



MESSER CAPARELLO & SELF, P.A.

Attorneys At Law
www.lawfla.com

June 21, 2010

RECEIVED-PPSC
10 JUN 21 PM 2:49
COMMISSION CLERK

BY HAND DELIVERY

Ms. Ann Cole, Director
Commission Clerk and Administrative Services
Room 110, Easley Building
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Re: Docket No. 100158-EG

Dear Ms. Cole:

Enclosed for filing on behalf of Florida Public Utilities Company are an original and five copies of Florida Public Utilities Company's Responses to Staff's Second Data Request in the above referenced docket.

Please confirm receipt of these documents by stamping the enclosed extra copy of this letter with the date and time.

Thank you for your assistance.

Sincerely,

Handwritten signature of Norman H. Horton, Jr.

Norman H. Horton, Jr.

- COM NHH/amb
Enclosure
APA cc: Mr. Marc Schneidermann
ECR Parties of Record
GCL
RAD 4
SSC
ADM
OPC
CLK

DOCUMENT NUMBER-DATE

05151 JUN 21 09

**FLORIDA PUBLIC UTILITIES COMPANY'S
RESPONSE TO STAFF'S SECOND DATA REQUEST**

Re: Docket No. 100158-EG - Petition of approval of demand-side management plan of Florida Public Utilities Company.

1. In each program listed below, the estimated savings were adopted from another Florida utility. For each of the following programs, please provide detailed information regarding how the values for the stated savings were calculated. In addition, please clearly show how the other utilities' programs were utilized in the development of FPUC's estimated savings.

a. For the Residential Energy Survey Program, in Section 2.1.3, Benefits and Costs, the plan states that estimates for benefits were adopted from Progress Energy Florida's (PEF) Home Energy Check program. In addition, the plan states that savings from the installation of 10 compact fluorescent bulbs are included. The stated per customer savings are 0.451 kW of demand in summer and winter, and 1,229 kWh of energy annually.

The savings attributed to the energy audit portion of FPUC's residential energy survey program were derived from Progress Energy Florida's 2008 DSM annual report for their Home Energy Check Program. The summer and winter reductions per customer in PEF's report were estimated to be 0.066 kW and the energy savings per customer were estimated to be 217 kWh.

It is assumed that the auditor will install/provide 10 compact fluorescent bulbs to the customer. It is assumed that 23 watt compact fluorescent bulbs are used to replace 100 watt equivalent incandescent bulbs. Fifty percent of the demand savings are applied to the summer and winter peak and the bulbs are assumed to be in operation 15 percent of the time. This results in a 0.385 kW demand reduction in the summer and winter, and a 1,012 kWh annual energy reduction for the CFL portion of the program. The total savings is thus 0.451 kW in summer and winter and 1,229 kWh of energy annually.

b. For the Residential Heating & Cooling Efficiency Upgrade Program, in Section 2.2.3, Benefits and Costs, the plan states that estimates for average benefits were developed from Energy Star data and Orlando Utilities Commission Residential Efficient Electric Heat Pump Rebate program. The stated per customer savings are 1.86 kW of demand in summer, 1.02 kW of demand in winter, and 3,778 kWh of energy annually.

FPUC representatives indicated that customers participating in this program will likely be replacing equipment with 9 or 10 SEER ratings. For estimation purposes, it has been assumed that customers will replace 10 SEER equipment with 14 SEER equipment. Based on the first Energy Star calculation sheet, replacing a 10 SEER heat pump with a 14 SEER heat pump results in 4,555 kWh of annual energy savings.

As shown in the second Energy Star calculation sheet, replacing a 10 SEER air conditioner with a 14 SEER air conditioner results in 3,000 kWh of annual energy savings. It is assumed that 50 percent of participants will participate with heat pumps.

DOCUMENT NUMBER: 100158-EG
0515 | JUN 21 09
FPUC-COMPLIANCE

while the other 50 percent will participate with air conditioners. The average of the annual energy savings is 3,778 kWh.

OUC's 2010 Annual Conservation Report indicates that efficient electric heat pumps result in 0.42 kW and 0.23 kW demand reduction at the meter for summer and winter, respectively. OUC's report also indicated 854 kWh annual energy savings. In calculating FPUC's demand savings, the ratio of 3,778 kWh and 854 kWh was applied to OUC's summer and winter demand reductions to achieve the reductions of 1.86 kW in the summer and 1.02 kW in the winter.

