189
FL	Crystal River	2	2013	11/28/2013	23	2773	1.633867547	454	174	1697.2	166
FL	Crystal River	2	2013	11/29/2013	0	2330	1.604683196	493	149	1452	139
FL	Crystal River	2	2013	11/29/2013	1	2299	1.569604697	492	150	1464.7	139
FL	Crystal River	2	2013	11/29/2013	2	2275	1.547092826	482	150	1470.5	139
FL	Crystal River	2	2013	11/29/2013	3	2250	1.523461304	491	151	1476.9	139
FL	Crystal River	2	2013	11/29/2013	4	2249	1.54612952	484	149	1454.6	139
FL	Crystal River	2	2013	11/29/2013	5	2354	1.558837163	478	154	1510.1	147
FL	Crystal River	2	2013	11/29/2013	6	3046	1.594180143	443	196	1910.7	189
FL	Crystal River	2	2013	11/29/2013	7	3728	1.607450845	463	238	2319.2	236
FL	Crystal River	2	2013	11/29/2013	8	3831	1.583057851	471	248	2420	248
FL	Crystal River	2	2013	11/29/2013	9	3824	1.569013622	467	250	2437.2	248
FL	Crystal River	2	2013	11/29/2013	10	4278	1.584561819	575	277	2699.8	276
FL	Crystal River	2	2013	11/29/2013	11	3221	1.606563918	481	205	2004.9	203
FL	Crystal River	2	2013	11/29/2013	12	3224	1.597463086	482	207	2018.2	198
FL	Crystal River	2	2013	11/29/2013	13	3266	1.620843672	401	206	2015	198
FL	Crystal River	2	2013	11/29/2013	14	2636	1.624853603	423	166	1622.3	154
FL	Crystal River	2	2013	11/29/2013	15	2792	1.622501162	370	176	1720.8	161
FL	Crystal River	2	2013	11/29/2013	16	2778	1.629612248	376	174	1704.7	161
FL	Crystal River	2	2013	11/29/2013	17	3471	1.645335609	447	216	2109.6	207

FL	Crystal River	2	2013	11/29/2013	18	4640	1.679212507	632	283	2763.2	280
FL	Crystal River	2	2013	11/29/2013	19	4554	1.66972208	602	279	2727.4	277
FL	Crystal River	2	2013	11/29/2013	20	4166	1.655737053	546	258	2516.1	258
FL	Crystal River	2	2013	11/29/2013	21	3066	1.599374022	379	196	1917	195
FL	Crystal River	2	2013	11/29/2013	22	2781	1.570654016	366	181	1770.6	176
FL	Crystal River	2	2013	11/29/2013	23	2612	1.570372152	355	170	1663.3	163
FL	Crystal River	2	2013	11/30/2013	0	2569	1.56875916	358	168	1637.6	160
FL	Crystal River	2	2013	11/30/2013	1	2568	1.570450098	351	167	1635.2	159
FL	Crystal River	2	2013	11/30/2013	2	2549	1.553321146	352	168	1641	159
FL	Crystal River	2	2013	11/30/2013	3	2542	1.545476654	352	168	1644.8	159
FL	Crystal River	2	2013	11/30/2013	4	2516	1.525680674	352	169	1649.1	160
FL	Crystal River	2	2013	11/30/2013	5	2544	1.532437805	351	170	1660.1	160
FL	Crystal River	2	2013	11/30/2013	6	2545	1.547394662	350	168	1644.7	160
FL	Crystal River	2	2013	11/30/2013	7	2593	1.58042299	354	168	1640.7	160
FL	Crystal River	2	2013	11/30/2013	8	2684	1.597428878	366	172	1680.2	163
FL	Crystal River	2	2013	11/30/2013	9	2787	1.629824561	393	175	1710	165
FL	Crystal River	2	2013	11/30/2013	10	3148	1.655622173	391	195	1901.4	186
FL	Crystal River	2	2013	11/30/2013	11	3873	1.668677294	464	238	2321	232
FL	Crystal River	2	2013	11/30/2013	12	4984	1.674787459	690	305	2975.9	306
FL	Crystal River	2	2013	11/30/2013	13	3984	1.656617739	526	246	2404.9	243
FL	Crystal River	2	2013	11/30/2013	14	3897	1.627683569	517	245	2394.2	240
FL	Crystal River	2	2013	11/30/2013	15	3882	1.601551219	526	248	2423.9	242
FL	Crystal River	2	2013	11/30/2013	16	5581	1.621393917	991	353	3442.1	362
FL	Crystal River	2	2013	11/30/2013	17	7446	1.64298323	2016	465	4532	485
FL	Crystal River	2	2013	11/30/2013	18	5374	1.640565375	907	336	3275.7	354
FL	Crystal River	2	2013	11/30/2013	19	4351	1.642940754	580	271	2648.3	274
FL	Crystal River	2	2013	11/30/2013	20	4055	1.652000326	542	251	2454.6	251
FL	Crystal River	2	2013	11/30/2013	21	3890	1.656729131	523	240	2348	240
FL	Crystal River	2	2013	11/30/2013	22	3993	1.65	544	248	2420	246
FL	Crystal River	2	2013	11/30/2013	23	2986	1.65337763	456	185	1806	181
FL	Crystal River	4	2013	9/1/2013	0	213	0.070091151	221	311	3038.9	241
FL	Crystal River	4	2013	9/1/2013	1	169	0.058811247	206	294	2873.6	226
FL	Crystal River	4	2013	9/1/2013	2	186	0.063672463	219	299	2921.2	226
FL	Crystal River	4	2013	9/1/2013	3	168	0.058616238	212	294	2866.1	227
FL	Crystal River	4	2013	9/1/2013	4	158	0.05596288	211	289	2823.3	226

FL	Crystal River	4	2013	9/1/2013	5	123	0.043396959	212	290	2834.3	225
FL	Crystal River	4	2013	9/1/2013	6	146	0.051537294	215	290	2832.9	225
FL	Crystal River	4	2013	9/1/2013	7	251	0.078883686	235	326	3181.9	259
FL	Crystal River	4	2013	9/1/2013	8	1043	0.196155872	361	545	5317.2	500
FL	Crystal River	4	2013	9/1/2013	9	2145	0.289649585	555	759	7405.5	741
FL	Crystal River	4	2013	9/1/2013	10	1652	0.219214437	618	773	7536	757
FL	Crystal River	4	2013	9/1/2013	11	1395	0.184572638	627	775	7558	757
FL	Crystal River	4	2013	9/1/2013	12	1184	0.157677454	623	770	7509	755
FL	Crystal River	4	2013	9/1/2013	13	993	0.133444425	602	763	7441.3	744
FL	Crystal River	4	2013	9/1/2013	14	1018	0.136016247	583	767	7484.4	742
FL	Crystal River	4	2013	9/1/2013	15	1083	0.144271118	600	770	7506.7	745
FL	Crystal River	4	2013	9/1/2013	16	1028	0.136625821	617	772	7524.2	751
FL	Crystal River	4	2013	9/1/2013	17	933	0.123906028	602	772	7529.9	748
FL	Crystal River	4	2013	9/1/2013	18	886	0.117073429	613	776	7567.9	751
FL	Crystal River	4	2013	9/1/2013	19	875	0.115933964	618	774	7547.4	751
FL	Crystal River	4	2013	9/1/2013	20	898	0.120101645	598	767	7477	740
FL	Crystal River	4	2013	9/1/2013	21	645	0.100083791	470	661	6444.6	622
FL	Crystal River	4	2013	9/1/2013	22	391	0.074309172	336	539	5261.8	486
FL	Crystal River	4	2013	9/1/2013	23	157	0.044212898	241	364	3551	300
FL	Crystal River	4	2013	9/2/2013	0	195	0.06110937	217	327	3191	252
FL	Crystal River	4	2013	9/2/2013	1	184	0.064149496	189	294	2868.3	226
FL	Crystal River	4	2013	9/2/2013	2	196	0.067141683	198	299	2919.2	225
FL	Crystal River	4	2013	9/2/2013	3	195	0.067204301	197	297	2901.6	226
FL	Crystal River	4	2013	9/2/2013	4	183	0.063334948	190	296	2889.4	226
FL	Crystal River	4	2013	9/2/2013	5	170	0.059611473	202	292	2851.8	226
FL	Crystal River	4	2013	9/2/2013	6	191	0.066958808	202	292	2852.5	225
FL	Crystal River	4	2013	9/2/2013	7	265	0.082833208	195	328	3199.2	260
FL	Crystal River	4	2013	9/2/2013	8	702	0.1469357	286	490	4777.6	434
FL	Crystal River	4	2013	9/2/2013	9	1465	0.213575531	493	703	6859.4	664
FL	Crystal River	4	2013	9/2/2013	10	884	0.116802981	605	776	7568.3	755
FL	Crystal River	4	2013	9/2/2013	11	901	0.118229057	624	781	7620.8	757
FL	Crystal River	4	2013	9/2/2013	12	1069	0.139835442	642	784	7644.7	761
FL	Crystal River	4	2013	9/2/2013	13	1022	0.134266984	624	781	7611.7	762
FL	Crystal River	4	2013	9/2/2013	14	1020	0.134313028	653	779	7594.2	756
FL	Crystal River	4	2013	9/2/2013	15	930	0.121573395	596	784	7649.7	760

FL	Crystal River	4	2013	9/2/2013	16	863	0.113861256	621	777	7579.4	760
FL	Crystal River	4	2013	9/2/2013	17	915	0.120018888	617	782	7623.8	762
FL	Crystal River	4	2013	9/2/2013	18	926	0.121488829	625	782	7622.1	761
FL	Crystal River	4	2013	9/2/2013	19	868	0.114460532	614	778	7583.4	755
FL	Crystal River	4	2013	9/2/2013	20	890	0.116528752	618	783	7637.6	759
FL	Crystal River	4	2013	9/2/2013	21	827	0.114379763	556	741	7230.3	715
FL	Crystal River	4	2013	9/2/2013	22	568	0.09605953	408	606	5913	560
FL	Crystal River	4	2013	9/2/2013	23	323	0.082035913	271	404	3937.3	339
FL	Crystal River	4	2013	9/3/2013	0	221	0.074208388	217	305	2978.1	232
FL	Crystal River	4	2013	9/3/2013	1	196	0.067118691	213	299	2920.2	226
FL	Crystal River	4	2013	9/3/2013	2	187	0.06388794	219	300	2927	226
FL	Crystal River	4	2013	9/3/2013	3	184	0.062942565	219	299	2923.3	226
FL	Crystal River	4	2013	9/3/2013	4	182	0.062345848	230	299	2919.2	228
FL	Crystal River	4	2013	9/3/2013	5	351	0.093443016	270	385	3756.3	315
FL	Crystal River	4	2013	9/3/2013	6	525	0.11829653	266	455	4438	381
FL	Crystal River	4	2013	9/3/2013	7	1148	0.189463956	393	621	6059.2	572
FL	Crystal River	4	2013	9/3/2013	8	824	0.113969571	549	741	7230	713
FL	Crystal River	4	2013	9/3/2013	9	816	0.107099264	617	781	7619.1	759
FL	Crystal River	4	2013	9/3/2013	10	934	0.122381058	625	783	7631.9	760
FL	Crystal River	4	2013	9/3/2013	11	1044	0.136865979	640	782	7627.9	761
FL	Crystal River	4	2013	9/3/2013	12	964	0.126306963	618	783	7632.2	759
FL	Crystal River	4	2013	9/3/2013	13	965	0.126287412	664	784	7641.3	760
FL	Crystal River	4	2013	9/3/2013	14	932	0.121588478	628	786	7665.2	759
FL	Crystal River	4	2013	9/3/2013	15	869	0.113538373	620	785	7653.8	761
FL	Crystal River	4	2013	9/3/2013	16	923	0.120993642	625	782	7628.5	760
FL	Crystal River	4	2013	9/3/2013	17	958	0.126004551	623	780	7602.9	760
FL	Crystal River	4	2013	9/3/2013	18	1020	0.132696736	630	788	7686.7	760
FL	Crystal River	4	2013	9/3/2013	19	989	0.128600221	622	789	7690.5	760
FL	Crystal River	4	2013	9/3/2013	20	1002	0.130742833	628	786	7663.9	762
FL	Crystal River	4	2013	9/3/2013	21	893	0.121494946	566	754	7350.1	726
FL	Crystal River	4	2013	9/3/2013	22	966	0.148350636	475	668	6511.6	628
FL	Crystal River	4	2013	9/3/2013	23	384	0.094036978	269	419	4083.5	359
FL	Crystal River	4	2013	9/4/2013	0	201	0.067745197	216	304	2967	231
FL	Crystal River	4	2013	9/4/2013	1	203	0.069262001	214	300	2930.9	226
FL	Crystal River	4	2013	9/4/2013	2	191	0.065030132	214	301	2937.1	225

FL	Crystal River	4	2013	9/4/2013	3	191	0.065419921	216	299	2919.6	226
FL	Crystal River	4	2013	9/4/2013	4	189	0.065224143	223	297	2897.7	226
FL	Crystal River	4	2013	9/4/2013	5	358	0.098952431	238	371	3617.9	304
FL	Crystal River	4	2013	9/4/2013	6	593	0.132250942	295	460	4483.9	394
FL	Crystal River	4	2013	9/4/2013	7	1073	0.195243554	362	563	5495.7	514
FL	Crystal River	4	2013	9/4/2013	8	1032	0.157848851	457	670	6537.9	636
FL	Crystal River	4	2013	9/4/2013	9	640	0.097230451	467	675	6582.3	646
FL	Crystal River	4	2013	9/4/2013	10	867	0.122677685	537	725	7067.3	692
FL	Crystal River	4	2013	9/4/2013	11	1208	0.157671474	620	786	7661.5	757
FL	Crystal River	4	2013	9/4/2013	12	908	0.118921326	641	783	7635.3	759
FL	Crystal River	4	2013	9/4/2013	13	868	0.11389432	640	781	7621.1	760
FL	Crystal River	4	2013	9/4/2013	14	939	0.123052327	641	782	7630.9	759
FL	Crystal River	4	2013	9/4/2013	15	989	0.12822175	632	791	7713.2	760
FL	Crystal River	4	2013	9/4/2013	16	968	0.125953106	622	788	7685.4	760
FL	Crystal River	4	2013	9/4/2013	17	960	0.12479688	623	789	7692.5	760
FL	Crystal River	4	2013	9/4/2013	18	958	0.124125421	625	791	7718	761
FL	Crystal River	4	2013	9/4/2013	19	959	0.125308698	612	785	7653.1	760
FL	Crystal River	4	2013	9/4/2013	20	692	0.105983796	476	669	6529.3	639
FL	Crystal River	4	2013	9/4/2013	21	450	0.083251623	351	554	5405.3	509
FL	Crystal River	4	2013	9/4/2013	22	214	0.054835238	269	400	3902.6	337
FL	Crystal River	4	2013	9/4/2013	23	137	0.046197943	249	304	2965.5	238
FL	Crystal River	4	2013	9/5/2013	0	137	0.047628981	256	295	2876.4	226
FL	Crystal River	4	2013	9/5/2013	1	119	0.041669585	231	293	2855.8	226
FL	Crystal River	4	2013	9/5/2013	2	120	0.041286771	229	298	2906.5	226
FL	Crystal River	4	2013	9/5/2013	3	119	0.041282176	224	295	2882.6	226
FL	Crystal River	4	2013	9/5/2013	4	117	0.040964952	228	293	2856.1	226
FL	Crystal River	4	2013	9/5/2013	5	121	0.041714069	226	297	2900.7	232
FL	Crystal River	4	2013	9/5/2013	6	155	0.049815202	242	319	3111.5	255
FL	Crystal River	4	2013	9/5/2013	7	216	0.062552489	227	354	3453.1	292
FL	Crystal River	4	2013	9/5/2013	8	576	0.113717129	303	519	5065.2	470
FL	Crystal River	4	2013	9/5/2013	9	1095	0.149610603	527	750	7319	725
FL	Crystal River	4	2013	9/5/2013	10	788	0.104022283	613	777	7575.3	758
FL	Crystal River	4	2013	9/5/2013	11	784	0.103516115	613	777	7573.7	759
FL	Crystal River	4	2013	9/5/2013	12	908	0.119147596	632	781	7620.8	759
FL	Crystal River	4	2013	9/5/2013	13	975	0.127736509	633	783	7632.9	759

FL	Crystal River	4	2013	9/5/2013	14	1037	0.135745422	626	783	7639.3	759
FL	Crystal River	4	2013	9/5/2013	15	734	0.096153846	626	783	7633.6	759
FL	Crystal River	4	2013	9/5/2013	16	863	0.112481101	621	787	7672.4	760
FL	Crystal River	4	2013	9/5/2013	17	1243	0.162905297	625	782	7630.2	761
FL	Crystal River	4	2013	9/5/2013	18	1351	0.17714548	625	782	7626.5	761
FL	Crystal River	4	2013	9/5/2013	19	1146	0.150851005	615	779	7596.9	760
FL	Crystal River	4	2013	9/5/2013	20	959	0.125973702	609	781	7612.7	759
FL	Crystal River	4	2013	9/5/2013	21	819	0.119987694	498	700	6825.7	669
FL	Crystal River	4	2013	9/5/2013	22	461	0.098181199	319	481	4695.4	427
FL	Crystal River	4	2013	9/5/2013	23	417	0.118658054	260	360	3514.3	293
FL	Crystal River	4	2013	9/6/2013	0	242	0.083175803	264	298	2909.5	227
FL	Crystal River	4	2013	9/6/2013	1	244	0.083290664	263	300	2929.5	226
FL	Crystal River	4	2013	9/6/2013	2	251	0.086056159	277	299	2916.7	226
FL	Crystal River	4	2013	9/6/2013	3	243	0.084106327	248	296	2889.2	226
FL	Crystal River	4	2013	9/6/2013	4	232	0.080591934	204	295	2878.7	226
FL	Crystal River	4	2013	9/6/2013	5	426	0.120669631	250	362	3530.3	297
FL	Crystal River	4	2013	9/6/2013	6	569	0.136104865	267	428	4180.6	362
FL	Crystal River	4	2013	9/6/2013	7	1013	0.185868149	348	559	5450.1	513
FL	Crystal River	4	2013	9/6/2013	8	1288	0.177677229	543	743	7249.1	722
FL	Crystal River	4	2013	9/6/2013	9	762	0.101226138	609	772	7527.7	757
FL	Crystal River	4	2013	9/6/2013	10	895	0.118500669	634	774	7552.7	757
FL	Crystal River	4	2013	9/6/2013	11	1365	0.181065701	633	773	7538.7	755
FL	Crystal River	4	2013	9/6/2013	12	1026	0.134804888	639	780	7611	757
FL	Crystal River	4	2013	9/6/2013	13	961	0.126274572	639	780	7610.4	760
FL	Crystal River	4	2013	9/6/2013	14	816	0.108434215	639	772	7525.3	758
FL	Crystal River	4	2013	9/6/2013	15	740	0.097881008	650	775	7560.2	758
FL	Crystal River	4	2013	9/6/2013	16	772	0.103486642	626	765	7459.9	758
FL	Crystal River	4	2013	9/6/2013	17	666	0.089813092	630	760	7415.4	758
FL	Crystal River	4	2013	9/6/2013	18	725	0.104091888	564	714	6965	705
FL	Crystal River	4	2013	9/6/2013	19	779	0.116112684	509	688	6709	675
FL	Crystal River	4	2013	9/6/2013	20	568	0.092675684	459	628	6128.9	609
FL	Crystal River	4	2013	9/6/2013	21	573	0.097222458	430	604	5893.7	575
FL	Crystal River	4	2013	9/6/2013	22	349	0.064828919	387	552	5383.4	517
FL	Crystal River	4	2013	9/6/2013	23	136	0.031847134	320	438	4270.4	393
FL	Crystal River	4	2013	9/7/2013	0	103	0.028568259	270	369	3605.4	321

FL	Crystal River	4	2013	9/7/2013	1	67	0.023929426	218	287	2799.9	234
FL	Crystal River	4	2013	9/7/2013	2	84	0.030454644	212	283	2758.2	225
FL	Crystal River	4	2013	9/7/2013	3	114	0.041134445	210	284	2771.4	226
FL	Crystal River	4	2013	9/7/2013	4	124	0.045215869	211	281	2742.4	226
FL	Crystal River	4	2013	9/7/2013	5	139	0.050863583	213	280	2732.8	226
FL	Crystal River	4	2013	9/7/2013	6	162	0.058740346	212	283	2757.9	226
FL	Crystal River	4	2013	9/7/2013	7	224	0.074453234	240	308	3008.6	254
FL	Crystal River	4	2013	9/7/2013	8	548	0.117046498	295	480	4681.9	441
FL	Crystal River	4	2013	9/7/2013	9	885	0.132194124	488	686	6694.7	670
FL	Crystal River	4	2013	9/7/2013	10	758	0.103288048	601	752	7338.7	751
FL	Crystal River	4	2013	9/7/2013	11	1009	0.135111611	627	766	7467.9	757
FL	Crystal River	4	2013	9/7/2013	12	930	0.123311102	633	773	7541.9	758
FL	Crystal River	4	2013	9/7/2013	13	919	0.12276577	628	768	7485.8	757
FL	Crystal River	4	2013	9/7/2013	14	990	0.130618923	629	777	7579.3	757
FL	Crystal River	4	2013	9/7/2013	15	977	0.129077433	620	776	7569.1	758
FL	Crystal River	4	2013	9/7/2013	16	1026	0.135272325	629	778	7584.7	761
FL	Crystal River	4	2013	9/7/2013	17	1032	0.135559379	639	781	7612.9	765
FL	Crystal River	4	2013	9/7/2013	18	1056	0.13903518	622	779	7595.2	768
FL	Crystal River	4	2013	9/7/2013	19	1035	0.137200578	611	774	7543.7	766
FL	Crystal River	4	2013	9/7/2013	20	1015	0.134243278	612	775	7560.9	766
FL	Crystal River	4	2013	9/7/2013	21	1011	0.136653015	584	759	7398.3	750
FL	Crystal River	4	2013	9/7/2013	22	639	0.106322795	420	616	6010	585
FL	Crystal River	4	2013	9/7/2013	23	435	0.096800036	314	461	4493.8	419
FL	Crystal River	4	2013	9/8/2013	0	343	0.106205103	226	331	3229.6	277
FL	Crystal River	4	2013	9/8/2013	1	293	0.104344729	207	288	2808	225
FL	Crystal River	4	2013	9/8/2013	2	228	0.080699395	209	289	2825.3	225
FL	Crystal River	4	2013	9/8/2013	3	175	0.06250893	207	287	2799.6	226
FL	Crystal River	4	2013	9/8/2013	4	180	0.064655172	208	285	2784	226
FL	Crystal River	4	2013	9/8/2013	5	171	0.061875814	212	283	2763.6	226
FL	Crystal River	4	2013	9/8/2013	6	175	0.063578565	198	282	2752.5	225
FL	Crystal River	4	2013	9/8/2013	7	247	0.079963741	234	316	3088.9	265
FL	Crystal River	4	2013	9/8/2013	8	775	0.154330207	341	515	5021.7	484
FL	Crystal River	4	2013	9/8/2013	9	1204	0.170780142	528	723	7050	707
FL	Crystal River	4	2013	9/8/2013	10	916	0.123347068	586	761	7426.2	757
FL	Crystal River	4	2013	9/8/2013	11	810	0.108870968	602	763	7440	757

FL	Crystal River	4	2013	9/8/2013	12	910	0.122649774	593	761	7419.5	758
FL	Crystal River	4	2013	9/8/2013	13	1066	0.141777943	639	771	7518.8	758
FL	Crystal River	4	2013	9/8/2013	14	1112	0.147276965	588	774	7550.4	757
FL	Crystal River	4	2013	9/8/2013	15	1031	0.135888548	599	778	7587.1	757
FL	Crystal River	4	2013	9/8/2013	16	973	0.128479375	605	777	7573.2	758
FL	Crystal River	4	2013	9/8/2013	17	952	0.125927592	604	775	7559.9	758
FL	Crystal River	4	2013	9/8/2013	18	964	0.127024285	629	778	7589.1	759
FL	Crystal River	4	2013	9/8/2013	19	965	0.127087394	637	779	7593.2	757
FL	Crystal River	4	2013	9/8/2013	20	987	0.129752327	608	780	7606.8	759
FL	Crystal River	4	2013	9/8/2013	21	1025	0.135309959	613	777	7575.2	757
FL	Crystal River	4	2013	9/8/2013	22	792	0.118545128	494	685	6681	667
FL	Crystal River	4	2013	9/8/2013	23	464	0.086096525	377	552	5389.3	515
FL	Crystal River	4	2013	9/9/2013	0	219	0.054106137	299	415	4047.6	360
FL	Crystal River	4	2013	9/9/2013	1	307	0.077452885	285	406	3963.7	352
FL	Crystal River	4	2013	9/9/2013	2	327	0.082749197	280	405	3951.7	348
FL	Crystal River	4	2013	9/9/2013	3	148	0.048053508	258	316	3079.9	253
FL	Crystal River	4	2013	9/9/2013	4	136	0.046525948	245	299	2923.1	234
FL	Crystal River	4	2013	9/9/2013	5	269	0.074915755	244	368	3590.7	314
FL	Crystal River	4	2013	9/9/2013	6	392	0.088547549	247	454	4427	398
FL	Crystal River	4	2013	9/9/2013	7	638	0.117182478	332	558	5444.5	523
FL	Crystal River	4	2013	9/9/2013	8	1131	0.160055475	494	725	7066.3	711
FL	Crystal River	4	2013	9/9/2013	9	1020	0.137633248	570	760	7411	751
FL	Crystal River	4	2013	9/9/2013	10	937	0.125695888	581	764	7454.5	755
FL	Crystal River	4	2013	9/9/2013	11	1082	0.145435972	587	763	7439.7	751
FL	Crystal River	4	2013	9/9/2013	12	1236	0.165926085	588	764	7449.1	748
FL	Crystal River	4	2013	9/9/2013	13	1093	0.146735045	581	764	7448.8	749
FL	Crystal River	4	2013	9/9/2013	14	1076	0.143694662	591	768	7488.1	752
FL	Crystal River	4	2013	9/9/2013	15	1105	0.145517278	615	779	7593.6	758
FL	Crystal River	4	2013	9/9/2013	16	1199	0.158102246	621	778	7583.7	759
FL	Crystal River	4	2013	9/9/2013	17	1157	0.151741685	640	782	7624.8	761
FL	Crystal River	4	2013	9/9/2013	18	1106	0.144948429	648	782	7630.3	763
FL	Crystal River	4	2013	9/9/2013	19	1095	0.143519975	633	782	7629.6	764
FL	Crystal River	4	2013	9/9/2013	20	1133	0.149657887	628	776	7570.6	757
FL	Crystal River	4	2013	9/9/2013	21	1004	0.140172563	551	734	7162.6	714
FL	Crystal River	4	2013	9/9/2013	22	836	0.131566523	457	651	6354.2	622

FL	Crystal River	4	2013	9/9/2013	23	482	0.102118644	344	484	4720	436
FL	Crystal River	4	2013	9/10/2013	0	337	0.098818286	259	349	3410.3	296
FL	Crystal River	4	2013	9/10/2013	1	190	0.067678279	247	288	2807.4	225
FL	Crystal River	4	2013	9/10/2013	2	138	0.047701348	274	296	2893	225
FL	Crystal River	4	2013	9/10/2013	3	131	0.045898882	256	292	2854.1	227
FL	Crystal River	4	2013	9/10/2013	4	153	0.051713648	260	303	2958.6	244
FL	Crystal River	4	2013	9/10/2013	5	338	0.08579769	279	404	3939.5	355
FL	Crystal River	4	2013	9/10/2013	6	547	0.111409833	279	503	4909.8	458
FL	Crystal River	4	2013	9/10/2013	7	738	0.125367354	382	604	5886.7	573
FL	Crystal River	4	2013	9/10/2013	8	990	0.142415306	514	713	6951.5	697
FL	Crystal River	4	2013	9/10/2013	9	941	0.126568658	565	762	7434.7	750
FL	Crystal River	4	2013	9/10/2013	10	973	0.131091441	593	761	7422.3	750
FL	Crystal River	4	2013	9/10/2013	11	1101	0.147245664	613	767	7477.3	754
FL	Crystal River	4	2013	9/10/2013	12	1290	0.172674582	590	766	7470.7	753
FL	Crystal River	4	2013	9/10/2013	13	1334	0.178311256	591	767	7481.3	755
FL	Crystal River	4	2013	9/10/2013	14	1208	0.16133125	599	768	7487.7	755
FL	Crystal River	4	2013	9/10/2013	15	1164	0.155255892	622	769	7497.3	755
FL	Crystal River	4	2013	9/10/2013	16	1162	0.154140026	633	773	7538.6	756
FL	Crystal River	4	2013	9/10/2013	17	1184	0.156192285	636	777	7580.4	761
FL	Crystal River	4	2013	9/10/2013	18	1194	0.157045338	646	780	7602.9	763
FL	Crystal River	4	2013	9/10/2013	19	1179	0.155795761	635	776	7567.6	761
FL	Crystal River	4	2013	9/10/2013	20	1125	0.147837628	639	780	7609.7	762
FL	Crystal River	4	2013	9/10/2013	21	955	0.131096682	582	747	7284.7	727
FL	Crystal River	4	2013	9/10/2013	22	742	0.114596364	485	664	6474.9	636
FL	Crystal River	4	2013	9/10/2013	23	410	0.080222274	357	524	5110.8	474
FL	Crystal River	4	2013	9/11/2013	0	153	0.045476162	289	345	3364.4	281
FL	Crystal River	4	2013	9/11/2013	1	126	0.044221388	279	292	2849.3	226
FL	Crystal River	4	2013	9/11/2013	2	145	0.050761421	279	293	2856.5	226
FL	Crystal River	4	2013	9/11/2013	3	152	0.054123344	266	288	2808.4	226
FL	Crystal River	4	2013	9/11/2013	4	192	0.059681079	296	330	3217.1	271
FL	Crystal River	4	2013	9/11/2013	5	426	0.095125382	322	459	4478.3	418
FL	Crystal River	4	2013	9/11/2013	6	747	0.127792794	344	599	5845.4	564
FL	Crystal River	4	2013	9/11/2013	7	956	0.137623264	500	712	6946.5	703
FL	Crystal River	4	2013	9/11/2013	8	964	0.129326536	581	764	7454	759
FL	Crystal River	4	2013	9/11/2013	9	1048	0.140420457	619	765	7463.3	761

FL	Crystal River	4	2013	9/11/2013	10	1181	0.15675812	587	773	7533.9	762
FL	Crystal River	4	2013	9/11/2013	11	1250	0.165635311	603	774	7546.7	761
FL	Crystal River	4	2013	9/11/2013	12	1188	0.15669309	636	777	7581.7	763
FL	Crystal River	4	2013	9/11/2013	13	1133	0.149964924	627	775	7555.1	760
FL	Crystal River	4	2013	9/11/2013	14	1150	0.151116951	616	780	7610	761
FL	Crystal River	4	2013	9/11/2013	15	1169	0.15374903	623	780	7603.3	762
FL	Crystal River	4	2013	9/11/2013	16	1135	0.149868617	545	777	7573.3	759
FL	Crystal River	4	2013	9/11/2013	17	1162	0.153229422	599	778	7583.4	759
FL	Crystal River	4	2013	9/11/2013	18	1172	0.154940377	605	776	7564.2	761
FL	Crystal River	4	2013	9/11/2013	19	1239	0.163585952	605	777	7574	761
FL	Crystal River	4	2013	9/11/2013	20	1081	0.142497462	606	778	7586.1	760
FL	Crystal River	4	2013	9/11/2013	21	1068	0.140757825	599	778	7587.5	761
FL	Crystal River	4	2013	9/11/2013	22	815	0.118196453	503	707	6895.3	686
FL	Crystal River	4	2013	9/11/2013	23	568	0.097504034	402	597	5825.4	566
FL	Crystal River	4	2013	9/12/2013	0	313	0.066969062	285	479	4673.8	430
FL	Crystal River	4	2013	9/12/2013	1	167	0.049785357	211	344	3354.4	290
FL	Crystal River	4	2013	9/12/2013	2	122	0.04305781	201	290	2833.4	225
FL	Crystal River	4	2013	9/12/2013	3	138	0.0491488	193	288	2807.8	226
FL	Crystal River	4	2013	9/12/2013	4	189	0.063367532	211	306	2982.6	250
FL	Crystal River	4	2013	9/12/2013	5	693	0.15130674	274	469	4580.1	437
FL	Crystal River	4	2013	9/12/2013	6	1144	0.186571424	392	629	6131.7	609
FL	Crystal River	4	2013	9/12/2013	7	1125	0.159608427	542	723	7048.5	720
FL	Crystal River	4	2013	9/12/2013	8	1025	0.138022972	601	761	7426.3	760
FL	Crystal River	4	2013	9/12/2013	9	937	0.125463626	612	766	7468.3	761
FL	Crystal River	4	2013	9/12/2013	10	1383	0.185190145	627	766	7468	761
FL	Crystal River	4	2013	9/12/2013	11	1405	0.18627282	626	773	7542.7	760
FL	Crystal River	4	2013	9/12/2013	12	1223	0.161509713	620	776	7572.3	760
FL	Crystal River	4	2013	9/12/2013	13	773	0.102309576	612	775	7555.5	760
FL	Crystal River	4	2013	9/12/2013	14	476	0.063289456	624	771	7521	760
FL	Crystal River	4	2013	9/12/2013	15	673	0.08928453	625	773	7537.7	761
FL	Crystal River	4	2013	9/12/2013	16	637	0.084752528	616	771	7516	760
FL	Crystal River	4	2013	9/12/2013	17	499	0.065618178	616	780	7604.6	761
FL	Crystal River	4	2013	9/12/2013	18	421	0.055321945	624	780	7610	760
FL	Crystal River	4	2013	9/12/2013	19	390	0.05141456	614	778	7585.4	761
FL	Crystal River	4	2013	9/12/2013	20	369	0.049831195	599	759	7405	744

FL	Crystal River	4	2013	9/12/2013	21	263	0.039918039	487	676	6588.5	655
FL	Crystal River	4	2013	9/12/2013	22	139	0.023263598	412	613	5975	584
FL	Crystal River	4	2013	9/12/2013	23	76	0.015595182	326	500	4873.3	456
FL	Crystal River	4	2013	9/13/2013	0	32	0.008790484	218	373	3640.3	316
FL	Crystal River	4	2013	9/13/2013	1	20	0.007121493	202	288	2808.4	225
FL	Crystal River	4	2013	9/13/2013	2	35	0.012410467	200	289	2820.2	225
FL	Crystal River	4	2013	9/13/2013	3	44	0.015651122	202	288	2811.3	226
FL	Crystal River	4	2013	9/13/2013	4	50	0.017281902	211	296	2893.2	238
FL	Crystal River	4	2013	9/13/2013	5	108	0.02781283	283	398	3883.1	352
FL	Crystal River	4	2013	9/13/2013	6	261	0.046265932	321	578	5641.3	549
FL	Crystal River	4	2013	9/13/2013	7	404	0.063623049	450	651	6349.9	629
FL	Crystal River	4	2013	9/13/2013	8	440	0.063325753	535	712	6948.2	698
FL	Crystal River	4	2013	9/13/2013	9	438	0.05846236	621	768	7492	754
FL	Crystal River	4	2013	9/13/2013	10	441	0.058829022	614	769	7496.3	757
FL	Crystal River	4	2013	9/13/2013	11	461	0.060629176	638	780	7603.6	761
FL	Crystal River	4	2013	9/13/2013	12	450	0.059442823	635	776	7570.3	761
FL	Crystal River	4	2013	9/13/2013	13	450	0.059358141	629	777	7581.1	763
FL	Crystal River	4	2013	9/13/2013	14	463	0.061149559	636	776	7571.6	763
FL	Crystal River	4	2013	9/13/2013	15	498	0.06590091	627	775	7556.8	758
FL	Crystal River	4	2013	9/13/2013	16	532	0.070324789	627	776	7564.9	763
FL	Crystal River	4	2013	9/13/2013	17	558	0.073594387	629	777	7582.1	761
FL	Crystal River	4	2013	9/13/2013	18	578	0.076330837	620	776	7572.3	761
FL	Crystal River	4	2013	9/13/2013	19	595	0.078593506	628	776	7570.6	761
FL	Crystal River	4	2013	9/13/2013	20	563	0.076816024	579	752	7329.2	731
FL	Crystal River	4	2013	9/13/2013	21	360	0.061251574	434	603	5877.4	566
FL	Crystal River	4	2013	9/13/2013	22	323	0.059430716	326	557	5434.9	509
FL	Crystal River	4	2013	9/13/2013	23	228	0.048980644	293	477	4654.9	418
FL	Crystal River	4	2013	9/14/2013	0	85	0.0266074	217	327	3194.6	264
FL	Crystal River	4	2013	9/14/2013	1	87	0.028074478	216	317	3098.9	251
FL	Crystal River	4	2013	9/14/2013	2	80	0.02736446	219	300	2923.5	237
FL	Crystal River	4	2013	9/14/2013	3	65	0.023100434	205	288	2813.8	225
FL	Crystal River	4	2013	9/14/2013	4	59	0.021184919	200	285	2785	225
FL	Crystal River	4	2013	9/14/2013	5	55	0.019535412	214	288	2815.4	225
FL	Crystal River	4	2013	9/14/2013	6	74	0.026482482	209	286	2794.3	225
FL	Crystal River	4	2013	9/14/2013	7	114	0.033879164	245	345	3364.9	289

FL	Crystal River	4	2013	9/14/2013	8	475	0.079477955	400	613	5976.5	584
FL	Crystal River	4	2013	9/14/2013	9	747	0.099763612	591	768	7487.7	757
FL	Crystal River	4	2013	9/14/2013	10	968	0.1286926	616	771	7521.8	760
FL	Crystal River	4	2013	9/14/2013	11	1315	0.174130671	634	774	7551.8	763
FL	Crystal River	4	2013	9/14/2013	12	1077	0.142360514	627	776	7565.3	759
FL	Crystal River	4	2013	9/14/2013	13	1126	0.149404241	618	773	7536.6	760
FL	Crystal River	4	2013	9/14/2013	14	1128	0.149342654	626	774	7553.1	763
FL	Crystal River	4	2013	9/14/2013	15	873	0.127166788	521	704	6865	686
FL	Crystal River	4	2013	9/14/2013	16	964	0.14719355	484	671	6549.2	641
FL	Crystal River	4	2013	9/14/2013	17	1337	0.189100887	544	725	7070.3	697
FL	Crystal River	4	2013	9/14/2013	18	1165	0.152865072	632	781	7621.1	764
FL	Crystal River	4	2013	9/14/2013	19	1037	0.136648746	622	778	7588.8	761
FL	Crystal River	4	2013	9/14/2013	20	1144	0.149903035	633	783	7631.6	763
FL	Crystal River	4	2013	9/14/2013	21	985	0.139841277	549	722	7043.7	703
FL	Crystal River	4	2013	9/14/2013	22	692	0.119197313	394	595	5805.5	558
FL	Crystal River	4	2013	9/14/2013	23	405	0.092410898	271	449	4382.6	395
FL	Crystal River	4	2013	9/15/2013	0	221	0.056925019	225	398	3882.3	333
FL	Crystal River	4	2013	9/15/2013	1	83	0.028292882	214	301	2933.6	230
FL	Crystal River	4	2013	9/15/2013	2	81	0.028237755	206	294	2868.5	226
FL	Crystal River	4	2013	9/15/2013	3	91	0.032267215	205	289	2820.2	226
FL	Crystal River	4	2013	9/15/2013	4	94	0.033729233	203	285	2786.9	226
FL	Crystal River	4	2013	9/15/2013	5	105	0.037743988	214	285	2781.9	225
FL	Crystal River	4	2013	9/15/2013	6	123	0.044070226	198	286	2791	225
FL	Crystal River	4	2013	9/15/2013	7	168	0.052542691	217	328	3197.4	271
FL	Crystal River	4	2013	9/15/2013	8	448	0.092205734	306	498	4858.7	457
FL	Crystal River	4	2013	9/15/2013	9	918	0.126301886	537	745	7268.3	725
FL	Crystal River	4	2013	9/15/2013	10	717	0.094860091	619	775	7558.5	759
FL	Crystal River	4	2013	9/15/2013	11	589	0.078344263	631	771	7518.1	760
FL	Crystal River	4	2013	9/15/2013	12	581	0.077196992	602	772	7526.2	754
FL	Crystal River	4	2013	9/15/2013	13	627	0.083101392	664	774	7545	755
FL	Crystal River	4	2013	9/15/2013	14	657	0.086563546	607	778	7589.8	758
FL	Crystal River	4	2013	9/15/2013	15	484	0.063863196	636	777	7578.7	758
FL	Crystal River	4	2013	9/15/2013	16	370	0.049679767	625	764	7447.7	756
FL	Crystal River	4	2013	9/15/2013	17	322	0.047677569	594	692	6753.7	671
FL	Crystal River	4	2013	9/15/2013	18	597	0.087104964	603	703	6853.8	679

FL	Crystal River	4	2013	9/15/2013	19	624	0.091890379	604	696	6790.7	669
FL	Crystal River	4	2013	9/15/2013	20	501	0.081625338	399	629	6137.8	596
FL	Crystal River	4	2013	9/15/2013	21	251	0.048795661	339	527	5143.9	485
FL	Crystal River	4	2013	9/15/2013	22	115	0.026820281	278	439	4287.8	382
FL	Crystal River	4	2013	9/15/2013	23	41	0.014240561	224	295	2879.1	231
FL	Crystal River	4	2013	9/16/2013	0	36	0.012804553	210	288	2811.5	226
FL	Crystal River	4	2013	9/16/2013	1	34	0.012263743	224	284	2772.4	225
FL	Crystal River	4	2013	9/16/2013	2	36	0.012990762	216	284	2771.2	225
FL	Crystal River	4	2013	9/16/2013	3	37	0.013426716	206	282	2755.7	226
FL	Crystal River	4	2013	9/16/2013	4	37	0.013094564	220	289	2825.6	234
FL	Crystal River	4	2013	9/16/2013	5	54	0.017021813	241	325	3172.4	273
FL	Crystal River	4	2013	9/16/2013	6	71	0.023066177	221	315	3078.1	257
FL	Crystal River	4	2013	9/16/2013	7	197	0.045725692	305	442	4308.3	410
FL	Crystal River	4	2013	9/16/2013	8	455	0.065552514	541	712	6941	706
FL	Crystal River	4	2013	9/16/2013	9	400	0.054587388	600	751	7327.7	754
FL	Crystal River	4	2013	9/16/2013	10	353	0.047592725	615	761	7417.1	754
FL	Crystal River	4	2013	9/16/2013	11	392	0.052942209	629	759	7404.3	757
FL	Crystal River	4	2013	9/16/2013	12	361	0.048542384	639	763	7436.8	760
FL	Crystal River	4	2013	9/16/2013	13	328	0.044173299	638	761	7425.3	760
FL	Crystal River	4	2013	9/16/2013	14	504	0.068270481	627	757	7382.4	757
FL	Crystal River	4	2013	9/16/2013	15	1358	0.18365001	628	758	7394.5	758
FL	Crystal River	4	2013	9/16/2013	16	1185	0.160610455	619	757	7378.1	758
FL	Crystal River	4	2013	9/16/2013	17	972	0.132115479	610	754	7357.2	757
FL	Crystal River	4	2013	9/16/2013	18	1090	0.147856755	611	756	7372	757
FL	Crystal River	4	2013	9/16/2013	19	1179	0.159710651	620	757	7382.1	763
FL	Crystal River	4	2013	9/16/2013	20	982	0.137708596	577	731	7131	741
FL	Crystal River	4	2013	9/16/2013	21	506	0.087954111	431	590	5753	584
FL	Crystal River	4	2013	9/16/2013	22	325	0.067737969	316	492	4797.9	467
FL	Crystal River	4	2013	9/16/2013	23	161	0.050446499	201	327	3191.5	284
FL	Crystal River	4	2013	9/17/2013	0	135	0.050597804	184	273	2668.1	225
FL	Crystal River	4	2013	9/17/2013	1	153	0.057607591	183	272	2655.9	225
FL	Crystal River	4	2013	9/17/2013	2	139	0.051898592	187	274	2678.3	225
FL	Crystal River	4	2013	9/17/2013	3	133	0.050184892	190	271	2650.2	226
FL	Crystal River	4	2013	9/17/2013	4	235	0.077076979	213	312	3048.9	279
FL	Crystal River	4	2013	9/17/2013	5	1155	0.194470636	380	609	5939.2	621

FL	Crystal River	4	2013	9/17/2013	6	1094	0.159920478	533	701	6840.9	747
FL	Crystal River	4	2013	9/17/2013	7	793	0.113967894	577	713	6958.1	762
FL	Crystal River	4	2013	9/17/2013	8	741	0.105076574	578	723	7052	763
FL	Crystal River	4	2013	9/17/2013	9	755	0.106578204	580	726	7084	762
FL	Crystal River	4	2013	9/17/2013	10	848	0.118568233	593	733	7152	760
FL	Crystal River	4	2013	9/17/2013	11	963	0.133213446	600	741	7229	762
FL	Crystal River	4	2013	9/17/2013	12	998	0.135450597	604	756	7368	765
FL	Crystal River	4	2013	9/17/2013	13	938	0.126907674	606	758	7391.2	763
FL	Crystal River	4	2013	9/17/2013	14	809	0.108859465	624	762	7431.6	767
FL	Crystal River	4	2013	9/17/2013	15	419	0.056396037	631	762	7429.6	766
FL	Crystal River	4	2013	9/17/2013	16	313	0.04218272	630	761	7420.1	765
FL	Crystal River	4	2013	9/17/2013	17	321	0.042996638	649	766	7465.7	767
FL	Crystal River	4	2013	9/17/2013	18	328	0.043858476	635	767	7478.6	768
FL	Crystal River	4	2013	9/17/2013	19	346	0.047305889	614	750	7314.1	759
FL	Crystal River	4	2013	9/17/2013	20	323	0.045810404	578	723	7050.8	735
FL	Crystal River	4	2013	9/17/2013	21	234	0.038818201	458	618	6028.1	614
FL	Crystal River	4	2013	9/17/2013	22	186	0.034375058	378	555	5410.9	544
FL	Crystal River	4	2013	9/17/2013	23	75	0.020153706	267	381	3721.4	360
FL	Crystal River	4	2013	9/18/2013	0	35	0.012816288	185	280	2730.9	239
FL	Crystal River	4	2013	9/18/2013	1	33	0.012718724	176	266	2594.6	226
FL	Crystal River	4	2013	9/18/2013	2	34	0.013210553	175	264	2573.7	225
FL	Crystal River	4	2013	9/18/2013	3	39	0.015114522	185	264	2580.3	225
FL	Crystal River	4	2013	9/18/2013	4	39	0.015129767	170	264	2577.7	226
FL	Crystal River	4	2013	9/18/2013	5	63	0.023430527	180	275	2688.8	246
FL	Crystal River	4	2013	9/18/2013	6	95	0.034803634	188	280	2729.6	251
FL	Crystal River	4	2013	9/18/2013	7	134	0.047899911	190	287	2797.5	257
FL	Crystal River	4	2013	9/18/2013	8	266	0.06879251	270	396	3866.7	381
FL	Crystal River	4	2013	9/18/2013	9	433	0.077057232	376	576	5619.2	579
FL	Crystal River	4	2013	9/18/2013	10	362	0.062728517	421	592	5770.9	582
FL	Crystal River	4	2013	9/18/2013	11	358	0.060030854	423	611	5963.6	606
FL	Crystal River	4	2013	9/18/2013	12	571	0.080771788	537	725	7069.3	740
FL	Crystal River	4	2013	9/18/2013	13	731	0.100867933	623	743	7247.1	755
FL	Crystal River	4	2013	9/18/2013	14	553	0.07690703	604	737	7190.5	750
FL	Crystal River	4	2013	9/18/2013	15	964	0.133366537	585	741	7228.2	748
FL	Crystal River	4	2013	9/18/2013	16	1446	0.201769319	580	735	7166.6	752

FL	Crystal River	4	2013	9/18/2013	17	1390	0.193028746	655	738	7201	755
FL	Crystal River	4	2013	9/18/2013	18	1267	0.174782729	608	743	7249	755
FL	Crystal River	4	2013	9/18/2013	19	1279	0.180428005	595	727	7088.7	754
FL	Crystal River	4	2013	9/18/2013	20	1047	0.163285039	513	657	6412.1	684
FL	Crystal River	4	2013	9/18/2013	21	849	0.150858239	410	577	5627.8	590
FL	Crystal River	4	2013	9/18/2013	22	852	0.158733116	397	550	5367.5	559
FL	Crystal River	4	2013	9/18/2013	23	478	0.108557413	308	451	4403.2	453
FL	Crystal River	4	2013	9/19/2013	0	167	0.056426544	236	303	2959.6	279
FL	Crystal River	4	2013	9/19/2013	1	149	0.060000805	213	254	2483.3	225
FL	Crystal River	4	2013	9/19/2013	2	142	0.057930809	205	251	2451.2	225
FL	Crystal River	4	2013	9/19/2013	3	127	0.052057714	204	250	2439.6	225
FL	Crystal River	4	2013	9/19/2013	4	127	0.05126963	210	254	2477.1	226
FL	Crystal River	4	2013	9/19/2013	5	276	0.086596386	255	327	3187.2	319
FL	Crystal River	4	2013	9/19/2013	6	291	0.082557876	257	361	3524.8	355
FL	Crystal River	4	2013	9/19/2013	7	375	0.096013519	285	400	3905.7	398
FL	Crystal River	4	2013	9/19/2013	8	1009	0.179167555	399	577	5631.6	601
FL	Crystal River	4	2013	9/19/2013	9	1283	0.18489163	569	712	6939.2	750
FL	Crystal River	4	2013	9/19/2013	10	895	0.125799424	604	729	7114.5	754
FL	Crystal River	4	2013	9/19/2013	11	1021	0.139442775	622	751	7322	753
FL	Crystal River	4	2013	9/19/2013	12	1187	0.161239931	640	755	7361.7	751
FL	Crystal River	4	2013	9/19/2013	13	1201	0.163439163	632	753	7348.3	750
FL	Crystal River	4	2013	9/19/2013	14	947	0.127689984	630	760	7416.4	749
FL	Crystal River	4	2013	9/19/2013	15	859	0.11586032	630	760	7414.1	750
FL	Crystal River	4	2013	9/19/2013	16	1146	0.154102681	632	763	7436.6	751
FL	Crystal River	4	2013	9/19/2013	17	1145	0.152018056	632	772	7532	756
FL	Crystal River	4	2013	9/19/2013	18	896	0.119487378	644	769	7498.7	756
FL	Crystal River	4	2013	9/19/2013	19	817	0.109209999	628	767	7481	756
FL	Crystal River	4	2013	9/19/2013	20	748	0.104939744	570	731	7127.9	724
FL	Crystal River	4	2013	9/19/2013	21	654	0.103430279	467	648	6323.1	634
FL	Crystal River	4	2013	9/19/2013	22	560	0.102072435	384	562	5486.3	536
FL	Crystal River	4	2013	9/19/2013	23	241	0.06262831	269	394	3848.1	343
FL	Crystal River	4	2013	9/20/2013	0	129	0.045647558	203	290	2826	238
FL	Crystal River	4	2013	9/20/2013	1	150	0.054261323	201	283	2764.4	227
FL	Crystal River	4	2013	9/20/2013	2	144	0.052417006	195	281	2747.2	227
FL	Crystal River	4	2013	9/20/2013	3	144	0.052783989	201	279	2728.1	227

FL	Crystal River	4	2013	9/20/2013	4	144	0.052836281	199	279	2725.4	227
FL	Crystal River	4	2013	9/20/2013	5	177	0.058718153	214	309	3014.4	262
FL	Crystal River	4	2013	9/20/2013	6	308	0.080101948	257	394	3845.1	355
FL	Crystal River	4	2013	9/20/2013	7	251	0.064851178	282	397	3870.4	359
FL	Crystal River	4	2013	9/20/2013	8	339	0.075504477	282	460	4489.8	433
FL	Crystal River	4	2013	9/20/2013	9	894	0.138707876	483	661	6445.2	649
FL	Crystal River	4	2013	9/20/2013	10	1083	0.146027722	630	760	7416.4	761
FL	Crystal River	4	2013	9/20/2013	11	919	0.124791223	567	755	7364.3	765
FL	Crystal River	4	2013	9/20/2013	12	774	0.103517454	672	767	7477	765
FL	Crystal River	4	2013	9/20/2013	13	824	0.110848041	691	762	7433.6	763
FL	Crystal River	4	2013	9/20/2013	14	1080	0.144013441	674	769	7499.3	763
FL	Crystal River	4	2013	9/20/2013	15	992	0.13222083	675	769	7502.6	763
FL	Crystal River	4	2013	9/20/2013	16	499	0.065858069	712	777	7576.9	765
FL	Crystal River	4	2013	9/20/2013	17	403	0.053502204	715	772	7532.4	762
FL	Crystal River	4	2013	9/20/2013	18	370	0.048924973	741	775	7562.6	768
FL	Crystal River	4	2013	9/20/2013	19	403	0.053541299	722	772	7526.9	764
FL	Crystal River	4	2013	9/20/2013	20	698	0.093957383	698	762	7428.9	762
FL	Crystal River	4	2013	9/20/2013	21	885	0.124899445	623	727	7085.7	730
FL	Crystal River	4	2013	9/20/2013	22	726	0.116351748	492	640	6239.7	627
FL	Crystal River	4	2013	9/20/2013	23	414	0.079526682	385	534	5205.8	505
FL	Crystal River	4	2013	9/21/2013	0	263	0.065541904	284	411	4012.7	373
FL	Crystal River	4	2013	9/21/2013	1	130	0.047816971	206	278	2718.7	230
FL	Crystal River	4	2013	9/21/2013	2	163	0.060545279	196	276	2692.2	226
FL	Crystal River	4	2013	9/21/2013	3	142	0.052967287	198	275	2680.9	226
FL	Crystal River	4	2013	9/21/2013	4	133	0.049549214	212	275	2684.2	226
FL	Crystal River	4	2013	9/21/2013	5	120	0.045539069	189	270	2635.1	226
FL	Crystal River	4	2013	9/21/2013	6	164	0.062590642	193	268	2620.2	225
FL	Crystal River	4	2013	9/21/2013	7	247	0.080359176	230	315	3073.7	278
FL	Crystal River	4	2013	9/21/2013	8	686	0.137546617	359	511	4987.4	490
FL	Crystal River	4	2013	9/21/2013	9	1210	0.172389229	568	720	7019	710
FL	Crystal River	4	2013	9/21/2013	10	994	0.133042442	650	766	7471.3	763
FL	Crystal River	4	2013	9/21/2013	11	962	0.128302591	674	769	7497.9	765
FL	Crystal River	4	2013	9/21/2013	12	1102	0.146690805	668	770	7512.4	764
FL	Crystal River	4	2013	9/21/2013	13	1177	0.157033835	689	769	7495.2	764
FL	Crystal River	4	2013	9/21/2013	14	1128	0.149958123	677	771	7522.1	764

FL	Crystal River	4	2013	9/21/2013	15	1123	0.148501759	665	775	7562.2	764
FL	Crystal River	4	2013	9/21/2013	16	1072	0.14199804	656	774	7549.4	763
FL	Crystal River	4	2013	9/21/2013	17	1036	0.137868626	638	771	7514.4	764
FL	Crystal River	4	2013	9/21/2013	18	1091	0.14522076	646	770	7512.7	764
FL	Crystal River	4	2013	9/21/2013	19	1106	0.147561106	644	769	7495.2	760
FL	Crystal River	4	2013	9/21/2013	20	995	0.140140845	596	728	7100	716
FL	Crystal River	4	2013	9/21/2013	21	844	0.129144798	503	670	6535.3	646
FL	Crystal River	4	2013	9/21/2013	22	813	0.136379649	447	611	5961.3	577
FL	Crystal River	4	2013	9/21/2013	23	533	0.110863823	312	493	4807.7	446
FL	Crystal River	4	2013	9/22/2013	0	425	0.119866877	251	363	3545.6	306
FL	Crystal River	4	2013	9/22/2013	1	193	0.068903963	218	287	2801	226
FL	Crystal River	4	2013	9/22/2013	2	165	0.059993455	206	282	2750.3	226
FL	Crystal River	4	2013	9/22/2013	3	173	0.062991553	206	281	2746.4	226
FL	Crystal River	4	2013	9/22/2013	4	169	0.061936524	207	280	2728.6	226
FL	Crystal River	4	2013	9/22/2013	5	158	0.058481697	202	277	2701.7	226
FL	Crystal River	4	2013	9/22/2013	6	170	0.060442295	210	288	2812.6	238
FL	Crystal River	4	2013	9/22/2013	7	483	0.100982647	363	490	4783	470
FL	Crystal River	4	2013	9/22/2013	8	1074	0.147218072	620	748	7295.3	758
FL	Crystal River	4	2013	9/22/2013	9	790	0.106268496	639	762	7434	764
FL	Crystal River	4	2013	9/22/2013	10	677	0.090122471	676	770	7512	764
FL	Crystal River	4	2013	9/22/2013	11	584	0.077395073	679	774	7545.7	762
FL	Crystal River	4	2013	9/22/2013	12	836	0.111799083	702	767	7477.7	757
FL	Crystal River	4	2013	9/22/2013	13	965	0.129781053	691	762	7435.6	759
FL	Crystal River	4	2013	9/22/2013	14	592	0.082539771	638	735	7172.3	728
FL	Crystal River	4	2013	9/22/2013	15	594	0.080048514	682	761	7420.5	761
FL	Crystal River	4	2013	9/22/2013	16	954	0.127780978	671	766	7465.9	756
FL	Crystal River	4	2013	9/22/2013	17	994	0.132452096	667	770	7504.6	761
FL	Crystal River	4	2013	9/22/2013	18	822	0.109375416	668	771	7515.4	764
FL	Crystal River	4	2013	9/22/2013	19	819	0.108751942	655	772	7530.9	766
FL	Crystal River	4	2013	9/22/2013	20	873	0.116271326	660	770	7508.3	765
FL	Crystal River	4	2013	9/22/2013	21	915	0.12156399	647	772	7526.9	766
FL	Crystal River	4	2013	9/22/2013	22	679	0.106309692	498	655	6387	635
FL	Crystal River	4	2013	9/22/2013	23	514	0.095720511	375	550	5369.8	512
FL	Crystal River	4	2013	9/23/2013	0	568	0.127477164	320	457	4455.7	415
FL	Crystal River	4	2013	9/23/2013	1	302	0.09001222	268	344	3355.1	297

FL	Crystal River	4	2013	9/23/2013	2	202	0.072222818	246	287	2796.9	227
FL	Crystal River	4	2013	9/23/2013	3	201	0.074315081	229	277	2704.7	227
FL	Crystal River	4	2013	9/23/2013	4	219	0.077077394	233	291	2841.3	244
FL	Crystal River	4	2013	9/23/2013	5	731	0.162166959	320	462	4507.7	442
FL	Crystal River	4	2013	9/23/2013	6	1029	0.177913792	404	593	5783.7	582
FL	Crystal River	4	2013	9/23/2013	7	830	0.142123288	449	599	5840	587
FL	Crystal River	4	2013	9/23/2013	8	1008	0.14662458	556	705	6874.7	706
FL	Crystal River	4	2013	9/23/2013	9	908	0.124286516	621	749	7305.7	754
FL	Crystal River	4	2013	9/23/2013	10	834	0.114640751	647	746	7274.9	758
FL	Crystal River	4	2013	9/23/2013	11	841	0.114111262	641	756	7370	761
FL	Crystal River	4	2013	9/23/2013	12	933	0.126640696	641	755	7367.3	758
FL	Crystal River	4	2013	9/23/2013	13	1003	0.13617911	648	755	7365.3	759
FL	Crystal River	4	2013	9/23/2013	14	993	0.136839059	624	744	7256.7	760
FL	Crystal River	4	2013	9/23/2013	15	967	0.132044297	637	751	7323.3	765
FL	Crystal River	4	2013	9/23/2013	16	993	0.135841313	628	750	7310	763
FL	Crystal River	4	2013	9/23/2013	17	1320	0.180394408	629	750	7317.3	762
FL	Crystal River	4	2013	9/23/2013	18	1461	0.199516572	629	751	7322.7	762
FL	Crystal River	4	2013	9/23/2013	19	1233	0.167625107	632	754	7355.7	763
FL	Crystal River	4	2013	9/23/2013	20	1011	0.140099497	613	740	7216.3	752
FL	Crystal River	4	2013	9/23/2013	21	766	0.122456157	487	641	6255.3	642
FL	Crystal River	4	2013	9/23/2013	22	740	0.135201798	388	561	5473.3	545
FL	Crystal River	4	2013	9/23/2013	23	847	0.182937365	314	475	4630	451
FL	Crystal River	4	2013	9/24/2013	0	569	0.139505235	273	418	4078.7	387
FL	Crystal River	4	2013	9/24/2013	1	216	0.074380165	220	298	2904	260
FL	Crystal River	4	2013	9/24/2013	2	210	0.079984765	202	269	2625.5	226
FL	Crystal River	4	2013	9/24/2013	3	202	0.077394636	201	267	2610	226
FL	Crystal River	4	2013	9/24/2013	4	320	0.106298166	240	308	3010.4	275
FL	Crystal River	4	2013	9/24/2013	5	1123	0.220906444	335	521	5083.6	515
FL	Crystal River	4	2013	9/24/2013	6	1228	0.178938319	521	704	6862.7	697
FL	Crystal River	4	2013	9/24/2013	7	1108	0.152024478	604	747	7288.3	742
FL	Crystal River	4	2013	9/24/2013	8	851	0.115840627	646	753	7346.3	765
FL	Crystal River	4	2013	9/24/2013	9	759	0.103317316	646	753	7346.3	764
FL	Crystal River	4	2013	9/24/2013	10	784	0.108357635	651	742	7235.3	765
FL	Crystal River	4	2013	9/24/2013	11	834	0.116183497	646	736	7178.3	761
FL	Crystal River	4	2013	9/24/2013	12	981	0.135315944	638	743	7249.7	762

FL	Crystal River	4	2013	9/24/2013	13	1060	0.146936512	649	740	7214	762
FL	Crystal River	4	2013	9/24/2013	14	915	0.127277786	639	737	7189	765
FL	Crystal River	4	2013	9/24/2013	15	821	0.113496551	636	742	7233.7	764
FL	Crystal River	4	2013	9/24/2013	16	783	0.108715272	641	739	7202.3	761
FL	Crystal River	4	2013	9/24/2013	17	789	0.111053246	632	728	7104.7	762
FL	Crystal River	4	2013	9/24/2013	18	777	0.111006343	623	718	6999.6	763
FL	Crystal River	4	2013	9/24/2013	19	729	0.104646656	613	714	6966.3	759
FL	Crystal River	4	2013	9/24/2013	20	768	0.110154905	613	715	6972	763
FL	Crystal River	4	2013	9/24/2013	21	867	0.124224492	614	716	6979.3	762
FL	Crystal River	4	2013	9/24/2013	22	975	0.139106863	609	719	7009	764
FL	Crystal River	4	2013	9/24/2013	23	772	0.119689922	522	661	6450	692
FL	Crystal River	4	2013	9/25/2013	0	433	0.083539126	393	531	5183.2	531
FL	Crystal River	4	2013	9/25/2013	1	705	0.146247355	298	494	4820.6	387
FL	Crystal River	4	2013	9/25/2013	2	610	0.146167302	279	428	4173.3	267
FL	Crystal River	4	2013	9/25/2013	3	569	0.146174793	284	399	3892.6	236
FL	Crystal River	4	2013	9/25/2013	4	626	0.14621727	286	439	4281.3	292
FL	Crystal River	4	2013	9/25/2013	5	811	0.146305383	376	568	5543.2	585
FL	Crystal River	4	2013	9/25/2013	6	973	0.146265202	532	682	6652.3	754
FL	Crystal River	4	2013	9/25/2013	7	966	0.146208567	528	677	6607	752
FL	Crystal River	4	2013	9/25/2013	8	1409	0.206093583	553	701	6836.7	755
FL	Crystal River	4	2013	9/25/2013	9	901	0.142122531	526	650	6339.6	704
FL	Crystal River	4	2013	9/25/2013	10	482	0.089269178	415	554	5399.4	588
FL	Crystal River	4	2013	9/25/2013	11	475	0.078620256	477	619	6041.7	654
FL	Crystal River	4	2013	9/25/2013	12	631	0.09081358	611	712	6948.3	763
FL	Crystal River	4	2013	9/25/2013	13	909	0.131079931	610	711	6934.7	760
FL	Crystal River	4	2013	9/25/2013	14	1039	0.149403966	612	713	6954.3	753
FL	Crystal River	4	2013	9/25/2013	15	901	0.128763952	601	717	6997.3	757
FL	Crystal River	4	2013	9/25/2013	16	765	0.108055426	630	726	7079.7	760
FL	Crystal River	4	2013	9/25/2013	17	690	0.097650722	635	725	7066	763
FL	Crystal River	4	2013	9/25/2013	18	616	0.087416805	627	723	7046.7	762
FL	Crystal River	4	2013	9/25/2013	19	645	0.09165447	640	722	7037.3	762
FL	Crystal River	4	2013	9/25/2013	20	928	0.130801866	638	727	7094.7	760
FL	Crystal River	4	2013	9/25/2013	21	1043	0.14728934	609	726	7081.3	757
FL	Crystal River	4	2013	9/25/2013	22	927	0.131141511	615	725	7068.7	751
FL	Crystal River	4	2013	9/25/2013	23	490	0.090139809	424	557	5436	564

FL	Crystal River	4	2013	9/26/2013	0	143	0.042807963	257	342	3340.5	305
FL	Crystal River	4	2013	9/26/2013	1	474	0.129571921	267	375	3658.2	225
FL	Crystal River	4	2013	9/26/2013	2	471	0.129342304	265	373	3641.5	226
FL	Crystal River	4	2013	9/26/2013	3	466	0.129383347	262	369	3601.7	226
FL	Crystal River	4	2013	9/26/2013	4	471	0.129413381	265	373	3639.5	231
FL	Crystal River	4	2013	9/26/2013	5	551	0.129415633	259	436	4257.6	411
FL	Crystal River	4	2013	9/26/2013	6	590	0.129516618	277	467	4555.4	476
FL	Crystal River	4	2013	9/26/2013	7	728	0.129581175	421	576	5618.1	653
FL	Crystal River	4	2013	9/26/2013	8	812	0.129458094	508	643	6272.3	759
FL	Crystal River	4	2013	9/26/2013	9	1401	0.19313216	623	744	7254.1	762
FL	Crystal River	4	2013	9/26/2013	10	1212	0.164243221	664	757	7379.3	764
FL	Crystal River	4	2013	9/26/2013	11	896	0.121315515	686	757	7385.7	766
FL	Crystal River	4	2013	9/26/2013	12	810	0.110144139	647	754	7354	759
FL	Crystal River	4	2013	9/26/2013	13	945	0.12714772	676	762	7432.3	760
FL	Crystal River	4	2013	9/26/2013	14	1675	0.228534785	667	752	7329.3	760
FL	Crystal River	4	2013	9/26/2013	15	1654	0.22464585	655	755	7362.7	763
FL	Crystal River	4	2013	9/26/2013	16	1451	0.197902317	652	752	7331.9	763
FL	Crystal River	4	2013	9/26/2013	17	1119	0.151210086	651	759	7400.3	761
FL	Crystal River	4	2013	9/26/2013	18	966	0.130183416	638	761	7420.3	757
FL	Crystal River	4	2013	9/26/2013	19	1077	0.145442269	644	759	7405	758
FL	Crystal River	4	2013	9/26/2013	20	1144	0.159493636	602	735	7172.7	736
FL	Crystal River	4	2013	9/26/2013	21	763	0.129024621	449	606	5913.6	578
FL	Crystal River	4	2013	9/26/2013	22	396	0.088537125	317	458	4472.7	412
FL	Crystal River	4	2013	9/26/2013	23	167	0.055002964	206	311	3036.2	251
FL	Crystal River	4	2013	9/27/2013	0	175	0.061569855	193	291	2842.3	226
FL	Crystal River	4	2013	9/27/2013	1	140	0.057442967	160	250	2437.2	226
FL	Crystal River	4	2013	9/27/2013	2	121	0.050324405	168	246	2404.4	226
FL	Crystal River	4	2013	9/27/2013	3	111	0.046476573	152	245	2388.3	226
FL	Crystal River	4	2013	9/27/2013	4	112	0.046421022	156	247	2412.7	225
FL	Crystal River	4	2013	9/27/2013	5	129	0.051121503	166	258	2523.4	243
FL	Crystal River	4	2013	9/27/2013	6	171	0.061178491	190	286	2795.1	253
FL	Crystal River	4	2013	9/27/2013	7	213	0.06926604	215	315	3075.1	263
FL	Crystal River	4	2013	9/27/2013	8	165	0.053311793	207	317	3095	283
FL	Crystal River	4	2013	9/27/2013	9	316	0.081962961	258	395	3855.4	340
FL	Crystal River	4	2013	9/27/2013	10	462	0.096656764	325	490	4779.8	447

FL	Crystal River	4	2013	9/27/2013	11	629	0.111191642	373	580	5656.9	538
FL	Crystal River	4	2013	9/27/2013	12	850	0.128433713	476	679	6618.2	645
FL	Crystal River	4	2013	9/27/2013	13	850	0.120709488	556	722	7041.7	699
FL	Crystal River	4	2013	9/27/2013	14	847	0.112995104	637	769	7495.9	762
FL	Crystal River	4	2013	9/27/2013	15	821	0.109403942	652	769	7504.3	761
FL	Crystal River	4	2013	9/27/2013	16	846	0.112694818	660	770	7507	763
FL	Crystal River	4	2013	9/27/2013	17	800	0.110287022	616	744	7253.8	730
FL	Crystal River	4	2013	9/27/2013	18	665	0.102547496	499	665	6484.8	638
FL	Crystal River	4	2013	9/27/2013	19	616	0.101519496	442	622	6067.8	593
FL	Crystal River	4	2013	9/27/2013	20	456	0.086895211	372	538	5247.7	503
FL	Crystal River	4	2013	9/27/2013	21	430	0.088163533	351	500	4877.3	457
FL	Crystal River	4	2013	9/27/2013	22	301	0.072018184	305	428	4179.5	379
FL	Crystal River	4	2013	9/27/2013	23	154	0.049246906	222	320	3127.1	264
FL	Crystal River	4	2013	9/28/2013	0	125	0.044748335	190	286	2793.4	227
FL	Crystal River	4	2013	9/28/2013	1	141	0.05070848	189	285	2780.6	225
FL	Crystal River	4	2013	9/28/2013	2	145	0.051405679	194	289	2820.7	226
FL	Crystal River	4	2013	9/28/2013	3	118	0.041960031	191	288	2812.2	227
FL	Crystal River	4	2013	9/28/2013	4	118	0.042391148	194	285	2783.6	226
FL	Crystal River	4	2013	9/28/2013	5	114	0.041853293	187	279	2723.8	227
FL	Crystal River	4	2013	9/28/2013	6	151	0.055315408	182	280	2729.8	226
FL	Crystal River	4	2013	9/28/2013	7	167	0.056635127	203	302	2948.7	254
FL	Crystal River	4	2013	9/28/2013	8	300	0.075774797	269	406	3959.1	357
FL	Crystal River	4	2013	9/28/2013	9	548	0.103972982	379	540	5270.6	489
FL	Crystal River	4	2013	9/28/2013	10	783	0.127939086	452	627	6120.1	609
FL	Crystal River	4	2013	9/28/2013	11	971	0.131529042	583	757	7382.4	710
FL	Crystal River	4	2013	9/28/2013	12	912	0.122402963	640	764	7450.8	762
FL	Crystal River	4	2013	9/28/2013	13	942	0.124688939	672	775	7554.8	762
FL	Crystal River	4	2013	9/28/2013	14	946	0.125016519	681	776	7567	762
FL	Crystal River	4	2013	9/28/2013	15	980	0.12977726	679	774	7551.4	762
FL	Crystal River	4	2013	9/28/2013	16	1116	0.147648343	672	775	7558.5	764
FL	Crystal River	4	2013	9/28/2013	17	854	0.127825176	534	685	6681	669
FL	Crystal River	4	2013	9/28/2013	18	773	0.12554204	468	631	6157.3	610
FL	Crystal River	4	2013	9/28/2013	19	919	0.150313221	440	627	6113.9	601
FL	Crystal River	4	2013	9/28/2013	20	666	0.12419812	375	550	5362.4	515
FL	Crystal River	4	2013	9/28/2013	21	581	0.119020793	312	500	4881.5	462

FL	Crystal River	4	2013	9/28/2013	22	665	0.13915045	320	490	4779	447
FL	Crystal River	4	2013	9/28/2013	23	271	0.075198402	237	369	3603.8	315
FL	Crystal River	4	2013	9/29/2013	0	156	0.055393793	197	288	2816.2	226
FL	Crystal River	4	2013	9/29/2013	1	177	0.062969156	188	288	2810.9	226
FL	Crystal River	4	2013	9/29/2013	2	158	0.056744721	189	285	2784.4	226
FL	Crystal River	4	2013	9/29/2013	3	149	0.053096714	196	287	2806.2	226
FL	Crystal River	4	2013	9/29/2013	4	152	0.053973439	194	288	2816.2	226
FL	Crystal River	4	2013	9/29/2013	5	150	0.053456878	204	287	2806	226
FL	Crystal River	4	2013	9/29/2013	6	183	0.065343141	193	287	2800.6	226
FL	Crystal River	4	2013	9/29/2013	7	259	0.079004362	219	336	3278.3	283
FL	Crystal River	4	2013	9/29/2013	8	474	0.099659392	304	488	4756.2	451
FL	Crystal River	4	2013	9/29/2013	9	714	0.120604034	414	607	5920.2	583
FL	Crystal River	4	2013	9/29/2013	10	832	0.123100596	540	693	6758.7	671
FL	Crystal River	4	2013	9/29/2013	11	1110	0.145305075	657	783	7639.1	765
FL	Crystal River	4	2013	9/29/2013	12	1112	0.14586476	670	782	7623.5	767
FL	Crystal River	4	2013	9/29/2013	13	1130	0.147915439	687	783	7639.5	765
FL	Crystal River	4	2013	9/29/2013	14	1149	0.149962803	704	786	7661.9	768
FL	Crystal River	4	2013	9/29/2013	15	1171	0.153475144	679	782	7629.9	767
FL	Crystal River	4	2013	9/29/2013	16	1193	0.155849924	696	785	7654.8	766
FL	Crystal River	4	2013	9/29/2013	17	1191	0.155845175	657	784	7642.2	762
FL	Crystal River	4	2013	9/29/2013	18	1160	0.151667691	634	784	7648.3	761
FL	Crystal River	4	2013	9/29/2013	19	1153	0.150752455	634	784	7648.3	763
FL	Crystal River	4	2013	9/29/2013	20	764	0.11848819	483	661	6447.9	625
FL	Crystal River	4	2013	9/29/2013	21	476	0.089215429	346	547	5335.4	499
FL	Crystal River	4	2013	9/29/2013	22	499	0.100546052	302	509	4962.9	455
FL	Crystal River	4	2013	9/29/2013	23	251	0.074203276	209	347	3382.6	283
FL	Crystal River	4	2013	9/30/2013	0	178	0.062561507	184	291	2845.2	226
FL	Crystal River	4	2013	9/30/2013	1	168	0.059303188	187	290	2832.9	226
FL	Crystal River	4	2013	9/30/2013	2	158	0.05624377	199	288	2809.2	226
FL	Crystal River	4	2013	9/30/2013	3	131	0.046534759	185	288	2815.1	226
FL	Crystal River	4	2013	9/30/2013	4	151	0.052928599	188	292	2852.9	226
FL	Crystal River	4	2013	9/30/2013	5	250	0.074742884	217	343	3344.8	283
FL	Crystal River	4	2013	9/30/2013	6	378	0.095997562	259	404	3937.6	350
FL	Crystal River	4	2013	9/30/2013	7	382	0.089131551	278	439	4285.8	390
FL	Crystal River	4	2013	9/30/2013	8	563	0.118776371	293	486	4740	441

FL	Crystal River	4	2013	9/30/2013	9	1402	0.227188022	432	633	6171.1	584
FL	Crystal River	4	2013	9/30/2013	10	1383	0.192315715	560	737	7191.3	704
FL	Crystal River	4	2013	9/30/2013	11	1366	0.179524248	639	780	7609	765
FL	Crystal River	4	2013	9/30/2013	12	1237	0.162348741	662	781	7619.4	762
FL	Crystal River	4	2013	9/30/2013	13	1148	0.150169398	665	784	7644.7	760
FL	Crystal River	4	2013	9/30/2013	14	969	0.12599961	661	789	7690.5	763
FL	Crystal River	4	2013	9/30/2013	15	468	0.061119745	673	785	7657.1	764
FL	Crystal River	4	2013	9/30/2013	16	423	0.054957191	677	789	7696.9	763
FL	Crystal River	4	2013	9/30/2013	17	670	0.087484494	673	785	7658.5	763
FL	Crystal River	4	2013	9/30/2013	18	1492	0.195160235	665	784	7645	761
FL	Crystal River	4	2013	9/30/2013	19	1334	0.175380934	654	780	7606.3	760
FL	Crystal River	4	2013	9/30/2013	20	828	0.128467697	489	661	6445.2	627
FL	Crystal River	4	2013	9/30/2013	21	778	0.130246263	412	612	5973.3	571
FL	Crystal River	4	2013	9/30/2013	22	484	0.10418909	297	476	4645.4	423
FL	Crystal River	4	2013	9/30/2013	23	172	0.05738498	203	307	2997.3	238
FL	Crystal River	4	2013	10/1/2013	0	208	0.072990139	196	292	2849.7	226
FL	Crystal River	4	2013	10/1/2013	1	199	0.069731586	185	292	2853.8	226
FL	Crystal River	4	2013	10/1/2013	2	192	0.06806821	183	289	2820.7	226
FL	Crystal River	4	2013	10/1/2013	3	189	0.066701959	189	290	2833.5	225
FL	Crystal River	4	2013	10/1/2013	4	202	0.070405354	192	294	2869.1	226
FL	Crystal River	4	2013	10/1/2013	5	198	0.069779736	190	291	2837.5	226
FL	Crystal River	4	2013	10/1/2013	6	230	0.081967213	190	287	2806	226
FL	Crystal River	4	2013	10/1/2013	7	392	0.112121732	237	358	3496.2	303
FL	Crystal River	4	2013	10/1/2013	8	1074	0.198837338	367	554	5401.4	508
FL	Crystal River	4	2013	10/1/2013	9	1410	0.201563907	524	717	6995.3	694
FL	Crystal River	4	2013	10/1/2013	10	1123	0.150268288	605	766	7473.3	761
FL	Crystal River	4	2013	10/1/2013	11	1016	0.134109479	621	777	7575.9	765
FL	Crystal River	4	2013	10/1/2013	12	1135	0.149985464	650	776	7567.4	765
FL	Crystal River	4	2013	10/1/2013	13	1305	0.172427462	666	776	7568.4	764
FL	Crystal River	4	2013	10/1/2013	14	1290	0.169260241	670	782	7621.4	765
FL	Crystal River	4	2013	10/1/2013	15	1197	0.155826911	676	788	7681.6	764
FL	Crystal River	4	2013	10/1/2013	16	1200	0.154567469	659	796	7763.6	762
FL	Crystal River	4	2013	10/1/2013	17	1120	0.144389439	667	795	7756.8	766
FL	Crystal River	4	2013	10/1/2013	18	1131	0.14646275	664	792	7722.1	766
FL	Crystal River	4	2013	10/1/2013	19	1180	0.15315327	654	790	7704.7	765

FL	Crystal River	4	2013	10/1/2013	20	976	0.141271151	538	708	6908.7	677
FL	Crystal River	4	2013	10/1/2013	21	705	0.119372153	419	605	5905.9	559
FL	Crystal River	4	2013	10/1/2013	22	583	0.108872248	369	549	5354.9	495
FL	Crystal River	4	2013	10/1/2013	23	493	0.108444601	313	466	4546.1	405
FL	Crystal River	4	2013	10/2/2013	0	389	0.098115873	265	406	3964.7	345
FL	Crystal River	4	2013	10/2/2013	1	221	0.069947777	221	324	3159.5	256
FL	Crystal River	4	2013	10/2/2013	2	192	0.066789578	207	294	2874.7	228
FL	Crystal River	4	2013	10/2/2013	3	216	0.07531906	206	294	2867.8	226
FL	Crystal River	4	2013	10/2/2013	4	202	0.070134018	210	295	2880.2	225
FL	Crystal River	4	2013	10/2/2013	5	206	0.070144375	217	301	2936.8	235
FL	Crystal River	4	2013	10/2/2013	6	276	0.089459354	225	316	3085.2	253
FL	Crystal River	4	2013	10/2/2013	7	298	0.091593668	253	333	3253.5	276
FL	Crystal River	4	2013	10/2/2013	8	734	0.159717991	321	471	4595.6	421
FL	Crystal River	4	2013	10/2/2013	9	1223	0.198037438	426	633	6175.6	597
FL	Crystal River	4	2013	10/2/2013	10	1306	0.17956086	531	746	7273.3	716
FL	Crystal River	4	2013	10/2/2013	11	1533	0.199425011	591	788	7687.1	764
FL	Crystal River	4	2013	10/2/2013	12	1651	0.214719538	622	788	7689.1	761
FL	Crystal River	4	2013	10/2/2013	13	1744	0.227881512	673	785	7653.1	764
FL	Crystal River	4	2013	10/2/2013	14	1607	0.208201075	748	791	7718.5	764
FL	Crystal River	4	2013	10/2/2013	15	1099	0.142379645	679	792	7718.8	763
FL	Crystal River	4	2013	10/2/2013	16	973	0.127354354	649	783	7640.1	762
FL	Crystal River	4	2013	10/2/2013	17	1127	0.147227883	650	785	7654.8	763
FL	Crystal River	4	2013	10/2/2013	18	1303	0.170402532	650	784	7646.6	762
FL	Crystal River	4	2013	10/2/2013	19	1156	0.150554159	645	787	7678.3	765
FL	Crystal River	4	2013	10/2/2013	20	914	0.129086929	559	726	7080.5	698
FL	Crystal River	4	2013	10/2/2013	21	933	0.140357739	498	682	6647.3	646
FL	Crystal River	4	2013	10/2/2013	22	725	0.1298027	391	573	5585.4	523
FL	Crystal River	4	2013	10/2/2013	23	336	0.08142691	276	423	4126.4	364
FL	Crystal River	4	2013	10/3/2013	0	167	0.056434171	213	303	2959.2	236
FL	Crystal River	4	2013	10/3/2013	1	183	0.064208273	202	292	2850.1	226
FL	Crystal River	4	2013	10/3/2013	2	145	0.051153602	204	290	2834.6	226
FL	Crystal River	4	2013	10/3/2013	3	131	0.04659103	210	288	2811.7	226
FL	Crystal River	4	2013	10/3/2013	4	123	0.043265679	221	291	2842.9	226
FL	Crystal River	4	2013	10/3/2013	5	126	0.044795222	216	288	2812.8	226
FL	Crystal River	4	2013	10/3/2013	6	150	0.053842564	217	285	2785.9	226

FL	Crystal River	4	2013	10/3/2013	7	148	0.048633018	240	312	3043.2	252
FL	Crystal River	4	2013	10/3/2013	8	249	0.068346509	284	373	3643.2	322
FL	Crystal River	4	2013	10/3/2013	9	982	0.158025168	428	637	6214.2	588
FL	Crystal River	4	2013	10/3/2013	10	1197	0.160228094	605	766	7470.6	725
FL	Crystal River	4	2013	10/3/2013	11	1010	0.131716223	621	786	7668	760
FL	Crystal River	4	2013	10/3/2013	12	899	0.117151867	644	787	7673.8	765
FL	Crystal River	4	2013	10/3/2013	13	1136	0.150751101	640	773	7535.6	764
FL	Crystal River	4	2013	10/3/2013	14	1223	0.1622963	663	773	7535.6	765
FL	Crystal River	4	2013	10/3/2013	15	1188	0.154057629	670	791	7711.4	762
FL	Crystal River	4	2013	10/3/2013	16	1113	0.144603672	669	789	7696.9	762
FL	Crystal River	4	2013	10/3/2013	17	1102	0.142794205	663	791	7717.4	764
FL	Crystal River	4	2013	10/3/2013	18	1210	0.155795329	675	796	7766.6	766
FL	Crystal River	4	2013	10/3/2013	19	1211	0.160337888	611	774	7552.8	741
FL	Crystal River	4	2013	10/3/2013	20	928	0.137626244	512	691	6742.9	654
FL	Crystal River	4	2013	10/3/2013	21	731	0.123519373	426	607	5918.1	555
FL	Crystal River	4	2013	10/3/2013	22	431	0.0952402	334	464	4525.4	399
FL	Crystal River	4	2013	10/3/2013	23	263	0.07805544	239	345	3369.4	274
FL	Crystal River	4	2013	10/4/2013	0	265	0.08419648	236	322	3147.4	251
FL	Crystal River	4	2013	10/4/2013	1	242	0.075957313	245	326	3186	251
FL	Crystal River	4	2013	10/4/2013	2	245	0.077990705	248	322	3141.4	251
FL	Crystal River	4	2013	10/4/2013	3	236	0.075109004	263	322	3142.1	251
FL	Crystal River	4	2013	10/4/2013	4	203	0.064629099	235	322	3141	251
FL	Crystal River	4	2013	10/4/2013	5	226	0.069022386	245	335	3274.3	264
FL	Crystal River	4	2013	10/4/2013	6	404	0.10036519	305	413	4025.3	344
FL	Crystal River	4	2013	10/4/2013	7	453	0.097973484	332	474	4623.7	410
FL	Crystal River	4	2013	10/4/2013	8	772	0.136318689	385	581	5663.2	527
FL	Crystal River	4	2013	10/4/2013	9	1213	0.175662173	517	708	6905.3	661
FL	Crystal River	4	2013	10/4/2013	10	1391	0.179513983	627	795	7748.7	760
FL	Crystal River	4	2013	10/4/2013	11	1120	0.144294567	644	796	7761.9	765
FL	Crystal River	4	2013	10/4/2013	12	1115	0.143694826	682	796	7759.5	764
FL	Crystal River	4	2013	10/4/2013	13	1245	0.160525026	682	795	7755.8	763
FL	Crystal River	4	2013	10/4/2013	14	1342	0.172695569	683	797	7770.9	763
FL	Crystal River	4	2013	10/4/2013	15	1303	0.167371004	677	798	7785.1	764
FL	Crystal River	4	2013	10/4/2013	16	1231	0.158824364	658	795	7750.7	760
FL	Crystal River	4	2013	10/4/2013	17	1164	0.150558775	649	793	7731.2	761

FL	Crystal River	4	2013	10/4/2013	18	1111	0.143079756	660	796	7764.9	762
FL	Crystal River	4	2013	10/4/2013	19	1081	0.13959735	650	794	7743.7	762
FL	Crystal River	4	2013	10/4/2013	20	995	0.13455947	599	758	7394.5	720
FL	Crystal River	4	2013	10/4/2013	21	709	0.11510114	449	632	6159.8	580
FL	Crystal River	4	2013	10/4/2013	22	534	0.100093721	373	547	5335	479
FL	Crystal River	4	2013	10/4/2013	23	160	0.047788298	227	343	3348.1	274
FL	Crystal River	4	2013	10/5/2013	0	150	0.050585101	207	304	2965.3	227
FL	Crystal River	4	2013	10/5/2013	1	164	0.055381083	210	303	2961.3	226
FL	Crystal River	4	2013	10/5/2013	2	147	0.049932065	214	302	2944	226
FL	Crystal River	4	2013	10/5/2013	3	135	0.045923053	238	301	2939.7	226
FL	Crystal River	4	2013	10/5/2013	4	177	0.060010171	221	302	2949.5	225
FL	Crystal River	4	2013	10/5/2013	5	209	0.071853405	221	298	2908.7	226
FL	Crystal River	4	2013	10/5/2013	6	211	0.071634697	223	302	2945.5	226
FL	Crystal River	4	2013	10/5/2013	7	223	0.070386971	237	325	3168.2	252
FL	Crystal River	4	2013	10/5/2013	8	613	0.134074058	324	469	4572.1	407
FL	Crystal River	4	2013	10/5/2013	9	953	0.155158659	423	630	6142.1	579
FL	Crystal River	4	2013	10/5/2013	10	797	0.111676265	521	732	7136.7	683
FL	Crystal River	4	2013	10/5/2013	11	852	0.110024923	627	794	7743.7	761
FL	Crystal River	4	2013	10/5/2013	12	1018	0.130309004	656	801	7812.2	762
FL	Crystal River	4	2013	10/5/2013	13	1283	0.163980522	665	802	7824.1	762
FL	Crystal River	4	2013	10/5/2013	14	1368	0.174875682	664	802	7822.7	762
FL	Crystal River	4	2013	10/5/2013	15	1256	0.161344192	653	798	7784.6	762
FL	Crystal River	4	2013	10/5/2013	16	1241	0.159304759	662	799	7790.1	763
FL	Crystal River	4	2013	10/5/2013	17	1433	0.184161826	661	798	7781.2	763
FL	Crystal River	4	2013	10/5/2013	18	1611	0.207354588	660	797	7769.3	764
FL	Crystal River	4	2013	10/5/2013	19	1020	0.130621863	655	801	7808.8	763
FL	Crystal River	4	2013	10/5/2013	20	618	0.094414569	484	671	6545.6	628
FL	Crystal River	4	2013	10/5/2013	21	647	0.109860255	412	604	5889.3	554
FL	Crystal River	4	2013	10/5/2013	22	602	0.130645196	331	472	4607.9	408
FL	Crystal River	4	2013	10/5/2013	23	192	0.057817393	219	340	3320.8	269
FL	Crystal River	4	2013	10/6/2013	0	134	0.045668325	208	301	2934.2	226
FL	Crystal River	4	2013	10/6/2013	1	142	0.048725251	212	299	2914.3	226
FL	Crystal River	4	2013	10/6/2013	2	139	0.047792601	218	298	2908.4	226
FL	Crystal River	4	2013	10/6/2013	3	134	0.046468079	236	295	2883.7	226
FL	Crystal River	4	2013	10/6/2013	4	126	0.042854228	217	301	2940.2	226

FL	Crystal River	4	2013	10/6/2013	5	161	0.051280418	222	322	3139.6	250
FL	Crystal River	4	2013	10/6/2013	6	199	0.062407878	236	327	3188.7	253
FL	Crystal River	4	2013	10/6/2013	7	187	0.057160324	245	335	3271.5	268
FL	Crystal River	4	2013	10/6/2013	8	454	0.100420261	334	463	4521	404
FL	Crystal River	4	2013	10/6/2013	9	878	0.124857793	534	721	7032	684
FL	Crystal River	4	2013	10/6/2013	10	855	0.110585131	641	793	7731.6	761
FL	Crystal River	4	2013	10/6/2013	11	874	0.113581723	654	789	7694.9	763
FL	Crystal River	4	2013	10/6/2013	12	1035	0.135143958	658	785	7658.5	761
FL	Crystal River	4	2013	10/6/2013	13	1217	0.157591454	679	792	7722.5	760
FL	Crystal River	4	2013	10/6/2013	14	1125	0.14526063	658	794	7744.7	763
FL	Crystal River	4	2013	10/6/2013	15	1071	0.138402492	657	793	7738.3	764
FL	Crystal River	4	2013	10/6/2013	16	1057	0.136575659	657	794	7739.3	763
FL	Crystal River	4	2013	10/6/2013	17	1117	0.144291011	650	794	7741.3	765
FL	Crystal River	4	2013	10/6/2013	18	1182	0.151375442	655	801	7808.4	763
FL	Crystal River	4	2013	10/6/2013	19	1161	0.15229625	625	782	7623.3	748
FL	Crystal River	4	2013	10/6/2013	20	707	0.115372063	441	628	6128	577
FL	Crystal River	4	2013	10/6/2013	21	379	0.082545629	312	471	4591.4	408
FL	Crystal River	4	2013	10/6/2013	22	476	0.116852829	285	417	4073.5	353
FL	Crystal River	4	2013	10/6/2013	23	243	0.077408257	222	322	3139.2	246
FL	Crystal River	4	2013	10/7/2013	0	132	0.045085047	228	300	2927.8	226
FL	Crystal River	4	2013	10/7/2013	1	126	0.043099025	228	300	2923.5	226
FL	Crystal River	4	2013	10/7/2013	2	134	0.045855862	230	299	2922.2	225
FL	Crystal River	4	2013	10/7/2013	3	134	0.045954937	207	299	2915.9	225
FL	Crystal River	4	2013	10/7/2013	4	144	0.049321825	219	299	2919.6	225
FL	Crystal River	4	2013	10/7/2013	5	234	0.071502781	248	335	3272.6	272
FL	Crystal River	4	2013	10/7/2013	6	569	0.115448606	330	505	4928.6	447
FL	Crystal River	4	2013	10/7/2013	7	500	0.094802905	363	541	5274.1	492
FL	Crystal River	4	2013	10/7/2013	8	603	0.100917124	406	613	5975.2	570
FL	Crystal River	4	2013	10/7/2013	9	1005	0.152679874	506	675	6582.4	643
FL	Crystal River	4	2013	10/7/2013	10	1107	0.171168803	472	663	6467.3	638
FL	Crystal River	4	2013	10/7/2013	11	1101	0.156525448	541	721	7034	701
FL	Crystal River	4	2013	10/7/2013	12	946	0.13391846	558	724	7064	713
FL	Crystal River	4	2013	10/7/2013	13	962	0.135186408	569	730	7116.1	718
FL	Crystal River	4	2013	10/7/2013	14	1190	0.160111944	616	762	7432.3	757
FL	Crystal River	4	2013	10/7/2013	15	1188	0.158936145	635	766	7474.7	760

FL	Crystal River	4	2013	10/7/2013	16	1078	0.14337585	646	771	7518.7	761
FL	Crystal River	4	2013	10/7/2013	17	984	0.134558582	599	750	7312.8	738
FL	Crystal River	4	2013	10/7/2013	18	920	0.133596654	523	706	6886.4	681
FL	Crystal River	4	2013	10/7/2013	19	978	0.145347541	497	690	6728.7	669
FL	Crystal River	4	2013	10/7/2013	20	805	0.139285405	404	593	5779.5	553
FL	Crystal River	4	2013	10/7/2013	21	567	0.120705071	305	482	4697.4	438
FL	Crystal River	4	2013	10/7/2013	22	366	0.107637561	238	348	3400.3	289
FL	Crystal River	4	2013	10/7/2013	23	279	0.099288256	213	288	2810	233
FL	Crystal River	4	2013	10/8/2013	0	209	0.073742149	226	290	2834.2	225
FL	Crystal River	4	2013	10/8/2013	1	228	0.078909116	225	296	2889.4	226
FL	Crystal River	4	2013	10/8/2013	2	220	0.077722038	212	290	2830.6	226
FL	Crystal River	4	2013	10/8/2013	3	227	0.080788668	224	288	2809.8	226
FL	Crystal River	4	2013	10/8/2013	4	224	0.080506038	230	285	2782.4	225
FL	Crystal River	4	2013	10/8/2013	5	313	0.095560848	248	336	3275.4	282
FL	Crystal River	4	2013	10/8/2013	6	484	0.114909782	299	432	4212	380
FL	Crystal River	4	2013	10/8/2013	7	756	0.133396856	379	581	5667.3	553
FL	Crystal River	4	2013	10/8/2013	8	1045	0.146631681	555	731	7126.7	721
FL	Crystal River	4	2013	10/8/2013	9	830	0.115610157	581	736	7179.3	726
FL	Crystal River	4	2013	10/8/2013	10	706	0.099174018	598	730	7118.8	726
FL	Crystal River	4	2013	10/8/2013	11	658	0.092324961	591	731	7127	726
FL	Crystal River	4	2013	10/8/2013	12	670	0.092909739	613	739	7211.3	726
FL	Crystal River	4	2013	10/8/2013	13	715	0.09853914	587	744	7256	726
FL	Crystal River	4	2013	10/8/2013	14	753	0.104699666	596	737	7192	726
FL	Crystal River	4	2013	10/8/2013	15	725	0.100080064	615	743	7244.2	725
FL	Crystal River	4	2013	10/8/2013	16	717	0.097877278	652	751	7325.5	723
FL	Crystal River	4	2013	10/8/2013	17	741	0.102498133	650	741	7229.4	736
FL	Crystal River	4	2013	10/8/2013	18	838	0.11338881	657	758	7390.5	757
FL	Crystal River	4	2013	10/8/2013	19	729	0.105920814	591	706	6882.5	706
FL	Crystal River	4	2013	10/8/2013	20	504	0.087381671	490	591	5767.8	567
FL	Crystal River	4	2013	10/8/2013	21	319	0.066524858	402	492	4795.2	448
FL	Crystal River	4	2013	10/8/2013	22	183	0.051352565	352	365	3563.6	309
FL	Crystal River	4	2013	10/8/2013	23	115	0.040700761	333	289	2825.5	227
FL	Crystal River	4	2013	10/9/2013	0	136	0.048479663	196	287	2805.3	226
FL	Crystal River	4	2013	10/9/2013	1	167	0.060002874	211	285	2783.2	225
FL	Crystal River	4	2013	10/9/2013	2	172	0.061365015	215	287	2802.9	225

FL	Crystal River	4	2013	10/9/2013	3	204	0.072156197	240	290	2827.2	225
FL	Crystal River	4	2013	10/9/2013	4	203	0.072619303	209	286	2795.4	226
FL	Crystal River	4	2013	10/9/2013	5	296	0.093977204	226	323	3149.7	263
FL	Crystal River	4	2013	10/9/2013	6	884	0.172259246	379	526	5131.8	495
FL	Crystal River	4	2013	10/9/2013	7	1242	0.182293196	647	699	6813.2	686
FL	Crystal River	4	2013	10/9/2013	8	1220	0.171516941	569	729	7113	722
FL	Crystal River	4	2013	10/9/2013	9	1132	0.159268378	561	729	7107.5	726
FL	Crystal River	4	2013	10/9/2013	10	1263	0.177410066	590	730	7119.1	726
FL	Crystal River	4	2013	10/9/2013	11	860	0.121302735	553	727	7089.7	726
FL	Crystal River	4	2013	10/9/2013	12	892	0.124914226	607	732	7140.9	726
FL	Crystal River	4	2013	10/9/2013	13	999	0.139088061	581	736	7182.5	726
FL	Crystal River	4	2013	10/9/2013	14	1045	0.145132842	568	738	7200.3	726
FL	Crystal River	4	2013	10/9/2013	15	1022	0.141828224	583	739	7205.9	726
FL	Crystal River	4	2013	10/9/2013	16	992	0.136329279	589	746	7276.5	726
FL	Crystal River	4	2013	10/9/2013	17	739	0.115740016	491	655	6385	633
FL	Crystal River	4	2013	10/9/2013	18	562	0.09821569	417	587	5722.1	551
FL	Crystal River	4	2013	10/9/2013	19	647	0.122980422	363	539	5261	502
FL	Crystal River	4	2013	10/9/2013	20	324	0.086007804	248	386	3767.1	337
FL	Crystal River	4	2013	10/9/2013	21	200	0.065140214	218	315	3070.3	255
FL	Crystal River	4	2013	10/9/2013	22	198	0.067989836	206	298	2912.2	235
FL	Crystal River	4	2013	10/9/2013	23	196	0.070060051	201	287	2797.6	226
FL	Crystal River	4	2013	10/10/2013	0	210	0.075583069	202	285	2778.4	226
FL	Crystal River	4	2013	10/10/2013	1	204	0.073139251	206	286	2789.2	225
FL	Crystal River	4	2013	10/10/2013	2	198	0.071305099	227	284	2776.8	226
FL	Crystal River	4	2013	10/10/2013	3	213	0.075108431	204	291	2835.9	225
FL	Crystal River	4	2013	10/10/2013	4	218	0.077034524	209	290	2829.9	226
FL	Crystal River	4	2013	10/10/2013	5	205	0.072875933	202	288	2813	226
FL	Crystal River	4	2013	10/10/2013	6	288	0.096404901	239	306	2987.4	241
FL	Crystal River	4	2013	10/10/2013	7	830	0.167399459	357	508	4958.2	472
FL	Crystal River	4	2013	10/10/2013	8	1524	0.218798903	543	714	6965.3	703
FL	Crystal River	4	2013	10/10/2013	9	1100	0.154435818	576	730	7122.7	726
FL	Crystal River	4	2013	10/10/2013	10	925	0.130160696	582	729	7106.6	726
FL	Crystal River	4	2013	10/10/2013	11	1098	0.153287729	580	734	7163	726
FL	Crystal River	4	2013	10/10/2013	12	1186	0.164400272	598	740	7214.1	726
FL	Crystal River	4	2013	10/10/2013	13	1106	0.152758211	615	742	7240.2	726

FL	Crystal River	4	2013	10/10/2013	14	1149	0.158467458	623	743	7250.7	726
FL	Crystal River	4	2013	10/10/2013	15	1210	0.166730971	616	744	7257.2	726
FL	Crystal River	4	2013	10/10/2013	16	1188	0.162477092	606	750	7311.8	726
FL	Crystal River	4	2013	10/10/2013	17	1122	0.154152641	604	746	7278.5	726
FL	Crystal River	4	2013	10/10/2013	18	1077	0.146936437	608	752	7329.7	726
FL	Crystal River	4	2013	10/10/2013	19	1218	0.160189386	623	780	7603.5	745
FL	Crystal River	4	2013	10/10/2013	20	1034	0.148382005	536	715	6968.5	686
FL	Crystal River	4	2013	10/10/2013	21	595	0.109401144	364	558	5438.7	511
FL	Crystal River	4	2013	10/10/2013	22	558	0.112615794	317	508	4954.9	452
FL	Crystal River	4	2013	10/10/2013	23	626	0.133041464	296	482	4705.3	430
FL	Crystal River	4	2013	10/11/2013	0	369	0.094082252	270	402	3922.1	356
FL	Crystal River	4	2013	10/11/2013	1	239	0.07361094	217	333	3246.8	277
FL	Crystal River	4	2013	10/11/2013	2	227	0.075563397	204	308	3004.1	255
FL	Crystal River	4	2013	10/11/2013	3	210	0.071469898	193	301	2938.3	248
FL	Crystal River	4	2013	10/11/2013	4	202	0.067459257	203	307	2994.4	253
FL	Crystal River	4	2013	10/11/2013	5	384	0.099250452	251	397	3869	351
FL	Crystal River	4	2013	10/11/2013	6	527	0.120234537	284	449	4383.1	410
FL	Crystal River	4	2013	10/11/2013	7	454	0.105365763	336	442	4308.8	405
FL	Crystal River	4	2013	10/11/2013	8	1026	0.190299546	404	553	5391.5	527
FL	Crystal River	4	2013	10/11/2013	9	1262	0.179470406	562	721	7031.8	715
FL	Crystal River	4	2013	10/11/2013	10	1043	0.137399552	607	778	7591	765
FL	Crystal River	4	2013	10/11/2013	11	1115	0.146633351	615	780	7604	765
FL	Crystal River	4	2013	10/11/2013	12	1095	0.143723421	640	781	7618.8	763
FL	Crystal River	4	2013	10/11/2013	13	987	0.130145837	659	778	7583.8	765
FL	Crystal River	4	2013	10/11/2013	14	1341	0.176589104	668	779	7593.9	765
FL	Crystal River	4	2013	10/11/2013	15	1315	0.172753547	685	781	7612	763
FL	Crystal River	4	2013	10/11/2013	16	1161	0.151382786	705	786	7669.3	763
FL	Crystal River	4	2013	10/11/2013	17	1147	0.149106272	700	789	7692.5	764
FL	Crystal River	4	2013	10/11/2013	18	1233	0.160926141	697	786	7661.9	765
FL	Crystal River	4	2013	10/11/2013	19	1294	0.166961279	720	795	7750.3	765
FL	Crystal River	4	2013	10/11/2013	20	1090	0.150160493	631	744	7258.9	714
FL	Crystal River	4	2013	10/11/2013	21	912	0.137562786	576	680	6629.7	640
FL	Crystal River	4	2013	10/11/2013	22	805	0.13869984	516	595	5803.9	544
FL	Crystal River	4	2013	10/11/2013	23	734	0.140529571	485	535	5223.1	481
FL	Crystal River	4	2013	10/12/2013	0	522	0.111080374	437	482	4699.3	418

FL	Crystal River	4	2013	10/12/2013	1	180	0.055262188	312	334	3257.2	266
FL	Crystal River	4	2013	10/12/2013	2	178	0.06012701	180	303	2960.4	226
FL	Crystal River	4	2013	10/12/2013	3	163	0.055282347	200	302	2948.5	226
FL	Crystal River	4	2013	10/12/2013	4	151	0.051061815	198	303	2957.2	226
FL	Crystal River	4	2013	10/12/2013	5	147	0.050698396	156	297	2899.5	226
FL	Crystal River	4	2013	10/12/2013	6	256	0.076587088	217	342	3342.6	266
FL	Crystal River	4	2013	10/12/2013	7	520	0.114780152	444	464	4530.4	400
FL	Crystal River	4	2013	10/12/2013	8	1154	0.181927103	773	650	6343.2	603
FL	Crystal River	4	2013	10/12/2013	9	1311	0.169809854	1219	792	7720.4	756
FL	Crystal River	4	2013	10/12/2013	10	1081	0.139259259	1288	796	7762.5	764
FL	Crystal River	4	2013	10/12/2013	11	1188	0.15295087	1312	796	7767.2	766
FL	Crystal River	4	2013	10/12/2013	12	1313	0.168605696	1331	799	7787.4	767
FL	Crystal River	4	2013	10/12/2013	13	1234	0.157259555	1341	805	7846.9	767
FL	Crystal River	4	2013	10/12/2013	14	1078	0.137612337	1339	803	7833.6	765
FL	Crystal River	4	2013	10/12/2013	15	1154	0.146159205	876	810	7895.5	766
FL	Crystal River	4	2013	10/12/2013	16	1247	0.15841559	645	807	7871.7	766
FL	Crystal River	4	2013	10/12/2013	17	1174	0.149626571	651	805	7846.2	767
FL	Crystal River	4	2013	10/12/2013	18	1100	0.139922407	652	806	7861.5	767
FL	Crystal River	4	2013	10/12/2013	19	1184	0.150756968	644	805	7853.7	767
FL	Crystal River	4	2013	10/12/2013	20	979	0.135372447	549	742	7231.9	701
FL	Crystal River	4	2013	10/12/2013	21	931	0.140234075	478	681	6638.9	633
FL	Crystal River	4	2013	10/12/2013	22	838	0.138992553	434	618	6029.1	564
FL	Crystal River	4	2013	10/12/2013	23	630	0.115484025	376	559	5455.3	492
FL	Crystal River	4	2013	10/13/2013	0	341	0.07812858	270	447	4364.6	383
FL	Crystal River	4	2013	10/13/2013	1	135	0.045024013	203	307	2998.4	233
FL	Crystal River	4	2013	10/13/2013	2	146	0.049189717	195	304	2968.1	226
FL	Crystal River	4	2013	10/13/2013	3	133	0.044764565	196	304	2971.1	226
FL	Crystal River	4	2013	10/13/2013	4	134	0.045114807	204	304	2970.2	226
FL	Crystal River	4	2013	10/13/2013	5	137	0.047199063	209	297	2902.6	226
FL	Crystal River	4	2013	10/13/2013	6	173	0.059532003	212	298	2906	226
FL	Crystal River	4	2013	10/13/2013	7	206	0.062816369	239	336	3279.4	264
FL	Crystal River	4	2013	10/13/2013	8	474	0.101040246	319	481	4691.2	412
FL	Crystal River	4	2013	10/13/2013	9	938	0.147816632	431	651	6345.7	595
FL	Crystal River	4	2013	10/13/2013	10	1168	0.158659005	566	755	7361.7	710
FL	Crystal River	4	2013	10/13/2013	11	1159	0.147908983	658	804	7835.9	765

FL	Crystal River	4	2013	10/13/2013	12	1063	0.13443784	632	811	7907	767
FL	Crystal River	4	2013	10/13/2013	13	1167	0.148452507	636	806	7861.1	763
FL	Crystal River	4	2013	10/13/2013	14	1194	0.151415238	646	809	7885.6	764
FL	Crystal River	4	2013	10/13/2013	15	1198	0.15168013	687	810	7898.2	763
FL	Crystal River	4	2013	10/13/2013	16	1199	0.152022315	733	809	7887	765
FL	Crystal River	4	2013	10/13/2013	17	1138	0.144375936	733	808	7882.2	765
FL	Crystal River	4	2013	10/13/2013	18	1148	0.145801847	732	807	7873.7	766
FL	Crystal River	4	2013	10/13/2013	19	1173	0.14905459	747	807	7869.6	764
FL	Crystal River	4	2013	10/13/2013	20	1014	0.138051218	661	753	7345.1	710
FL	Crystal River	4	2013	10/13/2013	21	789	0.126787723	553	638	6223	581
FL	Crystal River	4	2013	10/13/2013	22	859	0.151205774	499	582	5681	522
FL	Crystal River	4	2013	10/13/2013	23	400	0.091060168	417	450	4392.7	383
FL	Crystal River	4	2013	10/14/2013	0	216	0.061719576	357	359	3499.7	287
FL	Crystal River	4	2013	10/14/2013	1	154	0.050904043	217	310	3025.3	233
FL	Crystal River	4	2013	10/14/2013	2	138	0.046962736	185	301	2938.5	226
FL	Crystal River	4	2013	10/14/2013	3	139	0.04715381	194	302	2947.8	226
FL	Crystal River	4	2013	10/14/2013	4	211	0.064114251	237	337	3291	260
FL	Crystal River	4	2013	10/14/2013	5	616	0.127694859	318	494	4824	429
FL	Crystal River	4	2013	10/14/2013	6	966	0.158008375	379	627	6113.6	579
FL	Crystal River	4	2013	10/14/2013	7	831	0.128570102	446	663	6463.4	619
FL	Crystal River	4	2013	10/14/2013	8	1125	0.159021839	523	725	7074.5	690
FL	Crystal River	4	2013	10/14/2013	9	1304	0.168630139	696	793	7732.9	761
FL	Crystal River	4	2013	10/14/2013	10	961	0.123648996	621	797	7772	764
FL	Crystal River	4	2013	10/14/2013	11	938	0.121262265	603	793	7735.3	765
FL	Crystal River	4	2013	10/14/2013	12	980	0.12645814	627	795	7749.6	763
FL	Crystal River	4	2013	10/14/2013	13	1055	0.136759006	624	791	7714.3	762
FL	Crystal River	4	2013	10/14/2013	14	1133	0.146361628	627	794	7741.1	764
FL	Crystal River	4	2013	10/14/2013	15	1130	0.145883629	627	794	7745.9	761
FL	Crystal River	4	2013	10/14/2013	16	1182	0.15171741	623	799	7790.8	764
FL	Crystal River	4	2013	10/14/2013	17	1148	0.149898805	620	785	7658.5	763
FL	Crystal River	4	2013	10/14/2013	18	1082	0.140501234	616	790	7701	763
FL	Crystal River	4	2013	10/14/2013	19	1112	0.144370586	608	790	7702.4	763
FL	Crystal River	4	2013	10/14/2013	20	1148	0.149296434	615	788	7689.4	765
FL	Crystal River	4	2013	10/14/2013	21	960	0.137031275	532	718	7005.7	701
FL	Crystal River	4	2013	10/14/2013	22	677	0.119421415	402	581	5669	542

FL	Crystal River	4	2013	10/14/2013	23	799	0.156130923	363	525	5117.5	482
FL	Crystal River	4	2013	10/15/2013	0	552	0.119457249	332	474	4620.9	422
FL	Crystal River	4	2013	10/15/2013	1	270	0.074900133	252	369	3604.8	315
FL	Crystal River	4	2013	10/15/2013	2	218	0.071363101	219	313	3054.8	255
FL	Crystal River	4	2013	10/15/2013	3	217	0.068818978	220	323	3153.2	263
FL	Crystal River	4	2013	10/15/2013	4	351	0.092159849	262	390	3808.6	332
FL	Crystal River	4	2013	10/15/2013	5	548	0.119353574	293	471	4591.4	420
FL	Crystal River	4	2013	10/15/2013	6	1305	0.210006276	403	637	6214.1	597
FL	Crystal River	4	2013	10/15/2013	7	1341	0.178664215	585	770	7505.7	760
FL	Crystal River	4	2013	10/15/2013	8	927	0.123656057	607	769	7496.6	764
FL	Crystal River	4	2013	10/15/2013	9	1082	0.145469212	580	763	7438	763
FL	Crystal River	4	2013	10/15/2013	10	1241	0.166191261	604	766	7467.3	764
FL	Crystal River	4	2013	10/15/2013	11	1099	0.146989982	605	767	7476.7	765
FL	Crystal River	4	2013	10/15/2013	12	1060	0.141665776	598	767	7482.4	763
FL	Crystal River	4	2013	10/15/2013	13	1149	0.153511116	598	767	7484.8	763
FL	Crystal River	4	2013	10/15/2013	14	1180	0.157320748	600	769	7500.6	764
FL	Crystal River	4	2013	10/15/2013	15	1125	0.149934029	615	769	7503.3	762
FL	Crystal River	4	2013	10/15/2013	16	1078	0.143471259	616	770	7513.7	763
FL	Crystal River	4	2013	10/15/2013	17	1035	0.138455982	598	767	7475.3	764
FL	Crystal River	4	2013	10/15/2013	18	1092	0.146086957	613	766	7475	765
FL	Crystal River	4	2013	10/15/2013	19	1071	0.148716952	561	738	7201.6	739
FL	Crystal River	4	2013	10/15/2013	20	867	0.13146921	488	676	6594.7	663
FL	Crystal River	4	2013	10/15/2013	21	931	0.144280689	451	662	6452.7	640
FL	Crystal River	4	2013	10/15/2013	22	801	0.138079641	417	595	5801	563
FL	Crystal River	4	2013	10/15/2013	23	808	0.150213794	376	551	5379	519
FL	Crystal River	4	2013	10/16/2013	0	591	0.120070702	339	505	4922.1	470
FL	Crystal River	4	2013	10/16/2013	1	129	0.040817618	211	324	3160.4	284
FL	Crystal River	4	2013	10/16/2013	2	127	0.045742688	194	284	2776.4	225
FL	Crystal River	4	2013	10/16/2013	3	140	0.050743023	195	283	2759	226
FL	Crystal River	4	2013	10/16/2013	4	166	0.054662803	221	311	3036.8	250
FL	Crystal River	4	2013	10/16/2013	5	546	0.118669854	276	472	4601	430
FL	Crystal River	4	2013	10/16/2013	6	914	0.155954067	351	601	5860.7	571
FL	Crystal River	4	2013	10/16/2013	7	916	0.14727872	410	638	6219.5	617
FL	Crystal River	4	2013	10/16/2013	8	942	0.143590994	459	673	6560.3	658
FL	Crystal River	4	2013	10/16/2013	9	939	0.139125539	539	692	6749.3	680

FL	Crystal River	4	2013	10/16/2013	10	1025	0.15050732	490	698	6810.3	686
FL	Crystal River	4	2013	10/16/2013	11	1371	0.18242542	548	771	7515.4	763
FL	Crystal River	4	2013	10/16/2013	12	1145	0.152811328	614	768	7492.9	765
FL	Crystal River	4	2013	10/16/2013	13	950	0.127364625	604	765	7458.9	763
FL	Crystal River	4	2013	10/16/2013	14	893	0.119711513	574	765	7459.6	762
FL	Crystal River	4	2013	10/16/2013	15	957	0.12769705	577	768	7494.3	762
FL	Crystal River	4	2013	10/16/2013	16	1029	0.136425105	595	773	7542.6	762
FL	Crystal River	4	2013	10/16/2013	17	1090	0.143309799	593	780	7605.9	763
FL	Crystal River	4	2013	10/16/2013	18	1113	0.147058824	590	776	7568.4	763
FL	Crystal River	4	2013	10/16/2013	19	1059	0.1426205	564	761	7425.3	741
FL	Crystal River	4	2013	10/16/2013	20	819	0.121284819	492	692	6752.7	661
FL	Crystal River	4	2013	10/16/2013	21	707	0.113379412	399	639	6235.7	594
FL	Crystal River	4	2013	10/16/2013	22	689	0.12031572	355	587	5726.6	567
FL	Crystal River	4	2013	10/16/2013	23	557	0.107004265	296	534	5205.4	507
FL	Crystal River	4	2013	10/17/2013	0	293	0.068734165	243	437	4262.8	398
FL	Crystal River	4	2013	10/17/2013	1	121	0.041367521	190	300	2925	258
FL	Crystal River	4	2013	10/17/2013	2	118	0.044049574	190	274	2678.8	227
FL	Crystal River	4	2013	10/17/2013	3	137	0.051016608	212	275	2685.4	226
FL	Crystal River	4	2013	10/17/2013	4	188	0.061512286	226	313	3056.3	261
FL	Crystal River	4	2013	10/17/2013	5	459	0.110259675	253	427	4162.9	392
FL	Crystal River	4	2013	10/17/2013	6	543	0.110990741	269	501	4892.3	470
FL	Crystal River	4	2013	10/17/2013	7	623	0.125589646	287	509	4960.6	480
FL	Crystal River	4	2013	10/17/2013	8	1180	0.189272424	423	639	6234.4	628
FL	Crystal River	4	2013	10/17/2013	9	1657	0.222861831	557	762	7435.1	760
FL	Crystal River	4	2013	10/17/2013	10	1209	0.161395827	614	768	7490.9	763
FL	Crystal River	4	2013	10/17/2013	11	1170	0.154512559	605	776	7572.2	763
FL	Crystal River	4	2013	10/17/2013	12	1215	0.160665406	597	775	7562.3	762
FL	Crystal River	4	2013	10/17/2013	13	1198	0.158001635	606	777	7582.2	762
FL	Crystal River	4	2013	10/17/2013	14	1140	0.150536782	598	777	7572.9	761
FL	Crystal River	4	2013	10/17/2013	15	1123	0.14735019	602	781	7621.3	760
FL	Crystal River	4	2013	10/17/2013	16	1185	0.154814941	604	785	7654.3	762
FL	Crystal River	4	2013	10/17/2013	17	1241	0.162334689	596	784	7644.7	763
FL	Crystal River	4	2013	10/17/2013	18	1282	0.167963735	595	783	7632.6	764
FL	Crystal River	4	2013	10/17/2013	19	1296	0.16911995	597	786	7663.2	763
FL	Crystal River	4	2013	10/17/2013	20	1174	0.160198679	557	751	7328.4	732

FL	Crystal River	4	2013	10/17/2013	21	916	0.134545615	503	698	6808.1	667
FL	Crystal River	4	2013	10/17/2013	22	828	0.127624156	467	665	6487.8	636
FL	Crystal River	4	2013	10/17/2013	23	539	0.096648676	373	572	5576.9	525
FL	Crystal River	4	2013	10/18/2013	0	417	0.086392641	328	495	4826.8	447
FL	Crystal River	4	2013	10/18/2013	1	339	0.080645161	281	431	4203.6	383
FL	Crystal River	4	2013	10/18/2013	2	284	0.07221869	255	403	3932.5	350
FL	Crystal River	4	2013	10/18/2013	3	211	0.059542286	237	363	3543.7	309
FL	Crystal River	4	2013	10/18/2013	4	333	0.083252081	268	410	3999.9	354
FL	Crystal River	4	2013	10/18/2013	5	627	0.131300651	305	489	4775.3	447
FL	Crystal River	4	2013	10/18/2013	6	1357	0.206588923	453	673	6568.6	641
FL	Crystal River	4	2013	10/18/2013	7	1132	0.157592126	517	737	7183.1	719
FL	Crystal River	4	2013	10/18/2013	8	1028	0.13639741	580	773	7536.8	762
FL	Crystal River	4	2013	10/18/2013	9	1022	0.135314056	694	774	7552.8	760
FL	Crystal River	4	2013	10/18/2013	10	1183	0.156027433	576	777	7582	760
FL	Crystal River	4	2013	10/18/2013	11	1225	0.161082474	570	780	7604.8	762
FL	Crystal River	4	2013	10/18/2013	12	1148	0.151405246	583	777	7582.3	760
FL	Crystal River	4	2013	10/18/2013	13	1146	0.151147454	629	777	7582	761
FL	Crystal River	4	2013	10/18/2013	14	1123	0.148186269	636	777	7578.3	759
FL	Crystal River	4	2013	10/18/2013	15	1178	0.154633762	647	781	7618	759
FL	Crystal River	4	2013	10/18/2013	16	1188	0.155466859	641	784	7641.5	759
FL	Crystal River	4	2013	10/18/2013	17	1015	0.132361379	613	786	7668.4	760
FL	Crystal River	4	2013	10/18/2013	18	927	0.120903056	605	786	7667.3	761
FL	Crystal River	4	2013	10/18/2013	19	854	0.110713545	586	791	7713.6	761
FL	Crystal River	4	2013	10/18/2013	20	856	0.110675821	587	793	7734.3	760
FL	Crystal River	4	2013	10/18/2013	21	823	0.107442656	582	785	7659.9	755
FL	Crystal River	4	2013	10/18/2013	22	678	0.09787363	478	710	6927.3	672
FL	Crystal River	4	2013	10/18/2013	23	505	0.084918193	392	610	5946.9	558
FL	Crystal River	4	2013	10/19/2013	0	501	0.087981174	370	584	5694.4	529
FL	Crystal River	4	2013	10/19/2013	1	355	0.074561035	328	488	4761.2	425
FL	Crystal River	4	2013	10/19/2013	2	182	0.049057926	237	380	3709.9	309
FL	Crystal River	4	2013	10/19/2013	3	105	0.035908485	204	300	2924.1	226
FL	Crystal River	4	2013	10/19/2013	4	186	0.055553896	221	343	3348.1	269
FL	Crystal River	4	2013	10/19/2013	5	460	0.104180822	282	453	4415.4	387
FL	Crystal River	4	2013	10/19/2013	6	738	0.140533953	304	538	5251.4	474
FL	Crystal River	4	2013	10/19/2013	7	1246	0.191256831	416	668	6514.8	625

FL	Crystal River	4	2013	10/19/2013	8	1211	0.157997051	582	786	7664.7	758
FL	Crystal River	4	2013	10/19/2013	9	956	0.123273717	635	795	7755.1	765
FL	Crystal River	4	2013	10/19/2013	10	1039	0.133988445	628	795	7754.4	765
FL	Crystal River	4	2013	10/19/2013	11	1166	0.150831123	610	793	7730.5	765
FL	Crystal River	4	2013	10/19/2013	12	1184	0.152918233	603	794	7742.7	763
FL	Crystal River	4	2013	10/19/2013	13	1104	0.143172092	601	791	7711	764
FL	Crystal River	4	2013	10/19/2013	14	1071	0.138389973	603	794	7739	760
FL	Crystal River	4	2013	10/19/2013	15	1033	0.133347103	612	794	7746.7	763
FL	Crystal River	4	2013	10/19/2013	16	1021	0.131358876	629	797	7772.6	763
FL	Crystal River	4	2013	10/19/2013	17	1057	0.135031554	626	803	7827.8	766
FL	Crystal River	4	2013	10/19/2013	18	1103	0.142532241	626	794	7738.6	764
FL	Crystal River	4	2013	10/19/2013	19	1113	0.141982396	627	804	7839	767
FL	Crystal River	4	2013	10/19/2013	20	1070	0.137852845	628	796	7761.9	764
FL	Crystal River	4	2013	10/19/2013	21	1024	0.132450331	626	793	7731.2	764
FL	Crystal River	4	2013	10/19/2013	22	826	0.116480758	531	727	7091.3	689
FL	Crystal River	4	2013	10/19/2013	23	733	0.111968227	451	671	6546.5	626
FL	Crystal River	4	2013	10/20/2013	0	745	0.124452908	389	614	5986.2	563
FL	Crystal River	4	2013	10/20/2013	1	761	0.136602703	339	571	5570.9	518
FL	Crystal River	4	2013	10/20/2013	2	448	0.094702575	288	485	4730.6	427
FL	Crystal River	4	2013	10/20/2013	3	349	0.080279714	260	446	4347.3	378
FL	Crystal River	4	2013	10/20/2013	4	414	0.092431346	264	459	4479	393
FL	Crystal River	4	2013	10/20/2013	5	547	0.11165544	279	502	4899	446
FL	Crystal River	4	2013	10/20/2013	6	563	0.113325282	283	509	4968	452
FL	Crystal River	4	2013	10/20/2013	7	972	0.160319319	375	622	6062.9	577
FL	Crystal River	4	2013	10/20/2013	8	1308	0.172044142	570	780	7602.7	751
FL	Crystal River	4	2013	10/20/2013	9	1022	0.133241203	652	787	7670.3	768
FL	Crystal River	4	2013	10/20/2013	10	988	0.128027368	640	791	7717.1	766
FL	Crystal River	4	2013	10/20/2013	11	1068	0.13864908	616	790	7702.9	766
FL	Crystal River	4	2013	10/20/2013	12	1185	0.152276436	599	798	7781.9	765
FL	Crystal River	4	2013	10/20/2013	13	1386	0.177144975	602	802	7824.1	765
FL	Crystal River	4	2013	10/20/2013	14	1280	0.164437764	599	798	7784.1	766
FL	Crystal River	4	2013	10/20/2013	15	1161	0.148712694	601	801	7807	765
FL	Crystal River	4	2013	10/20/2013	16	1212	0.154373273	612	805	7851.1	765
FL	Crystal River	4	2013	10/20/2013	17	1266	0.161189697	604	805	7854.1	766
FL	Crystal River	4	2013	10/20/2013	18	1298	0.166673087	591	799	7787.7	764

FL	Crystal River	4	2013	10/20/2013	19	1272	0.163076923	592	800	7800	765
FL	Crystal River	4	2013	10/20/2013	20	1215	0.155915151	600	799	7792.7	767
FL	Crystal River	4	2013	10/20/2013	21	1006	0.128936339	600	800	7802.3	764
FL	Crystal River	4	2013	10/20/2013	22	708	0.103791011	470	699	6821.4	656
FL	Crystal River	4	2013	10/20/2013	23	630	0.100079428	409	645	6295	602
FL	Crystal River	4	2013	10/21/2013	0	659	0.112154941	358	602	5875.8	558
FL	Crystal River	4	2013	10/21/2013	1	560	0.106068642	316	541	5279.6	490
FL	Crystal River	4	2013	10/21/2013	2	404	0.08474043	276	489	4767.5	435
FL	Crystal River	4	2013	10/21/2013	3	424	0.086924433	278	500	4877.8	445
FL	Crystal River	4	2013	10/21/2013	4	662	0.120418372	329	564	5497.5	510
FL	Crystal River	4	2013	10/21/2013	5	997	0.153538154	435	666	6493.5	627
FL	Crystal River	4	2013	10/21/2013	6	830	0.131410206	448	648	6316.1	608
FL	Crystal River	4	2013	10/21/2013	7	903	0.138035403	471	671	6541.8	631
FL	Crystal River	4	2013	10/21/2013	8	1300	0.175280111	585	761	7416.7	729
FL	Crystal River	4	2013	10/21/2013	9	1117	0.14247449	768	804	7840	766
FL	Crystal River	4	2013	10/21/2013	10	1015	0.130063174	647	800	7803.9	765
FL	Crystal River	4	2013	10/21/2013	11	1077	0.138126507	592	800	7797.2	765
FL	Crystal River	4	2013	10/21/2013	12	1170	0.150273575	599	798	7785.8	764
FL	Crystal River	4	2013	10/21/2013	13	1167	0.149339681	593	801	7814.4	766
FL	Crystal River	4	2013	10/21/2013	14	1314	0.169114146	582	797	7769.9	763
FL	Crystal River	4	2013	10/21/2013	15	1245	0.158849648	603	804	7837.6	767
FL	Crystal River	4	2013	10/21/2013	16	1110	0.14160692	611	804	7838.6	765
FL	Crystal River	4	2013	10/21/2013	17	1188	0.151439826	604	804	7844.7	765
FL	Crystal River	4	2013	10/21/2013	18	1106	0.141913133	607	799	7793.5	766
FL	Crystal River	4	2013	10/21/2013	19	1094	0.140732736	614	797	7773.6	765
FL	Crystal River	4	2013	10/21/2013	20	1183	0.15226597	613	797	7769.3	763
FL	Crystal River	4	2013	10/21/2013	21	1190	0.152618889	623	800	7797.2	764
FL	Crystal River	4	2013	10/21/2013	22	949	0.130860452	543	744	7252	704
FL	Crystal River	4	2013	10/21/2013	23	901	0.13330966	466	693	6758.7	649
FL	Crystal River	4	2013	10/22/2013	0	872	0.140362173	422	637	6212.5	595
FL	Crystal River	4	2013	10/22/2013	1	853	0.144853703	376	604	5888.7	557
FL	Crystal River	4	2013	10/22/2013	2	746	0.140207116	324	545	5320.7	492
FL	Crystal River	4	2013	10/22/2013	3	942	0.177240912	318	545	5314.8	490
FL	Crystal River	4	2013	10/22/2013	4	1045	0.171911757	383	623	6078.7	573
FL	Crystal River	4	2013	10/22/2013	5	1250	0.169929309	559	754	7356	716

