BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition to determine need for West County Energy Center Unit 3 electrical power plant, by Florida Power & Light Company.	DOCKET NO. 080203-EI
In re: Petition for determination of need for conversion of Riviera Plant in Palm Beach County, by Florida Power & Light Company.	DOCKET NO. 080245-EI
In re: Petition for determination of need for conversion of Cape Canaveral Plant in Brevard County, by Florida Power & Light Company.	DOCKET NO. 080246-EI ORDER NO. PSC-08-0591-FOF-EI ISSUED: September 12, 2008

The following Commissioners participated in the disposition of this matter:

MATTHEW M. CARTER II, Chairman
LISA POLAK EDGAR
KATRINA J. McMURRIAN
NANCY ARGENZIANO
NATHAN A. SKOP

APPEARANCES:

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On behalf of FLORIDA POWER & LIGHT COMPANY (FPL).

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On behalf of the FLORIDA PUBLIC SERVICE COMMISSION (Staff).

FINAL ORDER GRANTING PETITIONS FOR DETERMINATION OF NEED

BY THE COMMISSION:

BACKGROUND

On April 8, 2008, Florida Power & Light Company (FPL) filed a petition for determination of need for the proposed West County Energy Center Unit 3 (WCEC 3), pursuant

to Section 403.519, Florida Statutes (F.S.), and Rule 25-22.080, Florida Administrative Code (F.A.C.). WCEC 3 will be a combined cycle unit with a summer capacity rating of 1,219 megawatts (MW), built on an existing generating site in Palm Beach County, Florida, with an in-service date of June 1, 2011.

On April 30, 2008, FPL filed two additional petitions for determination of need at its existing Cape Canaveral and Riviera plants. Both petitions involve converting two oil and natural gas fueled steam electric generating units built in the 1960s into efficient combined cycle power plants. The Cape Canaveral Conversion will convert two operating 400 MW dual-fired steam generating units into a combined cycle power plant with a summer capacity of 1,219 MW. The proposed commercial operation date of the Cape Canaveral Conversion is June 1, 2013. The Riviera Conversion will convert two operating 280 MW dual-fired steam generating units into a combined cycle power plant with a summer capacity of 1,207 MW. The proposed commercial operation date of the Riviera Conversion is June 1, 2014.

Public Testimony

In addition to the prefiled testimony submitted by FPL, we received mailed comments and heard live testimony from two public witnesses at the formal administrative hearing in Tallahassee on June 23, 2008. Topics of interest addressed by the public witnesses included: system reliability and integrity, reasonable costs for electricity, renewable energy, demand-side management, conservation and cost-effectiveness.

Other areas of interest that were discussed during the public testimony focused on subjects beyond the scope of this proceeding under Section 403.519, F.S., or our general regulatory jurisdiction. They included: environmental concerns about water supply becoming contaminated and unavailable, health concerns about drinking contaminated water, safety concerns regarding the plant and associated facilities being located near a blasting area.

Section 403.519, F.S., authorizes us to examine FPL's projected costs for environmental controls necessary to meet current state and federal environmental requirements. The public testimony regarding the environmental concerns and health issues falls under the Department of Environmental Protection's (DEP) jurisdiction.

While safety is not a specific issue in a need determination proceeding conducted under Section 403.519, F.S., we do have jurisdiction to prescribe and enforce safety standards for transmission and distribution facilities of public utilities pursuant to Section 366.04(6), F.S. We also have jurisdiction over natural gas pipeline safety pursuant to Sections 368.01-368.61, F.S., and we have implemented this jurisdiction in Chapter 25-12, F.A.C., "Safety of Gas Transportation by Pipeline." At the hearing for these dockets, in response to the public testimony and questions by the Commissioners, FPL witness Gnecco testified that the project and the related natural gas lateral met safety standards.

Our ability to address some of the issues raised in public testimony is limited by the scope of Section 403.519, F.S., and other statutes which establish our jurisdiction. However,

these concerns may be relevant in certification proceedings before DEP, the Division of Administrative Hearings, and the Governor and Cabinet, sitting as the Siting Board.

Factors for Consideration

Pursuant to Section 403.519(3), F.S., this Commission is the sole forum for the determination of need for an electrical power plant. In making our determination, we must take into consideration the need for electric system reliability and integrity, the need for adequate electricity at a reasonable cost, the need for fuel diversity and supply reliability, whether the proposed plant is the most cost-effective alternative available, and whether renewable energy sources and technologies, as well as conservation measures, are utilized to the extent reasonably available.

This Order reflects our decision on the petitions for determination of need, and serves as our report under the Power Plant Siting Act, as required by Section 403.507, F.S. We have jurisdiction over the subject matter of this proceeding pursuant to Sections 403.519, 403.507, 366.01, 366.04, 366.05, 366.06, and 366.07, F.S. Our decision is explained in detail below.

DECISION

FPL has demonstrated a reliability need for additional resource capacity in 2013. Usually, when a company seeks to satisfy a need for additional resource capacity using natural gas facilities, a petition for need determination would be submitted approximately 3 years before the facility's in-service date. The company decided, however, that unique economic opportunities and site-specific circumstances made it more cost effective to build WCEC 3 for operation in 2011 and perform the conversions at Cape Canaveral and Riviera by 2013 and 2014. FPL contends that it will not be able to perform the conversions of Cape Canaveral and Riviera without approval of the proposed WCEC 3. FPL chose gas-fired combined cycle units as its resource option to meet its capacity needs. This decision was made primarily because coal and nuclear generation have longer construction times and would not be able to provide the additional capacity in the time needed. This approach will maintain FPL's reserve margin above 20 percent throughout the period.