Life Cycle Cost Estimate for 1 ENERGY STAR Qualified Air Source Heat Pump(s)

This simple energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors. For a more sophisticated estimate, use the ENERGY STAR HVAC Investor software or a bin-hour tool.

Enter your own values in the gray boxes or use our default values.

Number of units	<input style="width: 80%;" type="text" value="1"/>	
Electric Rate (\$/kWh)	<input style="width: 80%;" type="text" value="\$0.100"/>	
Choose your city from the drop-down menu	City <input style="width: 80%;" type="text" value="Ft. Jacksonville"/>	
	ENERGY STAR Qualified Unit	Conventional Unit
Initial Cost per Unit (estimated retail price)	<input style="width: 80%;" type="text" value="\$4,000"/>	<input style="width: 80%;" type="text" value="\$2,700"/>
Heating Seasonal Performance Factor (HSPF) rating	<input style="width: 80%;" type="text" value="8.0"/>	<input style="width: 80%;" type="text" value="6.8"/>
Seasonal Energy Efficiency Ratio (SEER) rating	<input style="width: 80%;" type="text" value="14"/>	<input style="width: 80%;" type="text" value="10"/>
Heat Pump Capacity (Btu/hr)	<input style="width: 80%;" type="text" value="36,000"/>	<input style="width: 80%;" type="text" value="36,000"/>
Use with programmable thermostat (Yes/No)	<input style="width: 80%;" type="text" value="Yes"/>	<input style="width: 80%;" type="text" value="No"/>

Annual and Life Cycle Costs and Savings for 1 Air Source Heat Pump(s)

	1 ENERGY STAR Qualified Units	1 Conventional Units	Savings with ENERGY STAR
Annual Operating Costs*			
Energy cost	\$836	\$1,291	\$455
Maintenance cost	\$0	\$0	\$0
Total	\$836	\$1,291	\$455
Life Cycle Costs*			
Operating costs (energy and maintenance)	\$7,847	\$12,116	\$4,269
Energy costs	\$7,847	\$12,116	\$4,269
Energy consumption (kWh)	100,336	154,915	54,579
Maintenance costs	\$0	\$0	\$0
Purchase price for 1 unit(s)	\$4,000	\$2,700	-\$1,300
Total	\$11,847	\$14,816	\$2,969
		Simple payback of initial additional cost (years) [†]	2.9

* Annual costs exclude the initial purchase price. All costs, except initial cost, are discounted over the products' lifetime using a real discount rate of 4%. See "Assumptions" to change factors including the discount rate.

† A simple payback period of zero years means that the payback is immediate.

Summary of Benefits for 1 Air Source Heat Pump(s)

Initial cost difference	\$1,300
Life cycle savings	\$4,269
Net life cycle savings (life cycle savings - additional cost)	\$2,969
Simple payback of additional cost (years)	2.9
Life cycle energy saved (kWh)	54,579
Life cycle air pollution reduction (lbs of CO ₂)	87,326
Air pollution reduction equivalence (number of cars removed from the road for a year)	8
Air pollution reduction equivalence (acres of forest)	11
Savings as a percent of retail price	74%

Life Cycle Cost Estimate for 1 ENERGY STAR Qualified Central Air Conditioner(s)

This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.

Enter your own values in the gray boxes or use our default values.

Choose your city from the menu at right ➔

FL Jacksonville ▼

Enter your own values in the gray boxes or use our default values.

Number of units	1	
Electric Rate (\$/kWh)	\$0.100	
ENERGY STAR Qualified Unit		
Initial Cost per Unit (estimated retail price with installation)**	\$3,413	\$2,857
Seasonal Energy Efficiency Ratio (SEER) rating	14.0	10.0
Cooling Capacity of Air Conditioner (BTU/hr)	3 ton ▼	3 ton ▼
Use with programmable Thermostat (Yes/No)	Yes ▼	No ▼

Annual and Life Cycle Costs and Savings for 1 Central Air Conditioner(s)

	1 ENERGY STAR Qualified Units	1 Conventional Units	Savings with ENERGY STAR
Annual Operating Costs*			
Energy cost	\$451	\$751	\$300
Maintenance cost	\$0	\$0	\$0
Total	\$451	\$751	\$300
Life Cycle Costs*			
Operating costs (energy and maintenance)	\$4,759	\$7,932	\$3,173
Energy costs	\$4,759	\$7,932	\$3,173
Maintenance costs	\$0	\$0	\$0
Purchase price for 1 unit(s)	\$3,413	\$2,857	\$556
Total	\$8,172	\$10,789	\$2,617
			Simple payback of initial additional cost (years) ¹ 1.9

* Annual costs exclude the initial purchase price. All costs, except initial cost, are distributed over the products' lifetime using a real discount rate of 4%. See "Assumptions" to change factors including the discount rate.