FL	Crystal River	4	2013	10/22/2013	6	1306	0.167915965	653	798	7777.7	769
FL	Crystal River	4	2013	10/22/2013	7	1102	0.141601563	677	798	7782.4	768
FL	Crystal River	4	2013	10/22/2013	8	1093	0.139895047	664	801	7813	770
FL	Crystal River	4	2013	10/22/2013	9	1173	0.150848765	1944	797	7776	767
FL	Crystal River	4	2013	10/22/2013	10	1212	0.157576546	2976	789	7691.5	755
FL	Crystal River	4	2013	10/22/2013	11	1195	0.154098107	3109	795	7754.8	767
FL	Crystal River	4	2013	10/22/2013	12	1271	0.163799214	2808	796	7759.5	766
FL	Crystal River	4	2013	10/22/2013	13	1310	0.168322048	2482	798	7782.7	765
FL	Crystal River	4	2013	10/22/2013	14	1104	0.140590378	3125	805	7852.6	769
FL	Crystal River	4	2013	10/22/2013	15	1045	0.133192281	3193	805	7845.8	769
FL	Crystal River	4	2013	10/22/2013	16	1204	0.154135675	3163	801	7811.3	765
FL	Crystal River	4	2013	10/22/2013	17	1125	0.145185644	3153	795	7748.7	765
FL	Crystal River	4	2013	10/22/2013	18	1128	0.144628364	3135	800	7799.3	764
FL	Crystal River	4	2013	10/22/2013	19	1204	0.154084388	3117	801	7813.9	766
FL	Crystal River	4	2013	10/22/2013	20	1209	0.154664893	3173	802	7816.9	767
FL	Crystal River	4	2013	10/22/2013	21	1236	0.159046749	3162	797	7771.3	765
FL	Crystal River	4	2013	10/22/2013	22	1212	0.156155382	3135	796	7761.5	764
FL	Crystal River	4	2013	10/22/2013	23	889	0.132285761	2412	689	6720.3	650
FL	Crystal River	4	2013	10/23/2013	0	802	0.133333333	1997	617	6015	571
FL	Crystal River	4	2013	10/23/2013	1	946	0.167602714	1710	579	5644.3	521
FL	Crystal River	4	2013	10/23/2013	2	898	0.16746233	1651	550	5362.4	484
FL	Crystal River	4	2013	10/23/2013	3	706	0.133755186	1604	541	5278.3	479
FL	Crystal River	4	2013	10/23/2013	4	535	0.108761943	1520	504	4919	440
FL	Crystal River	4	2013	10/23/2013	5	301	0.071956205	1284	429	4183.1	355
FL	Crystal River	4	2013	10/23/2013	6	1039	0.158875789	2282	671	6539.7	612
FL	Crystal River	4	2013	10/23/2013	7	1001	0.132192333	3051	776	7572.3	752
FL	Crystal River	4	2013	10/23/2013	8	597	0.089233667	2488	686	6690.3	656
FL	Crystal River	4	2013	10/23/2013	9	964	0.146408882	2396	675	6584.3	634
FL	Crystal River	4	2013	10/23/2013	10	962	0.147148801	2412	670	6537.6	631
FL	Crystal River	4	2013	10/23/2013	11	820	0.122785739	2497	685	6678.3	641
FL	Crystal River	4	2013	10/23/2013	12	982	0.147507248	2456	683	6657.3	642
FL	Crystal River	4	2013	10/23/2013	13	970	0.145761642	2429	682	6654.7	641
FL	Crystal River	4	2013	10/23/2013	14	879	0.132047411	2443	683	6656.7	641
FL	Crystal River	4	2013	10/23/2013	15	942	0.141201865	2448	684	6671.3	641
FL	Crystal River	4	2013	10/23/2013	16	942	0.141250562	2440	684	6669	641

FL	Crystal River	4	2013	10/23/2013	17	926	0.136210523	2440	697	6798.3	651
FL	Crystal River	4	2013	10/23/2013	18	972	0.138099568	2590	722	7038.4	680
FL	Crystal River	4	2013	10/23/2013	19	921	0.13124332	2568	720	7017.5	678
FL	Crystal River	4	2013	10/23/2013	20	682	0.110833035	2129	631	6153.4	586
FL	Crystal River	4	2013	10/23/2013	21	913	0.149610815	2068	626	6102.5	577
FL	Crystal River	4	2013	10/23/2013	22	732	0.125321007	1985	599	5841	547
FL	Crystal River	4	2013	10/23/2013	23	540	0.112607916	1582	492	4795.4	437
FL	Crystal River	4	2013	10/24/2013	0	321	0.093254314	1118	353	3442.2	286
FL	Crystal River	4	2013	10/24/2013	1	120	0.041055116	1028	299	2922.9	226
FL	Crystal River	4	2013	10/24/2013	2	122	0.041984996	1022	298	2905.8	226
FL	Crystal River	4	2013	10/24/2013	3	115	0.039555601	1029	298	2907.3	226
FL	Crystal River	4	2013	10/24/2013	4	133	0.043349304	1089	314	3068.1	245
FL	Crystal River	4	2013	10/24/2013	5	339	0.076284345	1475	455	4443.9	396
FL	Crystal River	4	2013	10/24/2013	6	649	0.110571599	1989	602	5869.5	556
FL	Crystal River	4	2013	10/24/2013	7	632	0.104566512	2055	620	6044	575
FL	Crystal River	4	2013	10/24/2013	8	992	0.156870187	2156	648	6323.7	606
FL	Crystal River	4	2013	10/24/2013	9	829	0.131114872	2156	648	6322.7	609
FL	Crystal River	4	2013	10/24/2013	10	837	0.132025175	2161	650	6339.7	611
FL	Crystal River	4	2013	10/24/2013	11	944	0.144785276	2275	669	6520	633
FL	Crystal River	4	2013	10/24/2013	12	837	0.128138396	2220	670	6532	625
FL	Crystal River	4	2013	10/24/2013	13	808	0.125948903	2110	658	6415.3	613
FL	Crystal River	4	2013	10/24/2013	14	998	0.153815329	2212	665	6488.3	627
FL	Crystal River	4	2013	10/24/2013	15	802	0.126158154	2155	652	6357.1	605
FL	Crystal River	4	2013	10/24/2013	16	797	0.136204392	1948	600	5851.5	556
FL	Crystal River	4	2013	10/24/2013	17	1104	0.170425601	2189	664	6477.9	620
FL	Crystal River	4	2013	10/24/2013	18	948	0.134910131	2431	721	7026.9	680
FL	Crystal River	4	2013	10/24/2013	19	765	0.115921386	2177	677	6599.3	639
FL	Crystal River	4	2013	10/24/2013	20	720	0.123755994	1181	596	5817.9	545
FL	Crystal River	4	2013	10/24/2013	21	844	0.156731662	193	552	5385	499
FL	Crystal River	4	2013	10/24/2013	22	511	0.11142365	155	470	4586.1	406
FL	Crystal River	4	2013	10/24/2013	23	265	0.075502878	115	360	3509.8	293
FL	Crystal River	4	2013	10/25/2013	0	220	0.068308132	122	330	3220.7	254
FL	Crystal River	4	2013	10/25/2013	1	251	0.073962753	118	348	3393.6	275
FL	Crystal River	4	2013	10/25/2013	2	208	0.065484998	114	325	3176.3	252
FL	Crystal River	4	2013	10/25/2013	3	246	0.073593203	120	343	3342.7	275

FL	Crystal River	4	2013	10/25/2013	4	391	0.096976612	133	413	4031.9	349
FL	Crystal River	4	2013	10/25/2013	5	623	0.123090905	156	519	5061.3	459
FL	Crystal River	4	2013	10/25/2013	6	777	0.128330058	193	621	6054.7	576
FL	Crystal River	4	2013	10/25/2013	7	685	0.104624878	229	671	6547.2	631
FL	Crystal River	4	2013	10/25/2013	8	754	0.109259528	524	708	6901	677
FL	Crystal River	4	2013	10/25/2013	9	753	0.109035621	324	708	6906	675
FL	Crystal River	4	2013	10/25/2013	10	689	0.104992076	275	673	6562.4	636
FL	Crystal River	4	2013	10/25/2013	11	842	0.123022077	287	702	6844.3	666
FL	Crystal River	4	2013	10/25/2013	12	1097	0.147535472	342	762	7435.5	731
FL	Crystal River	4	2013	10/25/2013	13	1046	0.135562468	416	791	7716	768
FL	Crystal River	4	2013	10/25/2013	14	934	0.120052957	443	798	7779.9	763
FL	Crystal River	4	2013	10/25/2013	15	1000	0.127660118	524	803	7833.3	769
FL	Crystal River	4	2013	10/25/2013	16	821	0.113868046	454	739	7210.1	695
FL	Crystal River	4	2013	10/25/2013	17	605	0.095122795	337	652	6360.2	603
FL	Crystal River	4	2013	10/25/2013	18	690	0.105612784	287	670	6533.3	623
FL	Crystal River	4	2013	10/25/2013	19	633	0.106763367	266	608	5929	559
FL	Crystal River	4	2013	10/25/2013	20	530	0.100416825	179	541	5278	487
FL	Crystal River	4	2013	10/25/2013	21	407	0.087840463	148	475	4633.4	416
FL	Crystal River	4	2013	10/25/2013	22	346	0.081302723	136	436	4255.7	372
FL	Crystal River	4	2013	10/25/2013	23	225	0.060357315	123	382	3727.8	313
FL	Crystal River	4	2013	10/26/2013	0	182	0.055792281	110	334	3262.1	267
FL	Crystal River	4	2013	10/26/2013	1	156	0.049754417	106	321	3135.4	251
FL	Crystal River	4	2013	10/26/2013	2	154	0.049341578	109	320	3121.1	251
FL	Crystal River	4	2013	10/26/2013	3	149	0.047869948	112	319	3112.6	251
FL	Crystal River	4	2013	10/26/2013	4	156	0.049939177	112	320	3123.8	251
FL	Crystal River	4	2013	10/26/2013	5	191	0.057211322	116	342	3338.5	273
FL	Crystal River	4	2013	10/26/2013	6	327	0.080659086	133	415	4054.1	346
FL	Crystal River	4	2013	10/26/2013	7	501	0.101089588	148	508	4956	448
FL	Crystal River	4	2013	10/26/2013	8	1020	0.159589448	204	655	6391.4	611
FL	Crystal River	4	2013	10/26/2013	9	879	0.133485194	395	675	6585	634
FL	Crystal River	4	2013	10/26/2013	10	746	0.125073351	512	612	5964.5	564
FL	Crystal River	4	2013	10/26/2013	11	904	0.154387403	509	600	5855.4	556
FL	Crystal River	4	2013	10/26/2013	12	1206	0.182514339	555	677	6607.7	637
FL	Crystal River	4	2013	10/26/2013	13	1245	0.178897303	598	714	6959.3	677
FL	Crystal River	4	2013	10/26/2013	14	1208	0.172697251	622	717	6994.9	681

FL	Crystal River	4	2013	10/26/2013	15	1175	0.168205569	663	716	6985.5	679
FL	Crystal River	4	2013	10/26/2013	16	1095	0.162776869	679	690	6727	652
FL	Crystal River	4	2013	10/26/2013	17	786	0.134324532	596	600	5851.5	557
FL	Crystal River	4	2013	10/26/2013	18	878	0.150631348	553	598	5828.8	551
FL	Crystal River	4	2013	10/26/2013	19	731	0.132737739	523	565	5507.1	519
FL	Crystal River	4	2013	10/26/2013	20	495	0.104653375	482	485	4729.9	427
FL	Crystal River	4	2013	10/26/2013	21	447	0.100165823	459	457	4462.6	401
FL	Crystal River	4	2013	10/26/2013	22	313	0.076887175	415	417	4070.9	358
FL	Crystal River	4	2013	10/26/2013	23	201	0.061720813	117	334	3256.6	267
FL	Crystal River	4	2013	10/27/2013	0	214	0.068359687	103	321	3130.5	252
FL	Crystal River	4	2013	10/27/2013	1	186	0.059753277	105	319	3112.8	253
FL	Crystal River	4	2013	10/27/2013	2	166	0.053371057	108	319	3110.3	252
FL	Crystal River	4	2013	10/27/2013	3	159	0.051563108	107	316	3083.6	252
FL	Crystal River	4	2013	10/27/2013	4	158	0.050943092	114	318	3101.5	252
FL	Crystal River	4	2013	10/27/2013	5	163	0.052691127	114	317	3093.5	254
FL	Crystal River	4	2013	10/27/2013	6	222	0.066334001	127	343	3346.7	279
FL	Crystal River	4	2013	10/27/2013	7	422	0.099749445	156	434	4230.6	373
FL	Crystal River	4	2013	10/27/2013	8	786	0.142445496	187	566	5517.9	522
FL	Crystal River	4	2013	10/27/2013	9	826	0.139233038	219	608	5932.5	569
FL	Crystal River	4	2013	10/27/2013	10	674	0.114512895	235	603	5885.8	558
FL	Crystal River	4	2013	10/27/2013	11	895	0.141493028	278	649	6325.4	610
FL	Crystal River	4	2013	10/27/2013	12	888	0.133789342	331	681	6637.3	643
FL	Crystal River	4	2013	10/27/2013	13	732	0.105036591	404	715	6969	669
FL	Crystal River	4	2013	10/27/2013	14	793	0.111895019	446	727	7087	686
FL	Crystal River	4	2013	10/27/2013	15	1036	0.132362336	602	803	7827	761
FL	Crystal River	4	2013	10/27/2013	16	942	0.119165085	695	811	7905	767
FL	Crystal River	4	2013	10/27/2013	17	891	0.115401054	633	792	7720.9	756
FL	Crystal River	4	2013	10/27/2013	18	787	0.11041275	498	731	7127.8	681
FL	Crystal River	4	2013	10/27/2013	19	719	0.10988843	458	671	6543	623
FL	Crystal River	4	2013	10/27/2013	20	442	0.082322922	311	550	5369.1	492
FL	Crystal River	4	2013	10/27/2013	21	292	0.065403396	227	458	4464.6	389
FL	Crystal River	4	2013	10/27/2013	22	218	0.060516892	165	369	3602.3	299
FL	Crystal River	4	2013	10/27/2013	23	200	0.063698325	141	322	3139.8	251
FL	Crystal River	4	2013	10/28/2013	0	192	0.061528601	131	320	3120.5	250
FL	Crystal River	4	2013	10/28/2013	1	204	0.065823438	124	318	3099.2	251

FL	Crystal River	4	2013	10/28/2013	2	178	0.05745086	117	317	3098.3	250
FL	Crystal River	4	2013	10/28/2013	3	178	0.057530705	114	317	3094	251
FL	Crystal River	4	2013	10/28/2013	4	324	0.087031267	152	382	3722.8	321
FL	Crystal River	4	2013	10/28/2013	5	890	0.156634988	193	583	5682	532
FL	Crystal River	4	2013	10/28/2013	6	1126	0.165588235	244	697	6800	652
FL	Crystal River	4	2013	10/28/2013	7	1177	0.162578043	376	742	7239.6	707
FL	Crystal River	4	2013	10/28/2013	8	1071	0.138899697	555	791	7710.6	769
FL	Crystal River	4	2013	10/28/2013	9	910	0.11824017	708	789	7696.2	770
FL	Crystal River	4	2013	10/28/2013	10	944	0.122386009	647	791	7713.3	769
FL	Crystal River	4	2013	10/28/2013	11	988	0.127232689	761	796	7765.3	769
FL	Crystal River	4	2013	10/28/2013	12	1005	0.128651527	906	801	7811.8	769
FL	Crystal River	4	2013	10/28/2013	13	1007	0.129596026	924	797	7770.3	767
FL	Crystal River	4	2013	10/28/2013	14	924	0.117729502	934	805	7848.5	769
FL	Crystal River	4	2013	10/28/2013	15	890	0.113182593	943	806	7863.4	769
FL	Crystal River	4	2013	10/28/2013	16	939	0.120604177	887	798	7785.8	768
FL	Crystal River	4	2013	10/28/2013	17	1184	0.152011195	599	799	7788.9	768
FL	Crystal River	4	2013	10/28/2013	18	1061	0.135402443	540	804	7835.9	767
FL	Crystal River	4	2013	10/28/2013	19	936	0.120081594	506	799	7794.7	763
FL	Crystal River	4	2013	10/28/2013	20	799	0.114978918	90	713	6949.1	666
FL	Crystal River	4	2013	10/28/2013	21	927	0.138620968	461	686	6687.3	633
FL	Crystal River	4	2013	10/28/2013	22	729	0.118457614	504	631	6154.1	575
FL	Crystal River	4	2013	10/28/2013	23	513	0.107698444	338	488	4763.3	426
FL	Crystal River	4	2013	10/29/2013	0	294	0.077757207	279	387	3781	322
FL	Crystal River	4	2013	10/29/2013	1	265	0.073232742	365	371	3618.6	303
FL	Crystal River	4	2013	10/29/2013	2	214	0.067019511	249	327	3193.1	260
FL	Crystal River	4	2013	10/29/2013	3	228	0.068975949	277	339	3305.5	273
FL	Crystal River	4	2013	10/29/2013	4	467	0.11001437	526	435	4244.9	377
FL	Crystal River	4	2013	10/29/2013	5	1104	0.172198652	557	657	6411.2	617
FL	Crystal River	4	2013	10/29/2013	6	1296	0.168416675	715	789	7695.2	769
FL	Crystal River	4	2013	10/29/2013	7	1135	0.14824393	696	785	7656.3	769
FL	Crystal River	4	2013	10/29/2013	8	1013	0.132463321	1514	784	7647.4	769
FL	Crystal River	4	2013	10/29/2013	9	1040	0.135731252	743	786	7662.2	769
FL	Crystal River	4	2013	10/29/2013	10	1158	0.150177022	640	791	7710.9	768
FL	Crystal River	4	2013	10/29/2013	11	1176	0.15279077	600	789	7696.8	767
FL	Crystal River	4	2013	10/29/2013	12	1107	0.143518338	609	791	7713.3	768

FL	Crystal River	4	2013	10/29/2013	13	1092	0.141271443	610	793	7729.8	768
FL	Crystal River	4	2013	10/29/2013	14	1108	0.141849419	609	801	7811.1	768
FL	Crystal River	4	2013	10/29/2013	15	1153	0.148122455	607	798	7784.1	766
FL	Crystal River	4	2013	10/29/2013	16	1154	0.148409167	591	797	7775.8	767
FL	Crystal River	4	2013	10/29/2013	17	1178	0.151655595	598	797	7767.6	766
FL	Crystal River	4	2013	10/29/2013	18	1097	0.139542575	613	806	7861.4	769
FL	Crystal River	4	2013	10/29/2013	19	1045	0.132939815	613	806	7860.7	770
FL	Crystal River	4	2013	10/29/2013	20	885	0.112819336	619	804	7844.4	773
FL	Crystal River	4	2013	10/29/2013	21	618	0.084123981	565	753	7346.3	725
FL	Crystal River	4	2013	10/29/2013	22	582	0.088921483	451	671	6545.1	625
FL	Crystal River	4	2013	10/29/2013	23	191	0.041705789	316	469	4579.7	411
FL	Crystal River	4	2013	10/30/2013	0	91	0.027370891	568	341	3324.7	275
FL	Crystal River	4	2013	10/30/2013	1	76	0.024495584	180	318	3102.6	251
FL	Crystal River	4	2013	10/30/2013	2	55	0.01777232	492	317	3094.7	251
FL	Crystal River	4	2013	10/30/2013	3	62	0.020092034	200	316	3085.8	251
FL	Crystal River	4	2013	10/30/2013	4	67	0.020150982	212	341	3324.9	272
FL	Crystal River	4	2013	10/30/2013	5	183	0.040240121	286	466	4547.7	410
FL	Crystal River	4	2013	10/30/2013	6	329	0.053693247	435	628	6127.4	590
FL	Crystal River	4	2013	10/30/2013	7	409	0.068895814	445	609	5936.5	559
FL	Crystal River	4	2013	10/30/2013	8	852	0.119130848	557	733	7151.8	694
FL	Crystal River	4	2013	10/30/2013	9	908	0.115973127	782	803	7829.4	769
FL	Crystal River	4	2013	10/30/2013	10	743	0.094567763	660	806	7856.8	767
FL	Crystal River	4	2013	10/30/2013	11	681	0.087236114	702	800	7806.4	764
FL	Crystal River	4	2013	10/30/2013	12	805	0.103266029	678	799	7795.4	767
FL	Crystal River	4	2013	10/30/2013	13	838	0.107042038	634	803	7828.7	763
FL	Crystal River	4	2013	10/30/2013	14	638	0.081462754	681	803	7831.8	768
FL	Crystal River	4	2013	10/30/2013	15	602	0.07683962	673	803	7834.5	767
FL	Crystal River	4	2013	10/30/2013	16	628	0.079731857	677	808	7876.4	767
FL	Crystal River	4	2013	10/30/2013	17	565	0.072126125	697	803	7833.5	768
FL	Crystal River	4	2013	10/30/2013	18	576	0.073948544	677	799	7789.2	766
FL	Crystal River	4	2013	10/30/2013	19	735	0.094775119	628	795	7755.2	764
FL	Crystal River	4	2013	10/30/2013	20	859	0.110700156	628	796	7759.7	765
FL	Crystal River	4	2013	10/30/2013	21	806	0.108044344	574	765	7459.9	734
FL	Crystal River	4	2013	10/30/2013	22	552	0.08933629	383	634	6178.9	583
FL	Crystal River	4	2013	10/30/2013	23	306	0.06842729	223	458	4471.9	405

FL	Crystal River	4	2013	10/31/2013	0	150	0.047165362	162	326	3180.3	260
FL	Crystal River	4	2013	10/31/2013	1	199	0.064725972	144	315	3074.5	251
FL	Crystal River	4	2013	10/31/2013	2	183	0.059539302	132	315	3073.6	251
FL	Crystal River	4	2013	10/31/2013	3	184	0.059899733	122	315	3071.8	250
FL	Crystal River	4	2013	10/31/2013	4	184	0.059544999	123	317	3090.1	251
FL	Crystal River	4	2013	10/31/2013	5	385	0.099496059	154	397	3869.5	342
FL	Crystal River	4	2013	10/31/2013	6	770	0.137188875	202	575	5612.7	527
FL	Crystal River	4	2013	10/31/2013	7	745	0.125224816	238	610	5949.3	567
FL	Crystal River	4	2013	10/31/2013	8	1149	0.16180136	319	728	7101.3	691
FL	Crystal River	4	2013	10/31/2013	9	1004	0.130591434	453	788	7688.1	762
FL	Crystal River	4	2013	10/31/2013	10	972	0.123816924	596	805	7850.3	768
FL	Crystal River	4	2013	10/31/2013	11	1082	0.138604222	608	800	7806.4	768
FL	Crystal River	4	2013	10/31/2013	12	1195	0.155100134	631	790	7704.7	767
FL	Crystal River	4	2013	10/31/2013	13	1132	0.15053792	518	771	7519.7	754
FL	Crystal River	4	2013	10/31/2013	14	778	0.116734437	433	683	6664.7	651
FL	Crystal River	4	2013	10/31/2013	15	935	0.13920941	490	689	6716.5	656
FL	Crystal River	4	2013	10/31/2013	16	943	0.139908903	492	691	6740.1	656
FL	Crystal River	4	2013	10/31/2013	17	970	0.143656882	499	692	6752.2	656
FL	Crystal River	4	2013	10/31/2013	18	934	0.137456033	1528	697	6794.9	656
FL	Crystal River	4	2013	10/31/2013	19	744	0.109098908	661	699	6819.5	656
FL	Crystal River	4	2013	10/31/2013	20	703	0.103083713	709	699	6819.7	657
FL	Crystal River	4	2013	10/31/2013	21	733	0.110230537	645	682	6649.7	639
FL	Crystal River	4	2013	10/31/2013	22	658	0.107379484	576	628	6127.8	581
FL	Crystal River	4	2013	10/31/2013	23	284	0.062855499	456	463	4518.3	403
FL	Crystal River	4	2013	11/1/2013	0	162	0.044487162	371	373	3641.5	310
FL	Crystal River	4	2013	11/1/2013	1	135	0.043929583	350	315	3073.1	251
FL	Crystal River	4	2013	11/1/2013	2	180	0.05877551	339	314	3062.5	251
FL	Crystal River	4	2013	11/1/2013	3	134	0.044256556	211	310	3027.8	251
FL	Crystal River	4	2013	11/1/2013	4	165	0.051528684	214	328	3202.1	265
FL	Crystal River	4	2013	11/1/2013	5	614	0.120158907	332	524	5109.9	478
FL	Crystal River	4	2013	11/1/2013	6	1114	0.166127325	482	688	6705.7	651
FL	Crystal River	4	2013	11/1/2013	7	885	0.129543159	526	700	6831.7	666
FL	Crystal River	4	2013	11/1/2013	8	793	0.115609465	521	703	6859.3	666
FL	Crystal River	4	2013	11/1/2013	9	797	0.116486407	554	702	6842	666
FL	Crystal River	4	2013	11/1/2013	10	896	0.128893045	556	713	6951.5	667

FL	Crystal River	4	2013	11/1/2013	11	909	0.131049695	548	711	6936.3	668
FL	Crystal River	4	2013	11/1/2013	12	916	0.131840295	528	712	6947.8	668
FL	Crystal River	4	2013	11/1/2013	13	898	0.129918981	532	709	6912	668
FL	Crystal River	4	2013	11/1/2013	14	838	0.121285803	532	708	6909.3	668
FL	Crystal River	4	2013	11/1/2013	15	799	0.115540902	546	709	6915.3	668
FL	Crystal River	4	2013	11/1/2013	16	847	0.122076013	548	711	6938.3	668
FL	Crystal River	4	2013	11/1/2013	17	869	0.125500051	547	710	6924.3	668
FL	Crystal River	4	2013	11/1/2013	18	867	0.124450952	543	714	6966.6	668
FL	Crystal River	4	2013	11/1/2013	19	844	0.121842067	526	710	6927	668
FL	Crystal River	4	2013	11/1/2013	20	841	0.12027688	538	717	6992.2	668
FL	Crystal River	4	2013	11/1/2013	21	850	0.123076032	538	708	6906.3	665
FL	Crystal River	4	2013	11/1/2013	22	760	0.114131251	506	683	6659	632
FL	Crystal River	4	2013	11/1/2013	23	675	0.102370445	481	676	6593.7	622
FL	Crystal River	4	2013	11/2/2013	0	515	0.085624979	433	617	6014.6	562
FL	Crystal River	4	2013	11/2/2013	1	236	0.053500181	313	452	4411.2	390
FL	Crystal River	4	2013	11/2/2013	2	109	0.034663699	223	322	3144.5	244
FL	Crystal River	4	2013	11/2/2013	3	98	0.034271726	200	293	2859.5	226
FL	Crystal River	4	2013	11/2/2013	4	133	0.043509552	220	313	3056.8	244
FL	Crystal River	4	2013	11/2/2013	5	209	0.056535382	262	379	3696.8	319
FL	Crystal River	4	2013	11/2/2013	6	374	0.079381925	334	483	4711.4	436
FL	Crystal River	4	2013	11/2/2013	7	532	0.092608711	396	589	5744.6	552
FL	Crystal River	4	2013	11/2/2013	8	670	0.101458273	501	677	6603.7	649
FL	Crystal River	4	2013	11/2/2013	9	550	0.081744274	545	690	6728.3	662
FL	Crystal River	4	2013	11/2/2013	10	402	0.059076815	551	698	6804.7	668
FL	Crystal River	4	2013	11/2/2013	11	507	0.074451526	544	698	6809.8	671
FL	Crystal River	4	2013	11/2/2013	12	682	0.100224845	544	698	6804.7	671
FL	Crystal River	4	2013	11/2/2013	13	819	0.127795029	493	657	6408.7	636
FL	Crystal River	4	2013	11/2/2013	14	843	0.130880298	476	660	6441	637
FL	Crystal River	4	2013	11/2/2013	15	728	0.117869922	457	633	6176.3	610
FL	Crystal River	4	2013	11/2/2013	16	840	0.14129996	428	609	5944.8	570
FL	Crystal River	4	2013	11/2/2013	17	864	0.142053862	413	624	6082.2	589
FL	Crystal River	4	2013	11/2/2013	18	965	0.146411774	468	676	6591	641
FL	Crystal River	4	2013	11/2/2013	19	542	0.10184524	383	546	5321.8	504
FL	Crystal River	4	2013	11/2/2013	20	448	0.106050563	274	433	4224.4	383
FL	Crystal River	4	2013	11/2/2013	21	163	0.051531725	202	324	3163.1	269

FL	Crystal River	4	2013	11/2/2013	22	126	0.044477391	181	290	2832.9	226
FL	Crystal River	4	2013	11/2/2013	23	118	0.042120293	184	287	2801.5	226
FL	Crystal River	4	2013	11/3/2013	0	109	0.039152299	183	285	2784	225
FL	Crystal River	4	2013	11/3/2013	1	118	0.041426766	196	292	2848.4	226
FL	Crystal River	4	2013	11/3/2013	2	112	0.039132106	203	293	2862.1	226
FL	Crystal River	4	2013	11/3/2013	3	107	0.037493868	205	292	2853.8	226
FL	Crystal River	4	2013	11/3/2013	4	113	0.041304189	202	280	2735.8	226
FL	Crystal River	4	2013	11/3/2013	5	108	0.040026684	197	276	2698.2	226
FL	Crystal River	4	2013	11/3/2013	6	142	0.051800241	194	281	2741.3	226
FL	Crystal River	4	2013	11/3/2013	7	124	0.045209275	197	281	2742.8	226
FL	Crystal River	4	2013	11/3/2013	8	168	0.052562418	226	327	3196.2	276
FL	Crystal River	4	2013	11/3/2013	9	262	0.066424968	268	404	3944.3	349
FL	Crystal River	4	2013	11/3/2013	10	251	0.063348645	273	406	3962.2	371
FL	Crystal River	4	2013	11/3/2013	11	342	0.074844075	301	468	4569.5	423
FL	Crystal River	4	2013	11/3/2013	12	719	0.124446137	387	592	5777.6	563
FL	Crystal River	4	2013	11/3/2013	13	695	0.114839968	417	620	6051.9	599
FL	Crystal River	4	2013	11/3/2013	14	708	0.112906055	438	643	6270.7	622
FL	Crystal River	4	2013	11/3/2013	15	642	0.106694143	415	617	6017.2	587
FL	Crystal River	4	2013	11/3/2013	16	782	0.127286933	411	630	6143.6	600
FL	Crystal River	4	2013	11/3/2013	17	633	0.114237245	387	568	5541.1	534
FL	Crystal River	4	2013	11/3/2013	18	937	0.14969725	431	642	6259.3	616
FL	Crystal River	4	2013	11/3/2013	19	631	0.111415203	407	581	5663.5	544
FL	Crystal River	4	2013	11/3/2013	20	295	0.069354649	285	436	4253.5	395
FL	Crystal River	4	2013	11/3/2013	21	163	0.053370878	210	313	3054.1	261
FL	Crystal River	4	2013	11/3/2013	22	136	0.049789493	191	280	2731.5	225
FL	Crystal River	4	2013	11/3/2013	23	133	0.04853129	197	281	2740.5	226
FL	Crystal River	4	2013	11/4/2013	0	134	0.049145456	196	279	2726.6	226
FL	Crystal River	4	2013	11/4/2013	1	131	0.047899375	202	280	2734.9	226
FL	Crystal River	4	2013	11/4/2013	2	126	0.046024035	205	280	2737.7	226
FL	Crystal River	4	2013	11/4/2013	3	128	0.04701043	206	279	2722.8	225
FL	Crystal River	4	2013	11/4/2013	4	127	0.04610135	212	282	2754.8	226
FL	Crystal River	4	2013	11/4/2013	5	141	0.048837934	222	296	2887.1	239
FL	Crystal River	4	2013	11/4/2013	6	213	0.065554598	237	333	3249.2	284
FL	Crystal River	4	2013	11/4/2013	7	148	0.049131893	228	309	3012.3	256
FL	Crystal River	4	2013	11/4/2013	8	154	0.050867052	230	310	3027.5	257

FL	Crystal River	4	2013	11/4/2013	9	263	0.070878025	289	380	3710.6	329
FL	Crystal River	4	2013	11/4/2013	10	379	0.080884393	313	480	4685.7	444
FL	Crystal River	4	2013	11/4/2013	11	685	0.122494233	374	573	5592.1	553
FL	Crystal River	4	2013	11/4/2013	12	750	0.122669284	440	627	6114	627
FL	Crystal River	4	2013	11/4/2013	13	873	0.133327224	504	671	6547.8	642
FL	Crystal River	4	2013	11/4/2013	14	994	0.151955239	484	671	6541.4	643
FL	Crystal River	4	2013	11/4/2013	15	874	0.135028659	466	664	6472.7	634
FL	Crystal River	4	2013	11/4/2013	16	967	0.149055877	473	665	6487.5	645
FL	Crystal River	4	2013	11/4/2013	17	955	0.148781704	481	658	6418.8	636
FL	Crystal River	4	2013	11/4/2013	18	1001	0.147242693	537	697	6798.3	681
FL	Crystal River	4	2013	11/4/2013	19	904	0.132835689	524	698	6805.4	681
FL	Crystal River	4	2013	11/4/2013	20	880	0.135586953	480	665	6490.3	649
FL	Crystal River	4	2013	11/4/2013	21	665	0.121563323	372	561	5470.4	541
FL	Crystal River	4	2013	11/4/2013	22	704	0.14900417	316	484	4724.7	452
FL	Crystal River	4	2013	11/4/2013	23	488	0.126618406	273	395	3854.1	362
FL	Crystal River	4	2013	11/5/2013	0	201	0.068703856	225	300	2925.6	247
FL	Crystal River	4	2013	11/5/2013	1	274	0.100835388	217	278	2717.3	226
FL	Crystal River	4	2013	11/5/2013	2	348	0.129271917	218	276	2692	226
FL	Crystal River	4	2013	11/5/2013	3	336	0.124670699	223	276	2695.1	226
FL	Crystal River	4	2013	11/5/2013	4	332	0.121487119	229	280	2732.8	225
FL	Crystal River	4	2013	11/5/2013	5	499	0.15838253	245	323	3150.6	273
FL	Crystal River	4	2013	11/5/2013	6	746	0.196341624	269	389	3799.5	348
FL	Crystal River	4	2013	11/5/2013	7	848	0.16925472	330	514	5010.2	488
FL	Crystal River	4	2013	11/5/2013	8	796	0.144827335	384	563	5496.2	539
FL	Crystal River	4	2013	11/5/2013	9	1070	0.177699538	433	617	6021.4	601
FL	Crystal River	4	2013	11/5/2013	10	1704	0.253805594	496	688	6713.8	670
FL	Crystal River	4	2013	11/5/2013	11	2496	0.354661324	570	722	7037.7	711
FL	Crystal River	4	2013	11/5/2013	12	2458	0.326280298	640	772	7533.4	764
FL	Crystal River	4	2013	11/5/2013	13	1210	0.175969285	550	705	6876.2	678
FL	Crystal River	4	2013	11/5/2013	14	991	0.154121306	450	659	6430	628
FL	Crystal River	4	2013	11/5/2013	15	1004	0.16145113	435	638	6218.6	604
FL	Crystal River	4	2013	11/5/2013	16	876	0.132053002	464	680	6633.7	651
FL	Crystal River	4	2013	11/5/2013	17	810	0.131891751	429	630	6141.4	598
FL	Crystal River	4	2013	11/5/2013	18	1280	0.189021959	487	694	6771.7	670
FL	Crystal River	4	2013	11/5/2013	19	961	0.14275104	478	690	6732	671

FL	Crystal River	4	2013	11/5/2013	20	859	0.12845244	481	686	6687.3	667
FL	Crystal River	4	2013	11/5/2013	21	844	0.135508317	423	639	6228.4	610
FL	Crystal River	4	2013	11/5/2013	22	615	0.120425307	357	524	5106.9	485
FL	Crystal River	4	2013	11/5/2013	23	278	0.081296058	253	350	3419.6	294
FL	Crystal River	4	2013	11/6/2013	0	173	0.061918397	212	286	2794	226
FL	Crystal River	4	2013	11/6/2013	1	166	0.060092673	212	283	2762.4	226
FL	Crystal River	4	2013	11/6/2013	2	159	0.057214825	216	285	2779	226
FL	Crystal River	4	2013	11/6/2013	3	161	0.058814934	199	280	2737.4	226
FL	Crystal River	4	2013	11/6/2013	4	181	0.064698313	201	287	2797.6	225
FL	Crystal River	4	2013	11/6/2013	5	172	0.062011032	194	284	2773.7	226
FL	Crystal River	4	2013	11/6/2013	6	248	0.0817888	209	311	3032.2	257
FL	Crystal River	4	2013	11/6/2013	7	248	0.074604416	216	341	3324.2	290
FL	Crystal River	4	2013	11/6/2013	8	342	0.088049019	240	398	3884.2	356
FL	Crystal River	4	2013	11/6/2013	9	814	0.150201129	303	556	5419.4	518
FL	Crystal River	4	2013	11/6/2013	10	799	0.128576486	372	637	6214.2	603
FL	Crystal River	4	2013	11/6/2013	11	635	0.103737829	391	628	6121.2	588
FL	Crystal River	4	2013	11/6/2013	12	608	0.104275644	419	598	5830.7	557
FL	Crystal River	4	2013	11/6/2013	13	728	0.124401914	438	600	5852	556
FL	Crystal River	4	2013	11/6/2013	14	1042	0.165155646	511	647	6309.2	607
FL	Crystal River	4	2013	11/6/2013	15	733	0.118277314	539	635	6197.3	599
FL	Crystal River	4	2013	11/6/2013	16	614	0.105326357	489	598	5829.5	557
FL	Crystal River	4	2013	11/6/2013	17	849	0.144220969	488	604	5886.8	562
FL	Crystal River	4	2013	11/6/2013	18	1111	0.166230269	588	685	6683.5	653
FL	Crystal River	4	2013	11/6/2013	19	941	0.140040182	624	689	6719.5	660
FL	Crystal River	4	2013	11/6/2013	20	1126	0.167746741	604	688	6712.5	660
FL	Crystal River	4	2013	11/6/2013	21	1165	0.178058324	569	671	6542.8	640
FL	Crystal River	4	2013	11/6/2013	22	1108	0.170684742	512	666	6491.5	631
FL	Crystal River	4	2013	11/6/2013	23	561	0.106916201	393	538	5247.1	492
FL	Crystal River	4	2013	11/7/2013	0	175	0.054027353	262	332	3239.1	270
FL	Crystal River	4	2013	11/7/2013	1	205	0.072785372	214	289	2816.5	226
FL	Crystal River	4	2013	11/7/2013	2	194	0.06998557	205	284	2772	226
FL	Crystal River	4	2013	11/7/2013	3	169	0.061334108	192	282	2755.4	226
FL	Crystal River	4	2013	11/7/2013	4	184	0.066763425	198	282	2756	225
FL	Crystal River	4	2013	11/7/2013	5	176	0.064360418	188	280	2734.6	226
FL	Crystal River	4	2013	11/7/2013	6	233	0.079709897	195	299	2923.1	243

FL	Crystal River	4	2013	11/7/2013	7	341	0.095451365	253	366	3572.5	316
FL	Crystal River	4	2013	11/7/2013	8	342	0.086191688	277	407	3967.9	357
FL	Crystal River	4	2013	11/7/2013	9	489	0.109543011	285	458	4464	408
FL	Crystal River	4	2013	11/7/2013	10	487	0.097915033	318	510	4973.7	459
FL	Crystal River	4	2013	11/7/2013	11	885	0.16517049	337	549	5358.1	504
FL	Crystal River	4	2013	11/7/2013	12	1148	0.178235961	405	660	6440.9	626
FL	Crystal River	4	2013	11/7/2013	13	713	0.122622364	389	596	5814.6	562
FL	Crystal River	4	2013	11/7/2013	14	1246	0.211046935	371	605	5903.9	567
FL	Crystal River	4	2013	11/7/2013	15	1104	0.181713439	382	623	6075.5	584
FL	Crystal River	4	2013	11/7/2013	16	655	0.105378316	416	637	6215.7	604
FL	Crystal River	4	2013	11/7/2013	17	1139	0.178227737	402	655	6390.7	619
FL	Crystal River	4	2013	11/7/2013	18	988	0.147150815	436	688	6714.2	660
FL	Crystal River	4	2013	11/7/2013	19	855	0.128270523	453	683	6665.6	660
FL	Crystal River	4	2013	11/7/2013	20	914	0.139271946	433	673	6562.7	650
FL	Crystal River	4	2013	11/7/2013	21	672	0.120102945	346	574	5595.2	533
FL	Crystal River	4	2013	11/7/2013	22	535	0.111442081	288	492	4800.7	438
FL	Crystal River	4	2013	11/7/2013	23	205	0.061353365	210	342	3341.3	281
FL	Crystal River	4	2013	11/8/2013	0	193	0.068702834	179	288	2809.2	226
FL	Crystal River	4	2013	11/8/2013	1	180	0.06525522	179	283	2758.4	226
FL	Crystal River	4	2013	11/8/2013	2	181	0.066171901	177	280	2735.3	226
FL	Crystal River	4	2013	11/8/2013	3	199	0.071789322	183	284	2772	226
FL	Crystal River	4	2013	11/8/2013	4	182	0.066698428	188	280	2728.7	226
FL	Crystal River	4	2013	11/8/2013	5	180	0.06549265	184	282	2748.4	231
FL	Crystal River	4	2013	11/8/2013	6	248	0.080435911	194	316	3083.2	262
FL	Crystal River	4	2013	11/8/2013	7	287	0.080667828	227	365	3557.8	318
FL	Crystal River	4	2013	11/8/2013	8	293	0.075422158	244	398	3884.8	355
FL	Crystal River	4	2013	11/8/2013	9	276	0.071319672	259	397	3869.9	357
FL	Crystal River	4	2013	11/8/2013	10	358	0.086184068	265	426	4153.9	388
FL	Crystal River	4	2013	11/8/2013	11	562	0.113834312	320	506	4937	482
FL	Crystal River	4	2013	11/8/2013	12	826	0.139924109	436	605	5903.2	584
FL	Crystal River	4	2013	11/8/2013	13	926	0.148492623	511	639	6236	617
FL	Crystal River	4	2013	11/8/2013	14	794	0.132538768	563	614	5990.7	584
FL	Crystal River	4	2013	11/8/2013	15	934	0.155399897	577	616	6010.3	580
FL	Crystal River	4	2013	11/8/2013	16	918	0.148133805	576	635	6197.1	604
FL	Crystal River	4	2013	11/8/2013	17	694	0.118252454	369	602	5868.8	571

FL	Crystal River	4	2013	11/8/2013	18	1070	0.163231682	452	672	6555.1	655
FL	Crystal River	4	2013	11/8/2013	19	1030	0.154138545	467	685	6682.3	672
FL	Crystal River	4	2013	11/8/2013	20	745	0.123356625	374	619	6039.4	597
FL	Crystal River	4	2013	11/8/2013	21	555	0.110353329	281	516	5029.3	489
FL	Crystal River	4	2013	11/8/2013	22	371	0.086743044	243	438	4277	397
FL	Crystal River	4	2013	11/8/2013	23	207	0.059724747	208	355	3465.9	306
FL	Crystal River	4	2013	11/9/2013	0	162	0.054176978	194	306	2990.2	252
FL	Crystal River	4	2013	11/9/2013	1	126	0.04634909	184	278	2718.5	228
FL	Crystal River	4	2013	11/9/2013	2	120	0.044081993	190	279	2722.2	226
FL	Crystal River	4	2013	11/9/2013	3	122	0.04457598	194	280	2736.9	226
FL	Crystal River	4	2013	11/9/2013	4	117	0.042630716	197	281	2744.5	225
FL	Crystal River	4	2013	11/9/2013	5	112	0.040706549	198	282	2751.4	226
FL	Crystal River	4	2013	11/9/2013	6	161	0.055593923	202	297	2896	241
FL	Crystal River	4	2013	11/9/2013	7	162	0.05394785	210	308	3002.9	256
FL	Crystal River	4	2013	11/9/2013	8	164	0.050810174	213	331	3227.7	282
FL	Crystal River	4	2013	11/9/2013	9	302	0.072704512	253	426	4153.8	375
FL	Crystal River	4	2013	11/9/2013	10	255	0.059376892	262	440	4294.6	392
FL	Crystal River	4	2013	11/9/2013	11	536	0.099681985	328	551	5377.1	517
FL	Crystal River	4	2013	11/9/2013	12	743	0.120298561	426	633	6176.3	606
FL	Crystal River	4	2013	11/9/2013	13	527	0.090123985	421	600	5847.5	558
FL	Crystal River	4	2013	11/9/2013	14	695	0.112419527	445	634	6182.2	596
FL	Crystal River	4	2013	11/9/2013	15	887	0.137790689	437	660	6437.3	624
FL	Crystal River	4	2013	11/9/2013	16	630	0.109416791	362	590	5757.8	545
FL	Crystal River	4	2013	11/9/2013	17	654	0.1213088	318	553	5391.2	507
FL	Crystal River	4	2013	11/9/2013	18	633	0.109871036	334	591	5761.3	545
FL	Crystal River	4	2013	11/9/2013	19	478	0.098043237	282	500	4875.4	453
FL	Crystal River	4	2013	11/9/2013	20	323	0.075750469	247	437	4264	382
FL	Crystal River	4	2013	11/9/2013	21	161	0.046241778	215	357	3481.7	301
FL	Crystal River	4	2013	11/9/2013	22	122	0.040146105	197	311	3038.9	251
FL	Crystal River	4	2013	11/9/2013	23	112	0.037900579	195	303	2955.1	251
FL	Crystal River	4	2013	11/10/2013	0	89	0.031370061	187	291	2837.1	240
FL	Crystal River	4	2013	11/10/2013	1	76	0.028409091	187	274	2675.2	226
FL	Crystal River	4	2013	11/10/2013	2	73	0.027307074	189	274	2673.3	226
FL	Crystal River	4	2013	11/10/2013	3	67	0.025153927	189	273	2663.6	226
FL	Crystal River	4	2013	11/10/2013	4	67	0.025046729	198	274	2675	225

FL	Crystal River	4	2013	11/10/2013	5	68	0.025109856	195	277	2708.1	225
FL	Crystal River	4	2013	11/10/2013	6	107	0.039557839	197	277	2704.9	225
FL	Crystal River	4	2013	11/10/2013	7	97	0.035659143	204	279	2720.2	230
FL	Crystal River	4	2013	11/10/2013	8	142	0.044456968	220	327	3194.1	278
FL	Crystal River	4	2013	11/10/2013	9	136	0.043092522	211	323	3156	276
FL	Crystal River	4	2013	11/10/2013	10	362	0.082418833	281	450	4392.2	402
FL	Crystal River	4	2013	11/10/2013	11	656	0.112627693	378	597	5824.5	561
FL	Crystal River	4	2013	11/10/2013	12	1022	0.142566191	595	735	7168.6	703
FL	Crystal River	4	2013	11/10/2013	13	912	0.117681975	713	795	7749.7	771
FL	Crystal River	4	2013	11/10/2013	14	1036	0.133699846	604	795	7748.7	768
FL	Crystal River	4	2013	11/10/2013	15	1047	0.135365759	595	793	7734.6	770
FL	Crystal River	4	2013	11/10/2013	16	988	0.127533239	596	794	7747	769
FL	Crystal River	4	2013	11/10/2013	17	1110	0.143192549	581	795	7751.8	768
FL	Crystal River	4	2013	11/10/2013	18	915	0.126805067	497	740	7215.8	719
FL	Crystal River	4	2013	11/10/2013	19	804	0.124279288	427	663	6469.3	632
FL	Crystal River	4	2013	11/10/2013	20	779	0.134814738	352	592	5778.3	548
FL	Crystal River	4	2013	11/10/2013	21	732	0.142174572	278	528	5148.6	482
FL	Crystal River	4	2013	11/10/2013	22	344	0.085062189	226	414	4044.1	359
FL	Crystal River	4	2013	11/10/2013	23	181	0.058758603	194	316	3080.4	258
FL	Crystal River	4	2013	11/11/2013	0	148	0.051835248	179	292	2855.2	241
FL	Crystal River	4	2013	11/11/2013	1	105	0.038814136	175	277	2705.2	226
FL	Crystal River	4	2013	11/11/2013	2	114	0.041401852	179	282	2753.5	226
FL	Crystal River	4	2013	11/11/2013	3	105	0.038804095	178	277	2705.9	226
FL	Crystal River	4	2013	11/11/2013	4	104	0.038162337	185	279	2725.2	226
FL	Crystal River	4	2013	11/11/2013	5	114	0.040333994	186	290	2826.4	237
FL	Crystal River	4	2013	11/11/2013	6	195	0.060956549	204	328	3199	276
FL	Crystal River	4	2013	11/11/2013	7	244	0.064322244	265	389	3793.4	339
FL	Crystal River	4	2013	11/11/2013	8	231	0.056954067	267	416	4055.9	364
FL	Crystal River	4	2013	11/11/2013	9	374	0.076265829	304	503	4903.9	469
FL	Crystal River	4	2013	11/11/2013	10	899	0.135031618	432	683	6657.7	656
FL	Crystal River	4	2013	11/11/2013	11	959	0.125970392	639	781	7612.9	764
FL	Crystal River	4	2013	11/11/2013	12	699	0.090982454	637	788	7682.8	768
FL	Crystal River	4	2013	11/11/2013	13	664	0.086916683	595	783	7639.5	767
FL	Crystal River	4	2013	11/11/2013	14	703	0.091977182	558	784	7643.2	759
FL	Crystal River	4	2013	11/11/2013	15	766	0.09956845	584	789	7693.2	768

FL	Crystal River	4	2013	11/11/2013	16	718	0.092546047	597	796	7758.3	767
FL	Crystal River	4	2013	11/11/2013	17	480	0.068578286	629	718	6999.3	685
FL	Crystal River	4	2013	11/11/2013	18	453	0.064720758	587	718	6999.3	680
FL	Crystal River	4	2013	11/11/2013	19	432	0.062383572	595	710	6924.9	676
FL	Crystal River	4	2013	11/11/2013	20	383	0.058230581	559	674	6577.3	642
FL	Crystal River	4	2013	11/11/2013	21	295	0.048695939	478	621	6058	583
FL	Crystal River	4	2013	11/11/2013	22	296	0.04893209	465	620	6049.2	594
FL	Crystal River	4	2013	11/11/2013	23	220	0.040234825	442	561	5467.9	524
FL	Crystal River	4	2013	11/12/2013	0	146	0.031213255	355	479	4677.5	440
FL	Crystal River	4	2013	11/12/2013	1	83	0.023199911	329	367	3577.6	319
FL	Crystal River	4	2013	11/12/2013	2	54	0.018421861	316	300	2931.3	251
FL	Crystal River	4	2013	11/12/2013	3	70	0.023847648	311	301	2935.3	252
FL	Crystal River	4	2013	11/12/2013	4	86	0.029334516	304	300	2931.7	253
FL	Crystal River	4	2013	11/12/2013	5	107	0.03445278	313	318	3105.7	272
FL	Crystal River	4	2013	11/12/2013	6	299	0.066407551	351	462	4502.5	425
FL	Crystal River	4	2013	11/12/2013	7	445	0.074835194	398	610	5946.4	581
FL	Crystal River	4	2013	11/12/2013	8	494	0.075318656	459	672	6558.8	653
FL	Crystal River	4	2013	11/12/2013	9	683	0.104147606	531	672	6558	641
FL	Crystal River	4	2013	11/12/2013	10	714	0.121847162	527	601	5859.8	558
FL	Crystal River	4	2013	11/12/2013	11	1124	0.162223794	630	710	6928.7	673
FL	Crystal River	4	2013	11/12/2013	12	1230	0.159557908	763	790	7708.8	770
FL	Crystal River	4	2013	11/12/2013	13	1012	0.131818892	767	787	7677.2	768
FL	Crystal River	4	2013	11/12/2013	14	339	0.04848953	664	717	6991.2	688
FL	Crystal River	4	2013	11/12/2013	15	298	0.046711393	567	654	6379.6	619
FL	Crystal River	4	2013	11/12/2013	16	469	0.077241061	534	623	6071.9	578
FL	Crystal River	4	2013	11/12/2013	17	1166	0.174736621	560	684	6672.9	650
FL	Crystal River	4	2013	11/12/2013	18	966	0.145381212	558	681	6644.6	632
FL	Crystal River	4	2013	11/12/2013	19	879	0.129127982	565	698	6807.2	643
FL	Crystal River	4	2013	11/12/2013	20	897	0.133998596	548	686	6694.1	627
FL	Crystal River	4	2013	11/12/2013	21	750	0.123856393	490	621	6055.4	557
FL	Crystal River	4	2013	11/12/2013	22	697	0.125862256	443	568	5537.8	495
FL	Crystal River	4	2013	11/12/2013	23	320	0.079406437	378	413	4029.9	338
FL	Crystal River	4	2013	11/13/2013	0	268	0.07935333	337	346	3377.3	275
FL	Crystal River	4	2013	11/13/2013	1	179	0.060413784	302	304	2962.9	239
FL	Crystal River	4	2013	11/13/2013	2	156	0.056165617	294	285	2777.5	226

FL	Crystal River	4	2013	11/13/2013	3	149	0.054886359	287	278	2714.7	226
FL	Crystal River	4	2013	11/13/2013	4	144	0.05292561	283	279	2720.8	226
FL	Crystal River	4	2013	11/13/2013	5	270	0.079209083	317	349	3408.7	301
FL	Crystal River	4	2013	11/13/2013	6	559	0.105015968	351	546	5323	507
FL	Crystal River	4	2013	11/13/2013	7	512	0.089530837	366	586	5718.7	557
FL	Crystal River	4	2013	11/13/2013	8	509	0.08991662	520	580	5660.8	547
FL	Crystal River	4	2013	11/13/2013	9	497	0.092509865	381	551	5372.4	507
FL	Crystal River	4	2013	11/13/2013	10	420	0.085612948	397	503	4905.8	458
FL	Crystal River	4	2013	11/13/2013	11	422	0.085913801	378	504	4911.9	459
FL	Crystal River	4	2013	11/13/2013	12	639	0.114160146	397	574	5597.4	536
FL	Crystal River	4	2013	11/13/2013	13	777	0.124272279	437	641	6252.4	617
FL	Crystal River	4	2013	11/13/2013	14	755	0.114694578	599	675	6582.7	659
FL	Crystal River	4	2013	11/13/2013	15	657	0.098980068	484	681	6637.7	661
FL	Crystal River	4	2013	11/13/2013	16	556	0.090837799	599	628	6120.8	604
FL	Crystal River	4	2013	11/13/2013	17	636	0.101607183	625	642	6259.4	619
FL	Crystal River	4	2013	11/13/2013	18	765	0.115861693	673	677	6602.7	660
FL	Crystal River	4	2013	11/13/2013	19	644	0.098565897	352	670	6533.7	652
FL	Crystal River	4	2013	11/13/2013	20	557	0.086652147	469	659	6428	651
FL	Crystal River	4	2013	11/13/2013	21	471	0.078780986	352	613	5978.6	593
FL	Crystal River	4	2013	11/13/2013	22	469	0.081945731	286	587	5723.3	558
FL	Crystal River	4	2013	11/13/2013	23	239	0.055107217	234	445	4337	400
FL	Crystal River	4	2013	11/14/2013	0	221	0.061585621	186	368	3588.5	323
FL	Crystal River	4	2013	11/14/2013	1	144	0.050106128	175	294	2873.9	244
FL	Crystal River	4	2013	11/14/2013	2	127	0.047092851	97	276	2696.8	226
FL	Crystal River	4	2013	11/14/2013	3	116	0.042453521	84	280	2732.4	226
FL	Crystal River	4	2013	11/14/2013	4	117	0.041785714	89	287	2800	235
FL	Crystal River	4	2013	11/14/2013	5	263	0.072274588	138	373	3638.9	327
FL	Crystal River	4	2013	11/14/2013	6	828	0.141308985	392	601	5859.5	564
FL	Crystal River	4	2013	11/14/2013	7	824	0.126018933	549	670	6538.7	659
FL	Crystal River	4	2013	11/14/2013	8	772	0.121914628	411	649	6332.3	634
FL	Crystal River	4	2013	11/14/2013	9	722	0.124371253	359	595	5805.2	582
FL	Crystal River	4	2013	11/14/2013	10	553	0.101315452	354	560	5458.2	542
FL	Crystal River	4	2013	11/14/2013	11	553	0.099569672	288	569	5553.9	551
FL	Crystal River	4	2013	11/14/2013	12	722	0.120948153	352	612	5969.5	590
FL	Crystal River	4	2013	11/14/2013	13	1063	0.165447471	411	659	6425	650

FL	Crystal River	4	2013	11/14/2013	14	941	0.144349507	436	668	6518.9	660
FL	Crystal River	4	2013	11/14/2013	15	823	0.129057551	420	654	6377	653
FL	Crystal River	4	2013	11/14/2013	16	690	0.114614132	385	617	6020.2	605
FL	Crystal River	4	2013	11/14/2013	17	911	0.153310222	374	609	5942.2	592
FL	Crystal River	4	2013	11/14/2013	18	988	0.152941176	426	662	6460	660
FL	Crystal River	4	2013	11/14/2013	19	857	0.128680611	472	683	6659.9	676
FL	Crystal River	4	2013	11/14/2013	20	876	0.13073261	462	687	6700.7	680
FL	Crystal River	4	2013	11/14/2013	21	871	0.132143887	428	676	6591.3	671
FL	Crystal River	4	2013	11/14/2013	22	675	0.111014259	401	623	6080.3	621
FL	Crystal River	4	2013	11/14/2013	23	364	0.074619216	287	500	4878.1	478
FL	Crystal River	4	2013	11/15/2013	0	199	0.053557972	222	381	3715.6	343
FL	Crystal River	4	2013	11/15/2013	1	119	0.043123754	176	283	2759.5	241
FL	Crystal River	4	2013	11/15/2013	2	111	0.041712074	173	273	2661.1	226
FL	Crystal River	4	2013	11/15/2013	3	101	0.03804573	172	272	2654.7	225
FL	Crystal River	4	2013	11/15/2013	4	99	0.037089765	176	273	2669.2	225
FL	Crystal River	4	2013	11/15/2013	5	132	0.044638328	198	303	2957.1	258
FL	Crystal River	4	2013	11/15/2013	6	468	0.102034142	293	470	4586.7	432
FL	Crystal River	4	2013	11/15/2013	7	692	0.119203473	377	595	5805.2	579
FL	Crystal River	4	2013	11/15/2013	8	628	0.103734783	417	621	6053.9	613
FL	Crystal River	4	2013	11/15/2013	9	783	0.11855194	468	677	6604.7	675
FL	Crystal River	4	2013	11/15/2013	10	920	0.130252577	529	724	7063.2	726
FL	Crystal River	4	2013	11/15/2013	11	986	0.13445149	586	752	7333.5	767
FL	Crystal River	4	2013	11/15/2013	12	1009	0.137901815	585	750	7316.8	767
FL	Crystal River	4	2013	11/15/2013	13	1077	0.145881588	583	757	7382.7	768
FL	Crystal River	4	2013	11/15/2013	14	1109	0.149852715	577	759	7400.6	768
FL	Crystal River	4	2013	11/15/2013	15	1068	0.146143215	570	749	7307.9	766
FL	Crystal River	4	2013	11/15/2013	16	1070	0.145027718	568	757	7377.9	766
FL	Crystal River	4	2013	11/15/2013	17	1079	0.14643812	589	756	7368.3	768
FL	Crystal River	4	2013	11/15/2013	18	1077	0.147018674	578	751	7325.6	767
FL	Crystal River	4	2013	11/15/2013	19	1071	0.146064045	571	752	7332.4	768
FL	Crystal River	4	2013	11/15/2013	20	1050	0.142336212	553	756	7376.9	765
FL	Crystal River	4	2013	11/15/2013	21	740	0.120299774	418	631	6151.3	627
FL	Crystal River	4	2013	11/15/2013	22	1022	0.175231041	384	598	5832.3	585
FL	Crystal River	4	2013	11/15/2013	23	744	0.137729317	329	554	5401.9	532
FL	Crystal River	4	2013	11/16/2013	0	403	0.087595366	280	472	4600.7	441

FL	Crystal River	4	2013	11/16/2013	1	338	0.089146776	235	389	3791.5	353
FL	Crystal River	4	2013	11/16/2013	2	209	0.072458744	190	295	2884.4	254
FL	Crystal River	4	2013	11/16/2013	3	153	0.057236916	189	274	2673.1	225
FL	Crystal River	4	2013	11/16/2013	4	154	0.057783948	191	273	2665.1	227
FL	Crystal River	4	2013	11/16/2013	5	247	0.076987813	218	329	3208.3	284
FL	Crystal River	4	2013	11/16/2013	6	638	0.14016741	282	467	4551.7	435
FL	Crystal River	4	2013	11/16/2013	7	844	0.151858649	339	570	5557.8	554
FL	Crystal River	4	2013	11/16/2013	8	999	0.157414557	412	651	6346.3	639
FL	Crystal River	4	2013	11/16/2013	9	1192	0.16529384	555	739	7211.4	746
FL	Crystal River	4	2013	11/16/2013	10	1030	0.138442721	632	763	7439.9	769
FL	Crystal River	4	2013	11/16/2013	11	954	0.128538514	608	761	7421.9	768
FL	Crystal River	4	2013	11/16/2013	12	1049	0.141093237	572	762	7434.8	766
FL	Crystal River	4	2013	11/16/2013	13	1146	0.152476749	571	771	7515.9	768
FL	Crystal River	4	2013	11/16/2013	14	1144	0.151360792	582	775	7558.1	767
FL	Crystal River	4	2013	11/16/2013	15	1127	0.149334817	581	774	7546.8	767
FL	Crystal River	4	2013	11/16/2013	16	1142	0.150842711	583	776	7570.8	767
FL	Crystal River	4	2013	11/16/2013	17	1109	0.146124858	592	778	7589.4	768
FL	Crystal River	4	2013	11/16/2013	18	1063	0.140076693	591	778	7588.7	767
FL	Crystal River	4	2013	11/16/2013	19	1019	0.13506707	596	774	7544.4	769
FL	Crystal River	4	2013	11/16/2013	20	1003	0.132517704	590	776	7568.8	768
FL	Crystal River	4	2013	11/16/2013	21	1108	0.146376907	567	776	7569.5	767
FL	Crystal River	4	2013	11/16/2013	22	1071	0.150486869	512	730	7116.9	720
FL	Crystal River	4	2013	11/16/2013	23	567	0.098624132	379	589	5749.1	557
FL	Crystal River	4	2013	11/17/2013	0	363	0.071591985	329	520	5070.4	473
FL	Crystal River	4	2013	11/17/2013	1	260	0.062587261	270	426	4154.2	379
FL	Crystal River	4	2013	11/17/2013	2	146	0.04789712	198	312	3048.2	260
FL	Crystal River	4	2013	11/17/2013	3	120	0.043993108	190	279	2727.7	226
FL	Crystal River	4	2013	11/17/2013	4	120	0.043946385	196	280	2730.6	226
FL	Crystal River	4	2013	11/17/2013	5	116	0.042461291	199	280	2731.9	226
FL	Crystal River	4	2013	11/17/2013	6	216	0.06651475	230	333	3247.4	277
FL	Crystal River	4	2013	11/17/2013	7	415	0.093405357	271	455	4443	412
FL	Crystal River	4	2013	11/17/2013	8	826	0.134383236	393	630	6146.6	601
FL	Crystal River	4	2013	11/17/2013	9	1126	0.151443827	550	762	7435.1	744
FL	Crystal River	4	2013	11/17/2013	10	1035	0.136458924	584	778	7584.7	766
FL	Crystal River	4	2013	11/17/2013	11	970	0.127631579	600	779	7600	767

FL	Crystal River	4	2013	11/17/2013	12	1002	0.130649073	621	786	7669.4	767
FL	Crystal River	4	2013	11/17/2013	13	1039	0.13582232	634	784	7649.7	766
FL	Crystal River	4	2013	11/17/2013	14	1086	0.142366482	610	782	7628.2	767
FL	Crystal River	4	2013	11/17/2013	15	1092	0.143761766	592	779	7595.9	766
FL	Crystal River	4	2013	11/17/2013	16	1088	0.142926579	586	781	7612.3	767
FL	Crystal River	4	2013	11/17/2013	17	1169	0.153213017	579	782	7629.9	766
FL	Crystal River	4	2013	11/17/2013	18	1204	0.157266386	566	785	7655.8	763
FL	Crystal River	4	2013	11/17/2013	19	1136	0.149402914	570	780	7603.6	767
FL	Crystal River	4	2013	11/17/2013	20	1092	0.143472777	586	780	7611.2	767
FL	Crystal River	4	2013	11/17/2013	21	1084	0.141662311	573	785	7652	766
FL	Crystal River	4	2013	11/17/2013	22	1075	0.140732595	572	783	7638.6	764
FL	Crystal River	4	2013	11/17/2013	23	930	0.128065658	501	745	7261.9	719
FL	Crystal River	4	2013	11/18/2013	0	510	0.088339223	357	592	5773.2	547
FL	Crystal River	4	2013	11/18/2013	1	271	0.058697394	267	473	4616.9	421
FL	Crystal River	4	2013	11/18/2013	2	286	0.065443229	253	448	4370.2	391
FL	Crystal River	4	2013	11/18/2013	3	431	0.096749573	267	457	4454.8	397
FL	Crystal River	4	2013	11/18/2013	4	769	0.156453451	290	504	4915.2	451
FL	Crystal River	4	2013	11/18/2013	5	975	0.166311301	381	601	5862.5	563
FL	Crystal River	4	2013	11/18/2013	6	1610	0.215327003	545	767	7477	738
FL	Crystal River	4	2013	11/18/2013	7	1157	0.15229295	645	779	7597.2	768
FL	Crystal River	4	2013	11/18/2013	8	925	0.122367446	627	775	7559.2	766
FL	Crystal River	4	2013	11/18/2013	9	987	0.130135541	637	778	7584.4	765
FL	Crystal River	4	2013	11/18/2013	10	1127	0.148430092	668	779	7592.8	766
FL	Crystal River	4	2013	11/18/2013	11	1208	0.157887858	734	785	7651	766
FL	Crystal River	4	2013	11/18/2013	12	1154	0.150554468	728	786	7665	765
FL	Crystal River	4	2013	11/18/2013	13	1058	0.138165198	727	785	7657.5	766
FL	Crystal River	4	2013	11/18/2013	14	1031	0.135419129	730	781	7613.4	765
FL	Crystal River	4	2013	11/18/2013	15	996	0.131351629	720	778	7582.7	765
FL	Crystal River	4	2013	11/18/2013	16	1075	0.141661725	622	778	7588.5	765
FL	Crystal River	4	2013	11/18/2013	17	1295	0.170291666	562	780	7604.6	764
FL	Crystal River	4	2013	11/18/2013	18	1364	0.177191182	592	789	7697.9	766
FL	Crystal River	4	2013	11/18/2013	19	1145	0.148799854	577	789	7694.9	768
FL	Crystal River	4	2013	11/18/2013	20	959	0.124842157	599	788	7681.7	770
FL	Crystal River	4	2013	11/18/2013	21	1074	0.139567523	607	789	7695.2	768
FL	Crystal River	4	2013	11/18/2013	22	1107	0.161081443	481	705	6872.3	680

FL	Crystal River	4	2013	11/18/2013	23	719	0.128943168	340	572	5576.1	524
FL	Crystal River	4	2013	11/19/2013	0	402	0.097334205	247	423	4130.1	365
FL	Crystal River	4	2013	11/19/2013	1	253	0.081429031	174	318	3107	259
FL	Crystal River	4	2013	11/19/2013	2	169	0.059708875	181	290	2830.4	226
FL	Crystal River	4	2013	11/19/2013	3	132	0.046816811	177	289	2819.5	226
FL	Crystal River	4	2013	11/19/2013	4	132	0.046423296	184	291	2843.4	225
FL	Crystal River	4	2013	11/19/2013	5	273	0.077181872	212	362	3537.1	305
FL	Crystal River	4	2013	11/19/2013	6	846	0.174869261	295	496	4837.9	452
FL	Crystal River	4	2013	11/19/2013	7	1918	0.301193467	420	653	6368	631
FL	Crystal River	4	2013	11/19/2013	8	2154	0.30138098	536	733	7147.1	722
FL	Crystal River	4	2013	11/19/2013	9	2005	0.267937085	576	767	7483.1	764
FL	Crystal River	4	2013	11/19/2013	10	1557	0.207974354	583	768	7486.5	770
FL	Crystal River	4	2013	11/19/2013	11	626	0.083956975	589	765	7456.2	769
FL	Crystal River	4	2013	11/19/2013	12	585	0.078219013	643	767	7479	767
FL	Crystal River	4	2013	11/19/2013	13	662	0.088054163	684	771	7518.1	768
FL	Crystal River	4	2013	11/19/2013	14	759	0.099538373	678	782	7625.2	768
FL	Crystal River	4	2013	11/19/2013	15	700	0.091976979	677	780	7610.6	769
FL	Crystal River	4	2013	11/19/2013	16	676	0.089018818	668	779	7593.9	769
FL	Crystal River	4	2013	11/19/2013	17	768	0.100763599	670	782	7621.8	768
FL	Crystal River	4	2013	11/19/2013	18	866	0.113316672	687	784	7642.3	770
FL	Crystal River	4	2013	11/19/2013	19	908	0.120355765	709	774	7544.3	769
FL	Crystal River	4	2013	11/19/2013	20	841	0.111556216	708	773	7538.8	770
FL	Crystal River	4	2013	11/19/2013	21	674	0.096059289	631	719	7016.5	714
FL	Crystal River	4	2013	11/19/2013	22	412	0.072169283	485	585	5708.8	552
FL	Crystal River	4	2013	11/19/2013	23	199	0.046899672	309	435	4243.1	392
FL	Crystal River	4	2013	11/20/2013	0	98	0.032441737	178	309	3020.8	259
FL	Crystal River	4	2013	11/20/2013	1	94	0.032907404	188	293	2856.5	235
FL	Crystal River	4	2013	11/20/2013	2	100	0.03646973	189	281	2742	226
FL	Crystal River	4	2013	11/20/2013	3	111	0.040162096	193	283	2763.8	226
FL	Crystal River	4	2013	11/20/2013	4	110	0.039589707	194	285	2778.5	226
FL	Crystal River	4	2013	11/20/2013	5	106	0.037238714	202	292	2846.5	231
FL	Crystal River	4	2013	11/20/2013	6	262	0.068405525	256	393	3830.1	338
FL	Crystal River	4	2013	11/20/2013	7	363	0.076742564	316	485	4730.1	442
FL	Crystal River	4	2013	11/20/2013	8	314	0.065919301	304	488	4763.4	446
FL	Crystal River	4	2013	11/20/2013	9	332	0.067188796	321	507	4941.3	462

FL	Crystal River	4	2013	11/20/2013	10	493	0.08709478	379	580	5660.5	545
FL	Crystal River	4	2013	11/20/2013	11	920	0.13141543	511	718	7000.7	705
FL	Crystal River	4	2013	11/20/2013	12	1119	0.147349293	607	779	7594.2	767
FL	Crystal River	4	2013	11/20/2013	13	1075	0.141725224	599	778	7585.1	768
FL	Crystal River	4	2013	11/20/2013	14	1032	0.136435748	582	776	7564	766
FL	Crystal River	4	2013	11/20/2013	15	1066	0.139328192	581	785	7651	768
FL	Crystal River	4	2013	11/20/2013	16	1101	0.143501382	598	787	7672.4	766
FL	Crystal River	4	2013	11/20/2013	17	1074	0.139652818	761	789	7690.5	769
FL	Crystal River	4	2013	11/20/2013	18	1098	0.143510652	757	785	7651	766
FL	Crystal River	4	2013	11/20/2013	19	1073	0.139646264	737	788	7683.7	768
FL	Crystal River	4	2013	11/20/2013	20	1071	0.139653149	736	786	7669	768
FL	Crystal River	4	2013	11/20/2013	21	1001	0.132367137	695	775	7562.3	755
FL	Crystal River	4	2013	11/20/2013	22	682	0.109161918	524	641	6247.6	605
FL	Crystal River	4	2013	11/20/2013	23	387	0.079895949	251	497	4843.8	442
FL	Crystal River	4	2013	11/21/2013	0	344	0.072963285	264	483	4714.7	424
FL	Crystal River	4	2013	11/21/2013	1	166	0.045954101	213	370	3612.3	314
FL	Crystal River	4	2013	11/21/2013	2	126	0.041310121	192	312	3050.1	245
FL	Crystal River	4	2013	11/21/2013	3	119	0.04156334	180	293	2863.1	226
FL	Crystal River	4	2013	11/21/2013	4	106	0.037196898	185	292	2849.7	226
FL	Crystal River	4	2013	11/21/2013	5	172	0.048694864	226	362	3532.2	299
FL	Crystal River	4	2013	11/21/2013	6	939	0.162755226	357	591	5769.4	538
FL	Crystal River	4	2013	11/21/2013	7	1013	0.134843725	570	770	7512.4	743
FL	Crystal River	4	2013	11/21/2013	8	716	0.093143058	630	788	7687.1	768
FL	Crystal River	4	2013	11/21/2013	9	733	0.096085782	617	782	7628.6	768
FL	Crystal River	4	2013	11/21/2013	10	790	0.102706779	623	789	7691.8	766
FL	Crystal River	4	2013	11/21/2013	11	630	0.081430067	618	793	7736.7	768
FL	Crystal River	4	2013	11/21/2013	12	1076	0.138067314	615	799	7793.3	768
FL	Crystal River	4	2013	11/21/2013	13	1081	0.14083773	621	787	7675.5	765
FL	Crystal River	4	2013	11/21/2013	14	810	0.105148376	616	790	7703.4	767
FL	Crystal River	4	2013	11/21/2013	15	876	0.113651107	616	790	7707.8	766
FL	Crystal River	4	2013	11/21/2013	16	919	0.119208219	624	791	7709.2	767
FL	Crystal River	4	2013	11/21/2013	17	881	0.115005548	620	786	7660.5	767
FL	Crystal River	4	2013	11/21/2013	18	910	0.117449664	635	794	7748	767
FL	Crystal River	4	2013	11/21/2013	19	956	0.124178422	623	789	7698.6	767
FL	Crystal River	4	2013	11/21/2013	20	956	0.123847031	609	792	7719.2	767

FL	Crystal River	4	2013	11/21/2013	21	942	0.121821897	610	793	7732.6	770
FL	Crystal River	4	2013	11/21/2013	22	903	0.119773981	595	773	7539.2	754
FL	Crystal River	4	2013	11/21/2013	23	676	0.106122449	445	653	6370	621
FL	Crystal River	4	2013	11/22/2013	0	431	0.085226711	298	518	5057.1	474
FL	Crystal River	4	2013	11/22/2013	1	238	0.060796485	227	401	3914.7	344
FL	Crystal River	4	2013	11/22/2013	2	141	0.047780413	191	302	2951	238
FL	Crystal River	4	2013	11/22/2013	3	153	0.053078925	198	295	2882.5	226
FL	Crystal River	4	2013	11/22/2013	4	140	0.048274197	194	297	2900.1	230
FL	Crystal River	4	2013	11/22/2013	5	200	0.058436815	225	351	3422.5	291
FL	Crystal River	4	2013	11/22/2013	6	571	0.106900813	320	548	5341.4	503
FL	Crystal River	4	2013	11/22/2013	7	657	0.104517976	421	644	6286	615
FL	Crystal River	4	2013	11/22/2013	8	564	0.085025553	471	680	6633.3	657
FL	Crystal River	4	2013	11/22/2013	9	635	0.083940303	582	776	7564.9	749
FL	Crystal River	4	2013	11/22/2013	10	666	0.086358921	617	791	7712	767
FL	Crystal River	4	2013	11/22/2013	11	783	0.101352663	594	792	7725.5	765
FL	Crystal River	4	2013	11/22/2013	12	1178	0.152881783	585	790	7705.3	768
FL	Crystal River	4	2013	11/22/2013	13	1185	0.153173998	603	793	7736.3	766
FL	Crystal River	4	2013	11/22/2013	14	945	0.121792476	597	796	7759.1	767
FL	Crystal River	4	2013	11/22/2013	15	943	0.121822034	596	794	7740.8	764
FL	Crystal River	4	2013	11/22/2013	16	1033	0.133085971	621	796	7761.9	766
FL	Crystal River	4	2013	11/22/2013	17	1029	0.133119445	602	793	7729.9	766
FL	Crystal River	4	2013	11/22/2013	18	1035	0.134253434	601	791	7709.3	768
FL	Crystal River	4	2013	11/22/2013	19	945	0.121828589	605	795	7756.8	769
FL	Crystal River	4	2013	11/22/2013	20	952	0.122737352	612	795	7756.4	767
FL	Crystal River	4	2013	11/22/2013	21	931	0.124675255	567	766	7467.4	735
FL	Crystal River	4	2013	11/22/2013	22	665	0.104374304	426	653	6371.3	610
FL	Crystal River	4	2013	11/22/2013	23	436	0.078139001	373	572	5579.8	516
FL	Crystal River	4	2013	11/23/2013	0	329	0.066415003	322	508	4953.7	444
FL	Crystal River	4	2013	11/23/2013	1	189	0.048674959	256	398	3882.9	336
FL	Crystal River	4	2013	11/23/2013	2	127	0.04058675	203	321	3129.1	252
FL	Crystal River	4	2013	11/23/2013	3	139	0.045337421	205	314	3065.9	252
FL	Crystal River	4	2013	11/23/2013	4	139	0.04529753	208	314	3068.6	252
FL	Crystal River	4	2013	11/23/2013	5	137	0.044835711	201	313	3055.6	252
FL	Crystal River	4	2013	11/23/2013	6	180	0.058572777	212	315	3073.1	253
FL	Crystal River	4	2013	11/23/2013	7	219	0.063646139	240	353	3440.9	293

FL	Crystal River	4	2013	11/23/2013	8	527	0.100396251	330	538	5249.2	486
FL	Crystal River	4	2013	11/23/2013	9	697	0.109044259	447	655	6391.9	618
FL	Crystal River	4	2013	11/23/2013	10	820	0.113499522	549	741	7224.7	704
FL	Crystal River	4	2013	11/23/2013	11	1006	0.12889669	647	800	7804.7	767
FL	Crystal River	4	2013	11/23/2013	12	1048	0.134642068	646	798	7783.6	767
FL	Crystal River	4	2013	11/23/2013	13	1066	0.137326892	613	796	7762.5	767
FL	Crystal River	4	2013	11/23/2013	14	1099	0.142037377	611	793	7737.4	768
FL	Crystal River	4	2013	11/23/2013	15	1101	0.142627665	609	792	7719.4	767
FL	Crystal River	4	2013	11/23/2013	16	1088	0.140788571	595	792	7727.9	766
FL	Crystal River	4	2013	11/23/2013	17	1013	0.131715816	584	789	7690.8	763
FL	Crystal River	4	2013	11/23/2013	18	987	0.128221783	585	789	7697.6	765
FL	Crystal River	4	2013	11/23/2013	19	1135	0.14814138	589	786	7661.6	764
FL	Crystal River	4	2013	11/23/2013	20	1195	0.157878744	575	776	7569.1	753
FL	Crystal River	4	2013	11/23/2013	21	774	0.126268394	410	628	6129.8	587
FL	Crystal River	4	2013	11/23/2013	22	861	0.141672426	382	623	6077.4	574
FL	Crystal River	4	2013	11/23/2013	23	758	0.139635989	352	557	5428.4	508
FL	Crystal River	4	2013	11/24/2013	0	445	0.110367063	258	413	4032	360
FL	Crystal River	4	2013	11/24/2013	1	313	0.101656382	194	315	3079	259
FL	Crystal River	4	2013	11/24/2013	2	258	0.085495576	193	309	3017.7	252
FL	Crystal River	4	2013	11/24/2013	3	254	0.083420914	191	312	3044.8	252
FL	Crystal River	4	2013	11/24/2013	4	251	0.081610092	199	315	3075.6	252
FL	Crystal River	4	2013	11/24/2013	5	239	0.079099785	202	310	3021.5	252
FL	Crystal River	4	2013	11/24/2013	6	266	0.087147397	201	313	3052.3	252
FL	Crystal River	4	2013	11/24/2013	7	252	0.082328727	205	314	3060.9	254
FL	Crystal River	4	2013	11/24/2013	8	490	0.123310768	258	407	3973.7	352
FL	Crystal River	4	2013	11/24/2013	9	1017	0.152022482	441	686	6689.8	654
FL	Crystal River	4	2013	11/24/2013	10	1048	0.138247632	568	777	7580.6	765
FL	Crystal River	4	2013	11/24/2013	11	995	0.131485054	582	776	7567.4	765
FL	Crystal River	4	2013	11/24/2013	12	1101	0.144060922	596	784	7642.6	766
FL	Crystal River	4	2013	11/24/2013	13	1156	0.150471852	606	788	7682.5	766
FL	Crystal River	4	2013	11/24/2013	14	1099	0.142963069	599	788	7687.3	767
FL	Crystal River	4	2013	11/24/2013	15	1084	0.141037484	614	788	7685.9	768
FL	Crystal River	4	2013	11/24/2013	16	1059	0.136986301	610	793	7730.7	767
FL	Crystal River	4	2013	11/24/2013	17	1058	0.137283143	601	790	7706.7	768
FL	Crystal River	4	2013	11/24/2013	18	1076	0.14009687	591	788	7680.4	767

FL	Crystal River	4	2013	11/24/2013	19	1144	0.149349208	589	785	7659.9	767
FL	Crystal River	4	2013	11/24/2013	20	1150	0.151593045	584	778	7586.1	767
FL	Crystal River	4	2013	11/24/2013	21	777	0.117689826	468	677	6602.1	653
FL	Crystal River	4	2013	11/24/2013	22	688	0.11818869	390	597	5821.2	561
FL	Crystal River	4	2013	11/24/2013	23	452	0.101379388	272	457	4458.5	414
FL	Crystal River	4	2013	11/25/2013	0	209	0.064059339	205	334	3262.6	280
FL	Crystal River	4	2013	11/25/2013	1	165	0.054190751	197	312	3044.8	252
FL	Crystal River	4	2013	11/25/2013	2	149	0.049376988	196	309	3017.6	252
FL	Crystal River	4	2013	11/25/2013	3	148	0.049453671	203	307	2992.7	252
FL	Crystal River	4	2013	11/25/2013	4	163	0.054630157	199	306	2983.7	252
FL	Crystal River	4	2013	11/25/2013	5	173	0.055391906	193	320	3123.2	267
FL	Crystal River	4	2013	11/25/2013	6	424	0.099724816	246	436	4251.7	392
FL	Crystal River	4	2013	11/25/2013	7	847	0.146524582	1121	593	5780.6	552
FL	Crystal River	4	2013	11/25/2013	8	960	0.144254609	519	682	6654.9	650
FL	Crystal River	4	2013	11/25/2013	9	908	0.132506385	513	703	6852.5	681
FL	Crystal River	4	2013	11/25/2013	10	996	0.137641303	564	742	7236.2	725
FL	Crystal River	4	2013	11/25/2013	11	1092	0.144762309	618	774	7543.4	769
FL	Crystal River	4	2013	11/25/2013	12	1084	0.144417799	615	770	7506	768
FL	Crystal River	4	2013	11/25/2013	13	1080	0.142911964	665	775	7557.1	768
FL	Crystal River	4	2013	11/25/2013	14	1051	0.138854025	832	776	7569.1	769
FL	Crystal River	4	2013	11/25/2013	15	1039	0.137205187	840	776	7572.6	770
FL	Crystal River	4	2013	11/25/2013	16	1059	0.141122853	893	769	7504.1	768
FL	Crystal River	4	2013	11/25/2013	17	1071	0.140978557	1147	779	7596.9	770
FL	Crystal River	4	2013	11/25/2013	18	1109	0.14723063	587	772	7532.4	771
FL	Crystal River	4	2013	11/25/2013	19	1133	0.150492788	926	772	7528.6	772
FL	Crystal River	4	2013	11/25/2013	20	1131	0.149611091	483	775	7559.6	771
FL	Crystal River	4	2013	11/25/2013	21	1003	0.136421751	536	754	7352.2	744
FL	Crystal River	4	2013	11/25/2013	22	746	0.122220948	97	626	6103.7	608
FL	Crystal River	4	2013	11/25/2013	23	768	0.135180328	380	582	5681.3	555
FL	Crystal River	4	2013	11/26/2013	0	496	0.113821511	300	447	4357.7	419
FL	Crystal River	4	2013	11/26/2013	1	213	0.069084069	148	316	3083.2	274
FL	Crystal River	4	2013	11/26/2013	2	234	0.079086116	171	303	2958.8	252
FL	Crystal River	4	2013	11/26/2013	3	217	0.072220188	204	308	3004.7	259
FL	Crystal River	4	2013	11/26/2013	4	255	0.07717217	195	339	3304.3	291
FL	Crystal River	4	2013	11/26/2013	5	504	0.124202174	418	416	4057.9	377

FL	Crystal River	4	2013	11/26/2013	6	1663	0.240154808	623	710	6924.7	674
FL	Crystal River	4	2013	11/26/2013	7	920	0.122410421	511	771	7515.7	767
FL	Crystal River	4	2013	11/26/2013	8	826	0.110317195	643	768	7487.5	767
FL	Crystal River	4	2013	11/26/2013	9	937	0.124211252	580	774	7543.6	768
FL	Crystal River	4	2013	11/26/2013	10	1140	0.152288333	539	768	7485.8	767
FL	Crystal River	4	2013	11/26/2013	11	1123	0.149386756	608	771	7517.4	767
FL	Crystal River	4	2013	11/26/2013	12	1106	0.146963073	609	772	7525.7	766
FL	Crystal River	4	2013	11/26/2013	13	1074	0.138748934	627	794	7740.6	766
FL	Crystal River	4	2013	11/26/2013	14	965	0.133119974	558	743	7249.1	767
FL	Crystal River	4	2013	11/26/2013	15	1030	0.136862526	602	772	7525.8	766
FL	Crystal River	4	2013	11/26/2013	16	1140	0.152233425	606	768	7488.5	767
FL	Crystal River	4	2013	11/26/2013	17	1271	0.170119927	620	766	7471.2	767
FL	Crystal River	4	2013	11/26/2013	18	1373	0.184011258	552	765	7461.5	767
FL	Crystal River	4	2013	11/26/2013	19	1211	0.1606463	588	773	7538.3	768
FL	Crystal River	4	2013	11/26/2013	20	1152	0.152356769	589	775	7561.2	768
FL	Crystal River	4	2013	11/26/2013	21	1066	0.142275609	779	768	7492.5	769
FL	Crystal River	4	2013	11/26/2013	22	1122	0.148461793	680	775	7557.5	770
FL	Crystal River	4	2013	11/26/2013	23	1158	0.154728023	651	767	7484.1	769
FL	Crystal River	4	2013	11/27/2013	0	878	0.139422619	541	646	6297.4	635
FL	Crystal River	4	2013	11/27/2013	1	547	0.105382807	456	532	5190.6	501
FL	Crystal River	4	2013	11/27/2013	2	220	0.060768445	311	371	3620.3	327
FL	Crystal River	4	2013	11/27/2013	3	156	0.0514444	188	311	3032.4	253
FL	Crystal River	4	2013	11/27/2013	4	160	0.053024027	208	309	3017.5	253
FL	Crystal River	4	2013	11/27/2013	5	145	0.047091683	218	315	3079.1	263
FL	Crystal River	4	2013	11/27/2013	6	430	0.101806473	274	433	4223.7	377
FL	Crystal River	4	2013	11/27/2013	7	958	0.166048463	380	591	5769.4	554
FL	Crystal River	4	2013	11/27/2013	8	1127	0.153239513	536	754	7354.5	731
FL	Crystal River	4	2013	11/27/2013	9	876	0.11712326	590	767	7479.3	752
FL	Crystal River	4	2013	11/27/2013	10	964	0.127114733	674	778	7583.7	759
FL	Crystal River	4	2013	11/27/2013	11	1105	0.144361413	719	785	7654.4	769
FL	Crystal River	4	2013	11/27/2013	12	1087	0.141695127	514	787	7671.4	769
FL	Crystal River	4	2013	11/27/2013	13	1013	0.131529403	639	790	7701.7	768
FL	Crystal River	4	2013	11/27/2013	14	1089	0.141111529	679	791	7717.3	768
FL	Crystal River	4	2013	11/27/2013	15	1128	0.146100742	687	792	7720.7	769
FL	Crystal River	4	2013	11/27/2013	16	1089	0.140894271	610	793	7729.2	768

FL	Crystal River	4	2013	11/27/2013	17	1076	0.137938107	585	800	7800.6	770
FL	Crystal River	4	2013	11/27/2013	18	1041	0.13325994	593	801	7811.8	770
FL	Crystal River	4	2013	11/27/2013	19	928	0.123519233	488	770	7513	737
FL	Crystal River	4	2013	11/27/2013	20	704	0.111756675	233	646	6299.4	595
FL	Crystal River	4	2013	11/27/2013	21	621	0.110742564	286	575	5607.6	501
FL	Crystal River	4	2013	11/27/2013	22	559	0.107925475	424	531	5179.5	444
FL	Crystal River	4	2013	11/27/2013	23	312	0.070901034	264	451	4400.5	359
FL	Crystal River	4	2013	11/28/2013	0	388	0.086539534	399	460	4483.5	383
FL	Crystal River	4	2013	11/28/2013	1	332	0.080360168	326	423	4131.4	361
FL	Crystal River	4	2013	11/28/2013	2	352	0.086194231	322	419	4083.8	353
FL	Crystal River	4	2013	11/28/2013	3	528	0.118234543	330	458	4465.7	393
FL	Crystal River	4	2013	11/28/2013	4	496	0.102804319	332	495	4824.7	434
FL	Crystal River	4	2013	11/28/2013	5	869	0.1422701	433	626	6108.1	581
FL	Crystal River	4	2013	11/28/2013	6	789	0.126042366	438	642	6259.8	623
FL	Crystal River	4	2013	11/28/2013	7	871	0.132290401	539	675	6584	643
FL	Crystal River	4	2013	11/28/2013	8	1011	0.151968374	658	682	6652.7	655
FL	Crystal River	4	2013	11/28/2013	9	837	0.125982119	624	681	6643.8	656
FL	Crystal River	4	2013	11/28/2013	10	825	0.124421253	649	680	6630.7	656
FL	Crystal River	4	2013	11/28/2013	11	978	0.147215992	657	681	6643.3	654
FL	Crystal River	4	2013	11/28/2013	12	978	0.144360636	677	695	6774.7	651
FL	Crystal River	4	2013	11/28/2013	13	857	0.12955992	628	678	6614.7	637
FL	Crystal River	4	2013	11/28/2013	14	721	0.121659017	628	608	5926.4	558
FL	Crystal River	4	2013	11/28/2013	15	638	0.125324114	560	522	5090.8	472
FL	Crystal River	4	2013	11/28/2013	16	502	0.12419287	380	414	4042.1	357
FL	Crystal River	4	2013	11/28/2013	17	419	0.099957059	360	430	4191.8	372
FL	Crystal River	4	2013	11/28/2013	18	304	0.073705904	367	423	4124.5	366
FL	Crystal River	4	2013	11/28/2013	19	305	0.075295628	360	415	4050.7	356
FL	Crystal River	4	2013	11/28/2013	20	249	0.064650136	327	395	3851.5	329
FL	Crystal River	4	2013	11/28/2013	21	157	0.050566864	267	318	3104.8	252
FL	Crystal River	4	2013	11/28/2013	22	264	0.072062236	311	375	3663.5	312
FL	Crystal River	4	2013	11/28/2013	23	282	0.072087732	297	401	3911.9	332
FL	Crystal River	4	2013	11/29/2013	0	147	0.046529294	300	324	3159.3	258
FL	Crystal River	4	2013	11/29/2013	1	162	0.052483235	277	316	3086.7	254
FL	Crystal River	4	2013	11/29/2013	2	157	0.051205114	257	314	3066.1	253
FL	Crystal River	4	2013	11/29/2013	3	209	0.061621016	271	348	3391.7	283

FL	Crystal River	4	2013	11/29/2013	4	160	0.051611238	263	318	3100.1	253
FL	Crystal River	4	2013	11/29/2013	5	285	0.079087579	302	369	3603.6	304
FL	Crystal River	4	2013	11/29/2013	6	669	0.124019799	393	553	5394.3	494
FL	Crystal River	4	2013	11/29/2013	7	717	0.109733701	477	670	6534	624
FL	Crystal River	4	2013	11/29/2013	8	796	0.112201173	574	727	7094.4	726
FL	Crystal River	4	2013	11/29/2013	9	861	0.113289474	646	779	7600	766
FL	Crystal River	4	2013	11/29/2013	10	654	0.096015503	565	698	6811.4	680
FL	Crystal River	4	2013	11/29/2013	11	461	0.082720258	462	571	5573	539
FL	Crystal River	4	2013	11/29/2013	12	588	0.105947855	460	569	5549.9	538
FL	Crystal River	4	2013	11/29/2013	13	645	0.11754629	444	563	5487.2	529
FL	Crystal River	4	2013	11/29/2013	14	500	0.096298294	420	532	5192.2	496
FL	Crystal River	4	2013	11/29/2013	15	357	0.073871749	401	495	4832.7	455
FL	Crystal River	4	2013	11/29/2013	16	215	0.056607251	334	389	3798.1	346
FL	Crystal River	4	2013	11/29/2013	17	437	0.09653192	366	464	4527	429
FL	Crystal River	4	2013	11/29/2013	18	636	0.106290527	466	613	5983.6	587
FL	Crystal River	4	2013	11/29/2013	19	600	0.098284928	464	626	6104.7	599
FL	Crystal River	4	2013	11/29/2013	20	637	0.105561448	464	619	6034.4	589
FL	Crystal River	4	2013	11/29/2013	21	634	0.116619148	440	557	5436.5	525
FL	Crystal River	4	2013	11/29/2013	22	631	0.123266263	424	525	5119	481
FL	Crystal River	4	2013	11/29/2013	23	254	0.069251322	322	376	3667.8	330
FL	Crystal River	4	2013	11/30/2013	0	147	0.053998457	261	279	2722.3	227
FL	Crystal River	4	2013	11/30/2013	1	164	0.060440775	263	278	2713.4	226
FL	Crystal River	4	2013	11/30/2013	2	150	0.054680665	263	281	2743.2	226
FL	Crystal River	4	2013	11/30/2013	3	154	0.055762755	259	283	2761.7	226
FL	Crystal River	4	2013	11/30/2013	4	160	0.057755478	260	284	2770.3	225
FL	Crystal River	4	2013	11/30/2013	5	235	0.082487978	279	292	2848.9	229
FL	Crystal River	4	2013	11/30/2013	6	525	0.143827735	313	374	3650.2	321
FL	Crystal River	4	2013	11/30/2013	7	429	0.10883905	315	404	3941.6	353
FL	Crystal River	4	2013	11/30/2013	8	501	0.123905624	323	414	4043.4	379
FL	Crystal River	4	2013	11/30/2013	9	707	0.148948721	341	487	4746.6	445
FL	Crystal River	4	2013	11/30/2013	10	353	0.087415185	302	414	4038.2	378
FL	Crystal River	4	2013	11/30/2013	11	232	0.074090633	272	321	3131.3	279
FL	Crystal River	4	2013	11/30/2013	12	430	0.110676413	326	398	3885.2	357
FL	Crystal River	4	2013	11/30/2013	13	428	0.099315466	323	442	4309.5	402
FL	Crystal River	4	2013	11/30/2013	14	325	0.081744555	318	407	3975.8	366

FL	Crystal River	4	2013	11/30/2013	15	360	0.091881269	321	402	3918.1	357
FL	Crystal River	4	2013	11/30/2013	16	679	0.140005773	368	497	4849.8	463
FL	Crystal River	4	2013	11/30/2013	17	977	0.166009651	423	603	5885.2	584
FL	Crystal River	4	2013	11/30/2013	18	804	0.136250402	466	605	5900.9	591
FL	Crystal River	4	2013	11/30/2013	19	805	0.133965718	480	616	6009	598
FL	Crystal River	4	2013	11/30/2013	20	836	0.143758705	471	596	5815.3	579
FL	Crystal River	4	2013	11/30/2013	21	543	0.111924147	417	497	4851.5	478
FL	Crystal River	4	2013	11/30/2013	22	353	0.087717119	382	412	4024.3	379
FL	Crystal River	4	2013	11/30/2013	23	197	0.060416475	296	334	3260.7	302
FL	Crystal River	5	2013	9/1/2013	0	137	0.046290039	171	303	2959.6	240
FL	Crystal River	5	2013	9/1/2013	1	90	0.032555616	157	283	2764.5	227
FL	Crystal River	5	2013	9/1/2013	2	77	0.027853138	160	283	2764.5	227
FL	Crystal River	5	2013	9/1/2013	3	76	0.027491409	163	283	2764.5	227
FL	Crystal River	5	2013	9/1/2013	4	77	0.027853138	165	283	2764.5	226
FL	Crystal River	5	2013	9/1/2013	5	74	0.026767951	165	283	2764.5	226
FL	Crystal River	5	2013	9/1/2013	6	76	0.027491409	165	283	2764.5	227
FL	Crystal River	5	2013	9/1/2013	7	98	0.032123775	189	313	3050.7	248
FL	Crystal River	5	2013	9/1/2013	8	367	0.079395985	286	474	4622.4	418
FL	Crystal River	5	2013	9/1/2013	9	1086	0.151099857	495	737	7187.3	690
FL	Crystal River	5	2013	9/1/2013	10	929	0.123018658	543	774	7551.7	767
FL	Crystal River	5	2013	9/1/2013	11	642	0.085137985	558	773	7540.7	769
FL	Crystal River	5	2013	9/1/2013	12	696	0.092598752	563	771	7516.3	767
FL	Crystal River	5	2013	9/1/2013	13	1100	0.146652979	555	769	7500.7	764
FL	Crystal River	5	2013	9/1/2013	14	1111	0.146082337	540	780	7605.3	765
FL	Crystal River	5	2013	9/1/2013	15	717	0.094231755	547	780	7608.9	766
FL	Crystal River	5	2013	9/1/2013	16	729	0.095713254	556	781	7616.5	766
FL	Crystal River	5	2013	9/1/2013	17	844	0.110361421	558	784	7647.6	766
FL	Crystal River	5	2013	9/1/2013	18	865	0.113597563	548	781	7614.6	765
FL	Crystal River	5	2013	9/1/2013	19	882	0.115623607	549	782	7628.2	767
FL	Crystal River	5	2013	9/1/2013	20	839	0.114961428	510	748	7298.1	744
FL	Crystal River	5	2013	9/1/2013	21	374	0.068102773	296	563	5491.7	546
FL	Crystal River	5	2013	9/1/2013	22	155	0.038674585	204	411	4007.8	377
FL	Crystal River	5	2013	9/1/2013	23	85	0.031219011	157	279	2722.7	236
FL	Crystal River	5	2013	9/2/2013	0	93	0.034720926	160	274	2678.5	227
FL	Crystal River	5	2013	9/2/2013	1	74	0.027762146	162	273	2665.5	227

FL	Crystal River	5	2013	9/2/2013	2	70	0.026312822	162	273	2660.3	227
FL	Crystal River	5	2013	9/2/2013	3	71	0.026751064	164	272	2654.1	227
FL	Crystal River	5	2013	9/2/2013	4	71	0.02681674	166	271	2647.6	227
FL	Crystal River	5	2013	9/2/2013	5	69	0.025844633	178	273	2669.8	226
FL	Crystal River	5	2013	9/2/2013	6	71	0.026889865	169	270	2640.4	227
FL	Crystal River	5	2013	9/2/2013	7	85	0.029651852	183	294	2866.6	250
FL	Crystal River	5	2013	9/2/2013	8	289	0.066430673	287	446	4350.4	415
FL	Crystal River	5	2013	9/2/2013	9	805	0.122831378	471	672	6553.7	650
FL	Crystal River	5	2013	9/2/2013	10	820	0.108359542	590	776	7567.4	764
FL	Crystal River	5	2013	9/2/2013	11	688	0.090688601	606	778	7586.4	764
FL	Crystal River	5	2013	9/2/2013	12	973	0.128267662	606	778	7585.7	767
FL	Crystal River	5	2013	9/2/2013	13	960	0.126500547	599	778	7588.9	767
FL	Crystal River	5	2013	9/2/2013	14	900	0.118282538	631	780	7608.9	767
FL	Crystal River	5	2013	9/2/2013	15	920	0.121258452	576	778	7587.1	765
FL	Crystal River	5	2013	9/2/2013	16	823	0.108315127	592	779	7598.2	765
FL	Crystal River	5	2013	9/2/2013	17	913	0.119223286	597	785	7657.9	765
FL	Crystal River	5	2013	9/2/2013	18	863	0.113589997	592	779	7597.5	766
FL	Crystal River	5	2013	9/2/2013	19	879	0.11538613	594	781	7617.9	764
FL	Crystal River	5	2013	9/2/2013	20	861	0.112959513	594	782	7622.2	766
FL	Crystal River	5	2013	9/2/2013	21	684	0.097204656	499	722	7036.7	709
FL	Crystal River	5	2013	9/2/2013	22	376	0.07375586	295	523	5097.9	495
FL	Crystal River	5	2013	9/2/2013	23	128	0.039551339	184	332	3236.3	296
FL	Crystal River	5	2013	9/3/2013	0	104	0.037981156	161	280	2738.2	233
FL	Crystal River	5	2013	9/3/2013	1	86	0.032163961	165	274	2673.8	226
FL	Crystal River	5	2013	9/3/2013	2	75	0.028234763	164	272	2656.3	226
FL	Crystal River	5	2013	9/3/2013	3	72	0.027066652	167	272	2660.1	227
FL	Crystal River	5	2013	9/3/2013	4	67	0.025216409	175	272	2657	226
FL	Crystal River	5	2013	9/3/2013	5	80	0.027367269	178	299	2923.2	252
FL	Crystal River	5	2013	9/3/2013	6	84	0.028388928	165	303	2958.9	255
FL	Crystal River	5	2013	9/3/2013	7	171	0.046268737	229	379	3695.8	333
FL	Crystal River	5	2013	9/3/2013	8	411	0.079858547	324	528	5146.6	494
FL	Crystal River	5	2013	9/3/2013	9	1127	0.152038421	563	760	7412.6	731
FL	Crystal River	5	2013	9/3/2013	10	742	0.096653597	606	787	7676.9	769
FL	Crystal River	5	2013	9/3/2013	11	867	0.112989196	621	787	7673.3	767
FL	Crystal River	5	2013	9/3/2013	12	922	0.119794712	592	789	7696.5	767

FL	Crystal River	5	2013	9/3/2013	13	918	0.119161972	639	790	7703.8	768
FL	Crystal River	5	2013	9/3/2013	14	868	0.113590264	603	784	7641.5	767
FL	Crystal River	5	2013	9/3/2013	15	839	0.108729459	601	791	7716.4	767
FL	Crystal River	5	2013	9/3/2013	16	904	0.118273521	603	784	7643.3	767
FL	Crystal River	5	2013	9/3/2013	17	870	0.112841931	609	791	7709.9	766
FL	Crystal River	5	2013	9/3/2013	18	885	0.115148913	607	788	7685.7	766
FL	Crystal River	5	2013	9/3/2013	19	923	0.120353105	605	786	7669.1	766
FL	Crystal River	5	2013	9/3/2013	20	759	0.104546895	544	744	7259.9	727
FL	Crystal River	5	2013	9/3/2013	21	741	0.114031578	480	666	6498.2	640
FL	Crystal River	5	2013	9/3/2013	22	917	0.15139758	369	621	6056.9	594
FL	Crystal River	5	2013	9/3/2013	23	197	0.051786231	216	390	3804.1	358
FL	Crystal River	5	2013	9/4/2013	0	113	0.04145724	182	279	2725.7	229
FL	Crystal River	5	2013	9/4/2013	1	104	0.038521372	183	277	2699.8	226
FL	Crystal River	5	2013	9/4/2013	2	86	0.031957192	185	276	2691.1	227
FL	Crystal River	5	2013	9/4/2013	3	90	0.033549541	187	275	2682.6	227
FL	Crystal River	5	2013	9/4/2013	4	92	0.034295087	193	275	2682.6	226
FL	Crystal River	5	2013	9/4/2013	5	161	0.050643264	384	326	3179.1	278
FL	Crystal River	5	2013	9/4/2013	6	120	0.040064103	92	307	2995.2	260
FL	Crystal River	5	2013	9/4/2013	7	177	0.05374222	144	337	3293.5	295
FL	Crystal River	5	2013	9/4/2013	8	477	0.100971614	429	484	4724.1	457
FL	Crystal River	5	2013	9/4/2013	9	1390	0.196308275	729	726	7080.7	706
FL	Crystal River	5	2013	9/4/2013	10	773	0.102654679	602	772	7530.1	765
FL	Crystal River	5	2013	9/4/2013	11	897	0.118040294	607	779	7599.1	764
FL	Crystal River	5	2013	9/4/2013	12	931	0.121817183	611	784	7642.6	766
FL	Crystal River	5	2013	9/4/2013	13	901	0.117760845	596	785	7651.1	765
FL	Crystal River	5	2013	9/4/2013	14	854	0.112200121	593	780	7611.4	764
FL	Crystal River	5	2013	9/4/2013	15	870	0.113895216	580	783	7638.6	763
FL	Crystal River	5	2013	9/4/2013	16	968	0.127075812	594	781	7617.5	765
FL	Crystal River	5	2013	9/4/2013	17	1077	0.141158892	595	782	7629.7	765
FL	Crystal River	5	2013	9/4/2013	18	1047	0.137097513	595	783	7636.9	765
FL	Crystal River	5	2013	9/4/2013	19	848	0.114821134	524	757	7385.4	739
FL	Crystal River	5	2013	9/4/2013	20	532	0.084561219	377	645	6291.3	621
FL	Crystal River	5	2013	9/4/2013	21	382	0.0726664	299	539	5256.9	517
FL	Crystal River	5	2013	9/4/2013	22	187	0.049263679	182	389	3795.9	358
FL	Crystal River	5	2013	9/4/2013	23	98	0.037289296	162	269	2628.1	225

FL	Crystal River	5	2013	9/5/2013	0	90	0.033898305	175	272	2655	227
FL	Crystal River	5	2013	9/5/2013	1	74	0.027919261	169	271	2650.5	226
FL	Crystal River	5	2013	9/5/2013	2	79	0.029625741	178	273	2666.6	226
FL	Crystal River	5	2013	9/5/2013	3	75	0.028350028	174	271	2645.5	226
FL	Crystal River	5	2013	9/5/2013	4	69	0.026094849	177	271	2644.2	226
FL	Crystal River	5	2013	9/5/2013	5	75	0.028219889	178	272	2657.7	226
FL	Crystal River	5	2013	9/5/2013	6	83	0.031440585	182	270	2639.9	226
FL	Crystal River	5	2013	9/5/2013	7	101	0.034203664	186	303	2952.9	260
FL	Crystal River	5	2013	9/5/2013	8	354	0.075531279	281	480	4686.8	451
FL	Crystal River	5	2013	9/5/2013	9	1008	0.153471376	394	673	6568	649
FL	Crystal River	5	2013	9/5/2013	10	732	0.101407514	526	740	7218.4	723
FL	Crystal River	5	2013	9/5/2013	11	943	0.123513386	580	783	7634.8	764
FL	Crystal River	5	2013	9/5/2013	12	947	0.124050301	587	783	7634	765
FL	Crystal River	5	2013	9/5/2013	13	816	0.107692917	591	777	7577.1	766
FL	Crystal River	5	2013	9/5/2013	14	910	0.119991034	591	778	7583.9	766
FL	Crystal River	5	2013	9/5/2013	15	884	0.116551961	576	778	7584.6	765
FL	Crystal River	5	2013	9/5/2013	16	1014	0.133464956	577	779	7597.5	763
FL	Crystal River	5	2013	9/5/2013	17	1439	0.190115073	582	776	7569.1	763
FL	Crystal River	5	2013	9/5/2013	18	1216	0.15988009	570	780	7605.7	764
FL	Crystal River	5	2013	9/5/2013	19	1044	0.137265472	555	780	7605.7	764
FL	Crystal River	5	2013	9/5/2013	20	858	0.117394338	497	749	7308.7	737
FL	Crystal River	5	2013	9/5/2013	21	691	0.103986396	412	681	6645.1	664
FL	Crystal River	5	2013	9/5/2013	22	1026	0.160724356	376	655	6383.6	639
FL	Crystal River	5	2013	9/5/2013	23	439	0.093982146	247	479	4671.1	456
FL	Crystal River	5	2013	9/6/2013	0	153	0.054109492	99	290	2827.6	252
FL	Crystal River	5	2013	9/6/2013	1	164	0.062107097	87	270	2640.6	226
FL	Crystal River	5	2013	9/6/2013	2	146	0.054930584	82	272	2657.9	227
FL	Crystal River	5	2013	9/6/2013	3	152	0.057188006	260	272	2657.9	226
FL	Crystal River	5	2013	9/6/2013	4	140	0.052412864	181	274	2671.1	226
FL	Crystal River	5	2013	9/6/2013	5	300	0.08548957	235	360	3509.2	317
FL	Crystal River	5	2013	9/6/2013	6	304	0.077832966	226	400	3905.8	361
FL	Crystal River	5	2013	9/6/2013	7	604	0.114658871	321	540	5267.8	504
FL	Crystal River	5	2013	9/6/2013	8	1240	0.169438258	512	750	7318.3	727
FL	Crystal River	5	2013	9/6/2013	9	814	0.106908327	601	781	7614	765
FL	Crystal River	5	2013	9/6/2013	10	975	0.127676291	588	783	7636.5	766

FL	Crystal River	5	2013	9/6/2013	11	1176	0.155224984	583	777	7576.1	764
FL	Crystal River	5	2013	9/6/2013	12	1175	0.154619504	569	779	7599.3	765
FL	Crystal River	5	2013	9/6/2013	13	1076	0.141413345	563	780	7608.9	765
FL	Crystal River	5	2013	9/6/2013	14	766	0.101525534	558	774	7544.9	763
FL	Crystal River	5	2013	9/6/2013	15	815	0.108318603	579	772	7524.1	765
FL	Crystal River	5	2013	9/6/2013	16	742	0.098322423	566	774	7546.6	766
FL	Crystal River	5	2013	9/6/2013	17	735	0.096860916	561	778	7588.2	766
FL	Crystal River	5	2013	9/6/2013	18	705	0.102104364	462	708	6904.7	700
FL	Crystal River	5	2013	9/6/2013	19	739	0.113183851	404	669	6529.2	658
FL	Crystal River	5	2013	9/6/2013	20	600	0.106909946	342	575	5612.2	560
FL	Crystal River	5	2013	9/6/2013	21	439	0.087919571	289	512	4993.2	498
FL	Crystal River	5	2013	9/6/2013	22	115	0.029151563	220	404	3944.9	374
FL	Crystal River	5	2013	9/6/2013	23	80	0.02471806	181	332	3236.5	297
FL	Crystal River	5	2013	9/7/2013	0	63	0.022204991	170	291	2837.2	250
FL	Crystal River	5	2013	9/7/2013	1	53	0.020390105	161	266	2599.3	226
FL	Crystal River	5	2013	9/7/2013	2	55	0.020894275	160	270	2632.3	226
FL	Crystal River	5	2013	9/7/2013	3	71	0.027009548	163	269	2628.7	226
FL	Crystal River	5	2013	9/7/2013	4	82	0.031266682	165	269	2622.6	226
FL	Crystal River	5	2013	9/7/2013	5	82	0.030996031	169	271	2645.5	226
FL	Crystal River	5	2013	9/7/2013	6	95	0.036161547	168	269	2627.1	226
FL	Crystal River	5	2013	9/7/2013	7	163	0.053738626	209	311	3033.2	270
FL	Crystal River	5	2013	9/7/2013	8	368	0.073545576	320	513	5003.7	484
FL	Crystal River	5	2013	9/7/2013	9	687	0.096065106	507	733	7151.4	709
FL	Crystal River	5	2013	9/7/2013	10	738	0.096599387	565	783	7639.8	763
FL	Crystal River	5	2013	9/7/2013	11	798	0.104877183	570	780	7608.9	765
FL	Crystal River	5	2013	9/7/2013	12	816	0.107505632	561	778	7590.3	765
FL	Crystal River	5	2013	9/7/2013	13	737	0.096519029	565	783	7635.8	765
FL	Crystal River	5	2013	9/7/2013	14	895	0.117471026	556	781	7618.9	766
FL	Crystal River	5	2013	9/7/2013	15	729	0.09599684	539	779	7594	764
FL	Crystal River	5	2013	9/7/2013	16	817	0.106949772	550	783	7639.1	765
FL	Crystal River	5	2013	9/7/2013	17	898	0.11825748	539	779	7593.6	764
FL	Crystal River	5	2013	9/7/2013	18	881	0.115169421	535	784	7649.6	764
FL	Crystal River	5	2013	9/7/2013	19	871	0.113658607	528	786	7663.3	763
FL	Crystal River	5	2013	9/7/2013	20	899	0.117395108	513	785	7657.9	765
FL	Crystal River	5	2013	9/7/2013	21	824	0.112784013	467	749	7306	735

FL	Crystal River	5	2013	9/7/2013	22	543	0.093292557	325	597	5820.4	578
FL	Crystal River	5	2013	9/7/2013	23	392	0.094099573	233	427	4165.8	406
FL	Crystal River	5	2013	9/8/2013	0	247	0.087303831	169	290	2829.2	251
FL	Crystal River	5	2013	9/8/2013	1	230	0.085223062	164	276	2698.8	227
FL	Crystal River	5	2013	9/8/2013	2	117	0.044074437	159	272	2654.6	227
FL	Crystal River	5	2013	9/8/2013	3	93	0.035357184	160	269	2630.3	226
FL	Crystal River	5	2013	9/8/2013	4	109	0.041256624	166	271	2642	226
FL	Crystal River	5	2013	9/8/2013	5	98	0.037304911	160	269	2627	226
FL	Crystal River	5	2013	9/8/2013	6	101	0.03872254	156	267	2608.3	226
FL	Crystal River	5	2013	9/8/2013	7	166	0.052787229	204	322	3144.7	282
FL	Crystal River	5	2013	9/8/2013	8	454	0.085077676	330	547	5336.3	521
FL	Crystal River	5	2013	9/8/2013	9	989	0.13472646	528	753	7340.8	734
FL	Crystal River	5	2013	9/8/2013	10	837	0.11026651	561	778	7590.7	765
FL	Crystal River	5	2013	9/8/2013	11	696	0.091291858	579	782	7623.9	765
FL	Crystal River	5	2013	9/8/2013	12	771	0.101318055	563	780	7609.7	766
FL	Crystal River	5	2013	9/8/2013	13	908	0.11918826	594	781	7618.2	765
FL	Crystal River	5	2013	9/8/2013	14	896	0.117701149	563	781	7612.5	766
FL	Crystal River	5	2013	9/8/2013	15	913	0.119787977	571	782	7621.8	766
FL	Crystal River	5	2013	9/8/2013	16	969	0.127028657	556	782	7628.2	763
FL	Crystal River	5	2013	9/8/2013	17	1008	0.132035681	557	783	7634.3	765
FL	Crystal River	5	2013	9/8/2013	18	919	0.120568865	564	782	7622.2	765
FL	Crystal River	5	2013	9/8/2013	19	906	0.118634524	549	783	7636.9	765
FL	Crystal River	5	2013	9/8/2013	20	937	0.122919099	564	782	7622.9	766
FL	Crystal River	5	2013	9/8/2013	21	943	0.123881715	563	781	7612.1	765
FL	Crystal River	5	2013	9/8/2013	22	705	0.10176097	457	710	6928	697
FL	Crystal River	5	2013	9/8/2013	23	315	0.061350888	272	526	5134.4	510
FL	Crystal River	5	2013	9/9/2013	0	209	0.055493601	210	386	3766.2	352
FL	Crystal River	5	2013	9/9/2013	1	286	0.07635422	202	384	3745.7	351
FL	Crystal River	5	2013	9/9/2013	2	242	0.064804649	186	383	3734.3	348
FL	Crystal River	5	2013	9/9/2013	3	129	0.043253755	116	306	2982.4	267
FL	Crystal River	5	2013	9/9/2013	4	113	0.041440516	81	279	2726.8	236
FL	Crystal River	5	2013	9/9/2013	5	156	0.050395736	83	317	3095.5	275
FL	Crystal River	5	2013	9/9/2013	6	195	0.0661129	73	302	2949.5	256
FL	Crystal River	5	2013	9/9/2013	7	174	0.049056923	102	363	3546.9	321
FL	Crystal River	5	2013	9/9/2013	8	313	0.066137007	288	485	4732.6	462

FL	Crystal River	5	2013	9/9/2013	9	825	0.118614582	396	713	6955.3	696
FL	Crystal River	5	2013	9/9/2013	10	817	0.106886807	558	784	7643.6	764
FL	Crystal River	5	2013	9/9/2013	11	707	0.091663425	578	791	7713	766
FL	Crystal River	5	2013	9/9/2013	12	778	0.107989562	540	739	7204.4	765
FL	Crystal River	5	2013	9/9/2013	13	916	0.124366964	537	755	7365.3	765
FL	Crystal River	5	2013	9/9/2013	14	890	0.121846036	540	749	7304.3	764
FL	Crystal River	5	2013	9/9/2013	15	840	0.114859229	541	750	7313.3	764
FL	Crystal River	5	2013	9/9/2013	16	873	0.116226435	555	770	7511.2	764
FL	Crystal River	5	2013	9/9/2013	17	940	0.122587376	567	786	7668	764
FL	Crystal River	5	2013	9/9/2013	18	935	0.122136009	566	785	7655.4	765
FL	Crystal River	5	2013	9/9/2013	19	851	0.111860352	555	780	7607.7	764
FL	Crystal River	5	2013	9/9/2013	20	869	0.113950774	556	782	7626.1	765
FL	Crystal River	5	2013	9/9/2013	21	786	0.10952872	480	736	7176.2	726
FL	Crystal River	5	2013	9/9/2013	22	643	0.105085965	361	627	6118.8	610
FL	Crystal River	5	2013	9/9/2013	23	537	0.108636281	276	507	4943.1	490
FL	Crystal River	5	2013	9/10/2013	0	363	0.098845442	150	376	3672.4	348
FL	Crystal River	5	2013	9/10/2013	1	128	0.047218533	70	278	2710.8	241
FL	Crystal River	5	2013	9/10/2013	2	103	0.039442445	70	267	2611.4	227
FL	Crystal River	5	2013	9/10/2013	3	103	0.039469651	67	267	2609.6	227
FL	Crystal River	5	2013	9/10/2013	4	117	0.042303938	160	283	2765.7	244
FL	Crystal River	5	2013	9/10/2013	5	167	0.052826369	221	324	3161.3	288
FL	Crystal River	5	2013	9/10/2013	6	253	0.067057171	215	387	3772.9	352
FL	Crystal River	5	2013	9/10/2013	7	312	0.072304234	254	442	4315.1	410
FL	Crystal River	5	2013	9/10/2013	8	666	0.108821751	391	627	6120.1	607
FL	Crystal River	5	2013	9/10/2013	9	1041	0.138770396	540	769	7501.6	753
FL	Crystal River	5	2013	9/10/2013	10	965	0.127327185	568	777	7578.9	767
FL	Crystal River	5	2013	9/10/2013	11	910	0.120025852	568	777	7581.7	767
FL	Crystal River	5	2013	9/10/2013	12	948	0.125274203	575	776	7567.4	767
FL	Crystal River	5	2013	9/10/2013	13	988	0.130591097	567	776	7565.6	766
FL	Crystal River	5	2013	9/10/2013	14	1039	0.137033276	568	777	7582.1	764
FL	Crystal River	5	2013	9/10/2013	15	985	0.129100751	572	782	7629.7	764
FL	Crystal River	5	2013	9/10/2013	16	962	0.125842109	573	784	7644.5	765
FL	Crystal River	5	2013	9/10/2013	17	972	0.128238957	568	777	7579.6	766
FL	Crystal River	5	2013	9/10/2013	18	914	0.119461508	573	785	7651	767
FL	Crystal River	5	2013	9/10/2013	19	855	0.112670488	561	778	7588.5	767

FL	Crystal River	5	2013	9/10/2013	20	846	0.110417917	559	786	7661.8	768
FL	Crystal River	5	2013	9/10/2013	21	635	0.090987247	467	716	6979	703
FL	Crystal River	5	2013	9/10/2013	22	300	0.059665871	261	515	5028	491
FL	Crystal River	5	2013	9/10/2013	23	124	0.04087418	154	311	3033.7	276
FL	Crystal River	5	2013	9/11/2013	0	107	0.040304354	151	272	2654.8	226
FL	Crystal River	5	2013	9/11/2013	1	112	0.042163912	151	272	2656.3	226
FL	Crystal River	5	2013	9/11/2013	2	108	0.040844112	150	271	2644.2	227
FL	Crystal River	5	2013	9/11/2013	3	79	0.029791085	153	272	2651.8	226
FL	Crystal River	5	2013	9/11/2013	4	100	0.034054146	179	301	2936.5	257
FL	Crystal River	5	2013	9/11/2013	5	225	0.060682885	226	380	3707.8	340
FL	Crystal River	5	2013	9/11/2013	6	422	0.095199422	257	454	4432.8	424
FL	Crystal River	5	2013	9/11/2013	7	836	0.15668341	314	547	5335.6	516
FL	Crystal River	5	2013	9/11/2013	8	1530	0.219729718	445	714	6963.1	696
FL	Crystal River	5	2013	9/11/2013	9	1174	0.154575379	562	779	7595	762
FL	Crystal River	5	2013	9/11/2013	10	608	0.079681275	557	782	7630.4	768
FL	Crystal River	5	2013	9/11/2013	11	534	0.069933733	565	783	7635.8	766
FL	Crystal River	5	2013	9/11/2013	12	775	0.10183567	570	780	7610.3	765
FL	Crystal River	5	2013	9/11/2013	13	870	0.114442062	555	780	7602.1	765
FL	Crystal River	5	2013	9/11/2013	14	805	0.106679035	558	774	7546	766
FL	Crystal River	5	2013	9/11/2013	15	794	0.105578087	549	771	7520.5	765
FL	Crystal River	5	2013	9/11/2013	16	1039	0.137154474	568	777	7575.4	766
FL	Crystal River	5	2013	9/11/2013	17	954	0.126015455	552	776	7570.5	766
FL	Crystal River	5	2013	9/11/2013	18	867	0.115018772	550	773	7537.9	769
FL	Crystal River	5	2013	9/11/2013	19	910	0.119405335	548	781	7621.1	768
FL	Crystal River	5	2013	9/11/2013	20	989	0.129655606	549	782	7627.9	768
FL	Crystal River	5	2013	9/11/2013	21	684	0.101280817	425	692	6753.5	685
FL	Crystal River	5	2013	9/11/2013	22	316	0.061230817	268	529	5160.8	507
FL	Crystal River	5	2013	9/11/2013	23	169	0.045245235	186	383	3735.2	355
FL	Crystal River	5	2013	9/12/2013	0	102	0.037479331	144	279	2721.5	235
FL	Crystal River	5	2013	9/12/2013	1	124	0.047108882	144	270	2632.2	226
FL	Crystal River	5	2013	9/12/2013	2	127	0.048222965	144	270	2633.6	227
FL	Crystal River	5	2013	9/12/2013	3	99	0.037341581	143	272	2651.2	226
FL	Crystal River	5	2013	9/12/2013	4	118	0.041983918	154	288	2810.6	245
FL	Crystal River	5	2013	9/12/2013	5	233	0.061270643	224	390	3802.8	351
FL	Crystal River	5	2013	9/12/2013	6	261	0.060411073	241	443	4320.4	408

FL	Crystal River	5	2013	9/12/2013	7	283	0.054621605	290	531	5181.1	503
FL	Crystal River	5	2013	9/12/2013	8	621	0.087426617	475	728	7103.1	713
FL	Crystal River	5	2013	9/12/2013	9	917	0.120902882	553	778	7584.6	769
FL	Crystal River	5	2013	9/12/2013	10	774	0.10203409	568	778	7585.7	770
FL	Crystal River	5	2013	9/12/2013	11	759	0.100464599	544	775	7554.9	769
FL	Crystal River	5	2013	9/12/2013	12	800	0.106165565	550	773	7535.4	767
FL	Crystal River	5	2013	9/12/2013	13	847	0.112350608	550	773	7538.9	768
FL	Crystal River	5	2013	9/12/2013	14	915	0.120983737	552	776	7563	767
FL	Crystal River	5	2013	9/12/2013	15	919	0.121488532	544	776	7564.5	766
FL	Crystal River	5	2013	9/12/2013	16	849	0.112089566	552	777	7574.3	768
FL	Crystal River	5	2013	9/12/2013	17	767	0.101433559	552	775	7561.6	768
FL	Crystal River	5	2013	9/12/2013	18	747	0.099104478	550	773	7537.5	767
FL	Crystal River	5	2013	9/12/2013	19	730	0.094829826	554	789	7698	768
FL	Crystal River	5	2013	9/12/2013	20	680	0.09047486	526	771	7515.9	755
FL	Crystal River	5	2013	9/12/2013	21	440	0.069680893	385	647	6314.5	634
FL	Crystal River	5	2013	9/12/2013	22	180	0.035736266	256	516	5036.9	495
FL	Crystal River	5	2013	9/12/2013	23	57	0.016669104	167	350	3419.5	318
FL	Crystal River	5	2013	9/13/2013	0	40	0.014953271	133	274	2675	230
FL	Crystal River	5	2013	9/13/2013	1	51	0.019511075	130	268	2613.9	226
FL	Crystal River	5	2013	9/13/2013	2	54	0.020746091	135	267	2602.9	225
FL	Crystal River	5	2013	9/13/2013	3	71	0.027237503	143	267	2606.7	225
FL	Crystal River	5	2013	9/13/2013	4	77	0.02797152	159	282	2752.8	238
FL	Crystal River	5	2013	9/13/2013	5	151	0.04563588	205	339	3308.8	296
FL	Crystal River	5	2013	9/13/2013	6	128	0.043288579	159	303	2956.9	261
FL	Crystal River	5	2013	9/13/2013	7	189	0.049532196	244	391	3815.7	358
FL	Crystal River	5	2013	9/13/2013	8	395	0.063297225	418	640	6240.4	615
FL	Crystal River	5	2013	9/13/2013	9	557	0.07415494	615	770	7511.3	759
FL	Crystal River	5	2013	9/13/2013	10	602	0.079833437	580	773	7540.7	762
FL	Crystal River	5	2013	9/13/2013	11	1478	0.195185082	605	776	7572.3	766
FL	Crystal River	5	2013	9/13/2013	12	1229	0.163790231	607	769	7503.5	766
FL	Crystal River	5	2013	9/13/2013	13	1074	0.142775481	564	771	7522.3	764
FL	Crystal River	5	2013	9/13/2013	14	1214	0.160291535	560	777	7573.7	765
FL	Crystal River	5	2013	9/13/2013	15	781	0.103226318	544	776	7565.9	765
FL	Crystal River	5	2013	9/13/2013	16	508	0.06685882	539	779	7598.1	764
FL	Crystal River	5	2013	9/13/2013	17	711	0.093659847	546	778	7591.3	764

FL	Crystal River	5	2013	9/13/2013	18	992	0.131269022	559	775	7557	765
FL	Crystal River	5	2013	9/13/2013	19	1035	0.136906573	559	775	7559.9	765
FL	Crystal River	5	2013	9/13/2013	20	888	0.122484448	478	743	7249.9	729
FL	Crystal River	5	2013	9/13/2013	21	485	0.085837669	305	579	5650.2	560
FL	Crystal River	5	2013	9/13/2013	22	251	0.057506816	218	447	4364.7	419
FL	Crystal River	5	2013	9/13/2013	23	114	0.036803874	154	317	3097.5	280
FL	Crystal River	5	2013	9/14/2013	0	115	0.039963859	152	295	2877.6	251
FL	Crystal River	5	2013	9/14/2013	1	126	0.044062107	151	293	2859.6	251
FL	Crystal River	5	2013	9/14/2013	2	110	0.040306328	152	280	2729.1	236
FL	Crystal River	5	2013	9/14/2013	3	90	0.034404985	143	268	2615.9	225
FL	Crystal River	5	2013	9/14/2013	4	84	0.031992687	144	269	2625.6	225
FL	Crystal River	5	2013	9/14/2013	5	93	0.035500248	149	268	2619.7	226
FL	Crystal River	5	2013	9/14/2013	6	98	0.038061209	151	264	2574.8	225
FL	Crystal River	5	2013	9/14/2013	7	131	0.044131519	181	304	2968.4	266
FL	Crystal River	5	2013	9/14/2013	8	231	0.05708355	242	415	4046.7	388
FL	Crystal River	5	2013	9/14/2013	9	807	0.116812622	490	708	6908.5	690
FL	Crystal River	5	2013	9/14/2013	10	807	0.107064677	557	773	7537.5	763
FL	Crystal River	5	2013	9/14/2013	11	740	0.097839596	582	776	7563.4	766
FL	Crystal River	5	2013	9/14/2013	12	774	0.102913215	564	771	7520.9	766
FL	Crystal River	5	2013	9/14/2013	13	939	0.125034954	555	770	7509.9	763
FL	Crystal River	5	2013	9/14/2013	14	980	0.128644377	556	781	7617.9	765
FL	Crystal River	5	2013	9/14/2013	15	899	0.118253686	555	780	7602.3	763
FL	Crystal River	5	2013	9/14/2013	16	819	0.107589034	540	781	7612.3	764
FL	Crystal River	5	2013	9/14/2013	17	850	0.112115017	545	777	7581.5	765
FL	Crystal River	5	2013	9/14/2013	18	892	0.117682758	538	777	7579.7	765
FL	Crystal River	5	2013	9/14/2013	19	976	0.128608889	546	778	7588.9	764
FL	Crystal River	5	2013	9/14/2013	20	933	0.122463445	548	781	7618.6	765
FL	Crystal River	5	2013	9/14/2013	21	691	0.099200368	452	714	6965.7	701
FL	Crystal River	5	2013	9/14/2013	22	520	0.09146556	307	583	5685.2	562
FL	Crystal River	5	2013	9/14/2013	23	249	0.061752889	201	413	4032.2	387
FL	Crystal River	5	2013	9/15/2013	0	210	0.062003602	172	347	3386.9	312
FL	Crystal River	5	2013	9/15/2013	1	147	0.055679709	142	270	2640.1	227
FL	Crystal River	5	2013	9/15/2013	2	128	0.048530806	145	270	2637.5	226
FL	Crystal River	5	2013	9/15/2013	3	113	0.042939656	147	270	2631.6	226
FL	Crystal River	5	2013	9/15/2013	4	116	0.044016089	150	270	2635.4	225