FPL issued a Request for Proposals (RFP) for the WCEC 3 unit on December 13, 2007, according to the principles prescribed in Rule 25-22.082, F.A.C. (Bid Rule). FPL's analysis of the proposals revealed that WCEC 3 was more than $600 million in cumulative present value revenue requirements (CPVRR) less costly than the next best alternative. FPL requested an exemption from the Bid Rule for the conversion petitions under the provisions of subsection 18 of the Bid Rule. FPL claimed that the WCEC 3 RFP results could provide a measure of the cost-effectiveness of the conversions because the WCEC 3 RFP was conducted recently, and FPL did not believe that the results would be materially different from an RFP for the conversions.

As explained below, we approve the need for the new WCEC 3, the conversions of the Cape Canaveral and Riviera plants, and the exemption from the Bid Rule for the conversions.

The Requirements of the Bid Rule

FPL states that its RFP related to the WCEC 3 facility was consistent with the requirements of the Bid Rule, and that specific content required by the Bid Rule was included in the RFP. FPL compared the proposed WCEC 3 to five other proposed resource plans that were received in response to the RFP. FPL's analysis of the proposals showed that WCEC 3 in 2011 was more than $600 million CPVRR less costly than the next best alternative proposed in the RFP. An independent evaluator reviewed FPL's solicitation process and conducted his own evaluation of FPL's Next Planned Generating Unit and the proposals that were submitted in response to the RFP. As a result of his evaluation, the evaluator agreed with the results of the RFP.

The RFP evaluation was done using fuel and economic forecasts developed in 2007. FPL updated its fuel and economic forecast assumptions on March 13, 2008. Since all of the proposals were based on either natural gas or oil generation alternatives, the change in fuel and economic assumptions did not affect the relative rankings of proposals compared to constructing WCEC 3 in 2011.

We find that FPL has met the requirements of Rule 25-22.082, F.A.C. The record shows that WCEC 3 in 2011 is more than $600 million CPVRR less costly than any of the proposals received through the RFP.

Exemption from the Bid Rule

While FPL conducted an RFP consistent with the requirements of the Bid Rule for the WCEC 3 project, FPL has requested an exemption from the Bid Rule for the Riviera and Cape Canaveral Conversion projects. FPL asserts that the conversion of the Riviera and Cape Canaveral plants satisfies each of the three available bases for an exemption from Rule 25-22.082, F.A.C., by providing CPVRR savings to customers, providing highly reliable capacity, and serving the public welfare by reducing emissions and fossil fuel usage.

Subsection 18 of the Bid Rule provides:

> Upon a showing by a public utility and a finding by the Commission that a proposal not in compliance with this rule's provisions will likely result in a lower cost supply of electricity to the utility's general body of ratepayers, increase in the reliable supply of electricity to the utility's general body of ratepayers, or otherwise will serve the public welfare, the Commission shall exempt the utility from compliance with the rule or any part of it for which such justification is found.

FPL contends that if WCEC 3 is placed into service in 2011, the company will have the opportunity to convert the older, inefficient Riviera and Cape Canaveral plants into highly efficient combined cycle power plants. Together, the conversion projects are expected to result in customer savings of $457 million CPVRR. FPL used the December 13, 2007, RFP that was conducted for WCEC 3 to compare the conversion projects. FPL asserted that the proposals

received for the WCEC 3 RFP are similar to proposals that would likely have been received in response to an RFP for the conversions. An independent evaluator reviewed FPL's evaluation and determined that the plan with the conversion projects was $481 million CPVRR less expensive than the most economic resource plan using proposals received in response to the RFP. The conversion projects will be more cost-effective compared to using the purchased power proposals that were evaluated.

FPL has shown that its plan for WCEC 3 with conversions is more cost-effective than the plan that was compared to the RFP responses. We can infer from this evidence that the conversion projects will likely result in a lower cost supply of electricity, and therefore should be granted an exemption from the requirements of the Bid Rule. FPL has agreed to annually report the budgeted versus actual construction expenses for all three projects.

We grant FPL an exemption from the Bid Rule with respect to the Cape Canaveral and Riviera projects. FPL has shown that the conversion projects will result in a lower cost supply of electricity, increase the reliable supply of electricity.

Need for Electric System Reliability and Integrity

FPL contends that reliable forecasts show that, although growing at a slower rate, Florida's population is still on the rise. FPL asserts that the total growth in customers is the primary driver of its projected peak demand growth.

We have reviewed FPL's forecast assumptions, regression models, and the projected system peak demands, and find that this information is appropriate for use in this docket. The forecast assumptions were drawn from independent sources, which we have relied upon in prior cases. The regression models used to calculate the projected peak demands conform to accepted economic and statistical practices. Although slower customer growth could reduce actual peak demand from that forecasted, we find that the projected peak demands produced by the models used by FPL appear to be a reasonable extension of historical trends. FPL witness Morley's testimony indicated that FPL's forecasts accounted for the recent trend of a decreasing population growth rate.