¹ A simple payback period of zero years means that the payback is immediate.

Summary of Benefits for 1 Central Air Conditioner(s)

Initial cost difference	\$556
Life cycle savings	\$3,173
Net life cycle savings (life cycle savings - additional cost)	\$2,617
Simple payback of additional cost (years)	1.9
Life cycle energy saved (kWh)	42,054
Life cycle air pollution reduction (lbs of CO ₂)	64,763
Air pollution reduction equivalence (number of cars removed from the road for a year)	5
Air pollution reduction equivalence (acres of forest)	7
Savings as a percent of retail price	77%

- c. **For the Residential Ceiling Insulation Upgrade Program, in Section 2.3.3, Benefits and Costs, the plan states that estimates for benefits were adopted from Gainesville Regional Utility's (GRU) Residential Insulation program. The stated per customer savings are 0.50 kW of demand in summer and winter, and 1,497 kWh of energy annually.**

Estimates of demand and energy savings for FPUC's Residential Ceiling Insulation Upgrade Program were gathered from GRU program savings as compiled by OUC. OUC's document indicated GRU savings of 0.50 kW of demand in the summer and winter and 1,497 kWh of annual energy saved from GRU's Residential Insulation Program.

- d. **For the Commercial Energy Survey Program, in Section 3.1.3, Benefits and Costs, the plan states that, "for purposes of evaluating performance against the PSC's goals, demand savings estimates are based on Orlando Utilities Commission's Commercial Energy Survey program," and include savings from installing 10 CFLs. The stated per customer savings are 0.534 kW of demand in summer and winter, and 1,861 kWh of energy annually.**

The savings attributed to the energy audit portion of FPUC's commercial energy survey program were derived from OUC's 2010 DSM plan for their commercial energy survey program. The summer and winter reductions per customer were estimated to be 0.149 kW and the energy savings per customer were estimated to be 849 kWh. It is assumed that the auditor will install/provide 10 compact fluorescent bulbs to the customer. It is assumed that 23 watt compact fluorescent bulbs are used to replace 100 watt equivalent incandescent bulbs. Fifty percent of the demand savings are applied to the summer and winter peak and the bulbs are assumed to be in operation 15 percent of the time. This results in a 0.385 demand reduction in the summer and winter, and a 1,012 kWh annual energy reduction for the CFL portion of the program. The total savings is thus 0.534 kW in summer and winter and 1,861 kWh of energy annually.

- e. **For the Commercial Indoor Efficient Lighting Rebate Program, in Section 3.2.3, Benefits and Costs, the plan states that "[e]stimated annual savings are...based on Florida Public Utilities Company actual demand savings and Florida Power & Light's estimated winter peak demand and load factor savings." The stated per customer savings are 3.20 kW of demand in summer, 2.08 kW of demand in winter, and 16,259 kWh of energy annually.**

In 2009, the average summer reduction among FPUC's actual customers participating in the Commercial Indoor Efficient Lighting Rebate Program was 3.2 kW. FPL's Business Efficient Lighting program estimates from their 2008 annual conservation report estimates a 0.65 kW savings in the winter at the meter for every 1 kW saved in the summer. FPL also estimated 5,041 kWh energy saved for every 1 kW summer reduction. The 5,041 kWh of energy saved divided by 8,760 kWh yields a load factor of approximately 58 percent. The 3.2 kW reduction multiplied by 8,760 hours

multiplied by the 0.58 load factor equals approximately 16,259 kWh of annual energy savings.