FL	Crystal River	5	2013	9/15/2013	5	142	0.053885853	152	270	2635.2	226
FL	Crystal River	5	2013	9/15/2013	6	133	0.050647372	144	269	2626	225
FL	Crystal River	5	2013	9/15/2013	7	210	0.0671871	187	320	3125.6	279
FL	Crystal River	5	2013	9/15/2013	8	595	0.116470266	327	524	5108.6	499
FL	Crystal River	5	2013	9/15/2013	9	1175	0.154373703	540	780	7611.4	758
FL	Crystal River	5	2013	9/15/2013	10	804	0.104288271	562	791	7709.4	769
FL	Crystal River	5	2013	9/15/2013	11	710	0.092201805	577	790	7700.5	771
FL	Crystal River	5	2013	9/15/2013	12	819	0.1065255	553	788	7688.3	770
FL	Crystal River	5	2013	9/15/2013	13	1091	0.141673592	585	790	7700.8	770
FL	Crystal River	5	2013	9/15/2013	14	1094	0.142048406	539	790	7701.6	773
FL	Crystal River	5	2013	9/15/2013	15	685	0.088658219	571	792	7726.3	772
FL	Crystal River	5	2013	9/15/2013	16	407	0.052434939	558	796	7762	768
FL	Crystal River	5	2013	9/15/2013	17	269	0.040847316	441	675	6585.5	659
FL	Crystal River	5	2013	9/15/2013	18	589	0.087183055	432	693	6755.9	673
FL	Crystal River	5	2013	9/15/2013	19	785	0.12040616	391	668	6519.6	648
FL	Crystal River	5	2013	9/15/2013	20	473	0.088052422	236	551	5371.8	528
FL	Crystal River	5	2013	9/15/2013	21	225	0.053038518	195	435	4242.2	399
FL	Crystal River	5	2013	9/15/2013	22	129	0.046895449	167	282	2750.8	267
FL	Crystal River	5	2013	9/15/2013	23	114	0.043594646	162	268	2615	225
FL	Crystal River	5	2013	9/16/2013	0	91	0.035237173	157	265	2582.5	225
FL	Crystal River	5	2013	9/16/2013	1	75	0.029063009	162	264	2580.6	225
FL	Crystal River	5	2013	9/16/2013	2	63	0.024004572	157	269	2624.5	225
FL	Crystal River	5	2013	9/16/2013	3	61	0.023274448	157	268	2620.9	225
FL	Crystal River	5	2013	9/16/2013	4	60	0.021879444	172	281	2742.3	234
FL	Crystal River	5	2013	9/16/2013	5	72	0.024558292	173	300	2931.8	256
FL	Crystal River	5	2013	9/16/2013	6	80	0.02799748	171	293	2857.4	252
FL	Crystal River	5	2013	9/16/2013	7	131	0.039307468	203	341	3332.7	298
FL	Crystal River	5	2013	9/16/2013	8	179	0.050633628	219	362	3535.2	335
FL	Crystal River	5	2013	9/16/2013	9	586	0.096650228	394	622	6063.1	607
FL	Crystal River	5	2013	9/16/2013	10	795	0.106685633	566	764	7451.8	758
FL	Crystal River	5	2013	9/16/2013	11	528	0.070194097	579	771	7522	764
FL	Crystal River	5	2013	9/16/2013	12	406	0.054160052	577	769	7496.3	765
FL	Crystal River	5	2013	9/16/2013	13	304	0.040358983	557	772	7532.4	762
FL	Crystal River	5	2013	9/16/2013	14	441	0.057677217	558	784	7646	763
FL	Crystal River	5	2013	9/16/2013	15	1282	0.169281149	552	777	7573.2	762

FL	Crystal River	5	2013	9/16/2013	16	905	0.120307349	541	771	7522.4	762
FL	Crystal River	5	2013	9/16/2013	17	737	0.098114916	540	770	7511.6	762
FL	Crystal River	5	2013	9/16/2013	18	812	0.107206042	560	777	7574.2	762
FL	Crystal River	5	2013	9/16/2013	19	975	0.128538093	568	778	7585.3	765
FL	Crystal River	5	2013	9/16/2013	20	911	0.123800723	522	755	7358.6	742
FL	Crystal River	5	2013	9/16/2013	21	536	0.091328869	346	602	5868.9	592
FL	Crystal River	5	2013	9/16/2013	22	381	0.079613842	248	491	4785.6	466
FL	Crystal River	5	2013	9/16/2013	23	190	0.062436331	161	312	3043.1	278
FL	Crystal River	5	2013	9/17/2013	0	170	0.065279164	151	267	2604.2	226
FL	Crystal River	5	2013	9/17/2013	1	157	0.059623272	155	270	2633.2	226
FL	Crystal River	5	2013	9/17/2013	2	133	0.050676319	154	269	2624.5	225
FL	Crystal River	5	2013	9/17/2013	3	124	0.048200264	159	263	2572.6	226
FL	Crystal River	5	2013	9/17/2013	4	181	0.064129819	172	289	2822.4	248
FL	Crystal River	5	2013	9/17/2013	5	197	0.06885223	165	293	2861.2	256
FL	Crystal River	5	2013	9/17/2013	6	176	0.061841181	167	292	2846	252
FL	Crystal River	5	2013	9/17/2013	7	210	0.067225815	196	320	3123.8	307
FL	Crystal River	5	2013	9/17/2013	8	1142	0.206274949	370	568	5536.3	538
FL	Crystal River	5	2013	9/17/2013	9	1364	0.188702738	527	741	7228.3	731
FL	Crystal River	5	2013	9/17/2013	10	950	0.126876436	569	768	7487.6	763
FL	Crystal River	5	2013	9/17/2013	11	943	0.126007189	546	767	7483.7	765
FL	Crystal River	5	2013	9/17/2013	12	1149	0.154044162	544	765	7458.9	763
FL	Crystal River	5	2013	9/17/2013	13	1379	0.182702244	551	774	7547.8	764
FL	Crystal River	5	2013	9/17/2013	14	913	0.120278762	561	778	7590.7	764
FL	Crystal River	5	2013	9/17/2013	15	398	0.053501815	565	763	7439	763
FL	Crystal River	5	2013	9/17/2013	16	319	0.042993652	578	761	7419.7	763
FL	Crystal River	5	2013	9/17/2013	17	440	0.058870752	568	766	7474	765
FL	Crystal River	5	2013	9/17/2013	18	779	0.104429192	611	765	7459.6	766
FL	Crystal River	5	2013	9/17/2013	19	604	0.080942362	746	765	7462.1	766
FL	Crystal River	5	2013	9/17/2013	20	256	0.040091459	370	655	6385.4	656
FL	Crystal River	5	2013	9/17/2013	21	149	0.030033057	153	509	4961.2	501
FL	Crystal River	5	2013	9/17/2013	22	110	0.027561324	271	409	3991.1	390
FL	Crystal River	5	2013	9/17/2013	23	64	0.024248854	137	270	2639.3	239
FL	Crystal River	5	2013	9/18/2013	0	67	0.026118821	143	263	2565.2	226
FL	Crystal River	5	2013	9/18/2013	1	72	0.028171218	145	262	2555.8	226
FL	Crystal River	5	2013	9/18/2013	2	58	0.022701476	145	262	2554.9	225

FL	Crystal River	5	2013	9/18/2013	3	55	0.021512105	153	262	2556.7	225
FL	Crystal River	5	2013	9/18/2013	4	83	0.028281314	182	301	2934.8	267
FL	Crystal River	5	2013	9/18/2013	5	367	0.064681001	368	582	5674	562
FL	Crystal River	5	2013	9/18/2013	6	529	0.071330331	556	760	7416.2	760
FL	Crystal River	5	2013	9/18/2013	7	461	0.062647786	559	755	7358.6	764
FL	Crystal River	5	2013	9/18/2013	8	525	0.07079479	556	760	7415.8	764
FL	Crystal River	5	2013	9/18/2013	9	652	0.088149801	532	758	7396.5	763
FL	Crystal River	5	2013	9/18/2013	10	812	0.109242567	557	762	7433	764
FL	Crystal River	5	2013	9/18/2013	11	786	0.10469391	585	770	7507.6	768
FL	Crystal River	5	2013	9/18/2013	12	615	0.082022966	577	769	7497.9	768
FL	Crystal River	5	2013	9/18/2013	13	412	0.055052246	583	767	7483.8	766
FL	Crystal River	5	2013	9/18/2013	14	422	0.056777666	572	762	7432.5	761
FL	Crystal River	5	2013	9/18/2013	15	859	0.114531806	555	769	7500.1	763
FL	Crystal River	5	2013	9/18/2013	16	1192	0.158854965	555	769	7503.7	767
FL	Crystal River	5	2013	9/18/2013	17	1078	0.143524744	555	770	7510.9	765
FL	Crystal River	5	2013	9/18/2013	18	974	0.129673022	555	770	7511.2	766
FL	Crystal River	5	2013	9/18/2013	19	850	0.113386247	532	769	7496.5	766
FL	Crystal River	5	2013	9/18/2013	20	585	0.09201296	400	652	6357.8	651
FL	Crystal River	5	2013	9/18/2013	21	473	0.085959365	319	564	5502.6	556
FL	Crystal River	5	2013	9/18/2013	22	293	0.067846061	246	443	4318.6	432
FL	Crystal River	5	2013	9/18/2013	23	116	0.043154762	131	275	2688	251
FL	Crystal River	5	2013	9/19/2013	0	133	0.05267744	143	259	2524.8	226
FL	Crystal River	5	2013	9/19/2013	1	125	0.049640602	143	258	2518.1	225
FL	Crystal River	5	2013	9/19/2013	2	103	0.041053848	140	257	2508.9	225
FL	Crystal River	5	2013	9/19/2013	3	95	0.037905993	142	257	2506.2	225
FL	Crystal River	5	2013	9/19/2013	4	100	0.039834289	145	257	2510.4	225
FL	Crystal River	5	2013	9/19/2013	5	210	0.065838977	210	327	3189.6	295
FL	Crystal River	5	2013	9/19/2013	6	298	0.078540931	212	389	3794.2	365
FL	Crystal River	5	2013	9/19/2013	7	240	0.060796433	217	405	3947.6	379
FL	Crystal River	5	2013	9/19/2013	8	541	0.09976028	320	556	5423	544
FL	Crystal River	5	2013	9/19/2013	9	889	0.129061293	461	706	6888.2	705
FL	Crystal River	5	2013	9/19/2013	10	894	0.12003867	521	764	7447.6	764
FL	Crystal River	5	2013	9/19/2013	11	811	0.108967296	528	763	7442.6	765
FL	Crystal River	5	2013	9/19/2013	12	796	0.106915958	543	763	7445.1	764
FL	Crystal River	5	2013	9/19/2013	13	770	0.103877182	541	760	7412.6	763

FL	Crystal River	5	2013	9/19/2013	14	723	0.097194402	535	763	7438.7	761
FL	Crystal River	5	2013	9/19/2013	15	711	0.094817699	547	769	7498.6	764
FL	Crystal River	5	2013	9/19/2013	16	793	0.105829285	554	768	7493.2	761
FL	Crystal River	5	2013	9/19/2013	17	941	0.12474481	558	774	7543.4	763
FL	Crystal River	5	2013	9/19/2013	18	820	0.108980237	556	772	7524.3	764
FL	Crystal River	5	2013	9/19/2013	19	772	0.103205797	553	767	7480.2	764
FL	Crystal River	5	2013	9/19/2013	20	624	0.088954781	498	719	7014.8	720
FL	Crystal River	5	2013	9/19/2013	21	386	0.069521991	327	569	5552.2	562
FL	Crystal River	5	2013	9/19/2013	22	197	0.0494267	227	408	3985.7	385
FL	Crystal River	5	2013	9/19/2013	23	94	0.034190521	151	282	2749.3	244
FL	Crystal River	5	2013	9/20/2013	0	110	0.042186002	146	267	2607.5	227
FL	Crystal River	5	2013	9/20/2013	1	126	0.048455947	150	266	2600.3	227
FL	Crystal River	5	2013	9/20/2013	2	108	0.041501748	150	267	2602.3	227
FL	Crystal River	5	2013	9/20/2013	3	96	0.036870607	156	267	2603.7	227
FL	Crystal River	5	2013	9/20/2013	4	96	0.036987093	155	266	2595.5	226
FL	Crystal River	5	2013	9/20/2013	5	97	0.037626067	159	264	2578	227
FL	Crystal River	5	2013	9/20/2013	6	129	0.045865036	168	288	2812.6	253
FL	Crystal River	5	2013	9/20/2013	7	119	0.042375899	179	288	2808.2	254
FL	Crystal River	5	2013	9/20/2013	8	142	0.045852304	192	317	3096.9	284
FL	Crystal River	5	2013	9/20/2013	9	340	0.075600916	287	461	4497.3	434
FL	Crystal River	5	2013	9/20/2013	10	527	0.096483038	344	560	5462.1	539
FL	Crystal River	5	2013	9/20/2013	11	1123	0.153476104	570	750	7317.1	738
FL	Crystal River	5	2013	9/20/2013	12	845	0.112552613	570	770	7507.6	766
FL	Crystal River	5	2013	9/20/2013	13	716	0.095641372	591	768	7486.3	764
FL	Crystal River	5	2013	9/20/2013	14	879	0.116911618	586	771	7518.5	765
FL	Crystal River	5	2013	9/20/2013	15	814	0.108146888	594	772	7526.8	767
FL	Crystal River	5	2013	9/20/2013	16	563	0.075080682	614	769	7498.6	765
FL	Crystal River	5	2013	9/20/2013	17	588	0.077978914	618	773	7540.5	764
FL	Crystal River	5	2013	9/20/2013	18	618	0.082304527	615	770	7508.7	766
FL	Crystal River	5	2013	9/20/2013	19	621	0.081551715	624	781	7614.8	772
FL	Crystal River	5	2013	9/20/2013	20	796	0.10728052	563	761	7419.8	761
FL	Crystal River	5	2013	9/20/2013	21	543	0.08960396	381	621	6060	618
FL	Crystal River	5	2013	9/20/2013	22	399	0.075356954	291	543	5294.8	525
FL	Crystal River	5	2013	9/20/2013	23	206	0.051680883	203	409	3986	387
FL	Crystal River	5	2013	9/21/2013	0	114	0.040618542	143	288	2806.6	250

FL	Crystal River	5	2013	9/21/2013	1	149	0.057571191	142	265	2588.1	227
FL	Crystal River	5	2013	9/21/2013	2	133	0.051349369	147	265	2590.1	226
FL	Crystal River	5	2013	9/21/2013	3	109	0.042277558	144	264	2578.2	226
FL	Crystal River	5	2013	9/21/2013	4	107	0.041650448	151	263	2569	226
FL	Crystal River	5	2013	9/21/2013	5	108	0.041718171	142	265	2588.8	226
FL	Crystal River	5	2013	9/21/2013	6	123	0.047956956	143	263	2564.8	226
FL	Crystal River	5	2013	9/21/2013	7	139	0.050527081	159	282	2751	243
FL	Crystal River	5	2013	9/21/2013	8	398	0.091257194	274	447	4361.3	420
FL	Crystal River	5	2013	9/21/2013	9	992	0.150849288	434	674	6576.1	658
FL	Crystal River	5	2013	9/21/2013	10	981	0.130348126	541	772	7526	768
FL	Crystal River	5	2013	9/21/2013	11	792	0.104877048	558	774	7551.7	770
FL	Crystal River	5	2013	9/21/2013	12	798	0.105922642	542	773	7533.8	770
FL	Crystal River	5	2013	9/21/2013	13	966	0.128210233	565	773	7534.5	768
FL	Crystal River	5	2013	9/21/2013	14	981	0.129065362	554	779	7600.8	769
FL	Crystal River	5	2013	9/21/2013	15	952	0.126256598	550	773	7540.2	769
FL	Crystal River	5	2013	9/21/2013	16	879	0.116575157	542	773	7540.2	768
FL	Crystal River	5	2013	9/21/2013	17	903	0.119231531	560	777	7573.5	769
FL	Crystal River	5	2013	9/21/2013	18	840	0.111217032	558	774	7552.8	770
FL	Crystal River	5	2013	9/21/2013	19	845	0.11212845	557	773	7536	769
FL	Crystal River	5	2013	9/21/2013	20	748	0.108456096	455	707	6896.8	703
FL	Crystal River	5	2013	9/21/2013	21	624	0.105128378	338	609	5935.6	595
FL	Crystal River	5	2013	9/21/2013	22	639	0.114217281	307	574	5594.6	558
FL	Crystal River	5	2013	9/21/2013	23	384	0.089525097	214	440	4289.3	415
FL	Crystal River	5	2013	9/22/2013	0	369	0.112216039	167	337	3288.3	303
FL	Crystal River	5	2013	9/22/2013	1	99	0.037689877	147	269	2626.7	227
FL	Crystal River	5	2013	9/22/2013	2	151	0.057550118	144	269	2623.8	226
FL	Crystal River	5	2013	9/22/2013	3	165	0.063342163	143	267	2604.9	227
FL	Crystal River	5	2013	9/22/2013	4	132	0.050681513	145	267	2604.5	226
FL	Crystal River	5	2013	9/22/2013	5	139	0.053434821	150	266	2601.3	226
FL	Crystal River	5	2013	9/22/2013	6	114	0.044228904	144	264	2577.5	226
FL	Crystal River	5	2013	9/22/2013	7	77	0.027755749	163	284	2774.2	247
FL	Crystal River	5	2013	9/22/2013	8	173	0.041200286	268	430	4199	402
FL	Crystal River	5	2013	9/22/2013	9	912	0.145663632	413	642	6261	620
FL	Crystal River	5	2013	9/22/2013	10	1433	0.189184907	568	777	7574.6	764
FL	Crystal River	5	2013	9/22/2013	11	641	0.084337666	600	779	7600.4	768

FL	Crystal River	5	2013	9/22/2013	12	597	0.079073895	596	774	7549.9	766
FL	Crystal River	5	2013	9/22/2013	13	774	0.103050234	608	770	7510.9	767
FL	Crystal River	5	2013	9/22/2013	14	839	0.111529105	624	771	7522.7	768
FL	Crystal River	5	2013	9/22/2013	15	664	0.088077678	618	773	7538.8	770
FL	Crystal River	5	2013	9/22/2013	16	841	0.110441372	609	781	7614.9	770
FL	Crystal River	5	2013	9/22/2013	17	1014	0.134363364	581	774	7546.7	769
FL	Crystal River	5	2013	9/22/2013	18	893	0.117967212	552	776	7569.9	768
FL	Crystal River	5	2013	9/22/2013	19	837	0.110111295	547	779	7601.4	772
FL	Crystal River	5	2013	9/22/2013	20	606	0.090233625	429	689	6715.9	686
FL	Crystal River	5	2013	9/22/2013	21	648	0.105516837	368	630	6141.2	617
FL	Crystal River	5	2013	9/22/2013	22	573	0.10931568	293	537	5241.7	521
FL	Crystal River	5	2013	9/22/2013	23	507	0.113725578	240	457	4458.1	431
FL	Crystal River	5	2013	9/23/2013	0	201	0.073234715	161	281	2744.6	242
FL	Crystal River	5	2013	9/23/2013	1	188	0.07256726	152	265	2590.7	227
FL	Crystal River	5	2013	9/23/2013	2	165	0.06296268	159	268	2620.6	226
FL	Crystal River	5	2013	9/23/2013	3	141	0.054155784	156	267	2603.6	227
FL	Crystal River	5	2013	9/23/2013	4	154	0.05899705	156	267	2610.3	231
FL	Crystal River	5	2013	9/23/2013	5	373	0.095916478	248	399	3888.8	367
FL	Crystal River	5	2013	9/23/2013	6	500	0.106908422	271	479	4676.9	463
FL	Crystal River	5	2013	9/23/2013	7	511	0.107855967	293	486	4737.8	470
FL	Crystal River	5	2013	9/23/2013	8	1148	0.184952473	409	636	6207	628
FL	Crystal River	5	2013	9/23/2013	9	1018	0.137485819	547	759	7404.4	760
FL	Crystal River	5	2013	9/23/2013	10	786	0.105042298	583	767	7482.7	765
FL	Crystal River	5	2013	9/23/2013	11	864	0.115375371	591	768	7488.6	769
FL	Crystal River	5	2013	9/23/2013	12	908	0.122654635	570	759	7402.9	764
FL	Crystal River	5	2013	9/23/2013	13	928	0.124483554	752	764	7454.8	764
FL	Crystal River	5	2013	9/23/2013	14	943	0.127648054	517	758	7387.5	764
FL	Crystal River	5	2013	9/23/2013	15	988	0.133203904	571	761	7417.2	766
FL	Crystal River	5	2013	9/23/2013	16	1077	0.143795562	561	768	7489.8	766
FL	Crystal River	5	2013	9/23/2013	17	1461	0.19330255	529	775	7558.1	770
FL	Crystal River	5	2013	9/23/2013	18	1528	0.202991737	511	772	7527.4	771
FL	Crystal River	5	2013	9/23/2013	19	1081	0.143444798	512	773	7536	774
FL	Crystal River	5	2013	9/23/2013	20	610	0.094984507	385	658	6422.1	657
FL	Crystal River	5	2013	9/23/2013	21	610	0.104748004	320	597	5823.5	588
FL	Crystal River	5	2013	9/23/2013	22	814	0.151486954	279	551	5373.4	536

FL	Crystal River	5	2013	9/23/2013	23	368	0.105323412	178	358	3494	342
FL	Crystal River	5	2013	9/24/2013	0	223	0.08699723	146	263	2563.3	226
FL	Crystal River	5	2013	9/24/2013	1	219	0.084788416	144	265	2582.9	226
FL	Crystal River	5	2013	9/24/2013	2	190	0.07388109	141	263	2571.7	226
FL	Crystal River	5	2013	9/24/2013	3	185	0.07181677	144	264	2576	226
FL	Crystal River	5	2013	9/24/2013	4	291	0.096687377	180	308	3009.7	276
FL	Crystal River	5	2013	9/24/2013	5	943	0.188554747	285	513	5001.2	487
FL	Crystal River	5	2013	9/24/2013	6	1402	0.232323065	337	619	6034.7	610
FL	Crystal River	5	2013	9/24/2013	7	206	0.185495345	61	113	1110.54	554
FL	Crystal River	5	2013	9/24/2013	8	0	0	0	1	9.775	0
FL	Crystal River	5	2013	9/24/2013	9	1	0.011633859	2	8	85.956	0
FL	Crystal River	5	2013	9/24/2013	10	1	0.005589715	6	18	178.9	0
FL	Crystal River	5	2013	9/24/2013	11	11	0.074475288	3	15	147.7	0
FL	Crystal River	5	2013	9/24/2013	12	6	0.029268293	8	21	205	0
FL	Crystal River	5	2013	9/24/2013	13	4	0.019704433	7	20	203	0
FL	Crystal River	5	2013	9/24/2013	14	3	0.02073255	4	14	144.7	0
FL	Crystal River	5	2013	9/24/2013	15	0	0	0	0	9.588	0
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FL	Crystal River	5	2013	9/25/2013	15	7	0.05204461	30	13	134.5	0
FL	Crystal River	5	2013	9/25/2013	16	7	0.060462103	3	11	115.775	0
FL	Crystal River	5	2013	9/25/2013	17	2	0.014682886	3	14	136.213	0
FL	Crystal River	5	2013	9/25/2013	18	9	0.039352864	7	23	228.7	0
FL	Crystal River	5	2013	9/25/2013	19	21	0.06527821	31	33	321.7	0
FL	Crystal River	5	2013	9/25/2013	20	39	0.090866729	66	44	429.2	0
FL	Crystal River	5	2013	9/25/2013	21	56	0.132985039	66	43	421.1	0
FL	Crystal River	5	2013	9/25/2013	22	103	0.24419156	67	43	421.8	0
FL	Crystal River	5	2013	9/25/2013	23	79	0.146052875	82	55	540.9	0
FL	Crystal River	5	2013	9/26/2013	0	75	0.137086456	83	56	547.1	17
FL	Crystal River	5	2013	9/26/2013	1	93	0.123342175	122	77	754	34
FL	Crystal River	5	2013	9/26/2013	2	174	0.165967188	198	107	1048.4	55
FL	Crystal River	5	2013	9/26/2013	3	257	0.158798814	458	166	1618.4	115
FL	Crystal River	5	2013	9/26/2013	4	429	0.226732202	609	194	1892.1	152
FL	Crystal River	5	2013	9/26/2013	5	402	0.16	799	257	2512.5	213
FL	Crystal River	5	2013	9/26/2013	6	277	0.096653756	576	294	2865.9	251
FL	Crystal River	5	2013	9/26/2013	7	228	0.076279692	735	306	2989	251
FL	Crystal River	5	2013	9/26/2013	8	550	0.134313414	671	420	4094.9	383
FL	Crystal River	5	2013	9/26/2013	9	1419	0.222163076	281	655	6387.2	641
FL	Crystal River	5	2013	9/26/2013	10	1540	0.208550574	398	757	7384.3	759
FL	Crystal River	5	2013	9/26/2013	11	833	0.11313477	618	755	7362.9	765
FL	Crystal River	5	2013	9/26/2013	12	772	0.105139869	712	753	7342.6	765
FL	Crystal River	5	2013	9/26/2013	13	962	0.131059099	778	753	7340.2	765
FL	Crystal River	5	2013	9/26/2013	14	992	0.134960478	757	754	7350.3	764
FL	Crystal River	5	2013	9/26/2013	15	849	0.115820635	527	752	7330.3	764
FL	Crystal River	5	2013	9/26/2013	16	856	0.115923187	553	757	7384.2	765
FL	Crystal River	5	2013	9/26/2013	17	889	0.120305839	561	758	7389.5	768
FL	Crystal River	5	2013	9/26/2013	18	940	0.126794	563	760	7413.6	768
FL	Crystal River	5	2013	9/26/2013	19	942	0.126834523	571	762	7427	769
FL	Crystal River	5	2013	9/26/2013	20	676	0.105187813	411	659	6426.6	658

FL	Crystal River	5	2013	9/26/2013	21	283	0.06499024	239	446	4354.5	436
FL	Crystal River	5	2013	9/26/2013	22	130	0.043216648	153	308	3008.1	280
FL	Crystal River	5	2013	9/26/2013	23	96	0.037568974	143	262	2555.3	226
FL	Crystal River	5	2013	9/27/2013	0	108	0.042347959	145	261	2550.3	227
FL	Crystal River	5	2013	9/27/2013	1	91	0.035808444	149	260	2541.3	226
FL	Crystal River	5	2013	9/27/2013	2	87	0.034202146	155	261	2543.7	226
FL	Crystal River	5	2013	9/27/2013	3	77	0.030280389	147	260	2542.9	227
FL	Crystal River	5	2013	9/27/2013	4	80	0.031207334	153	263	2563.5	226
FL	Crystal River	5	2013	9/27/2013	5	102	0.037312068	161	280	2733.7	244
FL	Crystal River	5	2013	9/27/2013	6	113	0.040102207	163	289	2817.8	252
FL	Crystal River	5	2013	9/27/2013	7	107	0.037861364	161	290	2826.1	254
FL	Crystal River	5	2013	9/27/2013	8	100	0.034971149	160	293	2859.5	258
FL	Crystal River	5	2013	9/27/2013	9	98	0.034161815	172	294	2868.7	258
FL	Crystal River	5	2013	9/27/2013	10	181	0.049542892	222	374	3653.4	344
FL	Crystal River	5	2013	9/27/2013	11	230	0.054401817	274	433	4227.8	405
FL	Crystal River	5	2013	9/27/2013	12	317	0.064970999	336	500	4879.1	478
FL	Crystal River	5	2013	9/27/2013	13	434	0.080567313	420	552	5386.8	538
FL	Crystal River	5	2013	9/27/2013	14	767	0.127014092	507	619	6038.7	606
FL	Crystal River	5	2013	9/27/2013	15	628	0.098700237	572	652	6362.7	643
FL	Crystal River	5	2013	9/27/2013	16	450	0.074976258	546	615	6001.9	605
FL	Crystal River	5	2013	9/27/2013	17	347	0.063554278	464	560	5459.9	559
FL	Crystal River	5	2013	9/27/2013	18	206	0.046926967	360	450	4389.8	433
FL	Crystal River	5	2013	9/27/2013	19	185	0.048804939	291	388	3790.6	366
FL	Crystal River	5	2013	9/27/2013	20	89	0.03403702	188	268	2614.8	229
FL	Crystal River	5	2013	9/27/2013	21	96	0.037037037	197	265	2592	227
FL	Crystal River	5	2013	9/27/2013	22	105	0.040257649	195	267	2608.2	227
FL	Crystal River	5	2013	9/27/2013	23	100	0.038370041	216	267	2606.2	226
FL	Crystal River	5	2013	9/28/2013	0	93	0.035754104	208	266	2601.1	226
FL	Crystal River	5	2013	9/28/2013	1	83	0.031934131	194	266	2599.1	227
FL	Crystal River	5	2013	9/28/2013	2	81	0.03115145	192	266	2600.2	226
FL	Crystal River	5	2013	9/28/2013	3	79	0.030330953	192	267	2604.6	226
FL	Crystal River	5	2013	9/28/2013	4	76	0.029402662	201	265	2584.8	226
FL	Crystal River	5	2013	9/28/2013	5	76	0.029348162	202	265	2589.6	226
FL	Crystal River	5	2013	9/28/2013	6	90	0.034882369	190	264	2580.1	227
FL	Crystal River	5	2013	9/28/2013	7	105	0.038156843	184	282	2751.8	246

FL	Crystal River	5	2013	9/28/2013	8	140	0.042850147	245	335	3267.2	303
FL	Crystal River	5	2013	9/28/2013	9	217	0.054558254	298	408	3977.4	377
FL	Crystal River	5	2013	9/28/2013	10	257	0.061158441	327	431	4202.2	407
FL	Crystal River	5	2013	9/28/2013	11	664	0.114439351	510	595	5802.2	571
FL	Crystal River	5	2013	9/28/2013	12	1036	0.153841585	707	690	6734.2	684
FL	Crystal River	5	2013	9/28/2013	13	1230	0.165634258	757	761	7426	765
FL	Crystal River	5	2013	9/28/2013	14	957	0.127763537	756	768	7490.4	771
FL	Crystal River	5	2013	9/28/2013	15	718	0.095765255	794	769	7497.5	770
FL	Crystal River	5	2013	9/28/2013	16	544	0.073862865	869	755	7365	758
FL	Crystal River	5	2013	9/28/2013	17	326	0.055620959	445	601	5861.1	593
FL	Crystal River	5	2013	9/28/2013	18	277	0.051273508	383	554	5402.4	536
FL	Crystal River	5	2013	9/28/2013	19	133	0.037230916	260	366	3572.3	350
FL	Crystal River	5	2013	9/28/2013	20	74	0.028616729	201	265	2585.9	226
FL	Crystal River	5	2013	9/28/2013	21	78	0.029734675	191	269	2623.2	227
FL	Crystal River	5	2013	9/28/2013	22	85	0.032686022	174	266	2600.5	226
FL	Crystal River	5	2013	9/28/2013	23	98	0.037778035	168	266	2594.1	226
FL	Crystal River	5	2013	9/29/2013	0	100	0.038529706	160	266	2595.4	226
FL	Crystal River	5	2013	9/29/2013	1	92	0.035414582	150	266	2597.8	226
FL	Crystal River	5	2013	9/29/2013	2	93	0.035744485	150	266	2601.8	226
FL	Crystal River	5	2013	9/29/2013	3	91	0.034919417	153	267	2606	227
FL	Crystal River	5	2013	9/29/2013	4	66	0.025546739	149	265	2583.5	226
FL	Crystal River	5	2013	9/29/2013	5	56	0.021645022	173	265	2587.2	226
FL	Crystal River	5	2013	9/29/2013	6	67	0.025929796	168	265	2583.9	226
FL	Crystal River	5	2013	9/29/2013	7	87	0.030658632	187	291	2837.7	254
FL	Crystal River	5	2013	9/29/2013	8	93	0.029595214	210	322	3142.4	287
FL	Crystal River	5	2013	9/29/2013	9	159	0.040542608	286	402	3921.8	369
FL	Crystal River	5	2013	9/29/2013	10	307	0.065494731	351	480	4687.4	458
FL	Crystal River	5	2013	9/29/2013	11	852	0.118590279	797	737	7184.4	724
FL	Crystal River	5	2013	9/29/2013	12	687	0.092160335	842	764	7454.4	765
FL	Crystal River	5	2013	9/29/2013	13	602	0.080449018	613	767	7483	769
FL	Crystal River	5	2013	9/29/2013	14	600	0.080193534	770	767	7481.9	767
FL	Crystal River	5	2013	9/29/2013	15	684	0.091054313	270	770	7512	770
FL	Crystal River	5	2013	9/29/2013	16	968	0.129725673	395	765	7461.9	767
FL	Crystal River	5	2013	9/29/2013	17	1158	0.154935042	605	766	7474.1	765
FL	Crystal River	5	2013	9/29/2013	18	945	0.125840602	683	770	7509.5	767

FL	Crystal River	5	2013	9/29/2013	19	839	0.112120807	681	767	7483	763
FL	Crystal River	5	2013	9/29/2013	20	528	0.085976682	466	630	6141.2	622
FL	Crystal River	5	2013	9/29/2013	21	272	0.05899833	249	473	4610.3	462
FL	Crystal River	5	2013	9/29/2013	22	75	0.027885187	115	276	2689.6	240
FL	Crystal River	5	2013	9/29/2013	23	84	0.031975638	131	269	2627	229
FL	Crystal River	5	2013	9/30/2013	0	91	0.034943553	127	267	2604.2	226
FL	Crystal River	5	2013	9/30/2013	1	102	0.039294245	135	266	2595.8	226
FL	Crystal River	5	2013	9/30/2013	2	94	0.036174716	161	266	2598.5	226
FL	Crystal River	5	2013	9/30/2013	3	82	0.031538462	150	266	2600	227
FL	Crystal River	5	2013	9/30/2013	4	75	0.029108127	136	264	2576.6	226
FL	Crystal River	5	2013	9/30/2013	5	110	0.037257824	121	302	2952.4	262
FL	Crystal River	5	2013	9/30/2013	6	133	0.044961293	147	303	2958.1	268
FL	Crystal River	5	2013	9/30/2013	7	121	0.041064277	112	302	2946.6	265
FL	Crystal River	5	2013	9/30/2013	8	139	0.044624225	133	319	3114.9	289
FL	Crystal River	5	2013	9/30/2013	9	233	0.059191139	212	403	3936.4	371
FL	Crystal River	5	2013	9/30/2013	10	536	0.098128959	420	560	5462.2	536
FL	Crystal River	5	2013	9/30/2013	11	927	0.134570159	592	706	6888.6	659
FL	Crystal River	5	2013	9/30/2013	12	1177	0.156713934	751	770	7510.5	763
FL	Crystal River	5	2013	9/30/2013	13	972	0.128250802	773	777	7578.9	769
FL	Crystal River	5	2013	9/30/2013	14	799	0.10517171	797	779	7597.1	768
FL	Crystal River	5	2013	9/30/2013	15	691	0.091347743	794	776	7564.5	770
FL	Crystal River	5	2013	9/30/2013	16	728	0.096553005	799	773	7539.9	768
FL	Crystal River	5	2013	9/30/2013	17	1039	0.138933462	650	767	7478.4	770
FL	Crystal River	5	2013	9/30/2013	18	995	0.144336776	372	707	6893.6	705
FL	Crystal River	5	2013	9/30/2013	19	757	0.12653996	197	613	5982.3	606
FL	Crystal River	5	2013	9/30/2013	20	390	0.086168802	135	464	4526	446
FL	Crystal River	5	2013	9/30/2013	21	120	0.040408122	89	304	2969.7	272
FL	Crystal River	5	2013	9/30/2013	22	90	0.034376074	94	268	2618.1	226
FL	Crystal River	5	2013	9/30/2013	23	105	0.040325678	91	267	2603.8	227
FL	Crystal River	5	2013	10/1/2013	0	132	0.050955414	95	265	2590.5	227
FL	Crystal River	5	2013	10/1/2013	1	142	0.054541963	91	267	2603.5	226
FL	Crystal River	5	2013	10/1/2013	2	150	0.057774525	96	266	2596.3	226
FL	Crystal River	5	2013	10/1/2013	3	140	0.053437154	91	268	2619.9	226
FL	Crystal River	5	2013	10/1/2013	4	362	0.139644331	127	266	2592.3	227
FL	Crystal River	5	2013	10/1/2013	5	387	0.149265245	215	266	2592.7	226

FL	Crystal River	5	2013	10/1/2013	6	360	0.139173464	421	265	2586.7	226
FL	Crystal River	5	2013	10/1/2013	7	461	0.152674284	247	309	3019.5	273
FL	Crystal River	5	2013	10/1/2013	8	868	0.226874722	172	392	3825.9	364
FL	Crystal River	5	2013	10/1/2013	9	1906	0.348484294	344	561	5469.4	537
FL	Crystal River	5	2013	10/1/2013	10	2138	0.338135982	531	648	6322.9	639
FL	Crystal River	5	2013	10/1/2013	11	1914	0.257854179	831	761	7422.8	751
FL	Crystal River	5	2013	10/1/2013	12	1664	0.221344294	887	771	7517.7	769
FL	Crystal River	5	2013	10/1/2013	13	630	0.083753207	835	771	7522.1	770
FL	Crystal River	5	2013	10/1/2013	14	584	0.077381741	618	774	7547	768
FL	Crystal River	5	2013	10/1/2013	15	817	0.108604623	729	771	7522.7	768
FL	Crystal River	5	2013	10/1/2013	16	1294	0.171613485	693	773	7540.2	768
FL	Crystal River	5	2013	10/1/2013	17	1310	0.173067523	643	776	7569.3	770
FL	Crystal River	5	2013	10/1/2013	18	1101	0.145760244	755	775	7553.5	772
FL	Crystal River	5	2013	10/1/2013	19	948	0.128472693	575	757	7379	755
FL	Crystal River	5	2013	10/1/2013	20	574	0.096810646	106	608	5929.1	597
FL	Crystal River	5	2013	10/1/2013	21	717	0.132253661	428	556	5421.4	539
FL	Crystal River	5	2013	10/1/2013	22	617	0.141685994	235	446	4354.7	421
FL	Crystal River	5	2013	10/1/2013	23	380	0.102046297	219	382	3723.8	352
FL	Crystal River	5	2013	10/2/2013	0	372	0.101064986	198	377	3680.8	346
FL	Crystal River	5	2013	10/2/2013	1	169	0.058239713	92	297	2901.8	260
FL	Crystal River	5	2013	10/2/2013	2	166	0.062816923	79	271	2642.6	229
FL	Crystal River	5	2013	10/2/2013	3	175	0.067724458	250	265	2584	227
FL	Crystal River	5	2013	10/2/2013	4	159	0.060940554	300	267	2609.1	226
FL	Crystal River	5	2013	10/2/2013	5	153	0.059020947	256	266	2592.3	226
FL	Crystal River	5	2013	10/2/2013	6	173	0.067755454	135	262	2553.3	226
FL	Crystal River	5	2013	10/2/2013	7	155	0.059402905	198	267	2609.3	231
FL	Crystal River	5	2013	10/2/2013	8	338	0.096145641	302	360	3515.5	331
FL	Crystal River	5	2013	10/2/2013	9	687	0.147923261	445	476	4644.3	451
FL	Crystal River	5	2013	10/2/2013	10	1021	0.181041209	631	578	5639.6	556
FL	Crystal River	5	2013	10/2/2013	11	1049	0.166412843	630	646	6303.6	634
FL	Crystal River	5	2013	10/2/2013	12	1274	0.191957088	590	680	6636.9	668
FL	Crystal River	5	2013	10/2/2013	13	1336	0.20088111	618	682	6650.7	671
FL	Crystal River	5	2013	10/2/2013	14	1346	0.199644023	829	691	6742	681
FL	Crystal River	5	2013	10/2/2013	15	845	0.125096228	702	693	6754.8	681
FL	Crystal River	5	2013	10/2/2013	16	942	0.139808246	599	691	6737.8	681

FL	Crystal River	5	2013	10/2/2013	17	1107	0.16469538	544	689	6721.5	681
FL	Crystal River	5	2013	10/2/2013	18	882	0.130922693	538	691	6736.8	681
FL	Crystal River	5	2013	10/2/2013	19	1041	0.155194776	536	688	6707.7	681
FL	Crystal River	5	2013	10/2/2013	20	746	0.124832664	304	613	5976	604
FL	Crystal River	5	2013	10/2/2013	21	892	0.157020138	340	582	5680.8	575
FL	Crystal River	5	2013	10/2/2013	22	434	0.103185925	180	431	4206	411
FL	Crystal River	5	2013	10/2/2013	23	173	0.064250167	99	276	2692.6	245
FL	Crystal River	5	2013	10/3/2013	0	179	0.068456479	88	268	2614.8	227
FL	Crystal River	5	2013	10/3/2013	1	160	0.061316778	114	267	2609.4	226
FL	Crystal River	5	2013	10/3/2013	2	136	0.052235366	135	267	2603.6	226
FL	Crystal River	5	2013	10/3/2013	3	121	0.046179681	141	268	2620.2	227
FL	Crystal River	5	2013	10/3/2013	4	130	0.04996925	130	266	2601.6	226
FL	Crystal River	5	2013	10/3/2013	5	127	0.048703789	114	267	2607.6	226
FL	Crystal River	5	2013	10/3/2013	6	122	0.04670214	114	268	2612.3	226
FL	Crystal River	5	2013	10/3/2013	7	124	0.046094941	121	276	2690.1	238
FL	Crystal River	5	2013	10/3/2013	8	192	0.060550632	155	325	3170.9	294
FL	Crystal River	5	2013	10/3/2013	9	404	0.098808912	253	419	4088.7	389
FL	Crystal River	5	2013	10/3/2013	10	911	0.166228742	367	562	5480.4	544
FL	Crystal River	5	2013	10/3/2013	11	1883	0.253636853	400	761	7424	752
FL	Crystal River	5	2013	10/3/2013	12	997	0.131991792	543	775	7553.5	770
FL	Crystal River	5	2013	10/3/2013	13	843	0.111868995	617	773	7535.6	770
FL	Crystal River	5	2013	10/3/2013	14	929	0.124148069	651	767	7483	768
FL	Crystal River	5	2013	10/3/2013	15	1356	0.180964074	629	768	7493.2	769
FL	Crystal River	5	2013	10/3/2013	16	1487	0.198502223	606	768	7491.1	768
FL	Crystal River	5	2013	10/3/2013	17	1203	0.160310226	615	769	7504.2	769
FL	Crystal River	5	2013	10/3/2013	18	1056	0.139934273	626	774	7546.4	770
FL	Crystal River	5	2013	10/3/2013	19	746	0.10348463	511	739	7208.8	729
FL	Crystal River	5	2013	10/3/2013	20	323	0.055940423	363	592	5774	575
FL	Crystal River	5	2013	10/3/2013	21	242	0.054443195	240	456	4445	437
FL	Crystal River	5	2013	10/3/2013	22	139	0.043990126	183	324	3159.8	290
FL	Crystal River	5	2013	10/3/2013	23	146	0.050968755	203	293	2864.5	252
FL	Crystal River	5	2013	10/4/2013	0	202	0.070780336	142	292	2853.9	251
FL	Crystal River	5	2013	10/4/2013	1	166	0.058638595	150	290	2830.9	252
FL	Crystal River	5	2013	10/4/2013	2	157	0.054682874	155	294	2871.1	251
FL	Crystal River	5	2013	10/4/2013	3	162	0.057341073	183	289	2825.2	252

FL	Crystal River	5	2013	10/4/2013	4	128	0.045711021	176	287	2800.2	251
FL	Crystal River	5	2013	10/4/2013	5	132	0.04566684	167	296	2890.5	256
FL	Crystal River	5	2013	10/4/2013	6	140	0.04869904	267	295	2874.8	255
FL	Crystal River	5	2013	10/4/2013	7	117	0.041189931	769	291	2840.5	254
FL	Crystal River	5	2013	10/4/2013	8	174	0.05497283	655	324	3165.2	293
FL	Crystal River	5	2013	10/4/2013	9	494	0.10876266	290	466	4542	435
FL	Crystal River	5	2013	10/4/2013	10	701	0.123904129	350	580	5657.6	562
FL	Crystal River	5	2013	10/4/2013	11	1190	0.159065391	538	767	7481.2	756
FL	Crystal River	5	2013	10/4/2013	12	1000	0.132383701	566	775	7553.8	768
FL	Crystal River	5	2013	10/4/2013	13	854	0.113604619	548	771	7517.3	764
FL	Crystal River	5	2013	10/4/2013	14	1421	0.189237059	548	770	7509.1	763
FL	Crystal River	5	2013	10/4/2013	15	1522	0.201477324	543	775	7554.2	766
FL	Crystal River	5	2013	10/4/2013	16	1550	0.205856963	542	772	7529.5	767
FL	Crystal River	5	2013	10/4/2013	17	1720	0.229021864	540	770	7510.2	766
FL	Crystal River	5	2013	10/4/2013	18	1833	0.243973859	540	770	7513.1	766
FL	Crystal River	5	2013	10/4/2013	19	1326	0.18014591	515	755	7360.7	751
FL	Crystal River	5	2013	10/4/2013	20	861	0.142528431	374	619	6040.9	612
FL	Crystal River	5	2013	10/4/2013	21	397	0.079666085	254	511	4983.3	492
FL	Crystal River	5	2013	10/4/2013	22	67	0.020948629	156	328	3198.3	294
FL	Crystal River	5	2013	10/4/2013	23	43	0.016242351	145	271	2647.4	229
FL	Crystal River	5	2013	10/5/2013	0	44	0.01690812	145	267	2602.3	226
FL	Crystal River	5	2013	10/5/2013	1	51	0.019649393	150	266	2595.5	226
FL	Crystal River	5	2013	10/5/2013	2	46	0.017596205	156	268	2614.2	226
FL	Crystal River	5	2013	10/5/2013	3	47	0.017914999	167	269	2623.5	226
FL	Crystal River	5	2013	10/5/2013	4	52	0.019874637	157	268	2616.4	226
FL	Crystal River	5	2013	10/5/2013	5	64	0.024529531	159	267	2609.1	226
FL	Crystal River	5	2013	10/5/2013	6	89	0.034146716	161	267	2606.4	226
FL	Crystal River	5	2013	10/5/2013	7	246	0.088083644	178	286	2792.8	247
FL	Crystal River	5	2013	10/5/2013	8	373	0.107925118	217	354	3456.1	327
FL	Crystal River	5	2013	10/5/2013	9	424	0.102569065	235	424	4133.8	393
FL	Crystal River	5	2013	10/5/2013	10	386	0.080596329	268	491	4789.3	468
FL	Crystal River	5	2013	10/5/2013	11	1234	0.18405823	442	687	6704.4	670
FL	Crystal River	5	2013	10/5/2013	12	1579	0.210898891	539	768	7487	766
FL	Crystal River	5	2013	10/5/2013	13	1222	0.162370449	541	772	7526	765
FL	Crystal River	5	2013	10/5/2013	14	1462	0.191918927	548	781	7617.8	766

FL	Crystal River	5	2013	10/5/2013	15	1726	0.227608398	553	778	7583.2	765
FL	Crystal River	5	2013	10/5/2013	16	1553	0.207003186	540	769	7502.3	766
FL	Crystal River	5	2013	10/5/2013	17	1538	0.204388098	534	772	7524.9	765
FL	Crystal River	5	2013	10/5/2013	18	1507	0.201177429	539	768	7490.9	765
FL	Crystal River	5	2013	10/5/2013	19	907	0.131590401	441	707	6892.6	704
FL	Crystal River	5	2013	10/5/2013	20	263	0.0529484	253	509	4967.1	488
FL	Crystal River	5	2013	10/5/2013	21	96	0.028997765	152	339	3310.6	309
FL	Crystal River	5	2013	10/5/2013	22	79	0.028754459	140	281	2747.4	239
FL	Crystal River	5	2013	10/5/2013	23	78	0.029594779	137	270	2635.6	226
FL	Crystal River	5	2013	10/6/2013	0	94	0.035845027	139	269	2622.4	226
FL	Crystal River	5	2013	10/6/2013	1	108	0.041248138	138	268	2618.3	227
FL	Crystal River	5	2013	10/6/2013	2	99	0.038259391	142	265	2587.6	226
FL	Crystal River	5	2013	10/6/2013	3	77	0.029682742	153	266	2594.1	227
FL	Crystal River	5	2013	10/6/2013	4	96	0.036385688	147	270	2638.4	226
FL	Crystal River	5	2013	10/6/2013	5	88	0.033147506	135	272	2654.8	226
FL	Crystal River	5	2013	10/6/2013	6	113	0.04260132	143	272	2652.5	229
FL	Crystal River	5	2013	10/6/2013	7	134	0.047504254	152	289	2820.8	252
FL	Crystal River	5	2013	10/6/2013	8	177	0.053859964	177	337	3286.3	303
FL	Crystal River	5	2013	10/6/2013	9	303	0.072420469	217	429	4183.9	398
FL	Crystal River	5	2013	10/6/2013	10	429	0.08321049	293	529	5155.6	509
FL	Crystal River	5	2013	10/6/2013	11	1237	0.174727386	481	726	7079.6	716
FL	Crystal River	5	2013	10/6/2013	12	1275	0.169873161	540	770	7505.6	766
FL	Crystal River	5	2013	10/6/2013	13	1048	0.139065817	557	773	7536	766
FL	Crystal River	5	2013	10/6/2013	14	1033	0.136790392	543	774	7551.7	766
FL	Crystal River	5	2013	10/6/2013	15	1074	0.143469723	539	768	7485.9	767
FL	Crystal River	5	2013	10/6/2013	16	1234	0.164006326	541	772	7524.1	766
FL	Crystal River	5	2013	10/6/2013	17	1385	0.183872338	542	772	7532.4	767
FL	Crystal River	5	2013	10/6/2013	18	1277	0.168505225	545	777	7578.4	767
FL	Crystal River	5	2013	10/6/2013	19	1255	0.168907552	549	762	7430.1	756
FL	Crystal River	5	2013	10/6/2013	20	553	0.089515515	376	633	6177.7	628
FL	Crystal River	5	2013	10/6/2013	21	709	0.134760131	289	539	5261.2	524
FL	Crystal River	5	2013	10/6/2013	22	370	0.110546758	170	343	3347	317
FL	Crystal River	5	2013	10/6/2013	23	119	0.045185298	160	270	2633.6	226
FL	Crystal River	5	2013	10/7/2013	0	83	0.031946422	161	266	2598.1	227
FL	Crystal River	5	2013	10/7/2013	1	79	0.030111297	165	269	2623.6	226

FL	Crystal River	5	2013	10/7/2013	2	101	0.038688424	172	267	2610.6	226
FL	Crystal River	5	2013	10/7/2013	3	101	0.038615943	162	268	2615.5	226
FL	Crystal River	5	2013	10/7/2013	4	112	0.043168241	160	266	2594.5	226
FL	Crystal River	5	2013	10/7/2013	5	185	0.063608857	192	298	2908.4	261
FL	Crystal River	5	2013	10/7/2013	6	135	0.045625063	189	303	2958.9	261
FL	Crystal River	5	2013	10/7/2013	7	99	0.034729531	185	292	2850.6	254
FL	Crystal River	5	2013	10/7/2013	8	188	0.054124082	232	356	3473.5	323
FL	Crystal River	5	2013	10/7/2013	9	403	0.087219998	277	474	4620.5	451
FL	Crystal River	5	2013	10/7/2013	10	264	0.05923001	263	457	4457.2	433
FL	Crystal River	5	2013	10/7/2013	11	407	0.076825792	317	543	5297.7	525
FL	Crystal River	5	2013	10/7/2013	12	396	0.078172809	273	519	5065.7	499
FL	Crystal River	5	2013	10/7/2013	13	748	0.117571242	419	652	6362.1	639
FL	Crystal River	5	2013	10/7/2013	14	1100	0.165473254	425	682	6647.6	676
FL	Crystal River	5	2013	10/7/2013	15	993	0.149609028	438	681	6637.3	678
FL	Crystal River	5	2013	10/7/2013	16	882	0.132669485	432	682	6648.1	673
FL	Crystal River	5	2013	10/7/2013	17	783	0.135711314	328	592	5769.6	582
FL	Crystal River	5	2013	10/7/2013	18	727	0.132538467	312	562	5485.2	549
FL	Crystal River	5	2013	10/7/2013	19	697	0.137967893	520	518	5051.9	505
FL	Crystal River	5	2013	10/7/2013	20	372	0.102978629	213	370	3612.4	339
FL	Crystal River	5	2013	10/7/2013	21	348	0.119847092	34	297	2903.7	262
FL	Crystal River	5	2013	10/7/2013	22	217	0.075274039	63	295	2882.8	257
FL	Crystal River	5	2013	10/7/2013	23	98	0.03681166	71	273	2662.2	233
FL	Crystal River	5	2013	10/8/2013	0	89	0.034350998	228	265	2590.9	227
FL	Crystal River	5	2013	10/8/2013	1	102	0.039522629	154	264	2580.8	226
FL	Crystal River	5	2013	10/8/2013	2	106	0.040453383	157	268	2620.3	226
FL	Crystal River	5	2013	10/8/2013	3	96	0.037354086	156	263	2570	227
FL	Crystal River	5	2013	10/8/2013	4	105	0.040546803	158	265	2589.6	226
FL	Crystal River	5	2013	10/8/2013	5	152	0.054913295	174	284	2768	248
FL	Crystal River	5	2013	10/8/2013	6	205	0.063265747	184	332	3240.3	296
FL	Crystal River	5	2013	10/8/2013	7	448	0.093247856	278	492	4804.4	469
FL	Crystal River	5	2013	10/8/2013	8	792	0.11558669	465	703	6852	700
FL	Crystal River	5	2013	10/8/2013	9	688	0.096796432	490	729	7107.7	726
FL	Crystal River	5	2013	10/8/2013	10	573	0.080771345	489	727	7094.1	726
FL	Crystal River	5	2013	10/8/2013	11	541	0.076014107	491	730	7117.1	726
FL	Crystal River	5	2013	10/8/2013	12	562	0.078944781	469	730	7118.9	726

FL	Crystal River	5	2013	10/8/2013	13	562	0.079256512	482	727	7090.9	726
FL	Crystal River	5	2013	10/8/2013	14	842	0.11681303	490	739	7208.1	726
FL	Crystal River	5	2013	10/8/2013	15	1240	0.17179036	498	740	7218.1	726
FL	Crystal River	5	2013	10/8/2013	16	1238	0.171238087	491	741	7229.7	727
FL	Crystal River	5	2013	10/8/2013	17	1135	0.160924429	465	723	7053	717
FL	Crystal River	5	2013	10/8/2013	18	572	0.085438169	421	686	6694.9	680
FL	Crystal River	5	2013	10/8/2013	19	526	0.086494664	340	623	6081.3	610
FL	Crystal River	5	2013	10/8/2013	20	272	0.061798519	220	451	4401.4	433
FL	Crystal River	5	2013	10/8/2013	21	129	0.040833122	132	324	3159.2	295
FL	Crystal River	5	2013	10/8/2013	22	85	0.032532149	135	268	2612.8	227
FL	Crystal River	5	2013	10/8/2013	23	85	0.032714957	163	266	2598.2	226
FL	Crystal River	5	2013	10/9/2013	0	86	0.033135548	163	266	2595.4	226
FL	Crystal River	5	2013	10/9/2013	1	85	0.032840088	165	265	2588.3	226
FL	Crystal River	5	2013	10/9/2013	2	108	0.041492182	169	267	2602.9	226
FL	Crystal River	5	2013	10/9/2013	3	126	0.048581123	179	266	2593.6	226
FL	Crystal River	5	2013	10/9/2013	4	123	0.047713255	162	264	2577.9	226
FL	Crystal River	5	2013	10/9/2013	5	167	0.058171938	175	294	2870.8	255
FL	Crystal River	5	2013	10/9/2013	6	256	0.075371706	207	348	3396.5	304
FL	Crystal River	5	2013	10/9/2013	7	658	0.117567181	324	574	5596.8	558
FL	Crystal River	5	2013	10/9/2013	8	806	0.120711087	420	685	6677.1	684
FL	Crystal River	5	2013	10/9/2013	9	1023	0.145732724	435	720	7019.7	726
FL	Crystal River	5	2013	10/9/2013	10	890	0.126429434	471	722	7039.5	726
FL	Crystal River	5	2013	10/9/2013	11	781	0.110023244	454	728	7098.5	726
FL	Crystal River	5	2013	10/9/2013	12	716	0.101002976	510	727	7088.9	726
FL	Crystal River	5	2013	10/9/2013	13	737	0.103944826	475	727	7090.3	726
FL	Crystal River	5	2013	10/9/2013	14	875	0.122924335	469	730	7118.2	726
FL	Crystal River	5	2013	10/9/2013	15	1071	0.150505902	476	730	7116	726
FL	Crystal River	5	2013	10/9/2013	16	891	0.125355244	476	729	7107.8	727
FL	Crystal River	5	2013	10/9/2013	17	546	0.088922185	343	630	6140.2	630
FL	Crystal River	5	2013	10/9/2013	18	416	0.077773	272	548	5348.9	536
FL	Crystal River	5	2013	10/9/2013	19	488	0.10699408	232	468	4561	459
FL	Crystal River	5	2013	10/9/2013	20	176	0.058222237	163	310	3022.9	280
FL	Crystal River	5	2013	10/9/2013	21	163	0.058544645	155	285	2784.2	253
FL	Crystal River	5	2013	10/9/2013	22	121	0.046046122	147	269	2627.8	235
FL	Crystal River	5	2013	10/9/2013	23	125	0.048828125	148	262	2560	227

FL	Crystal River	5	2013	10/10/2013	0	129	0.050600141	147	261	2549.4	226
FL	Crystal River	5	2013	10/10/2013	1	128	0.050172468	150	261	2551.2	226
FL	Crystal River	5	2013	10/10/2013	2	121	0.047397078	160	261	2552.9	226
FL	Crystal River	5	2013	10/10/2013	3	118	0.046229187	145	261	2552.5	226
FL	Crystal River	5	2013	10/10/2013	4	116	0.045429623	153	262	2553.4	226
FL	Crystal River	5	2013	10/10/2013	5	133	0.051337476	152	265	2590.7	226
FL	Crystal River	5	2013	10/10/2013	6	128	0.048838185	157	268	2620.9	227
FL	Crystal River	5	2013	10/10/2013	7	126	0.050765512	151	254	2482	226
FL	Crystal River	5	2013	10/10/2013	8	127	0.04951074	156	263	2565.1	227
FL	Crystal River	5	2013	10/10/2013	9	121	0.046671295	155	266	2592.6	226
FL	Crystal River	5	2013	10/10/2013	10	148	0.054284038	163	279	2726.4	245
FL	Crystal River	5	2013	10/10/2013	11	338	0.09448995	203	367	3577.1	334
FL	Crystal River	5	2013	10/10/2013	12	930	0.148042025	408	644	6282	635
FL	Crystal River	5	2013	10/10/2013	13	915	0.122649223	507	765	7460.3	763
FL	Crystal River	5	2013	10/10/2013	14	1375	0.185344944	519	761	7418.6	759
FL	Crystal River	5	2013	10/10/2013	15	1222	0.160781012	539	779	7600.4	771
FL	Crystal River	5	2013	10/10/2013	16	1025	0.135251039	538	777	7578.5	771
FL	Crystal River	5	2013	10/10/2013	17	1009	0.132553862	532	781	7612	772
FL	Crystal River	5	2013	10/10/2013	18	999	0.132653468	542	772	7530.9	771
FL	Crystal River	5	2013	10/10/2013	19	1182	0.156647583	543	774	7545.6	771
FL	Crystal River	5	2013	10/10/2013	20	942	0.136598947	441	707	6896.1	702
FL	Crystal River	5	2013	10/10/2013	21	1040	0.197279815	284	540	5271.7	521
FL	Crystal River	5	2013	10/10/2013	22	666	0.142728559	256	478	4666.2	452
FL	Crystal River	5	2013	10/10/2013	23	512	0.113977872	242	460	4492.1	432
FL	Crystal River	5	2013	10/11/2013	0	300	0.082151268	200	374	3651.8	341
FL	Crystal River	5	2013	10/11/2013	1	159	0.056557465	171	288	2811.3	255
FL	Crystal River	5	2013	10/11/2013	2	167	0.058303949	180	293	2864.3	254
FL	Crystal River	5	2013	10/11/2013	3	139	0.049924574	169	285	2784.2	249
FL	Crystal River	5	2013	10/11/2013	4	134	0.047793987	173	287	2803.7	253
FL	Crystal River	5	2013	10/11/2013	5	418	0.102950594	231	416	4060.2	390
FL	Crystal River	5	2013	10/11/2013	6	1003	0.173824131	328	592	5770.2	566
FL	Crystal River	5	2013	10/11/2013	7	965	0.137101128	457	722	7038.6	714
FL	Crystal River	5	2013	10/11/2013	8	750	0.105986095	474	726	7076.4	726
FL	Crystal River	5	2013	10/11/2013	9	880	0.124517142	452	725	7067.3	726
FL	Crystal River	5	2013	10/11/2013	10	1005	0.139865006	503	737	7185.5	726

FL	Crystal River	5	2013	10/11/2013	11	916	0.127775918	501	735	7168.8	727
FL	Crystal River	5	2013	10/11/2013	12	876	0.121810471	503	737	7191.5	726
FL	Crystal River	5	2013	10/11/2013	13	890	0.124228804	501	735	7164.2	727
FL	Crystal River	5	2013	10/11/2013	14	965	0.134778419	501	734	7159.9	726
FL	Crystal River	5	2013	10/11/2013	15	1036	0.144321854	502	736	7178.4	726
FL	Crystal River	5	2013	10/11/2013	16	934	0.129687999	504	738	7201.9	727
FL	Crystal River	5	2013	10/11/2013	17	894	0.124109783	504	739	7203.3	726
FL	Crystal River	5	2013	10/11/2013	18	1052	0.140833757	552	766	7469.8	754
FL	Crystal River	5	2013	10/11/2013	19	1044	0.137965667	552	776	7567.1	768
FL	Crystal River	5	2013	10/11/2013	20	648	0.102684372	347	647	6310.6	635
FL	Crystal River	5	2013	10/11/2013	21	624	0.10904325	303	587	5722.5	571
FL	Crystal River	5	2013	10/11/2013	22	428	0.099041977	224	443	4321.4	419
FL	Crystal River	5	2013	10/11/2013	23	140	0.050182809	86	286	2789.8	251
FL	Crystal River	5	2013	10/12/2013	0	98	0.037097324	81	271	2641.7	226
FL	Crystal River	5	2013	10/12/2013	1	105	0.03990878	144	269	2631	227
FL	Crystal River	5	2013	10/12/2013	2	102	0.038909022	175	269	2621.5	226
FL	Crystal River	5	2013	10/12/2013	3	101	0.038554033	167	268	2619.7	226
FL	Crystal River	5	2013	10/12/2013	4	96	0.036701457	162	268	2615.7	227
FL	Crystal River	5	2013	10/12/2013	5	88	0.033820138	163	267	2602	227
FL	Crystal River	5	2013	10/12/2013	6	114	0.041332802	171	283	2758.1	249
FL	Crystal River	5	2013	10/12/2013	7	166	0.053405398	192	318	3108.3	283
FL	Crystal River	5	2013	10/12/2013	8	231	0.063720622	221	371	3625.2	340
FL	Crystal River	5	2013	10/12/2013	9	485	0.107208382	248	464	4523.9	436
FL	Crystal River	5	2013	10/12/2013	10	893	0.158956194	320	576	5617.9	556
FL	Crystal River	5	2013	10/12/2013	11	1571	0.216182744	486	745	7267	733
FL	Crystal River	5	2013	10/12/2013	12	1321	0.174878869	536	775	7553.8	770
FL	Crystal River	5	2013	10/12/2013	13	1104	0.144745123	541	782	7627.2	770
FL	Crystal River	5	2013	10/12/2013	14	858	0.112727129	540	780	7611.3	770
FL	Crystal River	5	2013	10/12/2013	15	881	0.116552892	544	775	7558.8	768
FL	Crystal River	5	2013	10/12/2013	16	923	0.121549726	539	779	7593.6	771
FL	Crystal River	5	2013	10/12/2013	17	958	0.126761495	536	775	7557.5	769
FL	Crystal River	5	2013	10/12/2013	18	973	0.127896736	524	780	7607.7	770
FL	Crystal River	5	2013	10/12/2013	19	866	0.117401442	486	756	7376.4	750
FL	Crystal River	5	2013	10/12/2013	20	575	0.094316411	347	625	6096.5	609
FL	Crystal River	5	2013	10/12/2013	21	576	0.10742661	289	550	5361.8	526

FL	Crystal River	5	2013	10/12/2013	22	339	0.0828628	216	419	4091.1	389
FL	Crystal River	5	2013	10/12/2013	23	83	0.030513584	155	279	2720.1	239
FL	Crystal River	5	2013	10/13/2013	0	95	0.036273387	157	268	2619	227
FL	Crystal River	5	2013	10/13/2013	1	83	0.031749675	159	268	2614.2	227
FL	Crystal River	5	2013	10/13/2013	2	86	0.033446117	156	263	2571.3	226
FL	Crystal River	5	2013	10/13/2013	3	77	0.030018323	156	263	2565.1	226
FL	Crystal River	5	2013	10/13/2013	4	84	0.032857422	155	262	2556.5	227
FL	Crystal River	5	2013	10/13/2013	5	79	0.031162479	157	260	2535.1	226
FL	Crystal River	5	2013	10/13/2013	6	92	0.035687963	157	264	2577.9	226
FL	Crystal River	5	2013	10/13/2013	7	109	0.038966146	167	287	2797.3	253
FL	Crystal River	5	2013	10/13/2013	8	176	0.051679587	204	349	3405.6	318
FL	Crystal River	5	2013	10/13/2013	9	426	0.089207187	262	490	4775.4	461
FL	Crystal River	5	2013	10/13/2013	10	709	0.140803114	271	516	5035.4	492
FL	Crystal River	5	2013	10/13/2013	11	985	0.141655282	458	713	6953.5	700
FL	Crystal River	5	2013	10/13/2013	12	790	0.104627447	521	774	7550.6	768
FL	Crystal River	5	2013	10/13/2013	13	936	0.122672049	549	782	7630.1	771
FL	Crystal River	5	2013	10/13/2013	14	961	0.127328616	535	774	7547.4	769
FL	Crystal River	5	2013	10/13/2013	15	951	0.125225498	546	779	7594.3	770
FL	Crystal River	5	2013	10/13/2013	16	924	0.121716679	539	778	7591.4	771
FL	Crystal River	5	2013	10/13/2013	17	860	0.113631859	537	776	7568.3	772
FL	Crystal River	5	2013	10/13/2013	18	954	0.125835938	545	777	7581.3	771
FL	Crystal River	5	2013	10/13/2013	19	977	0.128410704	547	780	7608.4	770
FL	Crystal River	5	2013	10/13/2013	20	646	0.098689236	373	671	6545.8	657
FL	Crystal River	5	2013	10/13/2013	21	442	0.086958233	269	521	5082.9	501
FL	Crystal River	5	2013	10/13/2013	22	247	0.072011662	137	351	3430	317
FL	Crystal River	5	2013	10/13/2013	23	106	0.040758257	83	266	2600.7	226
FL	Crystal River	5	2013	10/14/2013	0	106	0.040882444	80	266	2592.8	227
FL	Crystal River	5	2013	10/14/2013	1	96	0.037085683	181	265	2588.6	227
FL	Crystal River	5	2013	10/14/2013	2	104	0.040330399	162	264	2578.7	227
FL	Crystal River	5	2013	10/14/2013	3	91	0.035219444	155	265	2583.8	226
FL	Crystal River	5	2013	10/14/2013	4	103	0.03979446	157	265	2588.3	227
FL	Crystal River	5	2013	10/14/2013	5	152	0.051926756	178	300	2927.2	260
FL	Crystal River	5	2013	10/14/2013	6	181	0.057451198	176	323	3150.5	286
FL	Crystal River	5	2013	10/14/2013	7	357	0.089628681	227	408	3983.1	378
FL	Crystal River	5	2013	10/14/2013	8	451	0.093066447	271	497	4846	476

FL	Crystal River	5	2013	10/14/2013	9	642	0.115148689	323	572	5575.4	553
FL	Crystal River	5	2013	10/14/2013	10	448	0.074023893	369	620	6052.1	609
FL	Crystal River	5	2013	10/14/2013	11	897	0.121850166	471	755	7361.5	746
FL	Crystal River	5	2013	10/14/2013	12	826	0.110340774	509	768	7485.9	765
FL	Crystal River	5	2013	10/14/2013	13	595	0.078786033	521	774	7552.1	767
FL	Crystal River	5	2013	10/14/2013	14	621	0.081997518	545	777	7573.4	769
FL	Crystal River	5	2013	10/14/2013	15	820	0.108951278	534	772	7526.3	768
FL	Crystal River	5	2013	10/14/2013	16	977	0.128124426	526	782	7625.4	769
FL	Crystal River	5	2013	10/14/2013	17	936	0.12295728	548	781	7612.4	770
FL	Crystal River	5	2013	10/14/2013	18	868	0.114300764	554	779	7594	770
FL	Crystal River	5	2013	10/14/2013	19	889	0.116899853	547	780	7604.8	770
FL	Crystal River	5	2013	10/14/2013	20	925	0.122385256	551	775	7558.1	768
FL	Crystal River	5	2013	10/14/2013	21	677	0.104193921	396	666	6497.5	656
FL	Crystal River	5	2013	10/14/2013	22	535	0.099545996	295	551	5374.4	527
FL	Crystal River	5	2013	10/14/2013	23	468	0.101386482	263	473	4616	454
FL	Crystal River	5	2013	10/15/2013	0	380	0.086908792	240	448	4372.4	430
FL	Crystal River	5	2013	10/15/2013	1	173	0.051457466	184	344	3362	320
FL	Crystal River	5	2013	10/15/2013	2	147	0.052436327	179	287	2803.4	252
FL	Crystal River	5	2013	10/15/2013	3	141	0.050078136	180	288	2815.6	252
FL	Crystal River	5	2013	10/15/2013	4	150	0.050857802	191	302	2949.4	266
FL	Crystal River	5	2013	10/15/2013	5	352	0.087031772	242	415	4044.5	387
FL	Crystal River	5	2013	10/15/2013	6	311	0.072818376	230	438	4270.9	421
FL	Crystal River	5	2013	10/15/2013	7	190	0.050214071	223	388	3783.8	358
FL	Crystal River	5	2013	10/15/2013	8	240	0.062189055	223	396	3859.2	364
FL	Crystal River	5	2013	10/15/2013	9	297	0.071820666	235	424	4135.3	395
FL	Crystal River	5	2013	10/15/2013	10	198	0.052812675	213	384	3749.1	357
FL	Crystal River	5	2013	10/15/2013	11	362	0.080718889	251	460	4484.7	434
FL	Crystal River	5	2013	10/15/2013	12	331	0.074495859	248	455	4443.2	429
FL	Crystal River	5	2013	10/15/2013	13	650	0.114808535	322	580	5661.6	559
FL	Crystal River	5	2013	10/15/2013	14	1161	0.163224564	462	729	7112.9	729
FL	Crystal River	5	2013	10/15/2013	15	790	0.10563192	523	767	7478.8	766
FL	Crystal River	5	2013	10/15/2013	16	856	0.114217093	532	768	7494.5	766
FL	Crystal River	5	2013	10/15/2013	17	992	0.131664521	527	773	7534.3	767
FL	Crystal River	5	2013	10/15/2013	18	923	0.122682262	541	771	7523.5	767
FL	Crystal River	5	2013	10/15/2013	19	782	0.108859068	502	737	7183.6	740

FL	Crystal River	5	2013	10/15/2013	20	646	0.103308759	381	641	6253.1	636
FL	Crystal River	5	2013	10/15/2013	21	700	0.125829124	311	570	5563.1	558
FL	Crystal River	5	2013	10/15/2013	22	454	0.099657564	259	467	4555.6	455
FL	Crystal River	5	2013	10/15/2013	23	451	0.122851461	194	376	3671.1	355
FL	Crystal River	5	2013	10/16/2013	0	83	0.030121575	159	282	2755.5	251
FL	Crystal River	5	2013	10/16/2013	1	71	0.027431132	163	265	2588.3	227
FL	Crystal River	5	2013	10/16/2013	2	80	0.031030604	162	264	2578.1	226
FL	Crystal River	5	2013	10/16/2013	3	61	0.023622352	162	264	2582.3	226
FL	Crystal River	5	2013	10/16/2013	4	78	0.029198173	173	274	2671.4	238
FL	Crystal River	5	2013	10/16/2013	5	315	0.075713874	266	426	4160.4	400
FL	Crystal River	5	2013	10/16/2013	6	508	0.092739654	312	562	5477.7	544
FL	Crystal River	5	2013	10/16/2013	7	449	0.081923842	317	562	5480.7	554
FL	Crystal River	5	2013	10/16/2013	8	460	0.082128191	324	574	5601	562
FL	Crystal River	5	2013	10/16/2013	9	652	0.106313592	374	629	6132.8	619
FL	Crystal River	5	2013	10/16/2013	10	650	0.101038363	398	660	6433.2	652
FL	Crystal River	5	2013	10/16/2013	11	730	0.0966158	528	775	7555.7	766
FL	Crystal River	5	2013	10/16/2013	12	572	0.07528396	547	779	7597.9	771
FL	Crystal River	5	2013	10/16/2013	13	499	0.065903298	537	776	7571.7	771
FL	Crystal River	5	2013	10/16/2013	14	556	0.073501223	506	776	7564.5	769
FL	Crystal River	5	2013	10/16/2013	15	761	0.100476637	507	777	7573.9	770
FL	Crystal River	5	2013	10/16/2013	16	992	0.131479542	535	774	7544.9	770
FL	Crystal River	5	2013	10/16/2013	17	852	0.113257208	556	771	7522.7	770
FL	Crystal River	5	2013	10/16/2013	18	748	0.098251698	555	781	7613.1	770
FL	Crystal River	5	2013	10/16/2013	19	606	0.083137836	517	747	7289.1	744
FL	Crystal River	5	2013	10/16/2013	20	489	0.076988475	406	651	6351.6	645
FL	Crystal River	5	2013	10/16/2013	21	349	0.068294783	281	524	5110.2	511
FL	Crystal River	5	2013	10/16/2013	22	330	0.070594275	238	479	4674.6	457
FL	Crystal River	5	2013	10/16/2013	23	125	0.037560096	156	341	3328	308
FL	Crystal River	5	2013	10/17/2013	0	75	0.028327542	145	271	2647.6	227
FL	Crystal River	5	2013	10/17/2013	1	72	0.027303754	147	270	2637	227
FL	Crystal River	5	2013	10/17/2013	2	67	0.02586573	142	265	2590.3	227
FL	Crystal River	5	2013	10/17/2013	3	81	0.031116745	153	267	2603.1	226
FL	Crystal River	5	2013	10/17/2013	4	92	0.034407959	155	274	2673.8	235
FL	Crystal River	5	2013	10/17/2013	5	288	0.073330957	212	403	3927.4	373
FL	Crystal River	5	2013	10/17/2013	6	802	0.127512083	377	645	6289.6	630

FL	Crystal River	5	2013	10/17/2013	7	830	0.112327618	495	758	7389.1	764
FL	Crystal River	5	2013	10/17/2013	8	713	0.09602435	527	761	7425.2	765
FL	Crystal River	5	2013	10/17/2013	9	857	0.113900666	534	772	7524.1	766
FL	Crystal River	5	2013	10/17/2013	10	1009	0.135213004	567	765	7462.3	766
FL	Crystal River	5	2013	10/17/2013	11	1005	0.134988113	558	763	7445.1	765
FL	Crystal River	5	2013	10/17/2013	12	942	0.125661993	562	769	7496.3	766
FL	Crystal River	5	2013	10/17/2013	13	860	0.115304686	551	765	7458.5	766
FL	Crystal River	5	2013	10/17/2013	14	763	0.101890925	546	768	7488.4	765
FL	Crystal River	5	2013	10/17/2013	15	674	0.090447945	558	764	7451.8	764
FL	Crystal River	5	2013	10/17/2013	16	649	0.086091397	565	773	7538.5	765
FL	Crystal River	5	2013	10/17/2013	17	643	0.086587665	564	761	7426	768
FL	Crystal River	5	2013	10/17/2013	18	829	0.11034648	563	770	7512.7	769
FL	Crystal River	5	2013	10/17/2013	19	889	0.117661073	559	775	7555.6	770
FL	Crystal River	5	2013	10/17/2013	20	713	0.097521611	504	750	7311.2	746
FL	Crystal River	5	2013	10/17/2013	21	511	0.07994493	389	655	6391.9	646
FL	Crystal River	5	2013	10/17/2013	22	474	0.078397645	356	620	6046.1	608
FL	Crystal River	5	2013	10/17/2013	23	271	0.058243246	246	477	4652.9	464
FL	Crystal River	5	2013	10/18/2013	0	224	0.056997455	227	403	3930	380
FL	Crystal River	5	2013	10/18/2013	1	109	0.038842563	168	287	2806.2	254
FL	Crystal River	5	2013	10/18/2013	2	104	0.036969891	168	288	2813.1	252
FL	Crystal River	5	2013	10/18/2013	3	89	0.031551333	172	289	2820.8	251
FL	Crystal River	5	2013	10/18/2013	4	89	0.031527861	172	289	2822.9	255
FL	Crystal River	5	2013	10/18/2013	5	244	0.06416831	232	390	3802.5	361
FL	Crystal River	5	2013	10/18/2013	6	530	0.098976619	321	549	5354.8	532
FL	Crystal River	5	2013	10/18/2013	7	835	0.128264209	410	667	6510	655
FL	Crystal River	5	2013	10/18/2013	8	1069	0.143775554	535	762	7435.2	760
FL	Crystal River	5	2013	10/18/2013	9	842	0.113771484	547	759	7400.8	760
FL	Crystal River	5	2013	10/18/2013	10	874	0.117103236	544	765	7463.5	761
FL	Crystal River	5	2013	10/18/2013	11	902	0.121212121	528	763	7441.5	761
FL	Crystal River	5	2013	10/18/2013	12	920	0.124482451	539	758	7390.6	762
FL	Crystal River	5	2013	10/18/2013	13	954	0.127420863	584	768	7487	761
FL	Crystal River	5	2013	10/18/2013	14	1397	0.186794673	575	767	7478.8	760
FL	Crystal River	5	2013	10/18/2013	15	1065	0.142878225	559	764	7453.9	759
FL	Crystal River	5	2013	10/18/2013	16	1019	0.136556733	544	765	7462.1	761
FL	Crystal River	5	2013	10/18/2013	17	982	0.130302668	550	773	7536.3	766

FL	Crystal River	5	2013	10/18/2013	18	1013	0.134046129	551	775	7557.1	766
FL	Crystal River	5	2013	10/18/2013	19	1061	0.140768455	557	773	7537.2	767
FL	Crystal River	5	2013	10/18/2013	20	1124	0.148722495	559	775	7557.7	767
FL	Crystal River	5	2013	10/18/2013	21	1020	0.139816046	518	748	7295.3	743
FL	Crystal River	5	2013	10/18/2013	22	412	0.064516129	402	655	6386	651
FL	Crystal River	5	2013	10/18/2013	23	284	0.058665565	271	496	4841	487
FL	Crystal River	5	2013	10/19/2013	0	131	0.037049607	190	362	3535.8	339
FL	Crystal River	5	2013	10/19/2013	1	77	0.029277567	157	269	2630	234
FL	Crystal River	5	2013	10/19/2013	2	88	0.033634001	159	268	2616.4	227
FL	Crystal River	5	2013	10/19/2013	3	109	0.04148588	162	269	2627.4	226
FL	Crystal River	5	2013	10/19/2013	4	133	0.050722703	162	269	2622.1	227
FL	Crystal River	5	2013	10/19/2013	5	187	0.056685562	191	338	3298.9	302
FL	Crystal River	5	2013	10/19/2013	6	249	0.064977428	226	393	3832.1	361
FL	Crystal River	5	2013	10/19/2013	7	445	0.092594519	293	493	4805.9	467
FL	Crystal River	5	2013	10/19/2013	8	963	0.146308113	460	675	6582	662
FL	Crystal River	5	2013	10/19/2013	9	955	0.125636404	585	779	7601.3	770
FL	Crystal River	5	2013	10/19/2013	10	760	0.100771699	580	773	7541.8	770
FL	Crystal River	5	2013	10/19/2013	11	1036	0.137861287	571	771	7514.8	769
FL	Crystal River	5	2013	10/19/2013	12	1571	0.208209084	565	774	7545.3	769
FL	Crystal River	5	2013	10/19/2013	13	1257	0.165216477	563	780	7608.2	769
FL	Crystal River	5	2013	10/19/2013	14	1264	0.167441614	566	774	7548.9	768
FL	Crystal River	5	2013	10/19/2013	15	1246	0.164755973	574	775	7562.7	769
FL	Crystal River	5	2013	10/19/2013	16	1308	0.172059984	585	780	7602	770
FL	Crystal River	5	2013	10/19/2013	17	1406	0.18574788	575	776	7569.4	771
FL	Crystal River	5	2013	10/19/2013	18	1498	0.197505472	576	778	7584.6	770
FL	Crystal River	5	2013	10/19/2013	19	1266	0.165682951	573	784	7641.1	772
FL	Crystal River	5	2013	10/19/2013	20	1025	0.134104379	565	784	7643.3	770
FL	Crystal River	5	2013	10/19/2013	21	906	0.120600607	548	770	7512.4	764
FL	Crystal River	5	2013	10/19/2013	22	337	0.051574791	418	670	6534.2	660
FL	Crystal River	5	2013	10/19/2013	23	225	0.040915042	302	564	5499.2	553
FL	Crystal River	5	2013	10/20/2013	0	110	0.029284916	202	385	3756.2	361
FL	Crystal River	5	2013	10/20/2013	1	55	0.020546154	163	274	2676.9	234
FL	Crystal River	5	2013	10/20/2013	2	59	0.022607096	164	267	2609.8	227
FL	Crystal River	5	2013	10/20/2013	3	66	0.025341729	166	267	2604.4	226
FL	Crystal River	5	2013	10/20/2013	4	73	0.028123435	166	266	2595.7	227

FL	Crystal River	5	2013	10/20/2013	5	88	0.034062319	167	265	2583.5	226
FL	Crystal River	5	2013	10/20/2013	6	123	0.047617204	170	265	2583.1	227
FL	Crystal River	5	2013	10/20/2013	7	476	0.127555806	238	382	3731.7	353
FL	Crystal River	5	2013	10/20/2013	8	1039	0.182101795	359	585	5705.6	570
FL	Crystal River	5	2013	10/20/2013	9	1554	0.208154736	552	766	7465.6	753
FL	Crystal River	5	2013	10/20/2013	10	1204	0.159749496	557	773	7536.8	771
FL	Crystal River	5	2013	10/20/2013	11	1000	0.133044184	533	771	7516.3	769
FL	Crystal River	5	2013	10/20/2013	12	883	0.118810549	527	762	7432	769
FL	Crystal River	5	2013	10/20/2013	13	1020	0.136977103	528	764	7446.5	768
FL	Crystal River	5	2013	10/20/2013	14	1187	0.157686381	534	772	7527.6	770
FL	Crystal River	5	2013	10/20/2013	15	516	0.068615196	533	771	7520.2	770
FL	Crystal River	5	2013	10/20/2013	16	1076	0.141660962	554	779	7595.6	770
FL	Crystal River	5	2013	10/20/2013	17	1366	0.180733253	544	775	7558.1	770
FL	Crystal River	5	2013	10/20/2013	18	1213	0.160017941	538	777	7580.4	770
FL	Crystal River	5	2013	10/20/2013	19	1056	0.138529956	541	782	7622.9	771
FL	Crystal River	5	2013	10/20/2013	20	1000	0.131166463	541	782	7623.9	773
FL	Crystal River	5	2013	10/20/2013	21	303	0.040372009	532	770	7505.2	764
FL	Crystal River	5	2013	10/20/2013	22	286	0.048122224	350	609	5943.2	599
FL	Crystal River	5	2013	10/20/2013	23	107	0.028226232	204	388	3790.8	372
FL	Crystal River	5	2013	10/21/2013	0	61	0.021260282	152	294	2869.2	261
FL	Crystal River	5	2013	10/21/2013	1	55	0.021224049	155	265	2591.4	226
FL	Crystal River	5	2013	10/21/2013	2	57	0.022155712	154	264	2572.7	226
FL	Crystal River	5	2013	10/21/2013	3	64	0.024803317	157	264	2580.3	226
FL	Crystal River	5	2013	10/21/2013	4	99	0.034227631	173	296	2892.4	262
FL	Crystal River	5	2013	10/21/2013	5	398	0.096489527	239	423	4124.8	395
FL	Crystal River	5	2013	10/21/2013	6	559	0.120687422	259	475	4631.8	452
FL	Crystal River	5	2013	10/21/2013	7	622	0.141344362	255	451	4400.6	431
FL	Crystal River	5	2013	10/21/2013	8	953	0.16970582	342	576	5615.6	561
FL	Crystal River	5	2013	10/21/2013	9	885	0.133086709	438	682	6649.8	668
FL	Crystal River	5	2013	10/21/2013	10	1186	0.16015989	533	759	7405.1	752
FL	Crystal River	5	2013	10/21/2013	11	909	0.120601815	535	773	7537.2	770
FL	Crystal River	5	2013	10/21/2013	12	1655	0.220094421	541	771	7519.5	770
FL	Crystal River	5	2013	10/21/2013	13	1593	0.210806304	544	775	7556.7	770
FL	Crystal River	5	2013	10/21/2013	14	1800	0.23930124	549	771	7521.9	767
FL	Crystal River	5	2013	10/21/2013	15	2419	0.318532564	554	779	7594.2	770

FL	Crystal River	5	2013	10/21/2013	16	1679	0.221805356	552	776	7569.7	770
FL	Crystal River	5	2013	10/21/2013	17	1271	0.167733421	553	777	7577.5	772
FL	Crystal River	5	2013	10/21/2013	18	758	0.099891937	561	778	7588.2	773
FL	Crystal River	5	2013	10/21/2013	19	466	0.061160474	563	781	7619.3	772
FL	Crystal River	5	2013	10/21/2013	20	1057	0.13906065	562	779	7601	769
FL	Crystal River	5	2013	10/21/2013	21	1124	0.148791401	566	775	7554.2	769
FL	Crystal River	5	2013	10/21/2013	22	626	0.094447797	430	680	6628	674
FL	Crystal River	5	2013	10/21/2013	23	376	0.074873551	261	515	5021.8	499
FL	Crystal River	5	2013	10/22/2013	0	268	0.071655838	198	383	3740.1	360
FL	Crystal River	5	2013	10/22/2013	1	188	0.067696518	158	284	2777.1	249
FL	Crystal River	5	2013	10/22/2013	2	237	0.090395911	162	269	2621.8	226
FL	Crystal River	5	2013	10/22/2013	3	281	0.106779146	160	270	2631.6	226
FL	Crystal River	5	2013	10/22/2013	4	326	0.115611036	174	289	2819.8	251
FL	Crystal River	5	2013	10/22/2013	5	777	0.170189464	269	468	4565.5	440
FL	Crystal River	5	2013	10/22/2013	6	1354	0.204859745	436	678	6609.4	654
FL	Crystal River	5	2013	10/22/2013	7	1441	0.194197	563	761	7420.3	753
FL	Crystal River	5	2013	10/22/2013	8	1124	0.14997665	569	768	7494.5	766
FL	Crystal River	5	2013	10/22/2013	9	1026	0.135793319	2032	775	7555.6	771
FL	Crystal River	5	2013	10/22/2013	10	990	0.130992233	3000	775	7557.7	770
FL	Crystal River	5	2013	10/22/2013	11	966	0.128285149	3064	772	7530.1	769
FL	Crystal River	5	2013	10/22/2013	12	1879	0.249356371	2773	773	7535.4	768
FL	Crystal River	5	2013	10/22/2013	13	2438	0.322465445	2600	775	7560.5	770
FL	Crystal River	5	2013	10/22/2013	14	2558	0.337542721	3069	777	7578.3	770
FL	Crystal River	5	2013	10/22/2013	15	1848	0.244279653	3109	776	7565.1	770
FL	Crystal River	5	2013	10/22/2013	16	1368	0.181254472	3124	774	7547.4	771
FL	Crystal River	5	2013	10/22/2013	17	1224	0.16237298	3135	773	7538.2	770
FL	Crystal River	5	2013	10/22/2013	18	1137	0.150178312	3142	776	7571	769
FL	Crystal River	5	2013	10/22/2013	19	1160	0.153171711	3135	777	7573.2	770
FL	Crystal River	5	2013	10/22/2013	20	1287	0.169574154	3142	778	7589.6	771
FL	Crystal River	5	2013	10/22/2013	21	1190	0.157330407	3146	776	7563.7	769
FL	Crystal River	5	2013	10/22/2013	22	585	0.088063948	2511	681	6642.9	677
FL	Crystal River	5	2013	10/22/2013	23	145	0.0311647	1391	477	4652.7	460
FL	Crystal River	5	2013	10/23/2013	0	97	0.027446098	1046	362	3534.2	334
FL	Crystal River	5	2013	10/23/2013	1	153	0.058776075	937	267	2603.1	229
FL	Crystal River	5	2013	10/23/2013	2	152	0.058562897	950	266	2595.5	226

FL	Crystal River	5	2013	10/23/2013	3	135	0.051975052	994	266	2597.4	226
FL	Crystal River	5	2013	10/23/2013	4	153	0.050073638	1106	313	3055.5	281
FL	Crystal River	5	2013	10/23/2013	5	442	0.093481663	1531	485	4728.2	461
FL	Crystal River	5	2013	10/23/2013	6	913	0.168820843	1822	554	5408.1	552
FL	Crystal River	5	2013	10/23/2013	7	748	0.162347528	1446	472	4607.4	460
FL	Crystal River	5	2013	10/23/2013	8	911	0.174317369	1693	536	5226.1	524
FL	Crystal River	5	2013	10/23/2013	9	738	0.128390251	1850	589	5748.1	576
FL	Crystal River	5	2013	10/23/2013	10	189	0.038137902	1531	508	4955.7	495
FL	Crystal River	5	2013	10/23/2013	11	420	0.076600401	1738	562	5483	548
FL	Crystal River	5	2013	10/23/2013	12	1743	0.238979914	2742	748	7293.5	746
FL	Crystal River	5	2013	10/23/2013	13	1267	0.170185902	2881	763	7444.8	766
FL	Crystal River	5	2013	10/23/2013	14	1115	0.149568064	2974	764	7454.8	768
FL	Crystal River	5	2013	10/23/2013	15	1046	0.141672987	2960	757	7383.2	768
FL	Crystal River	5	2013	10/23/2013	16	1018	0.137653136	2995	758	7395.4	769
FL	Crystal River	5	2013	10/23/2013	17	230	0.037339481	2118	632	6159.7	642
FL	Crystal River	5	2013	10/23/2013	18	251	0.039204661	2317	656	6402.3	667
FL	Crystal River	5	2013	10/23/2013	19	297	0.053852151	1831	565	5515.1	567
FL	Crystal River	5	2013	10/23/2013	20	246	0.056504961	1441	446	4353.6	435
FL	Crystal River	5	2013	10/23/2013	21	115	0.043103448	941	273	2668	252
FL	Crystal River	5	2013	10/23/2013	22	117	0.046003224	867	260	2543.3	226
FL	Crystal River	5	2013	10/23/2013	23	88	0.034953924	873	258	2517.6	227
FL	Crystal River	5	2013	10/24/2013	0	85	0.033852404	871	257	2510.9	226
FL	Crystal River	5	2013	10/24/2013	1	91	0.036095355	892	258	2521.1	226
FL	Crystal River	5	2013	10/24/2013	2	92	0.035952949	895	262	2558.9	227
FL	Crystal River	5	2013	10/24/2013	3	84	0.03321865	900	259	2528.7	226
FL	Crystal River	5	2013	10/24/2013	4	79	0.031437781	904	257	2512.9	227
FL	Crystal River	5	2013	10/24/2013	5	155	0.046968274	1036	338	3300.1	311
FL	Crystal River	5	2013	10/24/2013	6	174	0.047358537	1094	377	3674.1	356
FL	Crystal River	5	2013	10/24/2013	7	168	0.045727973	1072	376	3673.9	357
FL	Crystal River	5	2013	10/24/2013	8	207	0.053782997	1120	394	3848.8	376
FL	Crystal River	5	2013	10/24/2013	9	189	0.048012194	1149	403	3936.5	384
FL	Crystal River	5	2013	10/24/2013	10	177	0.044927279	1158	404	3939.7	387
FL	Crystal River	5	2013	10/24/2013	11	267	0.061368024	1257	446	4350.8	429
FL	Crystal River	5	2013	10/24/2013	12	223	0.052807313	1266	433	4222.9	419
FL	Crystal River	5	2013	10/24/2013	13	183	0.045900324	1220	409	3986.9	391

FL	Crystal River	5	2013	10/24/2013	14	314	0.073567312	1289	437	4268.2	420
FL	Crystal River	5	2013	10/24/2013	15	230	0.056495787	1241	417	4071.1	401
FL	Crystal River	5	2013	10/24/2013	16	177	0.04869192	1130	373	3635.1	352
FL	Crystal River	5	2013	10/24/2013	17	386	0.087095828	1360	454	4431.9	435
FL	Crystal River	5	2013	10/24/2013	18	707	0.114920109	2128	631	6152.1	621
FL	Crystal River	5	2013	10/24/2013	19	455	0.080742476	1910	578	5635.2	574
FL	Crystal River	5	2013	10/24/2013	20	207	0.049634336	638	427	4170.5	417
FL	Crystal River	5	2013	10/24/2013	21	293	0.077235344	193	389	3793.6	369
FL	Crystal River	5	2013	10/24/2013	22	147	0.045578569	180	330	3225.2	301
FL	Crystal River	5	2013	10/24/2013	23	160	0.057059306	176	287	2804.1	253
FL	Crystal River	5	2013	10/25/2013	0	142	0.050721532	173	287	2799.6	254
FL	Crystal River	5	2013	10/25/2013	1	146	0.052325998	175	286	2790.2	253
FL	Crystal River	5	2013	10/25/2013	2	130	0.047296806	175	282	2748.6	252
FL	Crystal River	5	2013	10/25/2013	3	150	0.053225463	180	289	2818.2	253
FL	Crystal River	5	2013	10/25/2013	4	207	0.065120961	193	326	3178.7	298
FL	Crystal River	5	2013	10/25/2013	5	228	0.058195926	219	402	3917.8	375
FL	Crystal River	5	2013	10/25/2013	6	339	0.074337215	255	467	4560.3	449
FL	Crystal River	5	2013	10/25/2013	7	357	0.075392803	260	485	4735.2	468
FL	Crystal River	5	2013	10/25/2013	8	365	0.074048527	256	505	4929.2	492
FL	Crystal River	5	2013	10/25/2013	9	628	0.114982515	349	560	5461.7	552
FL	Crystal River	5	2013	10/25/2013	10	491	0.089305202	362	564	5498	556
FL	Crystal River	5	2013	10/25/2013	11	447	0.078994804	362	580	5658.6	572
FL	Crystal River	5	2013	10/25/2013	12	605	0.100468299	463	617	6021.8	609
FL	Crystal River	5	2013	10/25/2013	13	720	0.112628467	517	655	6392.7	642
FL	Crystal River	5	2013	10/25/2013	14	712	0.107816712	435	677	6603.8	669
FL	Crystal River	5	2013	10/25/2013	15	2114	0.280308153	565	773	7541.7	769
FL	Crystal River	5	2013	10/25/2013	16	1164	0.171792904	447	695	6775.6	698
FL	Crystal River	5	2013	10/25/2013	17	341	0.06699279	264	522	5090.1	512
FL	Crystal River	5	2013	10/25/2013	18	325	0.071175157	228	468	4566.2	452
FL	Crystal River	5	2013	10/25/2013	19	188	0.059616299	164	323	3153.5	304
FL	Crystal River	5	2013	10/25/2013	20	178	0.063548733	151	287	2801	253
FL	Crystal River	5	2013	10/25/2013	21	179	0.060073162	160	305	2979.7	269
FL	Crystal River	5	2013	10/25/2013	22	163	0.057082823	159	293	2855.5	259
FL	Crystal River	5	2013	10/25/2013	23	148	0.053033289	159	286	2790.7	252
FL	Crystal River	5	2013	10/26/2013	0	147	0.052803621	161	285	2783.9	252

FL	Crystal River	5	2013	10/26/2013	1	146	0.05255958	163	285	2777.8	251
FL	Crystal River	5	2013	10/26/2013	2	302	0.108970196	160	284	2771.4	251
FL	Crystal River	5	2013	10/26/2013	3	315	0.114662202	164	281	2747.2	251
FL	Crystal River	5	2013	10/26/2013	4	269	0.096578466	164	285	2785.3	251
FL	Crystal River	5	2013	10/26/2013	5	166	0.059594328	167	285	2785.5	253
FL	Crystal River	5	2013	10/26/2013	6	178	0.063971249	169	285	2782.5	254
FL	Crystal River	5	2013	10/26/2013	7	220	0.072268576	182	312	3044.2	281
FL	Crystal River	5	2013	10/26/2013	8	485	0.113833732	255	437	4260.6	418
FL	Crystal River	5	2013	10/26/2013	9	450	0.096166175	262	480	4679.4	460
FL	Crystal River	5	2013	10/26/2013	10	264	0.068104427	209	397	3876.4	377
FL	Crystal River	5	2013	10/26/2013	11	269	0.072836564	199	378	3693.2	353
FL	Crystal River	5	2013	10/26/2013	12	399	0.091285548	236	448	4370.9	427
FL	Crystal River	5	2013	10/26/2013	13	578	0.113271145	290	523	5102.8	506
FL	Crystal River	5	2013	10/26/2013	14	762	0.13361623	347	585	5702.9	572
FL	Crystal River	5	2013	10/26/2013	15	866	0.136700868	405	650	6335	641
FL	Crystal River	5	2013	10/26/2013	16	560	0.099178237	338	579	5646.4	567
FL	Crystal River	5	2013	10/26/2013	17	389	0.082006957	256	486	4743.5	476
FL	Crystal River	5	2013	10/26/2013	18	463	0.102422298	257	463	4520.5	446
FL	Crystal River	5	2013	10/26/2013	19	314	0.080798724	229	398	3886.2	379
FL	Crystal River	5	2013	10/26/2013	20	172	0.056395292	186	312	3049.9	284
FL	Crystal River	5	2013	10/26/2013	21	196	0.063287052	195	317	3097	282
FL	Crystal River	5	2013	10/26/2013	22	138	0.048610377	190	291	2838.9	258
FL	Crystal River	5	2013	10/26/2013	23	134	0.048450663	188	283	2765.7	252
FL	Crystal River	5	2013	10/27/2013	0	176	0.063334413	197	285	2778.9	252
FL	Crystal River	5	2013	10/27/2013	1	182	0.065502969	200	285	2778.5	252
FL	Crystal River	5	2013	10/27/2013	2	167	0.06006114	211	285	2780.5	252
FL	Crystal River	5	2013	10/27/2013	3	152	0.054625171	217	285	2782.6	252
FL	Crystal River	5	2013	10/27/2013	4	153	0.054966768	217	285	2783.5	252
FL	Crystal River	5	2013	10/27/2013	5	134	0.048211844	216	285	2779.4	251
FL	Crystal River	5	2013	10/27/2013	6	147	0.052875796	205	285	2780.1	251
FL	Crystal River	5	2013	10/27/2013	7	181	0.057072586	222	325	3171.4	287
FL	Crystal River	5	2013	10/27/2013	8	301	0.078655796	225	392	3826.8	364
FL	Crystal River	5	2013	10/27/2013	9	301	0.079713983	241	387	3776	357
FL	Crystal River	5	2013	10/27/2013	10	164	0.055302647	213	304	2965.5	267
FL	Crystal River	5	2013	10/27/2013	11	258	0.070665571	241	374	3651	341

FL	Crystal River	5	2013	10/27/2013	12	417	0.091577907	286	467	4553.5	444
FL	Crystal River	5	2013	10/27/2013	13	408	0.087136664	276	480	4682.3	461
FL	Crystal River	5	2013	10/27/2013	14	517	0.0919667	337	576	5621.6	563
FL	Crystal River	5	2013	10/27/2013	15	712	0.118276355	379	617	6019.8	608
FL	Crystal River	5	2013	10/27/2013	16	928	0.146321466	405	650	6342.2	644
FL	Crystal River	5	2013	10/27/2013	17	661	0.115432304	326	587	5726.3	580
FL	Crystal River	5	2013	10/27/2013	18	991	0.154344542	398	658	6420.7	650
FL	Crystal River	5	2013	10/27/2013	19	653	0.118128041	309	567	5527.9	563
FL	Crystal River	5	2013	10/27/2013	20	177	0.054371199	156	334	3255.4	311
FL	Crystal River	5	2013	10/27/2013	21	245	0.080343674	173	312	3049.4	279
FL	Crystal River	5	2013	10/27/2013	22	170	0.060947191	170	286	2789.3	251
FL	Crystal River	5	2013	10/27/2013	23	159	0.057196302	166	285	2779.9	251
FL	Crystal River	5	2013	10/28/2013	0	162	0.057966866	173	286	2794.7	251
FL	Crystal River	5	2013	10/28/2013	1	155	0.055593415	175	286	2788.1	251
FL	Crystal River	5	2013	10/28/2013	2	141	0.050597481	175	285	2786.7	252
FL	Crystal River	5	2013	10/28/2013	3	142	0.050640134	176	287	2804.1	251
FL	Crystal River	5	2013	10/28/2013	4	168	0.057520457	184	299	2920.7	264
FL	Crystal River	5	2013	10/28/2013	5	341	0.08833968	239	396	3860.1	367
FL	Crystal River	5	2013	10/28/2013	6	633	0.117612085	312	552	5382.1	531
FL	Crystal River	5	2013	10/28/2013	7	640	0.111170943	385	590	5756.9	577
FL	Crystal River	5	2013	10/28/2013	8	474	0.084944714	390	572	5580.1	563
FL	Crystal River	5	2013	10/28/2013	9	576	0.099289802	348	595	5801.2	584
FL	Crystal River	5	2013	10/28/2013	10	444	0.085833591	294	530	5172.8	516
FL	Crystal River	5	2013	10/28/2013	11	700	0.119112442	364	603	5876.8	588
FL	Crystal River	5	2013	10/28/2013	12	810	0.115336969	491	720	7022.9	714
FL	Crystal River	5	2013	10/28/2013	13	554	0.074951971	569	758	7391.4	764
FL	Crystal River	5	2013	10/28/2013	14	483	0.064573919	561	767	7479.8	766
FL	Crystal River	5	2013	10/28/2013	15	791	0.105303797	555	770	7511.6	766
FL	Crystal River	5	2013	10/28/2013	16	1174	0.156433216	570	770	7504.8	771
FL	Crystal River	5	2013	10/28/2013	17	898	0.119158196	580	773	7536.2	770
FL	Crystal River	5	2013	10/28/2013	18	827	0.109245585	567	776	7570.1	771
FL	Crystal River	5	2013	10/28/2013	19	922	0.123537845	559	765	7463.3	768
FL	Crystal River	5	2013	10/28/2013	20	453	0.072012209	383	645	6290.6	637
FL	Crystal River	5	2013	10/28/2013	21	751	0.144748762	275	532	5188.3	520
FL	Crystal River	5	2013	10/28/2013	22	446	0.11499884	209	397	3878.3	374

FL	Crystal River	5	2013	10/28/2013	23	207	0.073552926	185	288	2814.3	253
FL	Crystal River	5	2013	10/29/2013	0	207	0.074119164	187	286	2792.8	252
FL	Crystal River	5	2013	10/29/2013	1	193	0.068376674	186	289	2822.6	252
FL	Crystal River	5	2013	10/29/2013	2	177	0.063698852	180	285	2778.7	252
FL	Crystal River	5	2013	10/29/2013	3	192	0.068686724	184	286	2795.3	252
FL	Crystal River	5	2013	10/29/2013	4	205	0.0691843	189	304	2963.1	268
FL	Crystal River	5	2013	10/29/2013	5	478	0.120789427	249	406	3957.3	378
FL	Crystal River	5	2013	10/29/2013	6	746	0.144361019	310	530	5167.6	516
FL	Crystal River	5	2013	10/29/2013	7	750	0.137622254	337	559	5449.7	543
FL	Crystal River	5	2013	10/29/2013	8	746	0.134392621	338	569	5550.9	556
FL	Crystal River	5	2013	10/29/2013	9	822	0.145830007	310	578	5636.7	565
FL	Crystal River	5	2013	10/29/2013	10	734	0.132409712	327	568	5543.4	554
FL	Crystal River	5	2013	10/29/2013	11	941	0.153858731	360	627	6116	616
FL	Crystal River	5	2013	10/29/2013	12	877	0.138112411	374	651	6349.9	645
FL	Crystal River	5	2013	10/29/2013	13	902	0.141193413	383	655	6388.4	650
FL	Crystal River	5	2013	10/29/2013	14	837	0.131232361	389	654	6378	650
FL	Crystal River	5	2013	10/29/2013	15	948	0.150304414	372	647	6307.2	636
FL	Crystal River	5	2013	10/29/2013	16	726	0.127180996	319	585	5708.4	572
FL	Crystal River	5	2013	10/29/2013	17	905	0.154515964	339	600	5857	584
FL	Crystal River	5	2013	10/29/2013	18	891	0.139099212	390	657	6405.5	648
FL	Crystal River	5	2013	10/29/2013	19	844	0.132358937	382	654	6376.6	644
FL	Crystal River	5	2013	10/29/2013	20	794	0.125143821	374	651	6344.7	648
FL	Crystal River	5	2013	10/29/2013	21	560	0.098425197	312	583	5689.6	573
FL	Crystal River	5	2013	10/29/2013	22	354	0.073219161	261	496	4834.8	482
FL	Crystal River	5	2013	10/29/2013	23	96	0.02999625	166	328	3200.4	304
FL	Crystal River	5	2013	10/30/2013	0	86	0.031037967	390	284	2770.8	252
FL	Crystal River	5	2013	10/30/2013	1	65	0.023365326	456	285	2781.9	252
FL	Crystal River	5	2013	10/30/2013	2	73	0.026186462	412	286	2787.7	252
FL	Crystal River	5	2013	10/30/2013	3	63	0.022556391	156	286	2793	251
FL	Crystal River	5	2013	10/30/2013	4	66	0.02268509	165	298	2909.4	265
FL	Crystal River	5	2013	10/30/2013	5	162	0.038296062	253	434	4230.2	406
FL	Crystal River	5	2013	10/30/2013	6	238	0.04357857	327	560	5461.4	544
FL	Crystal River	5	2013	10/30/2013	7	234	0.042547775	341	564	5499.7	554
FL	Crystal River	5	2013	10/30/2013	8	379	0.065727862	363	591	5766.2	580
FL	Crystal River	5	2013	10/30/2013	9	590	0.092258135	428	656	6395.1	646

FL	Crystal River	5	2013	10/30/2013	10	765	0.119183012	417	658	6418.7	650
FL	Crystal River	5	2013	10/30/2013	11	257	0.040185761	422	656	6395.3	648
FL	Crystal River	5	2013	10/30/2013	12	69	0.012040624	355	588	5730.6	576
FL	Crystal River	5	2013	10/30/2013	13	75	0.011827601	424	650	6341.1	638
FL	Crystal River	5	2013	10/30/2013	14	73	0.01133963	437	660	6437.6	648
FL	Crystal River	5	2013	10/30/2013	15	76	0.011846494	436	658	6415.4	648
FL	Crystal River	5	2013	10/30/2013	16	89	0.014006043	444	652	6354.4	646
FL	Crystal River	5	2013	10/30/2013	17	147	0.022947595	461	657	6405.9	647
FL	Crystal River	5	2013	10/30/2013	18	328	0.051461474	490	653	6373.7	648
FL	Crystal River	5	2013	10/30/2013	19	322	0.050525655	478	653	6373	646
FL	Crystal River	5	2013	10/30/2013	20	642	0.100513527	466	655	6387.2	646
FL	Crystal River	5	2013	10/30/2013	21	460	0.075720165	431	623	6075	619
FL	Crystal River	5	2013	10/30/2013	22	177	0.041890517	253	433	4225.3	411
FL	Crystal River	5	2013	10/30/2013	23	118	0.042177503	179	287	2797.7	256
FL	Crystal River	5	2013	10/31/2013	0	148	0.053387202	183	284	2772.2	252
FL	Crystal River	5	2013	10/31/2013	1	164	0.059114011	183	284	2774.3	252
FL	Crystal River	5	2013	10/31/2013	2	146	0.051911111	185	288	2812.5	251
FL	Crystal River	5	2013	10/31/2013	3	160	0.056787933	118	289	2817.5	251
FL	Crystal River	5	2013	10/31/2013	4	121	0.042985541	146	288	2814.9	252
FL	Crystal River	5	2013	10/31/2013	5	190	0.057657876	240	338	3295.3	304
FL	Crystal River	5	2013	10/31/2013	6	258	0.066397303	260	398	3885.7	375
FL	Crystal River	5	2013	10/31/2013	7	248	0.065488922	257	388	3786.9	364
FL	Crystal River	5	2013	10/31/2013	8	616	0.126673384	330	498	4862.9	478
FL	Crystal River	5	2013	10/31/2013	9	1057	0.167615483	491	647	6306.1	633
FL	Crystal River	5	2013	10/31/2013	10	808	0.126590211	497	654	6382.8	650
FL	Crystal River	5	2013	10/31/2013	11	872	0.136949728	477	653	6367.3	646
FL	Crystal River	5	2013	10/31/2013	12	929	0.146617847	456	650	6336.2	638
FL	Crystal River	5	2013	10/31/2013	13	704	0.115519674	408	625	6094.2	611
FL	Crystal River	5	2013	10/31/2013	14	1022	0.137682038	623	761	7422.9	756
FL	Crystal River	5	2013	10/31/2013	15	1215	0.160400275	636	777	7574.8	770
FL	Crystal River	5	2013	10/31/2013	16	836	0.110713813	626	774	7551	771
FL	Crystal River	5	2013	10/31/2013	17	821	0.10866544	612	775	7555.3	769
FL	Crystal River	5	2013	10/31/2013	18	903	0.119496606	1987	775	7556.7	771
FL	Crystal River	5	2013	10/31/2013	19	880	0.116468362	498	775	7555.7	770
FL	Crystal River	5	2013	10/31/2013	20	886	0.117074976	643	776	7567.8	772

FL	Crystal River	5	2013	10/31/2013	21	755	0.104974834	510	737	7192.2	735
FL	Crystal River	5	2013	10/31/2013	22	277	0.046710848	343	608	5930.1	599
FL	Crystal River	5	2013	10/31/2013	23	111	0.027688393	200	411	4008.9	390
FL	Crystal River	5	2013	11/1/2013	0	63	0.021693468	104	298	2904.1	265
FL	Crystal River	5	2013	11/1/2013	1	72	0.025808302	86	286	2789.8	251
FL	Crystal River	5	2013	11/1/2013	2	80	0.028685145	86	286	2788.9	251
FL	Crystal River	5	2013	11/1/2013	3	96	0.034255129	100	287	2802.5	251
FL	Crystal River	5	2013	11/1/2013	4	136	0.047486034	191	293	2864	258
FL	Crystal River	5	2013	11/1/2013	5	237	0.067135007	233	362	3530.2	330
FL	Crystal River	5	2013	11/1/2013	6	351	0.077350258	290	465	4537.8	440
FL	Crystal River	5	2013	11/1/2013	7	327	0.069490193	296	482	4705.7	460
FL	Crystal River	5	2013	11/1/2013	8	689	0.112627707	422	627	6117.5	608
FL	Crystal River	5	2013	11/1/2013	9	1749	0.233368025	644	769	7494.6	762
FL	Crystal River	5	2013	11/1/2013	10	1140	0.152	622	769	7500	765
FL	Crystal River	5	2013	11/1/2013	11	951	0.1268	615	769	7500	766
FL	Crystal River	5	2013	11/1/2013	12	886	0.117722091	624	772	7526.2	767
FL	Crystal River	5	2013	11/1/2013	13	846	0.112598823	608	770	7513.4	766
FL	Crystal River	5	2013	11/1/2013	14	880	0.117074209	616	771	7516.6	766
FL	Crystal River	5	2013	11/1/2013	15	957	0.126881008	610	773	7542.5	766
FL	Crystal River	5	2013	11/1/2013	16	1028	0.136038218	619	775	7556.7	766
FL	Crystal River	5	2013	11/1/2013	17	1066	0.141599033	617	772	7528.3	767
FL	Crystal River	5	2013	11/1/2013	18	1100	0.146438223	608	770	7511.7	766
FL	Crystal River	5	2013	11/1/2013	19	998	0.132804599	601	771	7514.8	767
FL	Crystal River	5	2013	11/1/2013	20	956	0.127095548	624	771	7521.9	766
FL	Crystal River	5	2013	11/1/2013	21	946	0.126565343	598	766	7474.4	763
FL	Crystal River	5	2013	11/1/2013	22	264	0.042531254	415	636	6207.2	628
FL	Crystal River	5	2013	11/1/2013	23	111	0.026808356	231	424	4140.5	409
FL	Crystal River	5	2013	11/2/2013	0	51	0.018338727	172	285	2781	246
FL	Crystal River	5	2013	11/2/2013	1	48	0.018176999	169	270	2640.7	226
FL	Crystal River	5	2013	11/2/2013	2	47	0.017748574	177	271	2648.1	228
FL	Crystal River	5	2013	11/2/2013	3	44	0.016368439	172	275	2688.1	229
FL	Crystal River	5	2013	11/2/2013	4	40	0.014931502	174	274	2678.9	230
FL	Crystal River	5	2013	11/2/2013	5	42	0.015824573	169	272	2654.1	229
FL	Crystal River	5	2013	11/2/2013	6	59	0.021034618	185	287	2804.9	246
FL	Crystal River	5	2013	11/2/2013	7	76	0.023055454	220	338	3296.4	302

FL	Crystal River	5	2013	11/2/2013	8	224	0.045637912	323	503	4908.2	480
FL	Crystal River	5	2013	11/2/2013	9	324	0.055985623	382	593	5787.2	574
FL	Crystal River	5	2013	11/2/2013	10	242	0.043441578	356	571	5570.7	555
FL	Crystal River	5	2013	11/2/2013	11	199	0.036647576	331	557	5430.1	541
FL	Crystal River	5	2013	11/2/2013	12	151	0.03102336	296	499	4867.3	483
FL	Crystal River	5	2013	11/2/2013	13	135	0.030537459	274	453	4420.8	435
FL	Crystal River	5	2013	11/2/2013	14	200	0.044289922	261	463	4515.7	442
FL	Crystal River	5	2013	11/2/2013	15	159	0.038754966	246	420	4102.7	401
FL	Crystal River	5	2013	11/2/2013	16	78	0.025656207	170	311	3040.2	282
FL	Crystal River	5	2013	11/2/2013	17	112	0.034108905	193	336	3283.6	301
FL	Crystal River	5	2013	11/2/2013	18	156	0.042766675	204	374	3647.7	345
FL	Crystal River	5	2013	11/2/2013	19	74	0.02648817	162	286	2793.7	254
FL	Crystal River	5	2013	11/2/2013	20	67	0.025887717	160	265	2588.1	226
FL	Crystal River	5	2013	11/2/2013	21	78	0.030197445	162	265	2583	226
FL	Crystal River	5	2013	11/2/2013	22	80	0.031059518	159	264	2575.7	227
FL	Crystal River	5	2013	11/2/2013	23	77	0.030028859	159	263	2564.2	226
FL	Crystal River	5	2013	11/3/2013	0	76	0.029582344	161	263	2569.1	227
FL	Crystal River	5	2013	11/3/2013	1	72	0.027997045	164	263	2571.7	226
FL	Crystal River	5	2013	11/3/2013	2	75	0.029307178	166	262	2559.1	227
FL	Crystal River	5	2013	11/3/2013	3	83	0.032256811	164	264	2573.1	226
FL	Crystal River	5	2013	11/3/2013	4	85	0.03306621	159	263	2570.6	227
FL	Crystal River	5	2013	11/3/2013	5	83	0.032452299	161	262	2557.6	226
FL	Crystal River	5	2013	11/3/2013	6	83	0.03249677	163	262	2554.1	227
FL	Crystal River	5	2013	11/3/2013	7	76	0.029766567	163	262	2553.2	227
FL	Crystal River	5	2013	11/3/2013	8	82	0.032192211	163	261	2547.2	226
FL	Crystal River	5	2013	11/3/2013	9	84	0.032735776	164	263	2566	226
FL	Crystal River	5	2013	11/3/2013	10	86	0.033613445	161	262	2558.5	226
FL	Crystal River	5	2013	11/3/2013	11	72	0.02831079	160	260	2543.2	226
FL	Crystal River	5	2013	11/3/2013	12	115	0.03866456	184	305	2974.3	271
FL	Crystal River	5	2013	11/3/2013	13	182	0.04850617	210	385	3752.1	355
FL	Crystal River	5	2013	11/3/2013	14	193	0.046177772	275	428	4179.5	408
FL	Crystal River	5	2013	11/3/2013	15	130	0.036984353	217	360	3515	337
FL	Crystal River	5	2013	11/3/2013	16	149	0.042310313	186	361	3521.6	332
FL	Crystal River	5	2013	11/3/2013	17	109	0.037044589	170	301	2942.4	271
FL	Crystal River	5	2013	11/3/2013	18	212	0.053124843	239	409	3990.6	384

FL	Crystal River	5	2013	11/3/2013	19	100	0.032167787	171	319	3108.7	294
FL	Crystal River	5	2013	11/3/2013	20	79	0.03027864	107	267	2609.1	230
FL	Crystal River	5	2013	11/3/2013	21	100	0.038574294	93	266	2592.4	226
FL	Crystal River	5	2013	11/3/2013	22	82	0.031626041	88	266	2592.8	227
FL	Crystal River	5	2013	11/3/2013	23	82	0.031736202	173	265	2583.8	226
FL	Crystal River	5	2013	11/4/2013	0	78	0.030158914	173	265	2586.3	226
FL	Crystal River	5	2013	11/4/2013	1	75	0.029054002	170	264	2581.4	226
FL	Crystal River	5	2013	11/4/2013	2	73	0.028350616	167	264	2574.9	226
FL	Crystal River	5	2013	11/4/2013	3	81	0.031199445	173	266	2596.2	226
FL	Crystal River	5	2013	11/4/2013	4	89	0.034373552	170	265	2589.2	227
FL	Crystal River	5	2013	11/4/2013	5	91	0.034378542	174	271	2647	233
FL	Crystal River	5	2013	11/4/2013	6	128	0.045317755	189	289	2824.5	261
FL	Crystal River	5	2013	11/4/2013	7	105	0.037907506	191	284	2769.9	253
FL	Crystal River	5	2013	11/4/2013	8	101	0.035937945	191	288	2810.4	253
FL	Crystal River	5	2013	11/4/2013	9	124	0.042218515	199	301	2937.1	267
FL	Crystal River	5	2013	11/4/2013	10	122	0.042011019	191	298	2904	261
FL	Crystal River	5	2013	11/4/2013	11	143	0.046631449	196	314	3066.6	279
FL	Crystal River	5	2013	11/4/2013	12	259	0.060409572	287	439	4287.4	411
FL	Crystal River	5	2013	11/4/2013	13	276	0.059308922	311	477	4653.6	455
FL	Crystal River	5	2013	11/4/2013	14	293	0.062685865	294	479	4674.1	461
FL	Crystal River	5	2013	11/4/2013	15	296	0.064037384	286	474	4622.3	455
FL	Crystal River	5	2013	11/4/2013	16	427	0.083855384	331	522	5092.1	506
FL	Crystal River	5	2013	11/4/2013	17	682	0.116089058	399	602	5874.8	592
FL	Crystal River	5	2013	11/4/2013	18	883	0.132233138	487	685	6677.6	679
FL	Crystal River	5	2013	11/4/2013	19	859	0.129781834	469	679	6618.8	676
FL	Crystal River	5	2013	11/4/2013	20	686	0.112851221	401	623	6078.8	623
FL	Crystal River	5	2013	11/4/2013	21	279	0.060049072	246	476	4646.2	464
FL	Crystal River	5	2013	11/4/2013	22	252	0.062593145	213	413	4026	391
FL	Crystal River	5	2013	11/4/2013	23	103	0.0392127	176	269	2626.7	237
FL	Crystal River	5	2013	11/5/2013	0	110	0.042600984	183	264	2582.1	227
FL	Crystal River	5	2013	11/5/2013	1	87	0.033667428	183	265	2584.1	227
FL	Crystal River	5	2013	11/5/2013	2	88	0.034059682	178	265	2583.7	226
FL	Crystal River	5	2013	11/5/2013	3	99	0.038167939	181	266	2593.8	226
FL	Crystal River	5	2013	11/5/2013	4	92	0.035517122	176	265	2590.3	227
FL	Crystal River	5	2013	11/5/2013	5	147	0.04966384	207	303	2959.9	267

FL	Crystal River	5	2013	11/5/2013	6	185	0.055645792	199	341	3324.6	307
FL	Crystal River	5	2013	11/5/2013	7	196	0.054238039	220	370	3613.7	344
FL	Crystal River	5	2013	11/5/2013	8	233	0.059884857	252	399	3890.8	372
FL	Crystal River	5	2013	11/5/2013	9	281	0.063772326	295	452	4406.3	425
FL	Crystal River	5	2013	11/5/2013	10	583	0.107200647	375	558	5438.4	540
FL	Crystal River	5	2013	11/5/2013	11	895	0.139111242	463	660	6433.7	654
FL	Crystal River	5	2013	11/5/2013	12	1116	0.150511821	622	760	7414.7	751
FL	Crystal River	5	2013	11/5/2013	13	1265	0.168365853	616	770	7513.4	772
FL	Crystal River	5	2013	11/5/2013	14	2022	0.269427566	607	770	7504.8	773
FL	Crystal River	5	2013	11/5/2013	15	1437	0.189041637	615	779	7601.5	773
FL	Crystal River	5	2013	11/5/2013	16	912	0.120945283	625	773	7540.6	772
FL	Crystal River	5	2013	11/5/2013	17	753	0.099793257	618	774	7545.6	769
FL	Crystal River	5	2013	11/5/2013	18	788	0.104949124	638	770	7508.4	769
FL	Crystal River	5	2013	11/5/2013	19	970	0.129307472	652	769	7501.5	768
FL	Crystal River	5	2013	11/5/2013	20	975	0.133682507	605	748	7293.4	747
FL	Crystal River	5	2013	11/5/2013	21	722	0.116127579	416	637	6217.3	628
FL	Crystal River	5	2013	11/5/2013	22	752	0.146723119	302	525	5125.3	512
FL	Crystal River	5	2013	11/5/2013	23	361	0.09790627	217	378	3687.2	348
FL	Crystal River	5	2013	11/6/2013	0	165	0.061663801	182	274	2675.8	232
FL	Crystal River	5	2013	11/6/2013	1	173	0.066676944	171	266	2594.6	228
FL	Crystal River	5	2013	11/6/2013	2	131	0.050047755	175	268	2617.5	226
FL	Crystal River	5	2013	11/6/2013	3	137	0.053170845	175	264	2576.6	226
FL	Crystal River	5	2013	11/6/2013	4	133	0.051018451	179	267	2606.9	227
FL	Crystal River	5	2013	11/6/2013	5	135	0.052011096	192	266	2595.6	226
FL	Crystal River	5	2013	11/6/2013	6	209	0.071715335	224	299	2914.3	263
FL	Crystal River	5	2013	11/6/2013	7	483	0.121871215	265	406	3963.2	373
FL	Crystal River	5	2013	11/6/2013	8	391	0.089428663	297	448	4372.2	422
FL	Crystal River	5	2013	11/6/2013	9	796	0.136715731	489	597	5822.3	571
FL	Crystal River	5	2013	11/6/2013	10	1229	0.170351376	728	740	7214.5	726
FL	Crystal River	5	2013	11/6/2013	11	1018	0.137230056	890	761	7418.2	760
FL	Crystal River	5	2013	11/6/2013	12	1129	0.149086203	961	777	7572.8	771
FL	Crystal River	5	2013	11/6/2013	13	1103	0.144982781	699	780	7607.8	774
FL	Crystal River	5	2013	11/6/2013	14	953	0.125637747	538	778	7585.3	774
FL	Crystal River	5	2013	11/6/2013	15	1039	0.136807732	531	779	7594.6	775
FL	Crystal River	5	2013	11/6/2013	16	1055	0.139386172	492	776	7568.9	772

FL	Crystal River	5	2013	11/6/2013	17	1100	0.145208771	484	777	7575.3	769
FL	Crystal River	5	2013	11/6/2013	18	1084	0.143164679	484	776	7571.7	770
FL	Crystal River	5	2013	11/6/2013	19	1010	0.133838652	498	774	7546.4	771
FL	Crystal River	5	2013	11/6/2013	20	969	0.128577684	504	773	7536.3	772
FL	Crystal River	5	2013	11/6/2013	21	930	0.12691914	469	751	7327.5	751
FL	Crystal River	5	2013	11/6/2013	22	448	0.069962832	358	657	6403.4	648
FL	Crystal River	5	2013	11/6/2013	23	354	0.073278271	246	495	4830.9	483
FL	Crystal River	5	2013	11/7/2013	0	179	0.055255441	178	332	3239.5	299
FL	Crystal River	5	2013	11/7/2013	1	160	0.061439214	164	267	2604.2	226
FL	Crystal River	5	2013	11/7/2013	2	145	0.055698536	164	267	2603.3	227
FL	Crystal River	5	2013	11/7/2013	3	137	0.052797903	163	266	2594.8	226
FL	Crystal River	5	2013	11/7/2013	4	122	0.046890614	158	266	2601.8	227
FL	Crystal River	5	2013	11/7/2013	5	138	0.051101648	167	277	2700.5	237
FL	Crystal River	5	2013	11/7/2013	6	216	0.065783463	203	336	3283.5	302
FL	Crystal River	5	2013	11/7/2013	7	285	0.072493259	232	403	3931.4	373
FL	Crystal River	5	2013	11/7/2013	8	206	0.054293395	223	389	3794.2	359
FL	Crystal River	5	2013	11/7/2013	9	374	0.08131849	262	471	4599.2	441
FL	Crystal River	5	2013	11/7/2013	10	605	0.112512088	295	551	5377.2	529
FL	Crystal River	5	2013	11/7/2013	11	409	0.076758502	293	546	5328.4	529
FL	Crystal River	5	2013	11/7/2013	12	955	0.139495479	438	702	6846.1	689
FL	Crystal River	5	2013	11/7/2013	13	1172	0.154036222	570	780	7608.6	775
FL	Crystal River	5	2013	11/7/2013	14	954	0.12648997	558	773	7542.1	775
FL	Crystal River	5	2013	11/7/2013	15	890	0.117709298	552	775	7561	775
FL	Crystal River	5	2013	11/7/2013	16	841	0.111556216	542	773	7538.8	775
FL	Crystal River	5	2013	11/7/2013	17	889	0.117773303	505	774	7548.4	771
FL	Crystal River	5	2013	11/7/2013	18	1021	0.136475432	538	767	7481.2	771
FL	Crystal River	5	2013	11/7/2013	19	1136	0.152291069	522	765	7459.4	770
FL	Crystal River	5	2013	11/7/2013	20	659	0.098406678	408	687	6696.7	685
FL	Crystal River	5	2013	11/7/2013	21	537	0.098711421	337	558	5440.1	549
FL	Crystal River	5	2013	11/7/2013	22	388	0.085498336	272	465	4538.1	443
FL	Crystal River	5	2013	11/7/2013	23	135	0.043095192	169	321	3132.6	295
FL	Crystal River	5	2013	11/8/2013	0	133	0.051122386	156	266	2601.6	226
FL	Crystal River	5	2013	11/8/2013	1	134	0.051538462	161	266	2600	227
FL	Crystal River	5	2013	11/8/2013	2	131	0.050629976	160	265	2587.4	227
FL	Crystal River	5	2013	11/8/2013	3	147	0.056717339	160	265	2591.8	226