FPL uses the University of Florida's Bureau of Economic and Business Research (BEBR) to develop its population projections. BEBR's population projections are normally updated every year, the most recent being in November 2007. Those projections show continued long-term growth in Florida, specifically, a 1.7 percent annual growth rate beginning in the 2008 through 2017 period. FPL also performed a sensitivity analysis using updated population projections from the University of Florida's BEBR dated February 2008. That analysis revealed that there will still be significant cost savings and other benefits realized with lower customer growth. Although slower customer growth could reduce actual peak demand from that forecasted, we find that the projected peak demands produced by the models used by FPL appear to be a reasonable extension of historical trends.

FPL's base case plan would add new combined-cycle generation in the years 2013, 2014, and 2016 in order to maintain a 20 percent reserve margin. If a 15 percent reserve margin

planning criterion is assumed, FPL's initial reliability need could be delayed until 2014. From 2011 through 2017, FPL has a need for 4,844 MW of additional generating capacity. WCEC 3 will supply approximately 1,219 MW of this need.

Under different circumstances, FPL would not file a petition for a determination of need for WCEC 3 until sometime in 2010. The decision to build WCEC in 2011, which is in advance of the identified reliability need, is driven by unique economic opportunities and site-specific circumstances. For example, the economic analytical results for WCEC 3 in 2011 show that costs of equipment, materials and labor are significantly lower than they would be if WCEC 3 were to be installed later, or at an alternative site. After the addition of WCEC 3 in 2011, FPL's reserve margin will be approximately 27.9 percent. FPL wishes to construct WCEC 3 in 2011 because it believes doing so will provide adequate generating capacity to allow for the removal from service of the existing Cape Canaveral and Riviera generating units in order to pursue the conversion of these facilities and not adversely impact system reliability. When the Canaveral and Rivera units are removed from service, FPL's reserve margin would drop to approximately 21.7 percent in the year 2011.

The table below summarizes the projected reserve margin for the scenarios mentioned previously:

Estimated Impact on Summer Reserve Margin (%)				
Year	**No Additions**	**Base Case**	**WCEC 3 in 2011 without Conversions**	**WCEC 3 in 2011 with Conversions following**
2011	22.3	22.3	27.9	21.7
2012	20.6	20.6	26.0	20.0
2013	18.7	24.0	24.0	23.4
2014	13.6	23.8	23.8	23.2
2015	11.1	21.1	21.1	20.5
2016	3.4	22.9	22.9	22.3
2017	1.1	20.1	20.1	19.5

FPL's need for additional capacity to meet rising electricity demands cannot be satisfied with additional purchased power from renewable generation. Additional DSM programs and renewables are not capable of deferring the need for the additional capacity. Renewable generation opportunities as well as DSM programs will be addressed below.

As discussed above, the conversion of the Riviera and Cape Canaveral units would add approximately 1,069 MW of incremental capacity to FPL's system. FPL's base case plan would add new combined-cycle generation in the years 2013, 2014, and 2016 to maintain a 20 percent reserve margin. If a 15 percent reserve margin planning criterion was assumed, FPL's initial reliability need could be delayed until 2014. Under different circumstances, FPL would not file a petition for a determination of need until sometime in 2010. The decision to convert the Rivera

generating unit is driven by unique economic opportunities and site-specific circumstances. After the addition of WCEC 3 in 2011, FPL's reserve margin will be approximately 27.9 percent. The construction of WCEC 3 in 2011 will provide adequate generating capacity to allow the existing Riviera generating unit to be removed from service during the conversion period without adversely impacting system reliability. When the Riviera and Cape Canaveral units are removed from service, FPL's reserve margin would drop to approximately 21.7 percent in the year 2011. If WCEC 3 were not added in 2011, and FPL continued to pursue the conversions of the Cape Canaveral and Riviera units, FPL's reserve margin would drop below 20 percent beginning in 2011 and beyond. The decision to convert the existing Riviera and Cape Canaveral units is more cost-effective than FPL's base case plan of adding new greenfield generation in 2013 and 2014.

We find that there is a need for the WCEC 3 project and the conversion of the Riviera plant and the Cape Canaveral plant, taking into account the need for electric system reliability and integrity, as this criterion is used in Section 403.519, F.S. The evidence shows that FPL will have a need for approximately 4,844 MW of additional capacity beginning in the 2011 through 2017 period. FPL performed a sensitivity analysis using updated population projections from the University of Florida's BEBR, dated February 2008. That analysis revealed that there would still be significant cost savings and other benefits realized with lower customer growth. FPL has demonstrated a reliability need in the summer of 2013 based on maintaining a 20 percent reserve margin planning criterion. The construction of WCEC 3 in 2011 will provide adequate generating capacity to allow for the conversions of the existing Cape Canaveral and Riviera generating units and will not adversely impact system reliability.

Need for Adequate Electricity at a Reasonable Cost

FPL contends that constructing WCEC 3 in 2011 will take advantage of construction cost efficiencies and provide more cost certainty than building a unit at a greenfield site at a later time. Moreover, adding WCEC 3 in 2011 will save customers $137 to $735 million CPVRR compared to the other available self-build alternatives.

The total installed cost estimate for WCEC 3 is $864.7 million. FPL believes that the costs of WCEC 3 are reasonable and represent the most cost-effective option available. Compared to FPL's other self-build alternatives, FPL's original analysis revealed that the resource plan that included WCEC 3 in 2011 will save customers from $137 million to $460 million CPVRR. A later analysis was conducted using updated fuel and environmental cost forecasts. The results of that analysis depict savings increasing from $460 million CPVRR to $735 million CPVRR by the year 2040. The conversions will add approximately $457 million in additional savings for FPL's ratepayers.