- f. **For the Commercial Heating & Cooling Efficiency Upgrade Program, in Section 3.3.3, Benefits and Costs, the plan states that “[e]stimates for average benefits were adopted from Florida Power & Light’s (FPL) HVAC Upgrade program.” The stated per customer savings are 1.86 kW of demand in summer, 1.02 kW of demand in winter, and 3,778 kWh of energy annually.**

The reference in FPUC’s 2010 Demand-Side Management Plan to Florida Power & Light’s (FPL) HVAC Upgrade program should be to Orlando Utilities Commission Residential Efficient Electric Heat Pump Program. Please see answer to 1b above. Assumptions are the same for residential and commercial.

- g. **For the Commercial Ceiling Insulation Upgrade Program, in Section 3.4.3, Benefits and Costs, the plan states that “[e]stimates for benefits were adopted from Gainesville Regional Utilities (GRU) Residential Insulation program. The stated per customer savings are 0.50 kW of demand in summer and winter, and 1,497 kWh of energy annually.**

Please see response to 1c above. Assumptions are the same for residential and commercial.

- h. **For the Commercial Window Film Installation Program, in Section 3.5.3, Benefits and Costs, the plan states that “[e]stimates for benefits were adopted from Tampa Electric Company’s (TECO) Solar Window Film program contained within the Commercial Building Envelope Improvement program.” The stated per customer savings are 0.84 kW of demand in summer, and 3,670 kWh of energy annually.**

FPUC adopted savings for its Commercial Window Film Installation program from TECO’s 2008 Annual Conservation Report. The report indicates that the Solar Window Film program results in 0.840 kW and 0.0 kW demand reduction per customer at the meter for summer and winter, respectively. The plan also indicates an annual energy reduction of 3,670 kWh.

- i. **For the Commercial Chiller Upgrade Program, in Section 3.6.3, Benefits and Costs, the plan states that “[e]stimates for benefits were adopted from TECO’s Commercial Chiller Upgrade program.” The stated per customer savings are 63.17 kW of demand in summer, 39.94 kW of demand in winter, and 216,545 kWh of energy annually.**

FPUC adopted savings for its Commercial Chiller Upgrade Program from TECO’s 2008 Annual Conservation Report. The report indicated that the Chiller Upgrade Program results in 63.17 kW and 39.94 kW demand reduction per customer at the meter for summer and winter, respectively. The plan also indicates an annual energy reduction of 216,545 kWh.

2. **For each of the Renewable Energy Programs (Solar Water Heating and Solar Photovoltaic), the plan only states that the incentive payments are subject to the**

cap of \$47,233. Please explain or describe how the money will be allocated, and include the amounts. For example, how much will be spent on administrative costs, overhead, marketing, and so forth? Please identify how much will be spent on each of the two programs.

FPUC will develop a budget for allocation of costs associated with the Renewable Energy Programs approximately 10 percent of the total costs will be allocated to administrative costs. FPUC plans to promote the programs through bill inserts which will be paid from general conservation overhead costs and through contacts of FPUC's customer service representatives. FPUC will monitor the customer response for better indications of how to appropriately allocate other costs. For instance, if it is observed that a greater amount should be spent on advertising because of lower than desired customer awareness, costs will be reallocated to budget for advertising.

- 3. For each of the programs (residential and commercial), please explain or describe the allocation of costs, i.e. administration, marketing, overhead, incentives, etc. As part of this response, please provide the percent of each category compared to the total annual expenditures for each program. Please also provide a total value for each program that will be recovered through the company's ECCR factor for year 1, year 5, and year 10.**

The three tables below outline the estimated allocation of costs across FPUC's accounting codes and the percent of each category compared to the total estimated expenditures. The total amount to be recovered through FPUC's ECCR factor is equal to the Total amounts displayed as the last row in the Program Cost section based on an assumed annual escalation rate of 2.5 percent. Information is provided for Years 1, 5, and 10, as requested. The actual expenditures and amounts recovered will be dependent upon actual program participation and costs.