FL	Crystal River	5	2013	11/8/2013	4	144	0.055408057	161	266	2598.9	227
FL	Crystal River	5	2013	11/8/2013	5	152	0.057735405	160	270	2632.7	231
FL	Crystal River	5	2013	11/8/2013	6	182	0.057478525	190	324	3166.4	289
FL	Crystal River	5	2013	11/8/2013	7	173	0.046855533	210	378	3692.2	350
FL	Crystal River	5	2013	11/8/2013	8	181	0.048610179	223	382	3723.5	353
FL	Crystal River	5	2013	11/8/2013	9	211	0.054806618	231	395	3849.9	362
FL	Crystal River	5	2013	11/8/2013	10	277	0.063539397	265	447	4359.5	423
FL	Crystal River	5	2013	11/8/2013	11	427	0.081314747	315	538	5251.2	516
FL	Crystal River	5	2013	11/8/2013	12	942	0.143056737	447	675	6584.8	660
FL	Crystal River	5	2013	11/8/2013	13	1214	0.158965025	549	783	7636.9	777
FL	Crystal River	5	2013	11/8/2013	14	924	0.122005968	552	777	7573.4	775
FL	Crystal River	5	2013	11/8/2013	15	845	0.112185019	519	772	7532.2	775
FL	Crystal River	5	2013	11/8/2013	16	906	0.120082706	558	774	7544.8	776
FL	Crystal River	5	2013	11/8/2013	17	1017	0.1350777	564	772	7529	775
FL	Crystal River	5	2013	11/8/2013	18	1129	0.150162931	586	771	7518.5	775
FL	Crystal River	5	2013	11/8/2013	19	970	0.132557123	541	750	7317.6	756
FL	Crystal River	5	2013	11/8/2013	20	539	0.088343277	335	626	6101.2	621
FL	Crystal River	5	2013	11/8/2013	21	611	0.122952469	188	509	4969.4	493
FL	Crystal River	5	2013	11/8/2013	22	310	0.074035155	134	429	4187.2	409
FL	Crystal River	5	2013	11/8/2013	23	105	0.033949819	86	317	3092.8	289
FL	Crystal River	5	2013	11/9/2013	0	99	0.035184988	84	288	2813.7	251
FL	Crystal River	5	2013	11/9/2013	1	93	0.036168475	74	263	2571.3	226
FL	Crystal River	5	2013	11/9/2013	2	86	0.033474758	74	263	2569.1	227
FL	Crystal River	5	2013	11/9/2013	3	86	0.033396761	77	264	2575.1	226
FL	Crystal River	5	2013	11/9/2013	4	87	0.033544109	98	266	2593.6	227
FL	Crystal River	5	2013	11/9/2013	5	85	0.032980251	126	264	2577.3	226
FL	Crystal River	5	2013	11/9/2013	6	110	0.040414432	185	279	2721.8	242
FL	Crystal River	5	2013	11/9/2013	7	104	0.036215482	209	294	2871.7	256
FL	Crystal River	5	2013	11/9/2013	8	126	0.039173014	183	330	3216.5	294
FL	Crystal River	5	2013	11/9/2013	9	268	0.062049964	263	443	4319.1	413
FL	Crystal River	5	2013	11/9/2013	10	304	0.063628943	267	490	4777.7	461
FL	Crystal River	5	2013	11/9/2013	11	523	0.09351476	330	573	5592.7	548
FL	Crystal River	5	2013	11/9/2013	12	1043	0.154294506	459	693	6759.8	674
FL	Crystal River	5	2013	11/9/2013	13	1170	0.152761457	589	785	7659	777
FL	Crystal River	5	2013	11/9/2013	14	779	0.102058195	587	783	7632.9	776

FL	Crystal River	5	2013	11/9/2013	15	610	0.080022039	587	782	7622.9	773
FL	Crystal River	5	2013	11/9/2013	16	675	0.089524921	542	773	7539.8	767
FL	Crystal River	5	2013	11/9/2013	17	374	0.056755239	408	676	6589.7	668
FL	Crystal River	5	2013	11/9/2013	18	638	0.102409348	355	639	6229.9	627
FL	Crystal River	5	2013	11/9/2013	19	542	0.113232775	258	491	4786.6	474
FL	Crystal River	5	2013	11/9/2013	20	359	0.083862829	235	439	4280.8	414
FL	Crystal River	5	2013	11/9/2013	21	160	0.045783615	192	358	3494.7	328
FL	Crystal River	5	2013	11/9/2013	22	173	0.050428496	185	352	3430.6	315
FL	Crystal River	5	2013	11/9/2013	23	84	0.03006012	167	286	2794.4	250
FL	Crystal River	5	2013	11/10/2013	0	82	0.030221501	133	278	2713.3	241
FL	Crystal River	5	2013	11/10/2013	1	70	0.027052095	113	265	2587.6	226
FL	Crystal River	5	2013	11/10/2013	2	72	0.027813188	95	265	2588.7	226
FL	Crystal River	5	2013	11/10/2013	3	67	0.02584378	108	266	2592.5	226
FL	Crystal River	5	2013	11/10/2013	4	71	0.027423716	93	265	2589	226
FL	Crystal River	5	2013	11/10/2013	5	67	0.026012346	97	264	2575.7	226
FL	Crystal River	5	2013	11/10/2013	6	64	0.024807163	103	264	2579.9	226
FL	Crystal River	5	2013	11/10/2013	7	82	0.031188194	97	269	2629.2	231
FL	Crystal River	5	2013	11/10/2013	8	149	0.044125922	131	346	3376.7	310
FL	Crystal River	5	2013	11/10/2013	9	131	0.03771195	135	356	3473.7	323
FL	Crystal River	5	2013	11/10/2013	10	343	0.074583052	197	471	4598.9	446
FL	Crystal River	5	2013	11/10/2013	11	626	0.104927925	196	612	5966	586
FL	Crystal River	5	2013	11/10/2013	12	949	0.131790912	295	738	7200.8	727
FL	Crystal River	5	2013	11/10/2013	13	629	0.083968549	599	768	7490.9	766
FL	Crystal River	5	2013	11/10/2013	14	684	0.090675292	588	774	7543.4	766
FL	Crystal River	5	2013	11/10/2013	15	882	0.116600346	559	776	7564.3	767
FL	Crystal River	5	2013	11/10/2013	16	1016	0.133689488	577	779	7599.7	769
FL	Crystal River	5	2013	11/10/2013	17	1110	0.146085309	539	779	7598.3	769
FL	Crystal River	5	2013	11/10/2013	18	1032	0.135968379	645	778	7590	769
FL	Crystal River	5	2013	11/10/2013	19	1024	0.135113738	560	777	7578.8	768
FL	Crystal River	5	2013	11/10/2013	20	582	0.090471009	392	660	6433	656
FL	Crystal River	5	2013	11/10/2013	21	269	0.055477644	324	497	4848.8	479
FL	Crystal River	5	2013	11/10/2013	22	229	0.057902855	197	405	3954.9	376
FL	Crystal River	5	2013	11/10/2013	23	128	0.044487696	115	295	2877.2	260
FL	Crystal River	5	2013	11/11/2013	0	116	0.04318368	96	275	2686.2	237
FL	Crystal River	5	2013	11/11/2013	1	92	0.03564648	209	264	2580.9	226

FL	Crystal River	5	2013	11/11/2013	2	79	0.030289088	190	267	2608.2	226
FL	Crystal River	5	2013	11/11/2013	3	74	0.028360097	198	267	2609.3	226
FL	Crystal River	5	2013	11/11/2013	4	75	0.02865877	183	268	2617	227
FL	Crystal River	5	2013	11/11/2013	5	88	0.032972386	181	273	2668.9	237
FL	Crystal River	5	2013	11/11/2013	6	147	0.045340983	210	332	3242.1	298
FL	Crystal River	5	2013	11/11/2013	7	314	0.072882575	275	442	4308.3	412
FL	Crystal River	5	2013	11/11/2013	8	347	0.073757599	282	482	4704.6	459
FL	Crystal River	5	2013	11/11/2013	9	380	0.074534649	305	523	5098.3	516
FL	Crystal River	5	2013	11/11/2013	10	1655	0.241948453	506	701	6840.3	682
FL	Crystal River	5	2013	11/11/2013	11	949	0.125928875	678	773	7536	773
FL	Crystal River	5	2013	11/11/2013	12	853	0.112751642	650	776	7565.3	773
FL	Crystal River	5	2013	11/11/2013	13	894	0.118288391	627	775	7557.8	776
FL	Crystal River	5	2013	11/11/2013	14	1003	0.131672224	624	781	7617.4	774
FL	Crystal River	5	2013	11/11/2013	15	1137	0.149022897	640	782	7629.7	774
FL	Crystal River	5	2013	11/11/2013	16	1109	0.145823198	638	780	7605.1	773
FL	Crystal River	5	2013	11/11/2013	17	447	0.065584835	477	699	6815.6	690
FL	Crystal River	5	2013	11/11/2013	18	327	0.048972623	494	685	6677.2	680
FL	Crystal River	5	2013	11/11/2013	19	317	0.047071751	505	690	6734.4	678
FL	Crystal River	5	2013	11/11/2013	20	339	0.050581916	509	687	6702	679
FL	Crystal River	5	2013	11/11/2013	21	679	0.100535995	466	692	6753.8	679
FL	Crystal River	5	2013	11/11/2013	22	346	0.051349025	471	691	6738.2	679
FL	Crystal River	5	2013	11/11/2013	23	191	0.0345495	337	567	5528.3	556
FL	Crystal River	5	2013	11/12/2013	0	104	0.023409188	244	455	4442.7	434
FL	Crystal River	5	2013	11/12/2013	1	54	0.016523868	127	335	3268	309
FL	Crystal River	5	2013	11/12/2013	2	44	0.015586808	104	289	2822.9	252
FL	Crystal River	5	2013	11/12/2013	3	53	0.018864567	101	288	2809.5	251
FL	Crystal River	5	2013	11/12/2013	4	64	0.022607651	101	290	2830.9	253
FL	Crystal River	5	2013	11/12/2013	5	103	0.032359409	114	326	3183	289
FL	Crystal River	5	2013	11/12/2013	6	245	0.053366442	169	471	4590.9	442
FL	Crystal River	5	2013	11/12/2013	7	727	0.124674167	309	598	5831.2	578
FL	Crystal River	5	2013	11/12/2013	8	910	0.136152131	508	685	6683.7	673
FL	Crystal River	5	2013	11/12/2013	9	1130	0.149690683	649	774	7548.9	771
FL	Crystal River	5	2013	11/12/2013	10	884	0.117344094	632	772	7533.4	774
FL	Crystal River	5	2013	11/12/2013	11	824	0.109212846	656	774	7544.9	773
FL	Crystal River	5	2013	11/12/2013	12	901	0.118810576	659	778	7583.5	774

FL	Crystal River	5	2013	11/12/2013	13	873	0.115412073	665	776	7564.2	774
FL	Crystal River	5	2013	11/12/2013	14	735	0.096594867	669	780	7609.1	775
FL	Crystal River	5	2013	11/12/2013	15	1034	0.136993561	664	774	7547.8	771
FL	Crystal River	5	2013	11/12/2013	16	1239	0.163088547	630	779	7597.1	773
FL	Crystal River	5	2013	11/12/2013	17	968	0.126771262	633	783	7635.8	773
FL	Crystal River	5	2013	11/12/2013	18	869	0.114265427	616	780	7605.1	774
FL	Crystal River	5	2013	11/12/2013	19	910	0.119400635	625	782	7621.4	775
FL	Crystal River	5	2013	11/12/2013	20	924	0.123574017	613	767	7477.3	760
FL	Crystal River	5	2013	11/12/2013	21	356	0.059094003	343	618	6024.3	607
FL	Crystal River	5	2013	11/12/2013	22	514	0.092552579	333	569	5553.6	549
FL	Crystal River	5	2013	11/12/2013	23	436	0.108244991	213	413	4027.9	395
FL	Crystal River	5	2013	11/13/2013	0	347	0.096058022	122	370	3612.4	345
FL	Crystal River	5	2013	11/13/2013	1	205	0.066250848	89	317	3094.3	286
FL	Crystal River	5	2013	11/13/2013	2	148	0.052167783	90	291	2837	252
FL	Crystal River	5	2013	11/13/2013	3	148	0.052521381	87	289	2817.9	252
FL	Crystal River	5	2013	11/13/2013	4	155	0.054729706	87	290	2832.1	254
FL	Crystal River	5	2013	11/13/2013	5	289	0.085381706	115	347	3384.8	316
FL	Crystal River	5	2013	11/13/2013	6	993	0.156402583	285	651	6349	621
FL	Crystal River	5	2013	11/13/2013	7	460	0.071420808	457	660	6440.7	656
FL	Crystal River	5	2013	11/13/2013	8	244	0.042192634	329	593	5783	577
FL	Crystal River	5	2013	11/13/2013	9	242	0.043615392	316	569	5548.5	557
FL	Crystal River	5	2013	11/13/2013	10	267	0.053021427	271	516	5035.7	495
FL	Crystal River	5	2013	11/13/2013	11	446	0.088550043	282	516	5036.7	496
FL	Crystal River	5	2013	11/13/2013	12	749	0.129872382	351	591	5767.2	576
FL	Crystal River	5	2013	11/13/2013	13	815	0.128634111	430	650	6335.8	637
FL	Crystal River	5	2013	11/13/2013	14	730	0.109721638	485	682	6653.2	676
FL	Crystal River	5	2013	11/13/2013	15	680	0.101595649	495	686	6693.2	678
FL	Crystal River	5	2013	11/13/2013	16	1278	0.172005384	631	762	7430	758
FL	Crystal River	5	2013	11/13/2013	17	932	0.124328002	644	769	7496.3	767
FL	Crystal River	5	2013	11/13/2013	18	838	0.111761646	637	769	7498.1	766
FL	Crystal River	5	2013	11/13/2013	19	835	0.111102241	661	771	7515.6	766
FL	Crystal River	5	2013	11/13/2013	20	957	0.127824972	643	768	7486.8	767
FL	Crystal River	5	2013	11/13/2013	21	736	0.10636453	539	710	6919.6	706
FL	Crystal River	5	2013	11/13/2013	22	339	0.058483568	371	594	5796.5	581
FL	Crystal River	5	2013	11/13/2013	23	150	0.034895082	257	441	4298.6	420

FL	Crystal River	5	2013	11/14/2013	0	127	0.036181305	182	360	3510.1	330
FL	Crystal River	5	2013	11/14/2013	1	119	0.040246212	115	303	2956.8	272
FL	Crystal River	5	2013	11/14/2013	2	84	0.032398658	108	266	2592.7	226
FL	Crystal River	5	2013	11/14/2013	3	72	0.02763067	200	267	2605.8	227
FL	Crystal River	5	2013	11/14/2013	4	82	0.029724145	209	283	2758.7	243
FL	Crystal River	5	2013	11/14/2013	5	327	0.074866065	301	448	4367.8	414
FL	Crystal River	5	2013	11/14/2013	6	737	0.114942529	461	657	6411.9	632
FL	Crystal River	5	2013	11/14/2013	7	752	0.117048267	494	659	6424.7	647
FL	Crystal River	5	2013	11/14/2013	8	864	0.136949389	466	647	6308.9	635
FL	Crystal River	5	2013	11/14/2013	9	706	0.116476663	430	621	6061.3	603
FL	Crystal River	5	2013	11/14/2013	10	555	0.098301422	383	579	5645.9	558
FL	Crystal River	5	2013	11/14/2013	11	510	0.096790723	326	540	5269.1	524
FL	Crystal River	5	2013	11/14/2013	12	677	0.120041846	394	578	5639.7	556
FL	Crystal River	5	2013	11/14/2013	13	850	0.140665597	435	620	6042.7	603
FL	Crystal River	5	2013	11/14/2013	14	758	0.123047953	443	632	6160.2	613
FL	Crystal River	5	2013	11/14/2013	15	686	0.118787879	410	592	5775	575
FL	Crystal River	5	2013	11/14/2013	16	719	0.128207414	409	575	5608.1	555
FL	Crystal River	5	2013	11/14/2013	17	773	0.131886506	445	601	5861.1	583
FL	Crystal River	5	2013	11/14/2013	18	954	0.148097552	496	660	6441.7	655
FL	Crystal River	5	2013	11/14/2013	19	519	0.097067405	374	548	5346.8	542
FL	Crystal River	5	2013	11/14/2013	20	245	0.074898352	202	335	3271.1	319
FL	Crystal River	5	2013	11/14/2013	21	110	0.040150381	194	281	2739.7	250
FL	Crystal River	5	2013	11/14/2013	22	111	0.039902222	197	285	2781.8	252
FL	Crystal River	5	2013	11/14/2013	23	113	0.040904977	196	283	2762.5	250
FL	Crystal River	5	2013	11/15/2013	0	92	0.035266608	182	267	2608.7	227
FL	Crystal River	5	2013	11/15/2013	1	94	0.03675608	171	262	2557.4	225
FL	Crystal River	5	2013	11/15/2013	2	92	0.035562428	178	265	2587	225
FL	Crystal River	5	2013	11/15/2013	3	88	0.033846154	182	266	2600	225
FL	Crystal River	5	2013	11/15/2013	4	89	0.034077421	185	268	2611.7	225
FL	Crystal River	5	2013	11/15/2013	5	128	0.043931906	209	298	2913.6	260
FL	Crystal River	5	2013	11/15/2013	6	292	0.070373316	286	425	4149.3	394
FL	Crystal River	5	2013	11/15/2013	7	376	0.076147272	345	506	4937.8	478
FL	Crystal River	5	2013	11/15/2013	8	430	0.082100239	361	537	5237.5	517
FL	Crystal River	5	2013	11/15/2013	9	739	0.123302299	437	614	5993.4	599
FL	Crystal River	5	2013	11/15/2013	10	879	0.135041711	494	667	6509.1	657

FL	Crystal River	5	2013	11/15/2013	11	820	0.127586743	514	659	6427	657
FL	Crystal River	5	2013	11/15/2013	12	956	0.144611847	535	678	6610.8	672
FL	Crystal River	5	2013	11/15/2013	13	982	0.146939997	548	685	6683	681
FL	Crystal River	5	2013	11/15/2013	14	913	0.136795421	554	684	6674.2	681
FL	Crystal River	5	2013	11/15/2013	15	943	0.141296693	553	684	6673.9	681
FL	Crystal River	5	2013	11/15/2013	16	981	0.146636771	548	686	6690	683
FL	Crystal River	5	2013	11/15/2013	17	1180	0.158083704	694	765	7464.4	762
FL	Crystal River	5	2013	11/15/2013	18	1243	0.163783221	690	778	7589.3	771
FL	Crystal River	5	2013	11/15/2013	19	1116	0.150519941	667	760	7414.3	760
FL	Crystal River	5	2013	11/15/2013	20	411	0.065720042	481	641	6253.8	635
FL	Crystal River	5	2013	11/15/2013	21	618	0.114081075	373	555	5417.2	541
FL	Crystal River	5	2013	11/15/2013	22	746	0.150551957	327	508	4955.1	487
FL	Crystal River	5	2013	11/15/2013	23	458	0.105908197	281	443	4324.5	422
FL	Crystal River	5	2013	11/16/2013	0	263	0.07912154	219	341	3324	313
FL	Crystal River	5	2013	11/16/2013	1	143	0.054989425	182	266	2600.5	227
FL	Crystal River	5	2013	11/16/2013	2	140	0.053796496	179	267	2602.4	227
FL	Crystal River	5	2013	11/16/2013	3	134	0.05121541	185	268	2616.4	226
FL	Crystal River	5	2013	11/16/2013	4	137	0.052059584	186	270	2631.6	228
FL	Crystal River	5	2013	11/16/2013	5	184	0.06282222	193	300	2928.9	262
FL	Crystal River	5	2013	11/16/2013	6	235	0.071201333	204	338	3300.5	304
FL	Crystal River	5	2013	11/16/2013	7	332	0.089070129	249	382	3727.4	348
FL	Crystal River	5	2013	11/16/2013	8	710	0.140850659	352	517	5040.8	491
FL	Crystal River	5	2013	11/16/2013	9	1074	0.17202441	518	640	6243.3	629
FL	Crystal River	5	2013	11/16/2013	10	1453	0.193542372	653	770	7507.4	758
FL	Crystal River	5	2013	11/16/2013	11	974	0.128587648	696	777	7574.6	770
FL	Crystal River	5	2013	11/16/2013	12	874	0.115391725	681	777	7574.2	771
FL	Crystal River	5	2013	11/16/2013	13	896	0.118637784	687	774	7552.4	771
FL	Crystal River	5	2013	11/16/2013	14	1034	0.136734505	695	775	7562.1	771
FL	Crystal River	5	2013	11/16/2013	15	1257	0.165114477	700	781	7612.9	774
FL	Crystal River	5	2013	11/16/2013	16	1259	0.164844517	702	783	7637.5	775
FL	Crystal River	5	2013	11/16/2013	17	1115	0.147299725	704	776	7569.6	772
FL	Crystal River	5	2013	11/16/2013	18	1017	0.13439759	696	776	7567.1	771
FL	Crystal River	5	2013	11/16/2013	19	983	0.129768977	719	777	7575	771
FL	Crystal River	5	2013	11/16/2013	20	781	0.108004204	643	741	7231.2	735
FL	Crystal River	5	2013	11/16/2013	21	659	0.103325546	503	654	6377.9	643

FL	Crystal River	5	2013	11/16/2013	22	1290	0.204953846	503	645	6294.1	628
FL	Crystal River	5	2013	11/16/2013	23	465	0.088867654	345	536	5232.5	523
FL	Crystal River	5	2013	11/17/2013	0	122	0.037163397	174	336	3282.8	310
FL	Crystal River	5	2013	11/17/2013	1	97	0.037184697	146	267	2608.6	227
FL	Crystal River	5	2013	11/17/2013	2	107	0.040783656	81	269	2623.6	226
FL	Crystal River	5	2013	11/17/2013	3	114	0.043616329	81	268	2613.7	227
FL	Crystal River	5	2013	11/17/2013	4	180	0.059602649	105	309	3020	276
FL	Crystal River	5	2013	11/17/2013	5	194	0.059618931	113	333	3254	301
FL	Crystal River	5	2013	11/17/2013	6	207	0.064381687	106	329	3215.2	301
FL	Crystal River	5	2013	11/17/2013	7	201	0.062871442	92	328	3197	301
FL	Crystal River	5	2013	11/17/2013	8	227	0.068055764	113	342	3335.5	318
FL	Crystal River	5	2013	11/17/2013	9	461	0.100628656	210	470	4581.2	443
FL	Crystal River	5	2013	11/17/2013	10	356	0.076531161	223	477	4651.7	456
FL	Crystal River	5	2013	11/17/2013	11	727	0.13382667	418	557	5432.4	528
FL	Crystal River	5	2013	11/17/2013	12	1753	0.241347028	719	745	7263.4	723
FL	Crystal River	5	2013	11/17/2013	13	1035	0.135154546	758	785	7657.9	773
FL	Crystal River	5	2013	11/17/2013	14	849	0.11122465	740	783	7633.2	772
FL	Crystal River	5	2013	11/17/2013	15	875	0.114785711	739	782	7622.9	772
FL	Crystal River	5	2013	11/17/2013	16	1018	0.133183317	749	784	7643.6	771
FL	Crystal River	5	2013	11/17/2013	17	1225	0.161337056	728	779	7592.8	771
FL	Crystal River	5	2013	11/17/2013	18	1267	0.16660092	722	780	7605	771
FL	Crystal River	5	2013	11/17/2013	19	1167	0.153423433	722	780	7606.4	771
FL	Crystal River	5	2013	11/17/2013	20	1145	0.150284162	685	781	7618.9	770
FL	Crystal River	5	2013	11/17/2013	21	1059	0.139080414	685	781	7614.3	769
FL	Crystal River	5	2013	11/17/2013	22	999	0.133228422	652	769	7498.4	760
FL	Crystal River	5	2013	11/17/2013	23	348	0.056401031	438	633	6170.1	621
FL	Crystal River	5	2013	11/18/2013	0	207	0.044202434	276	480	4683	462
FL	Crystal River	5	2013	11/18/2013	1	55	0.020043001	118	281	2744.1	249
FL	Crystal River	5	2013	11/18/2013	2	59	0.022460789	107	269	2626.8	227
FL	Crystal River	5	2013	11/18/2013	3	78	0.030110017	116	265	2590.5	226
FL	Crystal River	5	2013	11/18/2013	4	146	0.053609459	128	279	2723.4	236
FL	Crystal River	5	2013	11/18/2013	5	430	0.106335625	258	414	4043.8	383
FL	Crystal River	5	2013	11/18/2013	6	1238	0.193728092	575	655	6390.4	633
FL	Crystal River	5	2013	11/18/2013	7	1039	0.138129994	722	771	7521.9	767
FL	Crystal River	5	2013	11/18/2013	8	983	0.130697229	722	771	7521.2	770

FL	Crystal River	5	2013	11/18/2013	9	1194	0.15848155	693	773	7534	770
FL	Crystal River	5	2013	11/18/2013	10	1122	0.147896235	682	778	7586.4	770
FL	Crystal River	5	2013	11/18/2013	11	1048	0.137294975	671	783	7633.2	772
FL	Crystal River	5	2013	11/18/2013	12	1064	0.139645374	685	781	7619.3	771
FL	Crystal River	5	2013	11/18/2013	13	1100	0.143715704	673	785	7654	773
FL	Crystal River	5	2013	11/18/2013	14	1063	0.139050584	672	784	7644.7	772
FL	Crystal River	5	2013	11/18/2013	15	1049	0.13759362	686	782	7623.9	773
FL	Crystal River	5	2013	11/18/2013	16	1145	0.149896578	672	783	7638.6	770
FL	Crystal River	5	2013	11/18/2013	17	1266	0.167064754	666	777	7577.9	769
FL	Crystal River	5	2013	11/18/2013	18	1188	0.157072216	658	776	7563.4	770
FL	Crystal River	5	2013	11/18/2013	19	1101	0.145454065	651	776	7569.4	771
FL	Crystal River	5	2013	11/18/2013	20	1020	0.132928466	675	787	7673.3	774
FL	Crystal River	5	2013	11/18/2013	21	1692	0.222740018	683	779	7596.3	774
FL	Crystal River	5	2013	11/18/2013	22	720	0.107849011	520	685	6676	674
FL	Crystal River	5	2013	11/18/2013	23	384	0.074789654	333	526	5134.4	507
FL	Crystal River	5	2013	11/19/2013	0	175	0.056555602	204	317	3094.3	283
FL	Crystal River	5	2013	11/19/2013	1	160	0.060656608	197	270	2637.8	227
FL	Crystal River	5	2013	11/19/2013	2	138	0.052359994	200	270	2635.6	226
FL	Crystal River	5	2013	11/19/2013	3	112	0.04238571	203	271	2642.4	226
FL	Crystal River	5	2013	11/19/2013	4	118	0.044573717	206	271	2647.3	227
FL	Crystal River	5	2013	11/19/2013	5	290	0.084398009	244	352	3436.1	309
FL	Crystal River	5	2013	11/19/2013	6	1053	0.231693364	322	466	4544.8	438
FL	Crystal River	5	2013	11/19/2013	7	1565	0.289450322	394	554	5406.8	532
FL	Crystal River	5	2013	11/19/2013	8	1112	0.235743057	349	484	4717	466
FL	Crystal River	5	2013	11/19/2013	9	1023	0.220151502	329	476	4646.8	454
FL	Crystal River	5	2013	11/19/2013	10	716	0.14699844	345	499	4870.8	482
FL	Crystal River	5	2013	11/19/2013	11	259	0.045938276	439	578	5638	561
FL	Crystal River	5	2013	11/19/2013	12	429	0.065926973	533	667	6507.2	652
FL	Crystal River	5	2013	11/19/2013	13	764	0.122152051	494	641	6254.5	630
FL	Crystal River	5	2013	11/19/2013	14	1009	0.171310209	435	604	5889.9	588
FL	Crystal River	5	2013	11/19/2013	15	680	0.110783467	484	629	6138.1	612
FL	Crystal River	5	2013	11/19/2013	16	345	0.061553284	420	575	5604.9	560
FL	Crystal River	5	2013	11/19/2013	17	382	0.066394369	460	590	5753.5	571
FL	Crystal River	5	2013	11/19/2013	18	730	0.112259334	559	667	6502.8	655
FL	Crystal River	5	2013	11/19/2013	19	748	0.113828314	565	674	6571.3	658

FL	Crystal River	5	2013	11/19/2013	20	567	0.086600583	582	671	6547.3	658
FL	Crystal River	5	2013	11/19/2013	21	415	0.068709747	489	619	6039.9	609
FL	Crystal River	5	2013	11/19/2013	22	261	0.053791142	325	497	4852.1	479
FL	Crystal River	5	2013	11/19/2013	23	89	0.028829646	157	316	3087.1	288
FL	Crystal River	5	2013	11/20/2013	0	110	0.038925652	124	289	2825.9	252
FL	Crystal River	5	2013	11/20/2013	1	104	0.03960396	112	269	2626	232
FL	Crystal River	5	2013	11/20/2013	2	90	0.034245272	113	269	2628.1	226
FL	Crystal River	5	2013	11/20/2013	3	89	0.034288796	116	266	2595.6	226
FL	Crystal River	5	2013	11/20/2013	4	96	0.036722515	120	268	2614.2	227
FL	Crystal River	5	2013	11/20/2013	5	94	0.035465007	119	271	2650.5	231
FL	Crystal River	5	2013	11/20/2013	6	229	0.064032659	171	366	3576.3	333
FL	Crystal River	5	2013	11/20/2013	7	305	0.070383533	212	444	4333.4	414
FL	Crystal River	5	2013	11/20/2013	8	232	0.056377731	201	422	4115.1	391
FL	Crystal River	5	2013	11/20/2013	9	445	0.096153846	273	474	4628	446
FL	Crystal River	5	2013	11/20/2013	10	545	0.104512244	385	535	5214.7	507
FL	Crystal River	5	2013	11/20/2013	11	943	0.157122149	432	615	6001.7	596
FL	Crystal River	5	2013	11/20/2013	12	1104	0.170010934	513	666	6493.7	651
FL	Crystal River	5	2013	11/20/2013	13	835	0.128643619	499	666	6490.8	650
FL	Crystal River	5	2013	11/20/2013	14	916	0.141572131	498	663	6470.2	651
FL	Crystal River	5	2013	11/20/2013	15	947	0.145716967	500	666	6498.9	651
FL	Crystal River	5	2013	11/20/2013	16	891	0.137041082	507	667	6501.7	650
FL	Crystal River	5	2013	11/20/2013	17	873	0.134634959	518	665	6484.2	650
FL	Crystal River	5	2013	11/20/2013	18	929	0.144834898	487	658	6414.2	648
FL	Crystal River	5	2013	11/20/2013	19	977	0.149021522	485	672	6556.1	660
FL	Crystal River	5	2013	11/20/2013	20	882	0.136435356	484	663	6464.6	650
FL	Crystal River	5	2013	11/20/2013	21	846	0.138515947	445	626	6107.6	613
FL	Crystal River	5	2013	11/20/2013	22	696	0.126343305	380	565	5508.8	549
FL	Crystal River	5	2013	11/20/2013	23	380	0.091011424	300	428	4175.3	407
FL	Crystal River	5	2013	11/21/2013	0	185	0.054842439	239	346	3373.3	318
FL	Crystal River	5	2013	11/21/2013	1	75	0.028402636	195	270	2640.6	232
FL	Crystal River	5	2013	11/21/2013	2	79	0.030118185	215	269	2623	226
FL	Crystal River	5	2013	11/21/2013	3	87	0.03308488	189	269	2629.6	225
FL	Crystal River	5	2013	11/21/2013	4	89	0.033642034	193	271	2645.5	227
FL	Crystal River	5	2013	11/21/2013	5	120	0.038276291	219	321	3135.1	280
FL	Crystal River	5	2013	11/21/2013	6	661	0.135941099	350	498	4862.4	468

FL	Crystal River	5	2013	11/21/2013	7	450	0.078513478	389	588	5731.5	568
FL	Crystal River	5	2013	11/21/2013	8	479	0.085862298	401	572	5578.7	554
FL	Crystal River	5	2013	11/21/2013	9	994	0.164998423	445	618	6024.3	597
FL	Crystal River	5	2013	11/21/2013	10	1031	0.158583668	487	667	6501.3	649
FL	Crystal River	5	2013	11/21/2013	11	278	0.048083575	375	593	5781.6	573
FL	Crystal River	5	2013	11/21/2013	12	688	0.110074716	456	641	6250.3	624
FL	Crystal River	5	2013	11/21/2013	13	871	0.134384547	479	665	6481.4	650
FL	Crystal River	5	2013	11/21/2013	14	523	0.09013201	383	595	5802.6	575
FL	Crystal River	5	2013	11/21/2013	15	745	0.131372445	385	581	5670.9	562
FL	Crystal River	5	2013	11/21/2013	16	645	0.110354503	397	599	5844.8	575
FL	Crystal River	5	2013	11/21/2013	17	808	0.132361373	451	626	6104.5	608
FL	Crystal River	5	2013	11/21/2013	18	763	0.118516908	502	660	6437.9	649
FL	Crystal River	5	2013	11/21/2013	19	693	0.109888367	479	647	6306.4	635
FL	Crystal River	5	2013	11/21/2013	20	873	0.135833204	514	659	6427	646
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FL	Crystal River	5	2013	11/21/2013	22	821	0.12991123	486	648	6319.7	634
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FL	Crystal River	5	2013	11/22/2013	0	160	0.04027589	242	407	3972.6	381
FL	Crystal River	5	2013	11/22/2013	1	94	0.032741205	189	294	2871	259
FL	Crystal River	5	2013	11/22/2013	2	114	0.042071078	187	278	2709.7	236
FL	Crystal River	5	2013	11/22/2013	3	90	0.034506556	187	267	2608.2	226
FL	Crystal River	5	2013	11/22/2013	4	97	0.036868111	194	269	2631	228
FL	Crystal River	5	2013	11/22/2013	5	123	0.039099752	223	322	3145.8	280
FL	Crystal River	5	2013	11/22/2013	6	284	0.062511005	331	466	4543.2	439
FL	Crystal River	5	2013	11/22/2013	7	336	0.06321612	356	545	5315.1	524
FL	Crystal River	5	2013	11/22/2013	8	461	0.078864083	409	599	5845.5	578
FL	Crystal River	5	2013	11/22/2013	9	614	0.100978538	431	623	6080.5	608
FL	Crystal River	5	2013	11/22/2013	10	685	0.10628559	502	661	6444.9	644
FL	Crystal River	5	2013	11/22/2013	11	532	0.092223416	380	591	5768.6	569
FL	Crystal River	5	2013	11/22/2013	12	954	0.148785851	461	657	6411.9	638
FL	Crystal River	5	2013	11/22/2013	13	827	0.127458233	493	665	6488.4	649
FL	Crystal River	5	2013	11/22/2013	14	877	0.135266446	499	665	6483.5	649
FL	Crystal River	5	2013	11/22/2013	15	864	0.132916942	487	666	6500.3	651
FL	Crystal River	5	2013	11/22/2013	16	1076	0.142976733	647	772	7525.7	752
FL	Crystal River	5	2013	11/22/2013	17	621	0.082652328	616	770	7513.4	765

FL	Crystal River	5	2013	11/22/2013	18	780	0.103673773	616	771	7523.6	765
FL	Crystal River	5	2013	11/22/2013	19	1159	0.152197607	616	781	7615.1	765
FL	Crystal River	5	2013	11/22/2013	20	901	0.118638488	615	779	7594.5	766
FL	Crystal River	5	2013	11/22/2013	21	739	0.114242429	452	663	6468.7	654
FL	Crystal River	5	2013	11/22/2013	22	527	0.090702558	360	596	5810.2	569
FL	Crystal River	5	2013	11/22/2013	23	343	0.067298448	305	522	5096.7	497
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FL	Crystal River	5	2013	11/23/2013	3	133	0.046264088	192	295	2874.8	252
FL	Crystal River	5	2013	11/23/2013	4	133	0.046845831	193	291	2839.1	252
FL	Crystal River	5	2013	11/23/2013	5	150	0.052908187	198	290	2835.1	253
FL	Crystal River	5	2013	11/23/2013	6	170	0.059293363	203	294	2867.1	253
FL	Crystal River	5	2013	11/23/2013	7	204	0.066586154	208	314	3063.7	280
FL	Crystal River	5	2013	11/23/2013	8	470	0.110453093	285	436	4255.2	410
FL	Crystal River	5	2013	11/23/2013	9	846	0.160509989	347	540	5270.7	515
FL	Crystal River	5	2013	11/23/2013	10	1109	0.174794313	444	651	6344.6	631
FL	Crystal River	5	2013	11/23/2013	11	1335	0.180982593	641	756	7376.4	745
FL	Crystal River	5	2013	11/23/2013	12	1738	0.229345086	644	777	7578.1	766
FL	Crystal River	5	2013	11/23/2013	13	1485	0.196207967	628	776	7568.5	767
FL	Crystal River	5	2013	11/23/2013	14	1645	0.217356835	620	776	7568.2	765
FL	Crystal River	5	2013	11/23/2013	15	2813	0.371726088	613	776	7567.4	766
FL	Crystal River	5	2013	11/23/2013	16	2021	0.267395245	612	775	7558.1	766
FL	Crystal River	5	2013	11/23/2013	17	1965	0.261209406	616	771	7522.7	767
FL	Crystal River	5	2013	11/23/2013	18	2241	0.297273994	618	773	7538.5	765
FL	Crystal River	5	2013	11/23/2013	19	1856	0.244233021	615	779	7599.3	767
FL	Crystal River	5	2013	11/23/2013	20	887	0.139757669	431	651	6346.7	639
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FL	Crystal River	5	2013	11/23/2013	22	648	0.210697448	199	315	3075.5	282
FL	Crystal River	5	2013	11/23/2013	23	1050	0.473976437	252	227	2215.3	194
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FL	Crystal River	5	2013	11/27/2013	13	#DIV/0!
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FL	Crystal River	5	2013	11/27/2013	15	#DIV/0!
FL	Crystal River	5	2013	11/27/2013	16	#DIV/0!
FL	Crystal River	5	2013	11/27/2013	17	#DIV/0!
FL	Crystal River	5	2013	11/27/2013	18	#DIV/0!
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FL	Crystal River	5	2013	11/28/2013	3	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	4	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	5	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	6	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	7	#DIV/0!
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FL	Crystal River	5	2013	11/28/2013	9	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	10	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	11	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	12	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	13	#DIV/0!

FL	Crystal River	5	2013	11/28/2013	14	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	15	#DIV/0!
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FL	Crystal River	5	2013	11/28/2013	17	#DIV/0!
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FL	Crystal River	5	2013	11/28/2013	19	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	20	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	21	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	22	#DIV/0!
FL	Crystal River	5	2013	11/28/2013	23	#DIV/0!
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FL	Crystal River	5	2013	11/29/2013	9	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	10	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	11	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	12	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	13	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	14	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	15	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	16	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	17	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	18	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	19	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	20	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	21	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	22	#DIV/0!
FL	Crystal River	5	2013	11/29/2013	23	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	0	#DIV/0!

FL	Crystal River	5	2013	11/30/2013	1	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	2	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	3	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	4	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	5	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	6	#DIV/0!
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FL	Crystal River	5	2013	11/30/2013	8	#DIV/0!
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FL	Crystal River	5	2013	11/30/2013	12	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	13	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	14	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	15	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	16	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	17	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	18	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	19	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	20	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	21	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	22	#DIV/0!
FL	Crystal River	5	2013	11/30/2013	23	#DIV/0!

Exhibit I

		Step 6				Ste			
Plant Name	**Boiler ID**	**Ozone Season NO_x 2012 State Budget for Existing Units (tons)**	**Ozone Season NO_x 2014 State Budget for Existing Units (tons)**	**Initial Heat Input Based 2012 Ozone Season NO_x Allocation (tons)**	**Initial Heat Input Based 2014 Ozone Season NO_x Allocation (tons)**	**2003 Ozone Season NO_x Emissions (tons)**	**2004 Ozone Season NO_x Emissions (tons)**	**2005 Ozone Season NO_x Emissions (tons)**	**2006 Ozone Season NO_x Emissions (tons)**
Calculation				**Column BS x column BT**	**Column BS x column BU**				
Big Bend	BB01	28,071	27,268	375	364	3,490	3,975	3,714	4,056
Big Bend	BB02	28,071	27,268	375	365	3,610	3,941	3,985	4,626
Big Bend	BB03	28,071	27,268	384	373	2,871	3,148	2,810	2,584
Big Bend	BB04	28,071	27,268	435	423	2,515	1,369	1,428	2,407
C D McIntosh Jr Power Plant	3	28,071	27,268	327	318	2,396	2,079	2,841	1,870
Cedar Bay Generating Co. LP	CBA	28,071	27,268	107	104				
Cedar Bay Generating Co. LP	CBB	28,071	27,268	110	107				
Cedar Bay Generating Co. LP	CBC	28,071	27,268	102	99				
Crist Electric Generating Plant	4	28,071	27,268	81	79	475	475	485	440
Crist Electric Generating Plant	5	28,071	27,268	77	75	450	440	480	379
Crist Electric Generating Plant	6	28,071	27,268	277	269	2,261	1,968	2,319	1,388
Crist Electric Generating Plant	7	28,071	27,268	488	474	3,957	2,189	634	753
Crystal River	1	28,071	27,268	280	272	1,939	1,811	1,803	2,052
Crystal River	2	28,071	27,268	351	341	2,447	2,515	2,201	2,631
Crystal River	4	28,071	27,268	712	691	6,446	5,773	6,214	5,837
Crystal River	5	28,071	27,268	674	654	5,926	5,252	6,752	5,393
Curtis H. Stanton Energy Center	1	28,071	27,268	454	441	2,781	2,773	2,969	3,093
Curtis H. Stanton Energy Center	2	28,071	27,268	445	432	1,288	1,192	1,318	1,259
Deerhaven	B2	28,071	27,268	220	214	1,924	1,760	1,744	1,856
Indiantown Cogeneration, LP	01	28,071	27,268	312	303	926		974	921
Lansing Smith Generating Plant	1	28,071	27,268	160	156	1,045	1,294	1,406	1,259
Lansing Smith Generating Plant	2	28,071	27,268	186	181	1,154	1,243	1,225	1,266
Northside	1A	28,071	27,268	307	298	210	243	294	306
Northside	2A	28,071	27,268	295	286	233	256	311	362
Scholz Electric Generating Plant	1	28,071	27,268	32	31	269	295	297	252
Scholz Electric Generating Plant	2	28,071	27,268	30	29	347	327	409	225
Seminole (136)	1	28,071	27,268	650	632	5,091	4,379	5,401	5,478
Seminole (136)	2	28,071	27,268	677	658	4,605	4,275	5,190	5,574
St. Johns River Power	1	28,071	27,268	639	621	5,671	5,676	4,562	4,549
St. Johns River Power	2	28,071	27,268	683	664	5,202	4,227	4,131	5,582

p 7							Step 8	Steps 9 & 10			
2007 Ozone Season NO_x Emissions (tons)	**2008 Ozone Season NO_x Emissions (tons)**	**2009 Ozone Season NO_x Emissions (tons)**	**2010 Ozone Season NO_x Emissions (tons)**	**2011 Ozone Season Nox Emissions (tons)**	**2012 Ozone Season Nox Emissions (tons)**	**2013 Ozone Season Nox Emissions (tons)**	**Ozone Season NO_x Maximum Historic Baseline (2003-2010) (tons)**	**Final Transport Rule Unit Level NO_x Ozone Season Allocation 2012 (tons)**	**Final Transport Rule Unit Level NO_x Ozone Season Allocation 2013 (tons)**	**Proportion over limit**	**Deficit of Allowances for Facility**
							Highest value of columns BX - CE	**(Lesser of columns CF, CG, and BV + reapportionment if BV < (CF and CG)**	**(Lesser of columns CF, CH, and BV + reapportionment if BV < (CF and CH)**		
4,457	3,651	2,001	475	549.122	406.486	612.176	4,457	**530**	**530**	1.15504906	-76
4,146	3,554	689	495	492.923	545.399	618.556	4,626	**531**	**531**	1.16488889	
1,752	483	692	755	599.361	503.062	588.004	3,148	**542**	**542**	1.08487823	
521	495	689	360	474.159	483.427	474.805	2,515	**615**	**615**	0.77204065	
2,064	2,074	1,179	433	825.858	843.45	473.841	2,841	**463**	**463**	1.02341469	-11
	294	243	307	258.374	236.44	221.496	307	**152**	**152**	1.45721053	-186
	309	258	298	262.844	207.326	203.394	309	**156**	**156**	1.30380769	
	290	228	291	246.728	224.135	212.937	291	**144**	**144**	1.47872917	
439	448	74	181	168.362	5.579	22.28	485	**115**	**115**	0.19373913	117
355	391	345	249	208.943	158.908	144.767	480	**108**	**108**	1.34043519	
1,221	1,081	545	841	578.173	554.935	286.901	2,319	**392**	**392**	0.73189031	
685	647	613	1,498	1295.871	515.378	733.592	3,957	**690**	**690**	1.06317681	
1,992	1,595	1,655	1,583	1453.55	1110.451	1416.951	2,052	**396**	**396**	3.57815909	-1,091
2,150	2,399	1,552	1,821	1542.348	1092.739	1289.292	2,631	**496**	**496**	2.59937903	
6,198	5,880	3,460	710	782.142	841.909	605.592	6,446	**1,006**	**1,006**	0.60198012	
5,654	4,841	1,027	456	470.398	1145.218	628.752	6,752	**952**	**952**	0.66045378	
2,839	3,032	2,013	2,050	1634.43	1041.756	1266.584	3,093	**642**	**642**	1.97287227	-814
1,301	1,073	1,087	1,102	823.75	783.45	818.449	1,318	**629**	**629**	1.30119078	
1,627	1,652	435	229	243.11	137.853	326.238	1,924	**311**	**311**	1.04899678	-15
918	963	592	642	698.634	672.046	725.515	974	**441**	**441**	1.64515873	-285
1,305	1,389	556	626	504.82	426.511	554.309	1,406	**226**	**226**	2.45269469	-427
1,335	1,034	610	782	593.491	460.682	361.529	1,335	**263**	**263**	1.37463498	
344	388	452	350	147.7	129.614	138.061	452	**434**	**434**	0.3181129	402
304	276	436	448	160.142	0	309.732	448	**416**	**416**	0.74454808	
403	339		114	165.005	11.745	11.562	403	**45**	**45**	0.25693333	60
383	344	17	98	102.124	11.602	16.112	409	**43**	**43**	0.37469767	
3,962	3,930	289	485	449.303	451.525	455.43	5,478	**919**	**919**	0.49557127	948
3,867	4,398	575	507	389.561	457.371	473.012	5,574	**957**	**957**	0.49426541	
4,607	4,248	1,499	1,381	1276.374	3316.463	2919.223	5,676	**903**	**903**	3.23280509	-3,261
4,738	5,322	1,126	1,448	1364.537	2910.599	2210.478	5,582	**966**	**966**	2.2882795	

Exhibit J

FIFTH AMENDMENT TO SETTLEMENT AGREEMENT AMONG THE ENVIRONMENTAL PROTECTION AGENCY, THE PLAINTIFFS IN CRONIN, ET AL. V. REILLY, 93 CIV. 314 (LTS) (SDNY), AND THE PLAINTIFFS IN RIVERKEEPER, ET AL. V. EPA, 06 CIV. 12987 (PKC) (SDNY)

WHEREAS, on November 22, 2010, the Environmental Protection Agency ("EPA") entered into a settlement agreement (the "Settlement Agreement") with the plaintiffs in two actions previously pending in the United States District Court for the Southern District of New York (collectively, "Riverkeeper") – *Riverkeeper, et al. v. Jackson*, 93 Civ. 0314 (LTS), and *Riverkeeper, et al. v. EPA*, 06 Civ. 12987 (PKC) – concerning EPA's issuance of rules implementing section 316(b) of the Clean Water Act ("CWA"), 33 U.S.C. § 1326(b);

WHEREAS, pursuant to Paragraph 4 of the Settlement Agreement, EPA agreed, *inter alia*, that on or before July 27, 2012, the "EPA Administrator shall sign for publication in the Federal Register a notice of its final action pertaining to issuance of requirements for implementing section 316(b) of the CWA at existing facilities," Settlement Agreement ¶ 4.

WHEREAS, on March 11, 2011, EPA and Riverkeeper entered into an amendment to the Settlement Agreement (the "First Amendment"), pursuant to which the parties agreed to certain extensions of deadlines under Paragraphs 3 and 6(a)(i) of the Settlement Agreement;

WHEREAS, on July 17, 2012, EPA and Riverkeeper entered into an amendment to the Settlement Agreement (the "Second Amendment"), pursuant to which the parties agreed to extend the date on or before which EPA is to take the action under Paragraph 4 of the Settlement Agreement from July 27, 2012, to June 27, 2013;

WHEREAS, on June 18, 2013, pursuant to Section 7(a)(2) of the Endangered Species Act ("ESA"), 16 U.S.C. § 1536(a)(2) and its implementing regulations at 50 C.F.R. § 402.14(c), EPA requested formal consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service (collectively, the "Services") on EPA's final requirements for implementing section 316(b) of the CWA at existing facilities:

WHEREAS, on June 27, 2013, EPA and Riverkeeper entered into an amendment to the Settlement Agreement (the "Third Amendment"), pursuant to which the parties agreed to extend the date on or before which EPA is to take the action under Paragraph 4 of the Settlement Agreement from June 27, 2013, to November 4, 2013;

WHEREAS, EPA and Riverkeeper recognize that, from October 1, 2013, to October 16, 2013, a lapse in funding caused a shutdown of certain federal agencies, including EPA, which prevented EPA staff from taking steps necessary during that period to complete the section 316(b) rulemaking, and that accounting for effects of the shutdown extends the deadline for EPA to complete the section 316(b) rulemaking to November 20, 2013;

WHEREAS, on November 12, 2013, EPA and Riverkeeper entered into an amendment to the Settlement Agreement (the "Fourth Amendment"), pursuant to which the parties agreed to extend the date on or before which EPA is to take the action under Paragraph 4 of the Settlement Agreement from November 20, 2013, to January 14, 2014;

WHEREAS, to enable EPA to complete the section 316(b) rulemaking, including to finalize the language of the rule and the preamble and supporting documents for the rule, EPA has requested further modification of the Settlement Agreement to extend the date on or before which EPA is to take the action under Paragraph 4 of the Settlement Agreement to April 17, 2014, and Riverkeeper has consented to such a modification; and

WHEREAS, EPA does not intend to seek a further extension of the date by which EPA is to take the action under Paragraph 4 of the Settlement Agreement beyond April 17, 2014, and Riverkeeper does not intend to agree to any further extension of the deadline for EPA to complete the section 316(b) rulemaking beyond April 17, 2014;

NOW, THEREFORE, EPA and Riverkeeper, intending to be bound by this Fifth Amendment to the Settlement Agreement, hereby stipulate and agree as follows:

1. Paragraph 4 of the Settlement Agreement shall be amended to provide:

> "No later than April 17, 2014, the EPA Administrator shall sign for publication in the Federal Register a notice of its final action pertaining to issuance of requirements for implementing section 316(b) of the CWA at existing facilities. EPA shall make a copy of the notice available to the

Cronin Plaintiffs, the SDNY Phase III Plaintiffs, and the SDNY Phase III Intervenors within five business days following signature."

2. Within 10 days of the execution of this Fifth Amendment, a link to a copy of this Fifth Amendment shall be posted on the Office of Water website with an explanation of the reasons for the extension.

FOR EPA:

PREET BHARARA
United States Attorney
Southern District of New York

Dated: February 7, 2014

LI YU
Assistant United States Attorney
86 Chambers Street, Third Floor
New York, NY 10007
(212) 637-2734

Dated: February 10 2014

RICHARD T. WITT
Office of General Counsel
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

FOR RIVERKEEPER:

Dated: February 7, 2014

REED W. SUPER
Super Law Group, LLC
131 Varick Street, Suite 1033
New York, New York 10013
(212) 242-2273

Exhibit K

REVIEW OF THE

2012 TEN-YEAR SITE PLANS

FOR FLORIDA'S ELECTRIC UTILITIES

FLORIDA PUBLIC SERVICE COMMISSION

TALLAHASSEE, FL
DECEMBER 2012

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Individual Utility Tables

List of Ten-Year Site Plan Utilities

Investor-Owned Electric Utilities

FPL	Florida Power & Light
PEF	Progress Energy Florida
TECO	Tampa Electric Company
GULF	Gulf Power Company

Municipal Electric Utilities & Rural Electric Cooperatives

FMPA	Florida Municipal Power Agency
GRU	Gainesville Regional Utilities
JEA	JEA (formerly Jacksonville Electric Authority)
LAK	Lakeland Electric
OUC	Orlando Utilities Commission
SEC	Seminole Electric Cooperative
TAL	City of Tallahassee

LIST OF ACRONYMS

AB	Agricultural Byproducts (Biomass)
CC	Combined Cycle
CR3	Crystal River 3 Nuclear Unit
CT	Combustion Turbine
DACS	Department of Agriculture and Consumer Services
DEP	Department of Environmental Protection
DOE	Department of Energy
EIA	Energy Information Agency
EPA	Environmental Protection Agency
F.A.C.	Florida Administrative Code
F.S.	Florida Statutes
FEECA	Florida Energy Efficiency & Conservation Act
FERC	Federal Energy Regulatory Commission
FRCC	Florida Reliability Coordinating Council
INT	Interruptible Load
IOU	Investor-Owned Utility
IPP	Independent Power Producer
LFG	Landfill Gas
LM	Load Management
MMBtu	Million British Thermal Units
MSW	Municipal Solid Waste
MW	Megawatts
MWh	Megawatt-hours
NEL	Net Energy for Load
NUG	Non-Utility Generators
NUG	Non-Utility Generator
OBG	Other Biogas (Biomass)
PPSA	Power Plant Siting Act
QF	Qualifying Facilities
REC	Renewable Energy Credits
RFP	Request for Proposals
RPS	Renewable Portfolio Standard
SUN	Solar
TLSA	Transmission Line Siting Act
TYSP	Ten-Year Site Plan
WAT	Hydro / Water
WDS	Wood Waste Solids (Biomass)
WH	Waste Heat

EXECUTIVE SUMMARY

Pursuant to Section 186.801(1), Florida Statutes (F.S.), each generating electric utility must submit to the Florida Public Service Commission (Commission) a Ten-Year Site Plan (TYSP or Plan) which estimates the utility's power generating needs and the general locations of its proposed power plant sites over a ten-year planning horizon. The Commission is required to perform a preliminary study of each plan and classify each one as either "suitable" or "unsuitable." This document represents the study of the 2012 Ten-Year Site Plans for Florida's electric utilities. All findings of the Commission are made available to the Florida Department of Environmental Protection (DEP) for its consideration at any subsequent electrical power plant site certification proceedings pursuant to the Power Plant Siting Act (PPSA)[1]. In addition, this document is forwarded to the Department of Agriculture and Consumer Services (DACS) pursuant to Section 377.703(2)(e), F.S., which requires the Commission to provide a report on electricity and natural gas forecasts. A copy of this report is also posted on the Commission's website and is available to the public.

The Commission has reviewed the Ten-Year Site Plans filed by the eleven reporting utilities, as well as supplemental data provided through data requests, and finds that the projections of load growth appear reasonable.[2] The reporting utilities have identified sufficient additional generation facilities to maintain an adequate supply of electricity at a reasonable cost. Therefore, the Commission finds the 2012 Ten-Year Site Plans filed by the reporting utilities, augmented with supplemental data provided, to be suitable for planning purposes.

Since the TYSP is not a binding plan of action for electric utilities, the Commission's classification of these Plans as suitable or unsuitable does not constitute a finding or determination in docketed matters before the Commission. The Commission may address any concerns raised by a utility's TYSP at a public hearing.

Growth in Demand and Capacity

Customer growth remained positive in the last year, and is anticipated to continue at a somewhat slower pace than projected last year, but still below historic levels. Between 2012 and 2021, the annual average growth rate for residential customers is projected at 1.26 percent, slightly below last year's projection of 1.37 percent for 2011 through 2020, and down significantly from the 2.36 percent rate seen for the period 2002 through 2007. In contrast, commercial and industrial customers show a slightly increased rate of growth, but also remain below historic levels.

Generating capacity within the State of Florida is anticipated to grow to meet the increase in customer demand, with approximately 7,200 megawatts (MW) of new generation added over the planning horizon. This figure represents a decrease from last year's TYSPs, which estimated

[1] The Power Plant Siting Act is Sections 403.501 through 403.518, Florida Statutes

[2] Investor-owned utilities (IOUs) filing 2012 Ten-Year Site Plans include Florida Power & Light Company (FPL) Progress Energy Florida, Inc. (PEF), Tampa Electric Company (TECO), and Gulf Power Company (Gulf). Municipal utilities filing 2012 Ten-Year Site Plans include Florida Municipal Power Agency (FMPA), Orlando Utilities Commission (OUC), City of Lakeland (LAK), City of Tallahassee (TAL), JEA (formerly Jacksonville Electric Authority), and Gainesville Regional Utilities (GRU). Seminole Electric Cooperative (SEC) also filed a 2012 Ten-Year Site Plan.

the need for about 10,300 MW new generation. This reduction in the estimated need for new capacity is primarily due to several units being constructed in 2012, and others being delayed beyond the ten year period due to slightly lower load forecasts. The 2012 Plans include retirements and uprates of existing units, along with new generating units to be added during the ten-year period. As in previous planning cycles, natural gas-fired generating units make up a majority of the generation additions and now represent a majority of energy produced within the state.

All TYSPs are subject to modification due to factors such as changes to fuel price forecast, energy demand forecasts, shifts in energy policy, or other factors. A notable change to the 2012 TYSPs is PEF's delay of the Levy 1 nuclear unit, which was originally planned to start commercial service in June 2021, but has been delayed until June 2024. PEF is anticipated to update their 2013 TYSP to reflect this change in projected installed capacity. While the delay is a significant impact on PEF's reserve margin in 2021, the statewide reserve margin is projected to be adequate to provide reliable service with the planned delay of the Levy nuclear units.

Demand-Side Management

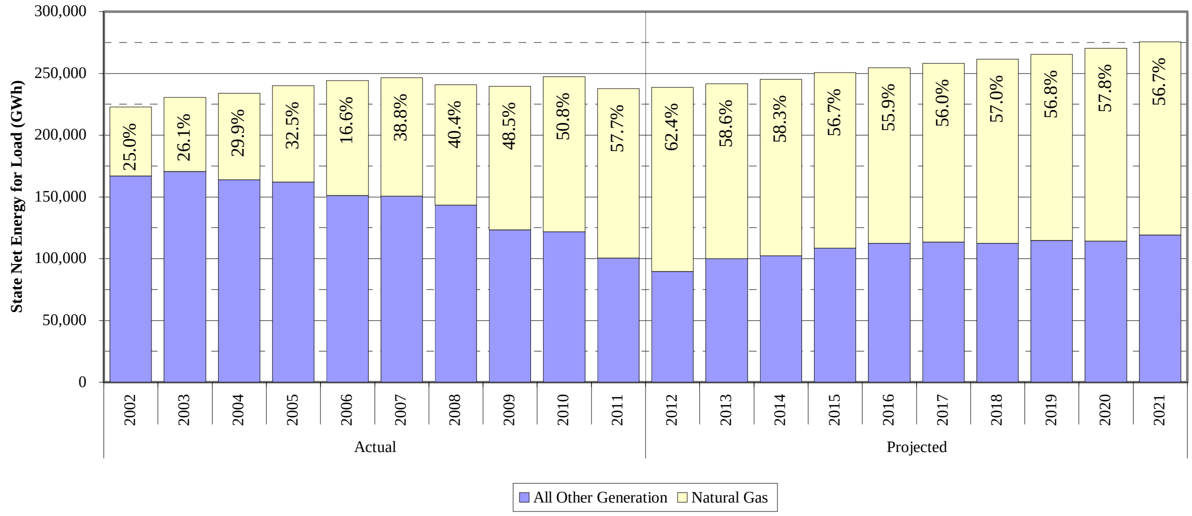
The first step in any resource planning process is to focus on the efficient use of electricity by consumers. Government mandates, such as building codes and appliance efficiency standards, provide the starting point for increasing energy efficiency. Customer choice is the next step in reducing the state's dependence upon expensive fuels and lowering greenhouse gas emissions. Consequently, educating consumers to make smart energy choices is particularly important. Finally, Florida's utilities can efficiently serve their customers by offering demand-side management (DSM) and conservation programs designed to use fewer resources at lower cost.

Florida's utilities project considerable demand and energy savings over the planning period, with conservation and load management programs by 2021 reducing the system's total seasonal peak demand by over 9,000 MW, or 15 percent for summer and winter, and reducing annual energy consumption by over 15,000 GWh or 5 percent.

Fuel Diversity

Natural gas is anticipated to remain the dominant fuel over the planning horizon, with usage in 2011 increasing to 57.7 percent of the state's net energy for load (NEL), up from 50.8 percent of NEL in 2010. Figure 1 below illustrates the increase in the role of natural gas in the state's electricity production during the last ten years, and the projected use during the next decade. Based on the Florida Reliability Coordinating Council (FRCC) 2012 Load and Resource Plan, state-wide natural gas usage is expected to peak in 2012, and then slowly decline throughout the planning period, to 56.7 percent in 2021.

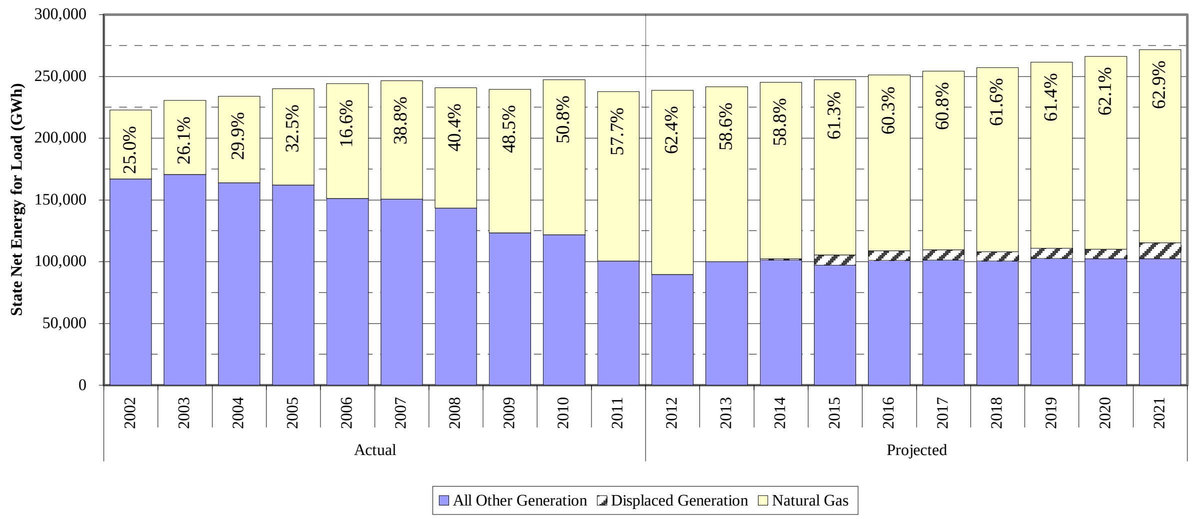
Figure 1. State of Florida: Natural Gas Usage (Total & Percent NEL)



Source: FRCC 2004 - 2012 Load and Resource Plans

While natural gas usage is projected to remain relatively level over the planning period, this situation is due to projected increases in nuclear generation, and a limited impact of new environmental compliance requirements. The FRCC 2012 Load and Resource Plan includes the addition of the Levy 1 nuclear unit in 2021, which has since been delayed until 2024. Also, this projection assumes the return to service in November 2014 of PEF's Crystal River 3 nuclear unit (CR3). However, no decision has been made regarding the repair or retirement of CR3. Furthermore, as discussed at the 2012 TYSP Workshop, PEF's Crystal River 1 & 2 coal units, along with GULF's Lansing Smith 1 & 2 coal units, may face challenges in economically meeting new environmental compliance requirements. If the facilities are unable to install sufficient emissions controls, they would face retirement as early as 2015. If the projected generation associated with these nuclear and coal units is displaced by natural gas, it would have the net effect of increasing natural gas' share of state electric generation to 62.9 percent by 2021, as shown in Figure 2 below.

Figure 2. State of Florida: Natural Gas Usage With Displaced Generation (Total & Percent NEL)



Source: FRCC 2004 - 2012 Load and Resource Plans, PEF 2012 TYSP, Responses to Staff Data Requests.

In an attempt to reduce natural gas consumption, Florida's utilities have encouraged other energy resources, including renewable energy and nuclear generation. Approximately 1,421 MW of renewable generation is currently operating in Florida, an increase of about 138 MW from the previous year. Presently, municipal solid waste (MSW) and biomass each represent roughly a third of renewable generation in Florida. Other major types of renewable generation operating in the state include waste heat, hydroelectric, landfill gas, and solar.

Over the planning horizon, approximately 957 MW of additional renewable generation is planned in Florida, an increase of 51 MW from last year. The majority of these additions are solar and biomass. While these new projects represent a significant increase from the existing total, renewable generation continues to provide a relatively small contribution towards the reduction of our state's reliance on fossil fuels.

While no new nuclear units are projected until 2022, uprates for all five existing nuclear units have been approved by the Commission, representing an increase of approximately 600 MW. Extended outages associated with unit uprates and other major maintenance work has reduced nuclear generation, and is projected to reduce nuclear's contribution to annual energy in the near future. One of the nuclear units, CR3, has been offline since 2009 due to a delamination of the concrete containment structure discovered during a steam generator replacement project. The unit, including the 154 MW of uprated capacity, is currently scheduled to return to service in the end of 2014. Currently four new nuclear units, Turkey Point 6 & 7, and Levy 1 & 2, totaling over 4,000 MW generation are planned outside of the ten-year horizon.

New and Proposed EPA Rules

Florida's electric utilities must also consider environmental concerns regarding existing and planned generation to meet Florida's electric needs. The Environmental Protection Agency

(EPA) has finalized or proposed several new rules in the last year that will have an impact on Florida's existing generation fleet, as well as on its proposed new facilities.

The new or proposed EPA rules limit emissions from existing power plants on a variety of pollutants, including mercury, other heavy metals, organic toxics, particulates, sulfur oxides, and nitrogen oxides. While many facilities within the state already have sufficient emissions control technologies to address these rules, some will require installation of new equipment to bring emissions into compliance. Other rules address concerns relating to cooling water's impact on aquatic life, and the disposal of coal ash. All of these activities will require investment and potential for extended outages of the relevant generating units, which will require careful planning to allow for a minimum impact on system reliability.

At this time, a final estimate of costs and units affected is not available, as some of the proposed rules are not yet final. Several of the TYSP utilities have provided preliminary estimates based upon known and proposed rule language, and are shown in Table 1 below.

Table 1. TYSP Utilities: Preliminary Estimates of EPA Rule Compliance Cost

Utility	Preliminary Total Cost Estimates* ($ Millions)
Florida Power & Light	$348 - $1,741
Progress Energy Florida	$165 - $1,330
Tampa Electric Company	$763
Gulf Power Company	$1,270 - $2,737
Florida Municipal Power Agency	$39
Gainesville Regional Utilities	Not Available
JEA	Not Available
Lakeland Electric	Not Available
Orlando Utilities Commission	$157
Seminole Electric Cooperative	Not Available
City of Tallahassee	$5
Total of All Utilities	**$2,747 - $6,772**

* These estimates are not final, and may not include all rules.
Source: Responses to Staff's Data Requests.

New Generation Facilities

The State of Florida has a total summer generating capacity of 56,973 MW installed as of January 1, 2012. A total of 7,200 MW of new generation units are planned in the ten-year period, all of which will be natural gas-fired units. Other impacts noted in the report reflect changes to existing units and/or purchased power agreements.

As noted previously, the primary purpose of this review of the utilities' TYSPs is to provide information regarding new electric power plants to the DEP for its use in the certification process. Table 2 displays those generation facilities included in the 2012 TYSPs that have not yet received a certification under the PPSA by the Commission. Certification is generally anticipated at four years in advance of the in-service date for a natural gas-fired combined cycle unit. TECO has recently filed a Request for Proposals (RFP) for their conversion to combined cycle configuration of their existing Polk Power Station units 2 through 5, and filed a petition for a determination of need on September 12, 2012.

Table 2. State of Florida: Proposed Generating Units Without PPSA Certification

Utility	Generating Unit Name	Unit Type	Fuel Type	Summer Capacity (MW)	In-Service Date
TECO	Polk 2-5 CC	CC	NG	1,063	Jan 2017
PEF	Unknown	CC	NG	767	Jun 2019
SEC	Unnamed CC1	CC	NG	196	Dec 2020
SEC	Unnamed CC2	CC	NG	196	Dec 2020
SEC	Unnamed CC3	CC	NG	196	Dec 2021

Source: Utilities 2012 TYSP

In addition to generating units, transmission lines that will require the Commission's certification under the Transmission Line Siting Act (TLSA) are projected during the planning period. Table 3 below details the only TLSA project included in the utility's plans, which is associated with TECO's combined cycle conversion at the Polk Power Station.

Table 3. State of Florida: Proposed Transmission Without TLSA Certification

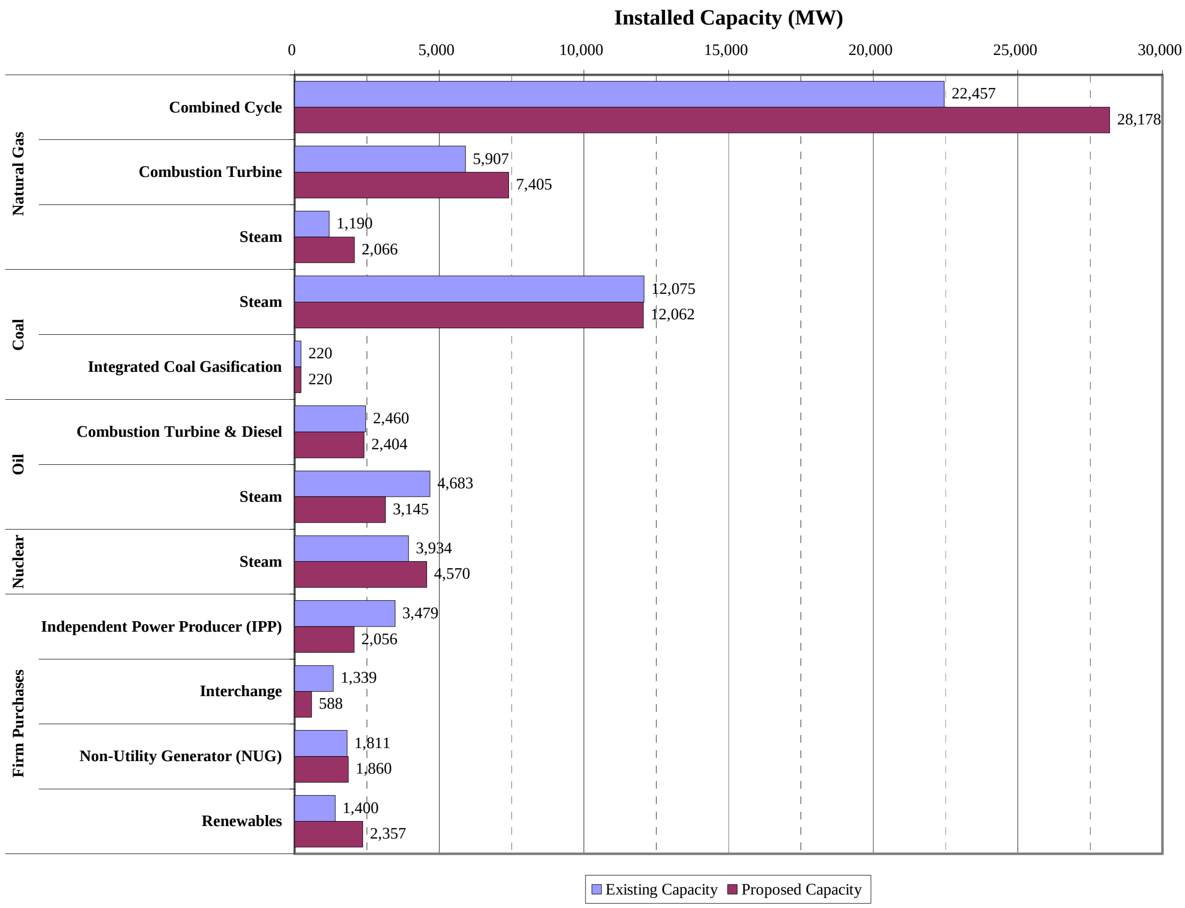
Utility	Transmission Line	Line Length (Miles)	Nominal Voltage (kV)	Commercial In-Service Date
TECO	Polk-Aspen-FishHawk	62.5	230	2017

Source: Utilities 2012 TYSP

Summary of the State of Florida

Figure 3 below illustrates the present and future aggregate capacity mix. The capacity values in Figure 3 incorporate all proposed additions, changes, and retirements contained in the reporting utilities' 2012 Ten-Year Site Plans.

Figure 3. State of Florida: Existing and Projected Capacity



Source: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

INTRODUCTION

The Ten-Year Site Plans of Florida's electric utilities are designed to give state, regional, and local agencies advance notice of proposed power plants and transmission facilities. The Commission receives comments from these agencies regarding any issues with which they may have concerns. Because the TYSPs are considered to be planning documents and can contain tentative data, they may not necessarily contain sufficient information to allow regional planning councils, water management districts, and other reviewing agencies to evaluate site-specific issues within their respective jurisdictions. Each utility is responsible for providing detailed information based on individual assessments during certification proceedings under the Power Plant Siting Act (PPSA), Sections 403.501-403.518, F.S., or the Transmission Line Siting Act (TLSA), Sections 403.52-403.5365, F.S. In addition, other regulatory processes may require utilities to provide additional information as needed.

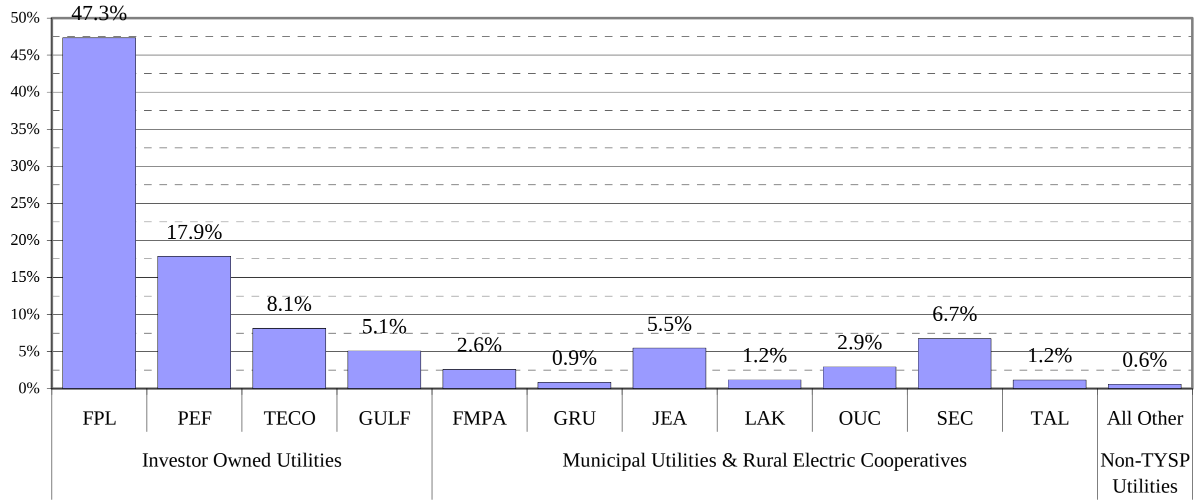
Statutory Authority

Section 186.801, F.S., requires that all major generating electric utilities submit a TYSP to the Commission for annual review. Section 377.703(2)(e), F.S., requires the Commission to analyze these plans and provide natural gas and electricity forecasts to the Department of Agriculture and Consumer Services (DACS). The Commission has adopted Rules 25-22.070 through 25-22.072, Florida Administrative Code (F.A.C.) in order to fulfill these statutory requirements.

Florida is served by 58 electric utilities, including 5 investor-owned utilities (IOUs), 35 municipal utilities, and 18 rural electric cooperatives. Only generating electric utilities with an existing capacity above 250 megawatts or a planned unit with a capacity of 75 MW or greater are required to file with the Commission a TYSP, at least once every two years. In 2012, eleven utilities filed TYSPs, including 4 IOUs, 6 municipal utilities, and 1 rural electric cooperative.

Figure 4 below illustrates each TYSP utility's representative share of the state's net energy for load for 2011. In total, the investor-owned TYSP utilities represent 78 percent of net energy for load, with the remaining TYSP utilities contributing 21 percent. Those utilities which are not required to file a TYSP make up the remaining 1 percent.

Figure 4. State of Florida: Percent State Net Energy for Load by Electric Utility (2011 Actual)



Source: FRCC 2012 Load & Resource Plan, Utilities 2012 TYSPs

As outlined in the Commission's rules, each utility's TYSP contains projections of the utility's electric power needs, fuel requirements, and general location of proposed power plant sites and major transmission facilities. The utilities provide historic and projected information on existing generating capacity, customer base and energy usage, impact of demand-side management, fuel consumption, fuel diversity, anticipated reserve margin, and proposed new generating units and transmission.

In accordance with Section 186.801, F.S., the Commission performs a preliminary study of each TYSP and makes a determination as to whether it is suitable or unsuitable. This determination is non-binding, and is made in recognition that the information provided is tentative, and is subject to change by the utility upon written notice. The results of the Commission's study are contained in this report, Review of the 2012 Ten-Year Site Plans, and are forwarded to the DEP for use in subsequent power plant siting proceedings.

Information Sources for the Report

Contained in each utility's TYSP is a series of required tables which provide detailed information on a number of items. This information, supplemented by additional data requests, provides the basis of the Commission's review.

The Florida Reliability Coordinating Council (FRCC) is also an important source of information for the Commission's review. Each year, the FRCC publishes its Regional Load and Resource Plan which contains aggregate data on demand and energy, capacity and reserves, and proposed new generating units and transmission line additions, both for Peninsular Florida and for the state as a whole. In addition to its *2012 Regional Load and Resource Plan*, the Commission used the FRCC's *2012 Reliability Assessment* as a resource in the production of this review. The Commission held a public workshop on August 13, 2012, to facilitate discussion of the annual planning process and the Regional Load & Resource Plan and to allow for public comments on the TYSPs that were filed with the Commission.

Structure of the Report

This report is divided into multiple sections. The Statewide perspective provides a look at the impact of all planned unit additions to the State as a whole, and is intended as a resource for those seeking understanding of Florida's energy systems. Individual utility reports focus on the issues facing each electric utility and its unique situation. Lastly, Appendix A contains comments received from various review agencies, local governments, and others that have been collected and included in this report.

Conclusions

As discussed in each of the individual utility's reviews, the Commission's review of the eleven reporting utilities' 2012 TYSPs finds them all suitable for planning purposes. Through the review process, the Commission has determined that the projections of load growth appear reasonable, and that reporting utilities have identified sufficient additional generation facilities to maintain an adequate supply of electricity at a reasonable cost.

Since the TYSP is not a binding plan of action for electric utilities, the Commission's classification of these Plans as suitable or unsuitable does not constitute a finding or determination in any docketed matters before the Commission. The Commission may address any concerns raised by a utility's TYSP at a public hearing.

Statewide Perspective

FLORIDA'S ELECTRICITY FORECAST

Forecasting load growth is the first component of system planning for Florida's electric utilities. In order to maintain a reliable system, utilities must stay abreast of changes in customer base as well as trends in demand and energy consumption. Utilities perform load and energy forecasts to estimate the amount and timing of future capacity needs.

Historical data forms the foundation for utility load and energy forecasts. These sets of data include energy usage patterns, trends in population growth, economic variables, and weather data for each utility's service territory. Econometric forecast models are then used to quantify the historical impact of population growth, economic conditions, and weather on energy usage patterns.

Finally, sets of forecast assumptions on future population growth, economic conditions, and weather are assembled and together with the forecast models, yield the final demand and energy forecasts. Each utility's peak demand and energy forecasts serve as a starting point for determining if and when new capacity additions are needed to reliably and efficiently serve the anticipated load.

Customer Growth Projections

The most basic starting point in the utility's forecast modeling is the projected number and type of electric customers. Florida is dominated by the residential class, which makes up a majority in both number of customers and energy sales, as shown in Table 4 below. As a result, Florida's electrical demands and energy requirements heavily focus on residential use patterns. While commercial and industrial customers may be lower in number, they typically consume far more per customer, and combined represent the other half of energy consumed in Florida. Compared to last year, Florida experienced a slight growth in the number of customers, but an overall decline in energy consumption.

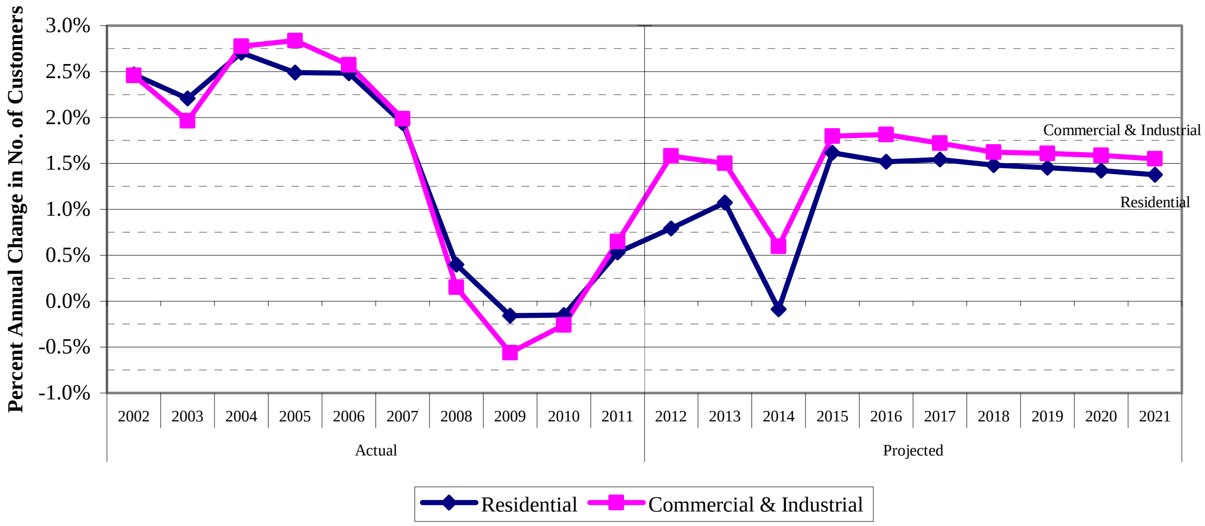
Table 4. State of Florida: Customer Numbers and Energy Usage (2011 Actual)

Customer Class	Number of Customers	% of Customers	Energy Sales (GWh)	% of Sales
Residential	8,369,607	88.71%	113,554	52.97%
Commercial	1,037,584	11.00%	80,284	37.45%
Industrial	27,202	0.29%	20,556	9.59%
Total	**9,434,393**		**214,394**	

Source: FRCC 2012 Load & Resource Plan

Florida's annual customer growth rate in 2011 was positive but significantly below historic norms for all customer classes, and is not anticipated to return to its previous rate during the planning period. Figure 5 shows the actual annual growth rate between 2002 and 2011, and the projected customer growth between 2012 and 2021. The historic data clearly shows the decline from high annual customer growth, resulting in significantly lower or even negative customer growth.

Figure 5. State of Florida: Annual Customer Growth Rate by Customer Class

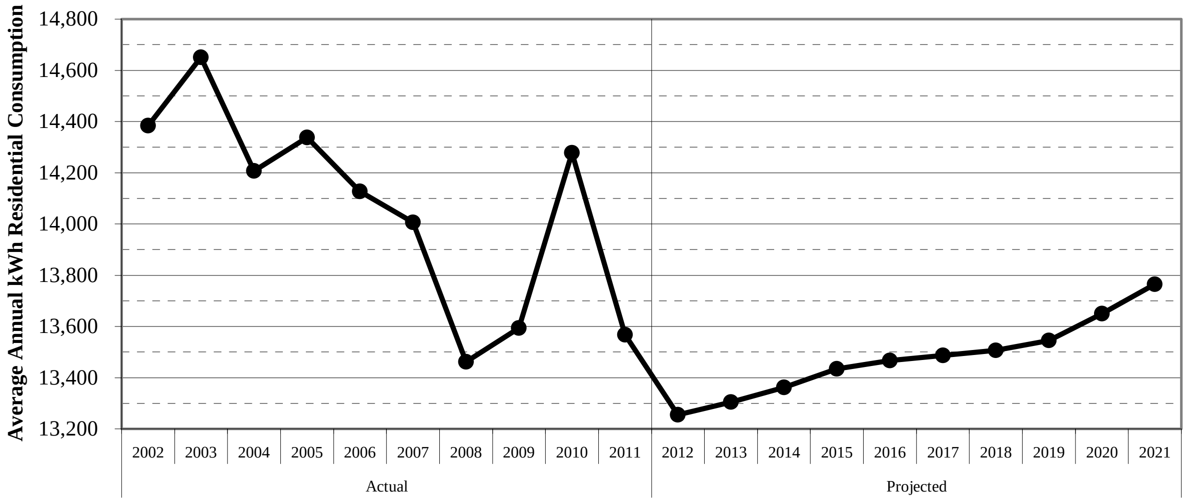


Source: FRCC 2012 Load & Resource Plan

Customer growth is projected to increase and remain higher throughout the planning period, with the exception of 2014. In 2014, both FMPA and SEC note that several member utilities are anticipated to change their service agreements, including the City of Lake Worth (which would leave FMPA's All Requirements Power Supply Project) and Lee County Electric Cooperative (which would no longer be served by SEC), resulting in the declining customer growth seen above in Figure 5.

Florida's energy requirements are heavily dependent on the energy consumption behaviors of residential customers. This relationship is a result of the fact that close to 90 percent of electric customers in Florida are residential accounts, with these customers purchasing more than half the energy sold in the state in 2011. Figure 6 shows the actual per-customer consumption from 2002 through 2011, as well as the projection for the period 2012 through 2021. Actual usage has generally decreased, excluding a spike in 2010 that is attributed to extreme winter weather. Per-customer residential sales are expected to decline in 2012, but then slowly rebound throughout the planning period.

Figure 6. State of Florida: Average Annual Residential Customer Energy Consumption



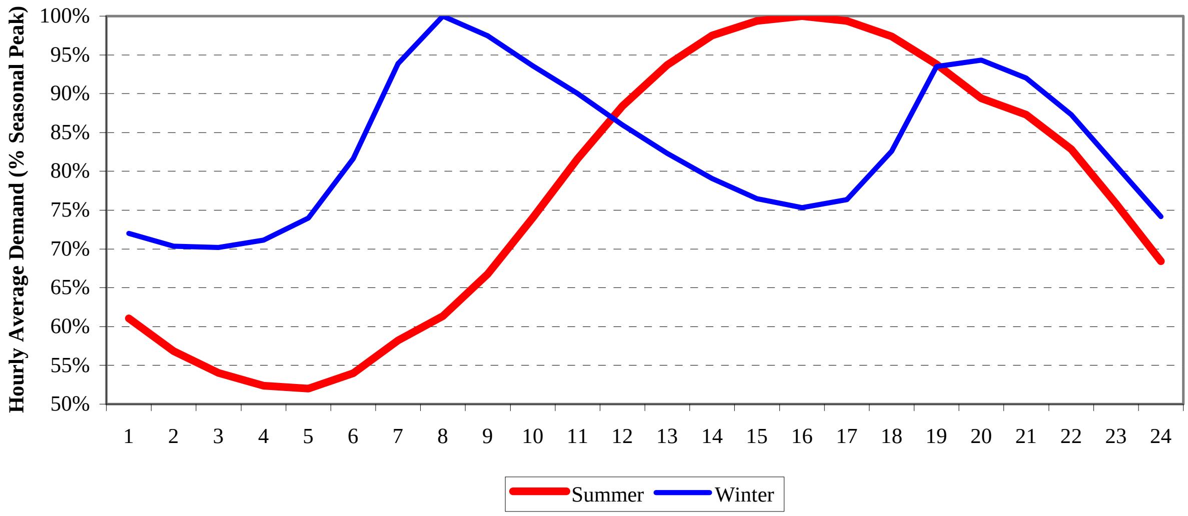
Source: FRCC 2012 Load & Resource Plan

Seasonal Peak Demand Forecast

Since there exists no economically feasible means to store electricity at the grid-scale, electric utilities must supply electricity near instantaneously to the time of its consumption. For a majority of the time, system demand is significantly less than the daily peak. However, system peak demand determines the timing of new generation needs, and is driven by seasonal weather patterns. With a growing customer base dominated by residential customers, both the rate of growth and usage patterns are important considerations in planning sufficient future generation to meet the state's projected customer load.

Figure 7 illustrates typical daily load curves for each season, which shows evidence of the influence of residential customers. In summer, air-conditioning demand causes a steady climb in the morning and a peak in early evening, before declining into the evening. In contrast, winter's demand curve is dominated by electric heating and water heating, causing a rapid peak in mid-morning and a second peak in the late evening.

Figure 7. TYSP Utilities: Example Daily Load Curve



Source: Responses to Staff Data Request (2011)

Florida is typically a summer-peaking state, meaning that the summer peak demand generally controls the amount of generation required. While winter peak demands tend to be greater than summer, the higher peak is offset by the increased winter rating of power plants, which can take advantage of lower ambient air and water temperatures to produce more electricity from the same generating unit. During summer peak demand, higher temperatures instead can decrease generation, as high water temperatures may reduce not only the quality, but quantity of cooling water available based on environmental permits.

As with daily load, there is a great variation in seasonal peak load. Generally speaking, Florida's summer season is significantly longer than its winter. The periods between the seasonal peaks are referred to as "shoulder months," and utilities take advantage of these periods of relatively low demand to perform maintenance without impacting their ability to meet the daily peak demand.

In general, a major controlling factor to seasonal peak demand is short-term weather conditions. While utilities forecast annual peak demand based upon historic factors, customer counts, and normalized weather patterns, utilities also continuously monitor weather conditions in their service territory and prepare for any increases (or decreases) in customer demand. By close monitoring of the weather situation, utilities can fine tune maintenance schedules to ensure the highest unit availability during time of the utility's peak demand.

Demand Side Management

The first step in any resource planning process is to focus on the efficient use of electricity by consumers. Government mandates, such as building codes and appliance efficiency standards, provide the starting point for increasing energy efficiency. Customer choice is the next step in reducing the state's dependence upon expensive fuels and lowering greenhouse gas emissions. Consequently, educating consumers to make smart energy choices is particularly important. Finally, Florida's utilities can efficiently serve their customers by offering DSM and conservation programs designed to use fewer resources at lower cost.

The Florida Legislature directed the Commission to encourage utilities to decrease the growth in seasonal peak demand and energy consumption in Sections 366.80 through 366.85 and Section 403.519, F.S., known as the Florida Energy Efficiency and Conservation Act (FEECA). Under FEECA, the Commission is required to set goals for demand and energy reduction for 7 electric utilities, namely the 5 investor-owned electric utilities (4 of which file TYSPs, the exception being Florida Public Utility Company, which is a non-generating utility) and 2 municipal electric utilities (JEA and OUC). These utilities represent 87 percent of sales in Florida.

DSM Programs generally fall into three categories: interruptible/curtailable load (INT), load management (LM), and conservation. The first two are generally considered dispatchable, meaning that the utility can call upon them during a period of peak demand, but otherwise they are not in active use. In contrast, conservation measures are considered passive and are always working to reduce customer demand.

Interruptible or curtailable load is achieved through the use of agreements with large customers to allow the utility to interrupt selected portions of the customer's load during periods of peak demand. Interrupted or curtailed customers could make up for this generation by reducing their own industrial processes or by activating back-up generation. In exchange for the ability to reduce their electrical load, the utility usually offers such customers a discounted rate for energy or other credits which are paid for by all customers.

Load management programs involve the installation of a device that can interrupt a customer's appliance(s) for a short duration during a period of peak demand. These interruptions tend to have less notice than those provided to interruptible customers, and generally do not fully disconnect customers, but interrupt an individual appliance. Normally, interruptions are kept to short periods and are cycled between groups of customers. Due to the nature of the program, certain devices would be more appropriate to handle different seasonal demands. For example, air conditioning units would be interrupted to reduce a summer peak, while water heaters being interrupted may contribute more towards reducing a winter peak. As of 2012, over 7,165 MW of interruptible load and load management is available for summer peak, and is anticipated to expand to 9,219 MW by 2021.

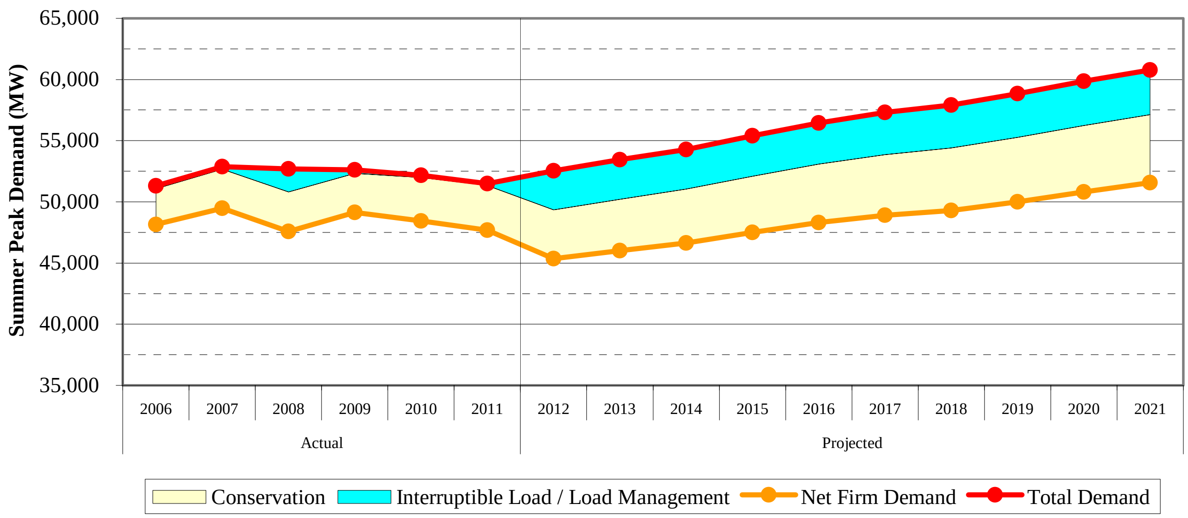
In addition to active measures, customer-based conservation measures can have an impact on peak demand without requiring activation by the utility. These passive conservation measures typically involve improving a home or business' building envelope, such as greater insulation and energy-efficient windows, or installing more efficient appliances. These energy efficiency improvements decrease the customer's load at all times without requiring an interruption or reduction in service, and also have an impact on annual energy consumption.

The seven FEECA utilities currently offer DSM programs to residential, commercial, and industrial programs. Energy audit programs provide a first step for utilities and customers to evaluate conservation opportunities and serve as the foundation for other programs.

Projected Peak Demands

Figure 8 below shows the historic and projected total summer peak demand, as well as demand side management impacts and the resulting net firm demand experienced by the utilities. While summer peak demand has been relatively steady in the past few years, demand is anticipated to increase steadily throughout the planning period. Interruptible load and load management programs have not been fully implemented in past years, with the primary impact shown below in 2008. When planning for future load, the electric utilities use net firm seasonal demand.

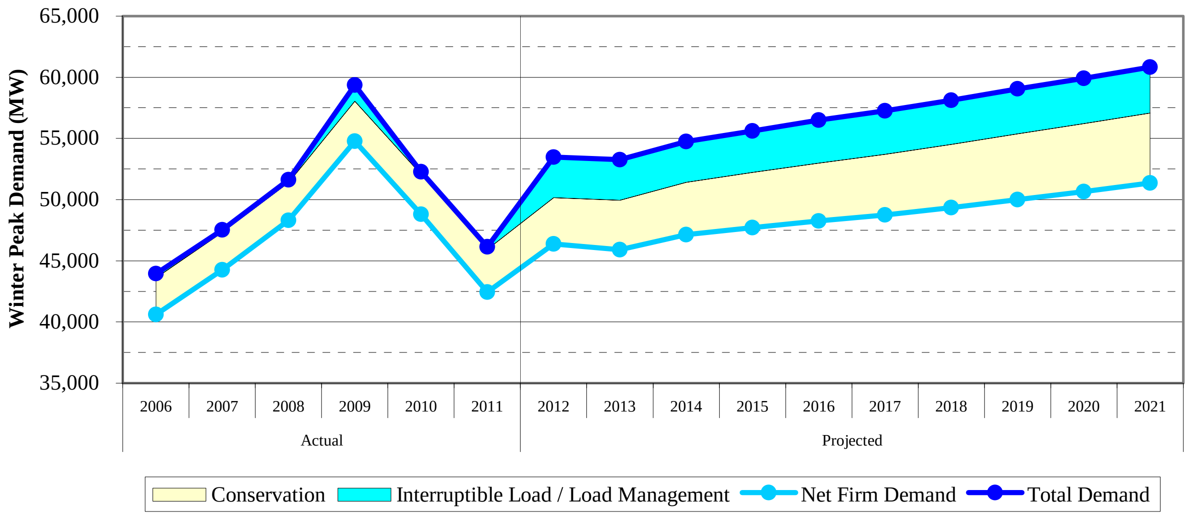
Figure 8. State of Florida: Historic & Projected Summer Peak Demand (With DSM Impacts)



Source: FRCC 2008 - 2012 Load and Resource Plans

Figure 9 below shows the historic and projected total winter peak demand, as well as DSM impacts and the resulting net firm demand experienced by the utilities. As with summer peak demand, demand response resources have not historically been fully utilized, as shown by the small reduction in the actual firm demand.

Figure 9. State of Florida: Historic & Projected Winter Peak Demand (With DSM Impacts)

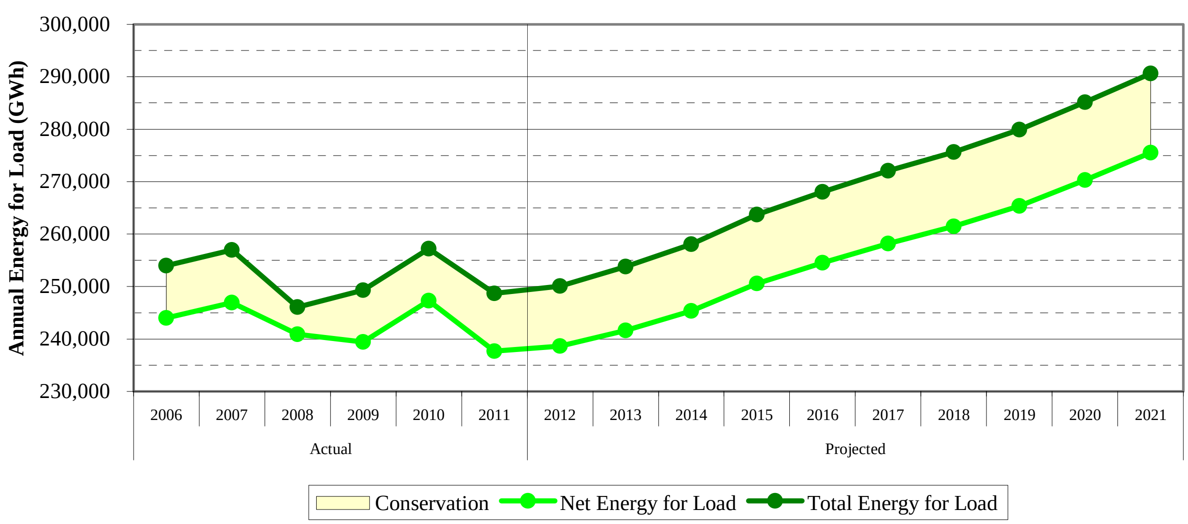


Source: FRCC 2008 - 2012 Load and Resource Plans

Annual Energy Consumption Forecasts

While peak demand is the instantaneous usage of a customer on the system, annual energy consumption addresses the total cumulative demand on the system over time, which determines the type of units required and the resulting amount of fuel consumed. Figure 10 below shows the historic and projected annual energy for load for the state of Florida. While energy consumption has been relatively steady for the past few years, it is anticipated to increase steadily through the end of the planning period.

Figure 10. State of Florida: Historic & Projected Annual Energy for Load (With DSM Impacts)



Source: FRCC 2008 - 2012 Load and Resource Plans

Historical Accuracy of Energy Forecasts

For each utility filing a TYSP, the Commission reviewed the historical forecast accuracy of total retail energy sales for the five-year period 2007 to 2011. The review compared actual energy sales for each year to energy sales forecasts made three, four, and five years prior. For example, the actual 2007 energy sales were compared to the projected 2007 forecasts made in 2002, 2003, and 2004. These differences, expressed as a percentage error rate, were used to calculate the utility's historical forecast accuracy.

Table 5 below illustrates the historical forecast error for 2012 and 2011, on an average error and average absolute error basis. The calculated average error is positive for all TYSP utilities, this shows a tendency to over-forecast, with the resulting average forecast error for all TYSP utilities combined at 11.38 percent in 2012, an increase from 8.45 percent in 2011.

Table 5. TYSP Utilities: Historical Accuracy of Net Energy for Load Forecasts

TYSP Utility	Forecast Error (%)			
	2012 (Years 2011 – 2007)		2011 (Years 2010 – 2006)	
	Average	Average Absolute	Average	Average Absolute
FPL	12.12%	12.12%	10.92%	10.97%
PEF	11.36%	11.90%	6.17%	7.05%
TECO	13.07%	13.07%	8.95%	8.95%
GULF	5.44%	7.37%	1.97%	5.62%
FMPA	11.81%	13.99%	6.09%	12.83%
GRU	11.40%	11.40%	8.32%	8.32%
JEA	12.72%	12.72%	9.78%	9.78%
LAK	7.89%	7.89%	5.69%	5.69%
OUC	5.83%	5.83%	5.87%	6.61%
SEC	11.41%	12.63%	4.41%	8.38%
TAL	8.77%	8.85%	7.04%	7.28%
Weighted Average	**11.38%**	**11.38%**	**8.45%**	**8.63%**

Source: Staff Calculation based on Utilities 2001 – 2012 TYSPs

The high error rate, increased from last year's, represents the impact of the recession on energy usage in Florida. This analysis primarily uses forecasts developed from between 2002 and 2008, a majority of which occurred before the recession. Due to the unexpected nature of the recent recession, it could not have been included in forecasts as far as 5 years preceding the event. As this analysis moves forward and begins to use forecasts developed after the beginning of the recession, the error rate should fall back to typical levels.

As indicated by this high error rate, utilities projected increased need for energy that has not materialized due to the recession. As discussed below, Florida currently has an excess of generation, in part due to these projections. The TYSP utilities have responded to changing circumstances by delaying or cancelling new generation, as discussed in previous annual reviews of the TYSPs.

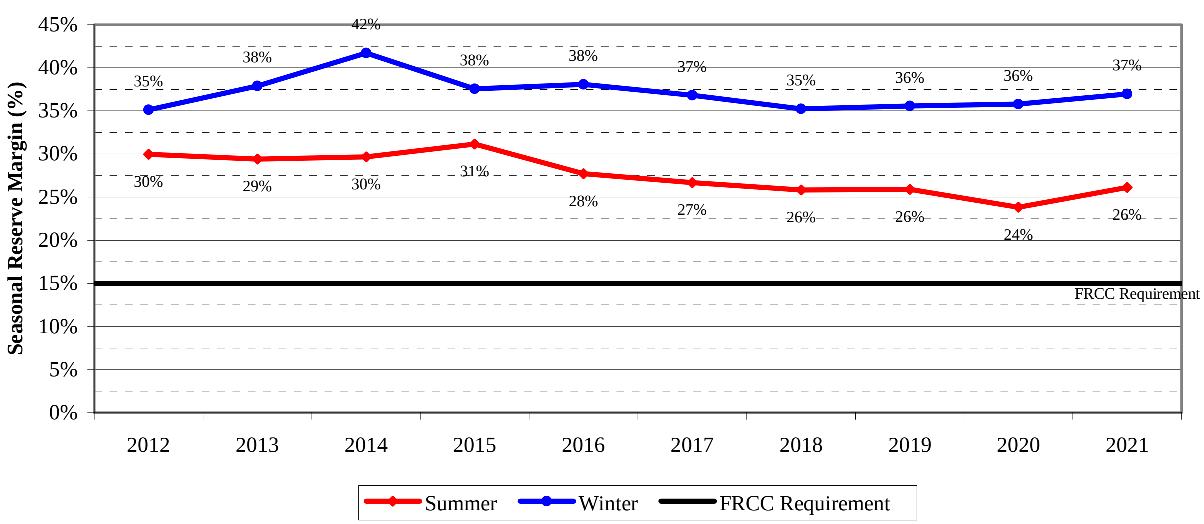
Reserve Margin Requirements

In order to maintain stability in the electric system, utilities must constantly adjust system output to match demand from moment to moment. As demand fluctuates, utilities must generate the precise amount of electrical power that will keep the system in balance while also performing periodic maintenance on its generating units. In addition, utilities must be prepared at any moment to meet unforeseen circumstances, such as extreme weather events or unit outages. Therefore, each utility must maintain a certain amount of "extra" or reserve capacity in the event that demand rises above or supply drops below forecasted levels. This additional amount of generating capacity is expressed as a percentage of firm demand and is referred to as the reserve margin.

Reserve margins in Florida typically remain well above the FRCC minimum of 15 percent for most of the year, and usually will only approach minimum levels in the summer peak season when air conditioning loads are at their highest levels. The higher margins during winter peak seasons are also due to the fact that generating units can operate at a higher capacity in colder temperatures. The three largest IOUs, FPL, PEF, and TECO, were party to a stipulation approved by the Commission setting a 20 percent reserve margin planning criterion.

The values in Figure 11 below include both supply-side and demand-side contributions, and shows that planning is mostly controlled by summer peak demand. It should be noted that the figure below is for the State of Florida, and therefore contains generating capacity outside of the FRCC region.

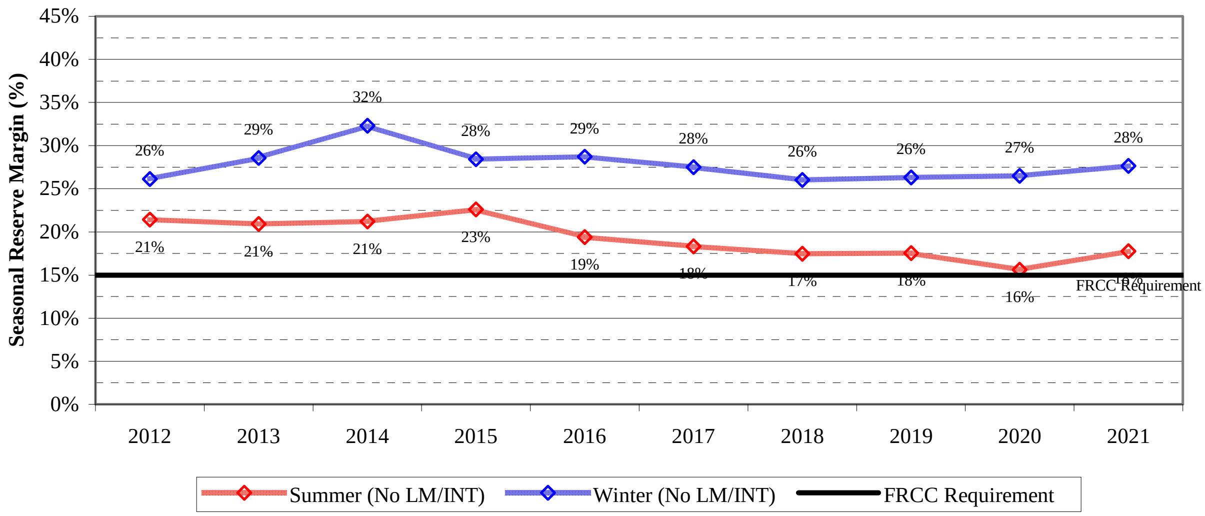
Figure 11. State of Florida: Seasonal Reserve Margin (With LM/INT)



Source: FRCC 2012 Load and Resource Plan

It should be noted that the reserve margin figures above are calculated using the net firm system demand, which assumes full use of interruptible load and load management devices to reduce peak demand. Participation in interruptible rates and load management programs are voluntary, for which incentives are provided in the form of lower rates or credits paid to the participant. As shown in Figure 12 below, the state as a whole has sufficient generation capacity planned throughout the period to meet the minimum reserve margin of 15 percent without relying on interruptible and load management customers.

Figure 12. State of Florida: Seasonal Reserve Margin (Without LM/INT)

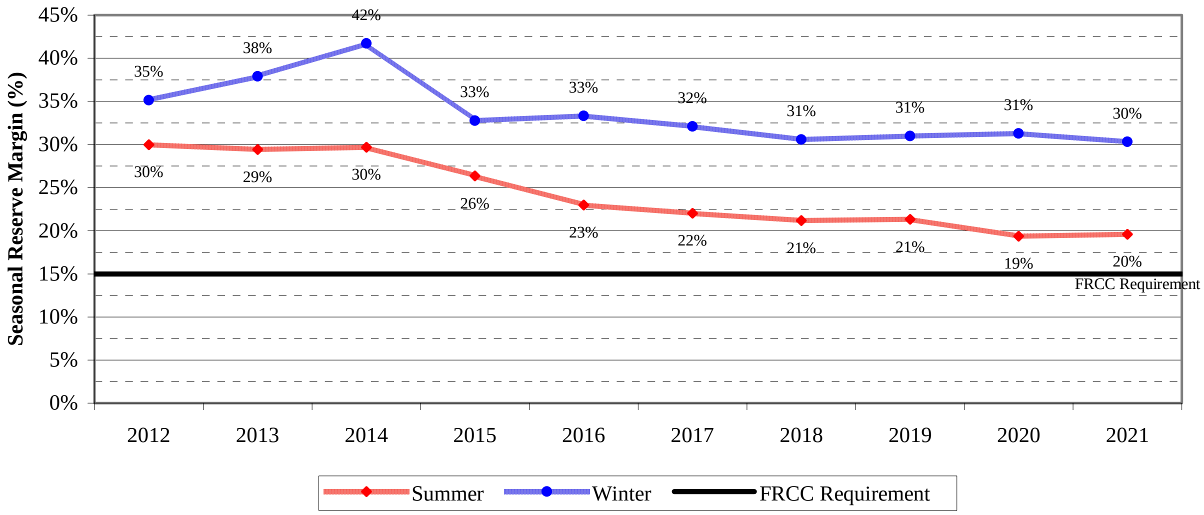


Source: FRCC 2012 Load and Resource Plan

The previous two figures have assumed that the expansion plans filed in the utilities TYSPs will continue as planned. Since the filing of the 2012 TYSPs, PEF has delayed the in-service date of the Levy 1 nuclear unit outside of the planning period. Staff is also aware of the long-term outage at PEF's CR3 nuclear unit, which is currently offline and scheduled to return to service in November 2014 if repaired. Retirement remains an open option for this unit in the event it is determined to be uneconomic to repair, which would have an impact on the statewide reserve margin. In addition, several coal-fired plants were identified at the Commission's Workshop on the 2012 Ten-Year Site Plans, which if retired would further decrease the state's reserve margin.[3] Figure 13 shows the total impact of the delay or potential retirement of all the units discussed above and that the state should still retain sufficient generating capacity. The potential impacts to PEF and GULF are discussed in the individual utility section of the report.

[3] Specifically, PEF's Crystal River 1 and 2 and GULF's Lansing Smith 1 and 2.

Figure 13. State of Florida: Seasonal Reserve Margin After Potential Unit Retirements (With LM/INT)



Source: FRCC 2012 Load and Resource Plan, Staff Calculation

Federal Legislation

In 1978, the U.S. Congress enacted the Public Utility Regulatory Policies Act (PURPA)[4]. PURPA endorsed three broad national purposes: (1) conservation of electric energy, (2) increased efficiency in the use of facilities and resources by electric utilities, and (3) equitable rates for electricity consumers. Section 210 of Title II, entitled "Cogeneration and Small Power Production," required electric utilities to interconnect and sell electric energy to qualifying cogeneration and small power production facilities, referred to as Qualifying Facilities, or QFs, and to purchase electric energy from these facilities at the utility's full avoided cost. The Federal Energy Regulatory Commission (FERC) subsequently adopted rules to implement PURPA. In addition, states were delegated authority to implement the FERC rules for electric utilities over which they have rate making authority.[5] In 1980, the FERC issued its rules establishing the criteria for determining the qualifying status of a facility and setting out regulations for electric utility interconnection with QFs, along with sales to and purchases from QFs.[6]

State Legislation

In 1981, the Florida Legislature authorized the Commission to establish guidelines for the purchase and sale of capacity and energy from cogenerators and small power producers, which includes renewable generators. In 1989, the statutes were broadened with the enactment of Section 366.051, F.S., which provides, in part, the following:

> Electricity produced by cogeneration and small power production is of benefit to the public when included as part of the total energy supply of the entire electric grid of the state or consumed by a cogenerator or small power producer. The electric utility in whose service area a cogenerator or small power producer is located shall purchase, in accordance with applicable law, all electricity offered for sale by such cogenerator or small power producer; or the cogenerator or small power producer may sell such electricity to any other electric utility in the state. The Commission shall establish guidelines relating to the purchase of power or energy by public utilities from cogenerators or small power producers and may set rates at which a public utility must purchase power or energy from a cogenerator or small power producer. In fixing rates for power purchased by public utilities from cogenerators or small power producers, the Commission shall authorize a rate equal to the purchasing utility's full avoided costs. A utility's "full avoided costs" are the incremental costs to the utility of the electric energy or capacity, or both, which, but for the purchase from cogenerators or small power producers, such utility would generate itself or purchase from another source.

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[4] Public Law 95-617 (HR 4018) November 9, 1978.
[5] PURPA at Title II, section 210(f); In Florida, the Florida Public Service Commission has ratemaking jurisdiction over five investor-owned electric utilities: Florida Power & Light Company (FPL), Progress Energy Florida (PEF), Gulf Power Company (Gulf), Tampa Electric Company (TECO), and Florida Public Utilities Company (FPUC).
[6] 18 C.F.R. 292.101 through 18 CFR 292.602.

In 2005, the Legislature enacted Section 366.91, F.S., which requires IOUs to continuously offer purchase contracts to producers of renewable energy, and adopts the avoided cost standard as defined in Section 366.051, F.S. Section 366.91, F.S., also defines the term "renewable energy" as follows:

> "Renewable energy" means electrical energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen produced from sources other than fossil fuels, biomass, solar energy, geothermal energy, wind energy, ocean energy, and hydroelectric power. The term includes the alternative energy resource, waste heat, from sulfuric acid manufacturing operations and electrical energy produced using pipeline-quality synthetic gas produced from waste petroleum coke with carbon capture and sequestration.

Commission Rules

Renewable facilities are permitted to enter into two types of contractual agreements for selling power: standard offer and negotiated contracts. Under these contracts, the energy can be sold as either "firm" or "as-available," depending on the characteristics of the output of the facility. When the output is continuous, except for occasional shutdowns for maintenance and repair, the utility also makes payments for the dependable capacity. These contract and payment options are outlined in Rules 25-17.0825 and 25-17.0832, F.A.C.

Standard Offer Contracts

Standard offer contracts are pre-approved contracts for the purchase of firm capacity and energy from any renewable generating facility or small QF. Rule 25-17.230, F.A.C., requires each investor-owned electric utility to establish a standard offer contract for each fossil-fueled generating unit type identified in the utility's TYSP. The renewable energy generator is allowed to select from a number of payment options that best fits its financing requirements as long as the total cumulative present value of such payments does not exceed full avoided cost, and adequate security for front-end loaded payments is provided. For example, the Commission rules allow for levelized payments over the life of the contract which may include both capacity and energy costs.

Negotiated Contracts

Renewable generating facilities are encouraged to negotiate purchased power contracts with IOUs pursuant to Rule 25-17.240, F.A.C. Payments made to a qualified renewable generator under a negotiated contract may be recovered from ratepayers by the purchasing utility as long as the cumulative present value of the payments does not exceed the utility's full avoided cost and adequate security for front-end loaded payments is provided.

Renewable Payment Types

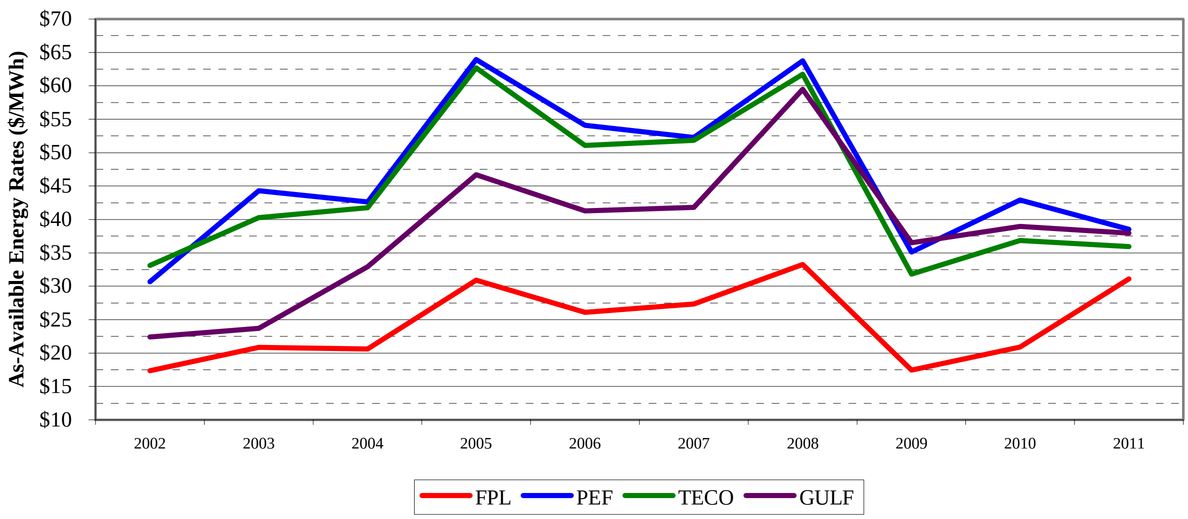
Pursuant to current state and federal law, payments made by utilities to generation facilities using renewable energy sources are capped at the utility's avoided cost for capacity and energy.

Firm capacity payments: Firm capacity is capacity (MW) produced and sold by a renewable energy generator pursuant to a standard offer contract or a negotiated contract subject to contractual commitments as to the quantity, time, and reliability of delivery. Firm capacity is purchased at a rate specified in a contract which is equal to the utility's avoided capacity cost or at a negotiated rate which may not exceed the utility's avoided capacity cost. Full avoided cost is calculated by determining the cumulative present value of a year-by-year value of deferring each avoided unit over the term of the contract.

Firm energy payments: Firm energy is energy (kWh) produced and sold by a renewable energy generator pursuant to a negotiated contract or a standard offer contract subject to contractual commitments as to the quantity, time, and reliability of delivery. Generally, the rate of payment for firm energy, in cents per kWh, is the lesser of the fuel cost associated with the avoided unit or the utility system's incremental fuel cost.

As-available energy payments: As-available energy is energy (kWh) produced and sold by a renewable energy generator on an hour-by-hour basis for which contractual commitments as to the quantity, time, or reliability of delivery are not required. As-available energy is purchased at a rate in cents per kilowatt hour (kWh) equal to the utility's hourly incremental system fuel cost, which reflects the highest fuel cost of generation dispatched each hour. No capacity payments are made for as-available energy because no reliability benefits are received. Figure 14 below illustrates historic as-available energy payments from the investor-owned TYSP utilities for the period 2002 through 2011. When natural gas prices spiked in 2008, averaging $10/MMBtu, as-available energy rates rose as well. As natural gas prices have declined since 2008, as-available energy rates have also decreased.

Figure 14. Investor Owned Utilities: Average Annual As-Available Energy Rates



Source: Responses to Staff Data Requests

Renewable Resource Outlook

In 2003, the Commission, in consultation with the DEP, completed the 2003 Renewable Energy Assessment Report to identify renewable energy viability in Florida. According to the report, the most feasible sources of renewable energy in Florida are from biomass materials, such as agricultural waste products or wood residues, and industrial waste heat. The 2003 report also stressed that technical feasibility does not ensure economic cost-effectiveness when determining energy resource production.

The Commission, in conjunction with the U.S. Department of Energy and the Lawrence Berkeley National Laboratory, retained Navigant Consulting, Inc. to prepare a detailed assessment of Florida's renewable potential. The 2008 Navigant Consulting Renewable Energy Potential Assessment (the 2008 Navigant Consulting Report) reported on the existing renewable conditions and the projected potential for renewable development in Florida through 2020, compared cost-effective differences, and considered the potential levels of economic impact future renewables may have. The 2008 Navigant Consulting Report substantiated the Commission's 2003 assessment by observing that the majority of Florida's existing renewables consist of solid biomass plants and municipal solid waste facilities. Although the 2008 Navigant Consulting Report considered solar technologies to have the largest technical potential of any renewable resource in Florida, only a portion of this potential can actually be economically achieved at this time.

The 2008 Navigant Consulting Report described the comparison of the technical or physical potential versus the achievable potential for renewable energy development in Florida. For example, although the technical potential for solar power in Florida may be relatively high according to Navigant Consulting, cost-effectiveness and siting issues significantly reduce the achievable potential to commercially develop solar energy technology. The driving forces to the expansion and sustainability of the renewable market depend on the overall value of renewable energy, a basis that is determined by the financial environment as well as government regulation and support. As noted in the 2008 Navigant Consulting Report, a favorable scenario for the renewable market which has meaningful growth in Florida assumed the following:

1. High fossil fuel costs
2. Access to low cost capital and debt rates
3. Continual government rebate programs and tax incentives
4. Established pricing of CO_2 emissions
5. Formation of a Renewable Energy Certificate (REC) market

Since the 2008 Navigant Consulting Report was completed, economic and policy conditions have not been favorable for future renewable development. Specifically, Navigant Consulting assumed in their 2008 natural gas costs to be $11-$14/MMBtu in the favorable scenario. Natural gas is currently trading at approximately $2.95/MMBtu. Most forecasts project natural gas prices to gradually increase over the long term.

In the favorable scenario, Navigant assumed the estimated cost of debt to be approximately 6.5 percent, the cost of equity approximately 10 percent, and ready access to debt would make up 70 percent of renewable project financing. Currently credit markets are still tight for small businesses, and obtaining financing for renewable energy projects will be much more difficult for a smaller company than for a large utility.

In the favorable scenario, Navigant Consulting estimated that Florida's solar rebate program would expire in 2020, with a $10 million annual funding level. The Florida Energy and Climate Commission was authorized to provide $25.4 million in rebates for solar energy equipment between 2006 and 2009. Currently the authorized budget has been depleted. Also, the favorable scenario for carbon pricing assumes $2/ton initially, then scaling to $50/ton by 2020. Currently, there is no federal or state policy establishing carbon pricing. The favorable scenario also envisioned the creation of a Renewable Energy Credit (REC) market, with REC prices of approximately $18/MWh initially, decreasing to $11/MWh by 2020. At this time, no Renewable Energy Credit market has been established in Florida.

Table 6 below compares selected assumptions included in Navigant's favorable scenario and current market conditions. As detailed in the table, most current market conditions are not aligned with Navigant's favorable scenario for renewable generation development.

Table 6. State of Florida: Market Outlook for Renewable Energy

Market Area	2008 Navigant Consulting Report Favorable Scenario	Current Market Conditions
Natural Gas Prices ($/MMBTU)	$11 - $14	$3 - $4
Access to Capital & Debt	Available at Low Cost	Credit Markets Tight
Florida Solar Rebate Program	Expires in 2020, $10M/year	No Funds Allocated
CO2 Emissions Pricing ($/ton)	$2 (2009) to $50 (2020)	No pricing established
Renewable Energy Certificates ($/MWh)	$18 (2009) to $11 (2020)	No REC Market established

Source: 2008 Navigant Consulting Report, Responses to Staff Data Requests

Existing Renewable Resources

Currently, renewable energy facilities provide approximately 1,400 MW of gross electric generation capacity as reported by the FRCC. Compared to figures in the 2011 Ten-Year Site Plan Review, existing renewable generation facilities have increased by approximately 120 MW, or 9 percent. Table 7 summarizes Florida's existing renewable resources.

Table 7. State of Florida: Existing Renewable Generation Capacity

Renewable Type	Capacity (MW)
Solar	143.3
Wind	0.0
Biomass	401.5
Municipal Solid Waste	453.7
Waste Heat	297.1
Landfill Gas	58.4
Hydro	55.7
Total	**1,400**

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Firm Capacity Contracts

Roughly 28 percent of all renewable capacity in Florida is from renewable generators with firm capacity contracts, which are required to provide a particular amount of capacity for a specified period of time pursuant to contractual obligations. Approximately 78 percent of this renewable capacity consists of municipal solid waste (MSW) facilities. Although the majority of firm capacity is purchased by investor-owned utilities, a significant portion (137.8 MW) is purchased by Seminole Electric Company (SEC).

Table 8 lists the existing renewable generators that provide firm capacity. Significant changes in the firm contracts since 2011 include rerates from FPL's Palm Beach County Facility, SEC's Lee County Resource Recovery Facility, and a new contract agreement for firm energy between McKay Bay Waste to Energy Facility with SEC.

Table 8. State of Florida: Firm Renewable Resources

Purchasing Utility	Facility Name	Fuel Type	Gross Capacity* (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	(Wheelabrator) Broward-South	MSW	68	1987
FPL	(Wheelabrator) Broward-North	MSW	62	1992
FPL	Solid Waste Authority of Palm Beach	MSW	40	2005
PEF	Pinellas County Resource Recovery	MSW	61.7	1983
PEF	Lake County Resource Recovery	MSW	14.8	1990
PEF	Dade County Resource Recovery	MSW	43	1991
PEF	Pasco County Resource Recovery	MSW	26	1991
PEF	Ridge Generating Station	WDS	39.6	1994
	Subtotal of IOUs		**227.7**	
Municipal Utilities				
GRU	G2 Energy	LFG	4	2008
GRU	Solar FIT Program/Net Meter	SUN	26.8	2009
JEA	Trailridge	LFG	9	2008
	Subtotal of Municipals		**22.3**	
Cooperative Utilities				
SEC	Lee County Resource Recovery	MSW	50	1999
SEC	Telogia Power, LLC	WDS	13	2004
SEC	Seminole Landfill	LFG	6.2	2007
SEC	Brevard Energy	LFG	9	2008
SEC	Timberline Energy	LFG	1.6	2008
SEC	Hillsborough Waste to Energy	MSW	42.6	2010
SEC	McKay Bay Waste to Energy	MSW	22	2011
	Subtotal of Cooperatives		**137.8**	
	Total		**387.8**	

*The capacity listed here represents the gross capacity of the unit, which may be in excess of the contracted firm capacity of the generating unit.
Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Non-Firm Renewable Energy Generators

In addition to the 387.8 MW of firm capacity described in Table 8 above, renewable energy facilities with a total capacity of 680.7 MW produce energy for sale to utilities on an as-available basis. Energy purchased on an as-available basis is considered non-firm capacity, and therefore cannot be counted on by Florida's utilities for reliability purposes. The energy produced by these providers, however, does contribute to the avoidance of burning fossil fuels in existing generators. Table 9 details the various non-firm energy contracts.

Table 9. State of Florida: Non-Firm Renewable Resources

Purchasing Utility	Facility Name	Fuel Type	Gross Capacity (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	New Hope / Okeelanta	AB	130	1991
FPL	Georgia Pacific	WDS	56.8	1995
FPL	Tomoka Farms	LFG	3.8	1998
FPL	MMA FLA LP	SUN	0.3	2007
FPL	WM Renewable Energy	LFG	8	2010
PEF	Potash Of Saskatchewan	WH	44.2	1986
PEF	Buckeye	WDS	52.3	1993
PEF	G2	LFG	3.5	2008
TECO	Mosaic: South Pierce	WH	30	1969
TECO	Mosaic: New Wales	WH	79	1984
TECO	CF Industries	WH	34.9	1988
TECO	City Of Tampa Sewage	OBG	1.5	1989
TECO	Mosaic: Ridgewood	WH	62	1992
TECO	Mosaic: Millpoint	WH	47	1995
GULF	Stone Container	AB	25	1960
GULF	International Paper Company	WDS	56	1983
GULF	Bay County Solid Waste	MSW	13.6	2008
	Subtotal of IOUs		**647.9**	
Municipal Utilities				
FMPA	US Sugar Corporation	AB	26.5	1984
LAK	Lakeland Center (Solar)	SUN	0.3	2010
OUC	Regenesis Stanton Energy Center	SUN	6	2011
	Subtotal of Municipals		**32.8**	
	Total		**680.7**	

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Utility-Owned Renewable Facilities

Several utilities also own renewable facilities, primarily solar generation, landfill gas, and hydroelectric technologies. Table 10 lists some of the larger utility-owned resources, which consist mostly of non-firm or intermittent resources.

Table 10. State of Florida: Utility Owned Renewable Generation

Purchasing Utility	Facility Name	Fuel Type	Gross Capacity (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	DeSoto	SUN	25	2009
FPL	Martin	SUN	75	2010
FPL	Space Coast Next Generation	SUN	10	2010
GULF	Perdido 1	LFG	1.8	2010
GULF	Perdido 2	LFG	1.8	2010
	Subtotal of IOUs		**113.6**	
Municipal Utilities				
JEA	North Landfill	LFG	1.5	1997
JEA	Girvin Landfill	LFG	1.2	1999
JEA	Buckman	OBG	0.8	2003
OUC	Co-Fired Stanton Energy Center	LFG	7	1998
TAL	Corn Hydro	WAT	12.2	1985
	Subtotal of Municipals		**22.7**	
Other Utilities				
UCEM	Jim Woodruff	WAT	43.5	1957
	Subtotal of Other		**43.5**	
	Total		**179.8**	

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Because most of the energy produced is non-firm, the majority of these renewable facilities serve more to reduce fossil fuel consumption than to provide system capacity. Among some of the recent notable additions to utility-owned renewables are the construction and operation of three solar generators by FPL in 2009 and 2010. The DeSoto, Martin, and Space Coast facilities are currently the largest solar facilities in Florida.[7] Also in 2010, GULF commissioned two landfill gas generation facilities, Perdido 1 and 2, to provide that utility with a total renewable gross capacity of 3.6 MW.

Existing Net Metering

Net metering is an arrangement between a utility and a customer with renewable generation capability whereby the customer's energy usage is offset, or credited, by the amount of energy generated. The customer will be billed for any net energy consumed that exceeds the energy generated.

In April 2008, the Commission amended Rule 25-6.065, F.A.C., on interconnection and net metering for customer-owned renewable generation. The rule requires the IOUs to offer net metering for all types of renewable generation up to 2 MW in capacity and a standard interconnection agreement with an expedited interconnection process. Customers benefit from

[7] The DeSoto and Space Coast facilities are direct energy-producing photovoltaic facilities, whereas the Martin facility uses thermal heat to create replacement steam for a pre-existing steam turbine usually supplied through fossil fuel generation.

such renewable systems by reducing their energy purchases from the utility and potentially selling excess energy to the utility.