We find that FPL's fuel price forecasts are reasonable for purposes of evaluating its expansion and conversion plans. Although FPL did not compare its fuel forecasts to published forecasts, FPL represents that its forecasts are based on recognized, independent sources of forecast information. We note that, for natural gas, FPL used a real escalation rate – 1.14 percent for WCEC Unit 3 and 2.0 percent for the updated conversion forecasts – based on the average annual escalation from 2020 to 2030 from EIA's Annual Energy Outlook February 2007 price forecast. FPL states the escalation rates are "industry-accepted." FPL further states that the

"fuel price forecasts reflect the projected supply, demand, and price for fuel oil, natural gas, coal, and petroleum coke, as well as the transportation of these fuels to the existing and proposed sites." According to witness Stubblefield, FPL is confident that there is enough natural gas to supply WCEC 3 and the conversion projects during their lifetimes.

Financial Assumptions

FPL's analysis for WCEC 3 assumes an overall cost of capital of 8.40 percent with the federal manufacturer's tax credit and 8.30 percent without the credit. A different discount rate was used for generation-related capital costs because the application of the federal production tax credit for new generating units results in a different effective tax rate for generation-related capital costs compared to other capital costs. These rates of return are based on a capital structure consisting of 55.8 percent equity at a cost rate of 11.75 percent and 44.2 percent debt at a cost rate of 6.43 percent. FPL applied the then current Allowance for Funds Used During Construction (AFUDC) rate of 7.42 percent. FPL used several of the same financial and economic assumptions for WCEC 3, such as the 2.50 percent escalation rate and the capital structure, that were used in the Company's need determination filings for capacity uprates at its four existing nuclear units approved in Order No. PSC-08-0021-FOF-EI[1] and the Turkey Point Units 6 and 7 approved in Order No. PSC-08-0237-FOF-EI.[2] There was no evidence presented in the record that disputes the reasonableness of FPL's financial assumptions. Based on this review, we find that the financial assumptions used for this evaluation are reasonable.

Generation Cost Estimates

The total cost of the proposed WCEC 3 is estimated at $864.7 million and will provide 1,219 MW of capacity. The Riviera conversion total cost is estimated at $1.3 billion, while the Cape Canaveral conversion total cost is estimated at $1.1 billion. The estimated total installed cost for WCEC 3 is $709/kilowatt. This cost estimate includes the benefits associated with utilizing an existing site and infrastructure. FPL has demonstrated that the cost of WCEC 3 is less than the cost of a new greenfield combined-cycle generating unit, which is estimated to be $1,076/kW. West County Units 1 & 2 are currently under construction and FPL would be able to use those construction crews on the WCEC 3 project. If the decision to build any new generation is delayed until 2013, the WCEC site may not be feasible for expansion due to cooling water costs and availability, as well as increased costs due to the need to re-mobilize construction crews.

The estimated total installed cost for the conversion of the Cape Canaveral and Riviera plants are $914/kw and $1,057/kw. The Riviera and Cape Canaveral Conversions will take

[1] Order No. PSC-08-0021-FOF-EI, issued January 7, 2008, in Docket No. 070602-EI, In re: Petition for determination of need for expansion of Turkey Point and St. Lucie nuclear power plants, for exemption from Bid Rule 25-22.082, F.A.C., and for cost recovery through the Commission's Nuclear Power Plant Cost Recovery Rule, Rule 25-6.0423, F.A.C.

[2] Order No. PSC-08-0237-FOF-EI, issued April 11, 2008, in Docket No. 070650-EI, In re: Petition to determine need for Turkey Point Nuclear Units 6 and 7 electrical power plant, by Florida Power & Light Company.

advantage of existing sites and infrastructure, with less cost uncertainty than building units at a greenfield site. FPL's analyses show that the resource plan with the Riviera and Cape Canaveral Conversions is projected to save customers $457 million CPVRR.

Fuel Forecasts

The natural gas and oil price forecasts through 2020 are based on the forward curve for commodity prices and projections from PIRA Energy Group. After 2020, the prices are escalated for real price changes based on the Energy Information Administration's (EIA) long-term price forecast. Transportation costs are added to the commodity prices to obtain delivered prices. For WCEC 3, FPL's assumed gas transportation cost for evaluating the RFP responses is $1.165 per MMBtu. For the conversion projects, FPL's assumed transportation cost for evaluation purposes is $1.40 per MMBtu. For solid fuel, FPL used commodity price forecasts from JD Energy and added in marine and rail transportation costs and terminal charges. All fuel prices are converted to nominal dollars using the 2.5 percent annual escalation rate.

Environmental Costs

In preparing its economic analysis of WCEC Unit 3, FPL included a reasonable level of environmental compliance costs. The allowance costs used by FPL for WCEC Unit 3 were based on ICF International's report titled "U.S. Emission & Fuel Market Outlook, 2006 edition" (ICF's 2006 Report), as well as its updated version, "U.S. Emission & Fuel Market Outlook, 2007 edition" (ICF's 2007 Report). In particular, the mid-range ICF compliance cost forecast, namely ENV II, was used. This forecast is the same as what we recently reviewed and approved in Order No. PSC-08-0237-FOF-EI, for FPL's Turkey Point Units 6 & 7. The allocations of SO_2, NO_x, and H_g allowances were based on the Clean Air Interstate Rule (CAIR) and Clean Air Mercury Rule (CAMR) rules developed by the Environmental Protection Agency. For CO_2, it was assumed that allowances would be purchased under a cap-and-trade system similar to an auction. Apart from the consideration of air emission costs, FPL has also included all equipment and associated operating costs required to comply with current environmental laws and regulations in the economic analysis of the WCEC 3 resource plan.