Program Information – Costs – Year 1										
Program Name		Energy Survey	Heating and Cooling Efficiency	Ceiling Insulation Upgrade	Energy Survey	Indoor Efficient Lighting	Heating and Cooling Efficiency	Ceiling Insulation Upgrade	Window Film	Chiller Upgrade
Customer Category	(Res/Com/Ind)	Residential			Commercial					
Program Type	(EE/DR/RE)	EE	EE	EE	EE	EE	EE	EE	EE	EE
Program Cost										
Labor/Payroll	(\$)	55,337	6,551	7,086	293	11,730	2,184	2,834	2,834	1,000
Advertising	(\$)	35,643	-	-	6,356	-	-	-	-	-
Legal	(\$)	-	-	-	-	-	-	-	-	-
Outside Contract Services	(\$)	7,316	-	-	8,232	-	-	-	-	-
Vehicle Cost	(\$)	-	-	-	-	-	-	-	-	-
Materials & Supplies	(\$)	60,445	-	-	11,344	-	-	-	-	-
Travel	(\$)	-	-	-	-	-	-	-	-	-
General & Administrative	(\$)	22,055	27,768	2,201	5,959	9,560	9,256	880	880	10,795
Incentives	(\$)	-	20,551	2,400	-	3,840	6,850	960	960	6,317
Other	(\$)	307	-	-	-	-	-	-	-	-
Total	(\$)	124,380	54,870	11,687	20,840	25,130	18,290	4,675	4,675	18,112
Program Cost (% of Program)										
Labor/Payroll	(%)	44.5%	11.9%	60.6%	1.4%	46.7%	11.9%	60.6%	60.6%	5.5%
Advertising	(%)	28.7%	0.0%	0.0%	30.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Legal	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Outside Contract Services	(%)	5.9%	0.0%	0.0%	39.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Vehicle Cost	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Materials & Supplies	(%)	8.6%	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Travel	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
General & Administrative	(%)	12.1%	50.6%	18.8%	21.9%	38.0%	50.6%	18.8%	18.8%	59.6%
Incentives	(%)	0.0%	37.5%	20.5%	0.0%	15.3%	37.5%	20.5%	20.5%	34.9%
Other	(%)	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Percentage of Total ECCR Rate										
Percentage of Total ECCR Rate	(%)	44.0%	19.4%	4.1%	7.4%	8.9%	6.5%	1.7%	1.7%	6.4%

Program Information – Costs – Year 5										
Program Name		Energy Survey	Heating and Cooling Efficiency	Ceiling Insulation Upgrade	Energy Survey	Indoor Efficient Lighting	Heating and Cooling Efficiency	Ceiling Insulation Upgrade	Window Film	Chiller Upgrade
Customer Category	(Res/Com/Ind)	Residential			Commercial					
Program Type	(EE/DR/RE)	EE	EE	EE	EE	EE	EE	EE	EE	EE
Program Cost										
Labor/Payroll	(\$)	61,081	7,231	7,822	323	12,948	2,410	3,129	3,129	1,104
Advertising	(\$)	39,344	-	-	7,016	-	-	-	-	-
Legal	(\$)	-	-	-	-	-	-	-	-	-
Outside Contract Services	(\$)	8,075	-	-	9,086	-	-	-	-	-
Vehicle Cost	(\$)	-	-	-	-	-	-	-	-	-
Materials & Supplies	(\$)	66,720	-	-	12,522	-	-	-	-	-
Travel	(\$)	-	-	-	-	-	-	-	-	-
General & Administrative	(\$)	24,345	30,651	2,429	6,578	10,553	10,217	972	972	11,916
Incentives	(\$)	-	22,684	2,649	-	4,239	7,561	1,060	1,060	6,973
Other	(\$)	339	-	-	-	-	-	-	-	-
Total	(\$)	137,293	60,566	12,900	23,004	27,739	20,189	5,160	5,160	19,993
Program Cost (% of Program)										
Labor/Payroll	(%)	44.5%	11.9%	60.6%	1.4%	46.7%	11.9%	60.6%	60.6%	5.5%
Advertising	(%)	28.7%	0.0%	0.0%	30.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Legal	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Outside Contract Services	(%)	5.9%	0.0%	0.0%	39.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Vehicle Cost	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Materials & Supplies	(%)	8.6%	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Travel	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
General & Administrative	(%)	12.1%	50.6%	18.8%	21.9%	38.0%	50.6%	18.8%	18.8%	59.6%
Incentives	(%)	0.0%	37.5%	20.5%	0.0%	15.3%	37.5%	20.5%	20.5%	34.9%
Other	(%)	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Percentage of Total ECCR Rate										
Percentage of Total ECCR Rate	(%)	44.0%	19.4%	4.1%	7.4%	8.9%	6.5%	1.7%	1.7%	6.4%