The Commission's rule requires all electric utilities to annually report data associated with interconnection and net metering programs. Data submitted in April 2010 show that the number of customers owning renewable generation systems in Florida continues to grow. Statewide, a total of 29.3 MW of solar photovoltaic (PV) capacity from 3,994 systems have been installed, up from 2.8 MW produced by 537 systems in 2008. Table 11 displays the information on customer-owned renewable generation for 2011 reported by Florida's utilities.

Table 11. State of Florida: Customer Owned Renewable Generation

Utility Type	Connections	Non-Firm Capacity (MW)
Investor-Owned	2,826	20.4
Municipal	615	5.0
Rural Electric Cooperatives	553	3.9
Total	**3,994**	**29.3**

Sources: 2012 Interconnection and Net Metering of Customer-Owned Generation Report

Planned Renewables Additions

Florida's utilities plan to construct or purchase an additional 957 MW of renewable generation over the ten-year planning period. The expected major contributors to actual energy generation are planned biomass resources. Table 12 summarizes the overall proposed planned increases by generation type of all utilities. The largest source of planned renewable generation comes in the form of non-firm solar capacity built by a single vendor, National Solar. The company has as-available energy contracts with PEF, and as they have no capacity portion, are not considered for reliability purposes.

Table 12. State of Florida: Planned Renewable Resource Net Additions

Fuel Type	Capacity (MW)
Solar	**553.4**
Wind	**0**
Biomass	**321**
Municipal Solid Waste	**70**
Waste Heat	**0**
Landfill Gas	**13**
Hydro	**0**
Total	**957.4**

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

As of January 2012, firm capacity contracts represent 39 percent of total planned renewable additions. Table 13 and Table 14, provide detailed lists of the renewable resources planned for construction in Florida over the ten-year planning horizon. Table 13 shows that, of the renewable firm capacity planned over the ten-year horizon, the majority is woody biomass that will be purchased by PEF and GRU.

Table 13. State of Florida: Planned Firm Renewable Resources

Purchasing Utility	Facility Name	Fuel Type	Gross Capacity* (MW)	Commercial In-Service Date
Investor-Owned Utilities				
PEF	FB Energy	AB	60	2013
PEF	Trans World Energy	WDS	40	2013
PEF	US EcoGen	WDS	60	2014
FPL	Solid Waste Authority of Palm Beach	MSW	70	2016
	Subtotal of IOUs		**230**	
Municipal Utilities				
JEA	Trailridge	LFG	9	2012
OUC	Port Charlotte	LFG	4	2012
OUC	Harmony	WDS	5	2012
GRU	American Renewables LLC	WDS	116	2013
GRU	Solar FIT Program	SUN	9.3	2021
	Subtotal of Municipals		**143.3**	
	Total		**373.3**	

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Table 14 shows that most of the non-firm capacity planned in Florida will be purchased by PEF, primarily from National Solar, discussed above.

Table 14. State of Florida: Planned Non-Firm Renewable Resources

Purchasing Utility	Facility Name	Fuel Type	Capacity (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	INEOS Bio	AB	2	2011
PEF	Eliho	WDS	8	2011
PEF	E2E2	WDS	30	2012
PEF	Blue Chip Energy #1	SUN	50	2013
PEF	National Solar #5-10	SUN	450	2021
All IOUs	Solar Installations (Aggregate)	SUN	0.1	2021
	Subtotal of IOUs		**540.1**	
Municipal Utilities				
OUC	CNL/City Hall	SUN	0.4	2012
OUC	GSLD Solar	SUN	0.8	2012
TAL	SDA	SUN	2	2012
TAL	SolarSink	SUN	0.5	2012
TAL	SunnyLand Solar	SUN	1	2012
LAK	Regenesis Power	SUN	15	2016
LAK	SunEdision	SUN	24	2017
All Munis	Solar Installations (Aggregate)	SUN	0.2	2021
	Subtotal of Municipals		**43.9**	
	Total		**584**	

Sources: FRCC 2012 Load and Resource Plan, Responses to Staff Data Requests

Updated Navigant Consulting Report

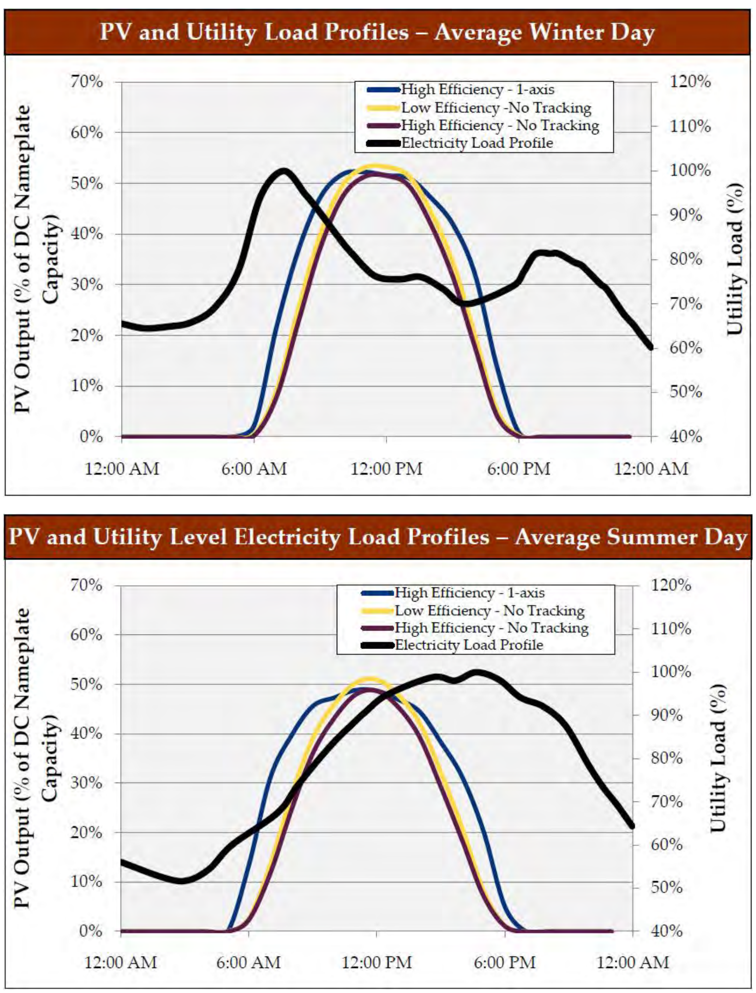
The Commission contracted with Navigant Consulting in early 2010 to update its 2008 analysis with current conditions. In June 2010, Navigant Consulting released new comparisons of cost estimates for different renewable generating facilities. Navigant Consulting also provided additional detail pertaining to Florida's renewable resource which it identified as having the most technical potential for growth, solar PV facilities. Findings from the report are summarized below.

In the 2010 Navigant Consulting Report Update, the most meaningful findings include changes in prices of renewable technologies. PV module prices have fallen and commodity costs for PV units have decreased during the recession, but both are returning to near their pre-recession levels. Wind power prices have also decreased due to the recession, while utility turbine prices have risen as worldwide demand catches up with supply. According to the 2010 Navigant Consulting Report Update, no large performance breakthroughs occurred for any technology. Because Navigant Consulting found solar resources to hold the most potential in Florida, the remainder of the 2010 Navigant Consulting Report Update focuses on solar power.

The 2010 Navigant Consulting Report Update estimates that solar power systems have increased in efficiency while overall prices have decreased up to 40 percent since 2008. In spite of these changes, solar power systems continue to have some of the highest capital costs per kW of any renewable generating system. Varying the methods of using solar energy involving solar tracking technology and alternating solar film receptors produces a slight range of energy output and net capacity factors. In addition, the ability of solar PV systems to provide energy are limited to daytime hours. Supplemental battery storage units may alleviate this issue, but the costs of batteries are not included in Navigant Consulting's estimates.

Even with these advancements, capacity factors of solar panels are projected to remain below 25 percent. Such results indicate that solar PV facilities operate more like a conventional peaking unit and will not replace the need for base-load generating facilities. However, Navigant Consulting also reported that operating characteristics for these systems do not correlate with daily peak load hours. As shown in Figure 15, Navigant Consulting estimates that the peak output from solar PV facilities reaches a maximum of approximately 50 percent of the rated capacity, and occurs after the system's winter peak hour and before the system's summer peak hour. As a result, a solar PV facility's ability to provide reliability benefits appears limited.

Figure 15. Solar PV Output and Utility Seasonal Load Profiles



Sources: 2010 Navigant Consulting Report Update

Current demand and energy forecasts continue to indicate that in spite of increased levels of conservation, energy efficiency, and renewable generation, the need for traditional generating capacity still exists. While reductions in demand have been significant, the total demand for electricity and the per-capita consumption is expected to increase, making the addition of traditional generating units necessary to satisfy reliability requirements and provide sufficient electric energy to Florida's consumers. Because any capacity addition has certain economic impacts based on the capital required for the project, and due to increasing environmental concerns relating to solid fuel-fired generating units, Florida's utilities must carefully weigh the factors involved in selecting a supply-side resource for future traditional generation projects.

In addition to traditional economic analyses, utilities also consider several strategic factors, such as fuel availability, generation mix, and environmental compliance prior to selecting a new supply-side resource. Limited supplies, access to water or rail delivery points, pipeline capacity, water supply and consumption, land area limitations, cost of environmental controls, and fluctuating fuel costs are all important considerations.

Gas fired units have almost exclusively been selected in recent years due to higher thermal efficiencies, lower capital costs, short periods for permitting and construction, and sometimes the smaller land areas required. With the recent decrease in fuel prices due to unconventional natural gas production using hydraulic fracturing, natural gas is the favored fuel for all traditional generating units with the exception of new nuclear units.

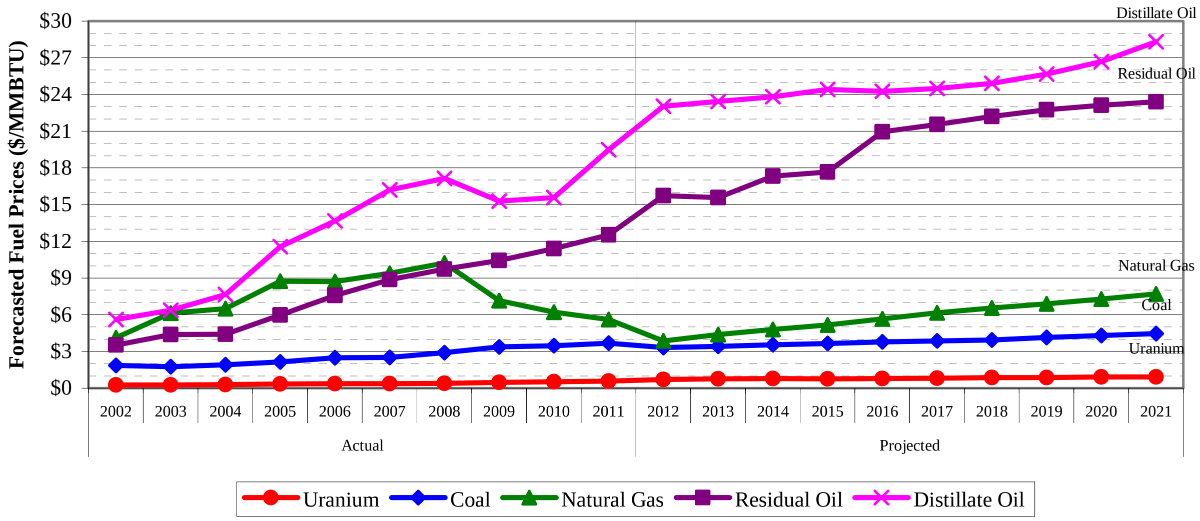
In the last ten years, almost 97 percent of all capacity additions to Florida's electric system use natural gas as the primary fuel. Coal units that were planned have been cancelled, and new nuclear units that have been approved have been delayed beyond the planning horizon. Currently, other than approximately 950 MW of renewable generation and 600 MW in uprates for existing nuclear units, all of the additional generation planned for the next ten years will use natural gas as a fuel source.

Fuel Price Forecasts

Fuel price forecast is the primary factor affecting the type of generating unit added by an electric utility. In general, the capital cost of a generating unit is inversely proportional to the cost of the fuel used to generate electricity from that unit. Historically, when the forecasted price difference between coal or nuclear and natural gas was small, the addition of a natural gas unit became the more attractive option. As the fuel price gap widened, a coal-fired or nuclear unit would normally be the more likely choice.

From 2003 to 2005, the price of natural gas was substantially higher than utilities had forecasted. This disparity led to concern regarding escalating customer bills and an expectation that natural gas prices would continue to be high and extremely volatile. As a result, Florida's utilities began making plans to build coal-fired units rather than continuing to increase the reliance on natural gas. However, as Figure 16 shows, the price of natural gas began to return to more historic levels after peaking in 2008, and has declined in the years since. Forecasts predict that gas prices will increase at a steady level throughout the planning horizon.

Figure 16. TYSP Utilities: Historic & Projected Weighted Average Fuel Prices ($/MMBtu)



Source: Responses to Staff Data Request

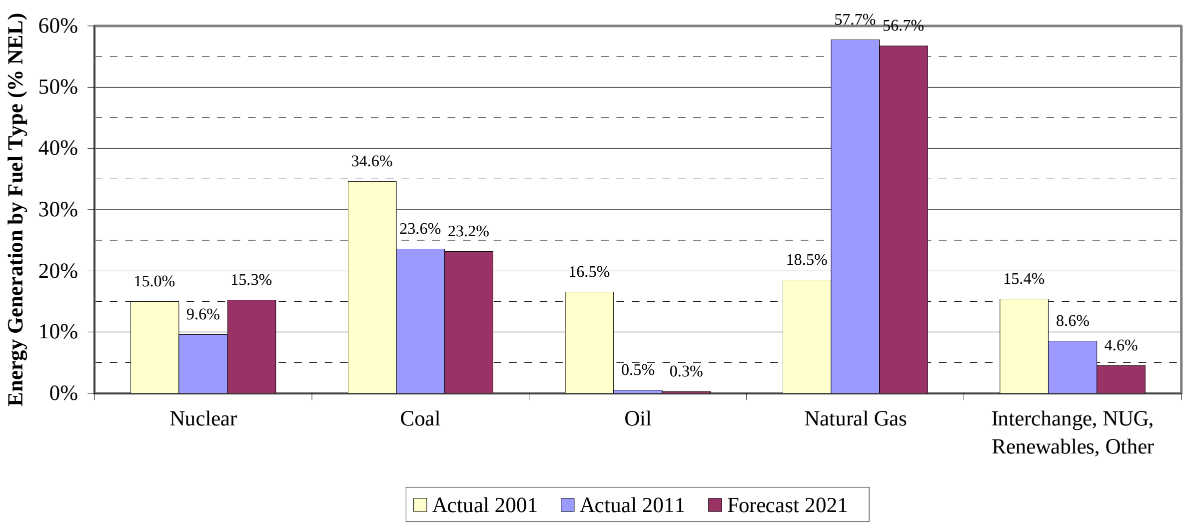
Previous TYSP reviews indicated that increases in gas prices may bring an end to the almost exclusive addition of natural gas-fired generation. As can be seen from Figure 16, the expectation of high prices for natural gas has not materialized and although it is forecasted to increase steadily, the rate of increase is more moderate than was previously contemplated.

Utility plans for a balanced fuel system have historically been highly dependent upon the accuracy of long-term fuel price forecasts, mostly due to the long lead times required for coal and especially nuclear generators. However, in recent years the options available to utilities for the addition of supply-side generation have been limited, and this situation seems unlikely to change at this time. Utilities will be faced with selecting technologies for new generation that will either continue to increase the already very high percentage of natural gas resources, or attempting to obtain approval for solid fuel resources that may have a negative near term rate impact.

Fuel Diversity

Natural gas has risen to become one of the dominant fuels in the state in the last ten years, displacing coal, and in 2011 generated more net energy for load than any two fuels combined in Florida. As Figure 17 shows, natural gas now makes up greater than 57.7 percent of electric energy consumed in Florida. Natural gas usage is anticipated to peak in 2012 at 62.4 percent, and then decline slightly to 56.7 percent by 2021.

Figure 17. State of Florida: Net Energy for Load by Fuel Type



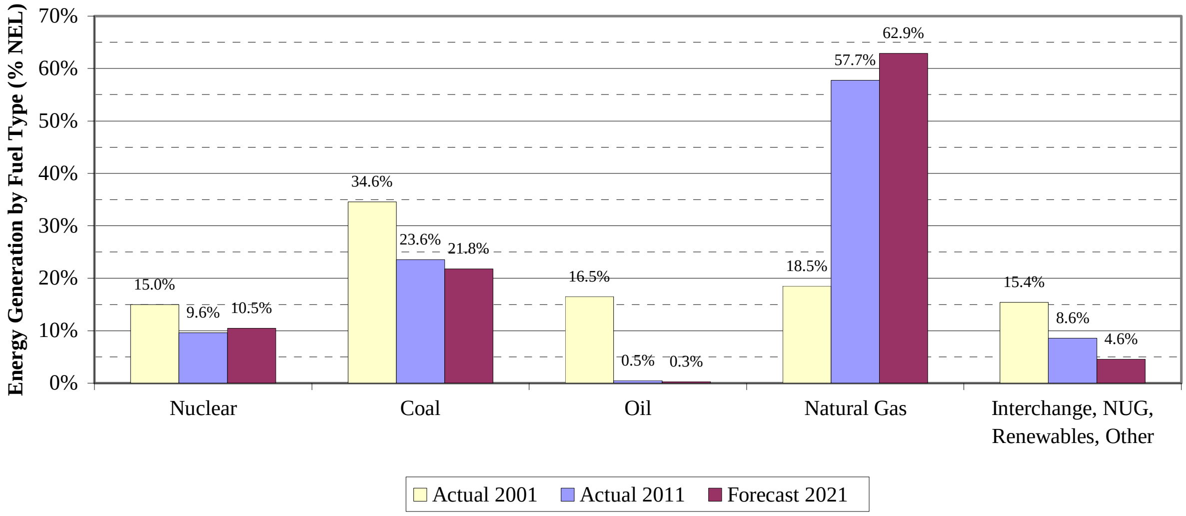
Source: FRCC 2002 and 2012 Load and Resource Plans

The anticipated decline in natural gas consumption by the end of the planning period is the result of increased nuclear generation and relatively stable contribution to NEL from coal-fired generation. Nuclear generation may decline from that projected in the FRCC 2012 Load and Resource Plan, primarily due to the delay of the Levy 1 nuclear unit, discussed below, and if the CR3 nuclear unit is retired instead of repaired. CR3 has been offline since 2009, following a delamination incident during a steam generator replacement project.

Coal generation, beyond the reduction in dispatch due to the cost-competitiveness of natural gas as a baseload fuel, faces challenges relating to new environmental compliance requirements. As discussed below, new EPA regulations will potentially require installation of new environmental controls, which could lead to the retirement of units if it is deemed uneconomic to upgrade its emission control equipment. During the 2012 TYSP Workshop, four coal units, PEF's Crystal River 1 & 2, and GULF's Lansing Smith 1 & 2, were identified by the Sierra Club/Earthjustice as potential units to consider retirement, though at this time all four are scheduled to remain in-service throughout the planning period.

If the projected generation associated with the nuclear and coal units discussed above is displaced by natural gas, it would have the net effect of increasing natural gas' share of state electric generation to 62.9 percent by 2021, as shown in Figure 18 below.

Figure 18. State of Florida: Net Energy for Load by Fuel Type After Generation Displacement



Source: FRCC 2002 and 2012 Load and Resource Plans, Utilities 2012 TYSPs, Responses to Staff Data Requests.

Because a balanced fuel supply can enhance system reliability and mitigate the effects of volatile fuel price fluctuations, it is important that utilities have the greatest possible level of flexibility in their generation fuel source mix. Although the Commission has cited the growing lack of fuel diversity within the State of Florida as a major strategic concern for the past several years, natural gas is anticipated to remain the dominant fuel over the planning horizon. Excluding renewables, all new generation facilities planned within the State of Florida over the ten-year period are natural gas-fired units.

Opportunities for Unit Modernization

Florida's generating fleet consists of incremental new additions to the historic base fleet, with units retiring as they become uneconomical to operate or maintain. Currently Florida's existing capacity ranges greatly in age and fuel type, and legacy investments continue.

While some units must be retired upon reaching the end of their economic life and cannot be refurbished, others have the potential for modernization. The modernization of existing generating units allows for significant improvement in both performance and emissions, typically at a price lower than new construction. Modernization typically involves the conversion of a generating unit from less efficient fossil steam generation to combined cycle operation. For some power plant sites, modernization does not involve using any of the existing generator units themselves, but rather the generation site's existing facilities such as transmission or fuel handling for an entirely new unit. For some steam units, generation output can be improved by installing more advanced equipment, such as the nuclear uprates discussed below. Other modernizations allow for changes in fuel type, or increased ability to use alternate fuels. Due to low natural gas price forecasts, the ability to run a unit on higher quantities of natural gas instead of fuel oil may be an economically viable option, even for an older generating unit.

Since the existing unit must be removed from service for a period of time, a utility's reliability is affected during the conversion process. As a result, scheduling modernizations during periods of temporary excess capacity is more desirable. With the forecasted decline in load, several of Florida's utilities may have sufficient reserve margins to allow some of their smaller units to be converted, and the upcoming ten-year planning horizon appears to be an ideal window for completing these types of projects. Not all sites are candidates for modernization due to site layout and other concerns, and to minimize rate impacts, modernization of existing units should be investigated before considering new construction. Utilities should continue to explore potential conversion projects and report the feasibility and economic viability of each conversion in next year's TYSPs and before any need determination filing.

In response to a staff data request, the TYSP utilities identified the following facilities as potentially capable of conversion. Table 15 below summarizes their responses for conversion from fossil steam generation. Additional units were identified for conversion from simple cycle combustion turbines to combined cycle units.

Table 15. State of Florida: Potential Steam Units for Modernization

Utility	Generating Unit Name	Fuel Type	Summer Capacity (MW)	Original In-Service Date	Modernization Type
FPL	Manatee Units 1 & 2	Oil / NG	1624	1976 - 1977	CC
FPL	Martin Units 1 & 2	Oil / NG	1652	1980 - 1981	CC
FPL	Sanford Unit 3	Oil / NG	138	1959	CC
FPL	Turkey Point Units 1 & 2	Oil / NG	788	1967 - 1968	CC
FPL	Cutler Unit 5 & 6	NG	205	1954 - 1955	CC
PEF	Anclote Units 1 & 2	NG / Oil	1011	1974 - 1978	CC
PEF	Suwannee River Units 1 - 3	NG / Oil	129	1953 - 1956	CC/RF
PEF	Crystal River Units 1 & 2	Coal	873	1966 - 1969	CC/IGCC
PEF	Crystal River Units 4 & 5	Coal	1422	1982 - 1984	CC/IGCC
GULF	Crist Units 4 & 5	Coal	150	1959 - 1961	Natural Gas
GULF	Scholz Units 1 & 2	Coal	92	1953	Biomass
JEA	SJRPP Units 1 & 2	Coal / Petcoke	626	1987 - 1988	CC
JEA	Northside Unit 3	NG / Oil	524	1977	CC

Source: Responses to Staff Data Request

The Commission has previously granted determinations of need for three conversions from fossil steam to combined cycle units. The approved conversions, located at FPL's Cape Canaveral, Riviera, and Port Everglades sites, represent a significant increase in generating capacity while reusing the plant site and reducing fuel usage and emissions. PEF has also recently conducted a conversion of its Bartow plant from fossil steam to a combined cycle unit. This conversion did not require a PPSA determination of need.

Impact of EPA Regulations

In addition to maintaining a fuel efficient and diverse fleet, Florida's utilities must also comply with changing environmental requirements. Within the past several years, the EPA has finalized or proposed several rules which will impact both existing and planned units within the state. Potential environmental requirements and their associated costs must be considered to fully evaluate any new supply-side resources, as well as the maintenance and dispatch of existing generating units.

While at this time no units are anticipated to be retired as a result of any of these regulations, they do represent an increase cost of operations. Each utility should evaluate whether these additional costs or limitations allow the continued economic operation of each impacted unit, and whether installation of emissions control equipment, fuel switching, or retirement is the proper course of action to maintain the lowest cost to customers and meet environmental requirements. Several of the TYSP utilities have provided preliminary estimates based upon known and proposed rule language, and are shown in Table 16 below.

Table 16. TYSP Utilities: Preliminary Estimates of EPA Rule Compliance Cost

Utility	Preliminary Total Cost Estimates* ($ Millions)
Florida Power & Light	$348 - $1,741
Progress Energy Florida	$165 - $1,330
Tampa Electric Company	$763
Gulf Power Company	$1,270 - $2,737
Florida Municipal Power Agency	$39
Gainesville Regional Utilities	Not Available
JEA	Not Available
Lakeland Electric	Not Available
Orlando Utilities Commission	$157
Seminole Electric Cooperative	Not Available
City of Tallahassee	$5
Total of All Utilities	**$2,747 - $6,772**

* These estimates are not final, and may not include all rules.
Source: Responses to Staff Data Request

Table 17 is a partial listing of notable units and their anticipated unit costs for compliance. At this time, several of the proposed EPA Rules are the subject of litigation, or have not yet produced a final rule. More precise data associated with compliance costs for all units is anticipated in future filings by the utilities once rules are finalized and environmental compliance methods are determined.

Table 17. TYSP Utilities: Preliminary Estimates of EPA Rule Compliance Costs by Unit

Primary Owner	Facility Name	Fuel	Net Summer Capacity	EPA Rule Impact ($ Million)				
				MATS[8]	CSPAR[9]	CWIS[10]	CCR[11]	Total
PEF	Anclote 1&2	Oil	1011	80	-	15-130	-	95-210
PEF	Bartow 4	NG	1,133	-	-	10-170	-	10-170
PEF	Crystal River 1&2	Coal	873	TBD	-	45-780	TBD	45-780
PEF	Crystal River 4&5	Coal	1422	5-50	-	2-5	TBD	7-55
PEF	Suwannee 1-3	Oil	129	-	-	5-75	-	5-75
TECO	Big Bend 1-4	Coal	1552	10	-	400	3-6	413-416
TECO	Polk 1	Coal	220	-	-	-	1-2.5	1-2.5
TECO	Bayside 1&2	NG	1,630	-	-	400	-	400
GULF	Daniel 1-2	Coal	510	310-617		1-2	110-210	421-829
GULF	Crist 4-5	Coal	150	40-305		26-47	170-450	236-802
GULF	Crist 6-7	Coal	756					
GULF	Smith 1-2	Coal	357	60-288		1-65	30-260	91-613
GULF	Scholz 1-2	Coal	92	6-97		1-50	160-180	167-327
OUC	Stanton 1&2	Coal	886	2	118	-	13	133
Total Impact			**10,721**	**631-1,557**		**904-2,124**	**487-1,122**	**2,024-4,813**

Source: Responses to Staff Data Request

Power Plant Siting Act

The Florida PSC is given exclusive jurisdiction by the Legislature, through the PPSA, to be the forum for determining the need for new electric power plants. Any proposed steam or solar generating unit of at least 75 MW requires certification under the Power Plant Siting Act.

Approximately 7,200 MW of new generating units are planned to enter service over the next 10-year period, consisting solely of natural gas-fired combustion turbines and combined cycle units. A majority of this capacity has already received a determination of need from the Commission or is exempted from the statutory requirements of the PPSA. Only 2,418 MW still requires certification, as shown in Table 18. TECO has recently issued a Request for Proposals (RFP) for its planned unit, a combined cycle conversion of several existing simple cycle combustion turbines at the Polk Power Station, and filed for a need determination on September 12, 2012.

[8] Mercury and Air Toxics Standards (MATS) Rule.
[9] Cross-State Air Pollution Rule (CSAPR)
[10] Cooling Water Intake Structures (CWIS) Rule
[11] Coal Combustion Residuals (CCR) Rule.

Table 18. State of Florida: Projected Units Requiring Power Plant Siting Act Certification

Utility	Generating Unit Name	Summer Capacity (MW)	Certification Dates		In-Service Date
			Need Approved (Commission)	PPSA Certified	
FPL	St. Lucie Unit 1 Uprate	129	01/2008	09/2008	05/2012
FPL	Turkey Point Unit 3 Uprate	123	01/2008	10/2008	06/2012
FPL	St. Lucie Unit 2 Uprate	84	01/2008	09/2008	10/2012
FPL	Turkey Point Unit 4 Uprate	123	01/2008	10/2008	02/2013
FPL	Cape Canaveral	1,210	09/2008	10/2009	06/2013
FPL	Riviera Beach	1,212	09/2008	11/2009	06/2014
PEF	Crystal River Unit 3 Uprate	154	02/2007	08/2008	11/2014
FPL	Port Everglades	1,277	04/2012	02/2013*	06/2016
TECO	Polk 2-5 CC	1,063	-	-	01/2017
PEF	Unknown	767	-	-	06/2019
SEC	Unnamed CC1	196	-	-	12/2020
SEC	Unnamed CC2	196	-	-	12/2020
SEC	Unnamed CC3	196	-	-	12/2021

*Estimated Date for Siting Board Hearing on Site Certification.
Source: Utilities 2012 TYSPs

Nuclear

Nuclear capacity, while an alternative to natural gas-fired generation, is capital-intensive and requires a long lead time to construct. Florida's utilities project an expansion of nuclear power in the state through uprates at existing nuclear power plants, and the construction of four new nuclear units. FPL's and PEF's TYSPs anticipate approximately 600 MW of capacity to be added by uprates.

While PEF's 2012 TYSP originally projected the in-service date for Levy Unit 1 in 2021, PEF's filing in Docket No. 120009-EI indicates that it will be delayed until 2024. Table 19 below provides a summary of nuclear capacity additions planned in the State.

Table 19. State of Florida: Projected Nuclear Uprates & New Units

Utility	Generating Unit Name	Summer Capacity (MW)	In-Service Date
Existing Nuclear Unit Uprates			
FPL	St. Lucie Unit 1	129	05/2012
FPL	Turkey Point Unit 3	123	06/2012
FPL	St. Lucie Unit 2	84	10/2012
FPL	Turkey Point Unit 4	123	02/2013
PEF	Crystal River Unit 3	154	11/2014
New Nuclear Units			
FPL	Turkey Point 6	1100	06/2022
FPL	Turkey Point 7	1100	06/2023
PEF	Levy 1	1092	06/2024
PEF	Levy 2	1092	06/2025

Source: Utilities 2012 TYSPs, Utilities filings in Docket 120009-EI

Natural Gas

With the exception of the aforementioned renewable and nuclear capacity, all remaining new generation comes in the form of natural gas fired combustion turbines or combined cycle units. The 2012 TYSPs include approximately 7,200 MW of natural gas-fired generation.

A total of 1,571 MW of natural gas-fired combustion turbine capacity is expected to enter service by 2021. Because these units are not steam-fired capacity, they do not require siting under the PPSA. A list of all combustion turbine units entering service is included in Table 20.

Table 20. State of Florida: Projected New Combustion Turbines

Utility	Generating Unit Name	Summer Capacity (MW)	In-Service Date
SEC	Unnamed CT1	158	12/2018
TECO	Future CT 1	149	05/2019
SEC	Unnamed CT2	158	12/2019
SEC	Unnamed CT3	158	12/2020
SEC	Unnamed CT4	158	12/2020
SEC	Unnamed CT5	158	12/2020
SEC	Unnamed CT6	158	05/2021
SEC	Unnamed CT7	158	12/2021
SEC	Unnamed CT8	158	12/2021
SEC	Unnamed CT9	158	12/2021

Source: Utilities 2012 TYSPs

The remainder of the natural gas-fired additions come from combined cycle units, which currently represent the most abundant type of generating capacity in the State of Florida, making up approximately a third of installed capacity in 2012. As combined cycles utilize steam generated from the waste heat of combustion turbines, they fall under the PPSA when they have greater than 75 MW of steam capacity. Table 21 below includes all combined cycle units planned to enter service by 2021. With these new additions (6,117 MW in total), natural gas-fired combined cycles will represent approximately half of all generation within the state.

Table 21. State of Florida: Projected New Combined Cycle Units

Utility	Generating Unit Name	Summer Capacity (MW)	In-Service Date
FPL	Cape Canaveral	1,210	06/2013
FPL	Riviera Beach	1,212	06/2014
FPL	Port Everglades	1,277	06/2016
TECO	Polk 2-5 CC	1,063	01/2017
PEF	Unknown	767	06/2019
SEC	Unnamed CC1	196	12/2020
SEC	Unnamed CC2	196	12/2020
SEC	Unnamed CC3	196	12/2021

Source: Utilities 2012 TYSPs

Transmission Capacity

As generation capacities increase, the transmission system must grow accordingly to maintain the capability of delivering the energy to the end user. The Commission has been given broad authority pursuant to Chapter 366, F.S., to require reliability within Florida's coordinated electric grid and to ensure the planning, development, and maintenance of adequate generation, transmission, and distribution facilities within the state.

The Commission has authority over certain proposed transmission lines under the Transmission Line Siting Act (TLSA). To require certification under Florida's TLSA, a proposed transmission line must meet the following criteria: a nominal voltage rating of at least 230 kV, crossing a county line, and a length of at least 15 miles. Proposed lines in an existing corridor are also exempt from TLSA requirements. The Commission determines the reliability need for and the proposed starting and ending points for lines requiring TLSA certification. The Commission must issue a final order granting or denying a determination of need within 90 days of the petition filing. The proposed corridor route is determined by the DEP during the certification process. Much like the PPSA, the Governor and Cabinet sitting as the Siting Board ultimately must approve or deny the overall certification of the proposed line.

Table 22 below lists all proposed transmission lines in the 2012 TYSPs that require TLSA certification. The Polk-Aspen-FishHawk line is directly associated with the combined cycle conversion at the Polk Power Station, and is anticipated to be reviewed concurrently.

Table 22. State of Florida: Proposed Transmission Requiring Transmission Line Siting Act Certification

Utility	Transmission Line	Line Length (Miles)	Nominal Voltage (kV)	Certification Dates		Commercial In-Service Date
				Need Approved (Commission)	TLSA Certified	
PEF	Intercession City - Gifford	13	230	09/2007	01/2009	05/2013
FPL	Manatee – Bobwhite	30	230	08/2006	11/2008	12/2014
FPL	St Johns – Pringle	25	230	05/2005	04/2006	12/2016
TECO	Polk-Aspen-FishHawk	62.5	230	-	-	01/2017

Source: FRCC 2012 Load & Resource Plan, Utilities 2012 TYSPs

Utility Perspectives

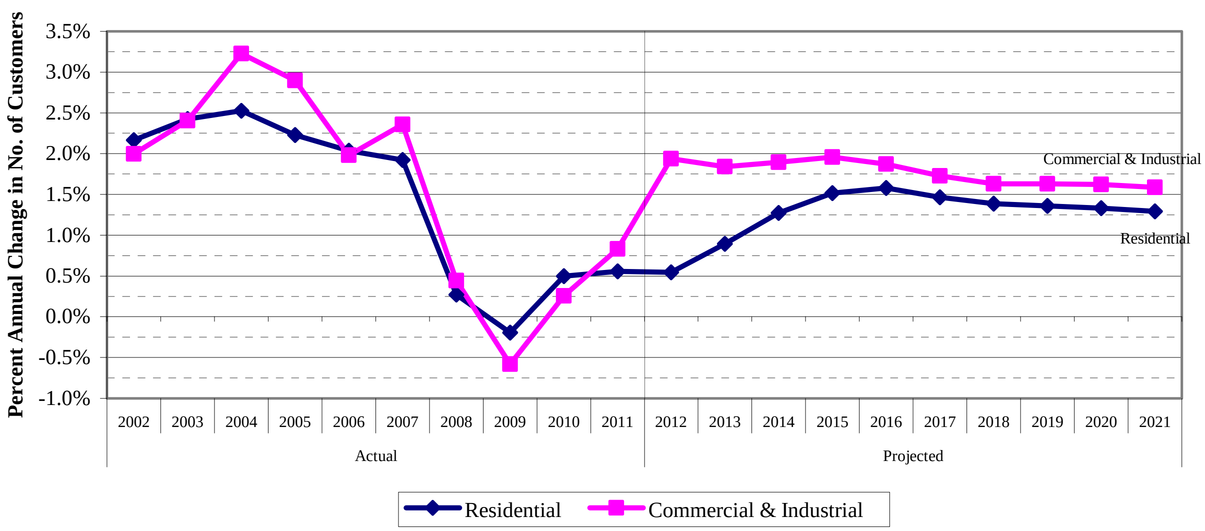
FPL is the state's largest electric utility. The utility's service territory is within the FRCC region, and is primarily in southern Florida and along the east coast. As FPL is an IOU, the Commission has regulatory authority over all aspects of operations, including rates and safety.

In 2011, FPL had an average of 4,547,051 customers, and had a total net energy for load of 103,327 GWh, approximately 47.3 percent of the NEL generated in the entire state last year.

Peak Demand and Energy Forecasts

FPL Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Positive growth is anticipated over the entire planning period, with an average annual growth rate (AAGR) of 1.39 percent. This compares to the actual AAGR of 2.27 for the period 2002 through 2007.

FPL Figure 1: Annual Customer Growth Rate by Customer Class



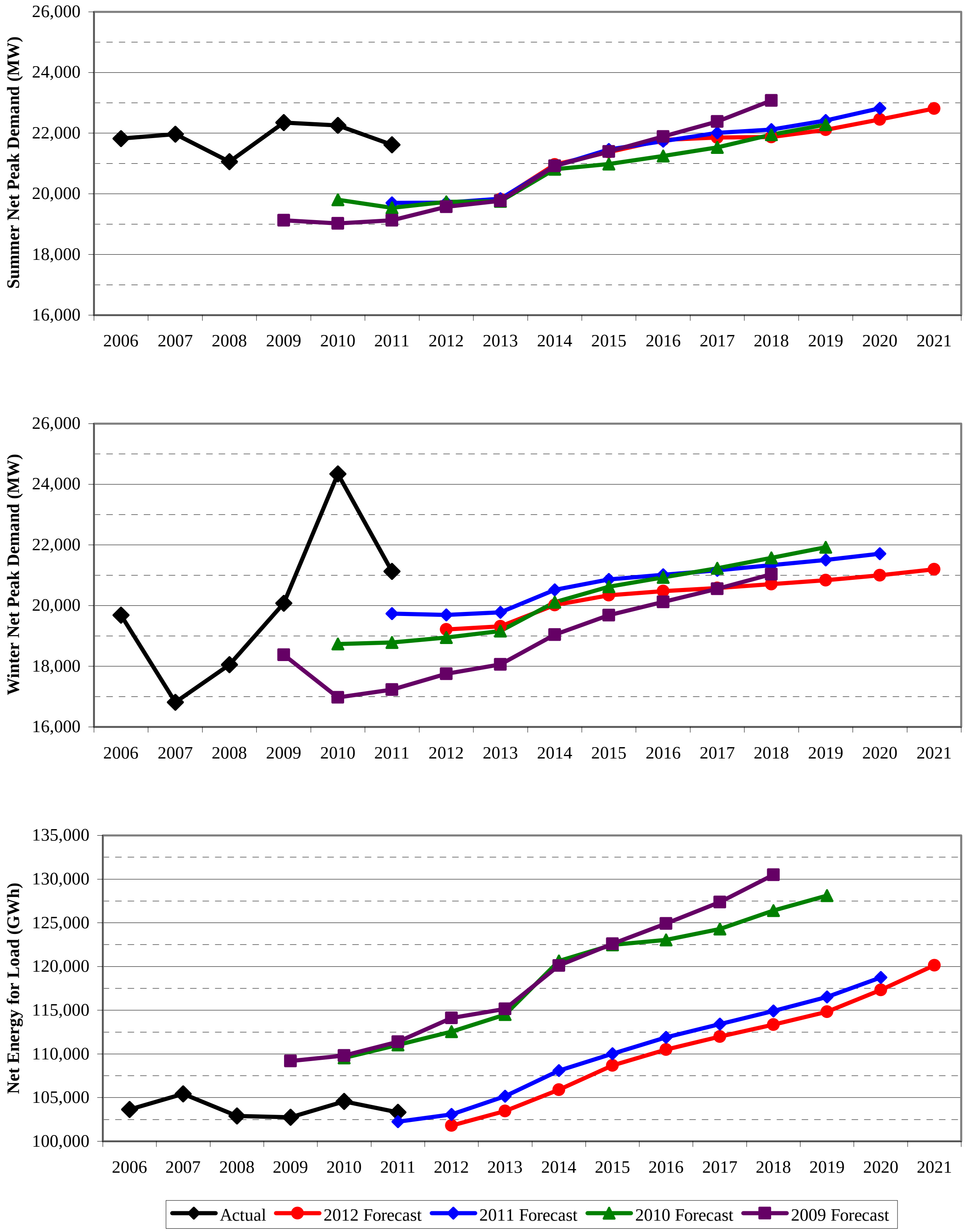
Source: FPL 2012 TYSP

The following three graphs in FPL Figure 2 show FPL's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is similar but slightly lower than the 2011 values for both seasons of peak demand and NEL.

Analysis of FPL's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that FPL's average forecast error is 12.12 percent. This value indicates that the company tends to over-forecast its retail energy sales by 12.12 percent, which is unfavorable when compared to the average forecast error for all eleven of the TYSP utilities, which was

11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

FPL Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

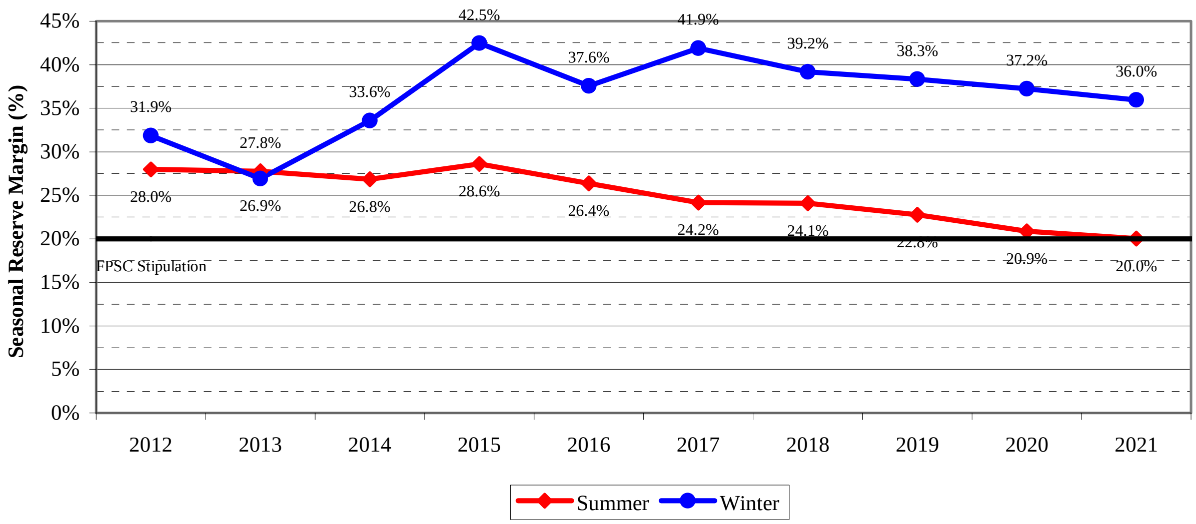


Source: FPL 2009 -2012 TYSPs

Reserve Margin Requirements

As mentioned in the Statewide Perspective, FPL maintains a minimum 20 percent reserve margin for planning purposes based on a stipulation approved by the Commission. FPL Figure 3 displays the projected reserve margin for FPL through the planning period for both seasonal peaks. As shown in the figure, summer peak demand would be the driving force for generation additions. The reserve margin shown below includes the cumulative impact of conservation and demand response on FPL's system demand.

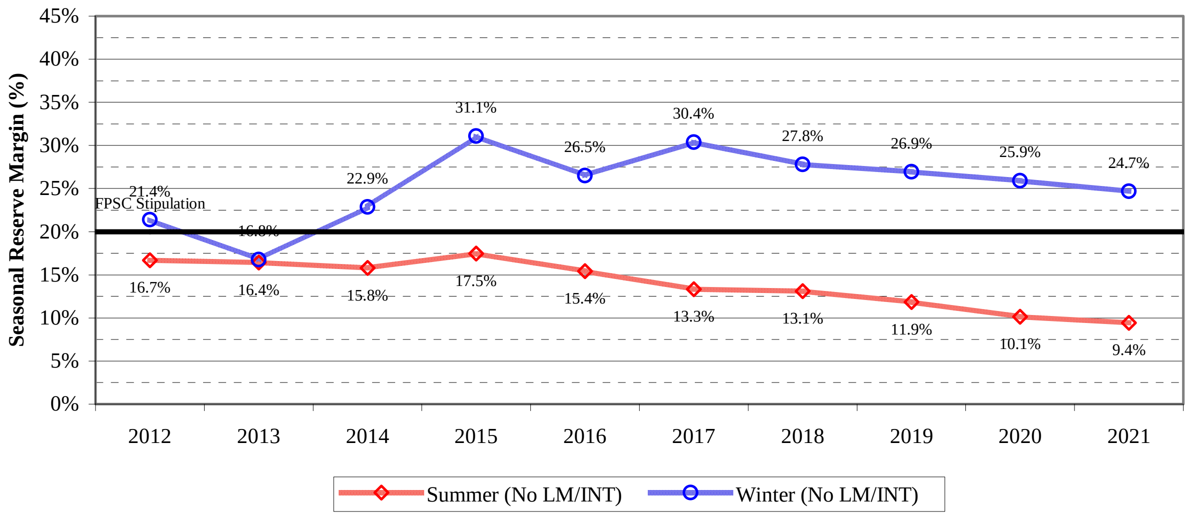
FPL Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: FPL 2012 TYSP

Some concerns have been expressed regarding increased dependence upon demand response to meet customer peak demand. The concern is that interruptible load and load management programs are voluntary, and that customers may elect to opt-out of an existing program if the utility interrupted service too frequently. FPL Figure 4 shows the impact of excluding demand response programs from meeting customer demand, which causes the reserve margin to fall below both the company's stipulated 20 percent reserve margin and the FRCC Region's 15 percent planning margin for the summer only. FPL has indicated that it is continuing to study the possibility of instituting a generation-only minimum reserve.

FPL Figure 4. Seasonal Reserve Margin (Without LM/INT)

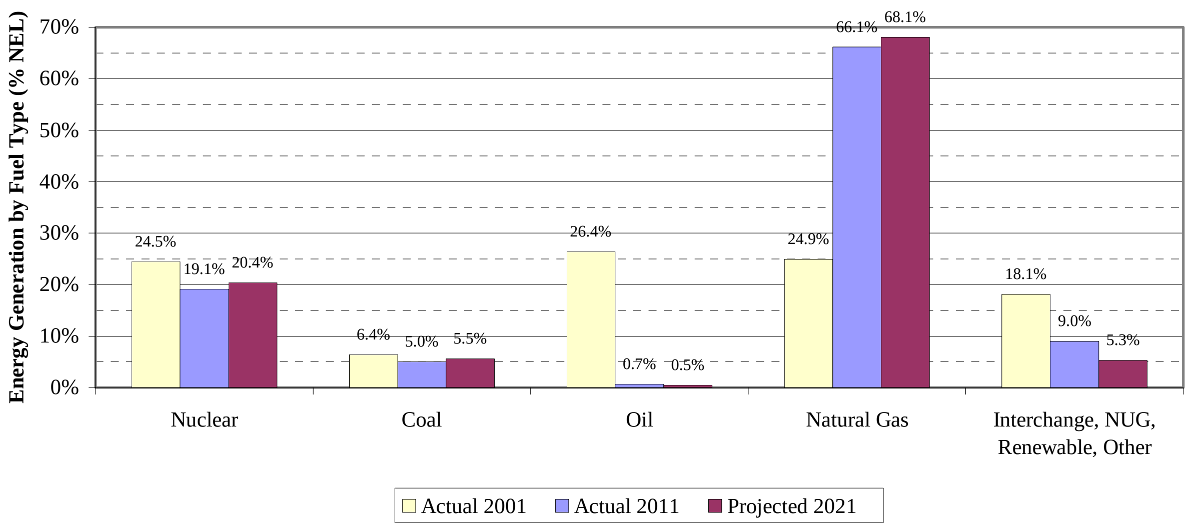


Source: FPL 2012 TYSP

Fuel Diversity

FPL Figure 5 shows FPL's historic fuel mix for 2001 and 2011, and the projected fuel mix for 2021. FPL's primary generation fuel is natural gas, which has increased from about a quarter of system energy in 2001, to approximately two-thirds by 2011. Natural gas is projected to remain the main system fuel, with 68.1 percent of net energy for load generated by natural gas.

FPL Figure 5. Net Energy for Load by Fuel Type



Source: FPL 2002 and 2012 TYSPs

Generation Additions

FPL's 2012 TYSP includes 3 new generating units, all of which are natural gas-fired combined cycles. FPL also anticipates uprates at all its nuclear generation units by 2013, and two new nuclear units, Turkey Point 6 & 7, which are planned beyond the planning horizon. All of the new generation units that FPL is planning to add to its system are shown in FPL Table 1.

FPL Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Nuclear Unit Uprates				
St. Lucie Unit #1 Uprates	129	09/2008	09/2008	5/2012
St. Lucie Unit #2 Uprates *	84	09/2008	09/2008	10/2012
Turkey Point Unit # 3 Uprates	123	09/2008	10/2008	6/2012
Turkey Point Unit # 4 Uprates	123	09/2008	10/2008	2/2013
Combined Cycle Unit Additions				
Cape Canaveral Next Generation Clean Energy Center	1,210	09/2008	10/2009	6/2013
Riviera Beach Next Generation Clean Energy Center	1,212	09/2008	11/2009	6/2014
Port Everglades Next Generation Clean Energy Center	1,277	4/2012	02/2013***	6/2016
Nuclear Unit Additions				
Turkey Point Unit #6**	1,100	3/2008	12/2013***	6/2022
Turkey Point Unit #7**	1,100	3/2008	12/2013***	6/2023

*31 MW of St. Lucie Unit #2 uprates have already been achieved in 2011.
** These units are outside of the 2012-2021 planning period
*** This is the anticipated date of the Siting Board Hearing on Site Certification.
Source: FPL 2012 TYSP

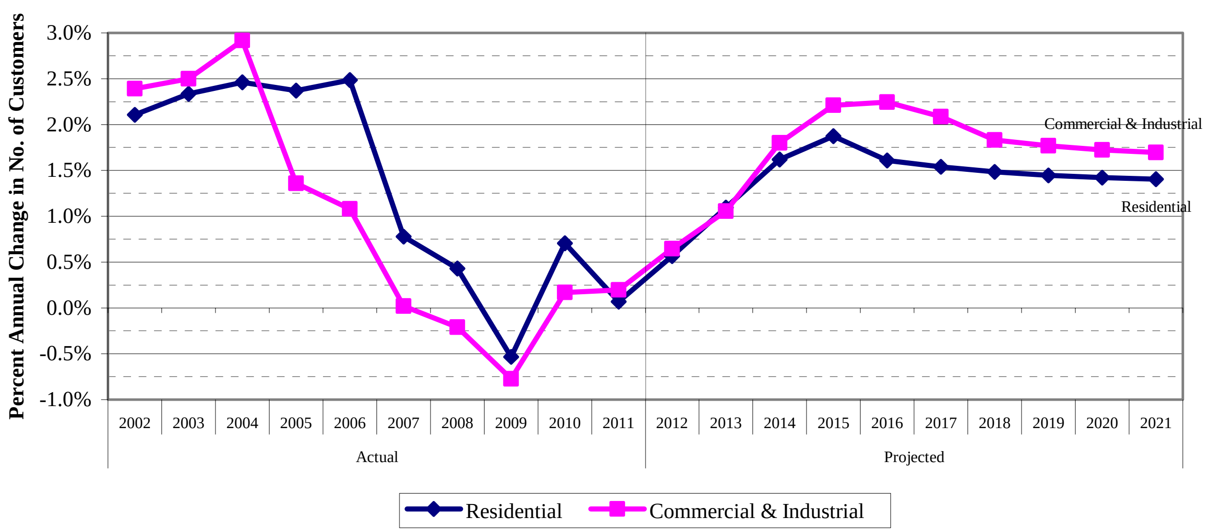
PEF is an investor-owned utility, and Florida's second largest TYSP utility. The utility's service territory is within the FRCC region, and is primarily located in central and west central Florida. As PEF is an IOU, the Commission has regulatory authority over all aspects of operations, including rates and safety.

In 2011, PEF had an average of 1,642,161 customers, and had a total net energy for load of 42,490 GWh, approximately 17.9 percent of the NEL generated in the entire state last year.

Peak Demand and Energy Forecasts

PEF Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Customer growth is anticipated to increase from the period of the economic downturn until approximately 2015, and then remain steady or decline somewhat while remaining positive until the end of the period, yielding an average annual growth rate of 1.53 percent. This compares with the actual rate of 2.03 for the period 2002 through 2007.

PEF Figure 1. Annual Customer Growth Rate by Customer Class

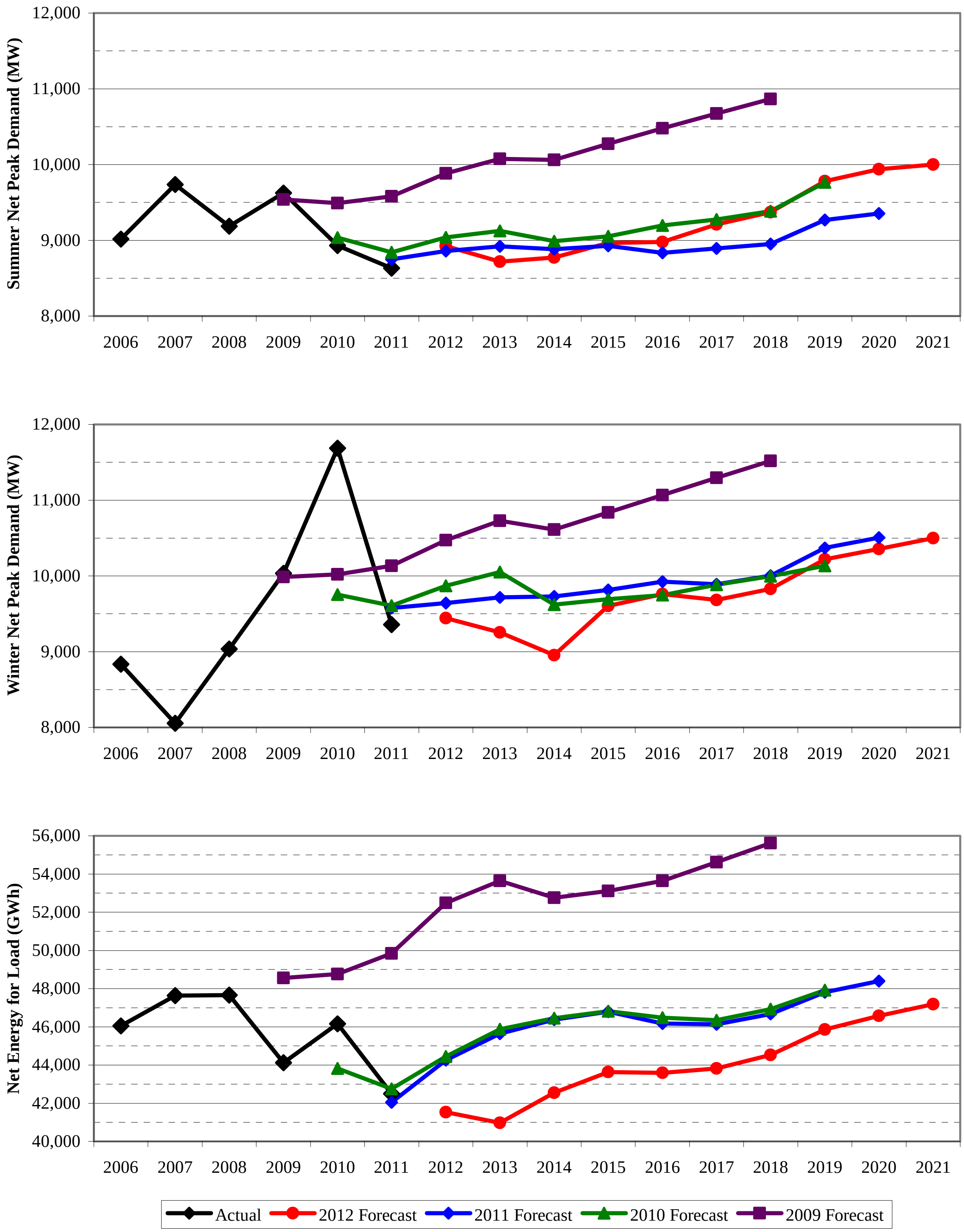


Source: PEF 2012 TYSP

The following three graphs in PEF Figure 2 show PEF's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is significantly above last year's in summer peak demand, but below the 2011 forecast for winter peak demand and NEL.

Analysis of PEF’s historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that PEF’s average forecast error is 11.36 percent. This value indicates that the company tends to over-forecast its retail energy sales by 11.36 percent, which is approximately equivalent to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

PEF Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

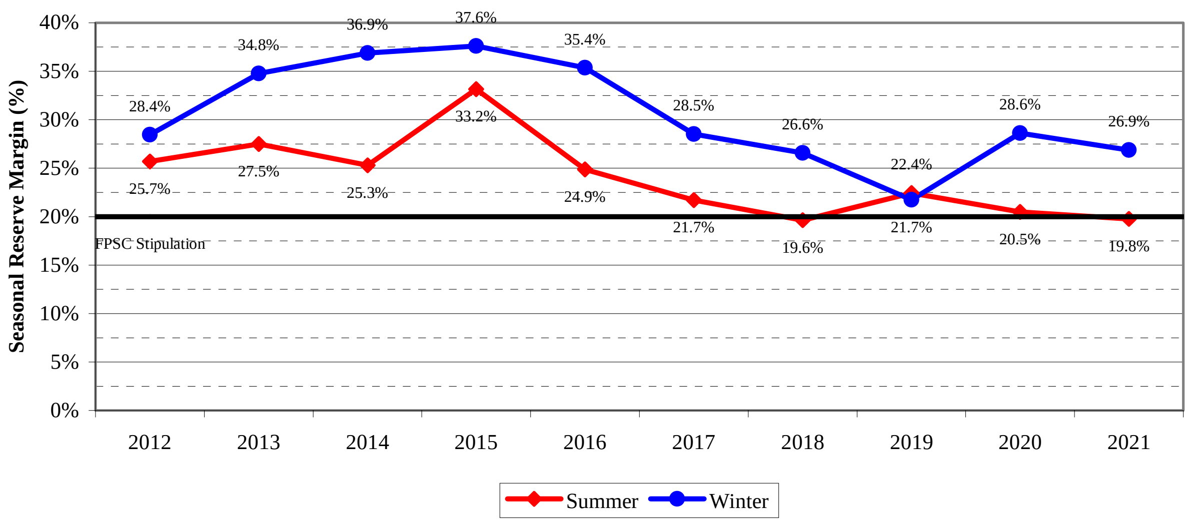


Source: PEF 2009 - 2012 TYSPs

Reserve Margin Requirement

As mentioned in the Statewide Perspective, PEF maintains a minimum 20 percent reserve margin for planning purposes based on a stipulation approved by the Commission. PEF Figure 3 displays the projected reserve margin for PEF through the planning period for both seasonal peaks. As shown in the figure, summer peak demand would be the driving force for generation additions. The reserve margin shown below includes the cumulative impact of conservation and demand response on PEF's system demand. The delay of the Levy 1 nuclear unit and its decrease of the company's reserve margin in 2021 is included in the graph.

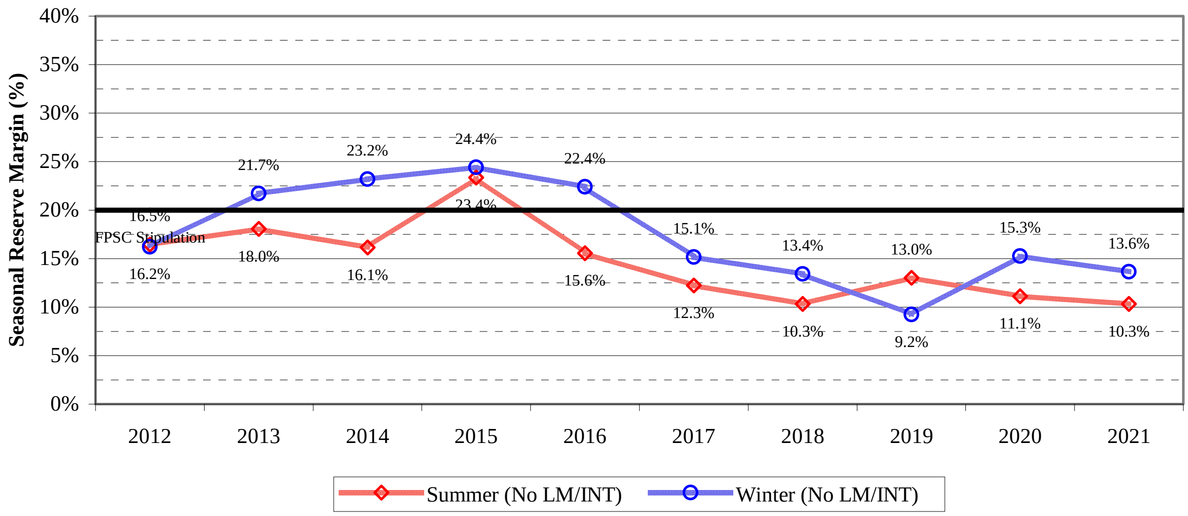
PEF Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: PEF 2012 TYSP

Some concerns have been expressed regarding increased dependence upon demand response to meet customer peak demand. The concern is that interruptible load and load management programs are voluntary, and that customers may elect to opt-out of an existing program if the utility interrupted service too frequently. PEF Figure 4 shows the impact of excluding demand response programs from meeting customer demand, which causes the reserve margin to fall below both the company's stipulated 20 percent reserve margin and the FRCC Region's 15 percent planning margin.

PEF Figure 4. Seasonal Reserve Margin (Without LM/INT)

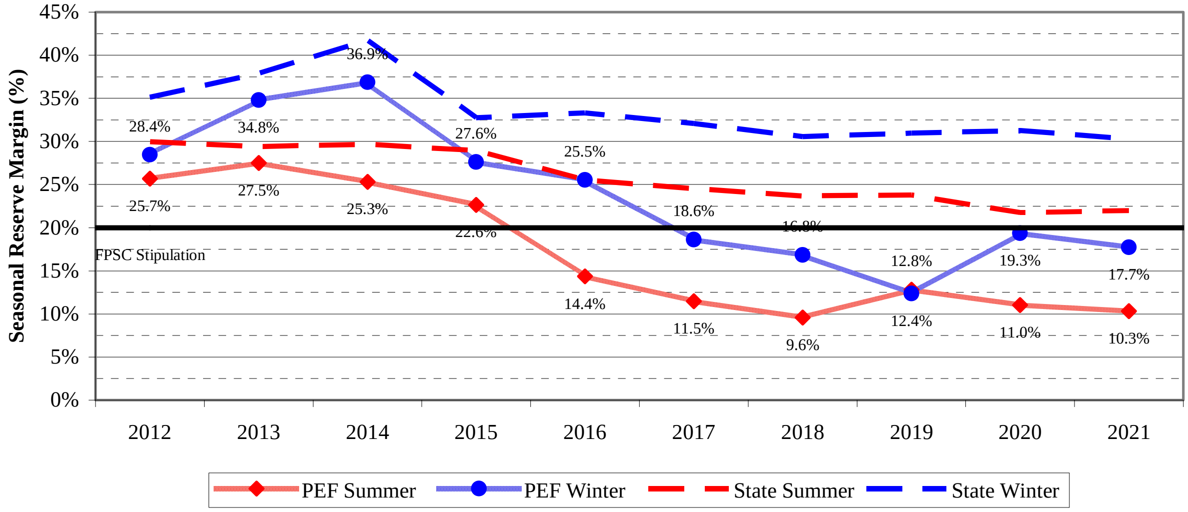


Source: PEF 2012 TYSP

Crystal River 3 Outage

The CR3 nuclear unit has been offline since 2009 due to a concrete delamination experience during a steam generator replacement project. Currently PEF anticipates CR3 returning to service in November 2014, but at this time the decision to repair or retire the unit has not been decided. PEF Figure 5 illustrates the reliability impact of not returning CR3 to service in 2014 and assuming no other changes to PEF's available generation. As shown, PEF would fall below its 20 percent reserve requirement as early as the summer of 2016, and falling to a minimum reserve margin of 9.6 percent for the 2018 summer peak. In the event CR3 is retired or its return to service delayed past 2014, PEF must seek additional firm capacity to meet its reserve requirements, which may be from purchased power contracts, acceleration of currently planned units, and/or new generating units. While the loss of capacity associated with CR3 has a significant impact on PEF's system, the statewide reserve margin appears adequate for possible purchased power agreements.

PEF Figure 5. Seasonal Reserve Margin With Potential Unit Retirements / Delays (With LM/INT)

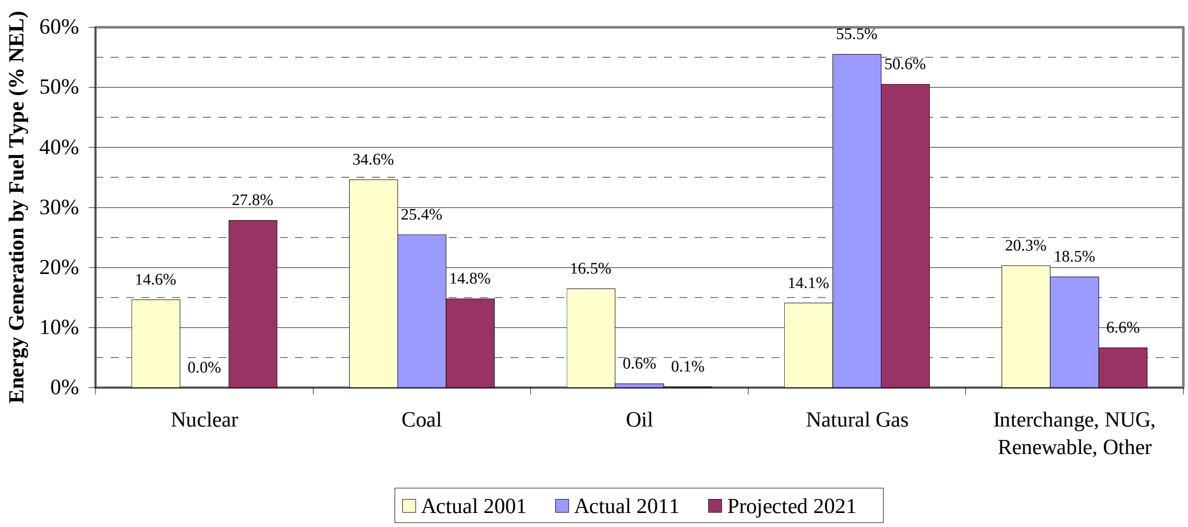


Source: PEF 2012 TYSP, Responses to Staff Data Request

Fuel Diversity

PEF Figure 6 shows PEF's historic fuel mix for 2001 and 2011, and the projected fuel mix for 2021. PEF's primary generation fuel is natural gas, which has increased from approximately 14 percent in 2001, to over 55 percent in 2011. Natural gas is projected to remain the main system fuel, but decline somewhat to 50.6 percent of net energy for load by 2021.

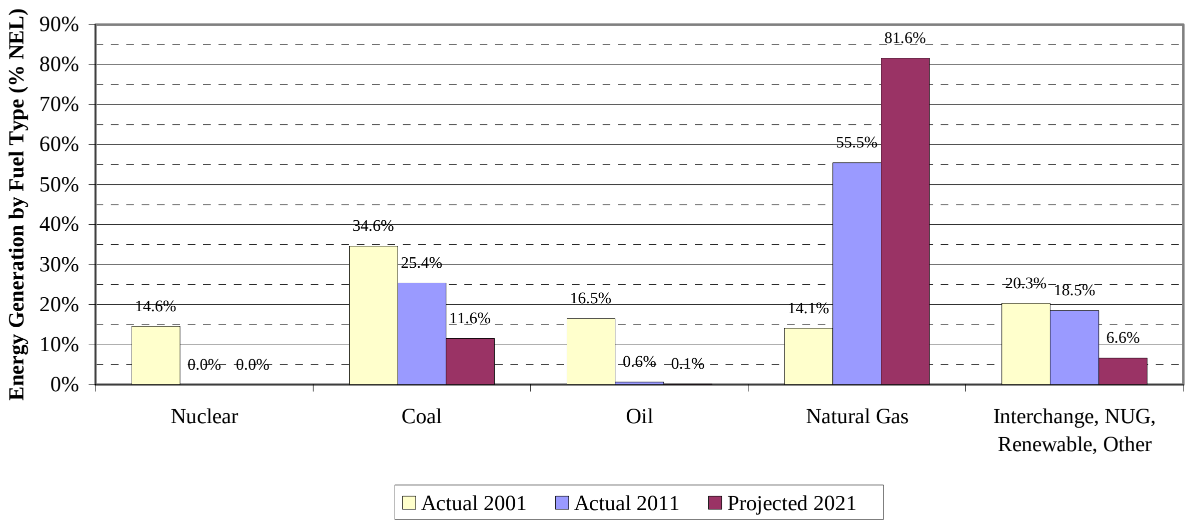
PEF Figure 6. Net Energy for Load by Fuel Type



Source: PEF 2002 and 2012 TYSPs

The decline in natural gas usage is primarily the result of an increase in nuclear generation from the inclusion of the now delayed Levy 1 nuclear unit and the return to service of CR3. While usage of coal for generation is expected to decline, this does not take into account the potential impact of retirements due to new environmental compliance requirements. During the 2012 TYSP workshop, PEF's Crystal River 1 and 2, both coal-fired units, were identified by the Sierra Club/Earthjustice as facing challenges if new emissions control equipment was required. If the projected generation from these nuclear and coal units is displaced by natural gas, it would have the net effect of increasing natural gas' share of PEF's electric generation to 81.6 percent by 2021, as shown in PEF Figure 7 below.

PEF Figure 7. Net Energy for Load by Fuel Type with Displaced Generation



Source: PEF 2002 and 2012 TYSPs, Responses to Staff Data Requests

Generation Additions

PEF's 2012 TYSP includes three generation additions, one of which has been delayed. The first is the uprate of the CR3 nuclear unit, which is subject to the uncertainties discussed above. The second is an unsited 767 MW combined cycle unit, scheduled to begin commercial operation in 2019. The last unit, the Levy 1 nuclear unit, has been delayed outside of the TYSP planning horizon. These are summarized in PEF Table 1.

PEF Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Nuclear Unit Uprates				
Crystal River 3 Uprate	154	2/2007	8/2008	11/2014
Combined Cycle Unit Additions				
Unknown	767	-	-	6/2019
Nuclear Unit Additions				
Levy 1*	1092	5/2008	8/2009	6/2024
Levy 2*	1092	5/2008	8/2009	6/2025

* These units are outside of the 2012-2021 planning period
Source: PEF 2012 TYSP

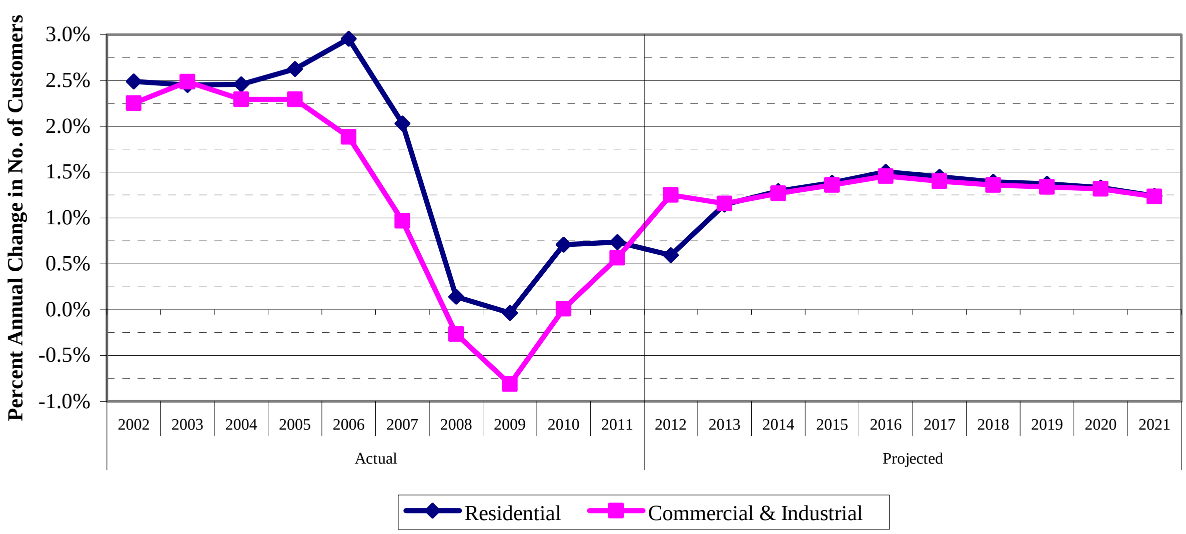
TECO is an investor-owned electric utility, and Florida's third largest TYSP utility. The utility's service territory is within the FRCC region, and consists primarily of the Tampa metropolitan area. As TECO is an IOU, the Commission has regulatory authority over all aspects of operations, including rates and safety.

In 2011, TECO had an average of 675,799 customers, and had a total net energy for load of 19,325 GWh, approximately 8.1 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

TECO Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Customer growth is anticipated to stay relatively stable over the planning period, with an average annual growth rate of 1.34 percent. This compares with the actual rate of 2.45 percent for the period 2002 through 2007.

TECO Figure 1. Annual Customer Growth Rate by Customer Class

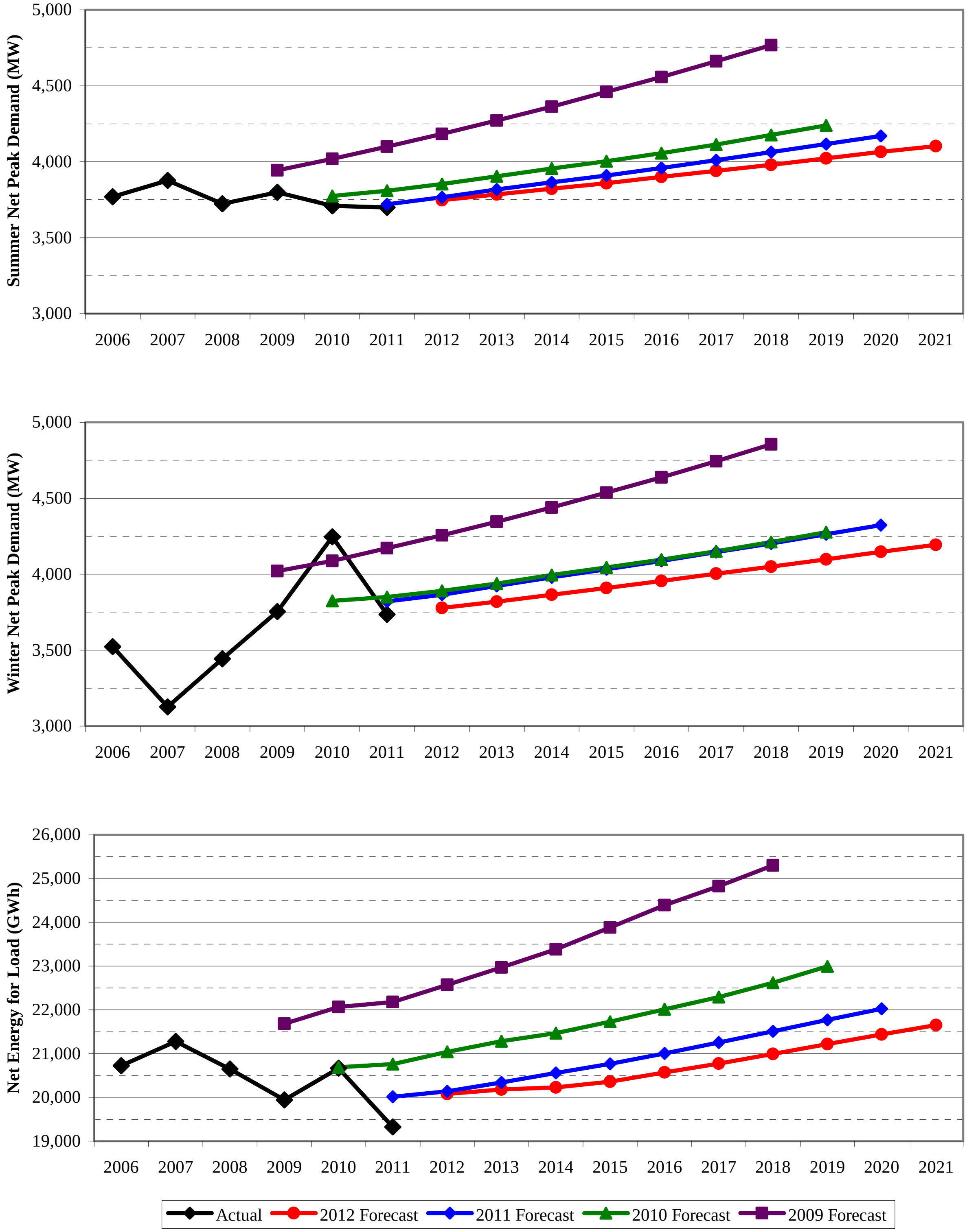


Source: TECO 2012 TYSP

The following three graphs in TECO Figure 2 show TECO's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is lower than the 2011 forecast values for both seasons of peak demand and NEL.

Analysis of TECO's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that TECO's average forecast error is 13.07 percent. This value indicates that the company tends to over-forecast its retail energy sales by 13.07 percent, which is unfavorable when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

TECO Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

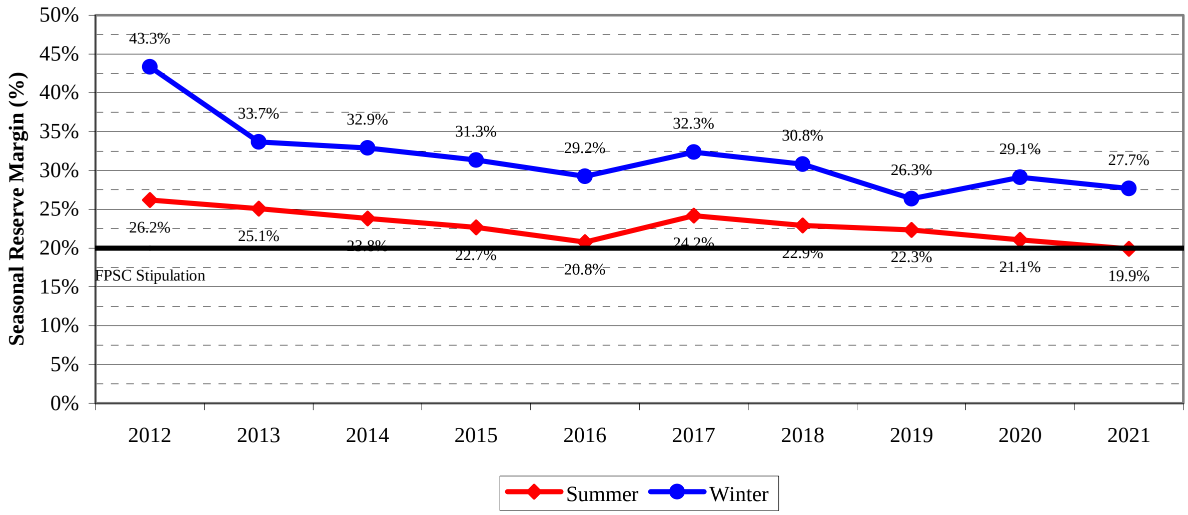


Source: TECO 2009 - 2012 TYSPs

Reserve Margin Requirement

As mentioned in the Statewide Perspective, TECO maintains a minimum 20 percent reserve margin for planning purposes based on a stipulation approved by the Commission. TECO Figure 3 displays the projected reserve margin for TECO through the planning period for both seasonal peaks. As shown in the figure, summer peak demand would be the driving force for generation additions. The reserve margin shown below includes the cumulative impact of conservation and demand response on TECO's system demand.

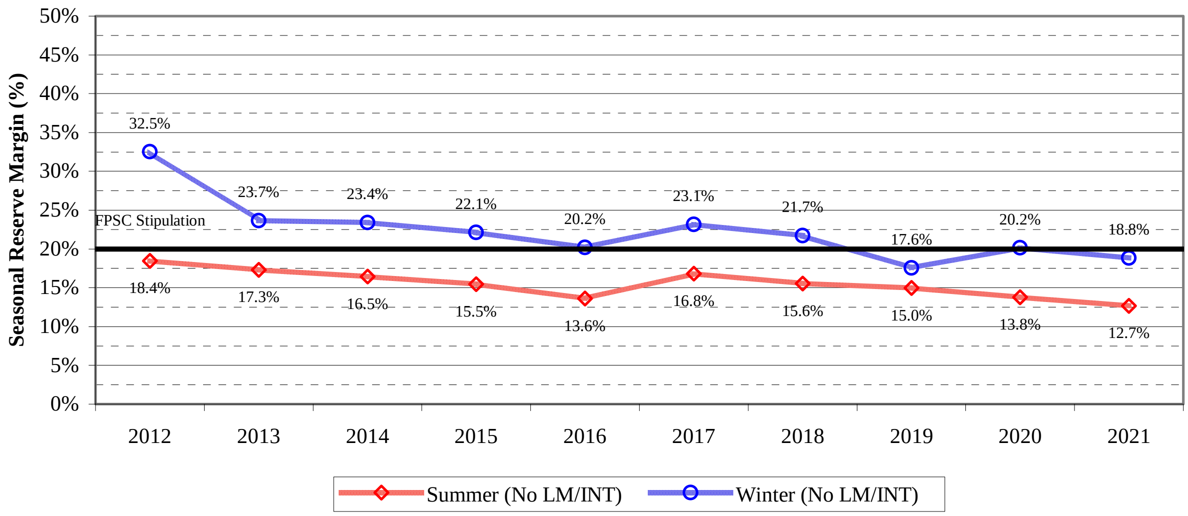
TECO Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: TECO 2012 TYSP

TECO is the only IOU that currently maintains a minimum supply-side contribution to reserve margin, set at 7 percent. As with other utilities, the concern is that interruptible load and load management programs are voluntary, and that customers may elect to opt-out of an existing program if the utility interrupted service too frequently. TECO Figure 4 shows the impact of excluding demand response programs from meeting customer demand, which causes the reserve margin to fall below the company's stipulated 20 percent reserve margin. Even without demand response, TECO exceeds its own supply-side requirements, and generally maintains the FRCC Region's 15 percent planning margin, excluding three summer periods where it falls as low as 12.7 percent in 2021.

TECO Figure 4. Seasonal Reserve Margin (Without LM/INT)

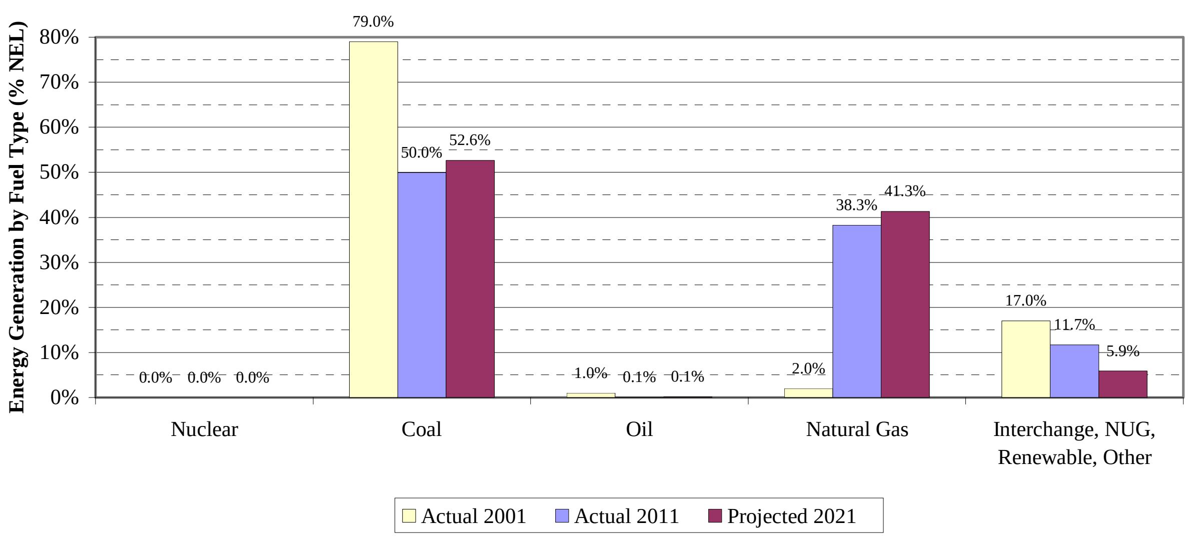


Source: TECO 2012 TYSP

Fuel Diversity

TECO Figure 5 shows TECO's historic fuel mix for 2001 and 2011, and the projected fuel mix for 2021. TECO's primary generation fuel is coal, although this has decreased from nearly 80 percent of system energy in 2001, to only 50 percent in 2011. A slight rebound is anticipated by the end of the planning period, with 52.6 percent of energy from coal-fired generation. Natural gas has increased from a minor fuel on the system, at 2.0 percent in 2001, to the secondary fuel at 38.3 percent in 2011, is also expected to make gains, increasing to 41.3 percent by the end of the planning period.

TECO Figure 5. Net Energy for Load by Fuel Type



Source: TECO 2002 and 2012 TYSPs

Generation Additions

TECO's 2012 TYSP includes two unit additions, including a conversion of its existing Polk facility to combined cycle operation in 2017, and the addition of a single 149 MW combustion turbine in 2019. This represents a reduction from the 2011 TYSP, where TECO included 8 smaller combustion turbines in addition to the Polk CC conversion. TECO's planned additions are summarized in TECO Table 1 below. TECO has recently issued a Request for Proposals (RFP) for its planned combined cycle conversion of several existing simple cycle combustion turbines at the Polk Power Station, and filed for a need determination on September 12, 2012.

TECO Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combined Cycle Unit Additions				
Polk 2-5 CC	1,063	-	-	01/2017
Combustion Turbine Unit Additions				
Future CT 1	149	N/A	N/A	05/2019

Source: TECO 2012 TYSP

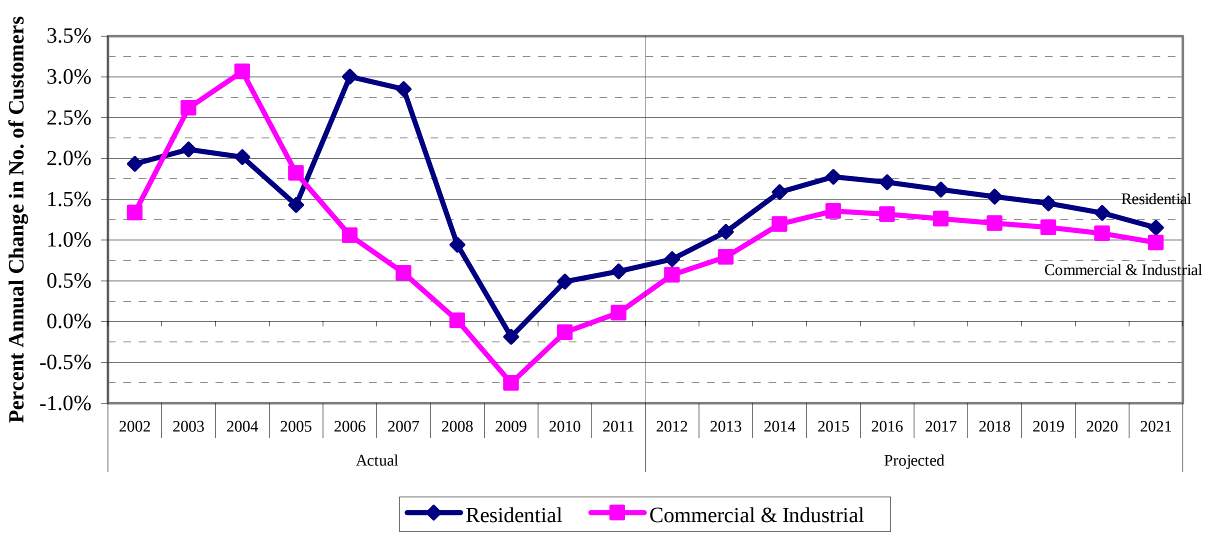
GULF is the smallest investor-owned generating utility, and the sixth largest TYSP utility. The utility's service territory includes western Florida, and is the only TYSP utility outside of the FRCC region. Gulf Power, along with Alabama Power, Georgia Power, and Mississippi Power, are members of the Southern Company electric system. GULF therefore has SERC as its regional reliability entity. Because GULF plans and operates its system in conjunction with the other Southern Company utilities, not all of the energy generated by the GULF units is consumed in Florida. As GULF is an IOU, the Commission has regulatory authority over all aspects of operations, including rates and safety.

In 2011, GULF had an average of 432,403 customers, and had a total net energy for load of 12,086 GWh, approximately 5.1 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

GULF Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. As shown below, GULF anticipates annual customer growth rates to climb until approximately 2015, and then begin to decline slightly but remain positive till the end of the planning period, with an average annual growth rate of 1.43 percent. This compares to the actual rate of 2.22 percent for the period 2002 through 2007.

GULF Figure 1. Annual Customer Growth Rate by Customer Class

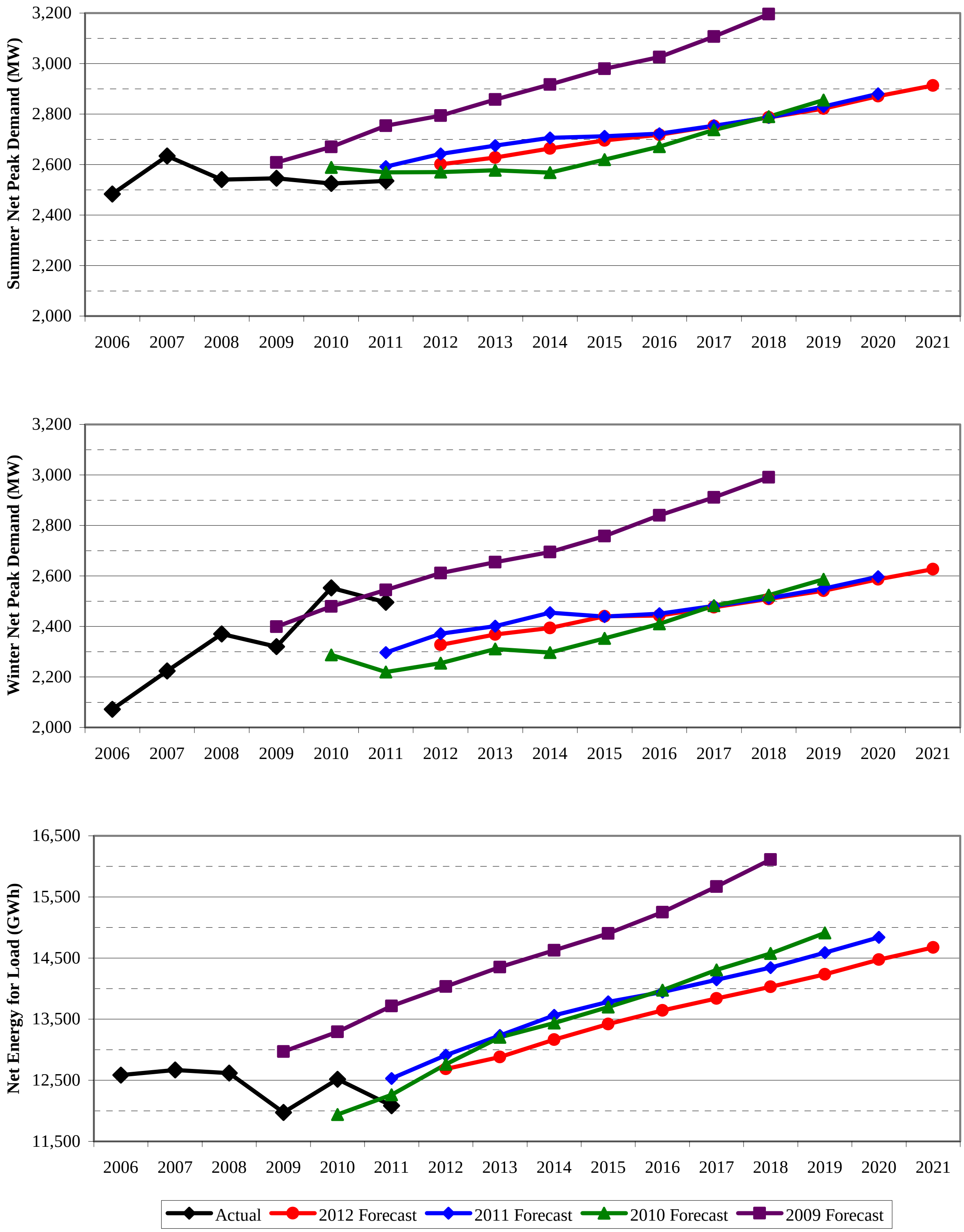


Source: GULF 2012 TYSP

The following three graphs in GULF Figure 2 show GULF's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is similar but slightly below last year's forecast in both seasonal peak demand and NEL.

Analysis of GULF's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that GULF's average forecast error is 5.44 percent. This value indicates that the company tends to over-forecast its retail energy sales by 5.44 percent, the lowest of the TYSP Utilities. GULF's forecast error is favorable when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

GULF Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

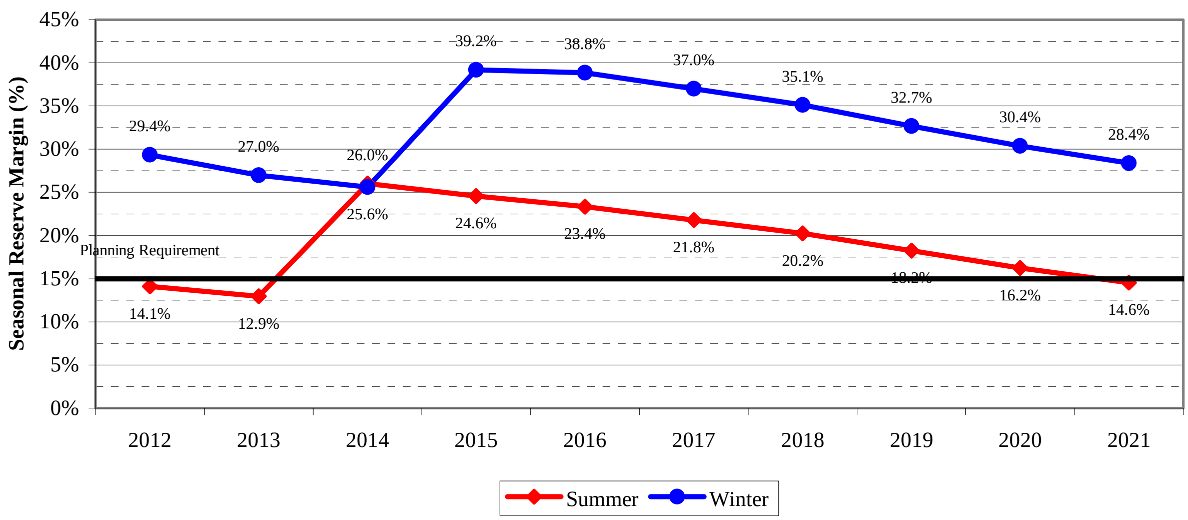


Source: GULF 2009 - 2012 TYSPs

Reserve Margin Requirement

GULF is not within the FRCC region, and therefore not subject to its minimum reserve margin requirements. GULF operates within SERC, and as part of the Southern Power Pool has a planning reserve margin of 15 percent after 2015. The company's projected reserve margin for summer and winter peak demand is shown below in GULF Figure 3. The reserve margin shown below includes the cumulative impact of conservation, but as GULF does not administer any active demand response programs, there are no non-firm load components in its reserve margin.

GULF Figure 3. Seasonal Reserve Margin

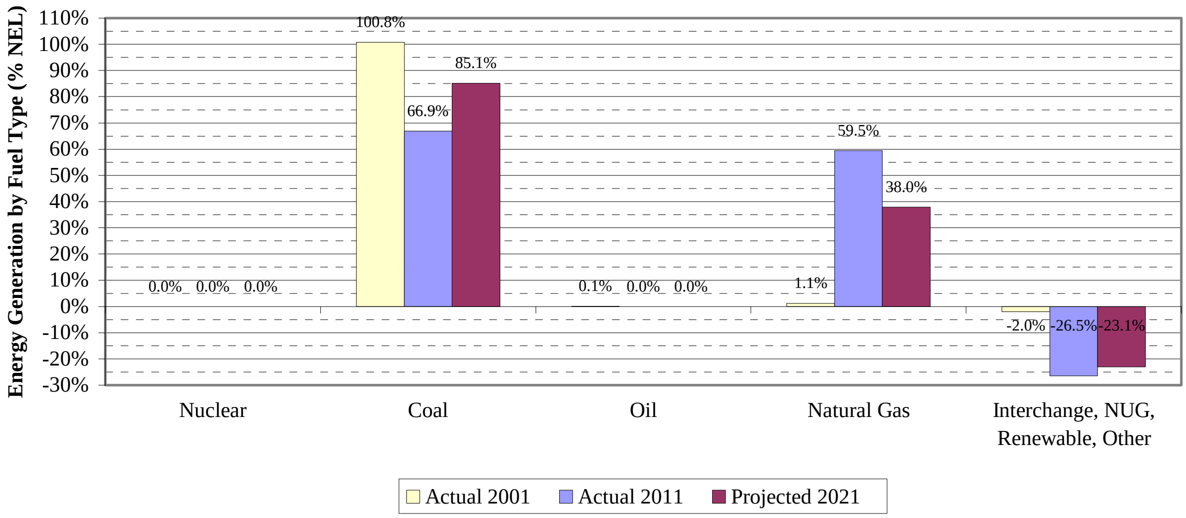


Source: GULF 2012 TYSP

Fuel Diversity

GULF Figure 4 shows GULF's historic fuel mix for 2001 and 2011, and the projected fuel mix for 2021. The negative value for interchange/other category of generation represents power sales, as GULF generates more energy than its native customers consume. GULF's primary generation fuel has been coal, with 66.9 percent of native load served by it in 2011, down from 100.8 percent in 2001. This is anticipated to rebound by the end of the planning period, with a projected 85.1 percent of native NEL from coal in 2021. The main source of reduction in coal generation comes from natural gas, which was used to produce 59.5 of native NEL in 2011, and is projected to decline to 38.0 percent by 2021.

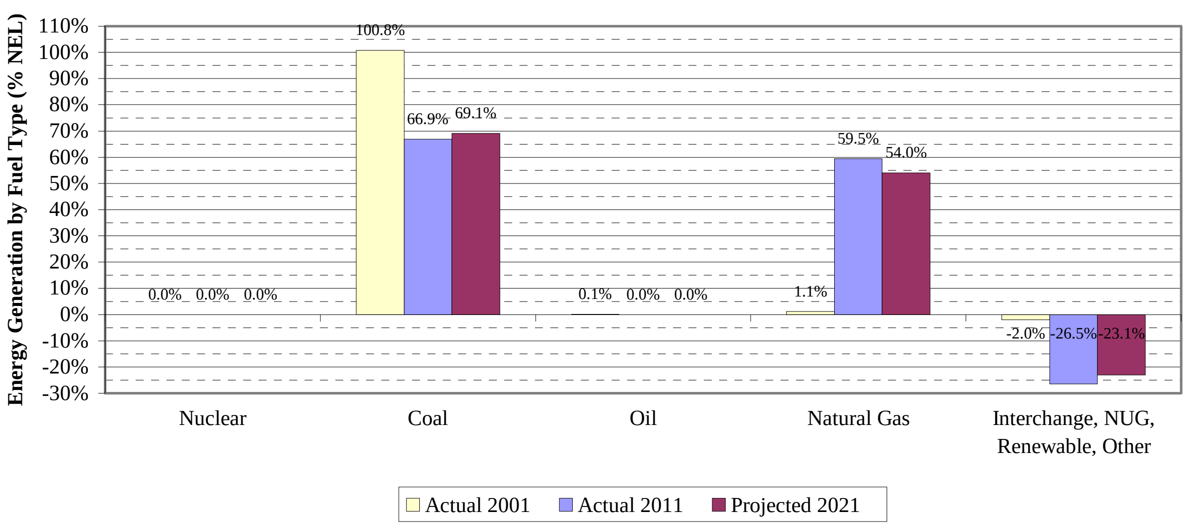
GULF Figure 4. Net Energy for Load by Fuel Type



Source: GULF 2002 and 2012 TYSPs

While usage of coal for generation is expected to increase, this does not take into account the potential impact of retirements due to new environmental compliance requirements. During the 2012 TYSP workshop, GULF's Lansing Smith 1 and 2, both coal-fired units, were identified by the Sierra Club/Earthjustice as facing challenges if new emissions control equipment was required. If the projected generation from these coal units is displaced by natural gas, it would have the net effect of increasing natural gas' share of GULF's electric generation to 54 percent by 2021, while reducing the increase in coal generation to only 69.1 percent, as illustrated in GULF Figure 5 below.

GULF Figure 5. Net Energy for Load by Fuel Type with Displaced Generation



Source: GULF 2002 and 2012 TYSPs, Responses to Staff Data Requests

Generation Additions

GULF has no planned generation additions over the planning horizon. This is consistent with the company's 2011 TYSP, which also included no new generating units through 2020.

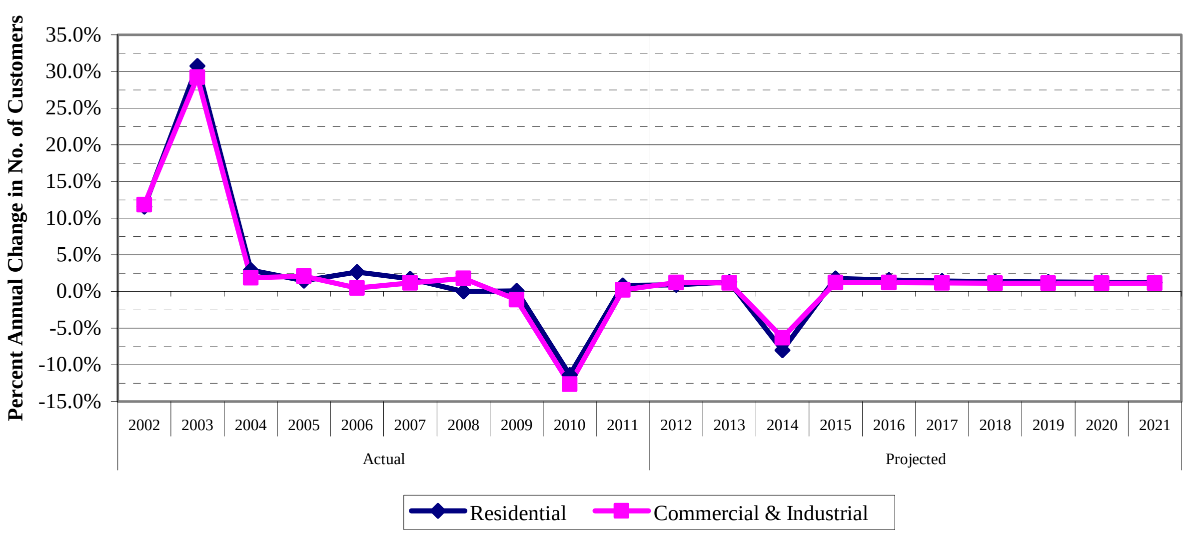
FMPA is a governmental wholesale power company owned by 30 municipal electric utilities located throughout the State of Florida. It is collectively the state's eighth largest TYSP utility. FMPA facilitates opportunities for its members to participate in power supply projects developed by Florida utilities and other producers, and provides economies of scale in power generation and related services. As FMPA is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning. FMPA's direct responsibility for power supply is with the All-Requirements Power Supply Project (ARP), where FMPA plans and supplies all of the power requirements for 14 of its participating utilities. The values for capacity in the following figures corresponds to the ARP.

In 2011, FMPA had an average of 262,659 customers, and had a total net energy for load of 6,209 GWh, approximately 2.6 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

FMPA Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth during for 2012 through 2021. The drop in the rate of growth for 2010 is due to the City of Vero Beach leaving the ARP, and the smaller drop in 2014 is the expected result of the departure of the City of Lake Worth from the ARP. These utilities will remain as members of FMPA, but are exercising an option to modify their memberships from a full requirements basis to a partial requirements basis. These changes in membership status means that the ARP will no longer utilize these participants' generating resources, if any exist.

FMPA Figure 1. Annual Customer Growth Rate by Customer Class

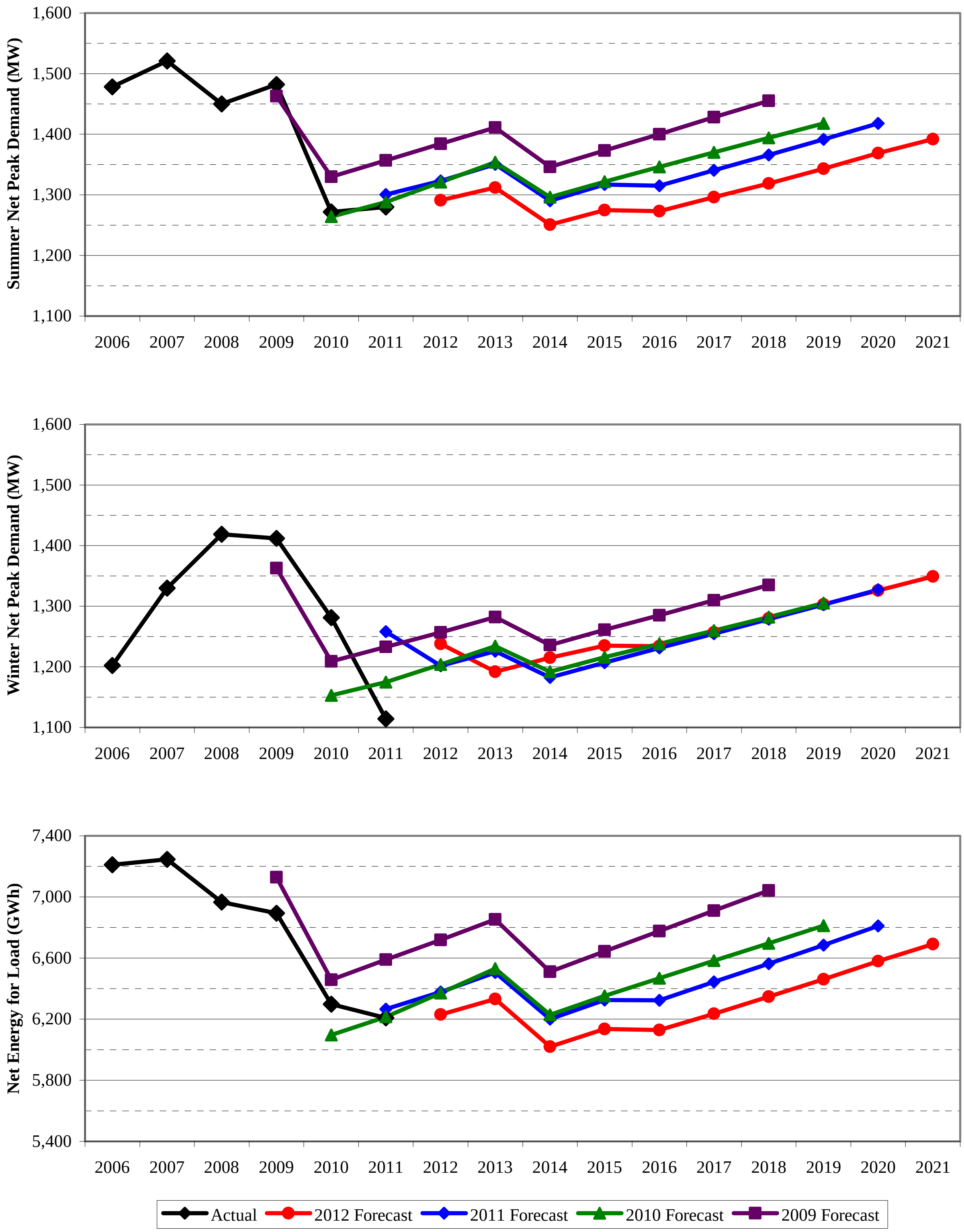


Source: FMPA 2012 TYSP

The following three graphs in FMPA Figure 2 show FMPA's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year's in terms of summer peak demand and NEL, but winter peak demand is similar.

Analysis of FMPA's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that FMPA's average forecast error is 11.81 percent. This value indicates that the company tends to over-forecast its retail energy sales by 11.81 percent, which is somewhat higher than the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

FMPA Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

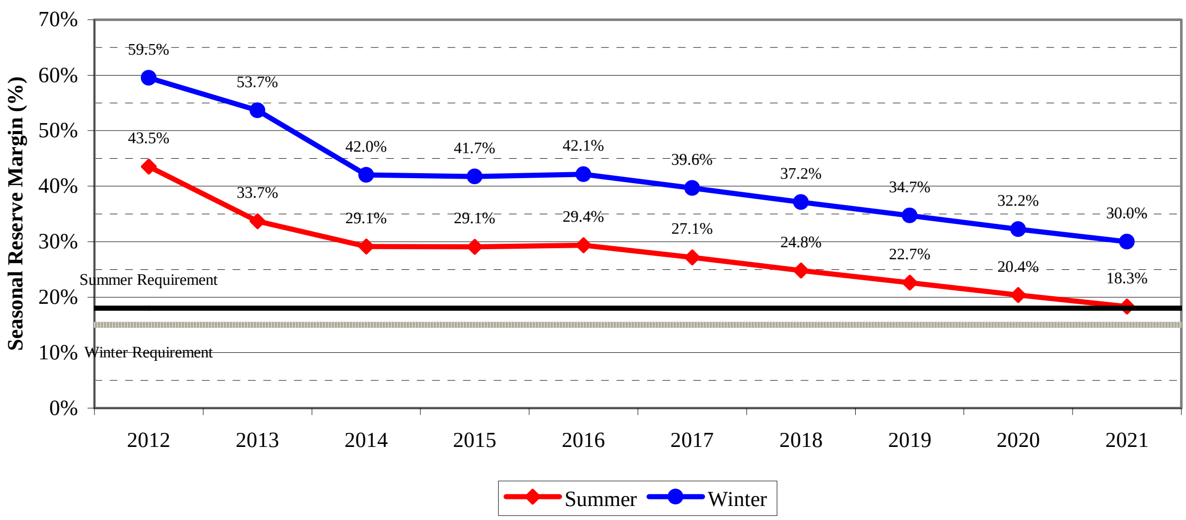


Source: FMPA 2009 - 2012 TYSPs

Reserve Margin Requirement

FMPA is required to maintain a minimum 15 percent reserve margin, pursuant to FRCC requirements. In addition, the utility uses a planning reserve margin of 18 percent for summer peak reserve margin planning. As can be seen in FMPA Figure 3 below, FMPA has ample reserves and its margin only begins to approach the 15 percent minimum in the last few years of the horizon. FMPA does not administer load management or interruptible load programs, and therefore has no non-firm load component in its reserve margin.

FMPA Figure 3. Seasonal Reserve Margin

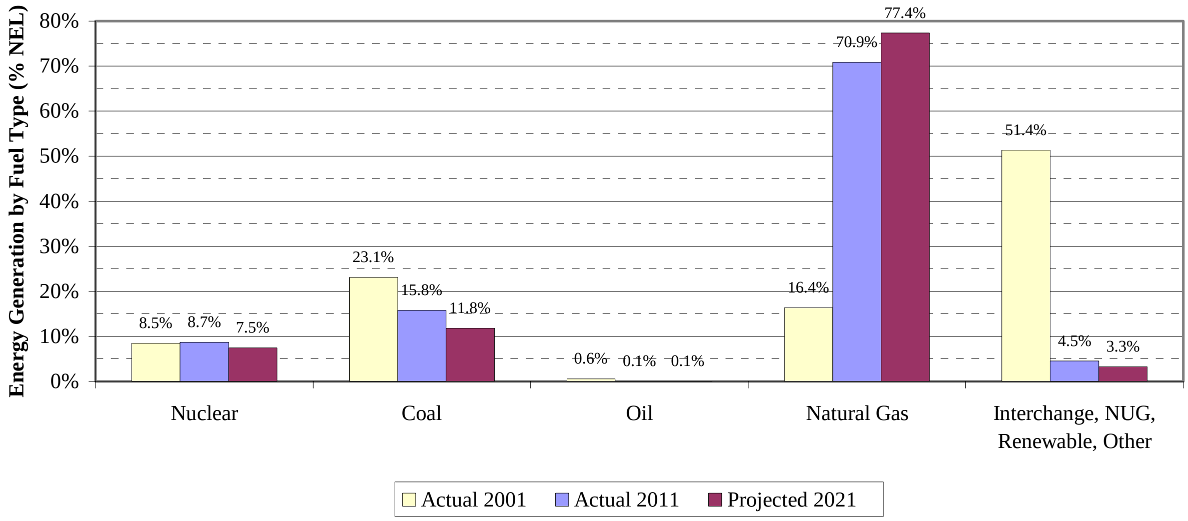


Source: FMPA 2012 TYSP

Fuel Diversity

FMPA Figure 4 displays the composition of FMPA's system in terms of energy generated. Again, natural gas has risen to become the system's primary fuel, increasing over 50 percent, from 16.4 percent in 2001 up to 70.9 percent in 2011. Natural gas is anticipated to increase somewhat to 77.4 percent in 2021, with further decreases in purchased power and coal generation.

FMPA Figure 4. Net Energy for Load by Fuel Type



Source: FMPA 2002 and 2012 TYSPs

Generation Additions

FMPA has no planned generation additions over the planning horizon. This is consistent with the company's 2011 TYSP, which also included no new generating units through 2020.

GAINESVILLE REGIONAL UTILITIES (GRU)

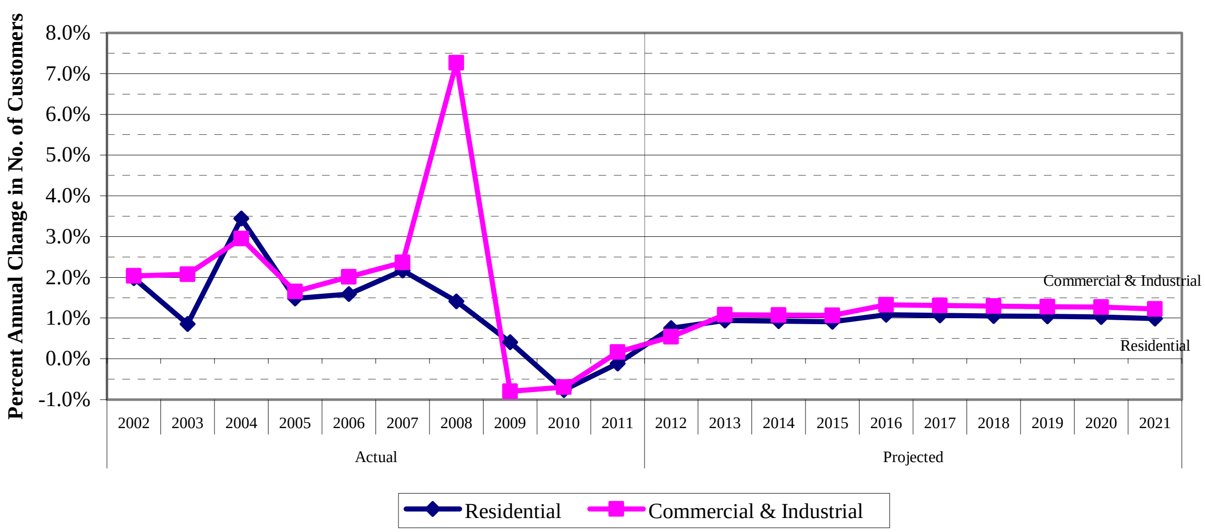
GRU is a municipal utility and the state's smallest TYSP utility. The company's service area is within the FRCC region, and includes the City of Gainesville and its surrounding urban area. GRU also provides wholesale power to the City of Alachua and Clay Electric Cooperative. As GRU is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning

In 2011, GRU had an average of 92,265 customers, and had a total net energy for load of 2,024 GWh, approximately 0.9 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

GRU Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth during for 2012 through 2021. GRU anticipates customer growth to remain steady through the end of the planning period, with an average annual growth rate of 1.03 percent. This compares with the actual rate of 1.94 percent for the period 2002 through 2007.

GRU Figure 1. Annual Customer Growth Rate by Customer Class

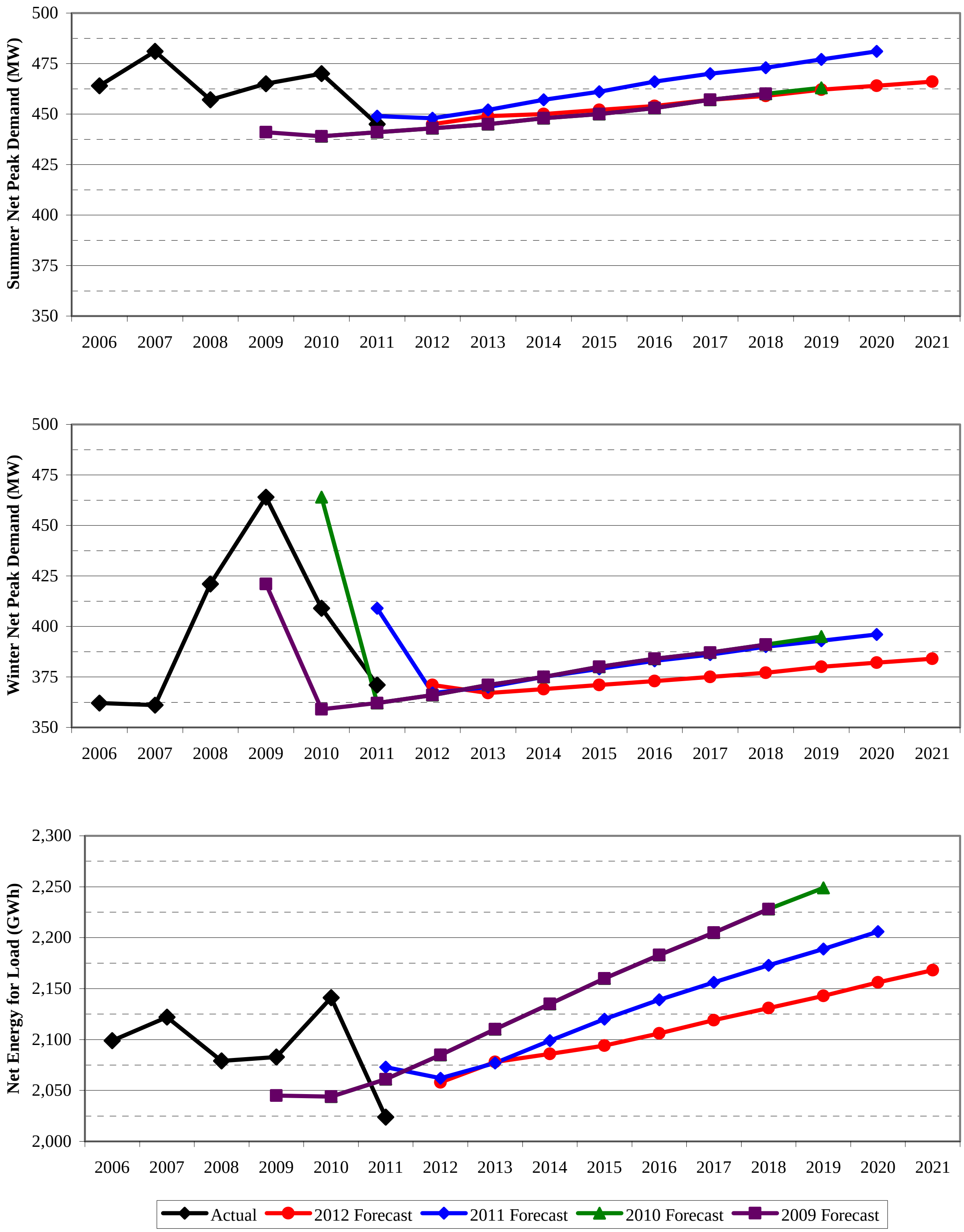


Source: GRU 2012 TYSP

The following three graphs in GRU Figure 2 show GRU's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year's in both seasonal peak demand and NEL.

Analysis of GRU's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that GRU's average forecast error is 11.40 percent. This value indicates that the company tends to over-forecast its retail energy sales by 11.40 percent, which is approximately equivalent to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

GRU Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

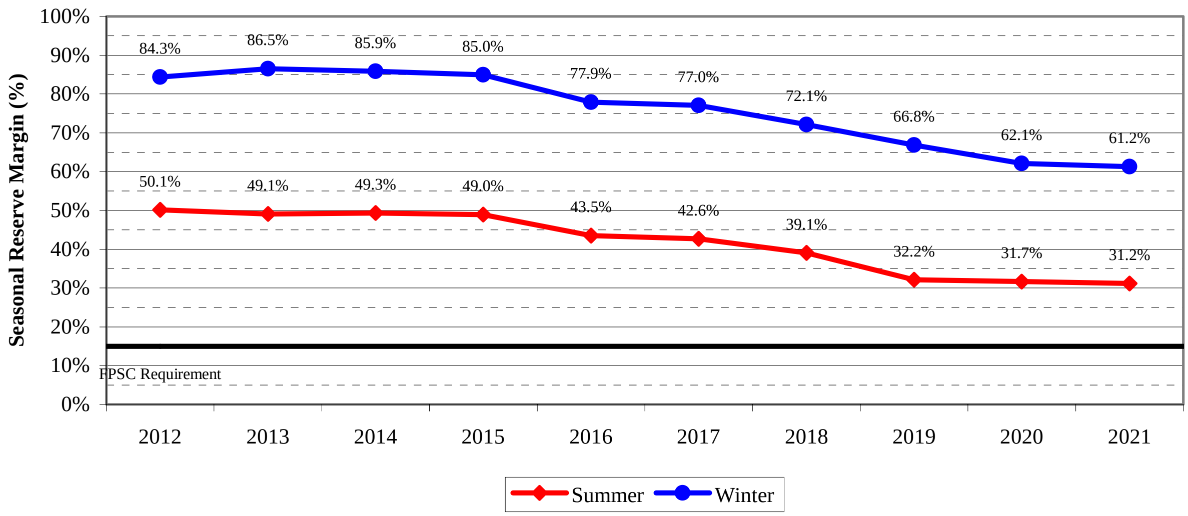


Source: GRU 2009 - 2012 TYSPs

Reserve Margin Requirement

Pursuant to FRCC requirements, GRU maintains a 15 percent reserve margin. As GRU Figure 3 clearly shows, GRU's reserve margin is forecasted to remain well above the minimum level throughout the planning horizon for the summer and winter peak seasons. GRU does not have any active load management or interruptible load programs and therefore has no non-firm load component to its reserve margin.

GRU Figure 3. Seasonal Reserve Margin

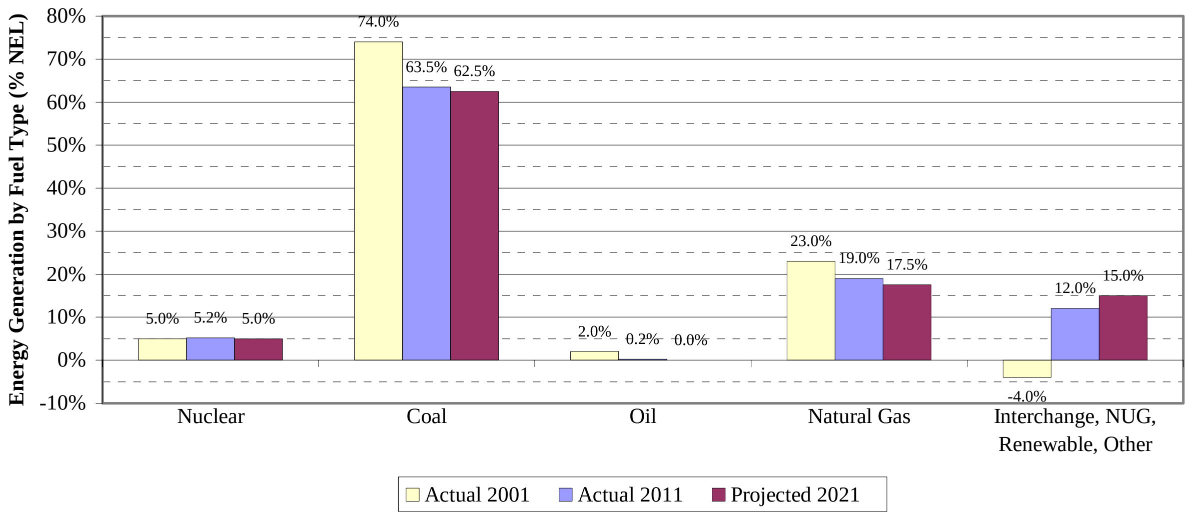


Source: GRU 2012 TYSP

Fuel Diversity

GRU Figure 4 displays the composition of GRU's system in terms of energy generated. The company has historically relied upon coal generation, and it is projected to produce a majority of energy for load through the end of the planning period. Other energy sources include natural gas, nuclear, purchased power, and renewables. GRU anticipates a decline in both coal-fired and natural gas-fired generation, made up for by renewable purchased power contracts, especially a large biomass unit that the Commission authorized recently.

GRU Figure 4. Net Energy for Load by Fuel Type



Source: GRU 2012 TYSP

Generation Additions

GRU has no planned generation additions over the planning horizon. This is consistent with the company's 2011 TYSP, which also included no new generating units through 2020.

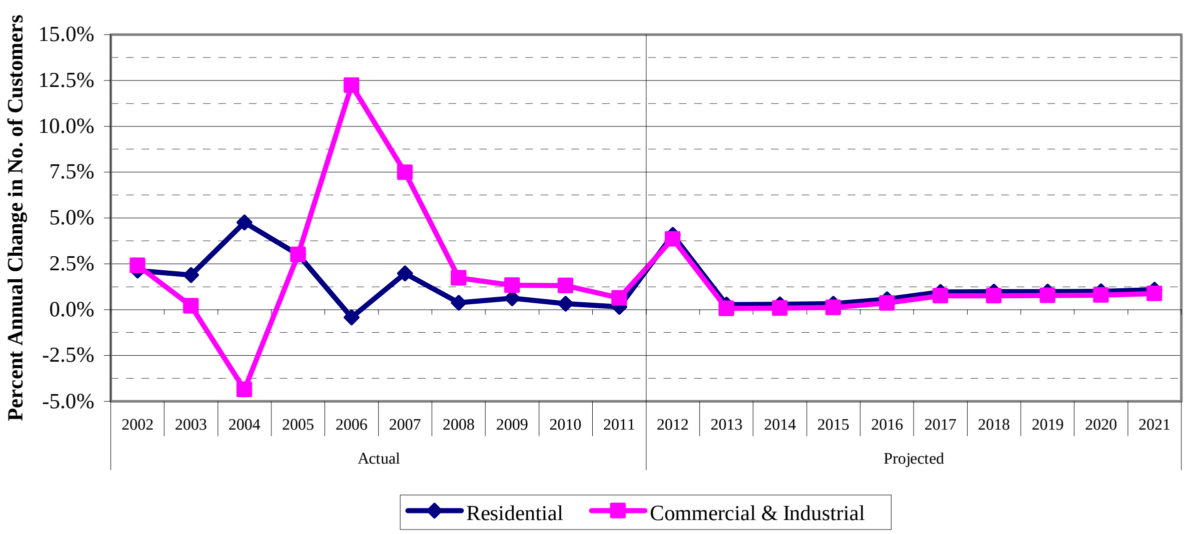
JEA is a municipal electric utility, and the state's fifth largest TYSP utility, and is the largest generating municipal utility. JEA's service territory is within the FRCC region, and includes all of Duval County as well as portions of Clay and St. Johns Counties. As JEA is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning

In 2011, JEA had an average of 416,278 customers, and had a total net energy for load of 12,980 GWh, approximately 5.5 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

JEA Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Positive growth is anticipated over the entire planning period, with an average annual growth rate of 0.69 percent. This compares with the actual rate of 2.36 percent for the period 2002 through 2007.