The same methodology mentioned in the previous paragraph regarding allowance costs was used to evaluate the economic benefit of its conversion plans. FPL used its medium-level natural gas cost forecast and its medium-level CO_2 compliance cost forecast (ENV II). FPL conducted a sensitivity economic analysis that used both the original and the updated high CO_2 compliance cost forecasts provided in ICF's 2006 Report and ICF's 2007 Report. We find that FPL has included a reasonable level of environmental compliance costs in its economic analysis of WCEC 3 and the conversion options of the Cape Canaveral and Riviera plants.

Water Costs

Reclaimed water will be the primary source of cooling and process water for WCEC Unit 3. FPL's witness Gnecco testified that the East Coast Regional Water Reclamation Facility of the Palm Beach County Water Utilities will provide reclaimed water to the WCEC site. Witness

Gnecco asserted that the East Coast Regional Water Reclamation Facility is a very reliable source of reclaimed water. The capital and Operation and Maintenance costs associated with construction, operation, and maintenance of the treatment facility and pipeline will be included in the County's monthly water charge to FPL. Costs associated with the monthly water fee have been included in the economic analysis of this case.

The conversion of the Cape Canaveral and Riviera plants will not use additional water sources or exceed existing water permit limits. Water from the Indian River Lagoon (Intracoastal Waterway) is and will continue to be used for once-through cooling water for the Cape Canaveral conversion. After the conversion, the amount of cooling water required will not exceed current permit limits. In the Riviera conversion, water from Lake Worth (Intra-costal waterway) is and will continue to be used for once-through cooling water for the Riviera conversion. After the conversion, the amount of cooling water required will not exceed current permit limits.

We find that there is a need for the construction of the WCEC 3 plant and the conversion of the Riviera plant and the Cape Canaveral plant, taking into account the need for adequate electricity at a reasonable cost, as this criterion is used in Section 403.519, F.S. The cost information presented in the record demonstrates that the construction of WCEC 3 and the conversions of the Cape Canaveral and Riviera units will not only provide adequate electricity, but also ensure the most reasonable costs to ratepayers.

Need for Fuel Diversity and Supply Reliability

We review the need for fuel diversity in our evaluation of utility generation expansion plans as part of our annual Ten-Year Site Plan review process. In 2006, the Florida Legislature amended Section 403.519, F.S., to require that we specifically consider the need for fuel diversity on a utility's system when evaluating a petition for need.

The decision to build WCEC 3 is primarily driven by economic and environmental benefits. In addition, building WCEC 3 in 2011 will allow for the conversion of FPL's inefficient, 1960s-era Cape Canaveral and Riviera plants to highly efficient state of the art combined cycle units. Coal and nuclear generation have longer construction times and would not be able to provide the additional capacity in the time needed. Therefore, FPL's only available option for base load capacity is natural gas.

At the hearing, the question was raised whether there is an adequate supply of natural gas available to provide reliable service to customers. FPL asserts that there will be an adequate supply of natural gas available to fuel WCEC 3 for the life of the unit. FPL states that it was provided with projected natural gas supply and demand balance availability from the PIRA Energy Group. FPL asserts that those projections demonstrate the adequacy of natural gas supply.

We reviewed a document from the PIRA Energy Group, which contained information regarding the natural gas supply and demand balance. We agree with FPL that an adequate supply of natural gas will be available for the proposed WCEC and conversion projects.

FPL plans to supply WCEC 3 through existing capacity arrangements with the Gulfstream Natural Gas System's (Gulfstream) pipeline that now serves FPL's Martin and Manatee plants. Florida Gas Transmission will expand its pipeline system to begin serving the Martin and Manatee plants. For the conversions, FPL is in discussions with multiple pipeline companies regarding supply of gas to the Canaveral and Riviera plants. FPL expects to have firm transportation arrangements for these plants by late 2008.

FPL's generation mix is still predominately natural gas. The addition of WCEC 3 in 2011 will improve FPL's overall fuel efficiency by approximately 1.4 percent, resulting in a reduction of total oil and gas consumption by approximately 29 million MMBtu through 2017 compared to FPL's base case. Compared to the resource plan that includes WCEC 3 in 2011 without conversions, the addition of the conversions will improve FPL's system average heat rate by about 1.1 percent. The construction of WCEC 3 and the conversion of the Cape Canaveral and Riviera units will not change FPL's generation fuel mix as a percentage of net energy for load. Compared to FPL's base plan, adding WCEC 3 in 2011 followed by the conversion projects is projected to reduce total oil and gas consumption by approximately 87.8 million MMBtu through 2017 and is summarized in the table below:

Total Oil and Gas Usage		
Plan	Usage to 2017 (MMBtu x 1,000	2017 Differential from Base Case (MMBtu x 1,000)
Base Case	5,655,313	0
WCEC 3 w/o Conversions	5,625,803	-29,510
WCEC 3 w/ Conversions	5,567,464	-87,849

As discussed above, the conversions will improve FPL's overall fuel efficiency by approximately 1.1 percent. The conversion projects are projected to result in a reduction of total oil and gas consumption by approximately 58.3 million MMBtu through 2017, compared to a plan that adds WCEC 3 in 2011 followed by a greenfield generating unit in 2014. Compared to FPL's base plan, adding WCEC 3 in 2011 followed by the conversion projects is projected to reduce total oil and gas consumption by approximately 87.8 million MMBtu through 2017.