Program Information – Costs – Year 10										
Program Name		Energy Survey	Heating and Cooling Efficiency	Ceiling Insulation Upgrade	Energy Survey	Indoor Efficient Lighting	Heating and Cooling Efficiency	Ceiling Insulation Upgrade	Window Film	Chiller Upgrade
Customer Category	(Res/Com/Ind)	Residential			Commercial					
Program Type	(EE/DR/RE)	EE	EE	EE	EE	EE	EE	EE	EE	EE
Program Cost										
Labor/Payroll	(\$)	69,108	8,181	8,849	366	14,649	2,727	3,540	3,540	1,249
Advertising	(\$)	44,514	-	-	7,938	-	-	-	-	-
Legal	(\$)	-	-	-	-	-	-	-	-	-
Outside Contract Services	(\$)	9,137	-	-	10,280	-	-	-	-	-
Vehicle Cost	(\$)	-	-	-	-	-	-	-	-	-
Materials & Supplies	(\$)	75,487	-	-	14,168	-	-	-	-	-
Travel	(\$)	-	-	-	-	-	-	-	-	-
General & Administrative	(\$)	27,544	34,679	2,748	7,443	11,939	11,560	1,099	1,099	13,482
Incentives	(\$)	-	25,665	2,997	-	4,796	8,555	1,199	1,199	7,889
Other	(\$)	383	-	-	-	-	-	-	-	-
Total	(\$)	155,334	68,525	14,595	26,026	31,384	22,842	5,838	5,838	22,620
Program Cost (% of Program)										
Labor/Payroll	(%)	44.5%	11.9%	60.6%	1.4%	46.7%	11.9%	60.6%	60.6%	5.5%
Advertising	(%)	28.7%	0.0%	0.0%	30.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Legal	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Outside Contract Services	(%)	5.9%	0.0%	0.0%	39.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Vehicle Cost	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Materials & Supplies	(%)	8.6%	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Travel	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
General & Administrative	(%)	12.1%	50.6%	18.8%	21.9%	38.0%	50.6%	18.8%	18.8%	59.6%
Incentives	(%)	0.0%	37.5%	20.5%	0.0%	15.3%	37.5%	20.5%	20.5%	34.9%
Other	(%)	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Percentage of Total ECCR Rate										
Percentage of Total ECCR Rate	(%)	44.0%	19.4%	4.1%	7.4%	8.9%	6.5%	1.7%	1.7%	6.4%

4. For the Residential Energy Survey Program, please provide the following information.

- a. Section 2.1.1 states that if a problem is identified when checking a residence for duct leakage, “[b]lower-door testing is required to identify and quantify the duct leakage.” Does the contractor provide this service free of charge? If not, does the utility cover the cost of the testing? What is the typical cost of this type of testing?**

FPUC does not cover the costs of the testing and the customer will be responsible for these costs. FPUC will provide a list of approved contractors that perform residential blower door tests. Contractors generally charge approximately \$150 - \$300 for blower door testing.

- b. Please explain or describe the survey, including all the steps in the process and/or tests performed during the survey.**

1. Initial Walkthrough

- Check outside appliances, HVAC systems, pumps, pool heaters, windows, doors, roof, crawl space, floors, etc.
- Proceed inside and check each room, mechanical closets, and attic, knee walls, basements and indoor appliances.
- Take accurate notes and point out items to discuss in more detail during the review process and that may impact your recommendations for improvements.

2. Inspection Process

The audit is intended to provide general conservation education, identify visible problems or improvement opportunities, and provide qualified recommendations for energy savings, increased comfort or convenience, and improved building performance. The FPUC Conservation Specialist is not expected to create detailed maps and drawings of the building, collect precise measurements, conduct detailed equipment or appliance performance testing or run diagnostic tests for air tightness, duct leakage or appliance efficiency.

The Conservation Specialist is expected to understand basic building science and energy performance issues, be able to accurately assess building and equipment characteristics and then to clearly communicate their findings and recommendations.