JEA Figure 1. Annual Customer Growth Rate by Customer Class



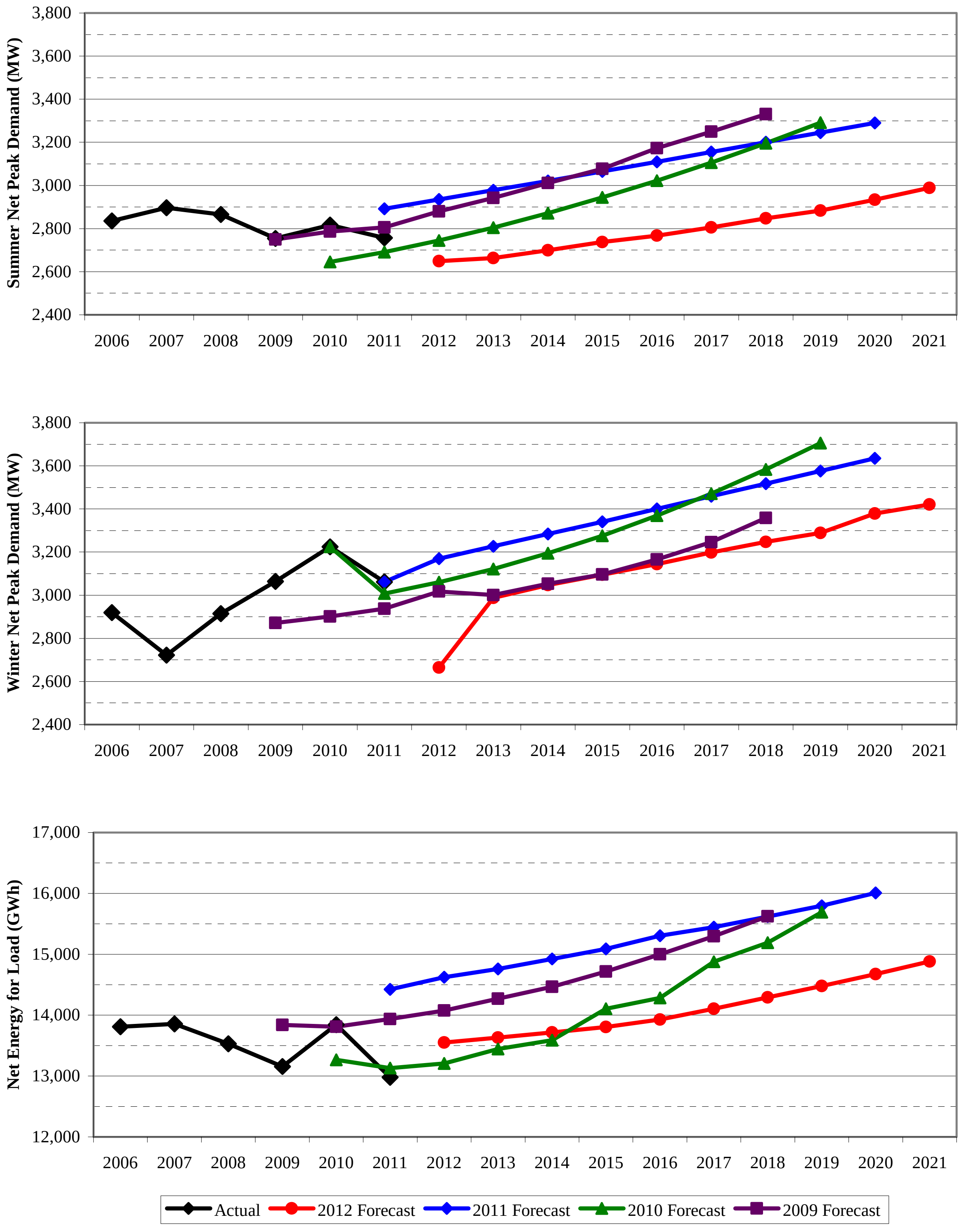
Source: JEA 2012 TYSP

The following three graphs in JEA Figure 2 show JEA's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year's in both seasonal peak demand and NEL.

Analysis of JEA's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that JEA's average forecast error is 12.72 percent. This value indicates that the company tends to over-forecast its retail energy sales by 12.72 percent, which is unfavorable

when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

JEA Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

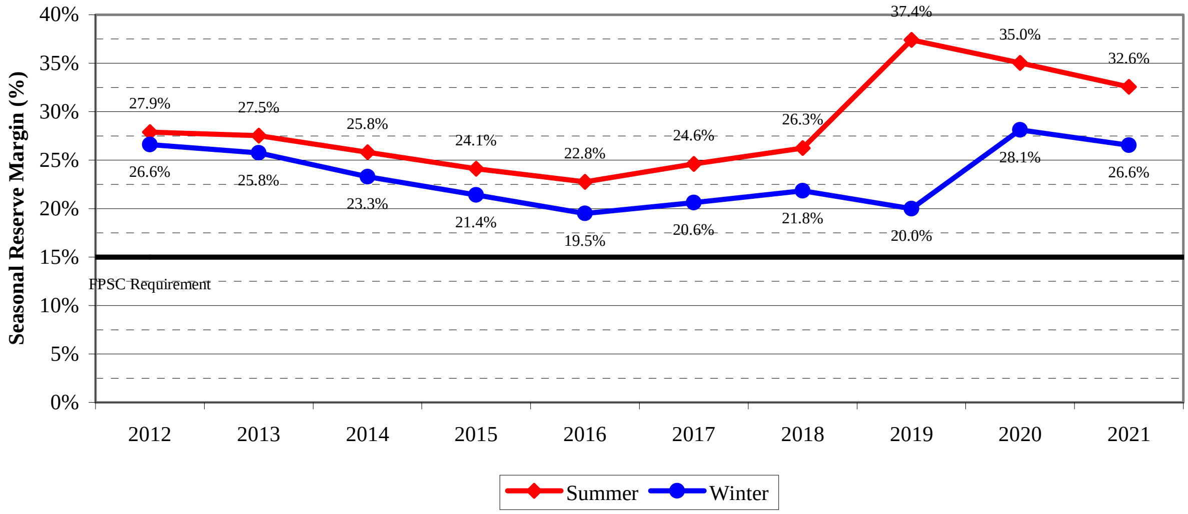


Source: JEA 2009 - 2012 TYSPs

Reserve Margin Requirement

JEA maintains a 15 percent reserve margin pursuant to FRCC requirements. JEA Figure 3 shows their projected reserve margin, which is sufficient for both summer and winter seasonal peaks.

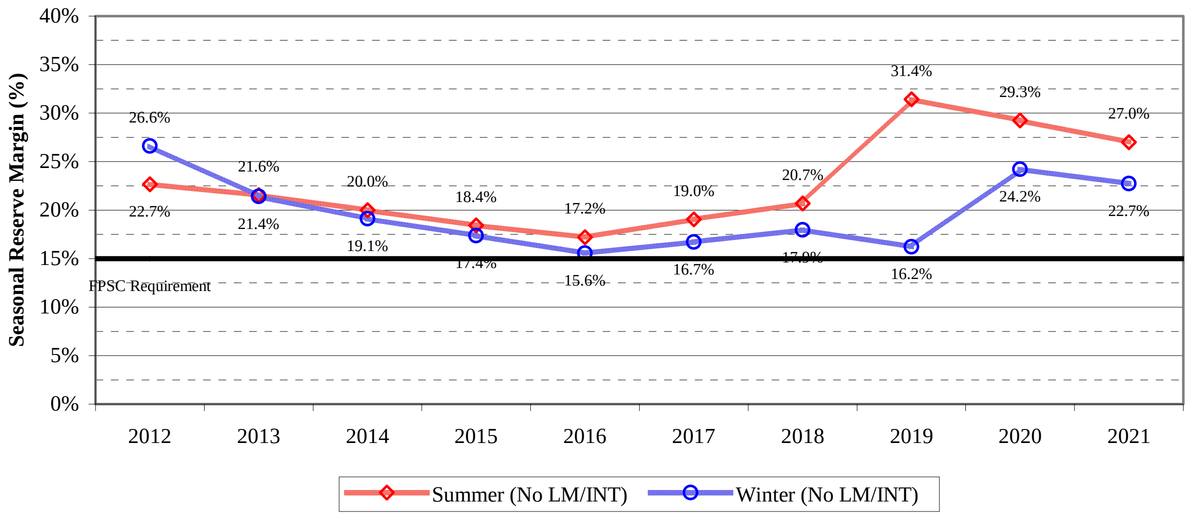
JEA Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: JEA 2012 TYSP

Because JEA does have active load management and interruptible load programs in place, a portion of its reserve margin can be attributed to non-firm load. The measure of reserve margin without any contribution from demand-side programs is shown in JEA Figure 4. JEA's reserve margin exceeds its planning requirement for both summer and winter peak demand throughout the ten year horizon without activating demand response programs.

JEA Figure 4. Seasonal Reserve Margin (Without LM/INT)

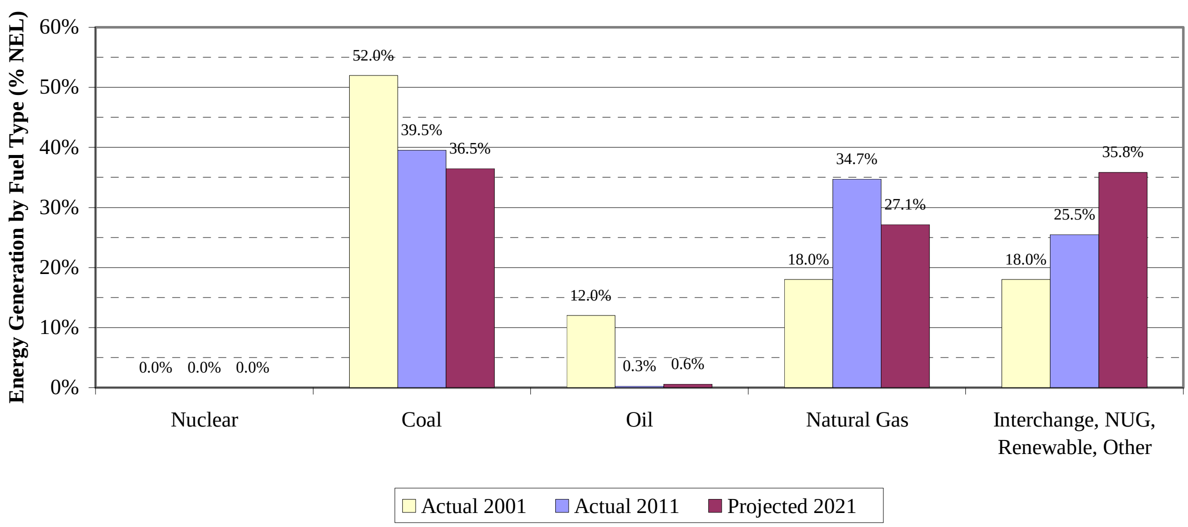


Source: JEA 2012 TYSP

Fuel Diversity

JEA Figure 5 displays the composition of JEA's system in terms of energy generated. Coal, natural gas, and purchased power are the primary sources, with coal overall declining since 2001 while natural gas and purchased power have increased by 2011. Coal is expected to further decline, along with natural gas, in favor of purchased power by 2021.

JEA Figure 5. Net Energy for Load by Fuel Type



Source: JEA 2002 and 2012 TYSPs

Generation Additions

JEA has no planned generation additions over the planning horizon. This is consistent with the company's 2011 TYSP, which also included no new generating units through 2020.

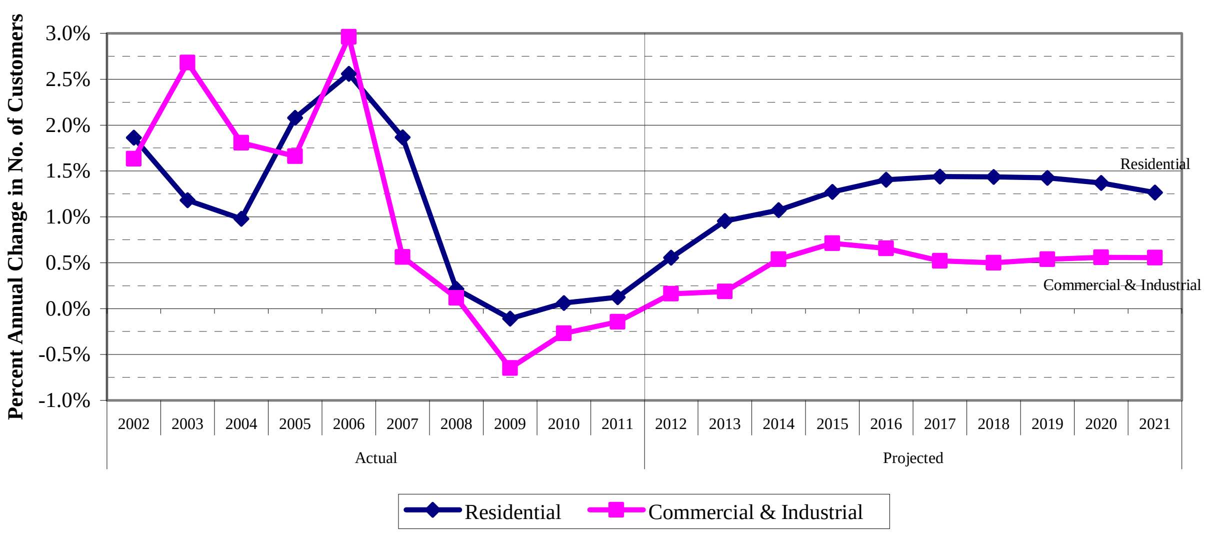
LAK is the municipal utility, and is the state's ninth largest TYSP utility. LAK is owned and operated by the City of Lakeland. LAK is a member of the Florida Municipal Power Pool (FMPP), along with OUC and FMPA's All-Requirements Project (ARP). The FMPP operates as an hourly energy pool with all FMPP capacity from its members committed and dispatched together. Each member of the FMPP retains the responsibility of adequately planning it own system to meet native load and FRCC reserve requirements. As LAK is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning

In 2011, LAK had an average of 121,763 customers, and had a total net energy for load of 2,893 GWh, approximately 1.2 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

LAK Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth during for 2012 through 2021. Customer growth is anticipated to increase slowly throughout the planning period, with an average annual growth rate of 1.21 percent. This compares with the actual rate of 1.75 percent for the period 2002 through 2007.

LAK Figure 1. Annual Customer Growth Rate by Customer Class

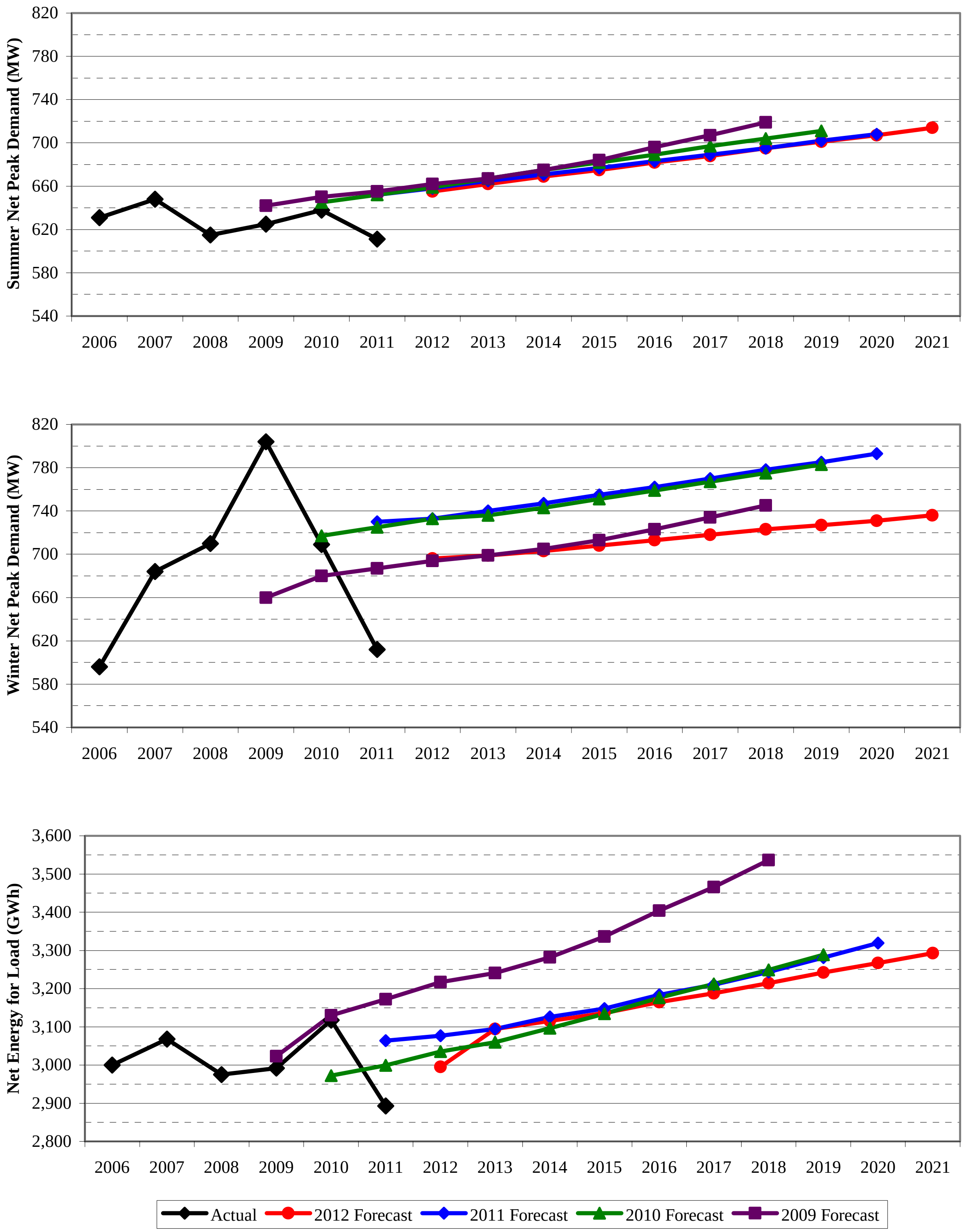


Source: LAK 2012 TYSP

The following three graphs in LAK Figure 2 show LAK's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is equivalent to last year's for summer peak demand and NEL, but notably below for winter peak demand.

Analysis of LAK's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that LAK's average forecast error is 7.89 percent. This value indicates that the company tends to over-forecast its retail energy sales by 7.89 percent, which is favorable when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

LAK Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

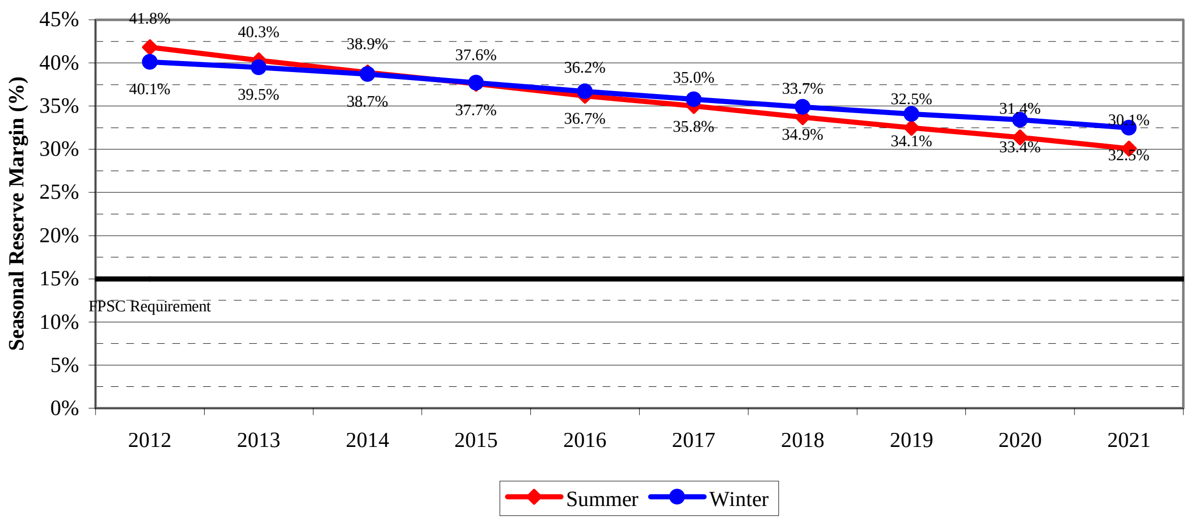


Source: LAK 2009 - 2012 TYSPs

Reserve Margin Requirement

As an FRCC utility, LAK maintains a 15 percent minimum reserve margin. As LAK Figure 3 shows, although LAK's reserve margin decreases steadily over the planning horizon, it remains well above the minimum level of 15 percent.

LAK Figure 3. Seasonal Reserve Margin

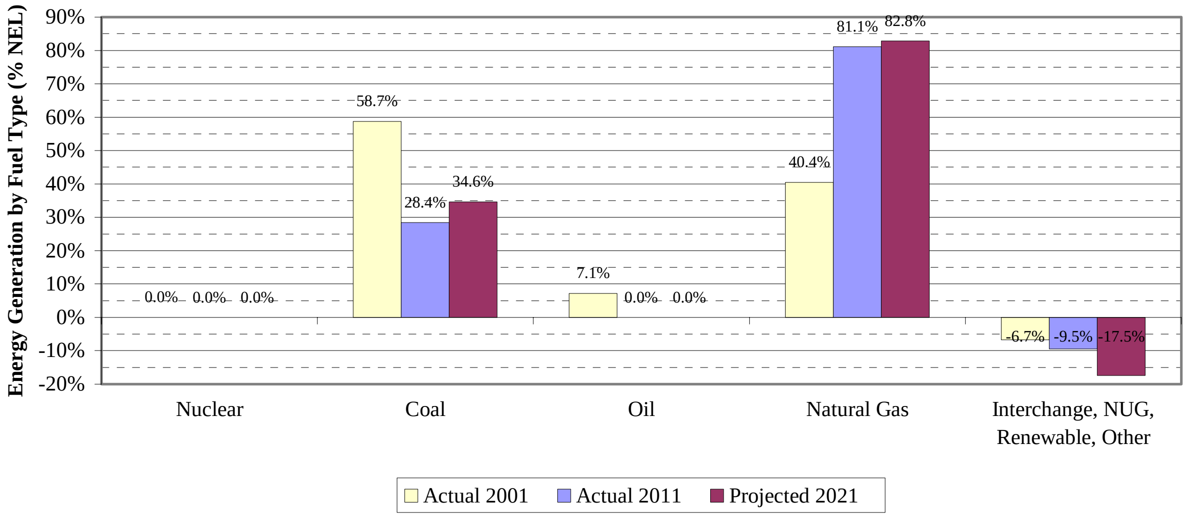


Source: LAK 2012 TYSP

Fuel Diversity

LAK Figure 4 displays the composition of LAK's system in terms of energy generated. Natural gas has increased its share of the company's energy from 40.4 percent in 2001 to 81.1 percent in 2011. While coal and oil made a significant portion of generation historically, oil usage has been drastically reduced, and coal's portion of generation has declined to approximately a third of system energy. LAK also makes significant energy sales, which cause its total energy produced to exceed 100 percent of its native load.

LAK Figure 4. Net Energy for Load by Fuel Type



Source: LAK 2012 TYSP

Generation Additions

LAK has no planned generation additions over the planning horizon. This is consistent with the company's 2011 TYSP, which also included no new generating units through 2020.

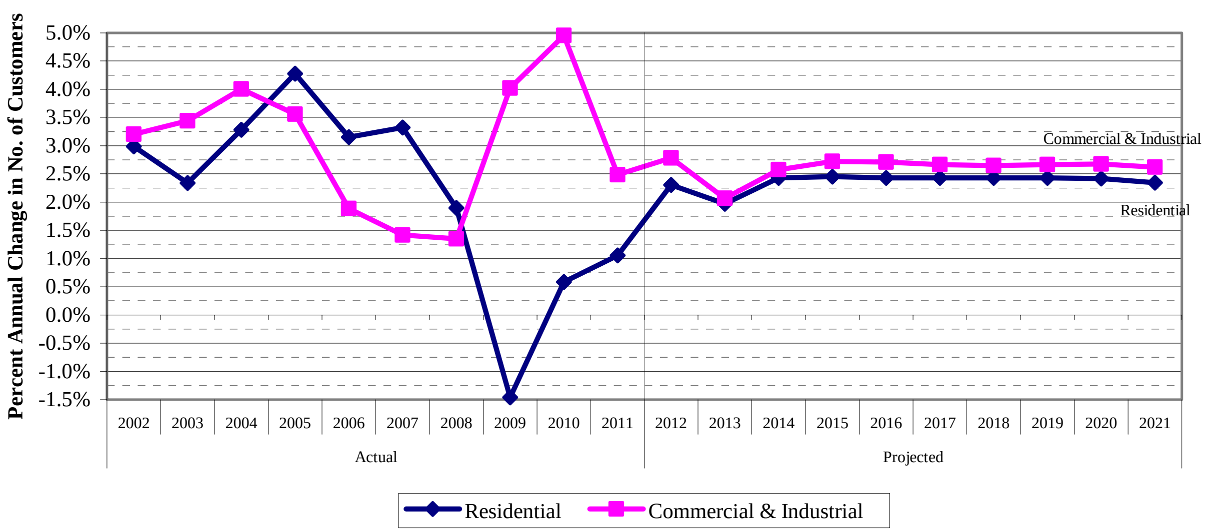
OUC is a municipal utility, and the state's seventh largest TYSP utility. The utility's service territory is within the FRCC region, and serves the Orlando metropolitan area. OUC is a member of the FMPP, along with LAK and FMPA's All-Requirements Project (ARP). As OUC is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning.

In 2011, OUC had an average 209,638 customers, and had a total net energy for load of 6,977 GWh, approximately 2.9 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

OUC Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Overall, OUC projected a steady growth throughout the planning period, with an average annual growth rate of 2.40 percent through 2021. This compares with the actual rate of 3.22 percent for the period 2002 through 2007.

OUC Figure 1. Annual Customer Growth Rate by Customer Class

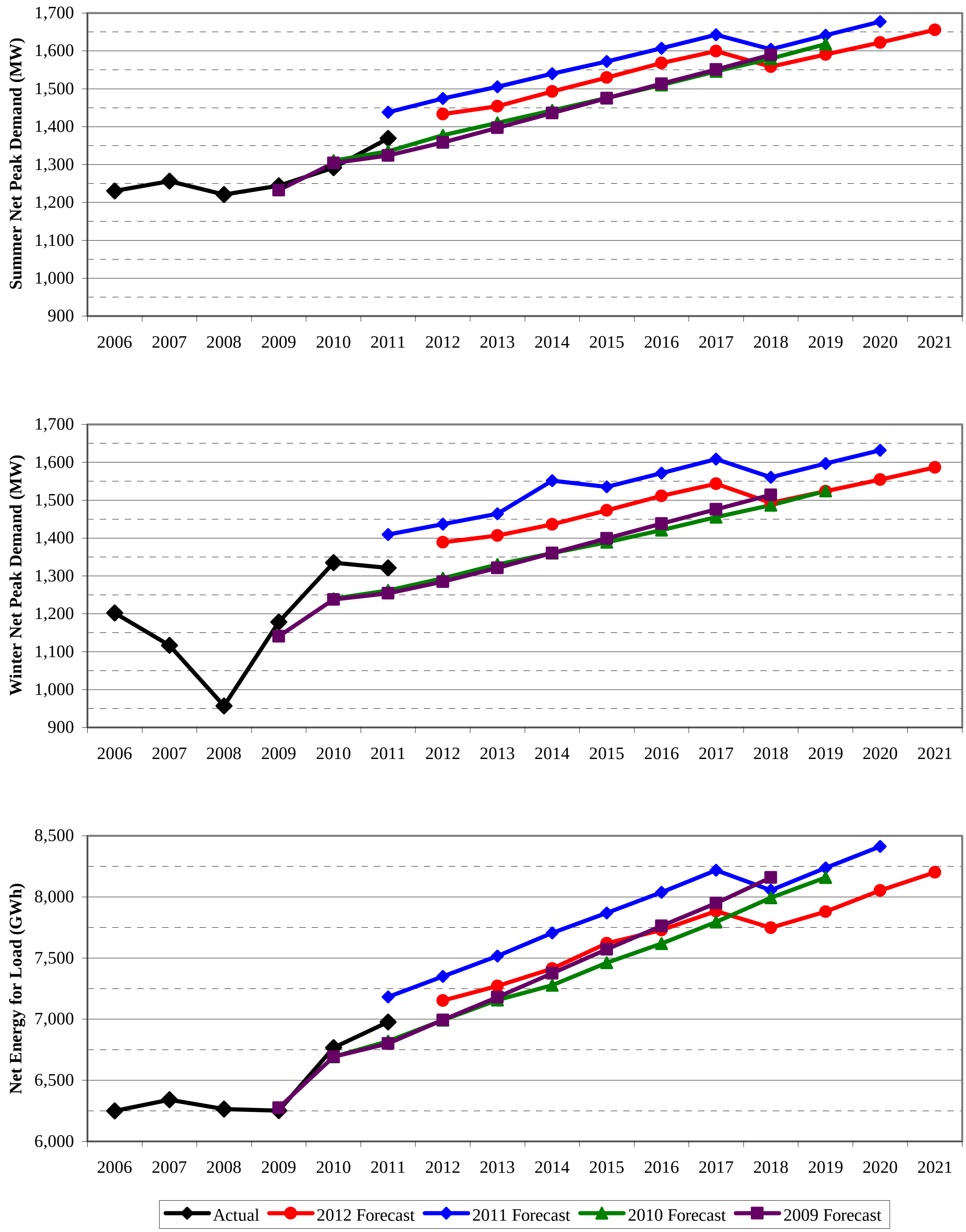


Source: OUC 2012 TYSP

The following three graphs in OUC Figure 2 show OUC's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year's for both seasonal peaks and NEL.

Analysis of OUC's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that OUC's average forecast error is 5.83 percent, the second lowest error rate in 2012. This value indicates that the company tends to over-forecast its retail energy sales by 5.83 percent, which is favorable when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

OUC Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

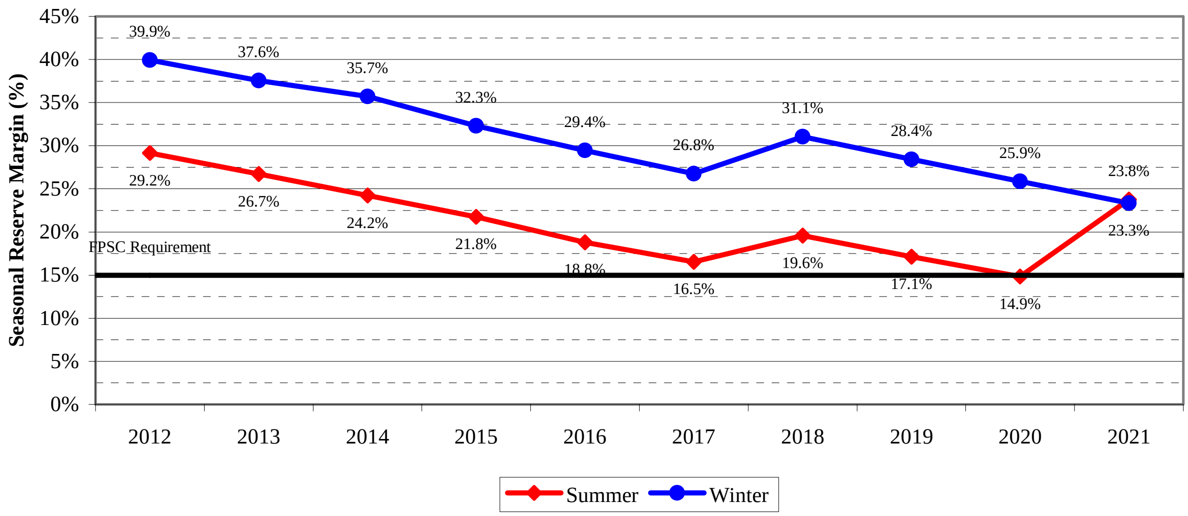


Source: OUC 2009 - 2012 TYSPs

Reserve Margin Requirement

OUC maintains a 15 percent reserve margin pursuant to FRCC requirements. OUC Figure 3 shows their projected reserve margin, which is sufficient for both summer and winter seasonal peaks. OUC does not have active load management and interruptible load programs as part of its DSM program, and therefore has no energy efficiency component included in its reserve margin.

OUC Figure 3. Seasonal Reserve Margin

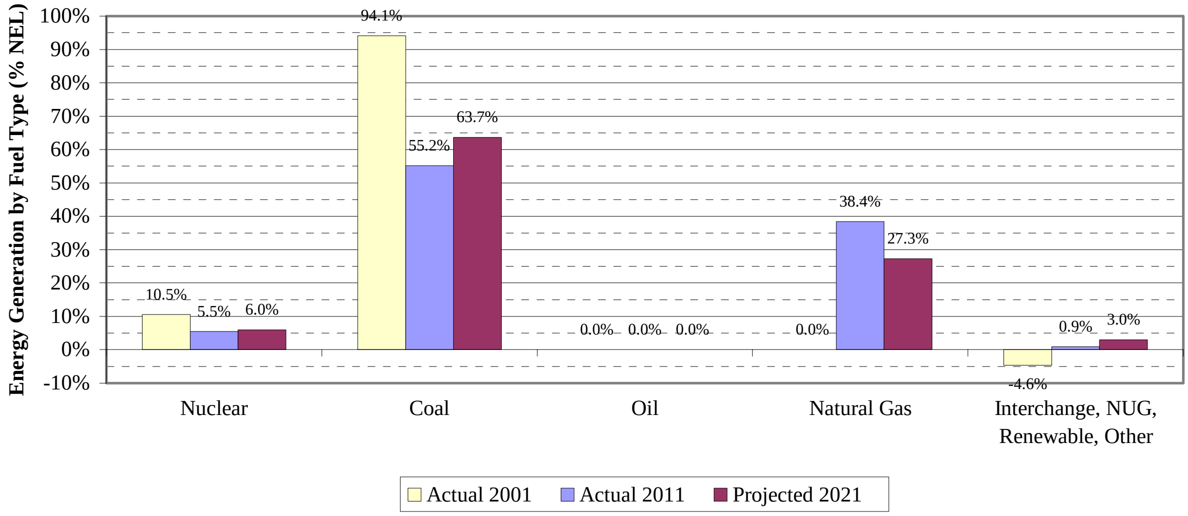


Source: OUC 2012 TYSP

Fuel Diversity

OUC Figure 4 displays the composition of OUC's system in terms of energy generated. As seen in the figure, OUC is historically a coal dependent utility, and as of 2001 did not use natural gas for generation, and was a net exporter of energy. However, by 2011, natural gas had assumed a significant role in OUC's system, with 38.4 percent of generation, as compared to 55.2 percent for coal. The utility's projected fuel mix shows an increase in coal over the planning period, which would result in a reduction of natural gas from its current level.

OUC Figure 4. Net Energy for Load by Fuel Type



Source: OUC 2002 and 2012 TYSPs

Generation Additions

OUC's 2012 TYSP includes a single new generating unit, an sited 185 MW natural gas-fired combustion turbine with an in-service date in 2021, as detailed in OUC Table 1 below.

OUC Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combustion Turbine Unit Additions				
Unknown CT1	185	N/A	N/A	05/2021

Source: OUC 2012 TYSP

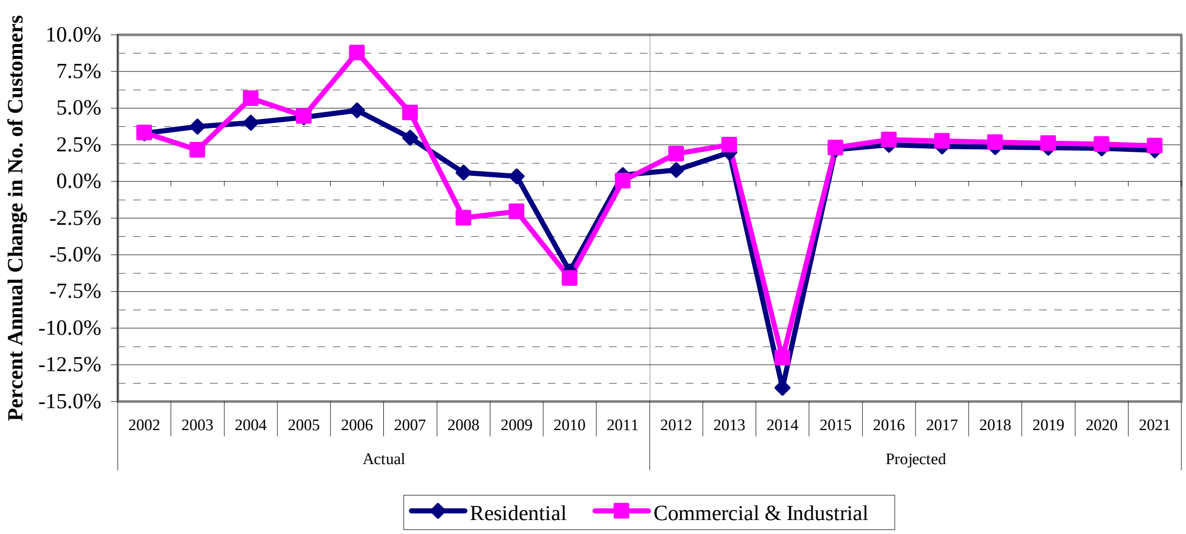
SEC is a corporation that provides electric power to its distribution members' systems, and is collectively the state's fourth largest TYSP utility. SEC is a generation and transmission rural electric cooperative that serves only wholesale customers that purchase power from SEC under long-term wholesale power contracts. SEC is within the FRCC Region, with load serviced throughout the State of Florida. Its generation assets are primarily within the central region. As SEC is a rural electric cooperative, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning

In 2011, SEC had an average 849,059 customers, and had a total net energy for load of 16,037 GWh, approximately 6.7 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

SEC Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. Generally the utility expects level growth throughout the planning period, with the exception of 2014. As SEC is composed of multiple members, the overall growth of the utility is heavily impacted by their departure. The projected drop in customers in 2014 is due to the Lee County Electric Cooperative load no longer being served by SEC beginning January 1, 2014.

SEC Figure 1. Annual Customer Growth Rate by Customer Class

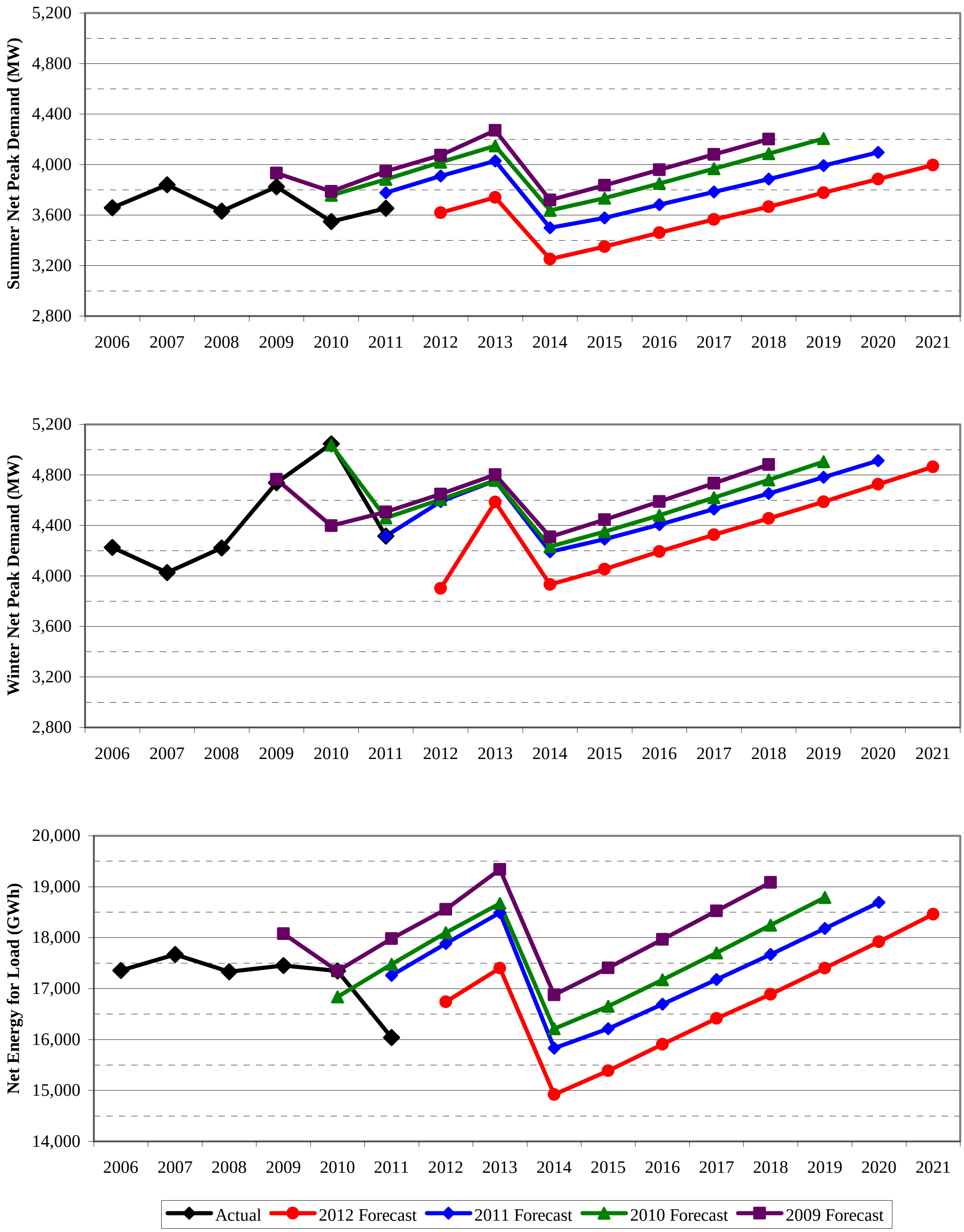


Source: SEC 2012 TYSP

The following three graphs in SEC Figure 2 show SEC's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is below last year's for both seasonal peaks and NEL. The forecasts show a significant drop in 2014, associated with the reduction in customers discussed above.

Analysis of SEC's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that SEC's average forecast error is 11.41 percent. This value indicates that the company tends to over-forecast its retail energy sales by 11.41 percent, which is approximately equivalent to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

SEC Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

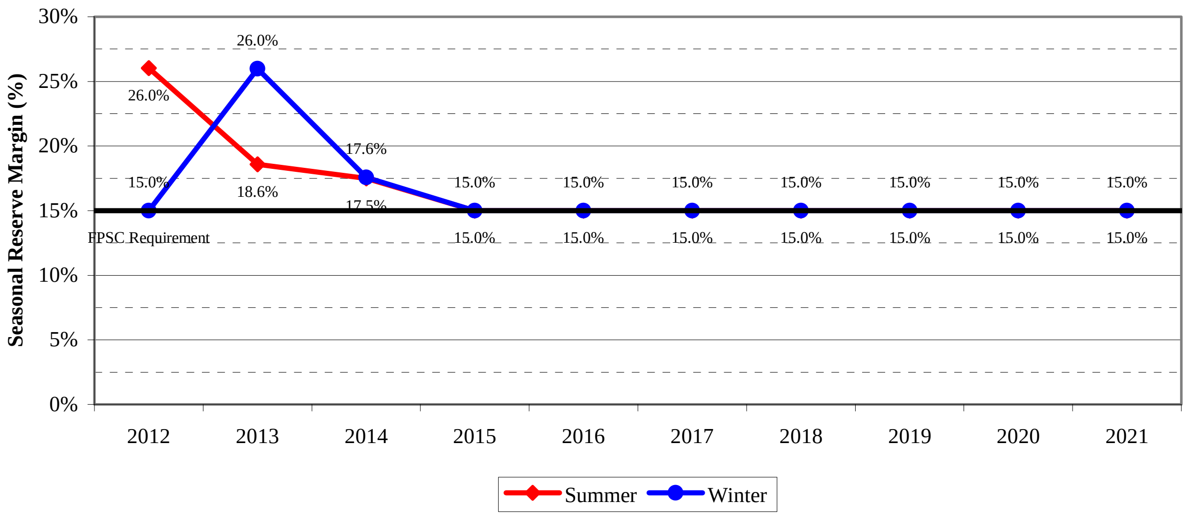


Source: SEC 2009 - 2012 TYSPs

Reserve Margin Requirement

As SEC is within the FRCC region, it is required to meet a 15 percent reserve margin requirement. SEC projects its reserve margin to remain at or above this requirement for both summer and winter seasonal peaks, as shown in SEC Figure 3.

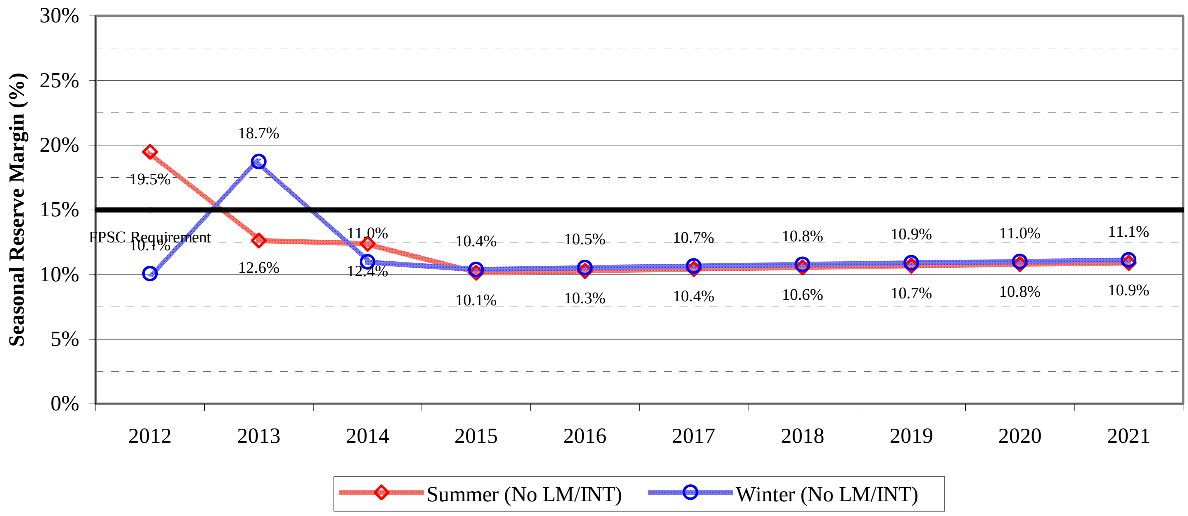
SEC Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: SEC 2012 TYSP

Because SEC does offer load management programs, a portion of its reserve margin can be attributed to non-firm load. The measure of reserve margin without any contribution from demand-side programs is shown in SEC Figure 4. As the figure shows, SEC's reserve margin is projected to remain at approximately 10 percent without activating demand response programs.

SEC Figure 4. Seasonal Reserve Margin (Without LM/INT)

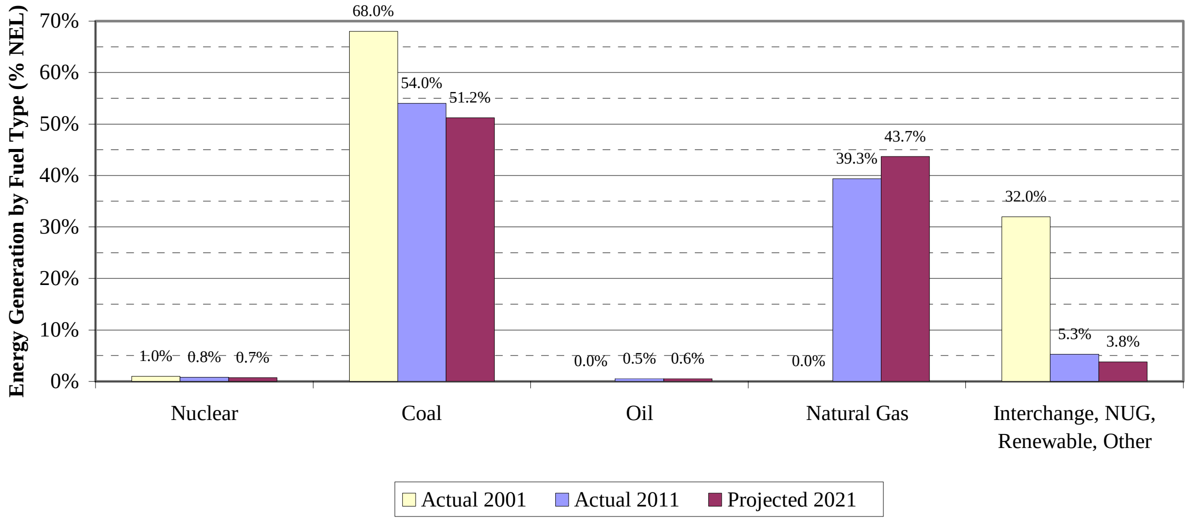


Source: SEC 2012 TYSP

Fuel Diversity

SEC Figure 5 displays the composition of SEC's system in terms of energy generated. As the figure shows, SEC is historically a coal dependent utility, though this portion has decreased from 68 percent in 2001 to 54 percent in 2011. SEC did not have any generation from natural gas in 2001, but now a significant portion of its generation comes from natural gas units. While purchased power made up a significant portion of system reserves, this has decreased dramatically, from 32 percent to 5.3 percent last year. Generally, SEC's projected fuel mix is unchanged, except for a slight shift from coal and purchased power towards natural gas generation.

SEC Figure 5. Net Energy for Load by Fuel Type



Source: SEC 2002 and 2012 TYSPs

Generation Additions

SEC's 2012 TYSP includes the addition of nine natural gas combustion turbine units, and three combined cycle units by the end of the planning period. SEC Table 1 details the generation additions below.

SEC Table 1. Planned Generation Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combustion Turbine Unit Additions				
Unnamed CT1	158	N/A	N/A	12/2018
Unnamed CT2	158	N/A	N/A	12/2019
Unnamed CT3	158	N/A	N/A	12/2020
Unnamed CT4	158	N/A	N/A	12/2020
Unnamed CT5	158	N/A	N/A	12/2020
Unnamed CT6	158	N/A	N/A	05/2021
Unnamed CT7	158	N/A	N/A	12/2021
Unnamed CT8	158	N/A	N/A	12/2021
Unnamed CT9	158	N/A	N/A	12/2021
Combined Cycle Unit Additions				
Unnamed CC1	196	-	-	Dec-20
Unnamed CC2	196	-	-	Dec-20
Unnamed CC3	196	-	-	Dec-21

Source: SEC 2012 TYSP

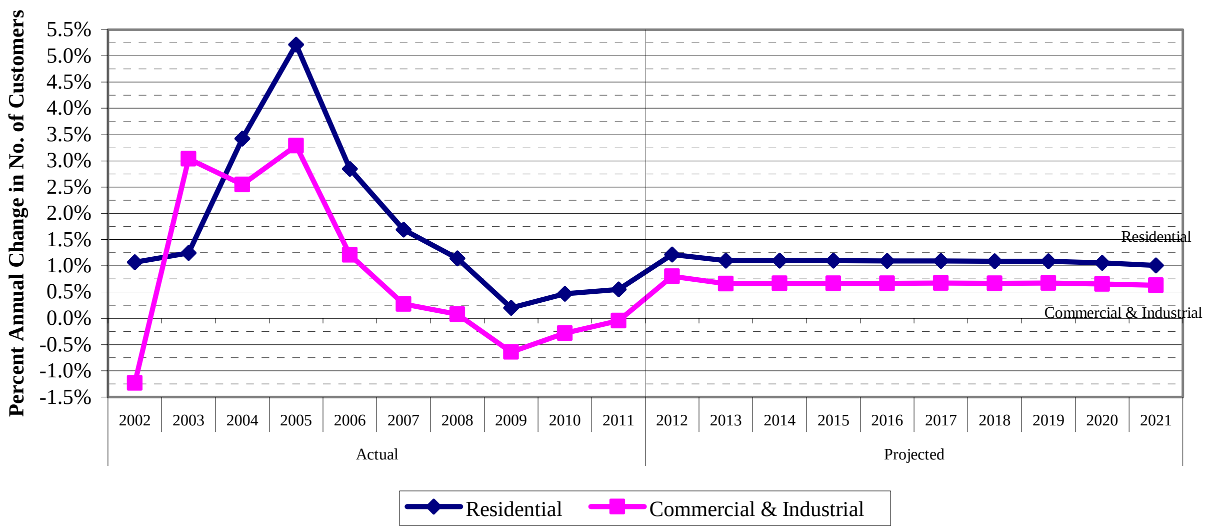
TAL is a municipal utility, and the state's second smallest TYSP utility. The utility's service territory is within the FRCC region, in Leon County, and primarily serves the City of Tallahassee. As TAL is a municipal utility, the Commission's regulatory authority is limited to safety, rate structure, territorial boundaries, bulk power supply, operations, and planning.

In 2011, TAL had an average 114,212 customers, and had a total net energy for load of 2,799 GWh, approximately 1.2 percent of the NEL generated in the state last year.

Peak Demand and Energy Forecasts

TAL Figure 1 illustrates the company's actual customer growth trends for the period 2002 through 2011, and the 2012 TYSP projections for growth for 2012 through 2021. A level, but positive growth is anticipated over the entire planning period, with an average annual growth rate of 1.01 percent. This compares to the actual average growth rate of 2.74 percent for the period 2002 through 2007, before the economic downturn.

TAL Figure 1. Annual Customer Growth Rate by Customer Class



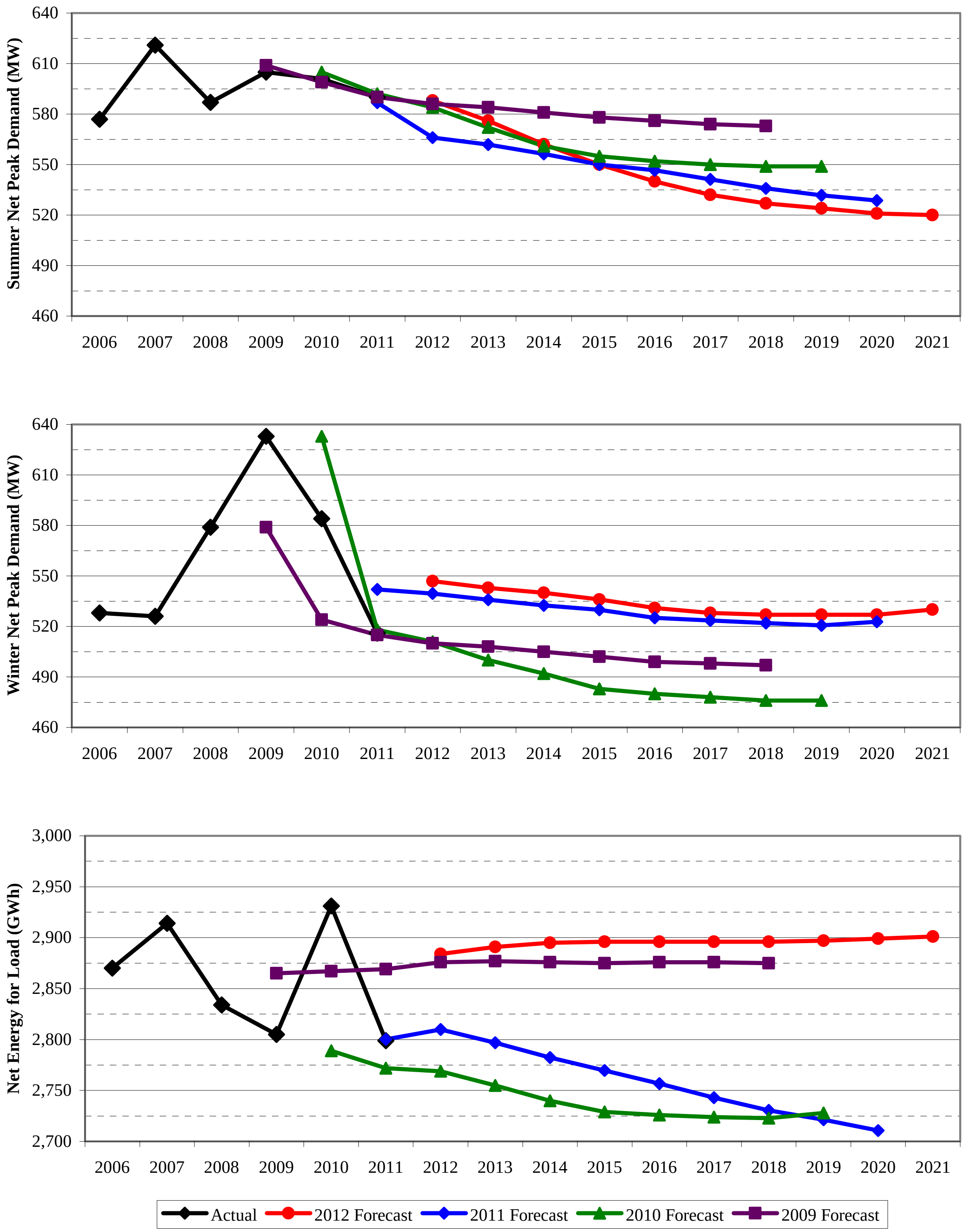
Source: TAL 2012 TYSP

The following three graphs in TAL Figure 2 show TAL's historic peak demand for both the summer and winter seasons, and NEL for the years since 2006. The forecasted values are also shown through the current planning horizon, including the effect of DSM, for the current year and three previous forecast years. These figures show that the current forecast is similar for seasonal peak demand, but higher for NEL.

Analysis of TAL's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that TAL's average forecast error is 8.77 percent. This value indicates that the company tends to over-forecast its retail energy sales by 8.77 percent, which is favorable

when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012. This forecasting error is associated with the decline in forecasted customer growth experienced in the period analyzed, 2007 through 2011.

TAL Figure 2. Seasonal Peak Demand and Annual Energy Consumption Forecasts

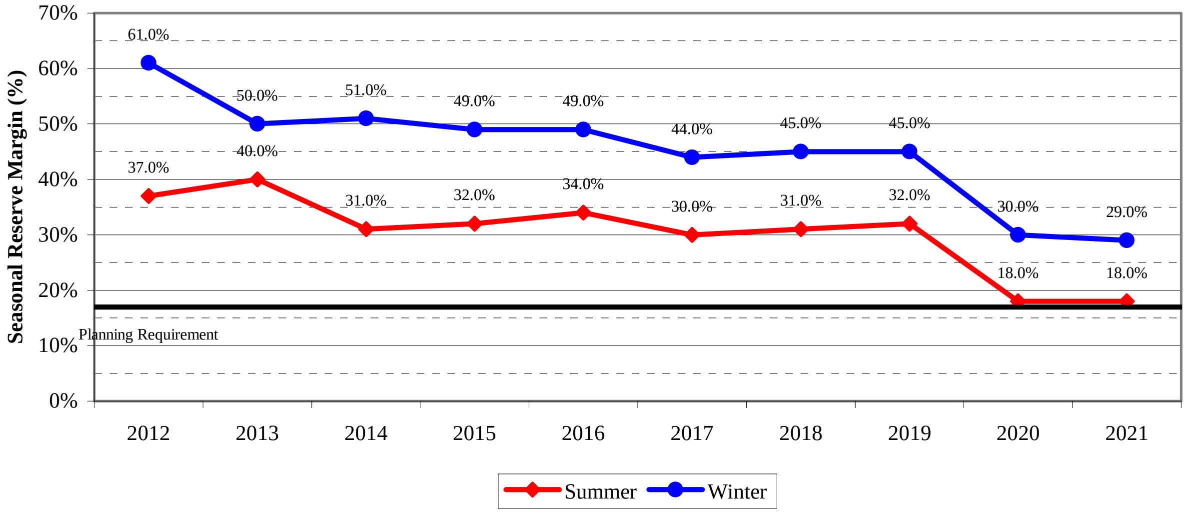


Source: TAL 2009 - 2012 TYSPs

Reserve Margin Requirement

As TAL is within the FRCC region, it is required to meet a 15 percent reserve margin requirement. However, TAL has adopted an 18 percent planning reserve margin requirement, as reflected in TAL Figure 3 below. TAL has sufficient reserve margin including the impact of demand response.

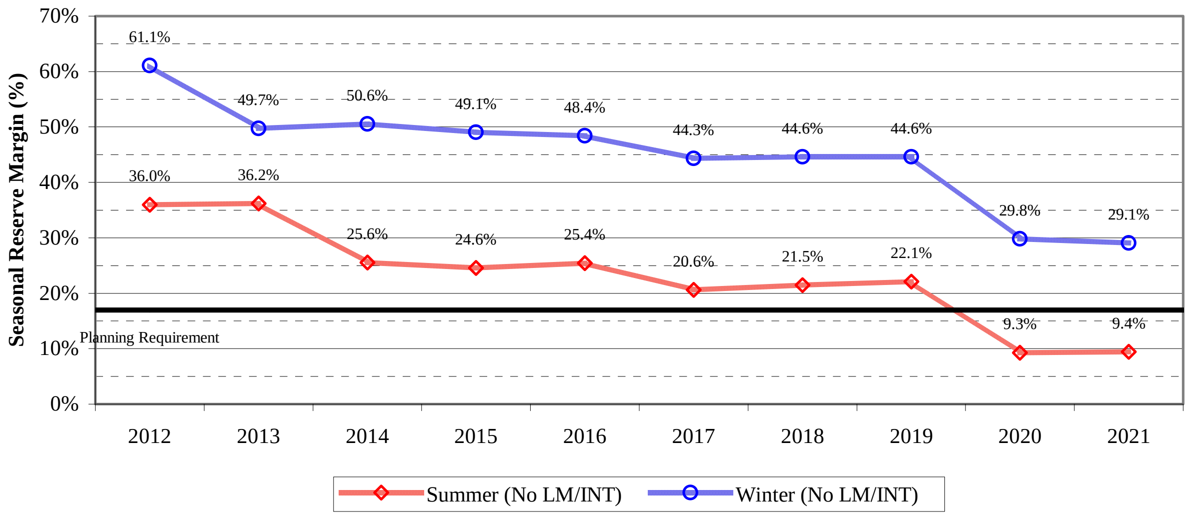
TAL Figure 3. Seasonal Reserve Margin (With LM/INT)



Source: TAL 2012 TYSP

In addition to supply-side resources, TAL has interruptible load and load management programs, which assist the utility in meeting reserve margin requirements. TAL Figure 4 below illustrates the impact on reserve margin of excluding demand response programs. As seen below, the summer peak demand period would fall below the planning reserve margin without the use of demand response programs to reduce peak demand in the outer years.

TAL Figure 4. Seasonal Reserve Margin (Without LM/INT)

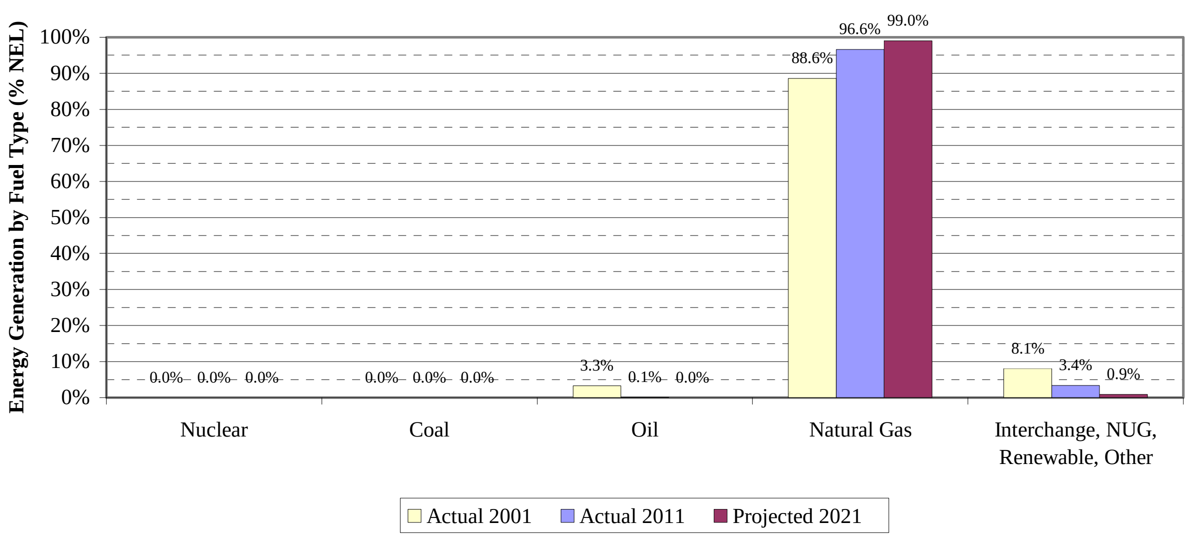


Source: TAL 2012 TYSP

Fuel Diversity

TAL Figure 5 displays the composition of Tallahassee's system in terms of energy generated. As seen below, TAL has an almost exclusive dependence on natural gas, and by the end of the planning period almost 100 percent of energy for load will be from natural gas. The only other sources of energy on TAL's system are oil, purchased power, and renewable energy.

TAL Figure 5. Net Energy for Load by Fuel Type



Source: TAL 2002 and 2012 TYSPs

Generation Additions

TAL has no planned generation additions over the planning horizon. This represents a decline from the company's 2011 TYSP, which anticipated the addition of a 46 MW combustion turbine unit in 2020.

Exhibit L

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The Program Administrator Cost of Saved Energy for Utility Customer-Funded Energy Efficiency Programs

Megan A. Billingsley, Ian M. Hoffman, Elizabeth Stuart, Steven R. Schiller, Charles A. Goldman, Kristina LaCommare

Environmental Energy Technologies Division

March 2014

The work described in this report was funded by the National Electricity Delivery Division of the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability under Lawrence Berkeley National Laboratory Contract No. DE-AC02-05CH11231.

The Program Administrator Cost of Energy Saved for Utility Customer-Funded Energy Efficiency Programs

Prepared for the
U.S. Department of Energy
National Electricity Delivery Division of the Office of Electricity Delivery and Energy Reliability

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Disclaimer

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Acronyms and Abbreviations

ACEEE	American Council for and Energy-efficient Economy
C&I	commercial and industrial (private sector)
CCE	Cost of conserved energy
CEE	Consortium for Energy Efficiency
CSE	Cost of saved energy
DOE	U.S. Department of Energy
DSM	Demand-Side Management
EIA	Energy Information Administration
EERS	Energy Efficiency Resource Standards
HVAC	heating, ventilation, air conditioning
LCOE	Levelized cost of energy
MUSH	Municipal and state governments, universities and colleges, K-12 schools, and healthcare markets
WACC	Weighted average cost of capital

Executive Summary

End-use energy efficiency is increasingly being relied upon as a resource for meeting electricity and natural gas utility system needs within the United States. There is a direct connection between the maturation of energy efficiency as a resource and the need for consistent, high-quality data and reporting of efficiency program costs and impacts. To support this effort, LBNL initiated the Cost of Saved Energy Project (CSE Project) and created a Demand-Side Management (DSM) Program Impacts Database to provide a resource for policy makers, regulators, and the efficiency industry as a whole.

Cost of Saved Energy (CSE) vs. Cost Effectiveness

The program administrator's cost of saved energy is a useful metric for comparing the relative costs of efficiency programs and for comparing an energy efficiency option to other demand and supply choices for serving energy needs. The CSE is comparable to the levelized cost of energy (LCOE), which represents the per-kilowatt hour cost (in real dollars) of building and operating a generating plant over an assumed financial life and duty cycle.

The cost of saved energy is not a direct test of cost effectiveness, however, and is not a benefit-cost analysis, like the Program Administrator's Cost Test or Utility Cost Test, because it does not purport to capture the monetized value of efficiency to utility customers and shareholders.

This study is the first technical report of the LBNL CSE Project and provides an overview of the project scope, approach, and initial findings, including:

- Providing a *proof of concept* that the program-level cost and savings data can be collected, organized, and analyzed in a systematic fashion;
- Presenting initial program, sector, and portfolio level results for the program administrator CSE for a recent time period (2009-2011); and
- Encouraging state and regional entities to establish common reporting definitions and formats that would make the collection and comparison of CSE data more reliable.

The LBNL DSM Program Impacts Database includes the program results reported to state regulators by more than 100 program administrators in 31 states, primarily for the years 2009–2011. In total, we have compiled cost and energy savings data on more than 1,700 programs over one or more program-years for a total of more than 4,000 program-years' worth of data, providing a rich dataset for analyses. We use the information to report costs-per-unit of electricity and natural gas savings for utility customer-funded, end-use energy efficiency programs. The program administrator CSE values are presented at national, state, and regional levels by market sector (e.g., commercial, industrial, residential) and by program type (e.g., residential whole home programs, commercial new construction, commercial/industrial custom rebate programs).

In this report, the focus is on gross energy savings and the costs borne by the program administrator—including administration, payments to implementation contractors, marketing, incentives to program participants (end users) and both midstream and upstream trade allies, and evaluation costs.[1] We collected data on net savings and costs incurred by program participants. However, there were insufficient data on participant cost contributions, and uncertainty and variability in the ways in which net savings were reported and defined across states (and program administrators). As a result, they were not used extensively in this report. It is also important to note that savings metrics reported by program administrators draw heavily from estimated values.[2]

Key Definitions

Program administrator costs include administrative, education, marketing and outreach, and evaluation, measurement and verification (EM&V) costs as well as financial incentives paid to customers or contractors. The CSE values exclude participant costs, and program administrator performance incentives, and, thus, do not represent the total resource cost unless indicated otherwise.

Program savings are based on **claimed gross savings** reported by the program administrator unless indicated otherwise. For program administrators that only reported net savings values, we calculated gross savings values using net-to-gross ratios if those were available from the program administrator.

Savings values are also based on **savings at the end-use site** and not at the power plant or natural gas pumping station and thus do not account for transmission and distribution losses.

Lifetime energy savings, when not reported by the program administrator, were calculated per the protocol described in Chapter 2.

Cost of First-Year Energy Savings (First-Year CSE): The cost of acquiring a single year of annualized incremental energy savings through actions taken through a program/sector/portfolio. The cost of efficiency as a function of first-year energy savings may be useful for program design or budgeting to meet incremental annual savings targets.

Levelized Cost of Lifetime Energy Savings (Levelized CSE): The cost of acquiring energy savings that accrue over the economic lifetime of the actions taken through a program/sector/ portfolio, amortized over that lifetime and discounted back to the year in which the costs are paid and the actions are taken.

[1] Researchers who have estimated the cost of saved energy for efficiency programs have typically focused on the program administrator's costs because data on participant costs are often not available (Friedrich et al. 2009). Gross savings are those associated with the program participants' efficiency actions, irrespective of the cause of those actions. Net savings is defined as the total change in energy use that is attributable to a program (for both program participants and non-participants).

[2] Savings metrics rely heavily on estimated values because "….energy and demand savings as well as non-energy benefits resulting from efficiency actions cannot be directly measured. Instead, savings and benefits are based on counterfactual assumptions. Using counterfactual assumptions implies that savings are estimated to varying degrees of accuracy by comparing the situation (e.g., energy consumption) after a program is implemented (the reporting period) to what is assumed to have been the situation in the absence of the program (the "counterfactual" scenario, known as the baseline). For energy impacts, the baseline and reporting period energy use are compared, while controlling (making adjustments) for factors unrelated to energy efficiency actions, such as weather or building occupancy. These adjustments are a major part of the evaluation process; how they are determined can vary from one program type to another and from one evaluation approach to another. " (SEE Action Network 2012)

Results

The CSE values presented in this study are retrospective and may not necessarily reflect future CSE for specific programs, particularly given updated appliance and lighting standards. The CSE values are presented as either (a) the savings-weighted average values; (b) as an inter-quartile range with median[3] values across the sample of programs; or (c) both.

Table ES-1 provides an overall indication of national, savings-weighted average program administrator CSE values by sector using two indicators (e.g., levelized CSE 6% real discount rate and first-year CSE).[4] Figure ES-1 indicates the savings-weighted averages, medians and inter-quartile ranges for levelized CSE values using a 6% discount rate.

Table ES-1. The program administrator CSE for electricity efficiency programs for 2009-2011 data in the LBNL DSM Program Impacts Database (2012$/kWh)

Sector	Levelized CSE ($/kwh; 6% discount rate)	First-Year CSE ($/kwh)
Commercial & Industrial (C&I)	$ 0.021	$ 0.188
Residential	$ 0.018	$ 0.116
Low Income	$ 0.070	$ 0.569
Cross Sectoral/Other	$ 0.017	$ 0.120
National CSE	**$ 0.021**	**$ 0.162**

Values in this table are based on the 2009-2011 data in the LBNL DSM Program Impacts Database. CSE values are for ***program administrator*** *costs and based on gross savings.*

[3] The *inter-quartile range* is the middle 50 percent of the range of program CSE values. The *median* is the numerical value separating the upper half of a data sample from the lower half.

[4] We calculated a levelized CSE using two discount rates that are rough proxies for different perspectives on energy efficiency investments: a 6% real discount rate that can reflect the utility weighted average cost of capital (WACC) and a 3% real discount rate that can be a proxy for a societal perspective.

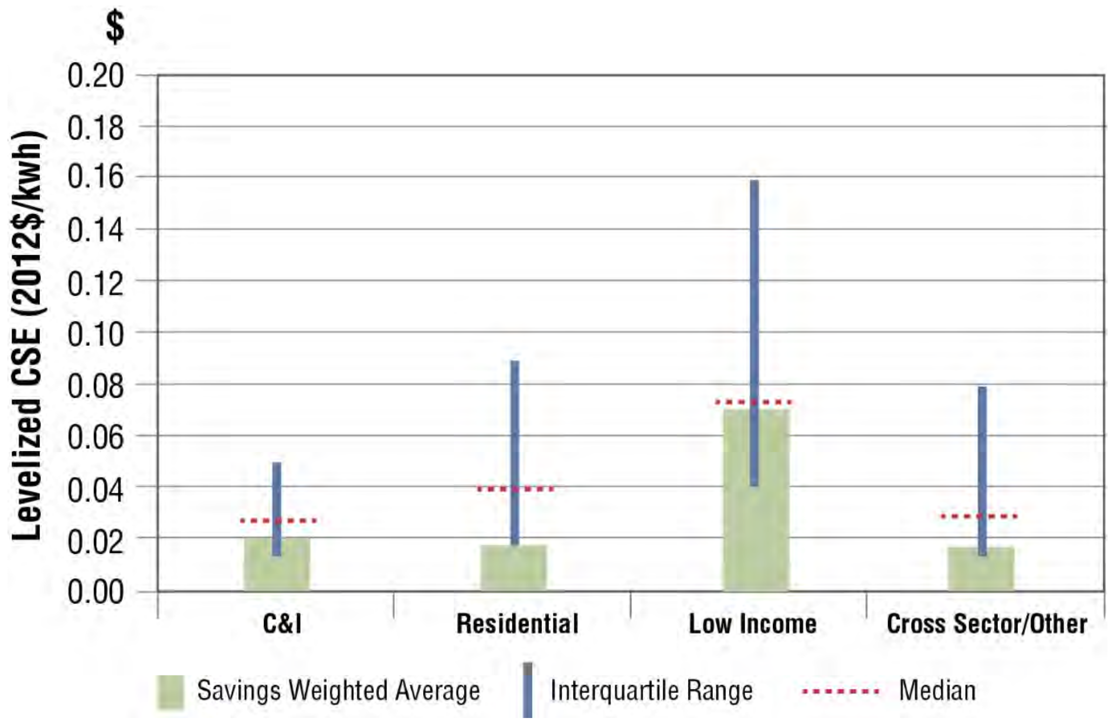

Figure ES-1. CSE for electricity efficiency programs by sector for 2009-2011 data in the LBNL DSM Program Impacts Database

Our key national and regional findings are:[5]

- The U.S. average levelized CSE was slightly more than two cents per kilowatt-hour when gross savings and spending is aggregated at the national level and the CSE is weighted by savings.
- Residential electricity efficiency programs had the lowest average levelized CSE at $0.018/kWh. Lighting rebate programs accounted for at least 44% of total residential lifetime savings with a savings-weighted average levelized CSE of $0.007/kWh. The residential CSE, when the lighting programs were removed, was $0.028/kWh. Low-income programs have an average levelized CSE at $0.070/kWh.
- Commercial, industrial and agricultural (C&I) programs had an average levelized CSE of $0.021/kWh.
- Not surprisingly, the levelized CSE varies widely, both among and within program types. We find that the median value is typically higher than the savings-weighted average for nearly all types of programs. One possible explanation is that our sample includes a number of very large programs and for any given program type, larger efficiency programs have lower CSE than smaller programs because administrative costs are spread over more projects (e.g., economies of scale).
- In reviewing regional results, efficiency programs in the midwest had the lowest average levelized CSE ($0.014/kWh), while programs in northeast states had a higher

[5] Key findings in this section use savings-weighted average CSE values that include program administrator costs (in 2012$) and reported gross savings, which are levelized using a 6% real discount rate.

average CSE value ($0.033/kWh). Programs in western states are at $0.023/kWh and for the southern states included in the database, the comparable program CSE was $0.028/kWh.

- Natural gas efficiency programs had a national, program administrator savings-weighted average CSE of $0.38 per therm, with significant differences between the C&I and residential sectors (average values of $0.17 vs. $0.56 per therm, respectively).
- The cost of saved energy may vary across program administrator portfolios for reasons that have little to do with programmatic efficiency. In some jurisdictions, a policy mandate of acquiring all reasonably available cost-effective energy efficiency can lead to a focus on more comprehensive programs which will tend to have a higher CSE because they are serving more diverse constituencies and technologies. In other jurisdictions, the focus may be on acquiring the cheapest savings possible.

Program-level results

We also examined the cost of saved energy by program type for both residential and C&I programs (see Chapter 3). Figure ES-2 shows an example for the C&I programs, including savings-weighted average (pale green bar) CSE values, the inter-quartile ranges (blue line) and median (red dotted line) CSE values. The median value and inter-quartile ranges for CSE are based on calculations for each individual program and gives equal weighting to programs irrespective of their relative size in terms of either savings or costs.

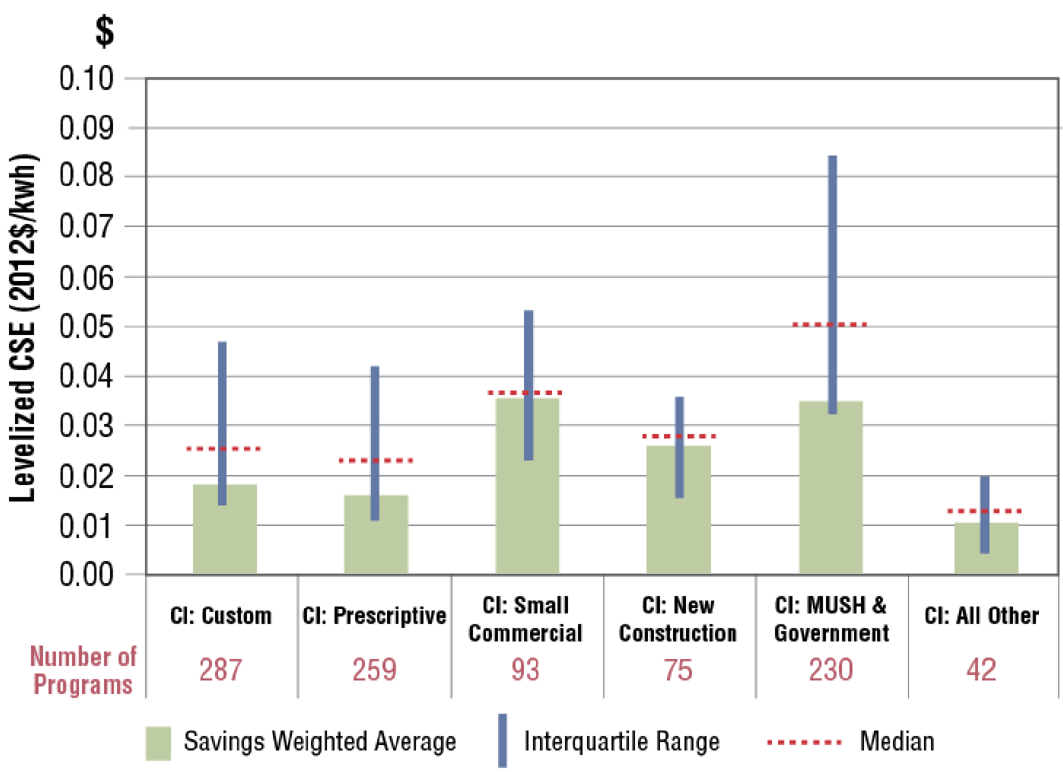

Figure ES-2. National levelized CSE for C&I sector simplified program categories

The simplified C&I programs have median values for program administrator CSE that range from $0.01/kWh to $0.05/kWh. It is worth noting that the savings-weighted average CSE values for custom and prescriptive rebate program categories are $0.018/kWh and $0.015/kWh, respectively. Since these two program categories account for almost 70% of C&I sector savings, they tend to drive the overall CSE results for the C&I sector (less than $0.02/kWh).

For the residential programs, several program categories have a relatively tight range of program CSE values (see Figure ES-3). For example, Consumer Product Rebate programs have an inter-quartile range of $0.01/kWh to $0.04/kWh and a low savings-weighted average (~$0.01/kWh). However, the residential prescriptive ($0.03/kWh to $0.11/kWh), new construction ($0.03/kWh to $0.11/kWh) and whole-home upgrade ($0.03/kWh to $0.21/kWh) program types have significantly larger ranges. There are several possible reasons for the range of CSE values in each of these program categories. The prescriptive simplified program category includes detailed program types that implement a wide variety of measures (e.g., HVAC, insulation, windows, pool pumps) as well as some generic "prescriptive" programs[6] that often include measures also found in the consumer product rebate category. This broad measure mix, and the variation in costs and measure lifetimes associated with those measures, are possible drivers for the wide range of CSE values for the prescriptive category.

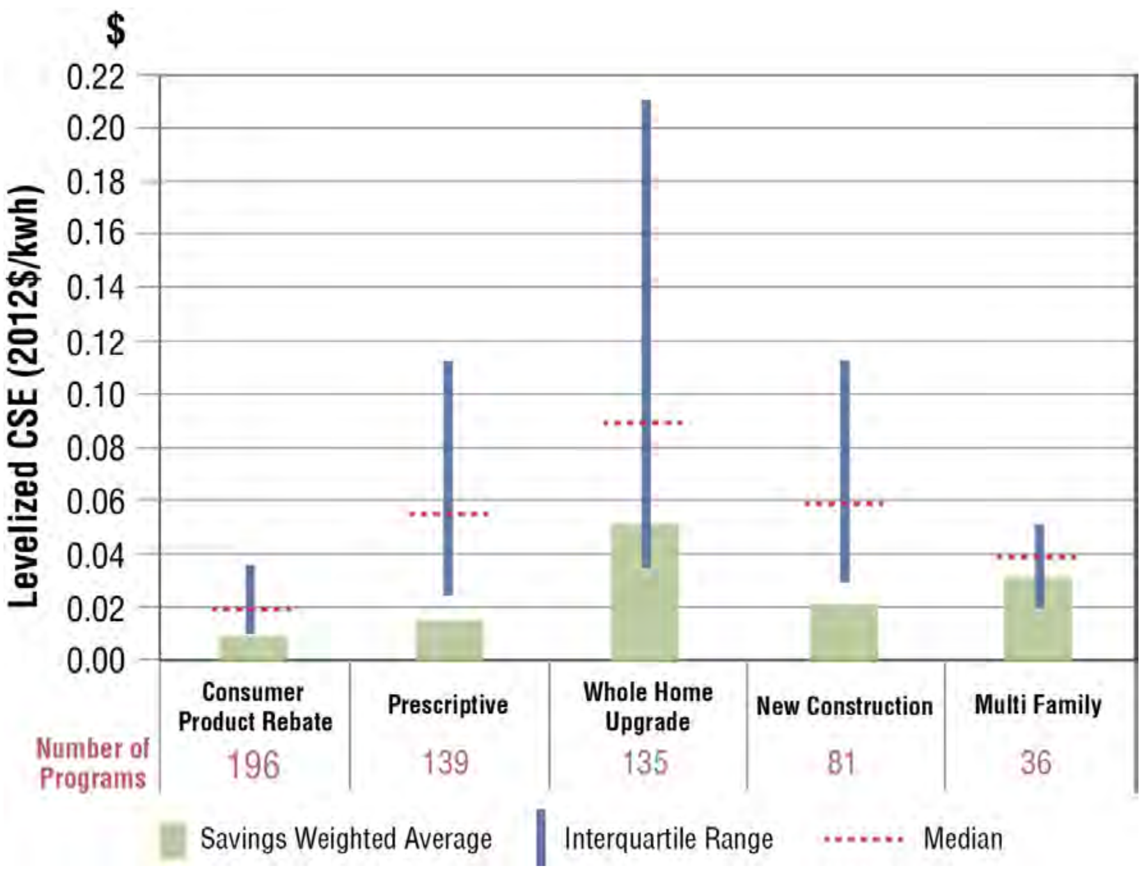

Figure ES-3. National levelized CSE for residential sector simplified program categories

[6] Some programs include all their rebated measures under the same program title and it is not possible to determine where the majority of the savings is coming from. In these cases, the programs were categorized as "Residential Prescriptive."

For the Whole-Home Upgrade program category, the broad range of program designs and delivery mechanisms (this category includes audit, direct install, and retrofit/upgrade programs) may help explain the relatively wide range of CSE values. Overall, most C&I program categories have a relatively smaller inter-quartile range of CSE values compared to residential program categories.

Total resource cost of saved energy

Although we focus on program administrator costs in this report, it is important to note that these metrics do not reflect a total cost perspective since program administrators infrequently report participant costs. We were able to collect participant cost data from a handful of program administrators. However, given small sample size and uncertainty in how participant costs were derived, it is difficult to confidently assess the "all-in" or total resource cost of efficiency or analyze potential influences on the total cost of the efficiency resource. For these reasons, in Figure ES-4, we compare the program administrator's levelized CSE vs. a total resource levelized CSE for illustrative purposes only. We calculate this total resource CSE for the simplified program categories where both program administrator and participant costs are available for more than 18 program years.[7]

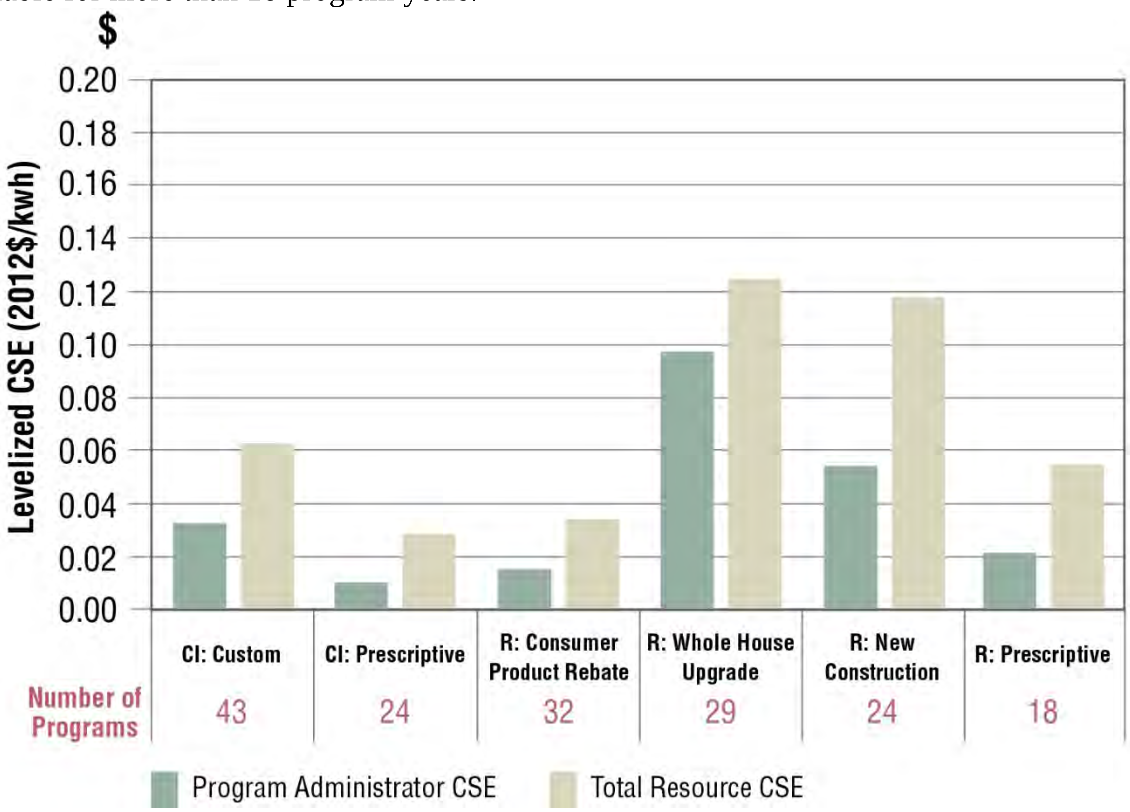

Figure ES-4. Levelized savings-weighted average CSE for electricity efficiency programs that include program administrator costs vs. total resource costs for select program categories[8]

[7] The "n" of 18 was selected because there was a natural break in the data and there were a meaningful number of programs from which to calculate average values.
[8] This chart includes a very small sample of programs from 11 states; thus, results may not reflect current practices in many jurisdictions.

For this small sample of programs, we found that the levelized total resource CSE values are typically double the program administrator CSE with the exception of the Residential Whole Home Upgrade program category (which has a savings-weighted total resource CSE about 25-30% higher than the program administrator CSE). Further data collection and analyses could better characterize the way in which the ratio of program administrator costs to participant costs varies as a function of sector, measure types, and market maturity; and how incentives and direct support might be optimized to pay no more than is necessary to meet a state's efficiency policy objectives.

Observations and Recommendations on Reporting

In calculating the CSE, we utilized information on program administrator costs, annual energy savings, estimated lifetime of measures installed in a program, and an assumed discount rate. However, with respect to current program reporting practices, we observed several challenges to the collection of this data for the purposes of calculating the CSE:

- Inconsistencies in the quality and quantity of the costs and savings data led LBNL to develop and attempt to apply consistent data definitions in reviewing and entering program data:
    - Program administrators in different states did not define savings metrics (e.g., varying definitions of net savings) and program costs consistently; and
    - Market sectors and program types were not characterized in a consistent fashion among program administrators.
- Many program administrators did not provide the basic data needed to calculate CSE values at the program level (i.e., program administrator costs, lifetime savings or program-average measure lifetimes), which can introduce uncertainties into the calculation of CSE values (as we developed and utilized methods to impute missing values in some cases).

As a practical matter, the quality and quantity of program data reported by program administrators is an important factor in assessing energy efficiency as a resource in the utility sector. Additional rigor, completeness, standard terms, and consensus on at least essential elements of reporting could pay significant dividends for program administrators and increase confidence in energy efficiency savings among policymakers and other stakeholders, particularly in situations where efficiency is treated as a resource in utility procurement decisions, ISO/RTO forward capacity markets or as an environmental compliance or mitigation option by state or federal environmental agencies.

Of the 45 states currently running utility-customer funded efficiency programs (Barbose et. al. 2013), only 31 states provided reporting with sufficient transparency to complete a program-level CSE analysis, and almost all of the 31 states' data required some interpretation for purposes of regional or national comparison. With more consistent and comprehensive reporting of program results, additional insights can quite possibly be obtained on trends in the costs of energy efficiency as a resource as program administrators scale up efforts, what saving energy costs among an array of strategies, and what and how cost efficiencies might be achieved.

Therefore, we urge state regulators and program administrators to consider annually reporting certain essential data fields at a portfolio level and more comprehensive reporting of program-level data in order to facilitate the comparison of efficiency program results at state, regional and national levels. A diagram illustrating this reporting hierarchy approach can be found in Chapter 5, Figure 5-1.

As part of the LBNL CSE Project, we intend to continue collecting energy efficiency program data and analyzing and reporting the CSE for efficiency actions funded by utility customers. We also plan to:

- Work with state, regional and national stakeholders to encourage the collection of program cost and impact data using a common terminology and program typology as defined in this report and a companion policy brief (Hoffman et al. 2013). This is important for organizing program data into appropriate and consistent categories so that programmatic energy efficiency, as a regional and national resource, can be reliably assessed.
- Annually compile data reported by program administrators and state agencies from across the United States.
- Conduct additional analyses to help increase understanding of factors that influence EE program impacts, costs and the cost of saved energy.

1. Introduction

Demand side management (DSM), and end-use energy efficiency specifically, is increasingly being relied upon as a resource for meeting electricity and natural gas system needs within the United States, often because efficiency is quite cost-effective compared to other resource options. For example, 15 states have enacted long-term, binding energy savings targets, often called Energy Efficiency Resource Standards (EERS), and another five states have mandates that program administrators must acquire "all cost-effective energy efficiency."[9] In 2011, U.S. energy efficiency program administrators that manage utility customer-funded efficiency programs spent about $5.4 billion on electric and gas energy efficiency programs (CEE 2013), with spending projected to possibly more than double by 2025 (Barbose et al. 2013).

Electric and natural gas energy efficiency in the United States is pursued through a diverse mix of policies and programmatic efforts, which support and supplement private investments by individuals and businesses. These efforts include federal and state minimum efficiency standards for electric and gas end-use products; state building energy codes; a national efficiency labeling program (ENERGY STAR®); tax credits; and a broad array of largely incentive-based programs for consumers, funded primarily by electric and natural gas utility customers (Dixon et al. 2010) (Barbose et al. 2013).[10]

These utility customer-funded efficiency programs are overseen by state regulators and administered by more than 100 different entities (e.g., utilities, state energy agencies, non-profit and for-profit third parties) and are the focus of this study. Policymakers, regulators, program administrators and implementers rely on information about lifetime costs and savings of these customer-funded efficiency programs to assess efficiency's potential, to design and implement programs in a cost-effective manner or to improve program cost effectiveness. Given the expected growth in efficiency funding and the importance of understanding the cost of saved energy (CSE), we initiated this LBNL Cost of Saved Energy Project (CSE Project) to provide a resource for policy makers, regulators and the efficiency industry as a whole.

1.1 Assessing Energy Efficiency as a Resource

The cost and cost effectiveness of utility-customer funded end-use efficiency programs depend on perspective. From the perspective of a participant in a program, their cost is the cost of an efficiency project net of any incentives or support that might be provided by a program administrator. From the program administrator's perspective, it is the cost of planning, designing, and implementing a program and providing incentives to market allies and end users to take actions that result in energy savings; costs incurred by participants are not considered as part of the program administrator's costs. The total resource or societal cost perspective takes into

[9] States with an EERS as of the date of this report are: AZ, CA, CO, HI, IL, IN, MD, MI, MN, MO, NM, NY, OH, PA, and TX. Six states have a mandate to achieve all cost-effective savings: CA, CT, MA, RI, VT, and WA.
[10] For additional energy efficiency market background, please see: The Future of Utility Customer-Funded Energy Efficiency Programs in the United States: Projected Spending and Savings to 2025. http://emp.lbl.gov/publications/future-utility-customer-funded-energy-efficiency-programs-united-states-projected-spend

account the costs paid by both the program administrator and the participant to implement the efficiency action.

Numerous researchers have estimated the CSE for efficiency programs funded by utility customers (see Appendix A for a description of past and current efforts). These researchers have typically focused on the program administrator perspective (i.e., the program administrator CSE), for two primary reasons. First, in some cases, participant costs are often not collected or reported by program administrators in annual reports (see Chapter 2). Second, when comparing efficiency with supply side resources, some consider that the proper metric is the money paid to obtain the resource by the program administrator as supply-side resources do not consider, or have, participant costs. For this report, primarily because of the first reason, we present program administrator CSE data and analyses.

Another consideration for assessing efficiency as a resource is whether CSE values are based on net or gross savings. Net savings are those attributed to a program (for both program participants and non-participants). Gross savings are those associated with the program participants' efficiency actions, irrespective of the cause of those actions. There is debate about the proper use of net and gross savings in CSE calculations (SEE Action 2012); however, since there is neither sufficient nor consistent data available on net savings, we present CSE values based on gross savings in this study.

1.2 Objectives and Scope

This CSE Project presents and analyzes the costs of acquiring energy savings for different efficiency program types and in different market sectors across the United States. Our objectives are to provide insight into the costs associated with saving a unit of energy and the potential factors that influence those costs. To this end, we hope our work will:

- Benefit policy makers, system planners and other stakeholders by providing continually improving CSE indicators that enable projections of future spending and savings.
- Enable more cost-effective efficiency programs by:
    - Benchmarking and comparing program implementation approaches across different markets (e.g., industrial, commercial, small commercial), delivery mechanisms (e.g., direct install versus do it yourself), and design approaches (e.g., prescriptive versus custom rebates);
    - Analyzing contextual factors that affect CSE, such as types of programs, measures, program administrator experience, changes in building energy codes and standards, labor costs, climate, state-level policies, and the scale of efficiency investments.

This study is the first technical report of the LBNL CSE Project and provides an overview of project scope, approach and initial findings, including:

- Providing a *proof of concept* that the program-level cost and savings data can be collected, organized and analyzed in a systematic fashion;

- Presenting initial program, sector and portfolio level results for the cost of saved energy for a recent time period (2009-2011); and
- Encouraging state and regional entities to establish common reporting definitions and formats that would make the collection and comparison of CSE data more reliable.

Specifically, this report includes and discusses elements of our approach, including the following:

- Developing the data collection, documentation, and analyses procedures LBNL used to calculate the CSE (Chapter 2);
- Defining program categories as well as cost and savings definitions that allow for consistent, standardized entry of program administrator data into a CSE database (Chapter 2);
- Developing a database of program-level data on energy efficiency program impacts and costs from states with significant utility customer-funded energy efficiency programs (Chapter 2);
- Presenting the range of regional-, state-, sector-, and portfolio-level energy-efficiency program administrator CSE and program-level CSE for a defined set of over 60 program categories (Chapter 3);
- Exploring potential relationships between the program administrator costs of saved energy for specific types of programs and climate zones and adopted building energy codes (Chapter 3);
- Conduct a preliminary statistical analysis that explores factors that may be associated with and influence the cost of saved energy at the portfolio or program level and set the stage for future analyses that will assess additional hypotheses and a broader, more refined range of factors (Chapter 4); and
- Present recommendations for future data collection and analyses (Chapter 5).

1.3 Report Organization

The remainder of this report is organized as follows. Chapter 2 provides an overview of approach used to collect data in the LBNL DSM Program Impacts Database and the challenges associated with collecting, organizing and analyzing the data in a consistent fashion. In Chapter 3, we present descriptive statistics on efficiency program costs and savings followed by presentation of CSE statistics at a national, sector, regional, and state level and for certain program types and in relation to climate zones and building code status. In Chapter 4, we discuss our efforts to define and statistically test some factors that may influence the CSE. Chapter 5 presents a discussion of the key findings and recommendations for regulators and program administrators to consider with respect to CSE-related data collection and reporting.

The appendices contain documentation on topics covered in the chapters, including tables of CSE metrics by region, sectors, and program types in Appendix E.

2. Approach

The state-by-state evolution of utility customer-funded energy efficiency programs has fostered diversity in these programs' oversight, design, administration and evaluation. Thus, not surprisingly, information provided to state regulators by program administrators on the impacts and costs of efficiency programs is diverse with respect to the level of specificity and detail required as well as terms and definitions used to describe the costs and impacts of individual programs. In this chapter, we summarize our assembled program data, discuss our approach to compiling, organizing and analyzing the data in a manner that addresses the diversity in reporting practices yet allows for consistent reporting on the cost of saved energy across the country and on the basis of region, market sector, and type of program. This approach included developing an energy efficiency program typology and adopting standard definitions for program characteristics, cost and savings data. We also discuss several major challenges associated with collecting and analyzing program cost and impact data and calculating CSE values given data quality issues.

2.1 Data Summary

The data for this study were drawn from annual reports, mostly for the years 2009–2011, which were prepared by program administrators of efficiency programs funded by the customers of U.S. investor-owned utilities in 31 states. Our energy efficiency program data set comprises expenditure, energy savings and program participation data (where available) reported by 107 program administrators, for a total of 4,184 program records (see Table 2-1).

We relied primarily on annual DSM or efficiency reports filed by program administrators with state regulatory agencies because they both typically include data for a portfolio of programs and are publicly available from state regulatory commission filings.[11] In some cases, when data were not found or were ambiguous in annual reports, we consulted other reports (e.g., other performance metrics reports filed by investor-owned utilities in California) or solicited additional information directly from the program administrator or regulatory staff. Where required data were not provided in a program administrator's filed annual report, but provided in third-party program evaluation reports that were included as attachments to the program administrator annual reports, we used data from both to populate what we are calling the LBNL DSM Program Impacts Database (database).[12,13]

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[11] The states included in this analysis were selected based on the availability and transparency of program cost and savings data at the individual program level as identified by LBNL researchers in a recent review of customer-funded energy-efficiency programs (Barbose et al. 2013). To the extent that reports were accessible, we collected data for all investor-owned utilities (IOUs) in the target states. Many program administrators had not yet released 2012 program year results during the data collection period for this study; thus our analysis focuses on the 2009-2011 period. We did not include program data from publicly-owned electric utilities and rural electric cooperatives because these utilities often do not report program level data that is publicly available. Future efforts may include data collected from public utilities.

[12] We did not rely on individual impact evaluation studies of efficiency programs because the data of interest to this project are usually reported in relatively easily accessible summary form and per program in the annual reports filed with regulators. Moreover, evaluations of individual programs are not always publicly available nor do they always include program or portfolio-related costs.

[13] Appendix C describes data that was collected for this research effort, the database configuration, and the data quality assurance/quality control process and procedures.

Table 2-1. Summary of energy efficiency program data in LBNL DSM Program Impacts Database[14]

State	First Year of Data	Last Year of Data	Total # of Years	Number of Program Administrators*	Number of Program Records
AZ	2010	2011	2	3	65
CA	2010	2012	3	4	1210
CO	2009	2011	3	1	110
CT	2009	2011	3	4	60
FL	2011	2011	1	5	88
HI	2009	2011	3	1	21
IA	2009	2011	3	3	171
ID	2010	2011	2	1	40
IL	2008	2011	4	2	85
IN	2009	2012	4	5	244
MA	2009	2011	3	11	403
MD	2010	2011	2	4	126
ME	2009	2011	3	2	22
MI	2009	2011	3	2	81
MN	2009	2011	3	2	141
MT	2011	2011	1	1	19
NC	2009	2011	3	2	37
NH	2009	2011	3	4	90
NJ	2009	2011	3	1	40
NM	2010	2011	2	4	101
NV	2009	2011	3	3	209
NY	2009	2011	3	11	111
OH	2009	2011	3	7	170
OR	2009	2011	3	2	16
PA	2009	2010	2	6	143
RI	2010	2011	2	2	36
TX	2010	2011	2	10	202

[14] "Number of Program Records" includes programs that produced energy savings (e.g., residential or commercial rebate programs), programs for which the program administrator did not claim savings (e.g., education and outreach programs or pilot programs), and, in some cases, sector- or portfolio-wide activities (e.g., marketing or internal program evaluation activities).

State	First Year of Data	Last Year of Data	Total # of Years	Number of Program Administrators*	Number of Program Records
UT	2009	2011	3	1	41
VT	2009	2011	3	1	18
WA	2010	2011	2	1	42
WI	2009	2011	3	1	42
	Totals			**107**	**4184**

** In some cases, program administrators who run both gas and electric programs are counted twice for the purposes of separating the reported effects of each program.*

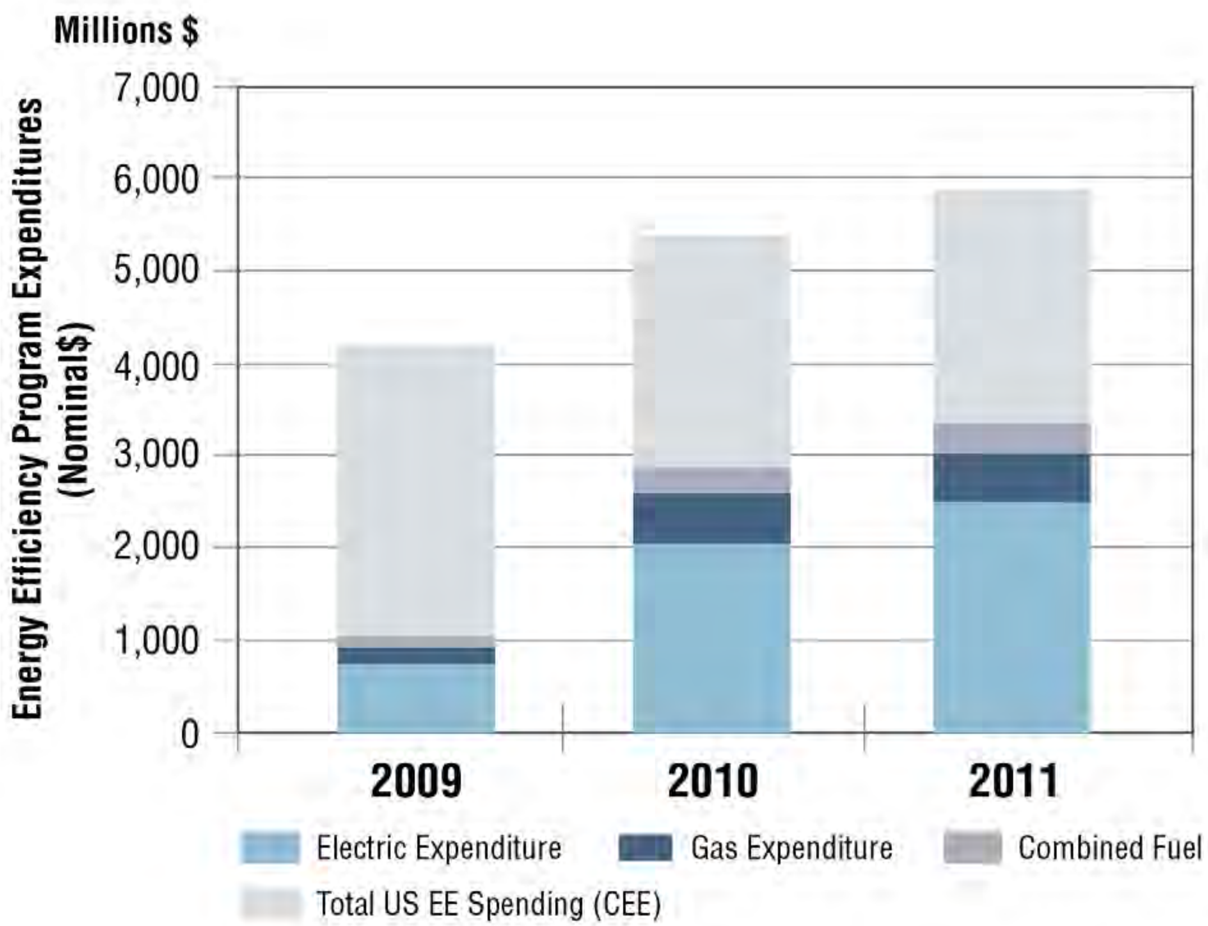

Figure 2-1. LBNL DSM Program Impacts Database coverage as compared to national efficiency spending reported by Consortium for Energy Efficiency (CEE)[15]

[15] CEE Annual Industry Reports can be found here: http://www.cee1.org/annual-industry-reports

The efficiency program data that were compiled by LBNL staff into the database represent a significant share of all efficiency programs funded by utility customers in the United States. The database contains programs with total program administrator expenditures of about $7.6 billion (see light and dark blue shading in Figure 2-1). Programs in the LBNL database represent about 25% ($1.1 billion) of 2009 national program expenditures by gas and electric utilities and about 50% of program expenditures in 2010 and 2011 ($2.9B in 2010 and $3.2B in 2011), compared to national efficiency spending as reported by the Consortium for Energy Efficiency (CEE) (see Figure 2-1).[16]

2.2 Program Typology and Standardized Definitions

We developed program categories in order to characterize and analyze similar types of efficiency program types, as defined by market sector and technology, action, delivery approach, or other common themes. Examples of program categories include commercial prescriptive HVAC programs, low-income programs, and residential whole home direct-install programs. Some program categories are relatively well defined and include a narrow set of technologies (e.g., high-efficiency windows or pool pumps), while other categories are cross-cutting, may span a wide variety of activities (e.g., statewide marketing, take-home energy efficiency kits), and/or target several market sectors (e.g., in-school education programs, lighting technology market transformation programs).

The typology grouped and classified energy efficiency programs into three tiers: (1) sector; (2) simplified program categories; and (3) detailed program categories. Figure 2-2 provides a partial snapshot of this three-tiered program typology approach: seven sectors (including one for demand response programs, which are not addressed in this report), 31 simplified efficiency program categories (27 for efficiency programs) and 66 detailed categories (62 for efficiency).[17] LBNL has prepared a policy brief that describes the typology in more detail as well as the standardized definitions (Hoffman et al 2013). Appendix B also includes the complete typology and set of definitions.

We determined that a three-tiered hierarchy was appropriate because it allowed for flexibility in grouping programs for comparison (e.g., single-measure versus comprehensive whole-building programs or by technology such as lighting vs. HVAC programs) and provides options for different levels of analysis. Moreover, in some cases, the detailed program category tier narrowed the range of installed measures for a program type, thus reducing the uncertainty in derivation of measure savings and lifetime savings across measures installed in that program. For example, we defined three detailed program categories that fall under the simplified program

[16] However, as noted below and in Chapter 3, some of the data were not utilized for the data presentations, CSE metrics and analyses due to missing data. For example, the programs indicated as Combined Fuel in this figure were not included in the cost of saved energy analyses, because the costs borne by electricity and gas utility customers could not be determined for this subset of programs. Without the useable data, the database still contains about 45-50% of the national spending estimate.

[17] The relatively large number of simplified and detailed categories was necessary to capture the wide range of common program offerings throughout the country. We also included some program types in the detailed typology because they have regional significance (e.g., pool pump programs in the Southwest, data center programs in New York, Washington and California), or the program types appear to be emergent (e.g., financing programs, residential behavior-based efficiency programs).

category of "Whole Home Upgrades": Whole Home Audit Programs; Whole Home Direct-Install Programs; and Whole Home Retrofit Programs.[18]

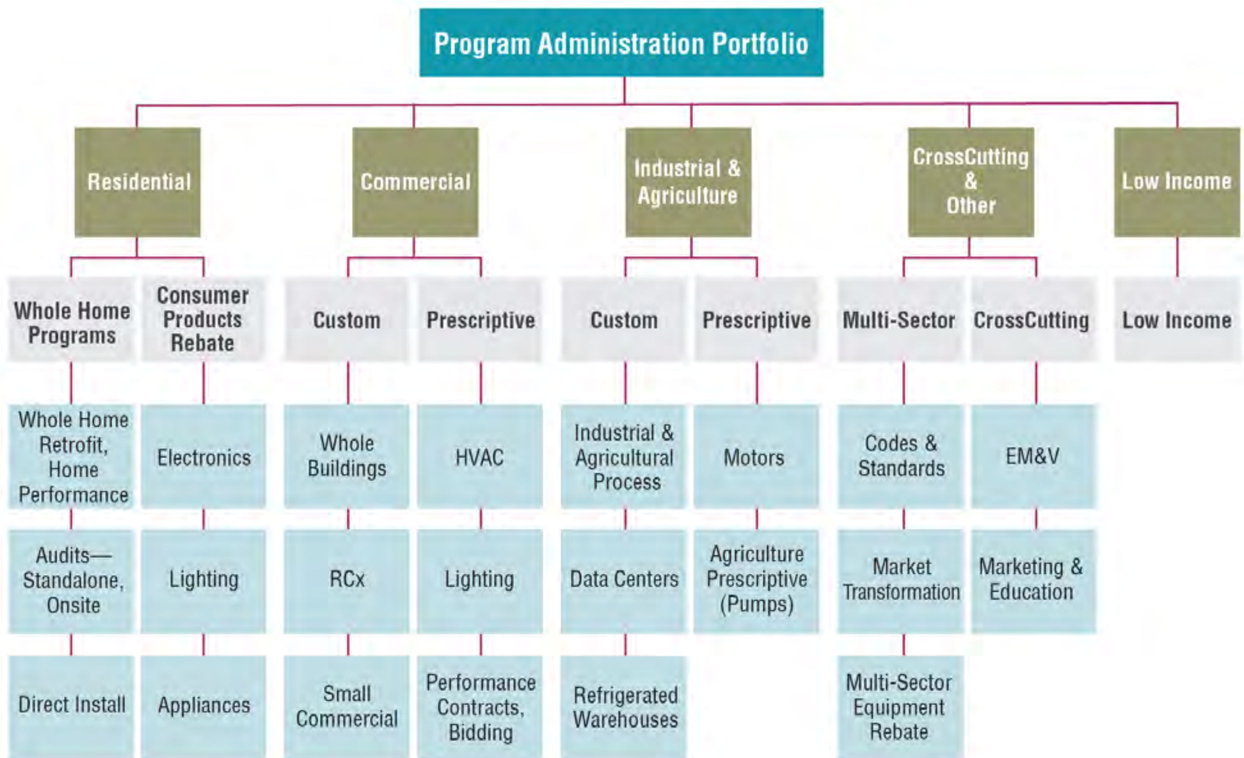

Figure 2-2. Selected program types in the LBNL program typology
Note: Not all sectors and simplified and detailed program categories are shown

We have relatively high confidence in the categorization of most programs. However, there are some programs where we were either not able to obtain much information about the measures offered under that program or where there was a wide array of measures offered under a single umbrella program. In both situations, programs were generally categorized under "prescriptive" or "other" categories. The mix of programs and measures in these two types of categories are likely to be less consistent than in other program categories.

The data fields and specification for the database and program categories were developed through an iterative process which included review of program administrator annual reports and review of several other sources that contain typologies and/or definitions, including the State and Local Energy Efficiency Action Network (SEE Action 2012), the Consortium for Energy Efficiency (CEE 2012), the Regional EM&V Forum of the Northeast Energy Efficiency

[18] We found that program names were not always indicative of the appropriate program category. Thus, in many cases, we reviewed program information as part of the process of classifying programs into program category. We defined a specific set of guidelines for classifying programs by type. For example, when the program name was ambiguous (e.g., EnergySaver) or when the program description indicated savings could fall into more than one detailed or simplified category (e.g., a single program that offered both prescriptive and custom rebates), we looked at the measure-level savings reported for that program (if available) and categorized the program according to the reported measure mix.

Partnerships (NEEP 2011), and the NEEP Regional Energy Efficiency Database (REED 2013). We shared a draft of our categories and definitions and had several discussions with representatives from CEE, NEEP and the American Council for an Energy-Efficient Economy (ACEEE); and made revisions based on their input. For the demand-response program categories, we relied on program categories defined by the Federal Energy Regulatory Commission (FERC) for its national surveys (FERC 2012), although demand-response program data are not included in this study.

We also defined program cost and energy savings (impacts) data fields as part of our effort to classify and report program information in a consistent fashion across program administrators and states.[19]

- **Program Administrator Costs:** The primary cost data used in this report are the *program administrator costs* which include: (1) program administration planning and delivery; (2) engineering or technical support; (3) services provided by implementation contractors; (4) marketing, education and outreach; (5) direct rebates or financial incentives to program participants; and (6) evaluation, measurement and verification costs (see Table 2-1).[20] Program administrator costs exclude participant costs and performance incentives for program administrators (e.g., utility shareholder incentives).[21] For each program we collected from one to four years of data.[22] We made inflation adjustments to the program cost data provided by program administrators so that all cost data are reported in 2012$.[23] We chose to use 2012 as our base year because 2012 is the most recent year for which an annual implicit price deflator for GDP is available from the U.S. Bureau of Economic Analysis. We would have preferred to also report CSE values based on participant, as well as program administrator, costs; however, we found that few program administrators reported participant costs in their annual reports (see Appendix C).
- **Program Savings:** The State and Local Energy Efficiency Action Network's Energy Efficiency Program Impact Evaluation Guide (SEE Action 2012) was the primary source used to describe and define the program energy savings indicators in a consistent fashion.[24] The SEE Action Guide was particularly important for providing

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[19] Program cost and savings definitions tend to be consistent within a state, even if there are multiple program administrators.

[20] Some program administrators did not include program-level costs for activities such as marketing/outreach, education, and evaluation, but instead accounted for those expenditures at the sector or portfolio level.

[21] We did not report program administrator performance incentives because actual awards of performance incentives are not often included in annual reports filed by program administrators, and are frequently awarded at a significantly later date.

[22] Some program administrators included prior years' data in their reports in addition to the 2009–2011 period.

[23] Costs can be presented in nominal (or current) or real (or constant) dollar terms. Nominal values are economic units measured in terms of purchasing power of the date in question. Real dollar values are economic units measured in terms of constant purchasing power. A real value is not affected by general price inflation and can be estimated by deflating nominal values with a general price index, such as the implicit deflator for gross domestic product or the Consumer Price Index. From OMB *Circular A-94 Guidelines And Discount Rates For Benefit-Cost Analysis of Federal Programs.* We used the GDP implicit price deflator published regularly by the U.S. Bureau of Economic Analysis.

[24] The SEE Action Guide describes common terminology, structures, and approaches used for determining savings from energy efficiency programs guide. The definitions in the SEE Action Guide incorporated input from program

data definitions for net and gross energy savings and lifetime energy savings, which for this report are assumed to take place at the end-use site where the efficiency actions were implemented.

Table 2-2 provides abridged definitions for key program data in the Database (see Appendix B for the complete glossary of energy efficiency program data fields).

Table 2-2. Abridged definitions for selected program cost and savings data

Term	Definition
Program Administrator Costs	Program administrator costs include the costs of designing programs and portfolios; directing, managing and paying implementation contractors; marketing, education and outreach (ME&O); program and portfolio evaluations; and incentives to both program participants (or end users) and to both mid-stream and upstream allies in the market (e.g., financing and services such as installations or free audits).
Program Average Measure Lifetime	Weighted average economic lifetime (years) of all measures installed in a program year in a specified program.
Annual Gross Savings	Gross annual incremental savings (kWh or therm) as reported by the program administrator using their own staff or evaluation firm, after the subject energy efficiency activities have been completed. Gross savings are the change in energy consumption resulting from program-related actions taken by program participants regardless of why they participated. Note that these are annualized "full-year" savings, regardless of when measures were installed during the program year. Per the SEE Action reference (SEE Action 2012) these may be Claimed or Evaluated Savings.
Lifetime Gross Savings	The expected gross savings (GWh or therm) over the lifetime of the measures installed under the subject program. For our analysis, where available, we relied on lifetime savings reported by the program administrator.

The detailed program categories and data definitions described in this section have been adopted by CEE for its own 2013 annual surveys of the efficiency program industry.[25] We hope that other entities will consider using them as well and to support that objective, as part of the CSE Project, LBNL plans to gather feedback from stakeholders via an annual or biennial process to modify, add or subtract program categories as program offerings change or to address potentially needed clarifications in the definitions and categories.

administrators, state regulators, and other stakeholders from a number of states and regions and included a review and synthesis of definitions used in a broad set of energy efficiency glossaries.

[25] As part of its 2013 annual "State of the Industry" survey, CEE is collecting program-level energy efficiency and demand response program data from program administrators using the LBNL program categories described in this report as well as the definitions from the SEE Action guide.

2.3 Challenges in Consistent and Standardized Reporting of Program Data

When data are compiled from multiple states and program administrators, terminology differences can potentially make it difficult to conduct comparative analysis across states or program administrators. This was a primary rationale underlying our effort to develop a program typology and standardized definitions so that we could conduct a comparative analysis of energy efficiency program impacts and costs. However, even with the typology and definitions, there are two key data challenges.

First, we assume that all expenditure, savings and participation data reported by a program administrator are accurate. Given our time and resources, this is a reasonable starting assumption; however, it should be noted that the range of effort placed into documenting impacts by program administrators varies significantly among states (SEE Action 2012).

Second, in reviewing information on efficiency programs funded by U.S. utility customers, we found that program data are often not defined and reported consistently among states. Specifically, we identified three key concerns in compiling and analyzing program information on a regional or national basis, some of which are addressed by the common typology and standardized definitions:

1. ***Energy savings and program costs are not defined consistently.*** The most common discrepancies can be found in the definitions of net energy savings. Examples of other program data where differences are found across states include:
   - The term "annual energy savings" typically is understood as shorthand for annualized incremental energy savings, but some entities—including resource planners—apply a different meaning that includes savings resulting from prior years' activities.
   - The definition of measure lifetime, how a program's average measure lifetime is determined, and the estimated measure lifetime values for the same measures or program types varies among states.
   - Some program administrators report end-use site savings and others report savings at the power plant bus bar (for electricity efficiency programs).
   - Most program administrators do not count their own performance incentives among program costs, although some do. The definitions of other cost categories (e.g., marketing costs, general consumer education, and evaluation) also vary among states.
2. ***Program data are not reported consistently across states.*** For example, some states report just gross or net energy savings; others report both. Similarly, many efficiency annual reports only include first-year savings and not lifetime savings.[26] With respect to cost data, program administrators often classify costs differently among administration, marketing and outreach, incentives and participant costs. Some program administrators

[26] We found that only about a quarter of the program reports that were reviewed included information on measure lifetimes or lifetime savings, although this information is required to assess program cost effectiveness. See below, in the section on adjustments for missing data, for discussion of how measure lifetime variation creates uncertainty in the calculation of CSE.

also report certain costs (e.g., marketing, evaluation) at the portfolio or sector level, while others account for those costs at the program level.

3. ***Programs and sectors are not characterized in a standardized fashion.*** Programs targeting specific building types or consumers can be included under different sectors from state to state (e.g., multi-family residential structures are sometimes categorized as commercial programs). Moreover, the types of activities and measures that are included under the same program title (e.g., custom vs. combination custom/prescriptive programs) also vary.

We suggest that readers consider these above issues when utilizing the information in this report for their own uses and understanding of the cost of saved energy.

2.4 Calculating and Using the Cost of Saved Energy

The program administrator's CSE is a useful metric for comparing the relative costs of efficiency programs and for comparing an energy efficiency option to other demand and supply choices for serving electricity and natural gas needs[27]. However, the cost of saved energy is not a test of cost effectiveness (e.g., one of the screening tests used by program administrators) because: (1) it does not capture the full benefits to utility customers and shareholders (e.g., avoided generation capacity, avoided transmission and distribution investments, avoided environmental compliance costs); (2) benefits are not monetized but reflected simply in energy units of kilowatt hours or therms, the cost of which will vary by utility; and (3) energy is saved at the end use, not the power plant.[28]

In this report, we use gross energy savings (rather than net savings) in the CSE calculations primarily because of data availability and comparability reasons: (1) more administrators reported gross savings than net; and (2) net savings are defined relatively inconsistently, as compared to gross savings, among program administrators and states.
We also report savings at the end-user level (and not at the busbar or power plant source), because this is what most program administrators report. It is important to note that savings from electricity efficiency programs reported at the busbar would be higher than at the end-use level because we are accounting for distribution and transmission losses (losses also occur in the natural gas network as well).[29]

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[27] According to the Energy Information Administration, "levelized cost is often cited as a convenient summary measure of the overall competiveness of different generating technologies. It represents the per-kilowatt hour cost (in real dollars) of building and operating a generating plant over an assumed financial life and duty cycle. Key inputs… include overnight capital costs, fuel costs, fixed and variable operations and maintenance (O&M) costs, financing costs, and an assumed utilization rate for each plant type.
http://www.eia.gov/forecasts/aeo/electricity_generation.cfm

[28] The equation also is inverted, with costs in the numerator and benefits (in energy units) in the denominator—the reverse of the benefit/cost ratios that are a key determinant of cost effectiveness.

[29] This is an important consideration if the CSE values were to be compared with costs of electricity generation resources, which typically are indicated as busbar values.

We calculate the cost of saved energy (CSE) metrics in three ways: (1) a cost of lifetime saved energy; (2) a levelized cost of energy savings using two discount rates (3% and 6% real); and (3) a cost of first-year energy savings. See Table 2-3 for definitions of these CSE metrics and their common uses.

Table 2-3. Program administrator cost of saved energy metrics: definitions and potential uses

Program Administrator Cost Metric	Shortened Term	What is Measured	Potential Uses
Cost of Lifetime Energy Savings	Lifetime CSE	The cost of acquiring energy savings that accrues over the economic lifetime of the actions taken through a program/sector/portfolio. Calculated by dividing program administrators' costs by the gross savings.	• Used by program administrators for designing programs and portfolios, e.g., for depth of savings and cost effectiveness • Used by planners and other stakeholders to project efficiency as a resource, develop load forecasts, etc.
Levelized Cost of Energy Savings	Levelized CSE	The cost of acquiring energy savings that accrue over the economic lifetime of the actions taken through a program/sector/portfolio, amortized over that lifetime and discounted back to the year in which the costs are paid and the actions are taken	• Same uses as lifetime savings • Useful to program administrators, regulators and other stakeholders who want to compare particular demand-side options with other demand, and supply-side, resources
Cost of First-Year Energy Savings	First-Year CSE	The cost of acquiring a single year of annualized incremental energy savings through actions taken through a program/sector/portfolio. Calculated by dividing the program administrators' costs by the first year incremental savings.	• Useful for program administrators in program design

The cost of saved energy can be useful to various stakeholders. For example, state regulators can use both first-year and lifetime CSE values as quick metrics for assessing whether a program or portfolio looks like a reasonable expenditure of utility customer funds. A program administrator that is considering offering a comprehensive residential energy upgrade program may want to compare that program's estimated per-unit cost performance against average costs and the range of costs for similar programs. Based on the comparison, the program administrator may want to look at the design of comparable programs for potential cost efficiencies. Regulators and resource planners can use the levelized CSE in the initial screening analysis of various supply- and demand-side resources. Resource planners also can use the lifetime CSE to convert approved budgets for demand-side management plans into energy savings estimates that then can be used in scenario or sensitivity analysis of future load forecasts.

Finally, based on the limited participant cost data reported by program administrators, we calculate a total resource CSE for illustrative purposes in Chapter 3. This calculation presents the net total costs, including both program and participant costs, for the efficiency resource. A levelized total resource CSE might also be useful to program administrators, regulators and other stakeholders who want to compare particular demand-side options with other demand and supply-side resources.

2.4.1 Levelized Cost of Saved Energy

The lifetime cost of energy savings metric is a simple, straight-forward calculation although it ignores changes in the value of money between an initial investment and future energy savings. Meier (1982) included the time value of money (discount rate) to calculate the "cost of conserved energy" (CCE) or what we are calling the "levelized cost of saved energy". Meier found that inclusion of the discount rate raises the CCE because of discounting future benefits, yet provides a basis for comparing the CCE for measures that have different lifetimes and can be compared to retail rates and levelized costs of supply-side resources.[30] A similar accounting framework, the levelized cost of energy (LCOE), often is applied to assessing the economic competitiveness of diverse generation sources (U.S. Energy Information Administration 2013).

We calculated a levelized CSE using two discount rates[31] that are rough proxies for different perspectives on energy efficiency investments: a 6% real discount rate that can reflect the utility weighted average cost of capital (WACC) at present and a 3% real discount rate that can be a proxy for a societal perspective. The levelized CSE calculation is as follows:

$$Levelized\ CSE\ (in\ \$/unit\ energy, e.g., kWh, therm, Btu) = (C\ x\ (Capital\ Recovery\ Factor))/(D)$$

$$Capital\ Recovery\ Factor\ =\ [A * (1 + A)^\wedge B]/[(1 + A)^\wedge B - 1]$$

Where:

A = Discount rate

[30] See Appendix A for further discussion of the history of efficiency CSE analyses

[31] Discount Rate: An interest rate applied to a stream of future costs and/or monetized benefits to convert those values to a common period, typically the current or near-term year, to measure and reflect the time value of money. It is used in benefit-cost analysis to determine the economic merits of proceeding with a proposed project, and in cost-effectiveness analysis to compare the value of projects. The discount rate for any analysis is either a nominal or a real discount rate. A nominal discount rate is used in analytic situations when the values are in then-current or nominal dollars (reflecting anticipated inflation rates). A real discount rate is used when the future values are in constant dollars and can be approximated by subtracting expected inflation from a nominal discount rate (SEE Action Network 2012).

B = Estimated program measure life in years

C = Total program cost in 2012$

D =Annual kWh saved that year by the energy efficiency program

This formula is the classic definition of a compound interest calculation used to calculate equivalent annual net disbursements.

The discount rate can have a significant impact on the calculated CSE. For example, for a program with an average measure lifetime of 20 years, a discount rate of 6% will indicate a levelized CSE that is about 30% higher than the same program if a discount rate of 3% were used. See Appendix D for further discussion of the factors considered in choosing these two illustrative interest rates.

2.5 Treatment and Adjustments for Missing Data

In calculating CSE for efficiency programs, we encountered several data completeness issues that needed to be resolved:

- Many programs' data included neither program measure lifetime nor gross lifetime savings. This information is necessary to calculate lifetime and levelized CSE;
- Some combined gas and electric program administrators reported separate savings for their electric and gas programs but did not separate their electric and gas program costs; and,
- Most program administrators reported end-use energy efficiency savings while others reported savings at the source of the electricity (generation or busbar savings). Natural gas savings are usually considered the same at the end-use site and at points along the gas distribution, although there is the potential for per unit losses from the natural gas source to the end user.

In addition, for the few program administrators that reported only net savings, we calculated gross savings by dividing reported net savings by a net-to-gross ratio[32] when this ratio was provided in related references for the subject programs.[33] Furthermore, some program reports provided no cost data and others provided no savings data; these programs were excluded from the CSE analysis. These adjustments resulted in program data from 100 program administrators in the database being utilized in calculating CSE values in this study.[34]

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[32] The net-to-gross ratio is the net program impact (energy savings) divided by the gross program impact.

[33] In Massachusetts and New York, program administrators reported net savings and did not provide net-to-gross ratios in their annual efficiency reports. In these cases, we applied net-to-gross ratios reported in the 2011 REED database and applied the program level ratios to the previous two years included in this analysis (2009-2010). New Hampshire program administrators reported net lifetime savings for 2009-2010. We were not able to generate a gross lifetime or annual incremental savings values needed to calculate the CSE and therefore those years were dropped from the analysis.

[34] Data from 100 of the 107 program administrators whose data are in the LBNL DSM Program Impacts Database are included in this Chapter. The seven program administrators that were excluded represent about eight percent of the total costs for programs in the Database. Three program administrators are excluded because their combined gas and electric program costs could not be separated out by fuel type, three program administrators were excluded because they did not report expenditures at the program level, and one program administrator was excluded because it reported net savings in a manner that did not allow determination of gross savings. Two years of program data

2.5.1 Program Average Measure Lifetime

The CSE calculation takes into account the costs incurred to implement the measures, which in the database all occur during the program year,[35] and the savings that occur over the lifetime of the implemented measures. However, program administrators reported lifetime savings for only about 44% of the programs years in the collected annual reports (see Appendix C).[36] Another way to calculate the lifetime savings is to multiply the first-year savings by the program average measure lifetime (program lifetime)[37], which we interpret as the lifetimes of the various measures installed through a program weighted by their respective savings.