We find that there is a need for the WCEC 3 plant and the conversion of the Riviera plant and the Cape Canaveral plant, taking into account the need for fuel diversity and supply reliability, as this criterion is used in Section 403.519, F.S. FPL has demonstrated that the addition of WCEC 3 and the conversions of the Cape Canaveral and Riviera plants will result in

a reduction of dependence on natural gas and fuel oil, because it will reduce FPL's total oil and gas consumption by approximately 87.8 million MMBtu through 2017. Building coal or nuclear generation by 2013 is not feasible because of the construction and permitting lead times for those types of generation. The addition of WCEC 3 and the conversions will also lead to an overall increase in system efficiency of 1.4 percent for WCEC 3 and 1.1 percent for the conversions for an overall system efficiency of 2.5 percent.

No Mitigating Renewable Energy Sources and Technologies or Conservation Measures

FPL contends that its forecasted need already accounts for all the cost-effective DSM identified through 2014 and projected through 2017, and available renewable resources, including the planned renewal of its existing firm renewable capacity purchase contracts and 126 MW of new renewable firm capacity.

In assessing the availability of DSM to meet its energy needs, FPL used the same assumptions that were used in the recently approved Turkey Point nuclear proceedings.[3] An estimated 5,513,458 residential customers have participated in FPL's DSM programs through 2007, along with approximately 178,203 commercial customers. In 2007, 165,575 residential DSM audits were performed by FPL. For commercial customers, 11,755 DSM audits were performed by FPL. FPL described its recent and continuing efforts to educate customers on the benefits of energy conservation via DSM programs, including its outreach and participation at events attended by FPL customers. Accounting for reserve margin requirements, FPL's DSM efforts through 2007 have eliminated the need to construct the equivalent of approximately 12 new 400 MW generating units. FPL's initial projection indicates a savings of 3,030 MW of summer demand from the year 2008 through the year 2017. This represents an expected increase in DSM savings of 1,122 MW from 2008 through 2017. FPL evaluates DSM programs based on performance against the rate impact measure and participant tests, and screens out measures that would have a payback period of less than two years for consumers.[4]

In April of 2007, FPL issued an RFP for renewable generation extending to 2015. The responding bids equated to 126 MW of capacity. The amount of capacity that resulted from the bids of the April 2007 RFP would not be able to mitigate the need for the proposed WCEC 3 or conversion projects. No contracts resulted from the RFP due to FPL's determination that the costs were excessive. In 2008, FPL again issued an RFP for renewable generation, receiving proposals for 262 MW. The deadline for the proposals was less than two weeks prior to the date of the hearing in this docket, which allowed insufficient time for FPL to evaluate the responses. However, even if all contracts were signed, it would still not defer the need for WCEC 3 and the Riviera and Cape Canaveral conversion projects.

Witness Sim testified that if the $3.26 billion of installed capital dollars that the proposed WCEC 3 and Conversion units are projected to cost were applied to a hypothetical installation of

[3] Order No. PSC-08-0237-FOF-EI, issued April 11, 2008, in Docket No. 070650-EI, In re: Petition to determine need for Turkey Point Nuclear Units 6 and 7 electrical power plant, by Florida Power & Light Company.
[4] Order No. PSC-04-0763-PAA-EG, issued August 9, 2004, in Docket No. 040029-EG, In re: Petition for approval of numeric conservation goals by Florida Power & Light Company.

renewables, that dollar amount would result in an estimated 90 MW of incremental firm summer capacity from photovoltaics, or 220 MW of summer demand reduction from solar water heaters. Further, FPL indicated that the photovoltaic capacity purchased would require approximately 2,800 acres of land to install, whereas the proposed WCEC 3 and the two conversions would be constructed on land already dedicated to power plants, and thus would not require the purchase of additional land. The hypothetical photovoltaic facility would serve an estimated 56,000 customers compared to Witness Sim's estimation that the three generating units would serve approximately 2 million customers. The customers to be served by the hypothetical solar water heaters would total approximately 1.1 million; however, those customers would have only those costs offset that relate to water heating.

FPL has proposed to install renewable resources in addition to the proposed plants. FPL identified three planned commercial scale solar projects: (1) a 75 MW solar thermal installation at FPL's Martin facility on 600 acres of land to be completed by 2010; (2) a 25 MW photovoltaic installation on FPL property on 180 acres in DeSoto County to be completed by 2010; and (3) a 10 MW photovoltaic installation at NASA's Kennedy Space Center in Brevard County on 60 acres of land. FPL also plans to install up to six wind turbine generators on FPL's property on Hutchinson Island in St. Lucie County. Local, state, and federal permits and approvals have not been attained, which could affect the estimated in-service date of 2010. The St. Lucie Wind Project would total an estimated 13.8 MW on approximately 20 acres.