The following items are typically addressed and inspected during an Energy Audit:

Billing History

Building Orientation

Building Shape

Windows - checking for leaks, heat exchange

Overhangs and Shading

Doors - check for proper seal

Walls Insulation

Ceiling Insulation – measure thickness for R factor

Floors - checking for proper floor insulation

Cooling Equipment – appropriate size and SEER

Heating Equipment -
Ductwork – check for leaks and perform blower door as needed
Water Heating Equipment
Lighting and Appliances

3. Summary Review and Customer Recommendations

The Energy Survey will conclude with a personal discussion of the auditor's findings with the customer. Discussions will include recommendations for improvement and answering the customer's questions about the findings, recommendations and other energy efficiency issues.

A summary of recommendations will be left with the customer. Normally this will include a copy of the audit recommendation sheet and copies of any literature that applies to the audit. If additional information, reports or data are required, the FPUC representative will mail, e-mail or phone the customer back.

If health or safety issues are observed during the survey, or indicated by the customer during the interview process, these will be noted on the recommendation summary and appropriate actions or resolutions discussed with the customer.

4. Back in the office

Attend to any action items like follow up reports, research or requests for collateral materials. Respond within the timeframe committed to.

Prepare project file containing

- Field Data sheets, notes, or drawings
- Photos or video
- Summary recommendation sheets
- Report copies
- Other pertinent information

Close out the Service Order.

5. Special Services and Design Assistance

More detailed audits, energy use, economic evaluations, performance diagnostics, equipment sizing and design using ACCA Manual J, D, S or other procedures, HVAC System design, and Florida Energy Gauge Ratings may all be available on request. In some cases FPUC employees will have equipment and training to provide these services or to conduct problem-solving evaluations. In other cases, customers will be referred to independent, 3rd-party consultants, energy raters or contractors for specialized services, testing or repair and/or improvement proposal preparation. In these situations, FPUC will not monitor or suggest pricing, procedures or business practices. In some cases, FPUC's Conservation Specialists may provide a visual inspection of energy conservation improvements to help the customer verify proper installation or workmanship.

- c. **Please provide the amount of time, on average, that utility staff would spend performing the survey as described in Section 2.1.1**

Depending on the size and complexity of the residence, energy audits can take 3-5 hours from scheduling to closing out the work order.

- d. **Please explain or describe how the stated 307 MWh of savings are achieved from a survey program. How much of these savings are attained from the “up to ten” CFLs provided as part of the survey? From what other measures are the savings attained? Please quantify the savings from each measure.**

The savings attributed to the energy audit portion of FPUC’s residential energy survey program were derived from Progress Energy Florida’s 2008 DSM annual report for their Home Energy Check Program. The summer and winter reductions per customer were estimated to be 0.066 kW and the energy savings per customer were estimated to be 217 kWh.

It is assumed that the auditor will install/provide 10 compact fluorescent bulbs to the customer. It is assumed that 23 watt compact fluorescent bulbs are used to replace 100 watt equivalent incandescent bulbs. Fifty percent of the demand savings are applied to the summer and winter peak and the bulbs are assumed to be in operation 15 percent of the time. These assumptions result in an annual energy reduction of 1,012 kWh for the CFL portion of the program.

At 250 annual participants, the energy audit portion of the Residential Energy Survey Program accounts for approximately 54 MWh of annual energy savings and the CFL portion of the energy survey accounts for 253 MWh of annual energy savings.

5. **For the Commercial/Industrial Energy Survey Program, please provide the following information.**

- a. **Please explain or describe the survey, including all the steps in the process and/or tests performed during the survey.**

Please see the response to 4b. The survey steps and processes are the same for residential and commercial energy surveys.

- b. **Please provide the amount of time, on average, that utility staff would spend performing the survey as described in Section 3.1.1**

Depending on the size and complexity of the business, energy audits can take 4-7 hours from scheduling to closing out the work order.

6. **For the Residential Ceiling Insulation Upgrade Program, please provide the following information.**

- a. **Section 2.3.1 states that FPUC customers can “qualify for an incentive of \$0.125 per square foot up to \$375 in the form of a rebate.” However, a “qualified contractor” must perform the upgrade. Please provide the average cost of this service, on a per square foot basis.**

Itron estimates that the cost of upgrading ceiling insulation from R-19 to R-38 is about \$0.52 per square foot, assuming an installation size of 2,000 square feet. Assuming an installation size of 2,000 sq ft, the average installation cost, not including the rebate cost, is \$1,040.