However, even fewer program administrators reported any form of a program lifetime—about 26% of electric and 30% of gas programs for the 2009–2011 period (see Appendix C). For the programs that did report a lifetime value, program average measure lifetimes varied widely within many of the detailed program categories.[38] For example, the median program lifetime for residential new construction programs is 18 years, with a program life of 14 and 25 years at the 25th and 75th percentile for programs in the database. Figure 2-3 shows the range, inter-quartile range, and median program lifetime values reported for a selected sample of detailed program categories.

Given the limited availability of lifetime savings and program lifetime values, we developed the following set of decision rules, or protocol, for defining lifetime savings for each program in the database:

1. When available, use the program lifetime savings reported for the program by the program administrator;
2. When program administrator did not report program lifetime savings, but did report program average lifetime value, we multiplied this value by the reported first-year savings to calculate the program's lifetime savings;[39]

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from three other program administrators were not used in the CSE analysis because these program administrators reported net savings in a manner that did not allow determination of gross savings; however, the third year of data for those three program administrators was used.

[35] Some project installations may be completed after the end of the program year but are accrued to the program year in which the project was initiated (e.g., customer has signed up, equipment installation has been scheduled, equipment installation has begun but not been completed). Some energy efficiency actions also may require ongoing, incremental operations and maintenance expenditures (compared to the baseline equipment), which are not considered in this study, which is consistent with most energy efficiency program assessments.

[36] There are more than 4,000 program years in the database, where we count each program in each year of implementation separately.

[37] Measure lifetime, also called effective useful life (EUL), is based on the lifetime of equipment installed or measures implemented and measure persistence (as opposed to savings persistence). In many energy efficiency programs, the estimated EUL takes into account both the expected remaining life of the measure being replaced and the expected changes in operational baselines over time (Mass Save 2011, SEE Action 2012).

[38] A number of factors may contribute to the variation in reported measure lifetimes including the unique mix of measures implemented for a program (particularly for programs that contain a wide range of longer- and shorter-lived measures) and different assumptions and/or methodologies used to determine measure lifetime used by program administrators.

[39] Some program administrators document the average measure lifetime for programs that installed a mix of measures. The most common approach used by program administrators is to weight the program average measure lifetime by respective measure savings. We applied this approach for all of the reported program measure lifetimes.

3. For programs where we did not have lifetime savings or measure lifetime data, we calculated a program average measure lifetime for similar programs in the database and used that imputed value along with the program's first-year savings to calculate program lifetime savings.[40]

For program categories that contained a broad unspecified mix of activities or too few data points to calculate a national program average measure lifetime values, we reviewed technical reference manual lifetime values for specific measures to generate a "national program average measure lifetime" value for that program.[41] Given the wide variation in reported measure lifetimes, our method of calculating a national program average measure lifetime and applying it to programs for which that data are not available introduces uncertainty into the final CSE calculation, particularly for program categories that contain mixes of measures with wide-ranging measure lifetimes. In Chapter 3, we include results of a sensitivity analysis that illustrates the impact of varying measure lifetime assumptions on CSE calculations.

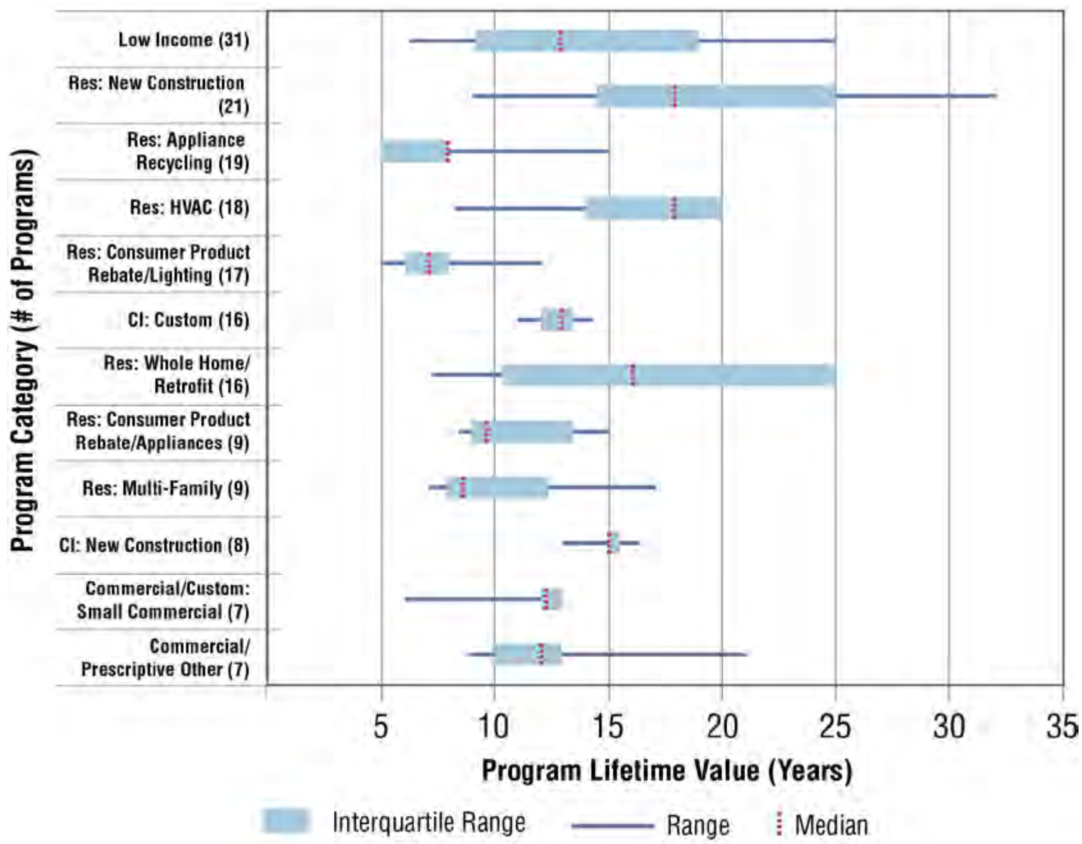

Figure 2-3. Range of reported program average measure lifetime values for select detailed program categories

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The authors' experience indicates that the way in which measure lifetimes are defined, determined and reported are not consistent among program administrators.

[40]We calculated a national program average measure lifetime as follows: divide reported lifetime savings by first-year savings values for each program in the database that reported this information in order to generate a national (un-weighted) program average measure lifetime by program type.

[41] See Table C-3 in Appendix C for the national program average measure lifetime values calculated for each of the detailed program categories.

2.5.2 Cost Data for Combined-Fuel Programs

Some program administrators of combined-fuel programs reported separate electric and gas savings values but did not report separate costs for electric and gas programs or measures. For those program administrators where we could not reliably calculate the per-kWh and per-therm CSE from the reported data, we obtained additional information that enabled us to calculate reasonable estimates of the disaggregated electric and gas expenditures for the following combined fuel utility cases:

- The California combined-fuel utilities did not provide separate electric and gas cost data. However, one of the utilities provided program-level data on the net monetized benefits of the programs, allocated by fuel. We were then able to estimate that utility's combined electric and gas program costs by fuel (electricity and natural gas) based on the program's share of savings allocated to each fuel.
- A New England combined-fuel utility that had not reported separate gas and electric cost data later provided estimates of the ratio of gas and electric costs which were applied to that utility's data.

Other program data from program administrators for which we could not disaggregate electric and gas program costs were included in the overview of program spending and savings presented at the beginning of Chapter 2, but excluded from the dataset used to calculate CSE.[42]

2.5.3 End-Use versus Source and Busbar Energy Savings

Most state program administrators reported end-use energy efficiency savings; however, there were a few program administrators that reported both end-use and busbar, and a handful that only reported busbar savings. For the purposes of this report, we followed the following decision rules:

- Where program administrators reported both end-use and busbar savings, we used end-use savings;
- Where program administrators are not clear, or do not explicitly state that the savings is end-use, we treat the savings values as end-use savings;

  Where program administrators only reported a busbar savings value, we identified a line loss estimate and calculated that end-use savings.[43]

[42] Wisconsin's single statewide program administrator was included in the program spending and savings overview but excluded from the CSE results because the program administrator did not provide disaggregated electric and gas program expenditures data.

[43] For a discussion on line losses, please see: http://www.raponline.org/ document/download/id/4537

3. Results—Utility Customer-Funded Programs: Costs and Savings

In this chapter, we first present a national overview of electric and gas energy end-use efficiency program administrator expenditures and savings, including summaries by market sector and region for the programs in the LBNL DSM Program Impacts Database (database). We then present ranges of program administrator cost of saved energy (CSE) values, mostly for electricity efficiency programs (as they represent about 80% of program expenditures), on a national, regional, and state basis. Some CSE values are presented at the sector and program level as well. We also include sensitivity analyses on the impact of assumed measure lifetimes on the CSE (one of the data issues raised in Chapter 2). Finally, we present CSE results for those programs where program administrators reported program administrator costs and participant costs (what some refer to as the total resource cost).

> **Attributes of Information Reported in this Chapter**
>
> Costs refer to **program administrator costs** only; the CSE values exclude participant costs unless specifically indicated otherwise.
>
> Savings are based on **gross savings** reported by the program administrator unless specifically indicated otherwise. For program administrators that only reported net savings values, we calculated gross savings values using net-to-gross ratios. Savings values are also based on **savings at the end-use site** and not at the power plant or natural gas pumping station and thus do not account for transmission and distribution losses. See Chapter 2 for more detailed explanation.
>
> Lifetime energy savings, when not reported by the program administrator (which was the case for about 50% of the programs), were calculated per the protocol described in Chapter 2.

The results presented in this chapter represent a significant portion of the efficiency programs funded by customers of U.S. investor-owned utilities during 2009, 2010, and 2011. However, when using the information, the reader should recognize that they are not necessarily a representative sample, particularly for some regions of the country where annual reporting is not prevalent.

3.1 Energy Efficiency Program Administrator Expenditures and Savings

3.1.1 Electric Programs

Program administrator expenditures for identifiable electricity efficiency programs[44] in the database, for the years 2009–2011, totaled just under $5.3 billion (in 2012$) with commercial/industrial programs (C&I) programs representing about 60% of expenditures and residential programs comprising about 30% of the expenditures (see Table 3-1).

In terms of how electricity savings vary by sector for the programs in the database, the answer depends on whether first year or lifetime savings are considered (see Figure 3-1). The savings accruing from C&I sector programs accounted for 53% of the aggregate first-year savings and 62% of the aggregate lifetime savings. Residential programs' share of first-year savings was higher than their share of expenditures; residential programs made up 29% of expenditures but garnered 40% of first-year savings and 31% of lifetime savings. On the other hand, low-income programs represent 6% of the total expenditures and 2% of first-year and lifetime savings.

[44] Eighty-eight program administrators reported electric program data.

Table 3-1. Program administrator expenditures for 2009–2011 electricity efficiency programs

Market Sector	Share of Total Program Administrator Expenditures	Total Program Administrator Expenditures (million 2012$)
C&I	61%	$3,214
Residential	29%	$1,515
Low Income	6%	$332
Cross Sector/Other	4%	$213
TOTAL	**100%**	**$5,274**

We also examined residential expenditure and savings data by simplified program type and found that consumer product rebate programs,[45] prescriptive rebate programs[46] and whole home programs[47] were the top three contributors to expenditures and lifetime electricity savings in the LBNL DSM Program Impacts Database. Combined, these three programs represented 84% of total expenditures and 90% of the lifetime savings for residential programs in our database (see Figure 3-2).

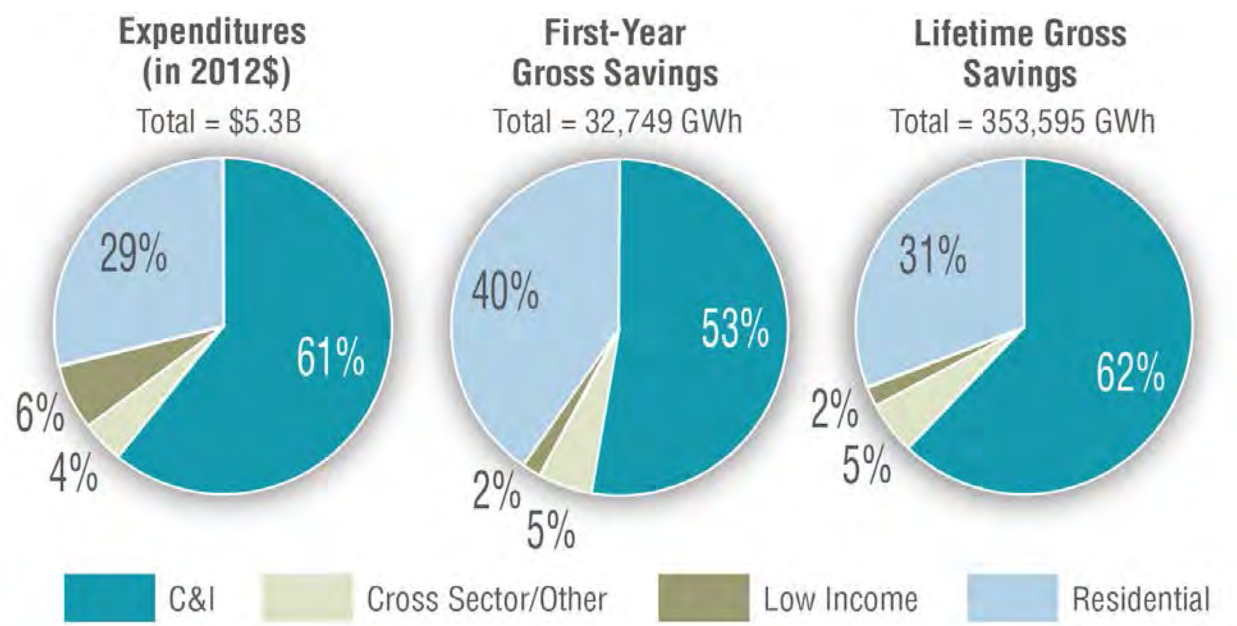

Figure 3-1. Program administrator expenditures, first year and lifetime gross savings for 2009–2011 electricity efficiency programs

[45] Programs that encourage use of more efficiency products such as appliances, electronics, lighting products, etc.
[46] Programs that provide pre-defined incentives for installation of cost efficient products such as insulation, windows, water heaters, etc.
[47] Programs that offer direct install services, audits or incentives for comprehensive packages of efficient products.

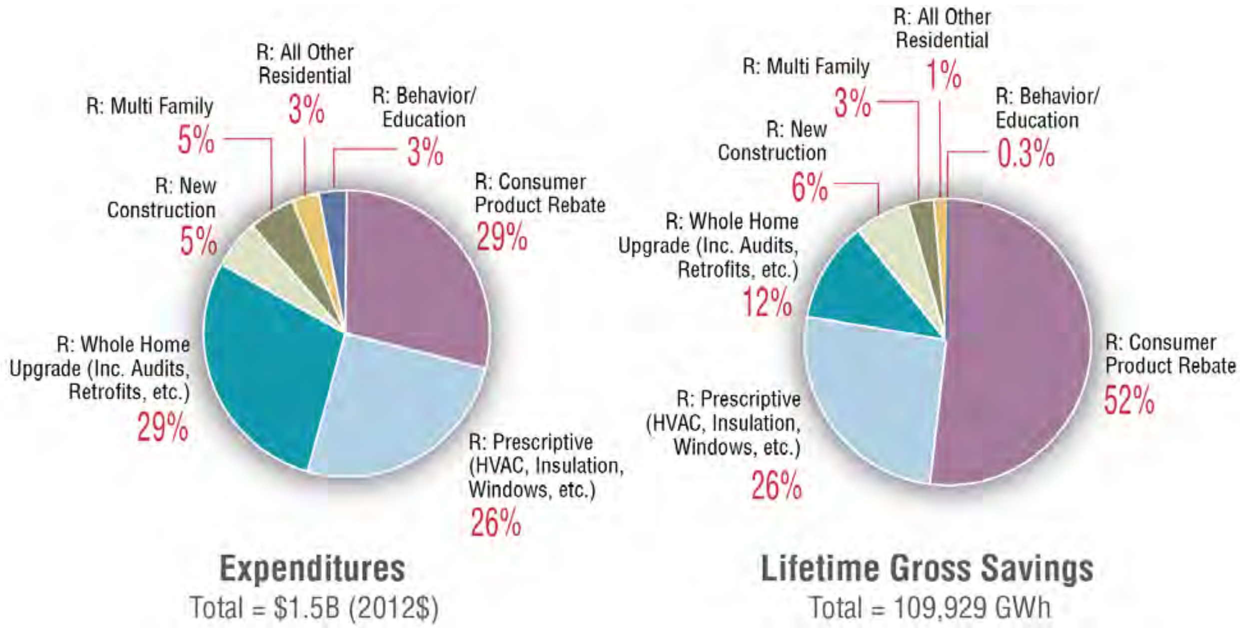

Figure 3-2. Program administrator expenditures and lifetime gross savings by simplified program category for 2009–2011 residential electricity efficiency programs

Other observations from the database's residential electricity program data, as shown in Figure 3-2, are:

- Consumer Product Rebates accounted for about 29% of total residential program expenditures, but over half of the lifetime savings;
- Residential Prescriptive programs accounted for similar percentages of expenditures and lifetime savings, both 26%;
- Whole Home Upgrade programs represented about 29% of aggregated expenditures and12% of the lifetime electricity savings;
- New Construction programs accounted for 5% of residential program expenditures and 6% of the sector's lifetime savings,
- Multifamily programs accounted for 5% of expenditures and 3% of lifetime savings, and
- Behavior and Education programs make up 3% of expenditures but less than 1% of lifetime savings.

To illustrate the power of a program-level database, we analyzed the four detailed program types that are included in the residential Consumer Product Rebate program category that covers 52% of the residential lifetime electricity savings (see Figure 3-3). This analysis indicated that lighting rebate programs accounted for over 80% of all gross electricity savings attributed to the consumer product rebates in the program administrator program reports we compiled. This means that lighting rebates represent at least 44% of total residential lifetime savings.[48] Appliance Recycling programs (which we also included in the product rebate category)

[48] We indicate at least 44% because other program types also can, and often do, include lighting related products.

accounted for 6% and appliance rebates made up 2% respectively of all residential sector lifetime gross savings. Consumer Electronics programs, the fourth detailed program type in the consumer product rebate category, garnered less than 1% of residential sector savings.

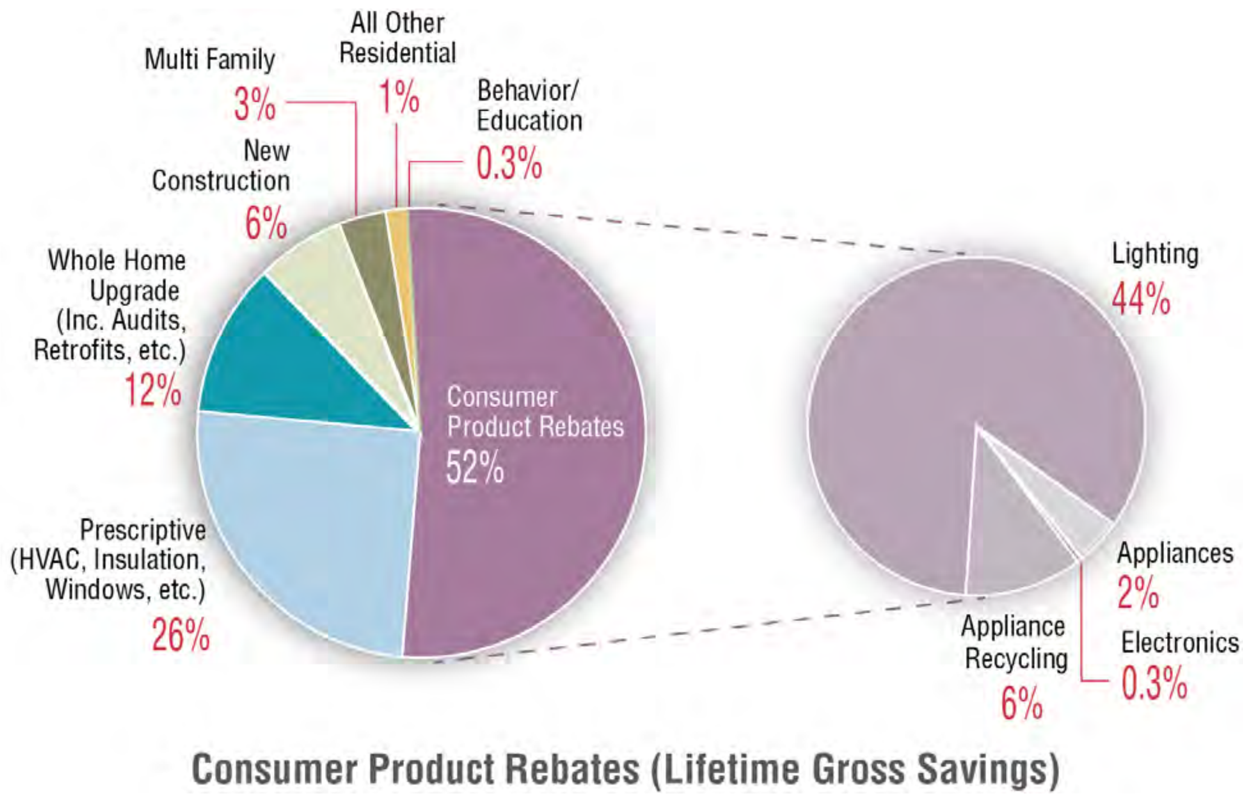

Figure 3-3. Lifetime gross electricity savings for 2009-2011 residential consumer product rebate programs

We also analyzed C&I sector expenditure and savings data by simplified program type (see Figure 3-4) and found the following:

- At 36%, custom programs represented the largest share of all C&I expenditures as well as the largest share of all C&I total lifetime savings at 38%.
- Prescriptive and small commercial programs accounted for comparable shares of C&I expenditures at about 21% each; although reported lifetime savings were much greater for prescriptive programs (30% of all savings) compared to small commercial programs (11% of all C&I savings).
- Commercial new construction programs accounted for 12% of C&I expenditures and 10% of the sector's savings.
- Programs specifically targeting the institutional market (municipal and state governments, universities, colleges, K-12 schools and hospital/healthcare facilities, also collectively known as the MUSH market) made up 7% of total C&I program expenditures and 4% of the savings, although it should be noted that institutional sector customers can and do participate in many other types of C&I programs as well.

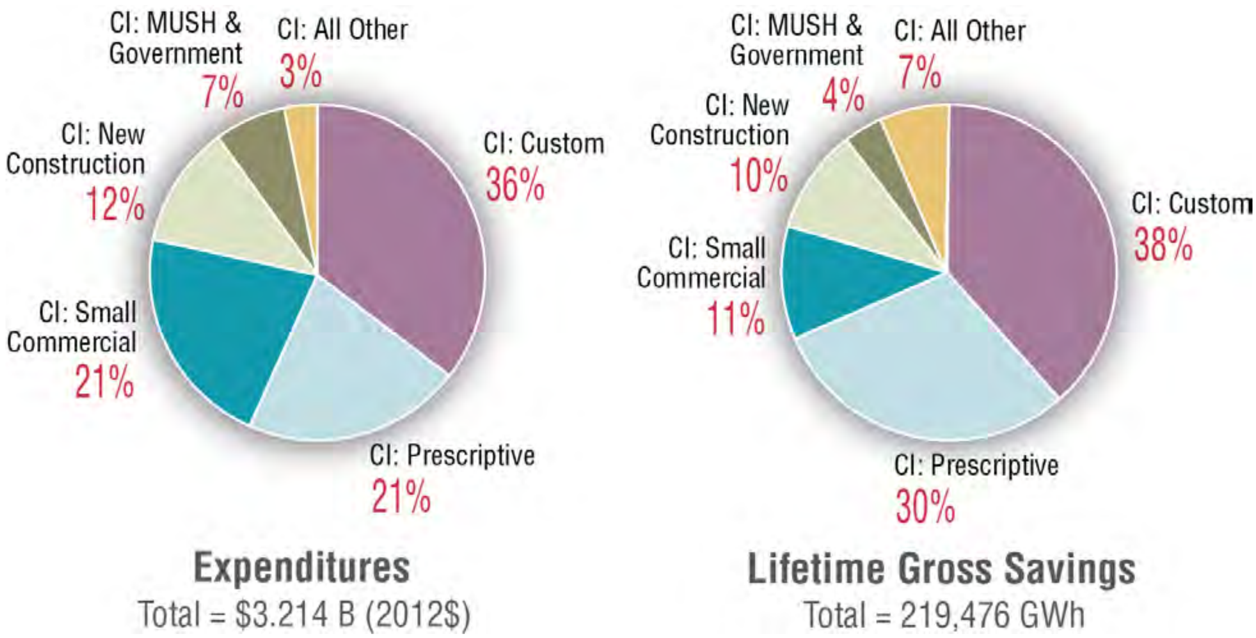

Figure 3-4. Program administrator expenditures and gross lifetime savings for 2009-2011 commercial and industrial electricity efficiency programs

We also created a region data field and coded efficiency program data provided by program administrators into the appropriate region, using U.S. Census region definitions (see Table 3-2). As can be seen from Table 3-2, we have a limited number of states (four) with program-level data from the South region as well as a relatively limited number of efficiency programs in total from southern states in the database.

Table 3-2. U.S. Census Regions and states in the LBNL DSM Program Impacts Database[49]

Region	States in the LBNL DSM Program Impacts Database
Midwest	MI, MN, IL, IA, OH, WI, IN
Northeast	PA, VT, CT, ME, NH, NY, RI, NJ, MA
South	MD, NC, FL, TX
West	CA, WA, MT, ID, OR, HI, CO, NV, UT, AZ, NM

For the programs in the database, program administrator costs for electricity programs were highest for the West at $2.0 billion, followed closely by the Northeast at just over $1.9 billion.

[49] U.S. Region Definitions may be found at: http://www.census.gov/econ/census07/www/geography/regions_and_divisions.html

Program administrator expenditures totaled just under $1 billion in the Midwest and about $505 million in the South (see Figure 3-5).

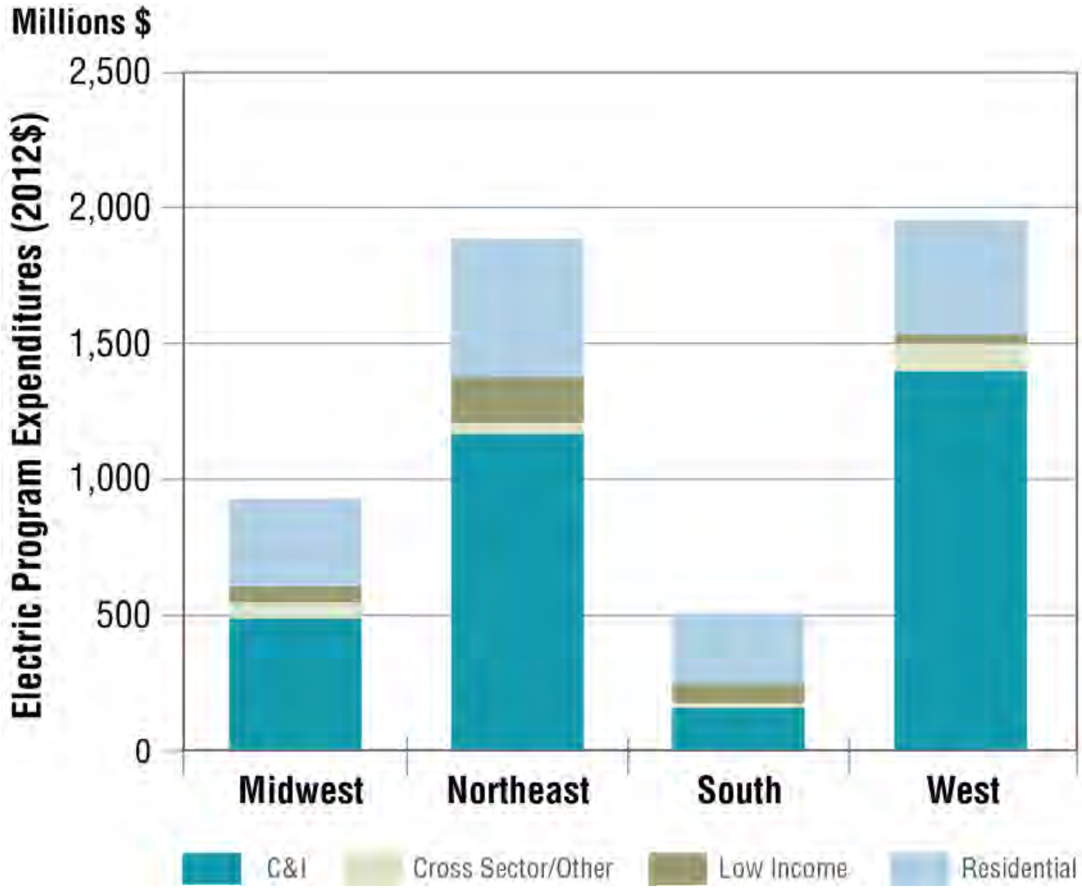

Figure 3-5. Program administrator expenditures by region for 2009-2011 electricity efficiency programs

The regional breakdown of lifetime savings for programs in the database looks much different compared to expenditures (see Figure 3-6). Program administrators in the Midwest reported about 20% more lifetime electricity savings than program administrators in the Northeast and about 75% of the savings for program administrators in the West, although expenditures in the Midwest were less than half of those in the West or Northeast.

As can be seen from Figure 3-5 and Figure 3-6, savings reported by program administrators come predominantly from the C&I sector, except for the South where residential and C&I program savings are more balanced. In the Midwest, C&I programs accounted for a little more than half of the region’s total expenditures, but C&I programs accounted for nearly 70% of the savings. In the West, the expenditure and savings proportions were more comparable; C&I programs accounted for about 60% of total expenditures and about 65% of the savings, while 27% of expenditures and 21% of savings occurred in the residential sector. Low-income program expenditures were significantly higher in the Northeast than in the other regions.

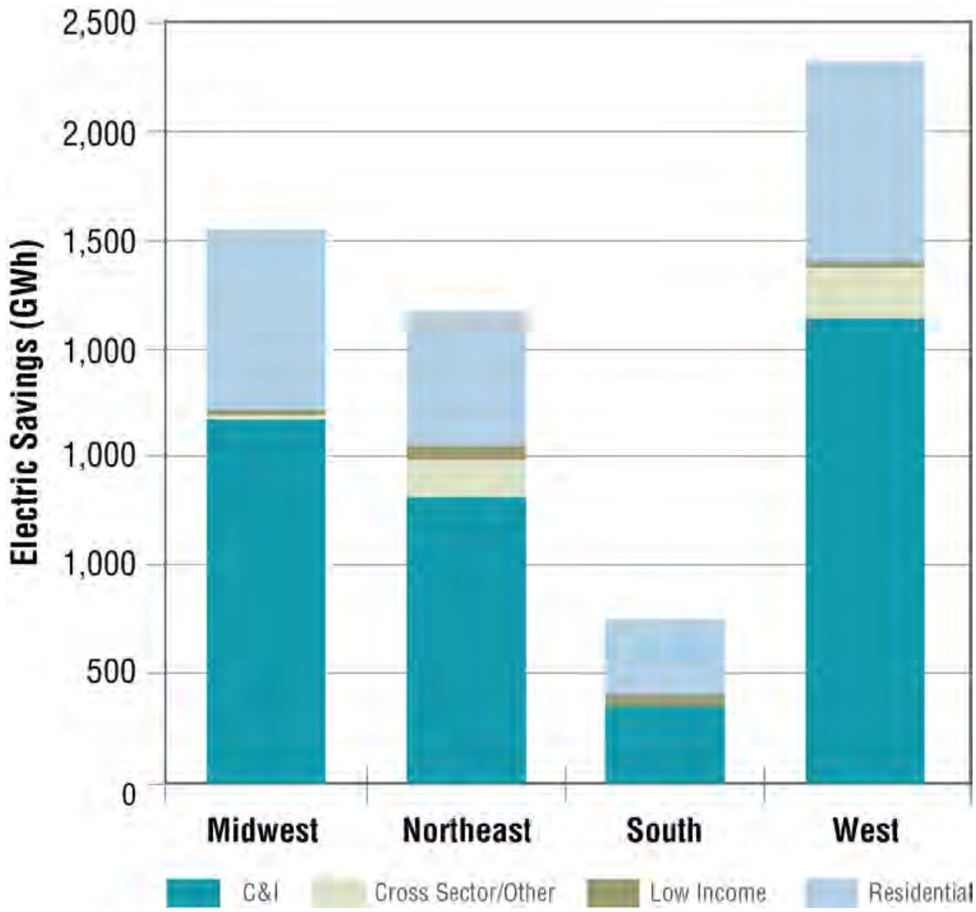

Figure 3-6. Program administrator lifetime savings by region for 2009-2011 electricity efficiency

3.1.2 Gas Program Expenditures and Savings

Program administrator expenditures for identifiable natural gas programs[50] in the LBNL DSM Program Impacts database for the years 2009–2011 totaled just under $1.3 billion, about 20% of program administrator expenditures for electric programs (see Table 3-3). Residential programs accounted for about 60% of aggregated gas program expenditures, while C&I programs accounted for about a quarter of total program expenditures, which is the converse of spending breakdown in electric efficiency programs (i.e., C&I programs account for 60% and residential programs about 30% of total spending).

[50] Fifty program administrators reported natural gas program data.

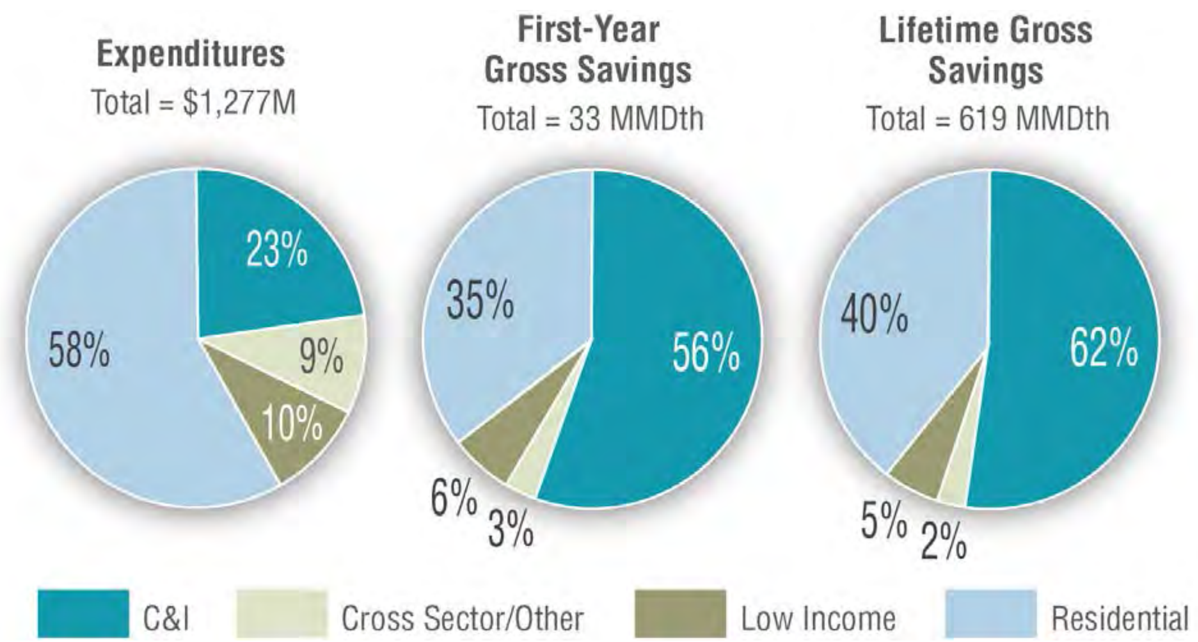

Figure 3-7. Program administrator expenditures, first- year and lifetime gross savings for 2009–2011 natural gas efficiency programs

As with the residential sector programs, we compared the share of total program administrator expenditures with the share of first-year and lifetime savings for each market sector (see Figure 3-7). Expenditures for the C&I sector accounted for about a quarter of total gas program expenditures, yet C&I programs generated more than half of total gas program savings (56% of first-year savings and 62% of the lifetime gross savings), indicating the importance of this sector for natural gas energy efficiency.

Table 3-3. Program administrator expenditures for 2009-2011 natural gas efficiency programs

Market Sector	Share of Total Program Administrator Expenditures	Total Program Administrator Expenditures (million 2012$)
Residential	58%	$742
C&I	23%	$291
Low Income	10%	$123
Cross Sector/Other	9%	$121
TOTAL	**100%**	**$1,277**

On the other hand, while residential programs made up about 60% of total gas program expenditures, they garnered 35% of first-year savings and 40% of the total lifetime savings for all programs. Low income gas programs follow a similar pattern as low-income electricity efficiency programs, accounting for 10% of total expenditures and 6% of first-year and 5% lifetime savings.

3.2 Observations on the Cost of Saved Energy

3.2.1 National Observations

CSE values are presented as either (a) savings-weighted average values; (b) as an inter-quartile range with median[51] values; or (c) both.[52] The savings-weighted average CSE is calculated using all savings and expenditures at the level of analysis (e.g., region, sector, program category).[53] For example, the national savings-weighted average CSE for the residential sector includes all the residential program portfolio costs in the database (even for programs without reported savings) divided by all the savings reported for the residential sector; thus "weighting" the CSE of larger programs more than small programs. The inter-quartile range and median CSE values are based on calculations for each individual program; thus giving equal weighting to all programs irrespective of their relative size (either in terms of savings or costs). The inter-quartile range and median CSE values exclude programs where a CSE cannot be calculated.[54]

CSE values are reported using three different metrics: a cost of lifetime saved energy, a levelized cost of energy savings using two discount rates (3% and 6% real), and a cost of first-year energy savings (see Table 2-2 for definitions of these CSE metrics). Appendix E contains detailed national and regional levelized CSE values by sector, simplified program type and detailed program type; tables in Appendix E show the savings-weighted average CSE, the first quartile, the median, and the third quartile levelized CSE values and the total number of programs for each category.

Table 3-4 shows national saving-weighted average CSE values for the identifiable electricity efficiency programs[55] in the database. Figure 3-8 depicts the lifetime and levelized CSE values ($/kWh) by sector. The national CSE values for electricity efficiency programs rounds to approximately $0.02/kWh for the levelized CSE using both the 3% and 6% real discount rates and a lifetime CSE (without discounting) of $0.015/kWh.

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[51] The *inter-quartile range* is the middle 50 percent of the range of program CSE values. The *median* is the numerical value separating the higher half of a data sample from the lower half.

[52] The CSE values in this section are based on *program administrator costs* and *gross energy savings*. When used, the lifetime energy savings may be based on reported values or values derived from estimates of program average measure lifetime. See Chapter 2 for a discussion of the basis for using program administrator costs and gross savings, the protocol for calculating lifetime energy savings, and discussion of the limitations in the efficiency program data used to calculate CSE values.

[53] We have observed that program administrators are not consistent in how they report program support costs (i.e. administration, EM&V, marketing & education, etc.). Some program administrators reported those costs at the program level, others reported those costs at the sector or portfolio level, and several reported those costs as, effectively, separate programs. For the purposes of this report, costs associated with specific programs stay associated with those programs. Costs that occur at the portfolio or sector levels are included in the analysis as separate programs. This allows us to account for those costs at the sector and portfolio levels but may appear as though individual programs within the same category cost less than their counterparts who report costs at the program level.

[54] Some programs did not report savings (e.g., education/information programs) and others were not designed to achieve savings (i.e. programmatic support programs including EM&V, marketing). Where savings are not reported, it was not possible to calculate a CSE for that particular program.

[55] Eighty-eight program administrators reported electric program data.

Table 3-4. The program administrator CSE for electricity efficiency programs by sector: national savings-weighted averages

Sector	Levelized CSE (6% Discount) ($/kwh)	Levelized CSE (3% Discount) ($/kwh)	Lifetime CSE ($/kwh)	First Year CSE ($/kwh)
Commercial & Industrial (C&I)	$ 0.021	$ 0.018	$ 0.015	$ 0.188
Residential	$ 0.018	$ 0.016	$ 0.014	$ 0.116
Low Income	$ 0.070	$ 0.059	$ 0.049	$ 0.569
Cross Sectoral/Other	$ 0.017	$ 0.014	$ 0.012	$ 0.120
National CSE	**$ 0.021**	**$ 0.018**	**$ 0.015**	**$ 0.162**

Values in this table are based on the 2009-2011 data in the LBNL DSM Program Impacts Database. CSE values are for program administrator costs and based on gross savings. Values are savings-weighted average CSE calculated using all savings and expenditures at the level of analysis.

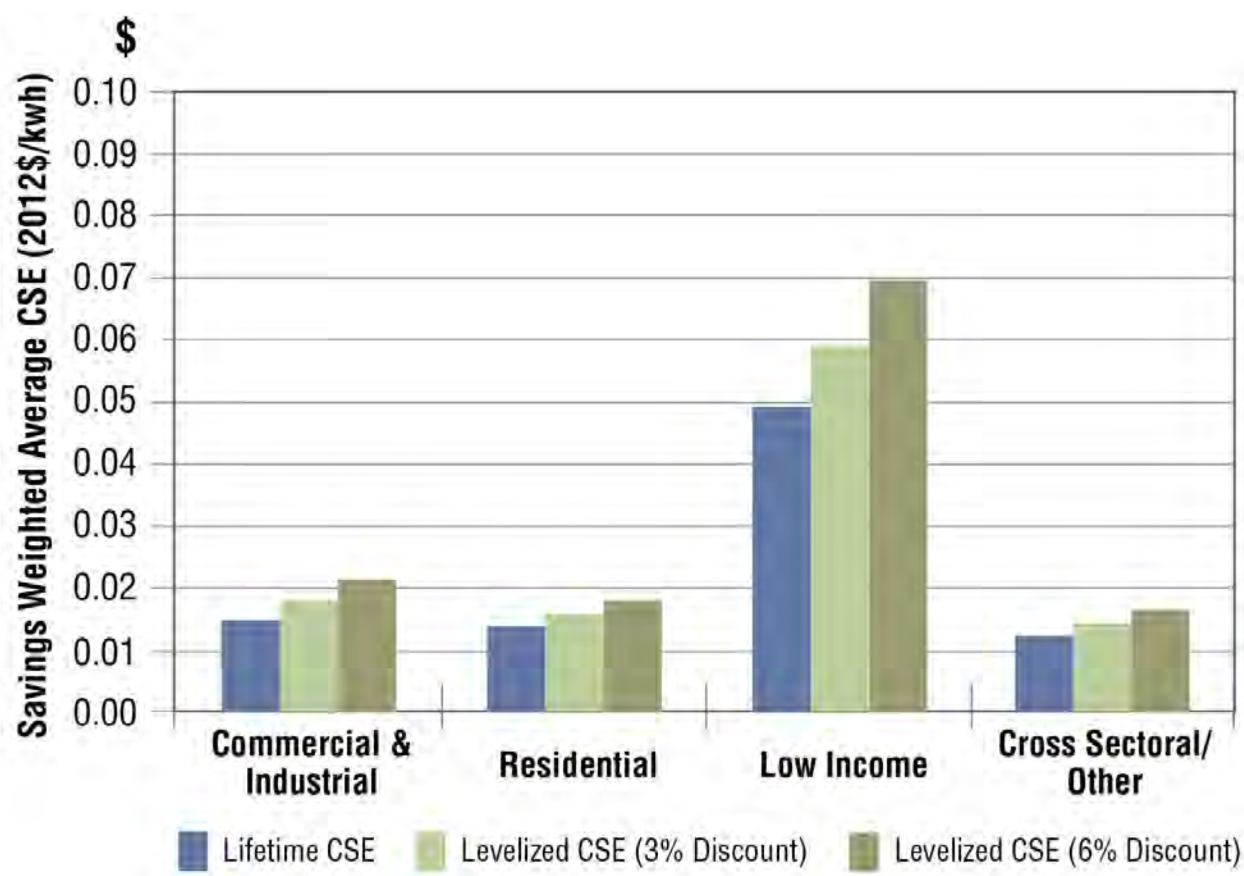

Figure 3-8. National savings-weighted average CSE for electricity efficiency programs by sector

Table 3-5 shows national saving-weighted average CSE values for the natural gas efficiency programs in the LBNL DSM Program Impacts Database. Figure 3-9 depicts the lifetime and levelized CSE values ($/therm) for gas efficiency programs by sector.[56,57] Gas efficiency programs targeted at C&I customers had a significantly lower CSE ($0.17/therm; 6% discount rate) than programs targeting residential ($0.56/therm) and low-income ($0.59/therm) customers, indicating the importance of the C&I sector for natural gas programs.

Table 3-5. The program administrator CSE for gas efficiency programs by sector: national savings-weighted averages ($/therm)

Sector (Natural Gas)	Levelized CSE (6% discount) ($/therm)	Levelized CSE (3% discount) ($/therm)	Lifetime CSE ($/therm)	First Year CSE ($/therm)
C&I	$ 0.17	$ 0.14	$ 0.11	$ 1.61
Residential	$ 0.56	$ 0.43	$ 0.32	$ 6.44
Low Income	$ 0.59	$ 0.47	$ 0.36	$ 6.26
Cross Sectoral/Other	$ 1.78	$ 1.55	$ 1.34	$ 12.37
National CSE	**$ 0.38**	**$ 0.31**	**$ 0.24**	**$ 3.93**

Values in this table are based on the 2009-2011 data in the LBNL DSM Program Impacts Database. CSE values are for program administrator costs and based on gross savings. Values are savings-weighted average CSE calculated using all savings and expenditures at the level of analysis.

[56] Fifty program administrators reported natural gas program data.

[57] There are a number of combined fuel programs that have reported interactive effects on natural gas. These impacts are not included in program level CSE calculations; however, they are included in portfolio and sector level calculations.

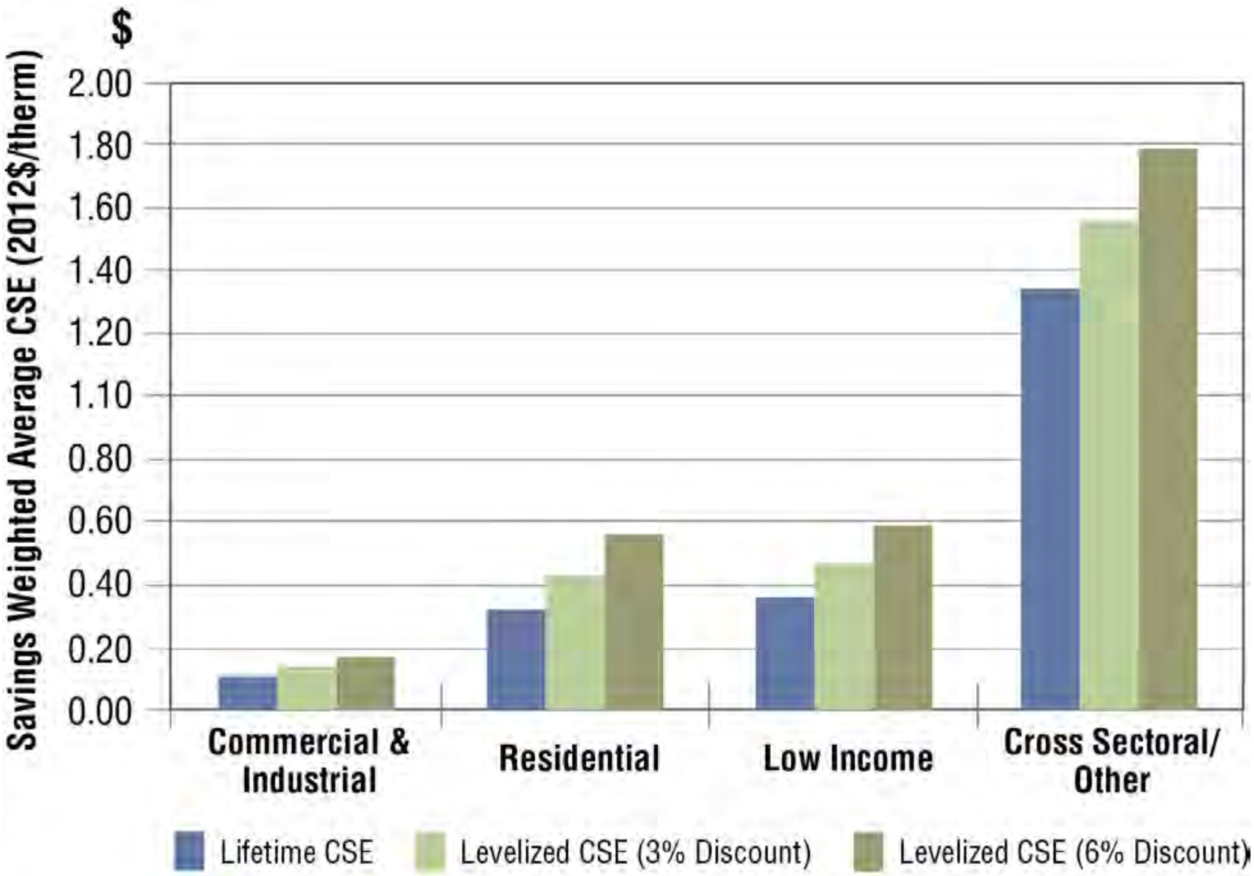

Figure 3-9. CSE for natural gas efficiency programs by sector

3.2.2 Sector and Program Level Observations for Electricity Efficiency Programs

We present CSE values at the sector and program level in this section. For simplicity, the remainder of this chapter presents CSE values using the levelized CSE for a 6% (real) discount rate (except where otherwise indicated).[58]

Figure 3-10 presents the levelized CSE results on a national basis, depicting the savings-weighted average, median and inter-quartile range for each sector. We found that both C&I and residential electricity efficiency programs included in our database had an average levelized CSE of about $0.02/kWh. Looking at these sectors in more detail shows that the residential sector had a slightly lower weighted-average CSE than the commercial sector but a higher median CSE (~$0.04/kWh). The CSE values for residential sector programs also had a larger inter-quartile range than commercial sector programs (e.g., inter-quartile range of CSE values ran from just

[58] We use a levelized CSE because we believe it is technically more appropriate for comparing resources. The 6% real discount rate is representative of a typical utility cost of capital. Lower discount rates result in lower CSE values. For example, for a program with an average measure life of 10 years for installed measures, a 6% discount rate results in a CSE that is about 15% higher than a 3% discount rate. There is significant interaction between discount rates and assumed measure lives. For example, the CSE value is 50% lower if we assume a 10 year measure life and 6% discount rate compared to a 20 year measure life and a 3% discount rate. See Appendix D for additional discussion of this issue.

under \$0.02 to \$0.09/kWh for residential programs vs. \$0.015 to \$0.05/kWh for commercial programs). We suspect that this is due to the very wide range of program types in the residential sector.

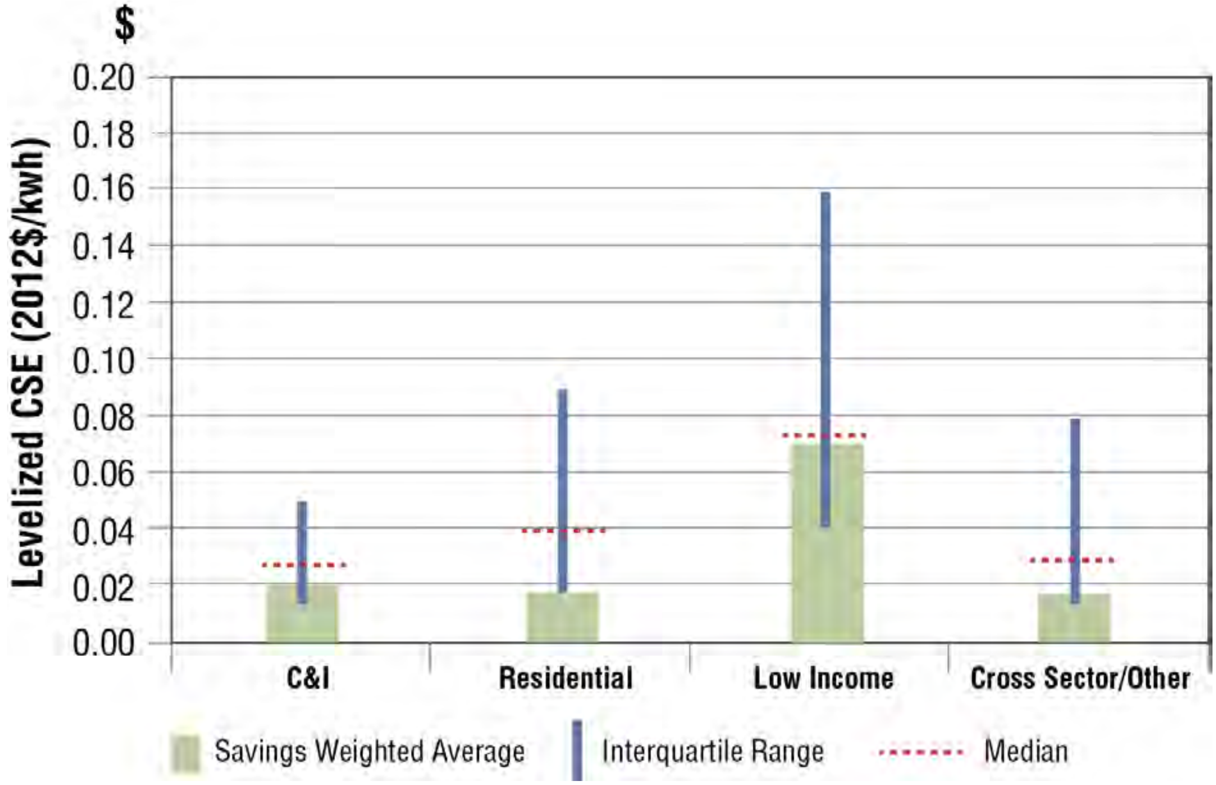

Figure 3-10. National levelized CSE for electricity efficiency programs by sector

Low-income programs have much higher savings-weighted average and median values for the program administrator CSE (on the order of \$0.07 to \$0.08/kWh). Low-income programs typically have a higher program administrator CSE for several reasons. Most notably, these programs are designed to achieve specific social policy objectives in addition to energy resource acquisition goals. These programs can include a variety of health and safety actions (correct structural issues, window replacement, mold removal, etc.) that need to be completed prior to completing any efficiency upgrades, adding to the program costs. Finally, low-income programs are often delivered at little or no cost to participants; thus the CSE for low-income programs is more comparable to an all-in or total resource cost perspective (i.e., including both program administrator and participant costs).

The cross sector/other program category, illustrated in Figure 3-10, is quite broad and includes a diverse mix of program types (e.g., equipment rebate programs that include both residential and non-residential customers, workforce development and training programs). Thus, at a high level, it is difficult to draw conclusions for the sample of programs included in this category.

At a national level, we observe a wide variation in CSE values for programs in most sectors (e.g., CSE values for programs in a sector have an inter-quartile range that varies by a factor of three to five). We also find that the savings-weighted average CSE was typically lower than the median value for CSE for a sector or program category (see Figure 3-11 and Figure 3-12). This suggests that much of the savings for each sector is coming from programs or program types on the low end of the CSE range for that program or sector.

Figure 3-11 and Figure 3-12 show levelized CSE values for the simplified program categories for C&I and residential sectors, respectively.[59]

The simplified C&I program categories had median values for the program administrator's CSE that range from $0.01/kWh to $0.05/kWh. It is worth noting that the savings-weighted average CSE for custom and prescriptive rebate program categories were $0.018/kWh and $0.015/kWh, respectively. Since these two program categories accounted for almost 70% of C&I sector savings (see Figure 3-4), they tended to drive the overall CSE results for the C&I sector: program administrators had an average levelized CSE of less than $0.02/kWh in the C&I sector. The C&I programs (Figure 3-11) also had a relatively smaller inter-quartile range of CSE values compared to the residential program categories (Figure 3-12).

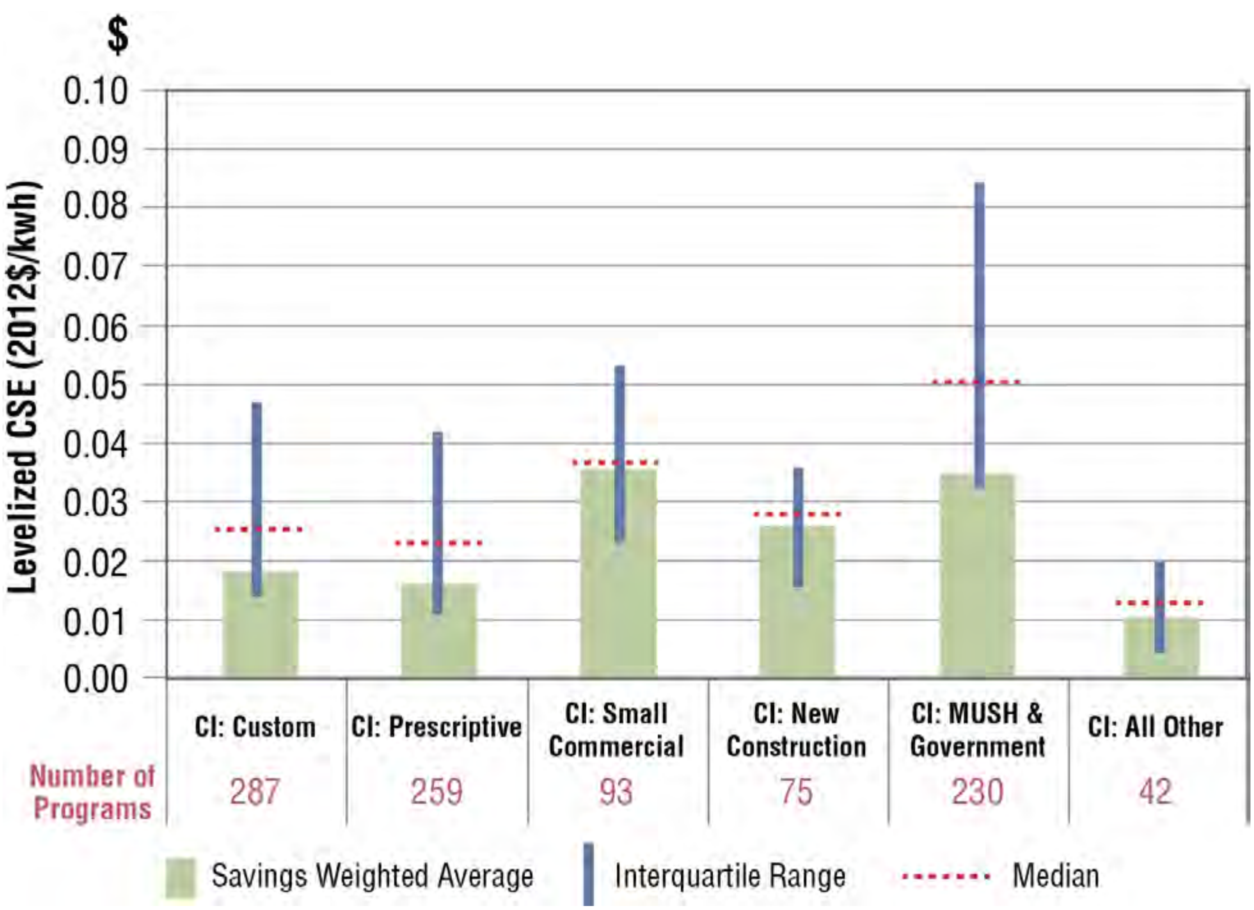

Figure 3-11. National levelized CSE for commercial and industrial sector simplified program categories

[59] Note that the y-axis scales for CSE are different in Figures 3-11 and 3-12, illustrating differences in the range of CSE values in C&I and residential sector programs.

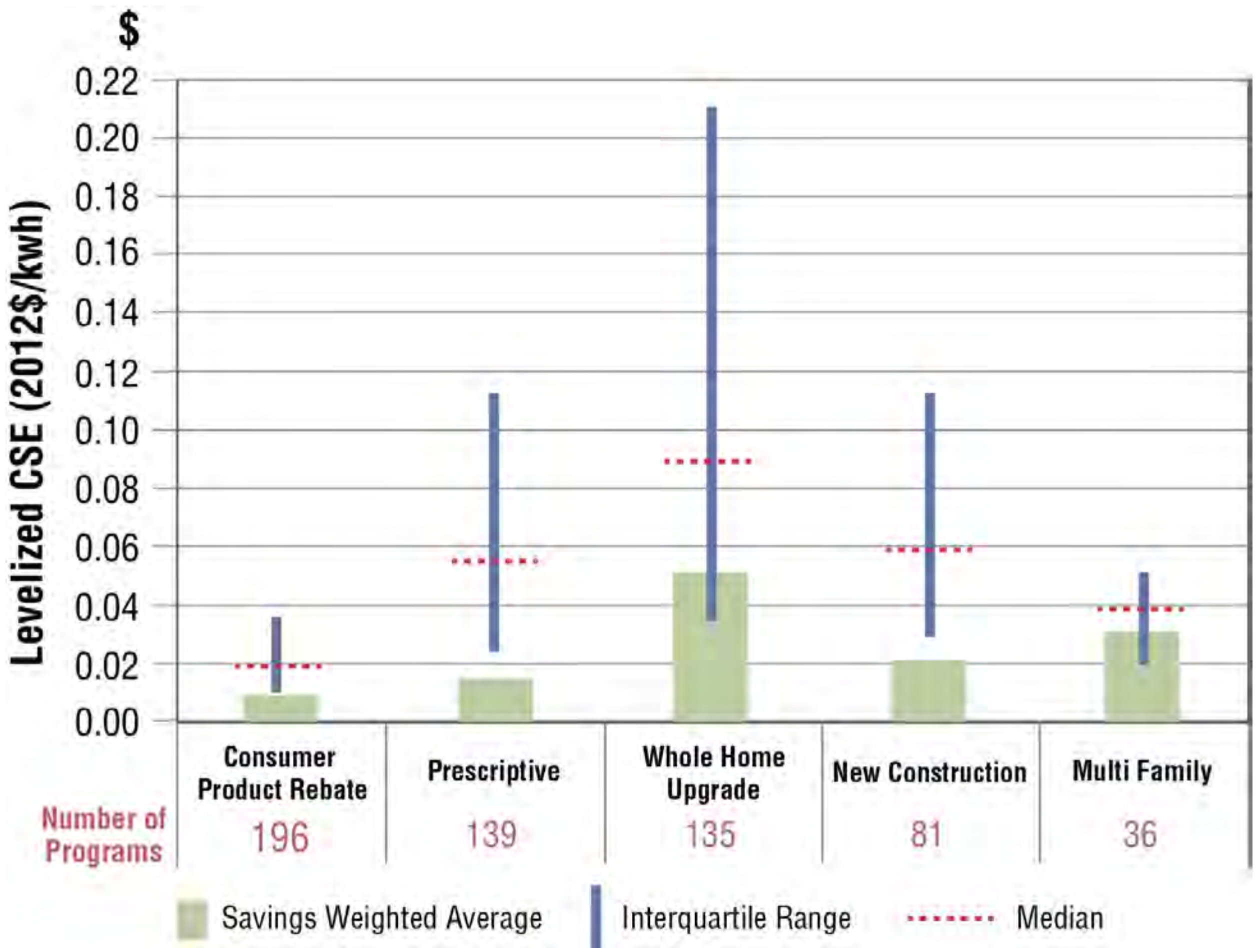

Figure 3-12. National levelized CSE for residential sector simplified program categories

For the residential programs, several program categories had a relatively tight range of program administrator CSE values. For example, Consumer Product Rebate programs had an inter-quartile range of $0.01/kWh to nearly $0.04/kWh and a low savings-weighted average (~$0.01/kWh). However, the Residential Prescriptive ($0.03/kWh to $0.11/kWh), New Construction ($0.03/kWh to $0.11/kWh) and Whole-Home Upgrade (slightly more than $0.03/kWh to $0.21/kWh) program types had significantly larger ranges. There are several possible reasons for the larger range of CSE values in each of these program categories. The prescriptive simplified program category includes detailed program types that implement a wide variety of measures (e.g., HVAC, insulation, windows, pool pumps) as well as some generic "prescriptive" programs[60] that often include measures also found in the Consumer Product Rebate category. This broad measure mix and the variation in costs and measure lifetimes associated with those measures are possible drivers for the wide range of CSE values for the prescriptive category.

[60] Some programs include all their rebated measures under the same program title and it is not possible to determine where the majority of the savings is coming from. In these cases, the programs were categorized as "Residential Prescriptive."

For the Whole-Home Upgrade program category, the broad range of program designs and delivery mechanisms (this category includes audit, direct install, and retrofit/upgrade programs) may help explain the relatively wide range of CSE values. Figure 3-13[61] shows program administrator CSE values for detailed program categories under the Whole-Home Upgrade program category. We observe that the inter-quartile range of CSE values for both direct install and whole-home upgrade programs ranged from about $0.03/kWh to about $0.26/kWh, with median values of $0.06/kWh and $0.12/kWh, respectively. Whole home audit programs have a much smaller inter-quartile range, from $0.03/kWh to $0.11/kWh, and a median value of $0.07/kWh.

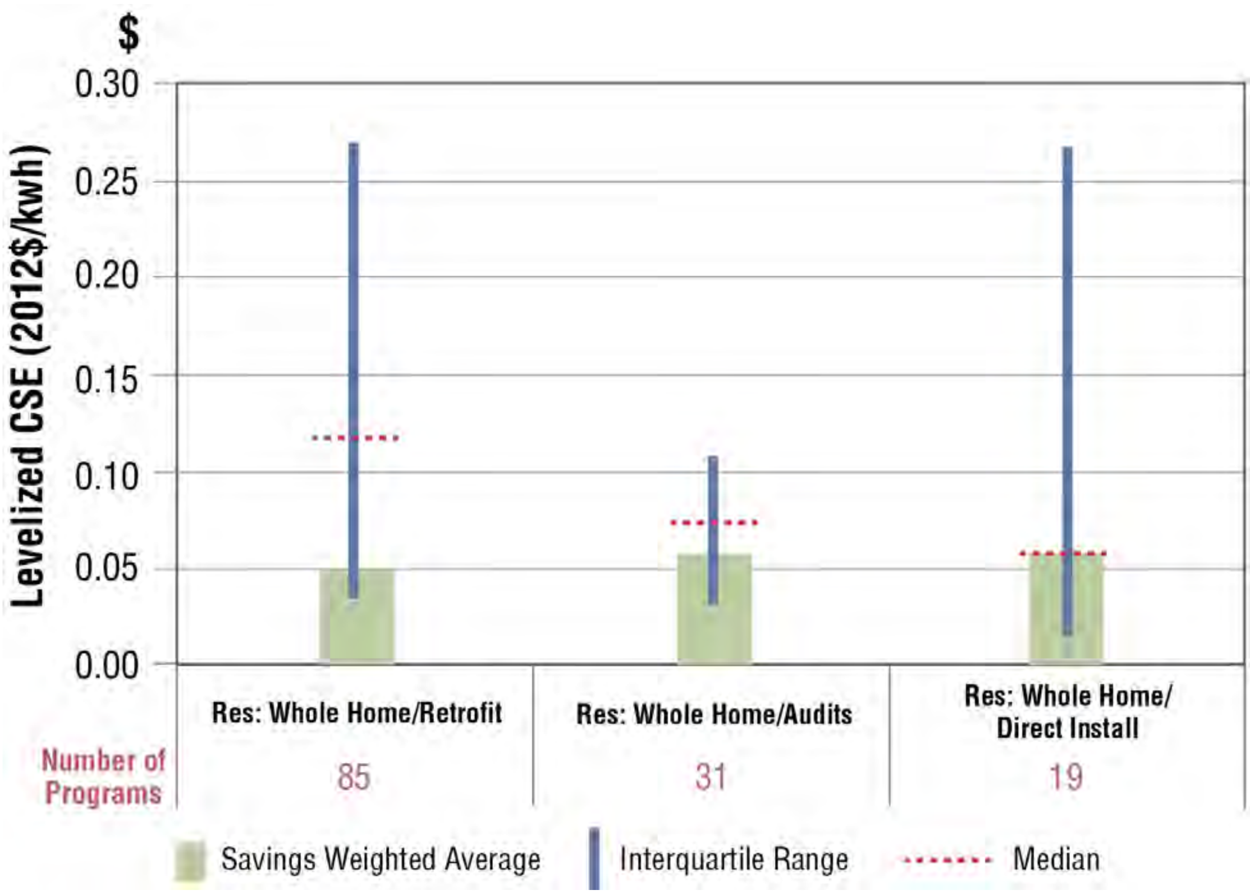

Figure 3-13. National levelized CSE for residential whole home detailed program category

Recall that about 44% of the residential sector lifetime gross savings came from lighting rebate programs that are part of the Consumer Product Rebate simplified program category (see Figure 3-13). Thus, we took a closer look at the CSE results for the four detailed program types within this category (see Figure 3-14).

The median and average levelized CSE values for lighting rebate programs were quite low (about $0.01/kWh) with a small inter-quartile range (see Figure 3-14). Future investigation of these programs' CSE values, savings estimates, and drivers is probably warranted given that a

[61] Note that the y-axis scale in Figure 3-13 has higher CSE values than other figures in this chapter.

large percentage of savings came from lighting measures and that lighting CSE may rise as baselines (and thus perhaps savings) are lowered for many of these measures given implementation of more aggressive lighting equipment standards.

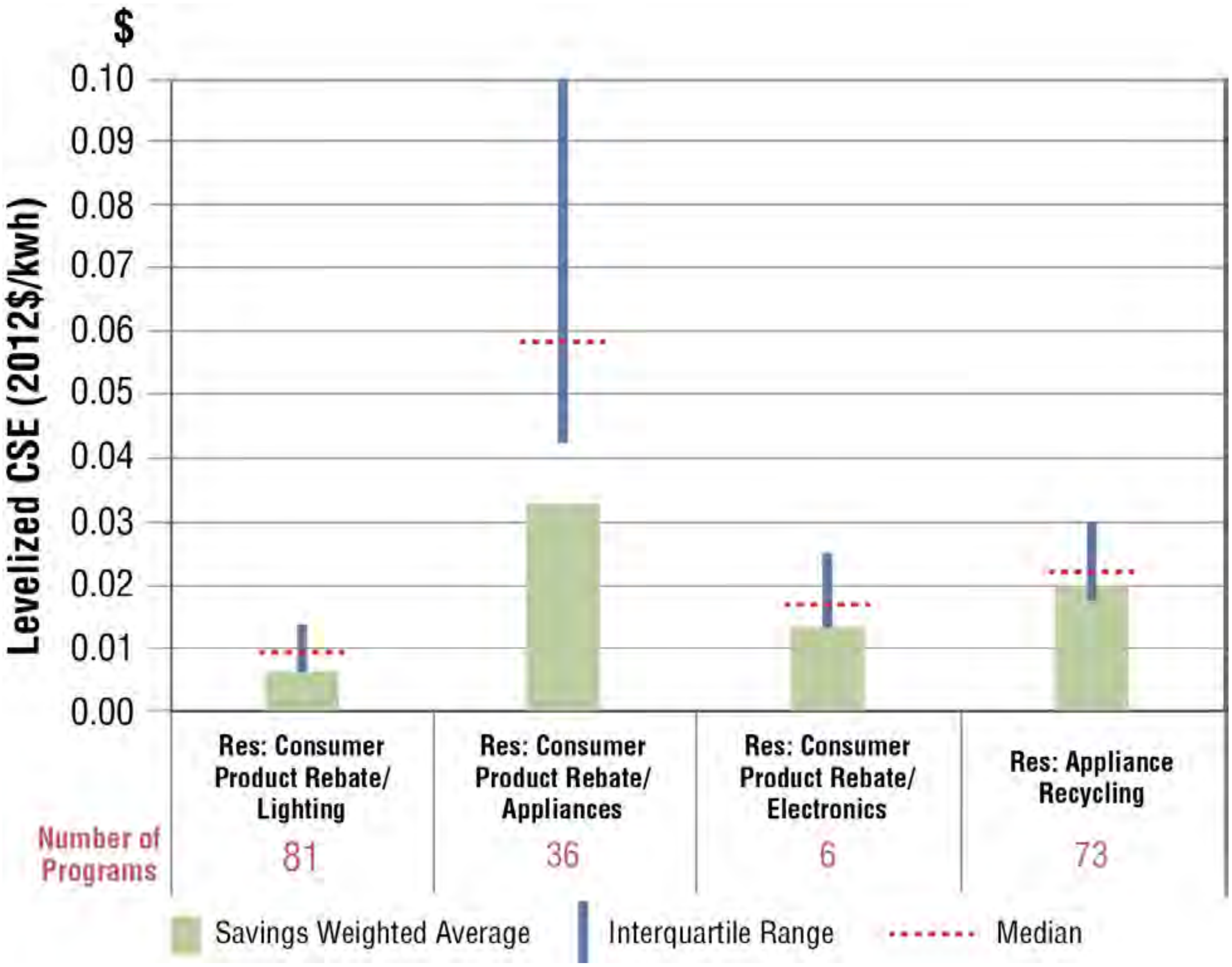

Figure 3-14. National levelized CSE for residential consumer product rebate detailed program categories

3.2.3 Regional Observations in Electricity Efficiency Programs

In this section, we examine some of the potential underlying drivers of CSE, including region (i.e., geographic location), climate, and baseline building efficiency requirements. Figure 3-15 presents regional CSE values for programs in the database (see Table 3-2 for assignment of states to region).

Across all programs, the savings-weighted average CSE ($0.014/kWh) and median CSE ($0.019/kWh) values were lowest in the Midwest. This is consistent with the information in Figure 3-5 and Figure 3-6, which shows that program administrators in the Midwest in aggregate reported relatively low expenditures and relatively high savings (compared to other regions). Possible explanations for this phenomenon include the relative "newness" of the Midwest energy efficiency programs and savings targets. Most of the states in this region enacted their first EERS targets in the late 2000s (Barbose et al. 2013). As a result, most of these states are perhaps still able to achieve significant savings from programs targeting low cost measures (i.e., lighting rebate programs). Another possible explanation is that gross savings values and/or measure lifetimes are higher because of baseline conditions or because EM&V practices are less mature in some states.

In contrast, many states in the Northeast region have consistently been running efficiency programs for many years, have much higher savings targets (e.g., "all cost effective" efficiency mandates) and relatively well established and rigorous savings evaluation requirements. In aggregate, program administrators in the Northeast have a higher savings-weighted CSE ($0.033/kWh) and a much wider range of CSE values among types of programs, which possibly indicates that there was a broader mix of program designs and delivery mechanisms, as well as desire to achieve more comprehensive savings driven by state policy objectives (e.g., regulatory decisions or legislation that directs program administrators to achieve all cost-effective efficiency).

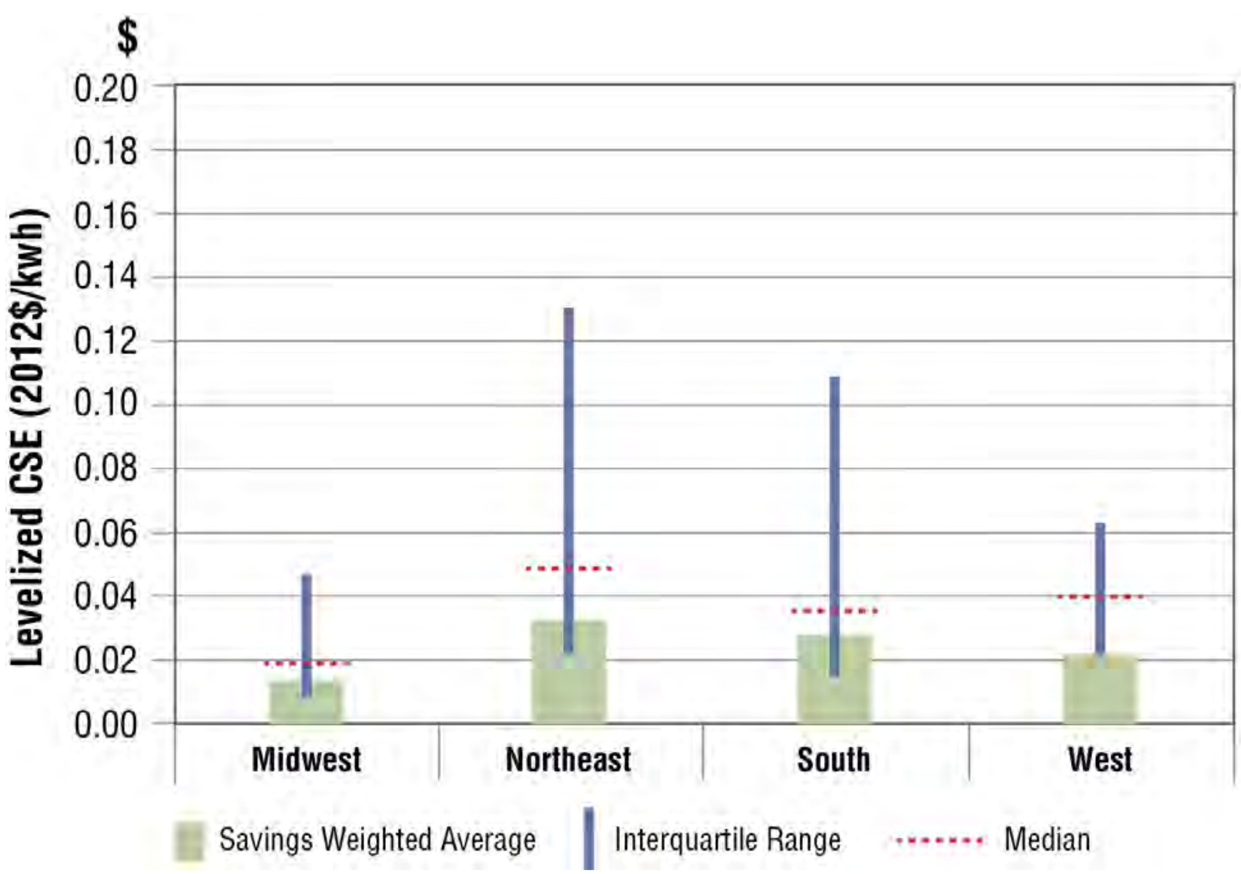

Figure 3-15. Levelized CSE for electricity efficiency programs by region

We also looked at average CSE values for all C&I and residential programs (excluding low-income programs) among program administrators in states (see Figure 3-16). Low-income programs were excluded for several reasons: (1) not all states either offer or reported information on their low-income programs; (2) the policy rationale(s) for low-income efficiency programs differs among states: some states require low-income programs to pass cost-effectiveness screening tests while other states use multiple criteria to assess budgets and design of low-income programs (e.g., equity reasons, cost-effectiveness); and (3) the scale of low-income programs varies significantly among states. Thus, including low-income program data has the potential to skew state by state observations in CSE.

With several exceptions, we observe some clustering of average CSE values for efficiency programs for states in a region (see Figure 3-16) with several exceptions (e.g., FL, PA, NJ). It is worth noting that Massachusetts and Vermont have all cost-effective efficiency mandates and both of those states had a savings-weighted average CSE over $0.04. Conversely, Pennsylvania has many characteristics that are typical of other states in the Midwest (e.g., relatively new efficiency programs, similar climate, economies) and had an average savings-weighted CSE more similar to program administrators in the Midwest than the Northeast. At this time, we cannot definitively explain the higher savings-weighted average CSE for program administrators in Florida.

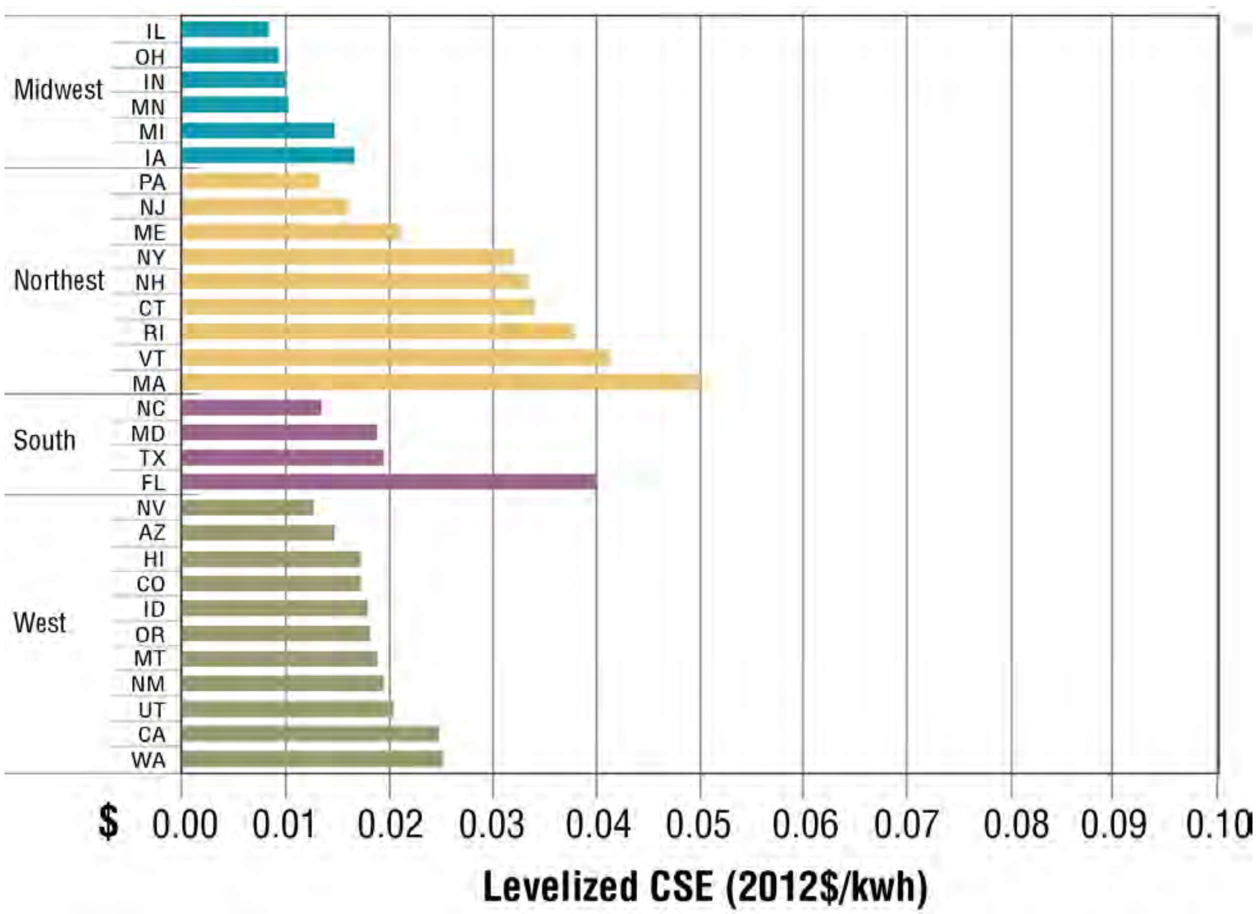

Figure 3-16. CSE values by state for electricity efficiency programs (excluding low-income programs)

A number of factors may influence the observed variation in the program-level CSE, including those that program administrators can influence (e.g., how program administrators report program costs, program design, incentive levels, and measure mix) and those largely outside of program administrator control (e.g., climate, area labor rates, building stock, regulatory requirements). We conducted exploratory analysis that examined two potential factors that may influence program-level CSE values: climate and building codes. First, we calculated the percentage of each region's lifetime gross savings by savings-weighted program administrator CSE and climate zone for all program categories in the database (see Figure 3-16). The size of the bubbles in Figure 3-17 represents the percentage of the total regional lifetime savings that falls within the respective climate zone in which the program was administered. For example, for the West, there are more savings in the database in the warm climate zone that includes much of California.

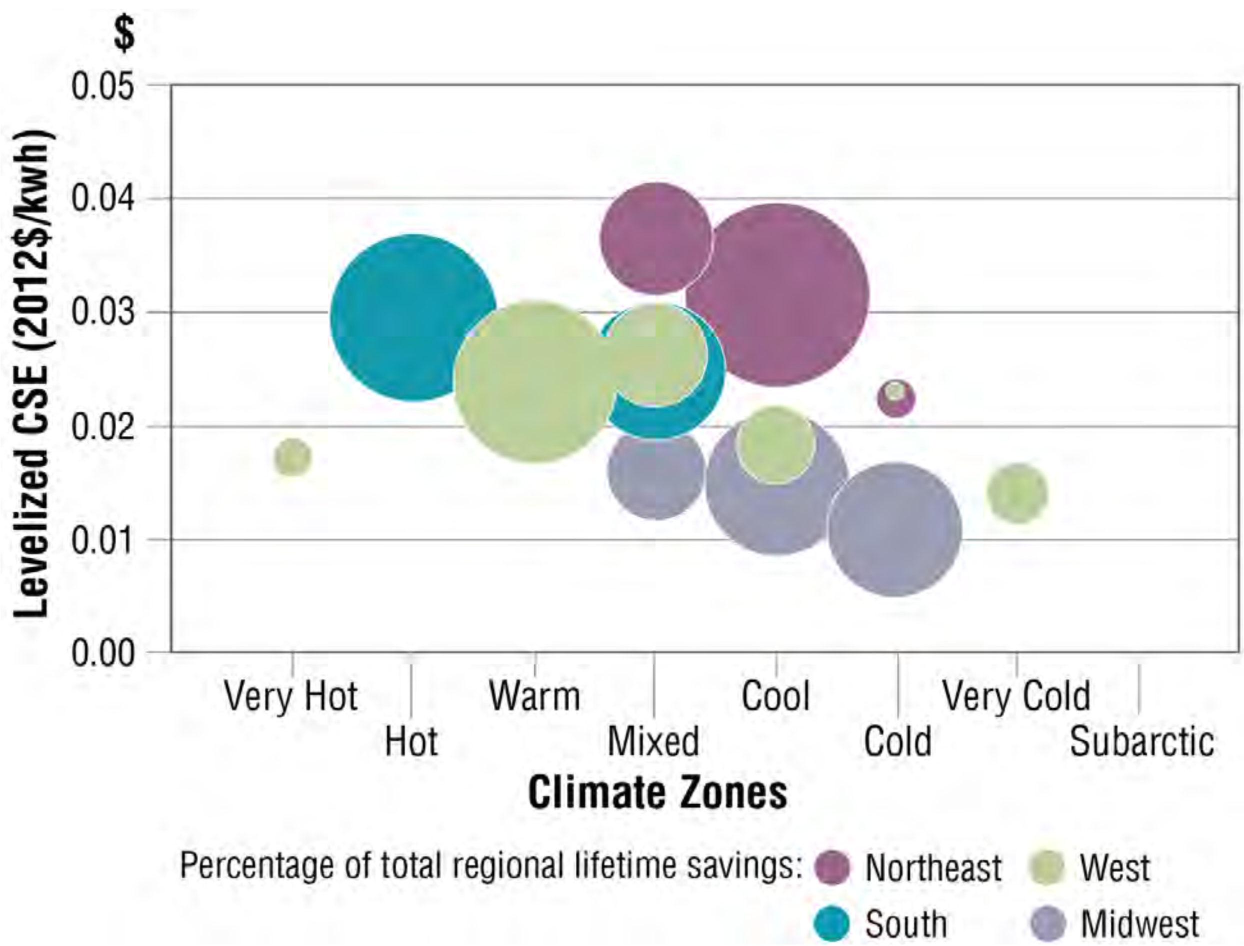

Figure 3-17. Percent of regional lifetime savings by climate zone and levelized CSE for electricity efficiency programs[62]

[62] States were assigned to climate zones adopted for the International Energy Conservation Code (IECC), in which the climate zones are delineated geographically as regions defined by certain historical averages for temperature, humidity and precipitation. A single zone was assigned to each state based on where the majority of the state's population—and presumably load—is concentrated. This method is imperfect but useful as a proof-of-concept test for an approximate relationship with levelized CSE. A description for the climate zones was adapted from the

In each region, we observe a pattern that as the climate gets cooler, the savings-weighted average CSE decreases for electricity efficiency programs. However, we also see that the savings-weighted average CSE varied significantly within a climate zone (see mixed and cool). Had climate been a significant driver for CSE, we would expect to see more agreement on the CSE by climate zone, even in different regions. This indicates that there are probably other factors that have more impact on the regional CSEs than climate zone. Additional analyses may be required to focus only on program types with climate dependent measures (e.g., cooling and heating system retrofits) or conduct more detailed analysis of participant costs and incentives which can vary by climate zone as cost effectiveness varies (e.g., a cooling system retrofit would be more cost-effective in a very hot climate than a cool one, possibly justifying higher incentives, but also perhaps not requiring them since the participant benefit to cost ratio would also be higher).

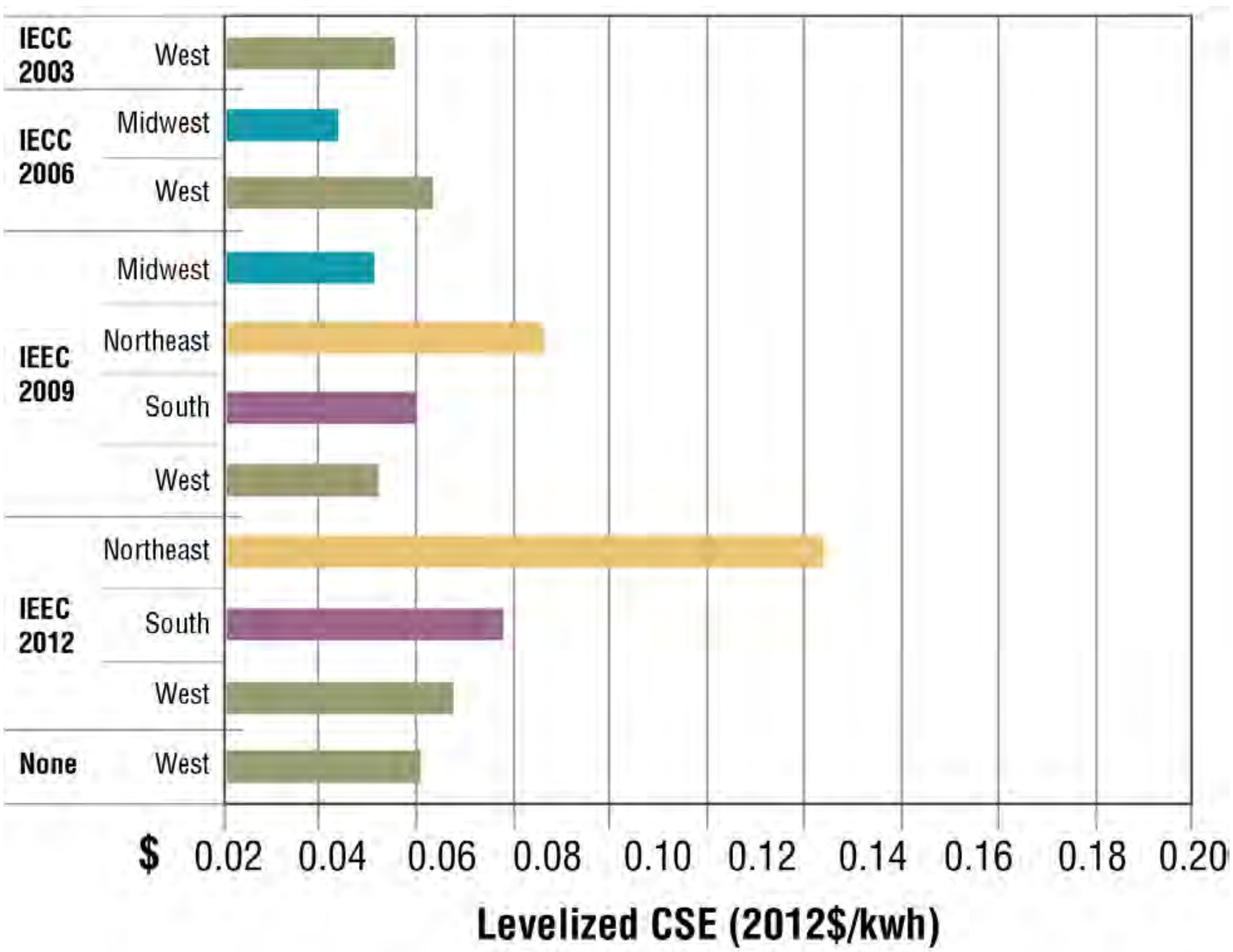

Figure 3-18. Levelized CSE for residential new construction programs compared to residential building energy codes adopted by states in each region[63]

Building America discussion of IECC and Building America climate zones found here: http://apps1.eere.energy.gov/buildings/publications/pdfs/building_america/ba_climateguide_7_1.pdf

[63] U.S. DOE. 2013. Building Energy Codes Program. Washington, DC. Accessed at: http://www.energycodes.gov/status-state-energy-code-adoption in September 2013.

Another potential influence on CSE values is differences in baseline building efficiency across states and regions. In Figure 3-18 and Figure 3-19, we examine the savings-weighted average CSE for new construction programs in the residential and commercial sectors, respectively. For the residential programs, we calculate the savings-weighted average electric levelized CSE for new construction programs in each region plotted against each state's current International Energy Conservation Code (IECC) status.[64,65] The newer the adopted code, the lower the assumed baseline energy consumption, which tends to reduce the incremental electricity savings for any given efficiency action. For example, the gross savings calculated for a fixed set of measures for a building than meets the 2006 IECC code would be greater than for the same set of measures for a building that meets the 2012 IECC code. Note that the West, as a region, has the most diversity among states in terms of building energy code requirements.

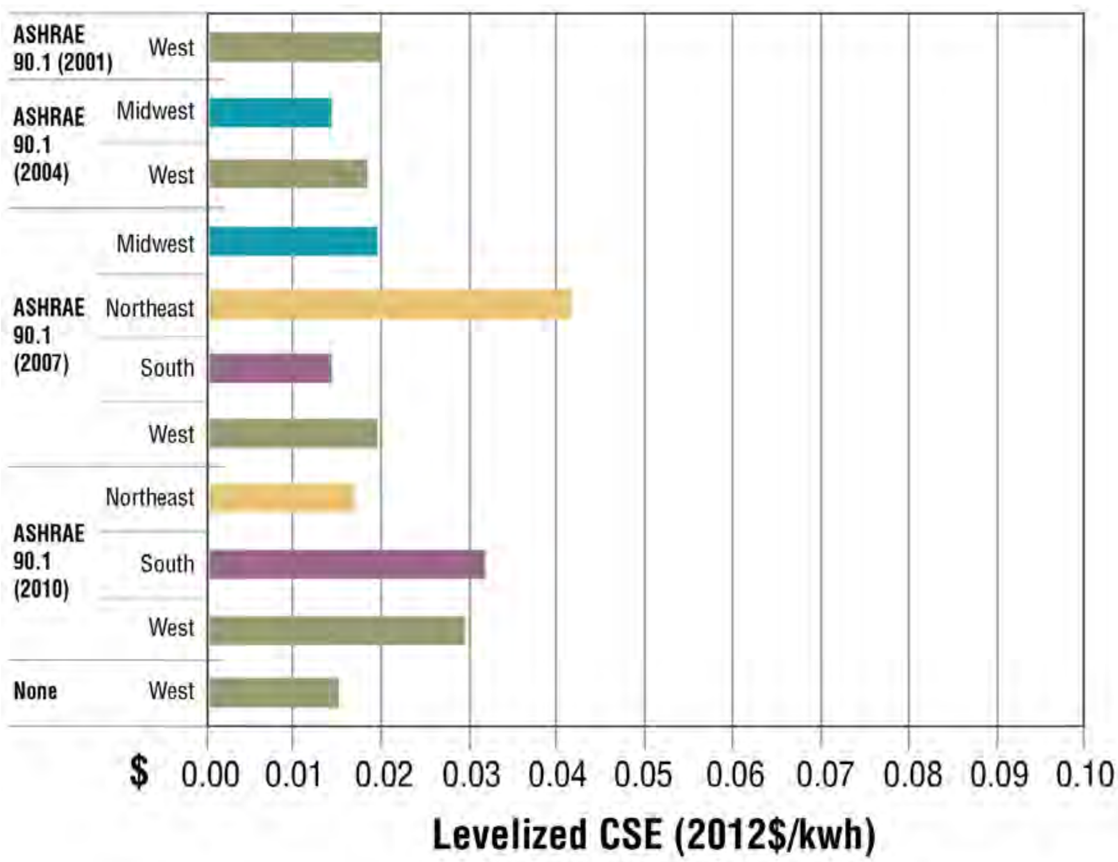

Figure 3-19. Regional levelized CSEs for commercial new construction programs compared to commercial building energy codes adopted by states in each region[66]

[64] The IECC (http://www.iccsafe.org/gr/Pages/IECC-Resource.aspx) is a national model energy code for the United States. It sets minimum requirements for energy efficiency that new buildings—as well as additions and renovations to existing buildings—must meet wherever the code has been adopted into law, usually on state-by-state basis. The IECC is updated on a 3-year cycle, and the most recent version is 2012.

[65] By using current (2103) IECC code adoption status, we do not directly reflect the baseline status at time of program implementation (2009-2011). However, we expect that this approach may still be indicative of relative baseline status while not requiring state-by-state, year-by-year analysis of code status.

[66] U.S. DOE. 2013. Building Energy Codes Program. Washington, DC. Accessed at: http://www.energycodes.gov/status-state-energy-code-adoption in September 2013.

It might be reasonable to expect that the CSE would increase as the codes for new buildings set more stringent baseline efficiency requirements (e.g., incremental savings opportunities are less for any given investment). Some evidence for this pattern can be observed in the average CSE values for Midwest, Northeast and South residential programs segmented by the year of the building energy codes. However, the expected pattern in average CSE values does not readily emerge for states in the West that offer residential new construction programs.

The picture is even less clear when looking at the savings-weighted CSE for commercial new construction programs plotted against commercial codes (see Figure 3-19). CSE values do not follow the expected pattern for states in either the West or Midwest. The savings-weighted average CSE values for states in the Northeast seems to have been lower where more stringent codes exist, although there are a limited range of code requirements among states in the Northeast. Thus, the effects of code status on CSE values require further inquiry.

3.2.4 Sensitivity Analysis: Impact of Measure Lifetime

In Chapter 2, we discussed data gaps and inconsistent criteria for reporting lifetime energy savings (and by extension efficiency measure lifetimes), noting that lifetime savings (or program average measure lifetime) were not reported for about 50% of the program years in the database.[67] In this section, we illustrate and discuss results of a sensitivity analysis that explores the impact of varying assumptions regarding program measure lifetime on CSE values reported by program administrators.

Figure 3-20 compares the "LBNL approach" used to estimate lifetime savings for those programs that did not report this information to two other potential approaches in which we apply the minimum and maximum reported program average lifetimes for each detailed program type to all programs of that type.

The minimum and maximum values for each program type (see the light and dark green bars in Figure 3-20) dramatize the impact on levelized CSE values of varying assumptions for the average measure lifetime of efficiency programs. For five of the 12 reported program categories, if we use the minimum reported program average lifetime (and apply it to all other programs in that category), the levelized CSE values more than doubles compared to the CSE values using the LBNL measure lifetime approach. This underscores the importance of understanding and accurately reporting the average measure lifetime of measures installed in programs since it significantly impacts the cost of saved energy (and the underlying cost-effectiveness of efficiency actions).

[67] For those programs, we calculated a program-average measure lifetime by detailed program category and applied those values to the reported gross first-year savings to calculate lifetime savings.

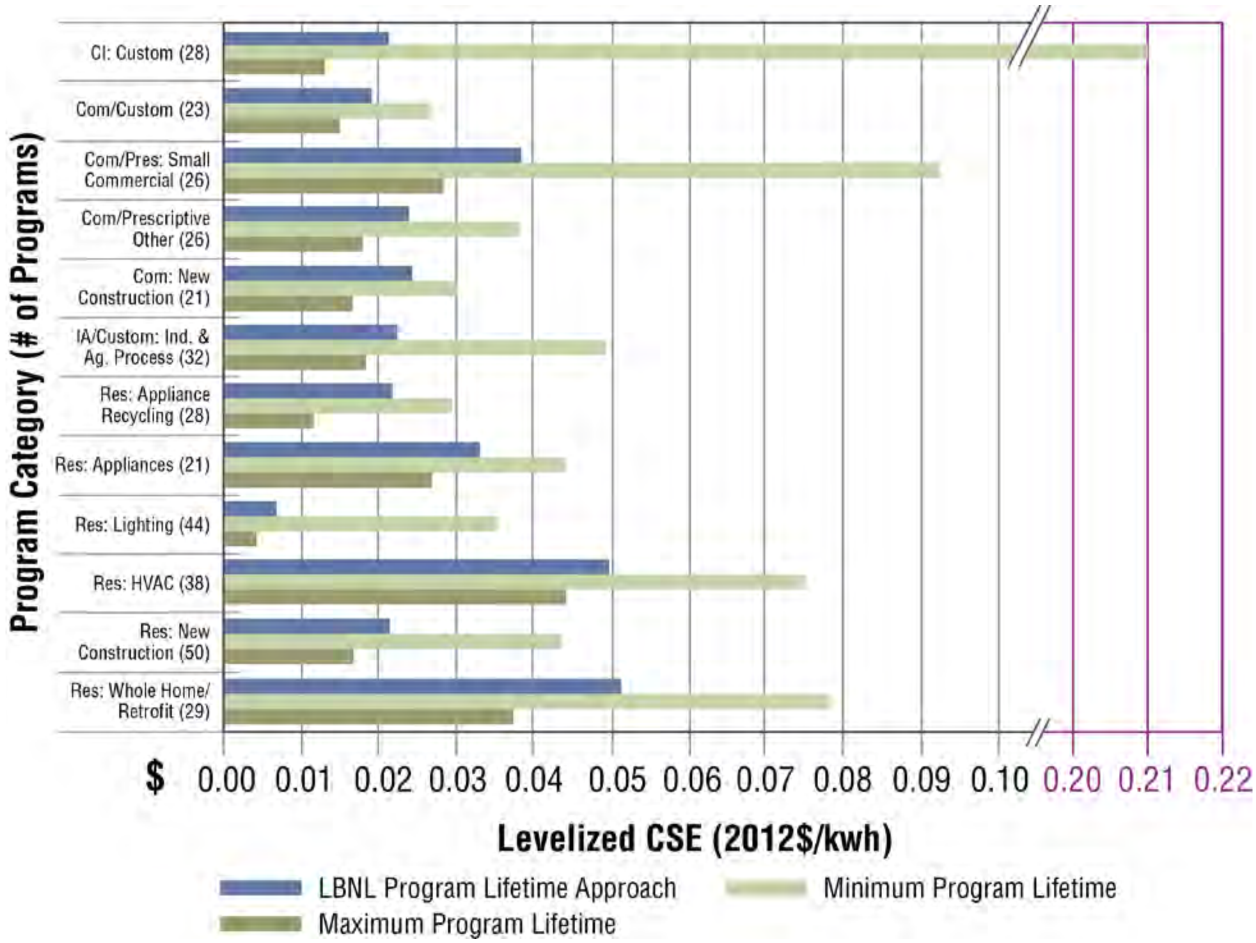

Figure 3-20. Impact of different program average measure lifetime assumptions on the levelized CSE for electricity efficiency programs

3.2.5 Program Administrator and Participant Cost Analysis: The Total Resource Cost of Saved Energy

This study focuses primarily on the program administrator CSE because participant costs were not consistently reported. We collected participant costs at the program level when reported, although this information was available for only 265 electric programs years (less than 10% of the programs in the database) in 11 states.[68] When reported, participant costs are subject to at least two additional sources of uncertainty: (1) whether the participant costs are based upon full program measure costs or incremental program measure costs; and (2) whether participant costs are based upon customer receipts and/or supplier invoices (i.e., actual participants paid those full costs) or whether incremental participant costs are based upon deemed values drawn from various sources (e.g., supplier surveys).

[68] In some of the 11 states, participant costs are only reported for select programs and not the entire portfolio.

Given small sample size and uncertain reporting of participant costs, it is difficult to assess the "all-in" or total resource cost of efficiency or analyze potential influences on the total cost of the efficiency resource. For these reasons, in Figure 3-21, we compare the program administrator's levelized CSE vs. a total resource CSE for illustrative purposes only. We calculate this total resource CSE for the simplified program categories where both program administrator and participant costs were available for more than 18 program years.[69]

For the small sample of programs, we found that the levelized total resource CSE values are typically double for most program types with the exception of the Residential Whole Home Upgrade program category (where the total resource CSE is about 25%–30% higher than the program administrator CSE). Further data collection and analyses could help understand how the ratio of program administrator to participant costs varies as a function of sector, measure types, and market maturity; and how incentives and direct support might be optimized to pay no more than is necessary to meet efficiency uptake objectives.

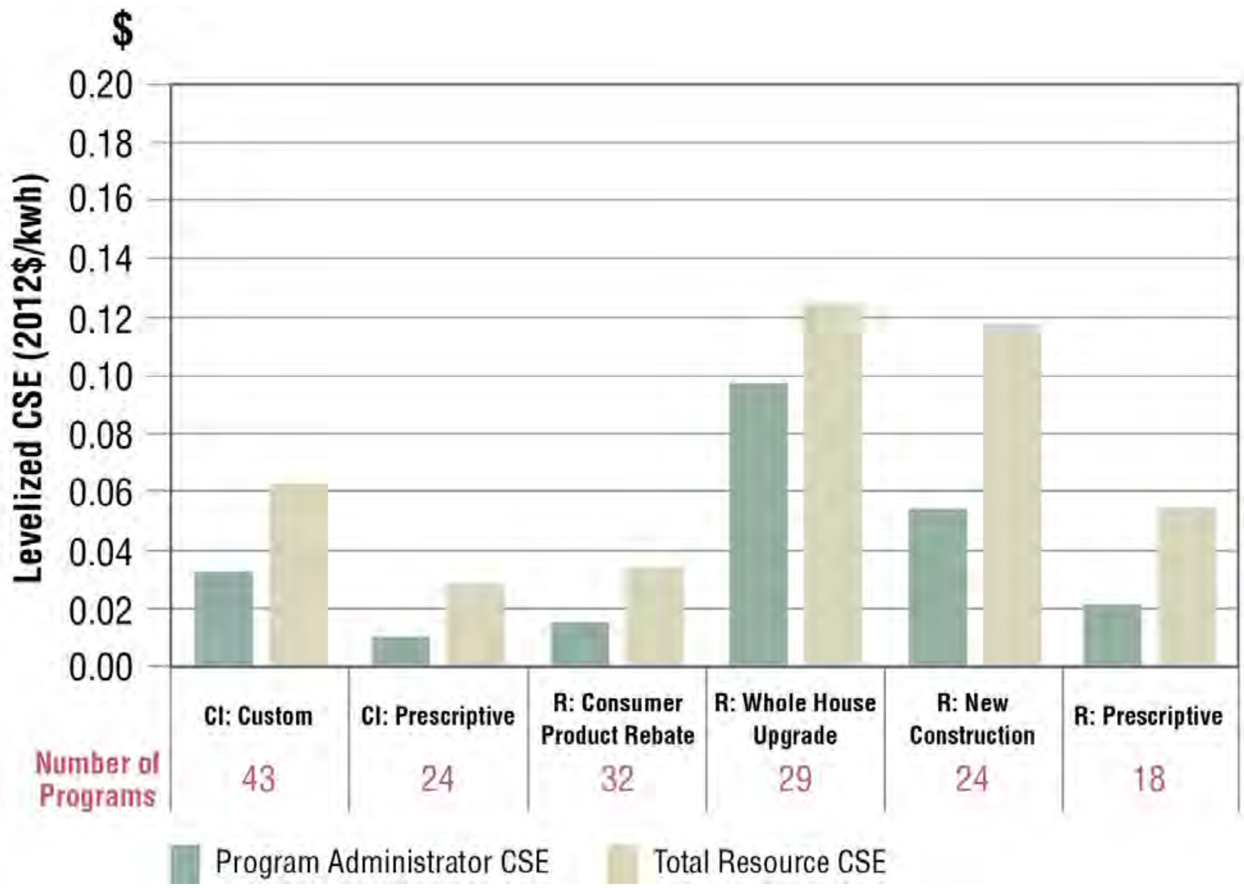

Figure 3-21. Levelized savings-weighted average CSE for electricity efficiency programs that include program administrator costs vs. total resource costs for select program categories[70]

[69] The "n" of 18 was selected because there was a natural break in the data and also that criteria resulted in only including results for which there was a meaningful number of programs from which to calculate average values.
[70] This chart includes a very small sample of programs from 11 states; thus, results may not reflect current practices in many jurisdictions.

4. Testing Influences on the Costs of Saved Energy

As shown in Chapter 3, we observe a wide range of values for the program administrator CSE from virtually every perspective—nationally, and across regions, states, portfolios, and sectors. Moreover, we find significant variability within the different types of programs. The inter-quartile range of CSE values (the "middle" 50% of programs) for the first-year CSE can vary by a factor of 10 or more within a program category. In this chapter, we explore some factors that may be associated with this variability in the CSE. We describe the results of statistical analyses aimed at quantifying the relationship of CSE and a few, selected independent variables.

To initiate these analyses, we postulated three sets of potential explanations for these ranges of CSE values:

- Differences internal to the programs themselves and over which program administrators have at least some influence (e.g., the mix of measures in programs and thus the adoption patterns of consumers, the scale of programs, the maturity of the programs, program design, and program implementation);
- Differences external to the programs and over which program administrators have very little or no influence (e.g., climate, labor costs, and the policy framework within which programs operate).
- Incorrect information arising from problems with the primary data or faulty categorization of programs, or both (e.g., if gross energy savings are inaccurately reported in the source reports).[71]

We suspect that most or all of these factors influence the CSE values, interacting in ways that can be difficult to disentangle. In this chapter, we focus on the first two explanations (i.e., potential internal and external program influences) in order to see if their hypothesized influences on CSE are observed or not, using the programs in the database.[72]

In the long run, we hope the collected data and this type of statistical analyses can:

- Inform policymakers and other stakeholders about the variability of the CSE to distinguish between controllable and uncontrollable sources of variability and, ideally, to identify ways of reducing costs or otherwise improving program design and delivery; and
- Lead to predictive models that specify and quantify major influences on CSE values and thus could inform cost or savings projections for use by portfolio planners, regulators, and resource planners.

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[71] See Chapter 2 for a discussion of data issues and Appendix C for a description of the quality control procedures implemented for this project.

[72] As noted in Chapter 3, CSE values are derived as follows: Program costs refer to program administrator costs only; the CSE values exclude participant costs. Savings are *gross savings* as reported by the program administrator. When program administrators only reported net savings values and we either had or could derive program-specific net-to-gross ratios, we used those ratios to calculate gross savings values from reported net savings. Savings values are based on savings at the end-use site and not at the power plant or natural gas pumping station and thus do not account for transmission and distribution losses.

4.1 Hypotheses

Table 4-1 indicates five hypotheses postulated as part of this research effort. We present results for three of these hypotheses in this report (shown in black).[73] Future reports may provide more in-depth results for these hypotheses and analyses of other hypotheses (shown in gray), both indicated in Table 4-1 and under development.

Table 4-1. Factors that may influence the cost of saved energy

Factors that May Influence the Cost of Saved Energy	Hypotheses	Proxy Variables	Level at which Variable Was Tested	Sources for Proxy Variable Data
Program Administrator Experience	**Program administrators with more experience learn to deliver programs more effectively and efficiently, with resulting lower CSE**	**Years of energy efficiency program spending from 1999-2012[74] above a *de minimis* threshold**	**Portfolio and sector levels**	**U.S. Energy Information Administration Form 861 survey[75] data, 1999-2012**
Scale of Program	**Larger programs reap economies of scale and thus have lower CSE**	**Number of program participants**	**Sector and simplified and detailed program level**	**LBNL DSM Program Impacts Database**
Labor Costs	**Areas with higher labor costs have higher CSE because labor is a significant component of both administrative and (indirectly) incentive costs.**	**State average wages for the construction industry**	**Portfolio, sector, and simplified and detailed program levels**	**U.S. Bureau of Labor Statistics**
State Policy Environment	Strong efficiency policies can both raise the baseline for energy savings potential and drive program administrators to reach deeper into the economy for savings; over time, both factors	Estimated statewide savings targets, as a percent of retail sales	Portfolio, sector, and program levels	Various reports by LBNL and ACEEE State Scorecards

[73] We plan to explore other hypotheses in future reports.

[74] This period was chosen largely because reporting of energy efficiency program spending and savings to EIA was less consistent in the early 1990s. See subsection on preliminary findings on program administrator experience for a discussion of the implications of selecting this period.

[75] We measured experience as the number of years that each program administrator has funded program portfolios at 0.1 percent of retail revenues for that program administrator or for utilities in that program administrator's territory. Where a time series of program funding could not be obtained (e.g., through gaps in reporting or delayed recognition of a non-utility program administrator in the survey data), we used the launch date for a multi-sector portfolio by that program administrator or, in a few cases, relied upon in-house knowledge of the level of energy-efficiency activity by that program administrator.

	are likely to result in higher CSE.			
Retail Rate Environment	Higher retail energy costs result in lower CSE because the higher energy costs encourage more customers to invest in energy savings, thus lowering the program administrator's costs of securing participation and savings	Residential, commercial and industrial retail rates	Commercial and Industrial (C&I) and residential sectors	U.S. EIA 826 and 861 reports (the Monthly Electric Sales and Revenue Report with State Distributions Report and the Annual Electric Power Industry Report)

Through the exercise of developing the hypotheses and identifying associated independent variables, it became clear that several of our theorized influences on the CSE interact in complex ways. Several variables operate in synergistic or countervailing ways. For example, some policies that are generally supportive of saving energy (e.g., energy savings targets) may dampen the costs of saving energy for program administrators in some circumstances and yet increase those costs under other circumstances. Further, the resulting effects may not operate uniformly or in the same direction from one market sector to another or across program types. Thus, the identification of potential influences on the CSEs, development of testable hypotheses and identification of valid independent variables is an iterative process, the early phases of which are described below.

4.2 Approach

For our dependent variable, we chose the first-year electric CSE, which is simply the program administrator cost (2012$) divided by first-year gross electricity savings (in kWh). The primary advantage of using first-year savings (versus lifetime savings) is eliminating uncertainties associated with the measure lifetime data; see Chapters 2 and 3 for discussion of limitations of lifetime energy savings data.

The disadvantage of using first-year savings is the inability to examine the ways that potential influences on CSEs vary for shorter- versus longer-lived efficiency measures, as using a levelized or lifetime CSE might allow. Since energy resources are generally evaluated over their economic lifetime, we anticipate analyzing factors that may be associated with levelized CSE values.

Statistical Regressions

Statistical regressions do not necessarily imply causality. Regressions can establish correlation or a probability that changing one or more independent variables is significantly associated with a quantifiable change in the dependent variable (e.g., the CSE).

We identified and collected data on the independent variables as proxies for the factors chosen to represent the potential influences over CSE. We then performed single-variable ordinary least squares regressions to screen independent variables, followed by a limited number of multivariate regressions to test the correlation between variables and the relative contributions of the variables. Appendix F describes our data collection procedures for the independent variables, the statistical analysis process and contains a table of these preliminary regression results.

4.3 Preliminary Results: Analysis of Factors that May Influence the Cost of Saved Energy

Our preliminary results to date suggest that many factors influence the CSE, and the degree of those influences varies across market sectors and programs. In the following subsections, we present an illustrative sampling of preliminary results and also discuss some of the challenges in identifying valid independent variables and interpreting results.

4.3.1 Program Administrator Experience

We hypothesized that program administrators with more experience would, to some demonstrable degree, have optimized the efficacy of program implementation and thus have lower CSE values for their portfolio of programs after an initial period. Experienced program administrators might realize these cost savings by one or more mechanisms, including having already established the necessary program infrastructure and trade alliances, identifying cost efficiencies in overhead expenses, and learning what measures and marketing approaches tend to elicit more customer participation or deeper savings.

We defined the program administrator experience variable as follows: each year of spending above a minimum program spending threshold (0.1% of revenues) as reported to the Energy Information Administration counted as a year of experience administering efficiency programs.[76] Years of experience were summed up for all years where spending exceeded the threshold to the program year for the data being tested. For example, utility X offered an informational energy audit program to customers in 2004 and expanded their programs in subsequent years such that spending exceeded 0.1% of revenues in 2006. Thus, we assumed that this utility had four years of experience for their 2010 programs and five years of experience for their 2011 programs.

The nature of the relationship between first-year CSE values and program administrator experience is depicted in Figure 4-1. The blue dots in Figure 4-1 represent CSE values for the portfolio of programs offered each year by individual program administrators**.** The cost of first-year gross electricity savings is plotted on the y-axis, the years of program administrator experience are shown on the x-axis.

There may be a quadratic relationship, such that program administrator experience and the cost of first-year savings may trace a curve in which first-year CSE declines as program administrators gain experience and then, beyond a certain number of years, costs increase, as

[76] See Appendix F for a more detailed explanation of the basis for determining program administrator years of experience. Response rates vary among program administrators from year to year in providing EIA Form-861 information. Third-party program administrators were not included in the EIA datasets until very recently. The names and parent companies for some program administrators changed over time. Some EIA survey data terms and definitions have changed over time and program administrators may have interpreted those terms (e.g., direct vs. indirect spending) in different ways. These limitations increase as the data reaches back to the early years of the EIA survey. We therefore chose to limit the count of years above the spending threshold to a period from 1999 to 2012. We recognize that bounding our metric for program administrator experience to this 14-year period imposes an artificial ceiling on the level of experience for the most mature program administrators. This may affect the correlation between program administrator maturity and the cost of saved energy. However, this impact is likely to be limited because 80% of the program administrator s in our dataset have spent above the designated spending threshold for 10 or fewer years.

saturation of low cost measures increases and program administrators offer programs that include more costly measures or target harder to reach market segments. However, a regression analysis with a quadratic specification using the first-year CSE values at the portfolio level does not show a statistically significant relationship,[77] and the magnitude of the effect, if it exists, is small (see a table of regression results in Appendix F). We plan to gather additional data, refine our method to estimate program administrator experience variable, and re-examine evidence for this relationship.

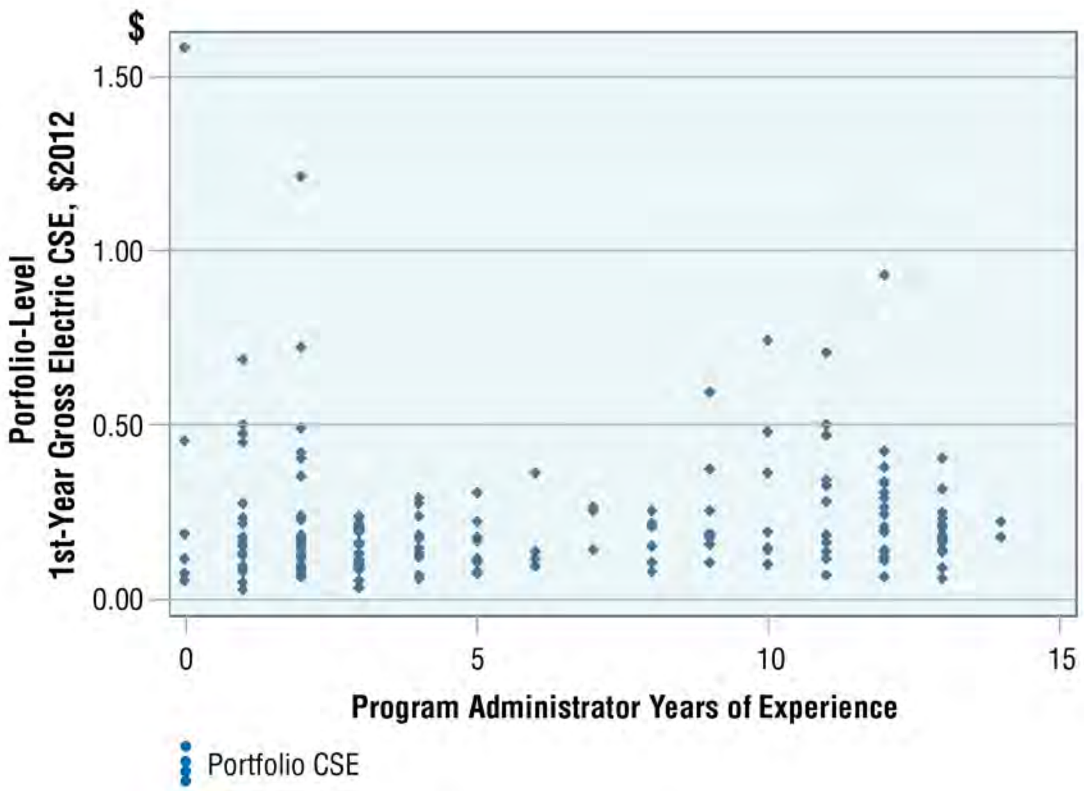

Figure 4-1. First-year portfolio-level CSE and program administrator experience, as measured by years of program spending above a minimal level.

4.3.2 Scale of Program

Based on economic theory, we would expect to see increasing economies of scale (i.e., lower CSE values as program fixed overhead costs are spread among more participant projects) at least up to a certain point. We found that the size of a program, as measured by number of participants, is often, but not always, indirectly associated with a decline in costs for some program types. This result is statistically significant for only certain program types. More reporting of participation levels could help determine, for different program types, when scaling up a program is likely to reduce the cost of saved energy.

As an example, Figure 4-2 depicts the relationship of participant count to first-year CSE for residential appliance recycling programs. The blue dots in Figure 4-2 represent first-year CSEs

[77] We use a 5% level as a threshold for statistical significance.

and reported participation for individual program years for appliance recycling programs. The red line is a linear fit across the data points, with the slope of the line indicating the predicted relationship between first-year cost performance and participation. For appliance recycling programs in our database, a doubling, or 100% increase, in the number of participants would, on average, be associated with about 0.01% of a reduction in the first-year CSE. This effect is statistically significant at the 5% level.

However, we also found that this effect is not statistically significant[78] for many other program types.

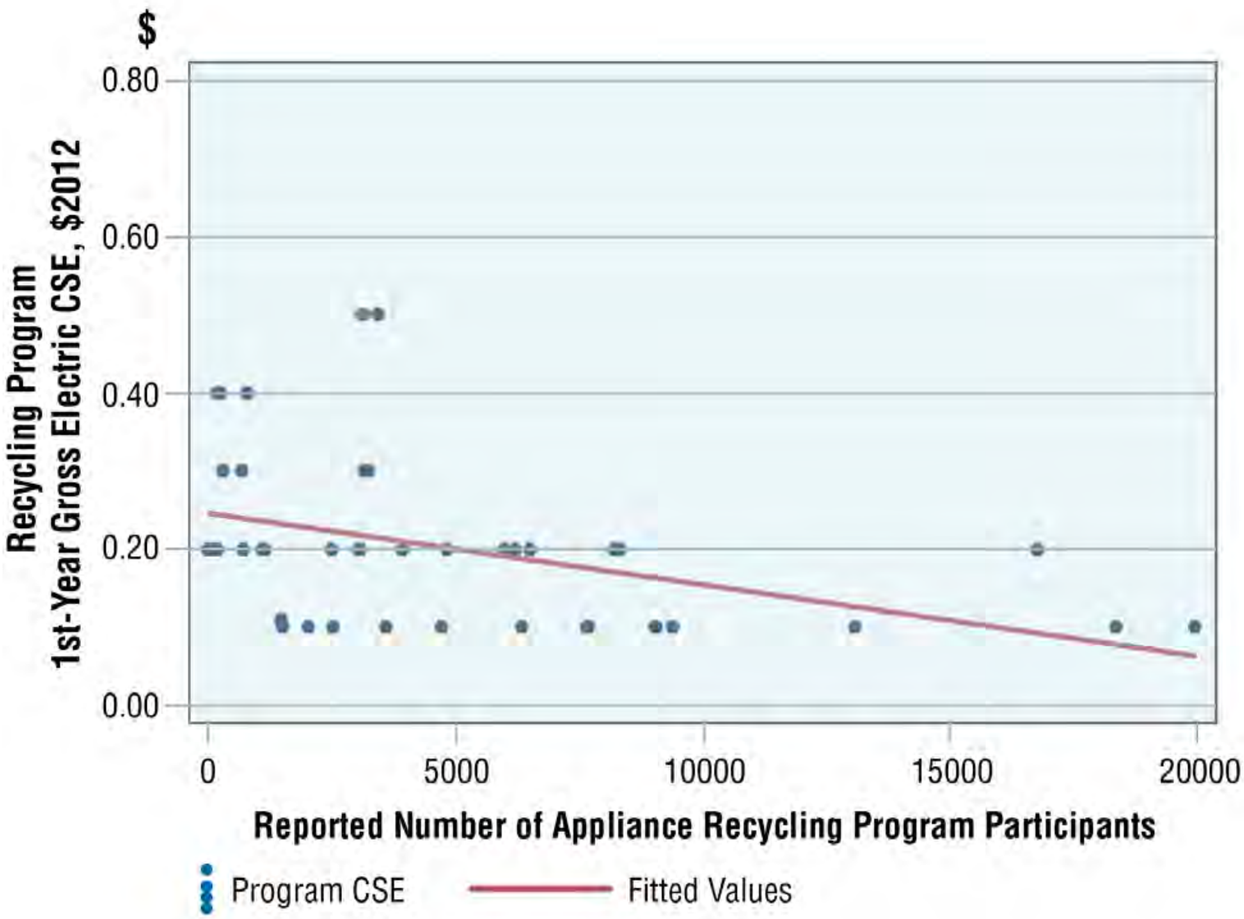

Figure 4-2. First-year CSE for appliance recycling programs and the reported number of recycling program participants

[78] The relationship between participation and first-year gross CSE for some other residential programs is statistically significant at the 20% level.

4.3.3 Labor Costs

We also theorized that higher labor costs result in higher CSE values (see Table 4-1). We present portfolio-wide CSE values as a function of state average hourly wages for construction industry employees in Figure 4-3. The blue dots represent CSE values for individual program administrator portfolios with the cost of first-year gross electricity savings plotted on the y-axis and the average hourly construction wages for the state in which the portfolios are administered on the x-axis.

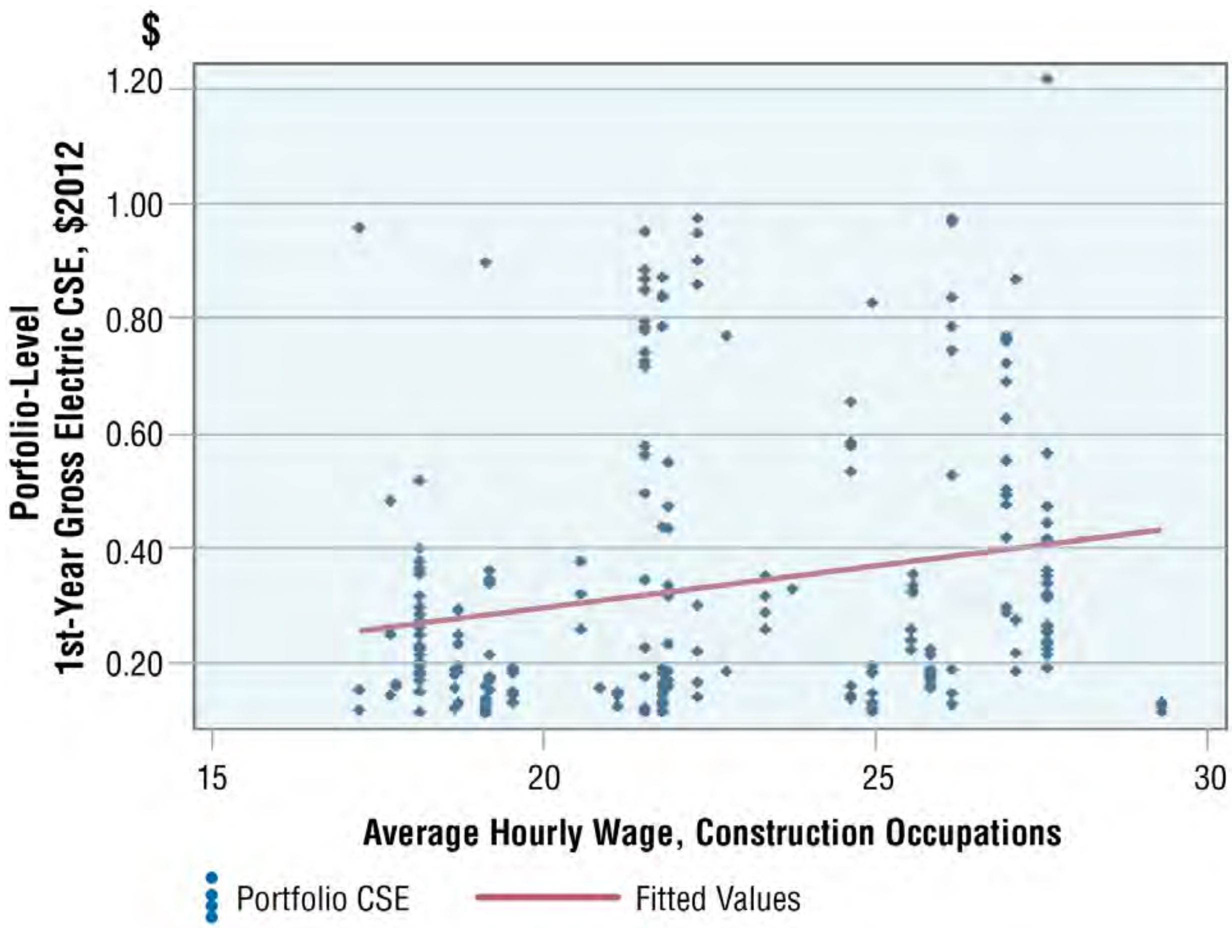

Figure 4-3. First-year portfolio-level CSE values and state average wages for construction industry employees ($/hour)

We selected construction hourly wages at the state level as our independent variable because research on the makeup of the energy-efficiency program workforce suggests that the construction industry is generally representative of that workforce (Goldman et al., 2010; Carol Zabin, UC-Berkeley Labor Center, personal communication). Our analysis shows that there is a positive correlation between construction wages and portfolio-level first-year gross CSEs. This result is statistically significant at a 5% level. However, the demonstrated effect is generally small, as can be seen from the fairly shallow slope of the fitted line in Figure 4-3. The effect is also neither uniform nor statistically significant across individual program types. As an aside, we also tried state average per capita income as the independent variable and found that the results are similar to those using construction hourly wages; this seems to indicate that labor costs are likely to play some role in the cost of saving energy.