We find that there are no additional renewable energy sources and technologies or cost-effective conservation measures available that might mitigate FPL's need for the proposed WCEC 3 in 2011 and conversions of the Cape Canaveral and Riviera plants as this criterion is used in Section 403.519(4), F.S. FPL states that while it will continue to pursue renewable resource opportunities, both purchased and self-built, DSM and renewable resources will not be sufficient to meet FPL's future need for more than 4,800 MWs of new generating capacity through 2017.

Most Cost-Effective Source of Power

FPL contends that adding WCEC 3 in 2011 is more cost-effective than its other self-build options, and more cost-effective than all proposals received in response to its 2007 RFP. Adding WCEC 3 in 2011 will result in customer savings of about $460 million CPVRR compared to adding a similar unit at a greenfield site in 2013. If the conversion projects were added to the plan of the proposed WCEC 3 in 2011, FPL asserts that its customers would experience even greater cost savings. FPL states that if the environmental and fuel costs were higher, the economic benefits to customers would be greater.

The evidence in these proceedings demonstrates that the addition of WCEC 3 and the conversions is the most cost-effective optimization of FPL's required capacity additions. In order to optimize the base plan, FPL has strategically used the proposed WCEC 3 in 2011 followed by the conversions to reduce the amounts of fuel used and subsequent emission reductions to bring economic savings to its ratepayers.

FPL's fuel mix is still predominately natural gas. However, the addition of WCEC 3 and the conversions will improve FPL's overall fuel efficiency, resulting in a reduction of total oil and gas consumption by its customers. This in turn would lead to additional economic savings by displacing less efficient units with cleaner, more efficient generating units. In addition, WCEC 3 in 2011 would lead to a reduction of approximately 29,510 million MMBtu of oil and natural gas usage by year 2017. Including the conversions with WCEC 3 in 2011 would lead to additional savings and a reduction of approximately 87,849 million MMBtu of oil and natural gas over the same time period.

Compared to the base case, the addition of WCEC 3 in 2011 will reduce the overall emissions on FPL's system. The reduction in emissions will be even greater when including the conversions with the addition of WCEC 3 in 2011. Witness Silva testified that system fuel efficiency improvement achieved due to the conversion projects is the only way that FPL can significantly reduce CO_2 emissions until the new nuclear generating units are added to FPL's system in 2018. Witness Silva further testified that the conversions will also result in reduced emissions of SO_2 and NO_x. FPL states that the proposed WCEC 3 and the conversions will contribute significantly toward achieving the CO_2 emission targets reflected in the Governor's Executive Order 07-127. The following chart shows the emissions reductions associated with the proposed projects. The chart also reveals that, of the three gases emitted, NO_x, not CO_2, will have the greatest percentage emission savings:

Projected Emissions Analysis 2010-2017									
Plan	SO_2 (tons)	Diff. from Base	SO_2 % Diff.	NO_x (tons)	Diff. from Base	NO_x % Diff.	CO_2 (million tons)	Diff. From Base	CO_2 % Diff.
Base Case	453,874	0	0%	165,901	0	0%	493	0	0
WCEC 3 w/o Conv.	432,805	-21,069	-4%	154,346	-11,555	-7%	490	-3	0%
WCEC 3 w/Conv.	409,576	-44,298	-10%	134,713	-31,188	-23%	485	-8	-1%

FPL's fuel and environmental forecasts for WCEC 3 were based on 2007 forecasts. Those forecasts revealed that the addition of WCEC 3 in 2011 would result in customer savings of about $460 million CPVRR compared to adding a similar unit at a Greenfield site in 2013. FPL provided updated 2008 fuel and environmental cost estimates for the proposed WCEC 3 in 2011 using the updated March 13, 2008, forecasts. The results demonstrated that projected savings for WCEC 3 in 2011 increased to $735 million CPVRR. FPL's fuel and environmental forecasts for the conversion projects used the March 13, 2008 forecasts. The results revealed that the conversions alone would generate savings of $457 CPVRR for FPL's ratepayers. As a result of the new forecasts, the package containing WCEC 3 and the conversions would bring savings of approximately $1.2 billion CPVRR to FPL's ratepayers, compared to the base case.

The following chart addresses the financial assumptions that we analyzed regarding FPL's proposal. The chart shows that the savings to FPL's ratepayers will begin in the near term (2017) and become even greater through the projected life of the units (2040):

Projected Financial Assumptions thru 2040				
Plan	CPVRR (millions thru 2017)	Difference from Base (millions thru 2017)	CPVRR (millions thru 2040)	Difference from Base (millions thru 2040)
Base Case	$54,194	$0	$168,105	$0
WCEC 3 w/o Conv.	$53,887	$-307	$167,370	$-735
WCEC 3 w/Conv.	$53,771	$-423	$166,913	$-1,192

The construction of WCEC 3 and the conversion of the Riviera and Cape Canaveral plants are the most cost-effective alternatives available, as this criterion is used in Section 403.519, F.S. As discussed above, FPL's economic analyses utilized a reasonable range of fuel and environmental costs. As part of the discovery process, FPL provided an updated analysis based upon 2008 fuel and environmental costs estimates. When compared to adding greenfield units in 2013 and 2014, the updated analyses indicate that adding WCEC 3 in 2011 followed by the conversion projects would result in a reduction of approximately 44,298 tons of SO_2 (9.8 percent); 31,188 tons of NO_x (18.8 percent); and 8 million tons of CO_2 (1.6 percent) by the year 2017. In addition, the updated analyses indicate that adding WCEC 3 in 2011 followed by the conversion projects would save approximately 87,849 million MMBtu of oil and natural gas over the same time period. These environmental and fuel reduction benefits continue into the future and combine to result in an estimated savings to FPL's customers of approximately $1.2 billion in present value savings by the year 2040. Compared to the base case and WCEC 3 without conversions plans, the analyses show that the proposed WCEC 3 in 2011 with conversions is the most cost-effective alternative available to FPL and its ratepayers. In fact, updated environmental and fuel cost forecasts revealed even greater savings for FPL's ratepayers. Together, these three projects will result in the greatest savings for FPL's ratepayers.