- b. Section 2.3.2 states that “[r]ebates are subject to change without notice and are subject to approval by Florida Public Utilities Company.” Please explain or describe how the rebate program might be changed and the conditions under which FPUC might change or modify the program.**

FPUC will monitor program participation and may adjust rebate levels in response to participation levels. Rebates may be increased if necessary to increase participation necessary to meet the goals and rebates may be reduced if there is evidence of significant levels of free riders. Rebates may also be adjusted in response to outside influences such as changes to building codes and appliance efficiency standards.

- 7. Please explain or describe any and all programs FPUC has to inform its residential, commercial, and industrial customers of the costs and benefits of free riders. As part of this response, please describe the program(s) in detail and identify the free riders that are included in the program. If no such programs exist, please explain the reason(s).**

FPUC does not have any programs that require informing customers of costs and benefits of free riders. FPUC is of the opinion that educating customers on free ridership may inadvertently encourage free riders. FPUC’s programs and administration of programs are designed to minimize the amount of free riders to keep both utility and customer costs to a minimum.

- 8. Please identify the cost-effectiveness tests (TRC, E-TRC, etc.) that were used to evaluate the programs in FPUC’s DSM Plan. As part of this response, please provide the results of these tests. In addition, please provide the payback periods for each of the program measures.**

The TRC, Participant Test, and the RIM test were used to evaluate FPUC’s Conservation Programs as presented in Appendix A of FPUC’s 2010 Demand-Side Management Plan. The following table presents the TRC, Participant, and RIM test results and the corresponding payback periods.

Program Information - Cost Effectiveness										
Program Name		Energy Survey	Heating and Cooling Efficiency	Ceiling Insulation Upgrade	Energy Survey	Indoor Efficient Lighting	Heating and Cooling Efficiency	Ceiling Insulation Upgrade	Window Film	Chiller Upgrade
Customer Category	(Res/Com/Ind)	Residential			Commercial					
Program Type	(EE/DR/RE)	EE	EE	EE	EE	EE	EE	EE	EE	EE
TRC Results	-	0.880	0.980	0.376	1.577	2.221	0.980	0.376	1.804	1.818
RIM Results	-	0.441	0.733	0.410	0.559	0.634	0.733	0.410	0.663	0.715
Participant Test Results	-	1.000	1.406	1.163	1.000	11.166	2.630	1.163	4.249	3.204
Payback Period										
E-TRC Test	(Yrs)	*	*	*	6	4	*	*	5	5
E-RIM Test	(Yrs)	*	*	*	*	*	*	*	*	*
Participants Test	(Yrs)	1	7	7	1	1	1	7	2	3

*The length of the payback period exceeds the 10-year planning period for this test. Payback period is defined as the number of years that it takes for the cumulative present worth net benefits to become positive.

9. **Please explain or describe the avoided unit used to evaluate the programs and any cost assumptions related to the avoided unit.**

FPUC currently purchases power from JEA and Gulf Power to meet customer demand. Estimates of the annual average purchase power costs were developed for FPUC's Northwest and Northeast Divisions and the costs were averaged to provide the avoided costs for FPUC's system. The table below shows the FPUC system avoided costs.

<u>Year</u>	<u>Avoided Energy Costs</u> <u>\$/MWh</u>	<u>Avoided Capacity Costs</u> <u>\$/kW-yr</u>
2010	69.40	78.39
2011	70.20	81.57
2012	71.96	81.57
2013	71.49	81.57
2014	72.31	81.57
2015	74.06	81.57
2016	72.37	81.57
2017	71.90	81.57
2018	73.47	81.57
2019	75.55	81.57

10. **For each measure in the Company's DSM Plan, please identify the program savings per participant and the participation levels that were assumed.**

The program savings per participant and the cumulative number of participants are presented in Appendix A of FPUC's 2010 Demand-Side Management Plan.

11. **Please state the current authorized ROE for FPUC. How many dollars in revenues represent 100 basis points?**

The current authorized ROE for FPUC is 11 percent. \$251,982 represents 100 basis points.

12. **Please provide an estimate of lost non-fuel revenues as a result of the Company's DSM Plan in year 1, year 5, and year 10.**

The table below presents estimates of lost non-fuel revenues as a result of the Company's DSM Plan in years 1, 5, and 10.

<u>Year</u>	<u>Lost Revenues</u>
2010	\$74,497
2014	\$707,717
2019	\$1,590,787