4.4 Analytical Challenges

We also conducted exploratory analysis of other hypotheses (e.g., policy and retail price environments in which programs operate) and found that results varied substantially by market sector and program type. Many of these theorized relationships with the CSE are significant only at the 10%-15% level; further study is warranted.

The statistical analysis results described in this chapter depend critically on defining valid independent variables as well as the quality and quantity of the primary data underlying both the independent and dependent variables. Some of the difficulty in parsing these effects is a function of limitations in the underlying data for the independent variables. Drawing on an example noted earlier, we used data that program administrators voluntarily reported to the Energy Information Agency (EIA) to develop proxies for years of administrator experience. Program administrators sometimes do not report spending for every year or have interpreted EIA survey questions in different ways. More work is needed to minimize these and other sources of error or uncertainty in values for the independent variables.

Another challenge is specifying independent variables that are not highly correlated with other variables, that is, some proxies for influences on CSE can be overlapping in effect. For example, program administrators with more experience usually are required to achieve higher levels of savings. States that have higher labor costs also often have higher retail rates.

Likewise, it can be difficult to examine economies-of-scale questions when participation data are not provided. No participation data are reported for more than two-thirds of the program years in the database. In other cases, the data may be incorrect (numbers identified as participants are actually units sold or assumed installed) or ambiguous (unit and participant numbers are co-mingled or undifferentiated). Finally, many other questions pertinent to program design and delivery could be tested if spending breakdowns were available by program (i.e., program expenditures disaggregated into customer incentives, various categories of administration, marketing and outreach, and evaluation).

The primary data contained in the database have limitations, as discussed earlier. For the regression analysis, our total sample size was 2,035 data points. Many of the program years in the database are for gas-only programs, which are not included in an analysis of electricity program CSEs. Moreover, for some programs, the administrator did not report a key value (e.g., did not include program-level spending or allocate program costs by fuel for combination electric-gas programs).

5. Discussion of Key Findings and Recommendations

In this chapter, we summarize key findings from this initial report of the LBNL CSE Project and discuss opportunities for improving information provided by program administrators on the costs and impacts of efficiency programs.

5.1 Key Findings

We calculated the administrator costs of saving a unit of natural gas or electricity and reported the CSE in several ways, through first-year savings, lifetime savings and levelized savings. It is important to note that the CSE values presented in this report are retrospective and may not necessarily reflect future CSE for specific programs, particularly given updated appliance and lighting standards. The cost of efficiency as a function of first-year energy savings may be useful for budgeting to meet incremental annual savings targets. The cost of lifetime energy savings captures the efficiency that accrues throughout the effective lifetime of the implemented measures and therefore is more broadly applicable in designing programs and portfolios. In this study, we focused more attention on the program administrators' levelized cost of energy savings based on gross savings because relatively few program administrators reported the cost contributions of participants (or incremental measure costs) or net savings values. In future reports, our goals are to also provide the "all-in" or total resource CSE and to include CSE values based on net savings as well.

Key findings from this study are:[79]

- The U.S. average electricity CSE was slightly more than two cents per kilowatt-hour in the period 2009-2011 when gross savings and spending are aggregated at the national level and the CSE is weighted by savings.[80] This levelized CSE is somewhat lower than reported by other previous studies. In a 2009 study, for example, Friedrich et al. found an average program administrator levelized CSE of $0.025/kWh in constant 2007 dollars or $0.027/kWh in constant 2012 dollars—about 29% higher than is reported here.[81] The LBNL DSM Program Impacts Database contains a larger sample of program administrators, many of whom may have used longer program measure lifetimes that could affect CSE values. Moreover, nearly 40% of the program administrators in the database that administer electric efficiency programs have offered programs for less than four years and so may be early in accessing energy savings in their respective state economies or be targeting the least costly savings opportunities first.[82]
- Other findings for electricity efficiency programs include:

[79] All values reported here are program administrator CSEs for gross energy savings, levelized at a 6% real discount rate and given in constant 2012 dollars.
[80] This average value is based on the efficiency program portfolios of 100 electric and electric-gas program administrators that represent just less than half of the program spending in the U.S. during 2009 through 2011. These PAs are a large and diverse group in terms of geography, baseline efficiency, and historic levels of program activity.
[81] Friedrich et al. used a slightly lower discount rate (5 percent vs. 6 percent used in this report), so that the actual difference is larger.
[82] See Appendix A for summary of current and previous CSE research.

- Residential electricity efficiency programs had the lowest average levelized CSE at $0.018/kWh. Commercial, industrial and agricultural (C&I) programs had a slightly higher average levelized CSE at $0.021/kWh. Low-income programs show an average levelized CSE at $0.070/kWh.
- In reviewing regional results, the Midwest programs had the lowest average levelized CSE ($0.014/kWh) and the Northeast programs the highest ($0.033/kWh). The average levelized CSE values for programs in the West and South, to the extent sufficient reporting was found, were $0.023/kWh and $0.028/kWh, respectively.
- The database provides a valuable resource for understanding the composition and the CSE for various efficiency measures and program types. For example, at least 44% of the reported gross savings in the residential sector came from dedicated lighting programs and lighting rebate programs had a savings-weighted average CSE of $0.007/kWh with a small inter-quartile range.

- Natural gas efficiency programs had a national, program administrator savings weighted CSE range of $0.24 (lifetime CSE) to $0.38 per therm (levelized CSE, 6% discount rate), with significant differences between the commercial/industrial and residential sectors ($0.11–$0.17 vs. $0.32–$0.56 per therm respectively).
- Not surprisingly, the levelized CSE varied widely both among program types and within program types. We found that the median value was typically higher than the savings-weighted average for nearly all types of programs. One possible explanation is that our sample includes a number of very large programs and for any given program type, larger efficiency programs have lower CSE than smaller programs because administrative costs are spread over more projects (e.g., economies of scale). Some of our statistical analyses tend to demonstrate this relationship; however, other factors are probably at work as well.
- The "all-in" or total resource cost of energy savings is subject to the uncertainties and very limited availability of information on participant costs. Based on our small sample of programs that reported participant costs, we found that the program administrator costs account for about a third to a half of the total CSE (including program administrator and participant costs). One exception is residential Whole-Home Upgrade programs in our database, for which the median value for the program administrator's CSE is closer to three-quarters of the median CSE value that includes both program administrator and participant costs.
- We developed several hypotheses regarding factors that may influence the variability in the cost of saved energy. Preliminary statistical analyses of cost of first year energy savings suggest that myriad factors both internal and external to program design and implementation play some role in influencing the CSE:
  - Program administrator experience and the cost of first-year savings may show a curve where first-year CSE declines as new program administrators gain experience and then, beyond a certain number of years, costs increase, consistent with administration of portfolios that have matured beyond acquiring the least expensive resources. However, the demonstrated effect is generally small and not statistically significant at this time.

- Higher construction labor costs are associated with higher costs of energy savings at the portfolio level. However, the demonstrated effect is generally small and is not uniform (or statistically significant) across all types of programs.
- The size of a program, as measured by the number of participants, is associated with a decline in costs for some types of programs, suggesting that certain programs (e.g., Appliance Recycling programs) can achieve economies of scale by spreading fixed overhead across more projects. However, we also found that this result is not statistically significant for many other types of efficiency programs. More reporting of participation data could help determine when scaling up a program is likely to reduce costs and for what program types.

5.2 Discussion: Program Data Collection and Reporting

Program administrator annual reports are typically the product of state regulatory requirements or traditional practices that have evolved over time. In compiling and analyzing more than 4,000 program-years of data, we discovered a wide spectrum in the level of detail and completeness in annual program reporting. Barbose et al. (2013) found that over 45 states are running utility customer-funded efficiency programs. Many program administrators report program-level data at a very high level of completeness and transparency. However, we also found many examples of annual reports from program administrators that do not provide a complete picture of the impacts or costs of the efficiency investments at the program level. Although these reports may meet regulatory requirements in their state, they were not sufficient for the purposes of CSE analysis and therefore we were not able to include results from program administrators in many states.

With respect to current program reporting practices, we found:

- Inconsistencies in the quality and quantity of the costs and savings data which led LBNL to develop and attempt to apply consistent data definitions in reviewing and entering program data:
  - Program administrators in different states did not define savings metrics (e.g., varying definitions of net savings) and program costs consistently; and
  - Market sectors and program types were not characterized in a consistent fashion among program administrators.
- Many program administrators did not provide the basic data needed to calculate a CSE at the program level (i.e., program administrator costs and annual and lifetime savings), which introduced uncertainties into the calculation of CSE values.

This project brought into sharp relief the challenges of creating a program spending and savings database and calculating reliable, internally consistent metrics for assessing programmatic energy efficiency. For example, program measure lifetimes are essential for converting annual to lifetime savings while participant costs are essential for calculating the total resource costs of energy savings. We believe that nearly all program administrators must collect this information in order to satisfy cost-effectiveness screening requirements, yet many program administrators did not include this information in their annual efficiency reports:

- Less than 45% of electric program administrators reported lifetime savings;
- About 25% of electric program administrators reported program measure lifetimes;

- Only about half of electric program administrators reported both net and gross annual savings; and
- Less than a third of electric program administrators reported participant costs.

As a practical matter, the quality and quantity of program data reported by program administrators is an important factor in assessing energy efficiency as a resource in the utility sector. Therefore, we encourage further efforts to improve consistency in program administrator reporting of this information.

Regional and national policymakers have also expressed increasing interest in integrating energy efficiency as a resource and the value of transparent and complete reporting of program metrics as a foundation for increasing their confidence in this resource.[83] For example, ISO-New England, New York ISO and PJM Interconnection are collecting, or are considering collecting, demand-side spending and savings data from program administrators.[84] One objective is to develop better load forecasts in order to inform transmission planning, market development and operations. A second objective is to gain visibility into the future for wholesale energy and capacity markets. More rigorous and consistent reporting can help energy markets count and confidently value energy efficiency resources. Finally, all stakeholders that are engaged in any aspect of the efficiency effort share an interest in making energy-efficiency portfolios as cost effective as possible; consistent and more standardized reporting of efficiency program data and metrics are a prerequisite for this to occur.

We believe that there is a direct connection between the maturation of energy efficiency as a utility and national resource and increased consistency in periodic reporting of efficiency program costs and impacts. Additional rigor, completeness, standard terms, and consensus on at least essential elements of reporting could pay significant dividends for program administrators and increase confidence among policymakers and other stakeholders. With more consistent and comprehensive reporting of program results, we may obtain additional insights on trends in the costs of energy efficiency as a resource as program administrators scale up efforts, why those costs might vary from place to place and year to year, what saving energy costs among an array of strategies and what cost efficiencies might be achieved.

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[83] The Northeast Energy Efficiency Partnerships' (NEEP) Regional Evaluation, Measurement and Verification Forum (EM&V Forum) supports the development and use of common, consistent protocols to evaluate, measure, verify, and report the savings, costs, and emission impacts of energy efficiency. The EM&V Forum has developed the Regional Energy Efficiency Database (REED), launched in early 2013, which includes data from eight states, soon to be nine states and the District of Columbia. REED was informed by the Forum's "Common Statewide Energy Efficiency Reporting Guidelines," which were adopted by the Forum's Steering Committee in 2010. See http://neep.org/emv-forum/about-the-emv-forum/index.

[84] The NY ISO and ISO NE develop projections on efficiency program impacts based on future program budgets and cost information about past program performance. See, e.g., the NY ISO 2013 Gold Book (http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Planning_Data_and_Reference_Docs/Data_and_Reference_Docs/2013_GoldBook.pdf) and the 2014 Energy-Efficiency Data Review by the ISO NE Energy-Efficiency Working Group at http://www.iso-ne.com/committees/comm_wkgrps/othr/enrgy_effncy_frcst/2014mtrls/final_2014_eefwg_data_review.pdf

Therefore, we urge state regulators and program administrators to consider annually reporting certain essential data fields at a portfolio level and more comprehensive reporting of program-level data in order to facilitate benchmarking of efficiency program results at state, regional and national levels. The reporting hierarchy in Figure 5-1 illustrates this approach.

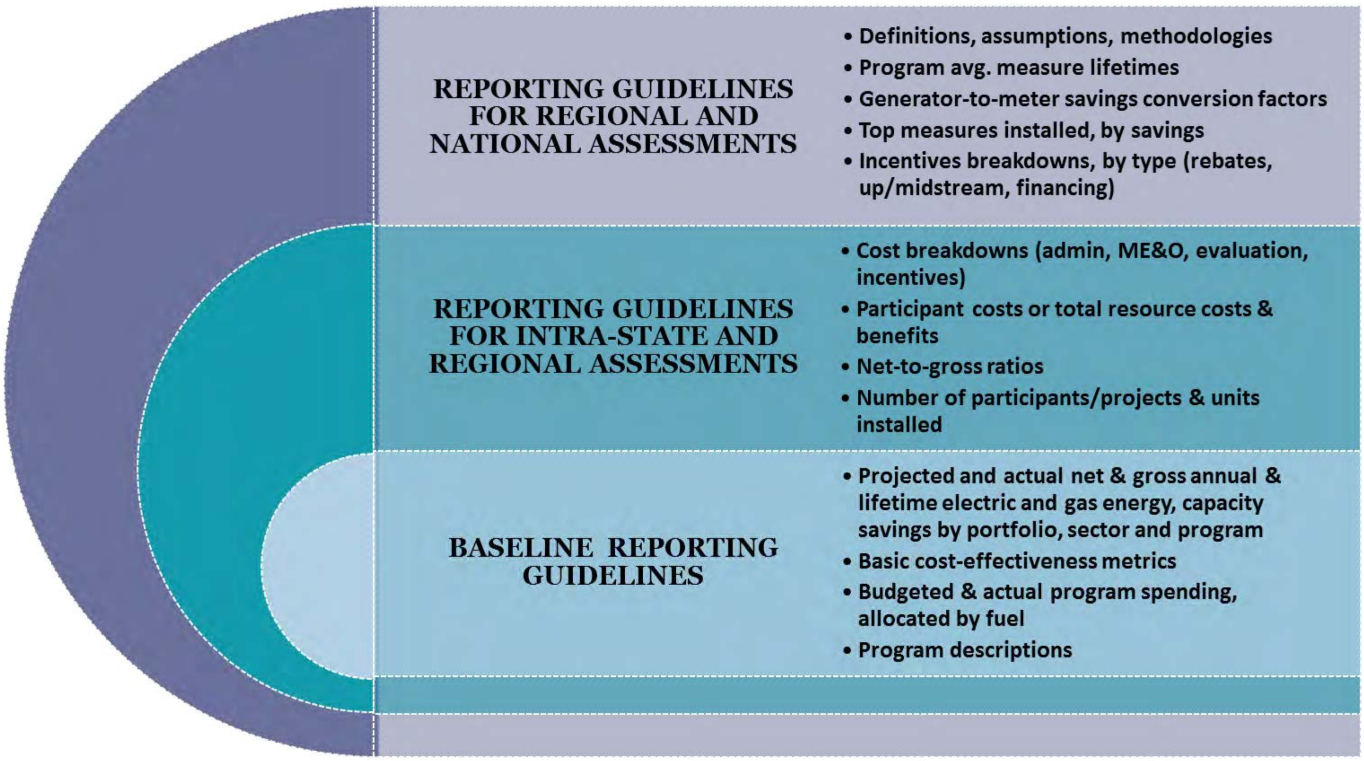

Figure 5-1. Components of annual energy efficiency program reporting

The program information included in each circle above correspond to gradually increasing visibility into program performance, increasing confidence in the reported values and potential relevance to policymakers and more stakeholders across broader geographic areas. The most basic level of reporting (light blue background) provides information that state regulators can use to ensure that programs are available to all customer classes and are cost-effective as implemented. The next level of reporting (teal background) provides critical information for calculating the CSE, assessing program efficacy and market penetration, and ensuring savings are attributable to program activities. The third level of reporting (purple background) enables comparisons of programs and cost performance in different states, reinforces assessments of program efficacy, and allows visibility into key assumptions to ensure those assumptions are valid and comparable to those used by other program administrators.[85]

[85] The components of annual reporting in Figure 5-1 are not exclusive. A number of states require significantly more, including indicators of performance on multiple fronts. Examples include estimates of market penetration; estimates of economic impacts; and cost breakdowns by internal spending, payments to or for external evaluations, payments to implementation contractors, payments to installation contractors, etc.

If program administrators were to report, at a minimum, the data under the baseline guidelines, this analysis would include nine additional program administrators among the 31 states included in this study, and programs from at least an additional 14 states. This would facilitate a more comprehensive national analysis of the impact of utility-customer funded energy efficiency.

We also encourage program administrators, regulators and other stakeholders to provide feedback on our efforts to encourage consistent reporting of efficiency program results, particularly the program typology and data definitions. We will be soliciting input more formally as we move forward with the next phases of this project. Given sufficient interest and resources, it is our hope to update the LBNL DSM Program Impacts Database on a periodic basis and prepare comprehensive reports and policy briefs that are publicly available that explore key issues in energy efficiency programs.

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Exhibit M

RAP | Energy solutions for a changing world

US Experience with Efficiency As a Transmission and Distribution System Resource

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February 2012

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A number of other individuals also provided invaluable information, ideas, and perspective on the case studies we examined. They include most of the reviewers identified above as well as Dave Grimason of Grimason Associates (and formerly of Green Mountain Power), Larry Holmes of NV Energy, Ottie Nabors and Frank Brown of Bonneville Power Administration, Beth Nagusky of Environment Northeast, Rick Weijo of Portland General Electric, and Mike Wickenden of the Vermont Energy Investment Corporation and Efficiency Vermont. Their input was very much appreciated.

Though we could not have completed this report without the help of those identified above, it is important to note that some of the feedback we received was conflicting. In addition, in a few cases, we disagreed with and therefore elected not to make some specific changes suggested by one or more reviewers. We make these points to underscore that we, the authors, are ultimately solely responsible for the information presented and the conclusions drawn in the report.

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Executive Summary

Improvements to electric efficiency in homes and business provide a variety of benefits to both the customers making the improvements and to the electric system as a whole. The most widely recognized are energy savings and system peak demand savings. A much less widely recognized or valued benefit is the potential to enhance the reliability of the transmission and distribution (T&D) system. This paper focuses on that potential, summarizing lessons learned from US initiatives in which geographically targeted efficiency programs have played a major role in electric utility funded efforts to defer T&D investments.

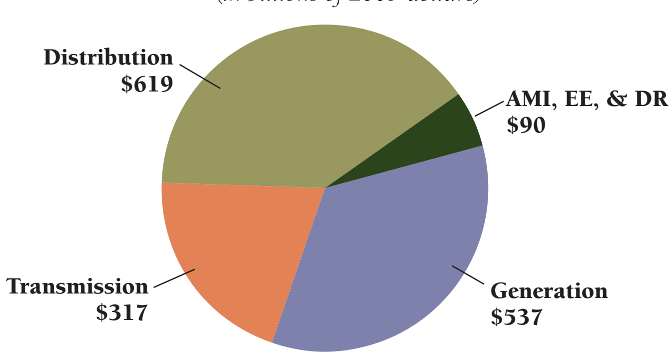
Importance of T&D Investments

The potential to defer T&D upgrades deserves much more serious consideration than it has received to date. The U.S. utility sector has invested on the order of $35 to $40 billion per year in the T&D system over the past decade and is forecast to invest nearly $50 billion per year over the next two decades. As Figure ES-1 shows, this represents approximately 60% of total forecast investments for the sector. Only 6% of the forecast capital investments are in advanced metering infrastructure (AMI), energy efficiency (EE) and demand response (DR). Not all forecast T&D investments will be deferrable. Some will be required to address time-related deterioration of equipment or other factors that are independent of load. However, a significant portion of T&D investment is likely to be associated with load growth. The potential benefits of deferring even a modest portion of such investments could be substantial.

Figure ES-1

US Power Sector Capital Investment Needs (2010 – 2030)

(in billions of 2009 dollars)



Passive Deferral vs. Active Deferral

Efficiency programs can defer T&D investments either passively or actively. We define "passive deferrals" as those that occur as a result of efficiency programs that were not undertaken primarily for the purpose of deferring T&D upgrades. For example, system-wide efficiency programs will reduce loads on virtually all major elements of the T&D system. As a result, at least some load growth-related investments in the T&D system will be deferred for at least some period of time. Indeed, Consolidated Edison (Con Ed) reduced its projected T&D capital expenditures by more than $1 billion after separately adjusting 10-year load forecasts for each of its 91 distribution networks and load areas in New York to reflect the expected impacts of system-wide efficiency programs.

In contrast, "active deferrals" are those that result from efficiency programs that are geographically-targeted for the express purpose of deferring the need for upgrades to specific elements of the T&D infrastructure. Though there are a number of notable exceptions, this concept has not yet been widely pursued due to a variety of inter-related factors:

- **Financial incentives –** utilities typically earn more from investing in "poles and wires" than from investing in efficiency and/or other alternatives;
- **Efficiency's multiple attributes/benefits –** because efficiency investments provide energy savings, peak capacity savings, reserve margin savings, and other benefits in addition to T&D reliability improvements, comparing them to "poles and wires" investments requires a holistic, systemic perspective that has not been universally adopted by utilities, their regulators, independent system operators (ISOs), or regional transmission operators (RTOs);
- **System planning is highly technical –** the technical specialization needed to do T&D planning fosters an environment biased to technical solutions;
- **System engineers distrust demand resources –** those charged with planning to meet reliability needs typically have limited interaction with efficiency program managers and limited direct experience with the performance of demand resources;

- **Risk aversion** – utilities are typically reluctant to try new approaches, particularly if they perceive any regulatory risk in doing so;
- **Socialization of transmission investment costs** – while the cost of transmission solutions are often socialized regionally, the cost of efficiency programs or other non-wires solutions that could meet the same reliability objectives are not; and
- **Responsibility for transmission planning is diffuse** – with state regulators, utilities, independent system operators or regional transmission operators and the Federal Energy Regulatory Commission all having roles, it is difficult for a new approach (i.e. non-wires solutions) to gain traction.

U.S. Experience with Active Deferrals of T&D Investments through Efficiency

Though far from widespread, a number of jurisdictions have tested and/or are in the process of testing the role that geographically-targeted efficiency programs could play in cost-effectively deferring T&D investments. This paper examines ten different initiatives or policies – four in the 1990s and six others that are much more recent and/or still underway. As summarized below, this experience provides valuable lessons to guide future policies for the successful deployment of energy efficiency as a T&D resource.

Pacific Gas and Electric's Delta Project (California, early 1990s)

The project aimed to defer the need for a new substation that would otherwise be required to serve a growing community of 25,000 homes and 3000 businesses in far eastern Contra Costa County. Several efficiency programs were quickly launched in the region to reduce peak loads, with more than 10% of homes receiving some major measures. The project did defer the need for the substation for at least two years, though at a higher cost than expected because some measures provided much lower peak savings than expected. While other measures provided greater savings than expected, the compressed timeframe for the project did not allow for switching of strategies early enough to keep average costs at more reasonable levels.

Portland General Electric's Downtown Portland Pilot (Oregon, early 1990s)

This project focused on several opportunities. In the case of individual buildings where load reductions were needed to defer transformer upgrades, the utility aggressively marketed existing system-wide efficiency programs to the building owners. For grid network objectives, where peak demand reductions of 10-20% for entire 10-15 block areas were needed, the utility contracted with energy service companies (ESCOs) to deliver savings. Results were mixed. For one building, savings were enough to defer and possibly permanently eliminate the need for a $250,000 upgrade. In another building an unexpected conversion from gas to electric cooling eliminated any opportunity to defer the upgrade. The ESCOs contracted to achieve savings in a grid area network succeeded in reducing peak load by more than the 20% required. However, the utility's distribution engineering staff decided to proceed with their construction project before the savings were documented.

BPA's Puget Sound Area Electric Reliability Plan (Washington, early 1990s)

The Bonneville Power Administration (BPA) and local utilities decided to address a transmission reliability concern through a strategy of adding voltage support to the existing transmission system (the most important part of the strategy) and more intensive deployment of energy efficiency programs (a complementary element). The project ended up delaying construction of a new cross-Cascade transmission line for more than a decade.

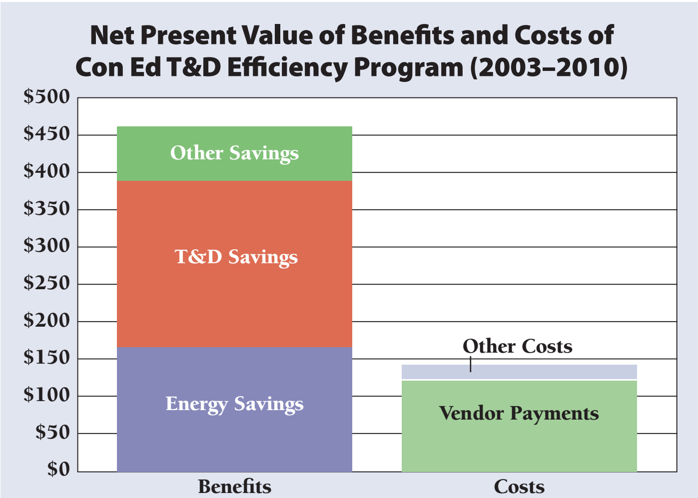
Green Mountain Power's Mad River Valley Project (Vermont, mid to late 1990s)

The project aimed to defer the need for a new distribution line in an area dominated by a large ski resort which had announced expansion plans that would add 15 MW of new load to the system. When it became clear that the resort may be required by Vermont regulations to bear most of the cost, negotiations between the utility, the resort and the state's rate-payer advocate led to an alternative plan in which the resort would better manage its load to ensure that total loads were within existing system tolerances and the utility would aggressively pursue efficiency improvements with its customers in the region. In the end, the project succeeded with the efficiency programs coming close to achieving overall savings goals.

Consolidated Edison (New York City, early 2000s to present)

In 2003, Con Ed launched a program to defer distribution system upgrades using a competitive bidding process to select the resources it would pursue. To date, only efficiency resources have been selected. To address reliability concerns, contracts for those resources include both significant upfront security and downstream liquidated damage provisions. All told, between 2003 and 2010, the Company employed geographically-targeted efficiency programs to defer upgrades in more than one third of its distribution networks. The resulting savings were very close to forecast needs and, as Figure ES-2 shows, provided more than $300 million in net benefits to ratepayers. In some cases, the efficiency investments not only deferred upgrades, but bought enough time to allow the utility to refine load forecasts to the point where it now believes that capacity extensions may never be needed.

Figure ES-2



Efficiency Vermont Geo-Targeted DSM (2007 to present)

Efficiency Vermont's performance goals were modified to include not only system wide savings targets, but also much more aggressive targets in selected geographic areas which the state's utilities had identified as candidates for deferring T&D investments. The initiative has had some success. Although peak demand savings in the targeted areas were at least 30% below targets, they were still three to five times greater than those achieved statewide (notable since the statewide savings were already the highest in the nation). The state's largest utility has observed that it has not had to schedule deployment of additional system upgrades in the targeted areas. The extent to which that is attributable to the geo-targeted efficiency programs, changes in economic conditions, other factors has not yet been determined.

NV Energy (Nevada, late 2000s)

NV Energy launched an efficiency initiative in and around Carson City in an effort to obviate the need to either run the locally situated but relatively expensive Fort Churchill generating station more frequently or construct a new transmission line and substation to bring less expensive power into the region. At the same time, the utility began re-conductoring the existing 120-kVA line to the region. An economic recession also hit at the same time, dampening growth. As a result, the Company has not had to revisit the need for either running the Fort Churchill station more often or adding new T&D capacity.

Central Maine Power (currently under development)

In 2010, the Maine regulators approved a settlement agreement that supported construction of most elements of a large transmission project, but identified two areas – the Mid-Coast region and the city of Portland – where pilot projects to test the efficacy of non-transmission alternatives would be launched. In March 2011, Central Maine Power filed a plan for the Mid-Coast region that proposed using a competitive process to identify and acquire needed distributed resources. The plan suggested that efficiency resources were expected to be "highly competitive". A variety of issues regarding both the forecast capacity needs and the process for acquiring distributed resources were unresolved as this report was being finalized.

National Grid (Rhode Island, currently under development)

In 2006, Rhode Island adopted a "System Reliability Procurement" policy that required utilities to file plans every three years. The plans must consider non-wires alternatives – including energy efficiency – whenever a T&D need is not based on an asset condition, would cost more than $1 million, would require no more than a 20% reduction in load to defer and would not require investment in a "wires solution" for at least three years. Based on these guidelines, in late 2011, National Grid proposed an initial pilot project to defer the upgrading of a substation through a combination of load management and energy efficiency.

Bonneville Power Authority (Washington, Oregon and Idaho, currently under consideration)

In 2002, the Bonneville Power Authority launched an initiative in which it committed to investigating options for deferring potential transmission reinforcement projects. A year later, it formed a Non-Wires Solutions Round Table of key stakeholder groups to provide input to its work. It then developed a formal process by which transmission alternatives – including efficiency – would be assessed. That process includes an initial screening to determine if a project is a possible candidate for a non-wires solution. The project qualifies if it is estimated to cost at least $5 million, it is driven by load growth and the need is at least eight years in the future. Bonneville is currently conducting detailed feasibility assessments of non-wires solutions to three projects – one each in Oregon, Washington and Idaho – that passed this initial screen. In each case, efficiency is part of a package of options being considered.

Lessons Learned

Our review of these efforts to use efficiency programs to defer T&D investments – alone or in concert with other resources – leads us to the following initial conclusions:

- **Geographically-targeted efficiency can defer T&D investments.** That appears to have been the case in New York City; Vermont's Mad River Valley; Portland, Oregon; and Contra Costa County, California.
- **Efficiency can be a cost-effective T&D resource.** There is less evidence regarding the cost-effectiveness of efficiency as an alternative to T&D investments. However, analysis of the most intensive and longest-standing effort – Con Ed's experience in New York City – concluded that T&D savings alone out-weighed the cost of efficiency. When all efficiency benefits are considered, the initiative had a three-to-one benefit-cost ratio.
- **Unexpected events can affect the benefits of efficiency.** In several of the cases analyzed, some or all of the T&D investment being considered for deferral ended up being constructed for reasons having nothing to do with the effectiveness of deployment of efficiency resources. However, forecasting uncertainty works in both directions. Indeed, in a couple of cases, efficiency investments bought enough time to enable a utility to conclude that – contrary to initial forecasts – a T&D upgrade may never be needed.
- **Sufficient lead time is critical.** It is necessary to allow for sufficient planning, for sufficient deployment of efficiency resources to meet needs (particularly for larger projects) and for refinement of efficiency strategies during the deployment process.
- **Smaller is easier.** The smaller the area being addressed, the easier it is to consider efficiency and other non-wires alternatives. It is easier to characterize the opportunity in small areas. Also, savings will need to be acquired from fewer customers. Both of those things mean shorter lead times will be required.
- **Distribution is easier than transmission.** Distribution deferral projects will be smaller in scope. They are also less technically complex, involve fewer parties, and do not involve ISOs/RTOs and associated regional cost allocation frameworks (i.e. cost socialization issues).
- **Cross-discipline communications is critical.** Collaboration between efficiency program managers and T&D planners is critical to considering deploying efficiency as an alternative to T&D investments. Both have much to learn from each other. Some level of trust must be developed between the two groups.
- **Efficiency should be integrated with other distributed resources.** Although efficiency programs can sometimes be sufficient to defer T&D investments, they will often need to be deployed in concert with demand response, distributed generation and other resources to enable deferment of T&D investments (particularly for larger projects).

Recommendations

The potential economic and other benefits of efficiency programs as a T&D resource are largely being ignored today. Some fundamental policy changes are required if that is to change:

- **Require least-cost T&D planning.** Experience in several jurisdictions suggest this is essential (though not sufficient) to beginning serious consideration of efficiency and other non-wires alternatives.
- **Require consideration of integrated solutions.** To ensure that potential synergies between efficiency and other non-wires alternatives are considered, any requirement for least cost-planning should make clear that all options, including different combinations of distributed resources, should be considered.
- **Institutionalize a long-term planning horizon.** The longer the lead time, the more likely it will be that efficiency and/or other distributed resources could cost-effectively defer T&D investments. At a minimum, T&D needs should be forecast at least 10 years into the future.
- **"Level the playing field" in payment for wires and non-wires alternatives.** Cost-allocation frameworks that socialize costs for transmission projects across a region but require all the cost of non-wires alternatives to be born locally create enormous disincentives to pursue least cost solutions.
- **Collect more data on efficiency's impacts.** In much of the country, relatively little data on the hourly and seasonal impacts of efficiency resources has been collected and made public over the past two decades. Better data should help address concerns of T&D system planners.
- **Start with pilot projects.** Pilots offer important, lower risk opportunities to bring together efficiency program and T&D planners.
- **Leverage "smart grid" investments.** Customer and end-use data collected through such systems may enable better assessments of the potential for efficiency to serve as a T&D resource.

Table Of Contents

1. Introduction

Improvements to electric efficiency in homes and businesses provide a variety of benefits to both the customers making the improvements and the electric system as a whole.[1] The most widely recognized are annual energy savings and system peak demand savings. Most consumers are primarily interested in energy savings because they typically drive cost savings on electricity bills. Utilities and grid operators are often most interested in reductions in load at the time of system peak, which enable them to avoid purchasing expensive peak generating capacity. A much less commonly recognized or valued benefit of efficiency investments is the potential for cost-effectively deferring upgrades to transmission and distribution (T&D) systems.

This paper focuses on that potential. In particular, it summarizes US experience to date and lessons learned from initiatives in which geographically targeted efficiency programs have played a major role in electric utility funded efforts to defer transmission and/or distribution system investments. Although other demand resources such as demand response and distributed generation can also be considered viable alternatives to T&D investments and have occasionally been deployed for that purpose, this paper does not explore those options in any detail, except when they are deployed as part of a multi-pronged strategy in conjunction with geographically targeted efficiency programs.

Context – Historic and Future Investments in Transmission and Distribution

The potential to defer upgrades to T&D warrants much more serious consideration than it has historically been given. As Figure 1 shows, T&D investments by investor-owned utilities, which collectively account for approximately two thirds of electricity sales in the United States, have averaged about $26 billion annually over the past decade.

If public utilities are investing in T&D at the same rate, then total T&D investment nationally would be on the order of $40 billion per year. That level of investment is expected to continue, if not increase, in the future. Indeed, as Figure 2 illustrates, the Edison Electric Institute recently commissioned a study that concluded the US power sector, including both investor-owned and public utilities, will require over $1.5 trillion in capital investments

Figure 1[2]

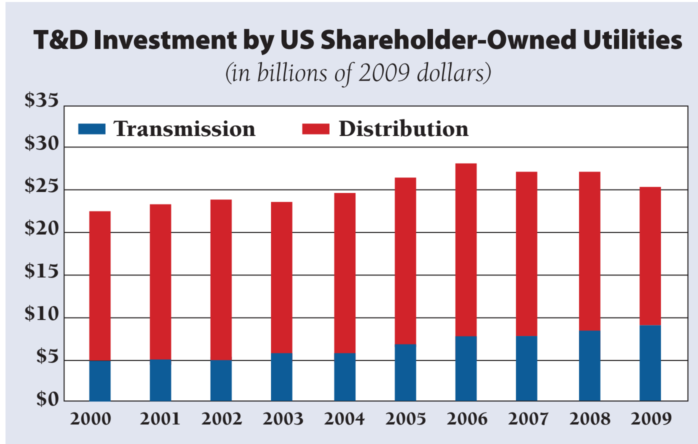
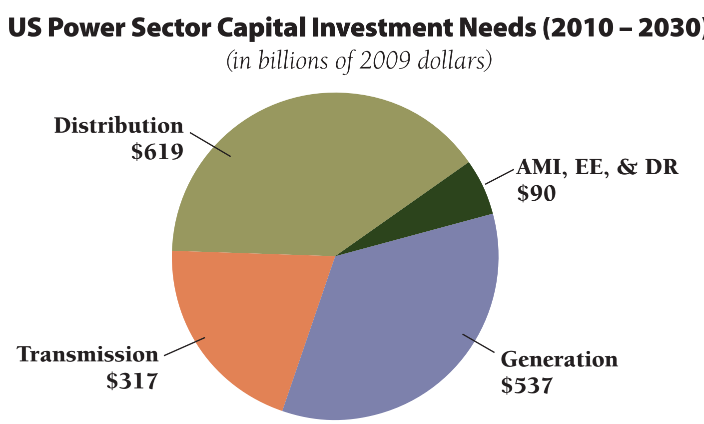


Figure 2[3]

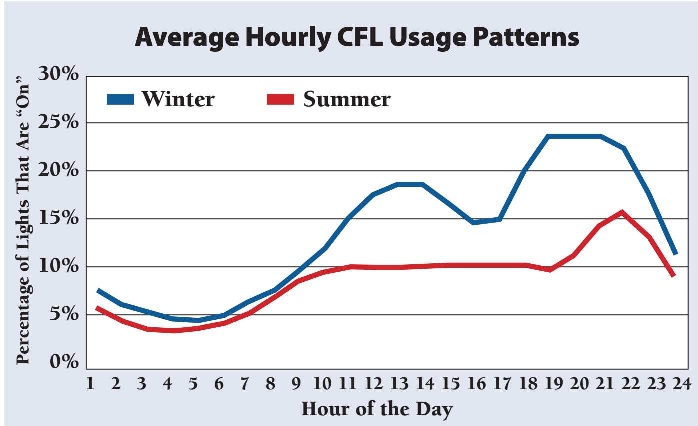


1 There are also often a number of non-energy benefits (e.g., improved comfort, water and/or other resource savings, reduced operation and maintenance costs, increased productivity) that we do not address in this paper.

2 Personal communication with Steve Frauenheim, Edison Electric Institute (EEI), August 5, 2011. Data are from EEI's Statistical Yearbook of the Electric Power Industry 2009 Data, Table 9.1.

between 2010 and 2030 (2009 dollars), and that 40% of that investment – more than $600 billion (i.e., more than $30 billion/year) – will be in distribution system infrastructure and another 20% – more than $300 billion (i.e., more than $15 billion/year) – will be in transmission system infrastructure. Only about one third of the forecast investment is in new generation; another 6% is in advanced metering infrastructure, energy efficiency, and demand response.

Figure 3[4]



"Passive Deferral" vs. "Active Deferral"

Deferrals of T&D investments can take two forms: passive deferral and active deferral. Passive deferral occurs when the growth in load or stress on feeders, substations, transmission lines, or other elements of the T&D system is reduced as a result of broad-based (e.g., statewide or utility service territory-wide) efficiency programs. For example, a statewide program to promote the sale and purchase of compact fluorescent light bulbs (CFLs) will have the effect of lowering loads on every element of the T&D system every hour of the day. To be sure, the amount of load reduction from such a program will vary considerably depending on the season (more during winter than summer), hour of the day (e.g., more during the evening than the day), and the customer mix served (e.g., more for feeders, substations, etc. serving primarily residential customers). As Figure 3 shows, however, the load shape of residential lighting is such that – across a population of program participants – some reductions in energy use will occur every hour of the year. Some reductions thus will occur during every hour of peak demand for every element of the T&D system.

Passive deferral benefits are sometimes reflected in average statewide or utility service territory-wide avoided T&D costs. Such avoided costs – along with avoided costs of energy and system peak capacity – are commonly used to assess whether efficiency programs are cost-effective (usually a regulatory requirement for funding approval). At the most general level, estimates of avoided T&D costs are typically developed by dividing the portion of forecast T&D capital investments that are associated with load growth (i.e., excluding the portion that is associated with replacement due to time-related deterioration or other factors that are independent of load) by the forecast growth in system load. Such estimates can vary considerably, often as a function of the utilities' assumptions regarding how much investment is deferrable. For example, in New England, utility estimates of avoided T&D costs typically have ranged from about $55 per kW-year to $120 per kW-year.[5] Avoided distribution costs typically account for 70% to 80% of those values (i.e., avoided distribution costs are typically two to four times greater than avoided transmission costs). Estimates for several utilities in California and the Pacific Northwest have ranged from $30 to $105 per kW-year, with an average of close to $50.[6] Again, avoided distribution costs are the larger

3 Chupka, Marc et al, (The Brattle Group). *Transforming America's Power Industry: The Investment Challenge 2010-2030*, prepared for the Edison Foundation, November 2008. The forecast presented here is for the report's base case scenario, including "realistically achievable potential" for energy efficiency and demand response. The report's 2006 costs were increased by 6.4% so that they could be presented in 2009 dollars (based on changes in the Consumer Price Index between 2006 and 2009).

4 Nexus Market Research, *Residential Lighting Markdown Impact Evaluation,* submitted to Markdown and Buydown Program Sponsors in Connecticut, Massachusetts, Rhode Island, and Vermont, January 20, 2009 (from Figures 5-1 and 5-2).

5 Most are in the range of $55 to $85 (Synapse Energy Economics, *Avoided Energy Supply Costs in New England: 2009 Report,* revised October 23, 2009, p. 6-66). Vermont's, however, is approximately $120 per kW-year for summer peak savings and $80 per kW-year for winter peak savings (personal communication with Erik Brown, Efficiency Vermont, December 23, 2011).

6 Northwest Power and Conservation Council, Sixth Northwest Conservation and Electric Power Plan, February 2010 (http://www.nwcouncil.org/energy/powerplan/6/final/SixthPowerPlan_Appendix_E.pdf), p. E-14.

of the two components – on the order of twice as large as avoided transmission costs.[7] At the other extreme, in some jurisdictions it is conservatively assumed that no T&D investments can be avoided.[8]

Active deferral of T&D investments can occur when a conscious decision is made to invest in energy efficiency measures or programs – in targeted geographic locations – for the specific purpose of lowering loads on local T&D system elements. This concept has been actively pursued in relatively few jurisdictions to date. A variety of factors likely contribute to its limited testing for both transmission and distribution needs:

- **Economic incentives.** Utilities typically earn rates of return on capital investments. In many jurisdictions they do not make money on investments in efficiency.[9]

- **Efficiency's multiple attributes/benefits.** Efficiency resources provide a variety of benefits, including energy savings, peak capacity savings, environmental emission reductions, and T&D reliability improvements. Properly assessing whether efficiency could be a cost-effective alternative to T&D investments requires accounting for all of those benefits (e.g., although efficiency may not be cost-effective when considering just its T&D reliability benefits, it may be when considering all its benefits). That requires a holistic, systemic perspective that has not been universally adopted by utilities or their regulators, however, and is generally not a concern of ISOs/RTOs.

- **System planning is highly technical.** The technical specialization needed to do T&D planning fosters an environment biased to technical solutions. Put another way, utilities and ISOs/RTOs tend to be engineering oriented, with a propensity toward building capacity to meet growing consumer demand.

- **System engineers distrust of demand-side resources.** System engineers trust assets that they can control, like "poles and wires," and tend to be more skeptical or distrustful of investments on the customer side of the meter to reduce demand.

- **Risk aversion.** Related to the point above, utilities (like many other businesses) are often reluctant to try something different, particularly if they perceive any regulatory risk from doing so.

In general, the barriers to deployment of non-wires solutions to transmission needs are greater than those for distribution system needs. To begin with, transmission needs are typically more technically complex. In addition, the magnitude of the demand resources needed to defer them are larger and spread across much larger populations of customers. That can enhance system planners' fear of the ability of demand resources to meet reliability needs. It also typically means that longer lead times for consideration of non-wires solutions are necessary. Two additional factors are also critically important.

- **Socialization of transmission investments, but not non-wires alternatives.** The costs of transmission investments are often socialized regionally (i.e., across the entire grid), whereas the costs of efficiency programs or other non-wires solutions must typically be borne entirely by the local utility and its customers. This creates a classic "tragedy of the commons" in which it is less expensive for the local utility to choose what is often the most expensive option for a region.

7 Ibid. Figures E-5 (avoided transmission costs) and E-6 (avoided distribution costs) each provide eight separate examples. Only three of those examples are common, however: PG&E, Pacificorp and PGE. For those three utilities, avoided distribution cost estimates were roughly double avoided transmission cost estimates.

8 For example, see: Consumers Energy, *2012-2015 Amended Energy Optimization Plan*, submitted to the Michigan Public Service Commission, Case No. U-16670, August 1, 2011, p. 25.

9 A recent ACEEE study identified 18 states that had a mechanism that allowed investor-owned utilities to earn shareholder incentives for good performance in administering efficiency programs (Hayes, Sara et al, *Carrots for Utilities: Providing Financial Returns for Utility Investments in Energy Efficiency,* ACEEE Report Number U111, January 2011).

- **Diffusion of responsibility for transmission planning and decision-making.** State regulators, utilities, ISOs/RTOs, and ultimately FERC all have roles in transmission planning and approval of transmission investments. It is difficult for a new approach (i.e., non-wires solutions) to get traction when there is no one entity "in charge" that can require consideration of such approaches. It is unclear how the recent FERC Order 1000, which requires ISOs/RTOs to consider state policies in their decisions, will change things.

Despite these barriers, aggressive geographically targeted energy efficiency programs have been implemented in several jurisdictions in an attempt to defer specific T&D projects. The purpose of this paper is to document the lessons learned from those efforts. Again, although there are a variety of potential non-wires alternatives that can be and have been deployed to defer T&D investments, the focus of this paper is only on those projects in which energy efficiency played or is playing a substantial role. It is also important to note that this paper documents the consideration of efficiency as a T&D resource as of late 2011. Several of the cases described below are still evolving, potentially in ways that could add significantly to information and ideas presented herein.

2. Active Deferral of T&D Investment – Selected Examples

A. Early History

The concept of using geographically targeted energy efficiency investments to cost-effectively defer T&D system upgrades is not a new one. One can find numerous papers on the concept in efficiency conference proceedings going back to at least the early 1990s. The Electric Power Research Institute (EPRI), a research organization serving the utility industry, began pursuing several projects to assess the potential for integrating demand-side management (DSM) into utility T&D planning during the same time period. Most important, several groundbreaking projects were undertaken in the 1990s to test the concept. What follows are brief descriptions of those projects.

Pacific Gas and Electric (California) – Delta Project

One of the most widely publicized of these early projects was the Pacific Gas and Electric (PG&E) Model Energy Communities Program, commonly known as the Delta Project, which ran from July 1991 through March 1993. Its purpose was to determine whether the need for a new substation that would otherwise be required to serve a growing "bedroom community" of 25,000 homes and 3,000 businesses in far eastern Contra Costa County, California could be deferred through intensive efficiency investments. Peak demand in this area occurred on summer weekdays between 7 pm and 8 pm – much later than PG&E's system peak (typically between 3 pm and 5 pm). This later local peak was driven by the fact that 74% of the peak load was residential, with many of the residential customers being two-income families who had long commutes from the San Francisco and Oakland areas and turned on their air conditioners when arriving home to 100° F heat.[10]

As a result, the largest portion of the project's savings was projected to come from a residential retrofit program targeted to homes with central air conditioning (the vast majority of homes in the targeted area). Under the initial design, participating homes would receive free installation of low-cost efficiency measures (e.g., CFLs, low flow showerheads, water heater blankets) during an initial site visit and would be scheduled for follow-up work with major measures such as duct sealing, air sealing, insulation, sun screening, and air conditioner tune-ups. More than 2,700 homes received such major measures. Later the program changed its focus to promoting early replacement of older, often over-sized and inefficient central air conditioners with new, efficient models. Other components of the Delta Project included commercial retrofits, a residential new construction program, and a small commercial new construction program.

Evaluations suggested that the project produced 2.3 MW of peak demand savings. The savings did come at a high cost – roughly $3,900 per kW. This can likely be attributed to a couple of key factors. First, the project had an extremely compressed timeframe. It was planned and launched within six months; the implementation phase was less than two years. A second related factor was that some of the efficiency strategies produced much lower levels of savings than initially estimated, whereas others produced more. Because of the compressed timeframe for the project, the switch in emphasis to the better performing program strategies could not occur early enough to keep total costs per kW at more reasonable levels. For example, the residential shell and duct repair efforts were initially projected to generate nearly 1.8 MW of peak demand savings, but in the end, produced only about 0.2 MW at a cost of over $16,000 per kW. In contrast, the early replacement residential central air conditioners produced 1.0 MW of peak savings – about 2.5 times the original forecast of about 0.4 MW – at a cost of about $900 per kW.

10 The Results Center, "Pacific Gas & Electric Model Energy Communities Program," Profile 81, 1994.

The final evaluation of the project suggested that the savings achieved succeeded in deferring the need for the substation for at least two years.[11] Although the project suggested that geographically targeted DSM could potentially defer T&D investments, no projects of this kind appear to have been pursued in California since.

Portland General Electric (Oregon) – Downtown Portland Pilot

In 1992, Portland General Electric (PGE) began planning the launch of a pilot initiative to assess the potential for using DSM to cost-effectively defer distribution system upgrades; implementation began in early 1993.[12] The pilot focused on several opportunities for deferring both transformer upgrades planned for large commercial buildings and grid network system upgrades planned for downtown Portland, Oregon. The projects were identified from a review of PGE's 5-year transmission and distribution plan. Although the PGE system was winter-peaking, downtown Portland was summer-peaking, so the focus would be on efficiency measures that reduced cooling and other summer peak loads. To be successful, deferrals would need to be achieved in one to three years, with the lead time varying by project. In each case, the value of deferring the capital improvements was estimated. The estimates varied by area, but averaged about $35 per kW-year.[13]

Two different strategies were pursued. In the case of the individual commercial buildings, where peak demand reductions of several hundred kW per building were needed to defer transformer upgrades, the utility relied on existing system-wide DSM programs, but target marketed the programs to the owners of the buildings of interest using sales staff that already had relationships with the building owner or property management firm. For the grid network system objectives, where peak reductions of 10% to 20% for entire 10- to 15-block areas were needed, the utility contracted with energy service companies (ESCOs) to deliver savings. The ESCO contracts had two-tier pricing structures designed to encourage comprehensive treatment of efficiency opportunities and deep levels of savings. The first tier addressed savings up to 20% of a building's electricity consumption. The second tier was a much higher price for savings beyond 20%.[14]

The results of the pilot were mixed. For example, savings in one of the targeted commercial buildings was nearly twice what was needed, deferring and possibly permanently eliminating the need for a $250,000 upgrade. Savings for another building, however, fell short of the amount of reduction needed to defer its transformer upgrade. While other options were being explored to bridge the gap, an unexpected conversion from gas to electric cooling of the building "eliminated any opportunity to defer the upgrade."[15] The results for the first grid area network targeted were also very instructive. Of the 100 accounts in the area, the largest 20 accounted for more than three quarters of the load. By ultimately treating 12 of those 20, the ESCOs contracted by PGE actually succeeded in reducing load through efficiency measures by nearly 25% in just one year. That was substantially more than the 20% estimated to be necessary to defer the need for a distribution system upgrade. The utility's distribution engineering staff decided to proceed with construction of the upgrade before the magnitude of the achieved savings was known, however, because they did not have sufficient confidence that the savings would be achieved and would be reliable and persistent. It is also worth noting that the utility's marketing staff who were managing the ESCO's work were not even made aware of the decision to proceed with the construction until after it had begun – a telling indication of the lack of communication and trust between those responsible for energy efficiency initiatives and those responsible for distribution system planning.[16]

Despite some notable successes with its pilot, PGE has not subsequently pursued any additional efforts to defer distribution system upgrades through energy efficiency.[17]

11 Pacific Gas and Electric Company Market Department, *Evaluation Report: Model Energy Communities Program, Delta Project 1991-1994*, July 1994.

12 Personal communication with Rick Weijo, Portland General Electric, August 10, 2011.

13 Weijo, Richard O. and Linda Ecker (Portland General Electric), "Acquiring T&D Benefits from DSM: A Utility Case Study," Proceedings of 1994 ACEEE Summer Study on Energy Efficiency in Buildings, Volume 2.

14 Ibid.

15 Ibid.

16 Ibid.

17 Personal communication with Rick Weijo, Portland General Electric, August 10, 2011.

Bonneville Power Administration

In the early 1990s, the Puget Sound area received more than three quarters of peak energy (i.e., during times of high demand for electric heat) via high voltage transmission lines that crossed the Cascade mountain range. Bonneville Power Administration (BPA) studies concluded the region could experience a voltage collapse – or blackout or brownout – if one of the lines failed during a cold snap.[18] The level of risk "violated transmission planning standards."[19]

The traditional option for addressing this reliability concern would have been to build additional high voltage transmission lines over the Cascades into the Puget Sound area. BPA and the local utilities chose instead, however, to pursue a lower cost path that included adding voltage support to the transmission system (e.g., "series capacitors to avoid building additional transmission corridors over the Cascades") and more intensive deployment of energy efficiency programs (focused on loads that would help avoid voltage collapse). The voltage support was by far the most important of these elements.[20] The project, known as the Puget Sound Area Electric Reliability Plan, ended up delaying construction of expensive new high voltage transmission lines for at least a decade.[21] Indeed, no new cross-Cascade transmission lines have been built to date.[22]

As discussed further below, BPA has not yet pursued an additional project to defer transmission system investments with efficiency programs.[23] It has, however, institutionalized a process for assessing whether non-transmission alternatives, including efficiency, would be preferable and, for the past decade or so, has initiated that process on several occasions (the most recent just getting started in the spring of 2011).

Green Mountain Power (Vermont) – Mad River Valley

In 1995, Green Mountain Power (GMP), Vermont's second largest investor-owned electric utility, launched an initiative – the first of its kind in the state – to defer the need for a new distribution line in the Mad River Valley – a region in the central part of the state made famous by the Sugarbush and Mad River ski resorts. The existing U-shaped 34.5-kV line serving the valley had a reliable capacity of 30 MW. Sugarbush, which was located at the base of the "U" (its weakest point) and was already the largest load on the line, had announced plans to add up to 15 MW of load associated with a new hotel, a new conference center, and additional snow-making equipment. The existing line could not accommodate that kind of increase. Studies suggested that a new parallel 34.5-kV line would need to be added at a cost of at least $5 million. Sugarbush initially requested that GMP

18 US Department of Energy, Bonneville Power Administration, Public Utility District Number 1 of Snohomish County, Puget Sound Power & Light, Seattle City Light and Tacoma City Light, "Puget Sound Reinforcement Project: Planning for Peak Power Needs," Scoping report, Part A, Summary of Public Comments, July 1990.

19 Bonneville Power Administration Non-Construction Alternatives Roundtable, "Who Funds? Who Implements?" Subcommitee, "Non-Construction Alternatives – A Cost-Effective Way to Avoid, Defer or Reduce Transmission System Investments," March 2004.

20 Indeed, although the plan included additional investments in efficiency, the additional capacitors, coupled with the addition of some local combustion turbines, were likely enough to defer the transmission lines even without the additional efficiency investments (personal communication with Frank Brown, BPA, 11/7/11).

21 Bonneville Power Authority, "Non-Wires Solutions Questions & Answers" fact sheet.

22 The system has been significantly altered over the past two decades as a result of substantial fuel-switching from electric heat to gas heat, the addition of significant wind generating capacity (much of it for sale to California), and other factors. At least until recently, BPA thus has had more "North-South issues" than "East-West issues" (personal communication with Frank Brown, BPA, 11/7/11). That may change in the future as utilities begin to rely more on wind generators east of the cascades (personal communication with Joshua Binus, BPA, 12/12/11).

23 In the mid to late 1990s, however, it did invest substantially in a demand response initiative in the San Juan islands to address reliability concerns after the newest of three underwater cables bringing power to the islands was accidentally severed. The initiative ran for five years and succeeded in keeping loads on the remaining cables at appropriate levels until a new cable was added.

pay for the new line. GMP was hesitant to do so, however, and Vermont's line extension rules were such that the utility and others could legitimately argue that much of the cost should be directly imposed on Sugarbush (and therefore less on other ratepayers).[24] Ensuing negotiations between GMP, Sugarbush, and the state's rate-payer advocate ultimately led to an alternative solution:

1. Sugarbush would ensure that load on the distribution line – *not just its load, but the total load of all customers* – would not exceed the safe 30 MW level;[25] and
2. GMP would invest in an aggressive effort to promote investment in energy efficiency among all residential and business customers in the region.[26]

To meet its end of the bargain, GMP filed and regulators approved the following four efficiency programs targeted to the Mad River Valley:

- Large commercial/industrial retrofit program (targeting the 10 largest customers in the valley);
- Small commercial/industrial retrofit program;
- Residential retrofit program, focusing particularly on homes with electric heat and hot water (promoting both fuel-switching and weatherization); and
- Residential new construction assessment fee program, which imposed a mandatory fee on all new homes being constructed in the valley to pay for a home energy rating and offered both repayment of the fee and an additional incentive for building the home efficiently.[27]

A couple of these programs were largely the same as programs GMP was offering to customers across its entire service territory, except that they were more aggressively marketed to Mad River Valley customers. In 1996, the year during which most of the project activity took place, GMP's efficiency program spending on the Mad River Valley represented about one quarter of its total DSM spending,[28] despite the fact that the area served represented no more than about 5% of its sales base.[29]

By the time the targeted efforts were concluded in early 1997, roughly half of the target populations had participated in the small commercial and industrial (C&I) retrofit and residential retrofit programs, and 7 of the 10 customers targeted by the large retrofit program had participated. Further, three of the four programs had achieved their savings goals. The large C&I retrofit program was the one exception, having achieved only about 20% of the forecasted savings (suggesting that the depth of savings achieved per participant was much lower than projected). Because that program represented less than one fifth of the total savings projected for the Mad River Valley project, however, the project as a whole came close to achieving its overall savings goal.

This project was initially touted as "the first of many" designed to address T&D constraints.[30] As discussed further below, it took more than a decade for that vision to begin to be realized. Nevertheless, it was an important stepping stone in the process of distributed utility planning in Vermont.

24 Cowart, Richard et al., "Distributed Resources and Electric System Reliability, Regulatory Assistance Project, September 2001. Available: http://www.raponline.org/document/download/id/682.

25 This was possible because Sugarbush was such a large portion of the load on the line. It subsequently installed a real-time meter to monitor the consumptions of its own operations and telemetry to monitor total load from all customers at the local substation. It used this information to manage its own operations, including the timing of its snow-making, to keep total loads on the substation below 30 MW. In addition to avoiding any costs associated with its responsibility for the need to upgrade the power line, Sugarbush also received a rate discount from GMP. (Ibid.)

26 Ibid.

27 Green Mountain Power Corporation, "Demand Side Management Program Filing," April 28, 1995 (Revised 5/5/95).

28 Green Mountain Power Corporation, "Demand Side Management Programs 1996 Annual Report," April 1, 1997.

29 Personal communication with Dave Grimason, former GMP efficiency program manager, November 7, 2011.

30 Green Mountain Power Corporation, "Demand Side Management Program Filing," April 28, 1995 (Revised 5/5/95), Executive Summary p. 2.

B. More Recent Developments

In the past several years, several additional efforts to defer T&D system investments have been undertaken. In a couple of additional jurisdictions, processes have been put in place to require that efficiency and other demand resources be considered as alternatives.

Consolidated Edison (New York City)

Consolidated Edison (Con Ed), the electric utility serving New York City and neighboring Westchester County, has been perhaps the most aggressive in the United States in integrating end-use energy efficiency into T&D planning. That integration has occurred on two levels.

First, as part of the annual development of its 10-year "load relief plan" (in which it forecasts any shortfalls in transmission, sub-transmission, and area substation capacity and establishes plans for addressing those shortfalls), the Company now routinely estimates the effects of system-wide efficiency programs on the individual peak demands of each of its 91 distribution networks and load areas, adjusting for the geographic variability in the market penetration of different efficiency programs, the load profiles of different efficiency programs, and the load profiles (and peak periods) of each distribution network. The company recently estimated that "including demand-side management in the 10-year forecast reduced projected capital expenditures by more than $1 billion."[31]

Second, Con Ed routinely assesses whether additional, geographically targeted investments in demand resources could cost-effectively defer investments in its distribution system. More important, where analysis suggests such cost-effective deferrals are possible, the utility invests in, closely tracks, and carefully evaluates the impacts of those resources. When Con Ed assesses cost-effectiveness, it considers all the benefits of efficiency investments, not just the T&D benefits (i.e., it compares the net present value of energy savings, system peak capacity savings, and T&D deferral benefits to the costs of the efficiency programs).

This geographically targeted investment in efficiency began in 2003, when growth in demand was causing a number of Con Ed's distribution networks to approach their peak capacity. Given the density of its customer base, much of the company's system is underground, making upgrades expensive and disruptive. The Company thus began to assess whether it would be feasible and cost-effective to defer such upgrades through locally targeted end-use efficiency, distributed generation, fuel-switching, and other demand-side investments. At least initially, the focus was on projects "with need dates that were up to five years out and… required load relief that totaled less than 3% to 4% of the predicted network load."[32] A decision was made to proceed with geographically targeted demand resource investments, however, whenever it was determined that such investments were likely to be both feasible and cost-effective.

To maximize the financial benefits of relying on demand resources, Con Ed has chosen "not to hedge its bets by continuing the T&D planning and implementation process" in parallel with its pursuit of alternative demand resources. Instead, the Company has chosen to contract out the acquisition of demand resources to ESCOs and – to address reliability risks – to include in those contracts both "significant upfront security and downstream liquidated damage provisions," as well as rigorous measurement and verification requirements. Contract prices are established through a competitive bidding process, with the Company's analysis of the economics of deferment being used to establish the highest price it would be willing to pay for demand resources. Those threshold prices have varied from network to network. When the amount of demand resources bid at prices below the cost-effectiveness threshold were insufficient to defer T&D upgrades, supply-side improvements have been pursued instead.

In its initial pilot phase, the Company established contracts with three ESCOs to provide load reductions in nine networks areas: five in midtown Manhattan, three in Brooklyn, and one in The Bronx. In subsequent phases, four different ESCOs were contracted to deliver load reductions in 21 additional network areas: 13 in Manhattan, four on Staten

31 Gazze, Chris and Madlen Massarlian, "Planning for Efficiency: Forecasting the Geographic Distribution of Demand Reductions," in *Public Utilities Fortnightly,* August 2011, pp. 36-41.

32 Gazze, Chris, Steven Mysholowsky, Rebecca Craft, and Bruce Appelbaum. "Con Edison's Targeted Demand Side Management Program: Replacing Distribution Infrastructure with Load Reduction," in Proceedings of the ACEEE 2010 Summer Study on Energy Efficiency in Buildings, Volume 5, pp. 117-129.

Island, and four in Westchester County. Although ESCOs were allowed to bid virtually any kind of permanent load reduction, all of the accepted bids to date have been solely for the installation of efficiency measures. There have been a couple of explorations of distributed generation, but they have not yet been shown to be cost-effective.[33] All told, between 2003 and 2010, the Company employed geographically targeted efficiency programs to defer T&D system upgrades in more than one third of its distribution networks.

This approach has had considerable, but not universal, success. As Figure 4 shows, in aggregate the level of peak load reduction for Phase 1, which ran through 2007, was approximately 40 MW – or 7 MW less than the contracted level. As a result, Con Ed collected considerable liquated damages from participating ESCOs. Load reductions in subsequent phases have been close to those contracted in aggregate. Those aggregate results mask some differences across network areas, however. In particular, reductions in areas dominated by residential loads with evening peaks were achieved ahead of schedule, whereas reductions in areas whose loads were dominated by commercial customers with mid-day peaks have lagged behind goals. On the other hand, much of that commercial sector savings shortfall appears attributable to the recent economic recession, which also had the effect of dampening baseline demand, offsetting most of the efficiency program shortfalls.[34] As shown in Figure 5, even when there was a shortfall relative to the savings target for the largest of the T&D deferral projects Con Ed undertook in Phase 1 – the Astor Substation deferral project – the efficiency investments still produced substantial economic benefits ($28 million, or about $1,950 per kW of savings) that were very cost-effective (benefit-cost ratio of 3:1).[35]

This highlights an important benefit of efficiency programs – they are often load-following. Put another way,

Figure 5 [37]

Summary of Results for Astor Substation

Project: Build new substation to relieve five adjacent networks
Cost: $85 million (original estimate)
$145 million (as built)
Deferral: 2007 to 2009

Shortfall	2005	2006	2007	2008
Shortfall (Incremental)	0	2	9	8
Contracted (Cumulative)	0	4	13	21
Delivered (Cumulative)	1	4	8	14

RFP: Jun 2003
Contract: Sep 2004 – Jan 2005
Savings: $28 million (~ $1,950/kW)
TRC: 3.1
Note: Load growth was slower than forecast, offsetting under delivery

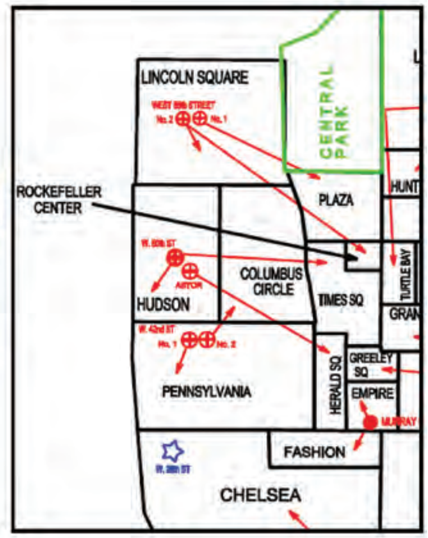
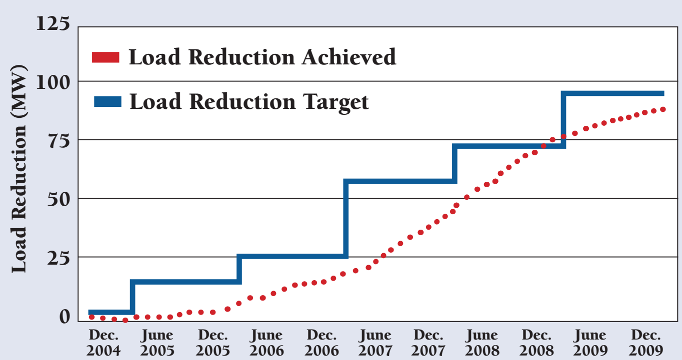


Figure 4 [36]

Con Ed's T&D Savings Compared to Goals



33 Although all types of demand resources have been considered, only energy efficiency has been pursued to date, because it is the only demand resource proven to be cost-effective (personal communication with Chris Gazze, February 2011).

34 Gazze, Mysholowsky, and Craft (2010).

35 Gazze, Chris (Con Ed) and Bruce Appelbaum (ICF), "Con Edison's Targeted DSM Program," presentation at ACEEE Summer Study on Energy Efficiency in Buildings, August 18, 2010, Pacific Grove, CA.

36 Graph reproduced from Gazze, Mysholowsky, Craft, and Appelbaum (2010) with permission from Con Ed.

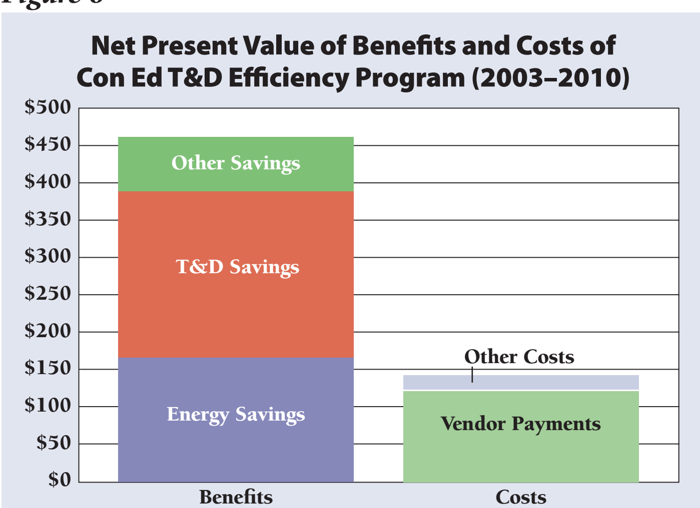
37 Graphic from Gazze and Appelbaum presentation, used with permission from Chris Gazze.

participation in efficiency programs tends to increase when load is growing more quickly and decrease when load is not growing quickly. In that sense, efficiency programs can help mitigate risk associated with forecast uncertainties. As Con Ed put it:

> *"…using DSM to defer projects bought time for demand uncertainty to resolve, leading to better capital decision making. Moreover, widespread policy and cultural shifts favoring energy efficiency may further defer some projects to the point where they are never needed…In fact, Con Edison has projected that in the absence of this program it would have installed up to $85 million in capacity extensions that may never be needed."* [38]

As Figure 6 shows, in aggregate, Con Ed has saved more than $75 million when comparing the full costs of the efficiency programs to just the T&D costs that were

Figure 6 [39]



avoided. When other efficiency benefits (e.g., energy savings and system peak capacity savings) are also considered, the efficiency investments have saved Con Ed and its customers more than $300 million.

Efficiency Vermont Geo-Targeted DSM

Shortly after the Mad River Valley project (see discussion earlier) was completed, negotiations began within the state to shift responsibility for efficiency program administration from the utilities to a dedicated "efficiency utility" – eventually to be named "Efficiency Vermont" – that would be selected through a competitive bidding process. The settlement agreement and subsequent September 1999 Public Service Board (the Board) order that created Efficiency Vermont made clear that, although Efficiency Vermont would be responsible for statewide efficiency programs, the utilities would still be responsible for funding and implementing any additional efficiency that could be justified as cost-effective alternatives to T&D system upgrades (although they could contract implementation to Efficiency Vermont). The Board also agreed to "initiate a collaborative process to establish guidelines for distributed utility planning."[40] That collaborative culminated in a set of guidelines approved by the Board in 2003,[41] as well as the creation of a number of "area specific collaboratives" in which opportunities for deferring specific T&D upgrades through non-wires alternatives would be explored. None of those discussions led to implementation of any such alternatives, however.

At roughly the same time (i.e., 2003), VELCO, the state's transmission utility, formally proposed a very controversial large project to upgrade transmission lines from West Rutland to South Burlington (known as the Northwest Reliability Project). As required by Vermont law, VELCO filed an analysis of non-transmission alternatives. In all, five different combinations of alternatives were analyzed – four combinations of different kinds of local generation and a fifth combination of local generation and aggressive DSM. The analysis suggested that the four generation-only options were more expensive than the transmission line, but that the fifth option including DSM had a lower societal cost than the transmission line.[42] That option, however, would involve much larger capital expenditures than the transmission line. Further, whereas much of the cost of the transmission option would be socialized across the New England Power Pool (Vermont pays a very small share of the portion of costs that are socialized across the region), the cost of the alternative path would be borne entirely by Vermont ratepayers due

38 Gazze, Mysholowsky, and Craft (2010).

39 Cost and benefit data provided by Chris Gazze, February 11, 2011. Note that "other costs" includes program administration ($2.9 million), M&V ($9.2 million), and customer costs ($9.9 million).

40 State of Vermont, Public Service Board Order, Docket No. 5980, pp. 54-58.

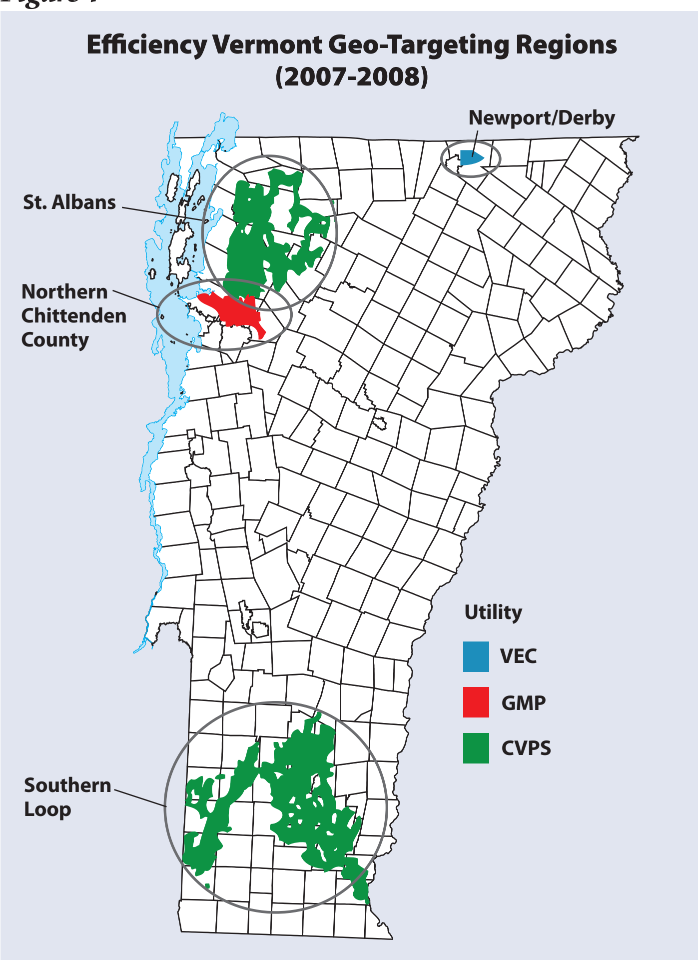
41 State of Vermont, Public Service Board Order, Docket No. 6290.

42 La Capra Associates, "Alternatives to VELCO's Northwest Reliability Project," January 29, 2003.

to New England ISO rules. Those concerns, coupled with VELCO's concerns that the level of DSM envisioned would be unprecedented, led the utility to argue in favor of the transmission option.[43] The Board ultimately approved VELCO's proposal in early 2005, but expressed concern and frustration with VELCO's planning process, namely that it did not consider alternatives, particularly efficiency, early enough in the process to make them truly viable options.[44]

The approval of the transmission line contributed to the passage later that year of legislation (Act 61) that eliminated the statutory spending cap for Efficiency Vermont, instructed the Board to determine the optimal level of efficiency spending, and made clear that cost-effectively deferring T&D upgrades should be one of the objectives the Board considers in establishing the budget. The Board subsequently increased Efficiency Vermont's budget by about $6.5 million (37%) in 2007 and $12.2 million (66%) in 2008 and ordered that all of the additional spending be focused on four geographically targeted areas: northern Chittenden County, Newport, St. Albans, and the "southern loop" (see Figure 7).[45] Those areas had been identified by the state's utilities as areas in which there may be potential for deferring significant T&D investment. Collectively, these efforts became known as Efficiency Vermont's "geo-targeting" initiative.[46]

Figure 7 [47]



As Table 1 shows, these areas were fairly diverse in terms of the density of population, the geographic area they cover, the relative importance of residential vs. commercial and industrial loads, and the number of large customers. Two of the areas were summer peaking, one was winter peaking, and one had similar summer and winter peaks. The peak loads in the area varied from 18 to 70 MW in 2007. Forecasted load growth without efficiency programs ranged from 1.7% to 4.3% per year. Collectively, the four areas contained 63,000 customers – or 18% of the state's customer base. A total of 167 were large users (greater than 500 MWh of annual consumption), 8,600 were other business customers (many of them quite small), and about 54,000 were residential customers.[48]

It is important to note that the investment in geo-targeting was viewed by the Board, utilities, and Efficiency Vermont as a "proof of concept" experiment. The selection of the targeted areas was rushed and probably not as well vetted as necessary to ensure deferral potential. Indeed, savings targets were not established from an analysis of how much was needed to defer the capital investments. Rather, they were set based on what was estimated to be achievable given available budget resources.

The original 18-month savings targets (from mid-2007 through the end of 2008) were 7.2 MW of summer peak savings (across the three areas with summer peaks) and 7.7

43 Ibid.

44 Vermont Public Service Board, "Board Approves Substantially Conditioned and Modified Transmission System Upgrade", press release, January 28, 2005.

45 State of Vermont Public Service Board, Order Re: Energy Efficiency Utility Budget for Calendar Years 2006, 2007 and 2008, 8/2/2006.

46 Efficiency Vermont Annual Plan, 2008-2009.

47 Efficiency Vermont Annual Plan, 2007-2008.

48 Massie, Jim, Nancy Wasserman, and Blair Hamilton, "Fast Capacity Reduction through Geographically Targeted, Aggressive Efficiency Investment: Early Results from a Vermont Experiment," in Proceedings of 2008 ACEEE Summer Study on Energy Efficiency in Buildings, Volume 5, pp. 194-205.

Table 1 [49]

Characteristics of Vermont Geographically Targeted Areas (2007-2008)

	Urban vs. Rural	Size of Area	C&I Sales %	Large C&I Customers	Peak Period	2007 Peak (MW)	Annual Load Growth w/o DSM	Projected Load Growth w/ Targeted DSM
N. Chittenden	Urban	Small	65%	72	Summer	64	4.3%	1.2%
Newport	Urban	Small	64%	15	Both	18	1.7%	-0.5%[50]
St. Albans	Urban	Moderate	64%	42	Summer	29	3.4%	-3.3%
Southern Loop	Rural	Large	48%	38	Winter	70	3.4%	-3.4%

MW of winter peak savings (across the two areas with winter peaks). These targets represented a 7- to 10-fold increase in the peak savings Efficiency Vermont had achieved in the same areas during the previous 18 months. It was estimated that peak demands would not only stop growing but would actually decline in three of the four areas. In the fourth area (Chittenden North), which had the fastest natural growth rate, load growth was projected to decline by about 75% (from 4.3% to 1.2% per year).

To meet these savings goals, Efficiency Vermont implemented a three-pronged strategy:

1. Intensive account management of large commercial and industrial customers (targeted to approximately 148 customers using more than 500 MWh/year) to identify opportunities for deep savings and to negotiate financial incentives (often greater than those offered in other parts of the state) designed to achieve those savings;
2. Launch of an aggressive small commercial/industrial program (targeting those using 40 to 500 MWh/year) in which high savings measures (primarily lighting measures, but also other cost-effective HVAC, refrigeration, and custom measures) designed to achieve an average of 15% savings per business are directly installed at no cost or very low cost to the customer; and
3. Aggressive local promotion of CFLs to residential and small business customers through both targeted marketing campaigns, community awareness campaigns, and the use of direct mail coupons.

All customers in the areas were also still eligible to participate in other statewide programs.

After the selection of the initial four targeted areas, a working group consisting of the state's largest utilities, Efficiency Vermont, and the Vermont Department of Public Service developed a set of criteria for future selections for geo-targeting:

- Areas experiencing high load growth;
- Areas with known concerns regarding the capacity of existing T&D infrastructure;
- Areas for which the minimum planning horizon for deferral was three years, with a preference for horizons of at least five years; and
- Areas for which there were "no other circumstances requiring immediate investment."[51]

Ultimately, decision-making on geo-targeting priorities was supposed to move to the Vermont System Planning Committee (VSPC), which VELCO was charged by the Board with initiating. Initially, "although the VSPC was formed and has been functioning, for all intents and purposes the selection process remained with the founding geotargeting utilities." This may have been because many parties still regarded geo-targeting as an experiment.[52] More recently, however, the VSPC has assumed the role it was intended to play and initiated a robust process to select targeted areas for future efforts.

Approximately one year into its delivery, one of the four initially targeted areas (Newport) was dropped from the geo-targeting program when the distribution utility determined

49 Massie et al and Navigant Consulting et al., "Process and Impact Evaluation of Efficiency Vermont's 2007-2009 Geotargeting Program," Final Report, Submitted to Vermont Department of Public Service, January 7, 2011, p. 103.

50 This is the forecasted growth in winter peak demand. The baseline peak demands for summer and winter were the same. Efficiency Vermont forecast that it could reduce summer peak by more than winter peak, however. That would make winter peak the more constraining variable.

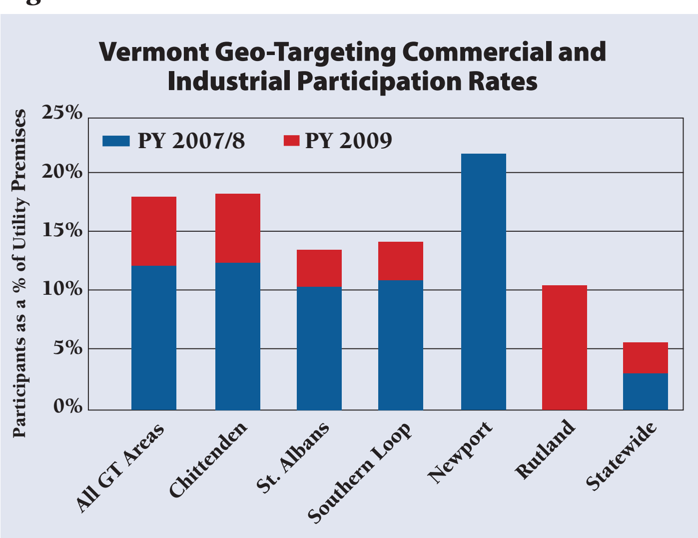
51 Navigant et al. (2011), p. 3.

52 Ibid.

that the substation whose rebuilding the program was intended to defer needed to be rebuilt for reasons other than load growth (i.e., "destabilization of the substation property due to river flooding").[53] Independent of that decision, a new target area – Rutland – was added to the program beginning in 2009.

A recent evaluation of the geo-targeting program suggests that it has had some success, although not all results were as good as hoped or projected. To begin with, efficiency program participation was considerably higher in geo-targeted areas than in the rest of the state. For example, as Figure 8 shows, commercial and industrial customers in geo-targeted areas participated at a rate nearly four times as great as their counterparts in the rest of the state. For those areas that were in their third year of geo-targeted DSM in 2009, the participation rate multiplier (compared to the rest of the state) declined to 2 to 1. The multiplier for the newly added geo-targeted region (Rutland), however, was roughly the same 4 to 1 ratio experienced by the other regions in their first two years.[54] Savings per participant were also higher than in the statewide programs – 20% to 25% higher for commercial and industrial customers and 30% higher for residential customers. That increase appears to reflect success in achieving greater depth of lighting savings per participant rather than increased penetration of non-lighting efficiency measures.[55] The net result of those two factors was summer peak demand savings that were three to five times greater (depending on the region) in the first couple of years of the program than would have been achieved under the statewide programs.[56]

Figure 8 [57]



All told, over the 2007 to 2009 time period, the program achieved summer peak demand reductions in the targeted areas of 10 MW – about 70% of its goal. Winter peak demand savings were more problematic, with the program achieving only 4.1 MW of reductions, or only about 40% of its goal. Nevertheless, analysis of loads on individual feeders in geo-targeted areas suggests that geo-targeting program impacts "are detectable at the system level" and that the magnitude of savings observed at the utility system level was consistent with those estimated through evaluation of customer savings.[58]

Evaluation of the impacts of the observed peak demand reductions on the potential deferral of T&D investments has not yet been conducted. Central Vermont Public Service (the state's largest utility), however, has observed that it "has not been required to schedule the deployment of additional system upgrades in Rutland, St. Albans and Southern Loop areas." While it is difficult to know the extent to which that situation should be attributed to the geo-targeting of DSM, to changes in economic conditions (i.e., the recent economic recession), or to other factors, the Company has recommended to the Board that geo-targeting of DSM continue.[59]

Central Maine Power

In June of 2010, the Maine Public Utilities Commission approved a settlement agreement reached by Central Maine Power (CMP) and a variety of other parties (including several public interest advocates) regarding a large transmission

53 Navigant et al. (2011), p. 26.

54 Navigant et al. (2011), pp. 85-87.

55 Navigant et al. (2011), pp. 89-91.

56 It is important to note that the statewide programs are already considered quite aggressive, achieving greater savings as a percent of sales than any state in the country in both 2007 (Eldridge, Maggie et al., *The 2009 State Energy Efficiency Scorecard*, ACEEE Report Number E097, October 2009) and 2008 (Molina, Maggie et al., *The 2010 State Energy Efficiency Scorecard*, ACEEE Report Number E107, October 2010).

57 Graphic courtesy of Navigant Consulting.

58 Navigant et al. (2011), p. 10.

59 Silver, Morris, Counsel for Central Vermont Public Service, letter to the Vermont Public Service Board regarding "EEU Demand Resources Plan – Track C, Geotargeting," January 18, 2011.

system upgrade project (the Maine Power Reliability Project) that the utility had proposed.[60] The settlement supported construction of most elements of the upgrade, but identified two areas – the Mid-Coast region and the city of Portland – where pilot projects to test the efficacy of non-transmission alternatives would be launched.

As part of the settlement, CMP was required to conduct a needs assessment for the two regions and develop a proposal for using non-transmission alternatives in conjunction with one of the intervening parties – Grid Solar. In March 2011, CMP and Grid Solar filed a proposed plan for the Mid-Coast region. The plan looked at a couple of different scenarios, ultimately recommending an approach that would require 25 to 29 MW of distributed resources in the Camden-Rockland area and another 10 MW of distributed resources in the Boothbay region to fully obviate the need for a transmission upgrade. It also proposed to use an RFP process to identify and acquire the least cost mix of resources to meet this need. It further suggested the resources be acquired in phases, with the first RFP covering needs from 2012 through 2015 (10 MW in Camden-Rockland and 6 MW in Boothbay). Subsequent RFPs would be developed and issued "based on load growth in the Mid-coast area, on the performance of distributed resources under contract pursuant to prior RFP(s), and on changes to the physical electric transmission and distribution system circuits in the Mid-Coast area." [61]

Under the proposal, any distributed resource would be eligible to respond to the RFP, including:

- Existing back-up generators (the plan identified 45 generators with a combined capacity of 25 MW in the region);
- New generators that could be acquired to provide both back-up capability to customers as well as distributed resources for the pilot;
- Demand response resources (as much as 15 MW were estimated to be in the region);
- Targeted energy efficiency (the plan estimating maximum achievable potential in the Mid-Coast region to be 15 MW, but suggested that 10 MW of that amount was already captured in CMP's load forecast, leaving only 5 MW to potentially be acquired);
- Solar PV (the plan suggested that solar PV would not likely be competitive with other resources, but that it may be appropriate to set aside a portion of the RFP as a "solar carve out" to test the applicability of PV as a transmission resource); and
- Storage (which was also estimated to be too expensive for initial rounds of procurement).

The plan noted that Vermont's experience with geographically targeted efficiency programs suggested that efficiency resources would likely be "highly competitive with other distributed resources." It also suggested that the Efficiency Maine Trust, which is responsible for and funded to implement statewide efficiency programs, could bid enhancements to its efficiency initiatives in the target region in response to the RFP. The plan left unaddressed, however, the question of how baseline levels of savings (from which additional savings from a more aggressive set of geographically targeted efforts would presumably be measured) would be established. It was also not clear whether the plan anticipated the possibility of other efficiency resource providers bidding in response to the RFP. [62]

These issues have not yet been fully explored. In the summer of 2011 the Maine PUC held a Technical Conference on the plan. Among the topics discussed were the impacts of both the economic recession and new (more stringent) reliability standards issued by the North American Electric Reliability Council (NERC) on the forecast resource needs. CMP and Grid Solar are expected to examine these issues and file a new needs analysis and plan in late November 2011. A second Technical Conference is expected to follow in December 2011.[63]

NV Energy

In 2008 NV Energy faced a situation in a relatively rural portion of its service territory, east of Carson City, in which growth in demand was going to need to be met by either running the locally situated but relatively expensive Fort Churchill generating station more frequently or constructing a 30-mile, 345-kVA transmission line and new substation

60 Maine Public Utilities Commission, Order Approving Stipulation, Docket No. 2008-255, June 10, 2010.

61 Central Maine Power and Grid Solar, Non-Transmission Alternative Pilot Plan and Smart Grid Proposal including Attachments 1-7, filed under Docket No. 2008-255 (Phase II), March 25, 2011.

62 Ibid.

63 Personal communication with Beth Nagursky, Environment Northeast, 11/16/11.

to bring less expensive power from the more efficient Tracy generating facility (situated further north, about 20 miles east of Reno) to the region. When the local county commission began expressing concerns about permitting construction of the substation, regulators instructed the Company to increase the intensity of its DSM efforts in the targeted region as an alternative to meeting the area's needs economically:

> *"…the concentration of DSM energy efficiency measures in Carson City, Dayton, Carson Valley and South Tahoe has the potential to reduce the run time required for the Ft. Churchill generation units. The increased marketing costs and increased incentives and subsequent reduction in program energy savings required to attain an increased participation in the smaller market area are estimated to be more than offset by reduced fuel costs. Sierra Pacific, d.b.a. NV Energy, will make a reasonable effort within the approved DSM budget and programs to concentrate DSM activities in this area…"* [64]

NV Energy pursued a variety of efforts to either focus its existing DSM programs more intensely on the Fort Churchill area and/or launch new initiatives. This included:[65]

- **Non-Profit Agency Grants.** NV Energy gave priority to projects in the impacted area and marketed the program accordingly. In the end, 12 of the 35 applications it received were from the targeted area.
- **Energy Education.** NV Energy concentrated its education events in the region, ultimately holding 19 in 2009 – up from just two the previous year.
- **Low Income Weatherization.** NV Energy asked its implementation contractor to make a special effort to solicit program participation in the targeted area. Participation in the targeted area increased from just eight homes in 2008 to 57 in 2009.
- **ENERGY STAR Lighting and Appliances.** NV Energy concentrated marketing and outreach events in the Fort Churchill area, leading to an increase in participation of nearly 20% (although estimated savings did not increase due to changes in assumptions regarding average run times of CFLs).
- **Second Refrigerator Collection and Recycling.** NV Energy increased marketing efforts in the targeted region, in part through a targeted door-to-door campaign that also included distribution of nearly 100,000 CFLs to more than 16,000 homes. This resulted in increased participation in the refrigerator recycling program of nearly 15% in the targeted region, as well as substantial lighting savings.
- **Energy Smart Schools.** NV Energy offered an "Energy Master Planning Service" to the Carson City and Douglas County School Districts, but both declined the service. The utility also launched a new initiative to distribute CFLs to school district employees.
- **Commercial Retrofit Incentive.** NV Energy renegotiated its contract with its program vendor to support increased marketing in the targeted area, increase financial incentives by 25% in the targeted area, and concentrate all direct install efforts in the target area. The result was a more than 260% increase in savings in the area.
- **Sure Bet Hotel Motel.** NV Energy increased marketing support and financial incentives for this program as well, but no increase in participation was realized.

Of these efforts, the second refrigerator collection and recycling program (primarily the CFL distributions) and the commercial retrofit program were together responsible for the vast majority of the increased DSM savings in the region.[66]

At the same time as these efficiency efforts were launched, NV Energy's transmission staff began re-conductoring the existing 120-kVA line to the region to increase its carrying capacity. The economic recession also hit at the same time, dampening growth. As a result, the Company has not had to revisit the need for either the additional power line and substation or increasing the run time of the Fort Churchill generating station. The project has also facilitated the beginnings of "rich conversations" between demand resource planners and transmission planners within the Company.[67]

64 Jarvis, Daniel et al., *Targeting Constrained Regions: A Case Study of the Fort Churchill Generating Area,* 2010 ACEEE Summer Study on Energy Efficiency in Buildings, Volume 5, pp. 178-189.

65 Sierra Pacific Power Company, 2010 Annual Demand Side Management Update Report, July 1, 2010, pp. 6-9.

66 Ibid, and Jarvis et al.

67 Personal communication with Larry Holmes, NV Energy, 11/9/11.

3. Lessons Learned

Although the actual implementation of efficiency as an alternative to T&D investments has not yet been what one might call "widespread," there are enough examples in sufficiently diverse circumstances to draw initial conclusions.

Geographically Targeted Energy Efficiency Can Defer T&D Investments

A number of studies have suggested that aggressive, geographically targeted efficiency programs can meet T&D reliability objectives. More important, analyses of the actual deployment of efficiency as alternatives to T&D in several jurisdictions have concluded that supply-side investments were deferred for at least some period of time (e.g., Con Ed in New York City, Green Mountain Power's Mad River Valley Project in Vermont, PG&E's Delta Project in California, portions of PGE's project in downtown Portland, Oregon).

Efficiency Can Be a Cost-Effective T&D Resource

There is less evidence regarding the cost-effectiveness of efficiency as an alternative to T&D upgrades. However, analysis of the most intensive and long-standing effort to defer T&D investments with efficiency programs – Con Ed's experience in New York City – clearly concluded that the geographically targeted programs were very cost-effective. Indeed, the T&D benefits alone were greater than the costs of the programs. When other benefits (e.g., energy savings and system peak demand savings) are included in the analysis, the geographically targeted efficiency programs had a benefit-to-cost ratio of about 3 to 1.

The realization that energy efficiency provides a variety of electric system benefits is critically important, as that broad range of benefits can often render the pursuit of more intensive efficiency programs in localized areas a "no regrets" strategy – at least from a purely economic perspective. Indeed, even though a determination of whether the recent Efficiency Vermont geo-targeting program has deferred T&D system upgrades has not yet been definitively made, evaluation of the program suggests it has been cost-effective – with a benefit cost-ratio of about 2 to 1 (under the Total Resource Cost Test) – even if no T&D investments are deferred.[68]

This suggests that, in most cases, the most important concerns regarding the deployment of efficiency as a T&D resource will likely be efficiency savings forecast issues (i.e., particularly uncertainty about whether enough customers will install enough efficiency measures to actually avoid a reliability-driven investment) and possibly equity issues (i.e., concerns about customers in targeted areas getting greater access to and/or greater financial incentives from efficiency programs than those in other areas).

Stuff Happens! Unexpected Events Can Affect Benefits of Efficiency

It is worth noting that in several of the case studies examined for this report some or all of the T&D investment being considered for deferral ultimately ended up being constructed for reasons having nothing to do with the effectiveness of the deployment of efficiency resources. For example, part of PGE's project in Portland, Oregon (to defer a transformer upgrade for one commercial building) ended when the conversion from gas to electric cooling for the building added too much load to be offset by demand-side measures. More recently in Vermont, one of the original areas targeted for locally intensive DSM programs (Newport) was removed from the program when the existing substation became destabilized due to flooding, necessitating an immediate supply-side investment. In each of those cases, it could be concluded that the investments in efficiency programs ultimately provided either no T&D

68 Navigant et al. (2011), p. 100. Similar analyses for other case studies examined are not available.

benefit or very little benefit.

It is important to recognize that forecasting uncertainty works in both directions, however. In several of the examples discussed in this paper it appears as if efficiency investments not only permitted deferral of a T&D investment, but permanently eliminated the need for the investment. This happened either because the efficiency savings realized were greater than forecast (e.g., in one of the commercial buildings treated by PGE's program in Portland, Oregon) or because the efficiency investments bought enough time for more fundamental changes in demand to take hold (e.g., Con Ed's conclusion that $85 million in T&D investments that it otherwise would have made may now never be needed).

The bottom line is that there are a variety of risks associated with forecasting of T&D system needs that can affect the potential benefits of using efficiency to defer T&D system investments. These include:

- The reliability risk of under-forecasting demand growth;
- The economic risk of over-building the T&D system due to over-forecasting of demand growth; and
- Both the reliability risk (if it takes longer than expected) and the economic risk (if it ends up costing more)[69] of siting new poles and wires.

It could be argued that efficiency programs are more likely to mitigate than to exacerbate these risks. To begin with, many efficiency programs are "load-following." For example, efficiency programs designed to promote efficiency in the construction of new buildings will generally have lower participation and savings when construction slows (i.e., when savings are least needed) and higher participation and savings when construction accelerates (i.e., when savings are most needed). Similarly, efficiency programs often have a harder time convincing home-owners and businesses to participate – and therefore have a harder time meeting savings goals – during difficult economic times (i.e., when loads are not growing fast and therefore concerns about exceeding T&D system capacity are lower); they often have an easier time recruiting participants and exceeding savings goals during good economic times (i.e., when loads are naturally growing faster, imposing greater strains on T&D systems). Indeed, the reality that Efficiency Vermont launched its geo-targeting program just before the recent deep economic recession was probably a contributing factor to their failure to meet initial savings goals. On the other hand, as Central Vermont Public Service has implied, the recession is likely part of the reason the Company has not had to deploy additional system upgrades in its portion of the targeted areas.

Sufficient Lead Time is Critical

It usually takes time to generate enough savings from energy efficiency programs to defer T&D system upgrades. The programs must be planned, developed, and then marketed to consumers before any savings are realized. Reaching a large segment of the eligible market requires on-going marketing and business development efforts. Initial strategies may not be as successful as anticipated, so programs are more likely to be successful if there is time to refine them in response to market feedback. As discussed above, PG&E's Delta Project did not have that luxury and, as a result, ended up falling short of overall savings goals and spending more per unit of savings than originally planned. Even though a very cost-effective strategy was identified part of the way through the project, there was not enough time for it to gain enough traction to offset the less effective results of some of the initially pursued elements. Sufficient lead time may also better enable efficiency program managers to demonstrate to T&D system planners and engineers that efficiency strategies are affecting localized peak loads. Parts of PGE's downtown Portland project ultimately failed to defer T&D upgrades not because the efficiency savings were inadequate, but rather because T&D planners and engineers did not have sufficient confidence that the savings would be achieved and be reliable and persistent.

To be sure, the amount of lead time necessary to enable efficiency programs to defer T&D investments will vary

69 For example, in July 2005, about six months after its proposal to construct a major new transmission line and make other related improvements was approved by the Vermont Board of Public Utilities, VELCO filed with the Board a revised cost estimate that was nearly double the estimate it had made two to three years earlier and presented during the course of the hearing on the project. In order of importance, the increase was attributed to a high rate of inflation for the materials and services needed, regulatory conditions of the approval, and better (higher) estimates of the materials it would need (State of Vermont Public Service Board, Order on Remand RE: Reopening Proceedings, Docket 6860, 9/23/2005).

from project to project. In general, shorter lead times will be needed when the number of customers that must be served by efficiency programs in order to generate sufficient savings is small. One key to ensuring there is sufficient lead time is to conduct more systematic planning for meeting T&D needs, including long-term forecasting of potential needs, integrating the forecasting of such needs with forecasting of savings from system-wide efficiency initiatives, and including analysis of potential additional, localized efficiency programs in early stages of assessment of options for meeting T&D needs.

Smaller is Easier

In general, the smaller the area being addressed, the easier it is to consider efficiency and other non-wires alternatives to T&D investments. Smaller areas mean that efficiency savings need to be acquired from fewer customers. That in turn means that it is often easier to characterize the opportunity for efficiency investments accurately. It also means that shorter lead times will be needed. For example, deferring a transformer upgrade on a single large commercial building may not require much time if one need just convince a single owner of the building to make an efficiency investment. Alternatively, deferring distribution substations or transmission lines serving many thousands of customers will usually take longer unless there are just a few large customers who, if served by an efficiency program, could impact localized peak demands significantly.

Distribution is Easier than Transmission

Deferring distribution system investments is generally easier than deferring transmission investments because the non-wires solutions will generally be smaller in scope (see discussion above). In addition, distribution system planning is generally less technically complex, involves fewer parties, does not involve regional ISOs/RTOs, and does not involve regional cost-allocation frameworks that often bias investments in favor of "poles and wires" solutions.

Cross-Discipline Communication is Critical

This may seem self-evident, but it is critical nonetheless. T&D planners and engineers are often skeptical of the potential for end-use efficiency to reliably substitute for poles, wires, and other T&D "hardware." They worry that customers themselves are unreliable. Similarly, staff responsible for administration of programs that promote efficiency, load control, distributed generation, or other demand resources typically do not fully understand the complexities of the reliability issues faced by T&D system planners. Both need to better understand the needs and capabilities of the other.

It can take time to develop the relationships and confidence necessary for efficiency program implementers and their evaluated results and T&D system engineers to work together effectively. Those relationships and that trust must be developed, however, if efficiency programs are to be as successful as possible in deferring T&D investments.

Upper management can be very important in setting expectations that such communication and cross-discipline learning take place within a utility. It is much more difficult to institutionalize such communication when transmission planning has regional elements and implications that necessarily involve the ISO/RTO.

Integrate Efficiency with Other Distributed Resources

Although efficiency programs can sometimes be sufficient to defer T&D investments, other times they will not be. They can, however, be married with promotion of demand-response and distributed generation initiatives to meet the same objective.

4. Recommendations

Though several pilot projects in the past and some more substantial projects today appear to have demonstrated that efficiency programs can be a cost-effective T&D resource, such efforts remain uncommon. Put another way, the potential economic and other benefits of using geographically targeted efficiency programs as a T&D resource are largely being ignored today. Some fundamental policy changes are required if that is to change. In this concluding section of the paper we discuss the policies that should be explored if efficiency's potential is to be realized.

Require Least-Cost T&D Planning

As noted above, both economic incentives in many states and system planning culture have made "poles and wires" (or T&D hardware) the default solution to T&D-related reliability issues almost everywhere. Experience to date suggests that the only way that will change is if T&D planners are required by legislators or regulators to analyze alternatives and choose the least-cost option.[70]

Over the past decade, several jurisdictions have institutionalized such processes. Several notable examples are summarized below. There are certainly costs to such processes – both for the utilities doing the planning and for regulatory oversight. Feedback from several jurisdictions, however, suggests that the process evolves – as it is tested and refined – to one in which the burden on the utility is not only manageable but also much more than offset by cost savings. Once that point is reached and utilities are meeting a high standard in their work, the burden on regulators should be quite modest.

Rhode Island

In 2006, Rhode Island adopted a "System Reliability Procurement" policy that requires utilities to submit system reliability procurement plans every three years. Guidelines detailing what to include in those plans were adopted more recently (see Appendix A). Those guidelines make clear that plans must consider non-wires alternatives – including energy efficiency, distributed generation, and demand response – whenever the T&D need:

- Is not based on an asset condition;
- Will likely cost more than $1 million to address;
- Would require no more than a 20% reduction in peak load to defer; and
- Would not require investment in a "wires solution" to begin for at least 36 months.

For such cases, the plans must include analysis of financial impacts, risks, the potential for synergistic benefits, and other aspects of both wires and non-wires alternatives.[71]

Vermont

Vermont has long imposed an integrated resource planning requirement on its utilities. However, the passage of Act 61 in 2005 – which reinforced those requirements by specifying minimum 10-year planning horizons, required the plans to be filed at least every three years, and required public meetings (in areas close to potential T&D upgrades) at which plans are presented (see Appendix B for legislative language) – has begun to make the process more rigorous. Indeed, VELCO and Efficiency Vermont are now working together to regularly reconcile and integrate

70 Note that this works only to the extent that states actually control the planning process. Although they do for distribution system investments, responsibility for transmission planning decisions is shared with regional ISOs/RTOs. That has lessened states ability to effectively impose least-cost planning requirements. Recent FERC Order 1000, which requires ISOs/RTOs to consider state policies in planning decisions, may give states more influence in the future.

71 Rhode Island Standards for Least Cost Procurement and System Reliability Planning.

their respective forecasts of baseline demand and efficiency program savings.[72]

Bonneville Power Administration

Although not required by legislation or regulation, in 2002 BPA launched a Non-Wires Solutions (NWS) initiative in which it committed to investigating "least-cost solutions that may result in deferring potential transmission reinforcement projects."[73] A year later, BPA formed a Non-Wires Solutions Round Table composed of key stakeholder groups in the region to assist it in these endeavors.[74] It then developed a formal process by which non-wires solutions – including energy efficiency, demand response, load control, and distributed generation – would be routinely assessed. To begin with, transmission planners annually assess potential transmission needs over the next 10 to 15 years. That assessment is tied to the Western Electricity Coordinating Council's power flow and planning framework.[75] Once a transmission need is identified by BPA's Transmission Business Line, an initial "screening" is conducted to determine whether the project is a candidate for possible non-wires solutions. A project qualifies for an analysis of non-wires solutions if it meets three criteria:

1. The transmission project cost is estimated to be at least $5 million;
2. The project need is driven by load growth; and
3. The project need is at least eight years out.[76]

If these criteria are met, a high level economic assessment is conducted using a simplified spreadsheet template that has been developed specifically for this purpose. The analysis includes all of the potential benefits of non-wires solutions. Estimates of energy savings and capacity savings benefits are based on results of the Northwest Power Planning Council's integrated resource plans (conducted every five years). Avoided transmission costs are estimated for the specific project under consideration. If the analysis suggests both that there are sufficient non-wires resources to defer a project and that the deferral could be cost-effective, a detailed feasibility study is conducted. If that study confirms that the non-wires solution is indeed feasible, then the benefits, costs, and risks of both traditional transmission and non-wires solutions are compared to decide which strategies to pursue. This process is summarized in Figure 9. BPA went through this process on four different occasions between 2002 and 2006. In all of those cases a determination was made that the traditional transmission strategy was needed.

BPA recently reconvened its Non-Wires Round Table to consider new regional transmission needs in this same framework. Three potential non-wires projects are currently undergoing intensive analysis and discussion. Energy efficiency is an element of the non-wires solution being considered for both the I-5 corridor in Oregon and the Hooper Springs area in Idaho. Efficiency plays a more central role in a third potential project that has not yet been made public.[77]

72 This has not been without its challenges, because assumptions about such things as treatment of baseline efficiency conditions, the level of "naturally occurring" efficiency (related to free rider assumptions in efficiency savings forecasts), and other key issues are sometimes different or inconsistent (see Enterline, Shawn and Eric Fox, *Integrating Energy Efficiency into Utility Load Forecasts*, in Proceedings of the 2010 ACEEE Summer Study on Energy Efficiency in Buildings, Volume 5, pp. 86-96).

73 GDS Associates, "Process Evaluation of the Non-Wires Solution Initiative," prepared for BPA, June 8, 2007.

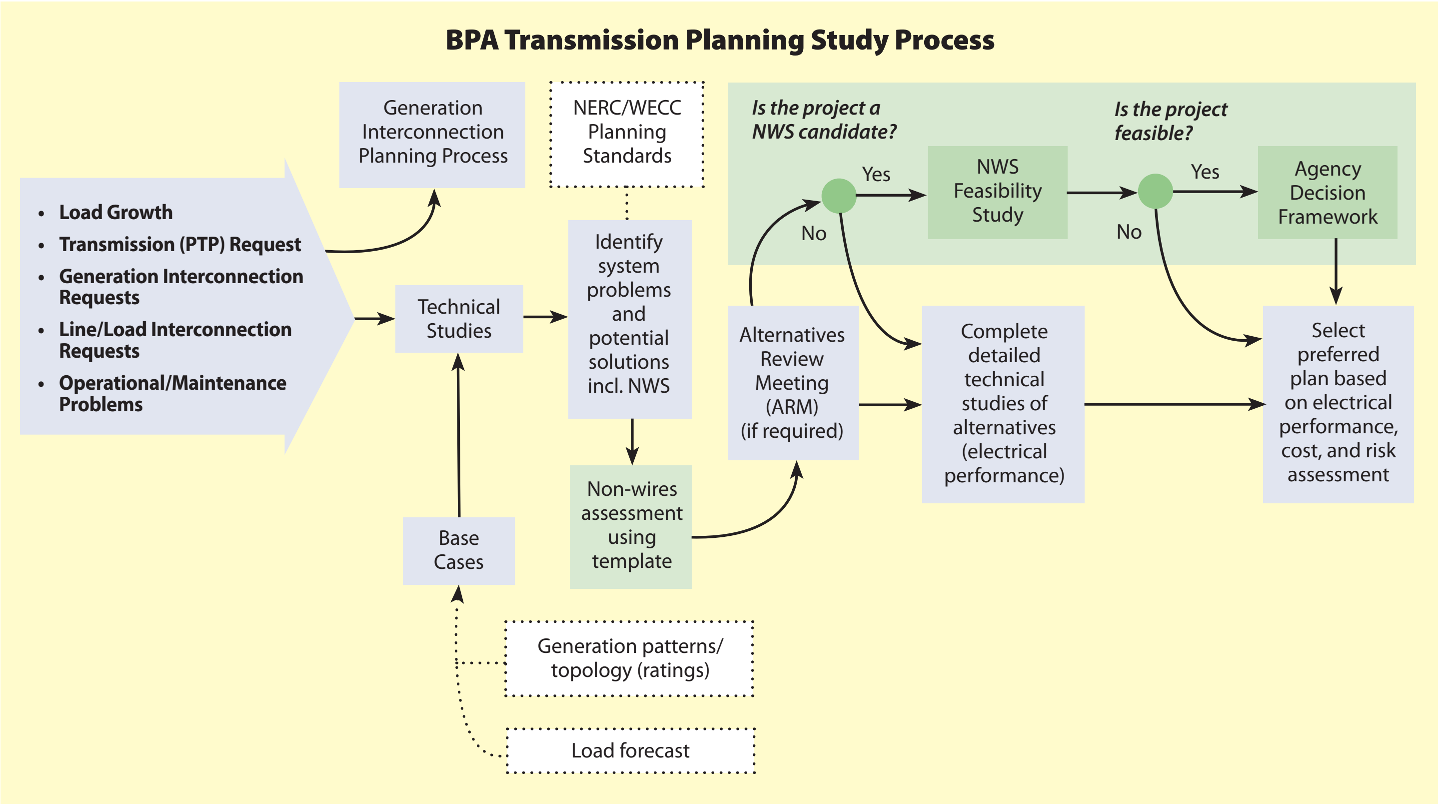
74 Although the Round Table has been organized to function collaboratively, its input is purely advisory. BPA makes all final decisions on how to address transmission needs.

75 Personal communication with Mike Weedall, Ottie Nabors, and Josh Binus, Bonneville Power Administration, 4/27/11.

76 Nabors, Ottie, "Non-Wires Alternatives Screening Process & Evaluation," presentation at the Non-Wires Round Table, April 15, 2011.

77 Personal communication with Mike Weedall, BPA, 12/23/11.

Figure 9 [78]



Require Consideration of Integrated Solutions

Efficiency is one of several types of distributed resources – demand response, load control, and distributed generation are other notable examples – that can help to cost-effectively defer T&D investments. Indeed, there may be important synergies in combining deployment of efficiency and other distributed resources (e.g., efficiency and demand response and potentially even distributed generation can often be "sold" to customers more effectively if sold together). Any requirement for least-cost planning thus should make clear that all options, including different combinations of distributed resources, should be considered.

The ability for states to require either least-cost planning or consideration of integrated solutions is clear with respect to distribution system planning, but more complicated for transmission planning because of transmission's regional implications and the involvement of regional ISOs/RTOs. Nevertheless, states have influenced transmission planning, and the recent FERC Order 1000, which requires ISOs/RTOs to consider state policies in their planning decisions, may give them more clout in the future.

Institutionalize a Long-Term Planning Horizon

The longer the lead time, the more likely it will be that efficiency (or other distributed resources) could cost-effectively defer traditional T&D investments. This suggests it is critical that assessments of T&D needs are both long-term and conducted on a regular basis. As noted above, although they are all still refining their processes, all of the jurisdictions that are currently seriously considering non-wires alternatives to T&D investments are routinely forecasting T&D needs at least 10 years into the future. Con Ed develops a 10-year plan for T&D needs. Vermont requires an annual plan that looks out a minimum of 10 years. VELCO, Vermont's transmission utility, has chosen to forecast 20 years out. Similarly BPA looks at transmission needs 10 to 15 years into the future.

78 Graphic from Nabors, Ottie, "Non-Wires Alternatives Screening Process & Evaluation," presentation at the Non-Wires Round Table, April 15, 2011.

"Level the Playing Field" in Payment for Wires and Non-Wires Alternatives

One of the biggest barriers to serious consideration of efficiency (and other demand resources) as alternatives to T&D investments is the unequal treatment of the costs of wires and non-wires solutions. For example, nearly 90% of the nearly $290 million cost of VELCO's Northwest Reliability Project in Vermont has been deemed by the New England ISO to be eligible for Pooled Transmission Facility (PTF) treatment – or spread across the New England region.[79] Because Vermont represents a relatively small portion of the total regional power pool load, its ratepayers pay only about 5% of PTF costs. Its rate-payers thus will ultimately bear less than 20% of total project costs. The ISO does not give PTF treatment to non-wires solutions. As a result, if the state had pursued a non-wires solution to its transmission reliability needs, it would have borne 100% of the costs of the project.

Such policies represent enormous disincentives to pursue non-wires solutions – even if they are less expensive than traditional transmission investments. Unbalanced treatment of wires and non-wires solutions needs to be addressed if least-cost solutions are to be routinely and seriously considered.

Collect More Data on Efficiency's Impacts

In much of the country, relatively little end-use metered data on the hourly and seasonal impacts of efficiency resources has been collected and made public over the past two decades. As a result, many jurisdictions now rely on very old end-use metering studies when developing hourly load shapes for efficiency measures. Such load shapes are essential to estimating the impacts of efficiency resources on localized transmission or distribution system peaks (peak hours can vary considerably from one distribution element to another, even within the same utility service territory). Having more data of this kind should make it easier to address concerns of T&D system planners.

It is worth noting that the New England region may be ahead of much of the rest of the country in this regard, in part because the region's forward capacity market requires efficiency resource providers to use studies that are less than five years old to document achievement of the system peak demand savings that are bidding into the market. That requirement has resulted in a number of different end-use metering studies that have not only documented savings at the time of the regional system peak, but also at all other hours of the day. In many cases, the studies have been undertaken at the regional level – with all states sharing the cost – as a way to make them affordable.

Start with Pilot Projects

Virtually every jurisdiction that genuinely considered efficiency as a potential cost-effective alternative to T&D investments started with pilot projects. Much has been learned from those pilots. The pilots also offered important venues for facilitating the mutual education of system engineers and efficiency program managers. Experience to date suggests that a pilot project or two will not bridge the cultural chasms between these two groups. They can be important steps in that process, however.

Leverage "Smart Grid" Investments

A number of utilities have recently made or are about to make significant investments in advanced metering, customer feedback mechanisms, and other "smart grid" features. Customer and end-use data collected through such systems may enable better assessments of the potential for efficiency to serve as a T&D resource in general, and perhaps more important, in specific geographic areas.

79 ISO New England, "Summary of ISO-NE Reviewed TCA Applications under Schedule 12C of the Tariff" – Status as of 2/18/2011 (http://www.iso-ne.com/trans/pp_tca/status/tca_application_status.pdf)

Appendix A

Rhode Island Standards for Least Cost Procurement and System Reliability Planning – Excerpt on Distributed Resources in Relation to T&D Investment

Chapter 2 - System Reliability Procurement

Section 2.1 Distributed/Targeted Resources in Relation to T&D Investment

A. The Utility System Reliability Procurement Plan ("The SRP Plan") to be submitted for the Commission's review and approval on September 1, 2011 and triennially thereafter on September 1, shall propose general planning principles and potential areas of focus that incorporate non-wires alternatives (NWA) into the Company's distribution planning process for the three years of implementation beginning January 1 of the following year.

B. Non-Wires Alternatives (NWA) may include but are not limited to:
  a. Least Cost Procurement energy efficiency baseline services
  b. Peak demand and geographically-focused supplemental energy efficiency strategies
  c. Distributed generation generally, including combined heat and power and renewable energy resources (predominately wind and solar, but not constrained)[80]
  d. Demand response
  e. Direct load control
  f. Energy storage
  g. Alternative tariff options

C. Identified transmission or distribution (T&D) projects with a proposed solution that meet the following criteria will be evaluated for potential NWA that could reduce, avoid or defer the T&D wires solution over an identified time period.
  a. The need is not based on asset condition;
  b. The wires solution, based on engineering judgment, will likely cost more than $1 million;
  c. If load reductions are necessary, then they are expected to be less than 20 percent of the relevant peak load in the area of the defined need;
  d. Start of wires alternative is at least 36 months in the future; and
  A more detailed version of these criteria may be developed by the distribution utility with input from the Council and other stakeholders.

D. Feasible NWAs will be compared to traditional solutions based on the following:
  a. Ability to meet the identified system needs
  b. Anticipated reliability of the alternatives
  c. Risks associated with each alternative (licensing and permitting, significant risks of stranded investment, sensitivity of alternatives to differences in load forecasts, emergence of new technologies)
  d. Potential for synergy savings based on alternatives that address multiple needs
  e. Operational complexity and flexibility
  f. Implementation issues
  g. Customer impacts
  h. Other relevant factors

E. Financial analyses of the preferred solution(s) and alternatives will be conducted to the extent feasible. The selection of analytical model(s) will be subject to Public Utilities Commission review and approval. Alternatives may include the determination of deferred investment savings from NWA through use of net present value of the deferred revenue requirement analysis or the net present value of the alternatives according to the Total Resource Cost Test (TRC). The selection of an NWA shall be informed by the considerations approved by the Public Utilities Commission which may include, but not be limited to, those issues enumerated in (D), the deferred revenue requirement savings and an evaluation of costs and benefits according to the TRC. Consideration of the net present value of resulting revenue

80 In order to meet the statute's environmental goals, generation technologies must comply with all applicable general permitting regulations for smaller-scale electric generation facilities.

requirements may be used to inform the structure of utility cost recovery of NWA investments and to assess anticipated ratepayer rate and bill impacts.

F. For each need where an NWA is the preferred solution, the distribution utility will develop an implementation plan that includes the following:
   a. Characterization of the need
      i. Identification of the load-based need, including the magnitude of the need, the shape of the load curve, the projected year and season by which a solution is needed, and other relevant timing issues
      ii. Identification and description of the T&D investment and how it would change as a result of the NWA
      iii. Identification of the level and duration of peak demand savings and/or other operational functionality required to avoid the need for the upgrade
      iv. Description of the sensitivity of the need and T&D investment to load forecast assumptions
   b. Description of the business as usual upgrade in terms of technology, net present value, costs (capital and O&M), revenue requirements, and schedule for the upgrade
   c. Description of the NWA solution, including description of the NWA solution(s) in terms of technology, reliability, cost (capital and O&M), net present value, and timing
   d. Development of NWA investment scenario(s)
      i. Specific NWA characteristics
      ii. Development of an implementation plan, including ownership and contracting considerations or options
      iii. Development of a detailed cost estimate (capital and O&M) and implementation schedule

G. Funding Plan
   The Utility shall develop a funding plan based on the following sources to meet the budget requirement of the system reliability procurement plan. The Utility may propose to utilize funding from the following sources for system reliability investments:
      i. Capital funds that would otherwise be applied towards traditional wires based alternatives
      ii. Existing Utility EE investments as required in Section I of these Standards and the resulting Annual Plans
      iii. Additional energy efficiency funds to the extent that the NWA can be shown to pass the TRC test with a benefit to cost ratio of greater than 1.0 and such additional funding is approved
      iv. Utility operating expenses to the extent that recovery of such funding is explicitly allowed
      v. Identification of significant customer contribution or third party investment that may be part of an NWA based on benefits that are expected to accrue to the specific customers or third parties
      vi. Any other funding that might be required and available to complete the NWA

H. Annual SRP Plan reports should be submitted on November 1. Such reports will include but are not limited to:
   a. A summary of projects where NWA were considered;
   b. Identification of projects where NWA were selected as a preferred solution; and a summary of the comparative analysis following the criteria outlined in sections (D) and (E) above;
   c. Implementation plan for the selected NWA projects;
   d. Funding plan for the selected NWA projects;
   e. Recommendations on pilot distribution and transmission project alternatives for which it will utilize selected NWA reliability and capacity strategies. These proposed pilot projects will be used to inform or revise the system reliability procurement process in subsequent plans;
   f. Status of any previously selected and approved projects and pilots;
   g. Identification of any methodological or analytical tools to be developed in the year;
   h. Total SRP Plan budget, including administrative and evaluation costs.

I. The Annual SRP Plan will be reviewed and funding approved by the Commission prior to implementation.

Appendix B

Excerpts from Vermont's Act 61

Sec. 8. Advocacy For Regional Electricity Reliability Policy

It shall be the policy of the state of Vermont, in negotiations and policy-making at the New England Independent System Operator, in proceedings before the Federal Energy Regulatory Commission, and in all other relevant venues, to support an efficient reliability policy, as follows:

(1) When cost recovery is sought through region-wide regulated rates or uplift tariffs for power system reliability improvements, all available resources – transmission, strategic generation, targeted energy efficiency, and demand response resources – should be treated comparably in analysis, planning, and access to funding.

(2) A principal criterion for approving and selecting a solution should be whether it is the least-cost solution to a system need on a total cost basis.

(3) Ratepayers should not be required to pay for system upgrades in other states that do not meet these least-cost and resource-neutral standards.

(4) For reliability-related projects in Vermont, subject to the review of the public service board, regional financial support should be sought and made available for transmission and for distributed resource alternatives to transmission on a resource-neutral basis.

(5) The public service department, public service board, and attorney general shall advocate for these policies in negotiations and appropriate proceedings before the New England Independent System Operator, the New England Regional Transmission Operator, the Federal Energy Regulatory Commission, and all other appropriate regional and national forums. This subdivision shall not be construed to compel litigation or to preclude settlements that represent a reasonable advance to these policies.

(6) In addressing reliability problems for the state's electric system, Vermont retail electricity providers and transmission companies shall advocate for regional cost support for the least cost solution with equal consideration and treatment of all available resources, including transmission, strategic distributed generation, targeted energy efficiency, and demand response resources on a total cost basis. This subdivision shall not be construed to compel litigation or to preclude settlements that represent a reasonable advance to these policies.

Transmission and Distribution Planning

Sec. 9. 30 V.S.A. § 218c is amended to read:
§ 218C. Least Cost Integrated Planning

(d)(1) Least cost transmission services shall be provided in accordance with this subsection. Not later than July 1, 2006, any electric company that does not have a designated retail service territory and that owns or operates electric transmission facilities within the state of Vermont, in conjunction with any other electric companies that own or operate these facilities, jointly shall prepare and file with the department of public service and the public service board a transmission system plan that looks forward for a period of at least ten years. A copy of the plan shall be filed with each of the following: the house committees on commerce and on natural resources and energy and the senate committees on finance and on natural resources and energy. The objective of the plan shall be to identify the potential need for transmission system improvements as early as possible, in order to allow sufficient time to plan and implement more cost-effective non-transmission alternatives to meet reliability needs, wherever feasible. The plan shall:

(A) identify existing and potential transmission system reliability deficiencies by location within Vermont;

(B) estimate the date, and identify the local or regional load levels and other likely system conditions at which these reliability deficiencies, in the absence of further action, would likely occur;

(C) describe the likely manner of resolving the identified deficiencies through transmission system improvements;

(D) estimate the likely costs of these improvements;

(E) identify potential obstacles to the realization of these improvements; and

(F) identify the demand or supply parameters that generation, demand response, energy efficiency or other non-transmission strategies would need to address to resolve the reliability deficiencies identified.

(2) Prior to the adoption of any transmission system plan, a utility preparing a plan shall host at least two public meetings at which it shall present a draft of the plan and facilitate a public discussion to identify and evaluate non-transmission alternatives. The meetings shall be at separate locations within

the state, in proximity to the transmission facilities involved or as otherwise required by the board, and each shall be noticed by at least two advertisements, each occurring between one and three weeks prior to the meetings, in newspapers having general circulation within the state and within the municipalities in which the meetings are to be held. Copies of the notices shall be provided to the public service board, the department of public service, any entity appointed by the public service board pursuant to subdivision 209(d)(2) of this title, the agency of natural resources, the division for historic preservation, the department of health, the scenery preservation council, the agency of transportation, the attorney general, the chair of each regional planning commission, each retail electricity provider within the state, and any public interest group that requests, or has made a standing request for, a copy of the notice. A verbatim transcript of the meetings shall be prepared by the utility preparing the plan, shall be filed with the public service board and the department of public service, and shall be provided at cost to any person requesting it. The plan shall contain a discussion of the principal contentions made at the meetings by members of the public, by any state agency, and by any utility.

(3) Prior to the issuance of the transmission plan or any revision of the plan, the utility preparing the plan shall offer to meet with each retail electricity provider within the state, with any entity appointed by the public service board pursuant to subdivision 209(d)(2) of this title, and with the department of public service, for the purpose of exchanging information that may be relevant to the development of the plan.

(4)(A) A transmission system plan shall be revised:
- (i) within nine months of a request to do so made by either the public service board or the department of public service; and
- (ii) in any case, at intervals of not more than three years.

(B) If more than 18 months shall have elapsed between the adoption of any version of the plan and the next revision of the plan, or since the last public hearing to address a proposed revision of the plan and facilitate a public discussion that identifies and evaluates nontransmission alternatives, the utility preparing the plan, prior to issuing the next revision, shall host public meetings as provided in subdivision (2) of this subsection, and the revision shall contain a discussion of the principal contentions made at the meetings by members of the public, by any state agency, and by any retail electricity provider.

(5) On the basis of information contained in a transmission system plan, obtained through meetings held pursuant to subdivision (2) of this subsection, or obtained otherwise, the public service board and the department of public service shall use their powers under this title to encourage and facilitate the resolution of reliability deficiencies through nontransmission alternatives, where those alternatives would better serve the public good. The public service board, upon such notice and hearings as are otherwise required under this title, may enter such orders as it deems necessary to encourage, facilitate or require the resolution of reliability deficiencies in a manner that it determines will best promote the public good.

(6) The retail electricity providers in affected areas shall incorporate the most recently filed transmission plan in their individual least cost integrated planning processes, and shall cooperate as necessary to develop and implement joint least cost solutions to address the reliability deficiencies identified in the transmission plan.

(7) Before the department of public service takes a position before the board concerning the construction of new transmission or a transmission upgrade with significant land use ramifications, the department shall hold one or more public meetings with the legislative bodies or their designees of each town, village, or city that the transmission lines cross, and shall engage in a discussion with the members of those bodies or their designees and the interested public as to the department's role as public advocate.

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Other recent RAP publications on energy efficiency include the following:

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Roughly half of all efficiency and/or carbon emission reduction in North American and European buildings can be achieved through retrofit improvements to existing homes. In this publication, RAP offers a roadmap to help policymakers and practitioners design and implement a comprehensive residential retrofit strategy. We present eight principles for success based on two decades of international experience, designed to achieve the level of energy savings that will be needed to address the challenge of climate change.

The Executive Summary of this report is available separately in English and German at: http://raponline.org/document/download/id/4424.

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Prices and Policies: Carbon Caps and Efficiency Programmes for Europe's Low-Carbon Future

This paper was presented at the 2011 ECEEE Summer Study.

With the adoption of the Climate and Energy Package in 2008, European decision-makers created an integrated suite of policies to reduce carbon emissions, increase renewable energy production, and advance energy savings. As the EU ETS moves to carbon auctioning, decision-makers must continue to link carbon prices with other policy tools to meet Europe's adopted carbon and sustainable development goals. This paper demonstrates how energy efficiency (EE) policies can help meet ETS goals at lower cost, creating space to tighten carbon caps, and/or reduce the cost of protecting high-emitting industries and new Member States. Smart "complementary policies" can directly link ETS and EE strategies, especially by using auction revenue for EE programmes. Complementary policies are also needed to support low-carbon power markets, grid expansion, and renewable power investment across Europe.

The full paper is available at: http://www.raponline.org/document/download/id/931

Who Should Deliver Ratepayer Funded Energy Efficiency? A 2011 Update

This report describes policy options and approaches for administering ratepayer-funded electric energy efficiency programs in US states. It reviews how states have administered energy efficiency programs to learn what lessons their experience offers, and describes the most important factors states should consider with different administrative models. State legislators and utility regulators will find this report useful as they consider ways for energy efficiency administration to be more effective, both in states that are considering the question for the first time, and in more experienced states that are implementing significant increases in their savings goals. RAP's first version of this report was written in 2003.

The full report is available at: http://www.raponline.org/document/download/id/4707

Valuing the Contribution of Energy Efficiency to Avoided Marginal Line Losses and Reserve Requirements

While utilities and their regulators are familiar with the energy savings that energy efficiency measures can provide, they may not be aware of how these same measures also provide very valuable peak capacity benefits in the form of marginal reductions to line losses that are often overlooked in the program design and measure screening. This paper is the first of two that the Regulatory Assistance Project is publishing on the relationship between energy efficiency and avoiding line losses.

The full report is available at: http://www.raponline.org/document/download/id/4537

Achieving Energy Efficiency: A Global Best Practices Guide on Government Policies

This best practices guide provides a summary overview of the most effective policy mechanisms that regional, national, state or local governments at the executive, legislative or regulatory level can adopt to achieve significant energy efficiency in buildings, processes and equipment used in the residential, commercial, industrial, public and institutional sectors. By policy mechanism, we mean specific laws, regulations, processes and implementation strategies that foster the development and use of products and services which require less energy input to deliver the same or more productivity and output. Our focus is on how government policies can accelerate and increase efficiency investments to achieve additional savings. We do not address best practices in the design or delivery of efficiency programs that would flow from these policies. Nor do we address tariff structures or energy pricing and financing tools that can be employed to help end users invest in efficiency.

The full report is available at: http://www.raponline.org/document/download/id/4781

Regulatory Mechanisms to Enable Energy Provider Delivered Energy Efficiency

The Regulatory Mechanisms to Enable Energy Provider Delivered Energy Efficiency paper identifies varied, but complementary, government regulatory mechanisms utilized worldwide to mobilize the resources of energy providers to implement investments in energy. The paper identifies and describes twelve types of regulatory mechanisms that governments use effectively to: mobilize energy provider investments directly; facilitate investments in demand-side resources; or implement policies and programs that underpin important elements of successful investment programs. The paper also explains how each regulatory mechanism functions in different market settings to mobilize resources or enable effective programs, identifies key issues that ensure successful implementation, and then outlines an example of how at least one jurisdiction has achieved successful implementation of the mechanism.

The full report is available at: http://www.raponline.org/document/download/id/4872

Other documents on energy efficiency and other topics are available on The Regulatory Assistance Project website at:

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Acronym Glossary

ACEEE American Council for an Energy Efficient Economy

AMI Advanced Metering Infrastructure

BPA Bonneville Power Administration

C & I Commercial and Industrial

CFLs Compact Fluorescent Light Bulbs

CMP Central Maine Power

Con Ed Consolidated Edison

DR Demand Response

DSM Demand-Side Management

EEI Edison Electric Institute

EPRI Electric Power Research Institute

ESCO Energy Service Company

FCM Forward Capacity Market

FERC Federal Energy Regulatory Commission

GMP Green Mountain Power

ISO Independent System Operator

NERC North American Electric Reliability Council

NWS Non-Wires Solutions

PGE Portland General Electric

PG&E Pacific Gas and Electric

PTF Pooled Transmission Facility

PTP Point-to-point

RTO Regional Transmission Organization

SPWG State Program Working Group

SRP System Reliability Procurement

T&D Transmission and Distribution

TRC Total Resource Cost

VELCO Vermont Electric Power Company

VSPC Vermont System Planning Committee

WECC Western Electricity Coordinating Council

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