Need for West County Energy Center Unit 3 and the Conversions of Riviera and Cape Canaveral

FPL asserts that the evidence presented demonstrated that WCEC 3 in 2011, as well as the proposed conversions, satisfies all criteria listed in Section 403.519, F.S. FPL further contends that when compared to other self-build alternatives, WCEC 3 in 2011 without the conversions is the most cost-effective choice available by $137 million to $735 million CPVRR. When combined, the proposed WCEC 3 and the conversions are estimated to save FPL's ratepayers approximately $1.2 billion by the year 2040. Furthermore, FPL argues that if the company were to delay the addition of WCEC 3 beyond 2011, it would not be able to move forward with its conversions of the Cape Canaveral and Riviera plants, thereby missing out on the benefits associated with those projects.

We find that the evidence in the record demonstrates that, based on maintaining a 20 percent reserve margin planning criterion, FPL will have a reliability need for additional capacity

in the summer of 2013. If WCEC 3 is built in 2011, FPL can remove the Cape Canaveral and Riviera plants from operation in 2010. FPL can then convert the steam electric generating units, which have been in operation since the 1960s, to high-efficiency combined cycle power plants, and return them to operation in 2013 and 2014. WCEC 3 is projected to be approximately $735 million less expensive than FPL's base case expansion plan. The acceleration of WCEC 3 allows for the conversion of Cape Canaveral and Riviera plants, which are projected to increase savings to FPL ratepayers of approximately $1.2 billion.

Annual Reporting of Costs

FPL has agreed that it will report, on an annual basis, budgeted and actual costs compared to the estimated total in-service cost of the proposed WCEC 3, Cape Canaveral, and Riviera units. The report shall be submitted to the Director of the Division of Economic Regulation. In addition, FPL also agreed that if a different combustion turbine design from the one presented in these proceedings is chosen, FPL will report to us regarding the comparative cost advantage of the alternate design chosen. Such a selection would only be made if the projected cost to FPL's customers would be lower as a result of the use of an alternate design.

CONCLUSION

FPL has demonstrated that its plan to build WCEC 3 and convert its existing Cape Canaveral and Riviera plants meets all of the requirements of Section 403.519, F.S. The new and converted units will provide nearly 2,300 MW of capacity needed through 2017, and ensure a 20 percent reserve margin. The assessments of various combinations of timings and generating resources used reasonable assumptions in demonstrating the proposed projects would provide adequate electricity at reasonable cost and, in fact, were the most cost-effective alternative. FPL demonstrated that use of all identified cost-effective conservation and reasonably available renewable generation will not provide the capacity or demand reduction necessary to mitigate the need for these projects.

Therefore, we approve the three need determinations and exemption from the Bid Rule for the two conversions. FPL shall report annually to the Director of Economic Regulation the budgeted and actual costs compared to the estimated total in-service cost of the proposed WCEC 3, Cape Canaveral Conversion and Riviera Conversion.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that the three petitions for determination of need, filed by Florida Power & Light Company, are hereby granted as set forth herein. It is further

ORDERED that Florida Power & Light Company is granted an exemption from Rule 25-22.082, F.A.C., for the conversions of the Riviera and Cape Canaveral Plants. It is further

ORDERED that Florida Power & Light Company shall report, on an annual basis, budgeted and actual costs compared to the estimated total in-service cost of the West County Energy Center Unit 3, Cape Canaveral, and Riviera units, as set forth herein. It is further

ORDERED that these dockets shall be closed when the time for filing an appeal has run.

By ORDER of the Florida Public Service Commission this 12th day of September, 2008.

ANN COLE
Commission Clerk

(SEAL)

MCB/CMK

DISSENT BY: COMMISSIONER SKOP

COMMISSIONER SKOP, dissenting:

I respectfully dissent with the majority view on Issue 9 and Issue 17, to the extent that I am not comfortable waiving Section (15) of Rule 25-22.082 (Bid Rule), Florida Administrative Code for the two conversion projects.[5]

In relevant part, Section (15) of the Bid Rule requires that:

> "If the public utility selects a self-build option, costs in addition to those identified in the need determination proceeding shall not be recoverable unless the utility can demonstrate that such costs were prudently incurred and due to extraordinary circumstances."

From my perspective, it makes no sense to waive the requirement of a Commission rule that is directly on point, and which was clearly intended to protect consumers from cost overruns.[6]

[5] FPL remains bound to the "self-build option" requirement of Rule 25-22.082(15) for the WEC-3 unit.

[6] If changes to the existing rule are warranted, I would respectfully suggest that the Commission would be better served by revising the rule through the rulemaking process.

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.569(1), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Office of Commission Clerk, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within five (5) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water and/or wastewater utility by filing a notice of appeal with the Office of Commission Clerk, and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900(a), Florida Rules of Appellate Procedure.