

State of Florida



Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: August 19, 2010

TO: Office of Commission Clerk (Cole)

FROM: Division of Regulatory Analysis (Matthews, Brown, Garl, Lewis, Marr)
Office of the General Counsel (Fleming, Saylor)

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

AGENDA: 08/31/10 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

Handwritten notes:
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COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Administrative

CRITICAL DATES: None

SPECIAL INSTRUCTIONS: None

FILE NAME AND LOCATION: S:\PSC\RAD\WP\100158.RCM.08-19-10.DOC

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Case Background

The Commission, as required by the Florida Energy Efficiency and Conservation Act (FEECA), Sections 366.80 through 366.85 and 403.519, Florida Statutes (F.S.), adopted annual goals for seasonal demand and annual energy consumption for the FEECA Utilities. These include Florida Power & Light Company (FPL), Progress Energy Florida, Inc. (PEF), Tampa Electric Company (TECO), Gulf Power Company (Gulf), Florida Public Utilities Company (FPUC), JEA, and Orlando Utilities Commission (OUC).

Pursuant to Rule 25-17.008, Florida Administrative Code (F.A.C.), in any conservation goal setting proceeding, the Commission requires each FEECA utility to submit cost-effectiveness information based on, at a minimum, three tests: (1) the Participants test; (2) the

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Rate Impact Measure (RIM) test, and (3) the Total Resource Cost (TRC) test. The Participants test measures program cost-effectiveness to the participating customer. The RIM test measures program cost-effectiveness to the utility's overall rate payers, taking into consideration the cost of incentives paid to participating customers and lost revenues due to reduced energy sales that may result in the need for a future rate case. The TRC test measures total net savings on a utility system-wide basis. In past goal setting proceedings, the Commission established conservation goals based on measures that pass both the Participants test and the RIM test.

The 2008 Legislative Session resulted in several changes to the FEECA Statute, and the Commission's goal-setting proceeding was the first implementation of these modifications. By Order No. PSC-09-0855-FOF-EG,¹ the Commission established annual numeric goals for summer peak demand, winter peak demand, and annual energy conservation for the period 2010 through 2019, based upon an unconstrained Enhanced-Total Resource Test (E-TRC) for the investor-owned utilities (IOUs). The E-TRC Test differs from the conventional TRC test by taking into consideration the estimated additional costs imposed by the potential regulation of greenhouse gas emissions. In addition, the numeric impact of certain measures with a payback period of two years or less were also included in the goals. Further, the IOUs subject to FEECA were authorized to spend up to 10 percent of their historic expenditures through the Energy Conservation Cost Recovery (ECCR) clause as an annual cap for pilot programs to promote solar water heating (Thermal) and solar photovoltaic (PV) installation.

On March 30, 2010, FPUC filed a petition requesting approval of its Demand-Side Management (DSM) Plan pursuant to Rule 25-17.0021, F.A.C. The Southern Alliance for Clean Energy (SACE) was granted leave to intervene on August 9, 2010.² The Florida Solar Energy Industry Association (FlaSEIA) was granted leave to intervene on August 11, 2010.³ Wal-Mart Stores East, LP, and Sam's East, Inc. (Walmart) was granted leave to intervene on August 18, 2010.⁴

On July 14, 2010, the SACE filed comments on the FEECA utilities' DSM plans. These comments were amended on August 3, 2010, to include comments regarding FPUC. No other intervenors filed comments. On July 28 and August 12, 2010, PEF and Gulf, respectively, filed responses to SACE's comments. On page 2 of its comments, SACE offers four recommendations for the Commission to consider.

SACE's first and second recommendations are that the utilities should develop their programs further with the exception of PEF whose entire Plan should be revised within a 90-day period. As discussed in Issue 1, the five IOUs have proposed plans that do not meet all of the annual goals established by the Commission in terms of kilowatt (kW) or kilowatt-hour (kWh)

¹ See Order No. PSC-09-0855-FOF-EG, issued December 30, 2009, in Docket No. 080411-EG, In re: Commission review of numeric conservation goals (Florida Public Utilities Company).

² See Order No. PSC-10-0496-PCO-EG, issued August 9, 2010, in Docket No. 100159-EG, In re: Petition of approval of demand-side management plan of Florida Public Utilities Company. (SACE)

³ See Order No. PSC-10-0507-PCO-EG, issued August 11, 2010, in Docket No. 100159-EG, In re: Petition of approval of demand-side management plan of Florida Public Utilities Company. (FlaSEIA)

⁴ See Order No. PSC-10-0527-PCO-EG, issued August 18, 2010, in Docket No. 100158-EG, In re: Petition of approval of demand-side management plan of Florida Public Utilities Company. (Walmart)

savings. Consistent with Florida Statutes, staff is recommending a 30-day period to correct the deficiencies.

The third recommendation made by SACE is that the Commission should initiate a proceeding to develop an incentive mechanism for utilities that exceed their goals as well as addressing lost revenues. During the DSM goals proceeding, the Commission addressed the issue of utility incentives. Page 24 of Order No. PSC-09-0855-FOF-EG states that:

We believe establishing incentives during this proceeding would unnecessarily increase costs to ratepayers at a time when consumers are already facing financial challenges. Increasing rates in order to provide incentives to utilities is more appropriately addressed in a future proceeding after utilities have demonstrated and we have evaluated their performance.

SACE's final recommendation is that the Commission should "evaluate alternative means of providing energy efficiency opportunities to utility customers, such as third-party administered programs, if it determines that one or more utilities are not willing or able to offer a leading program." As discussed in Issue 1, the Commission has the authority to penalize a utility if it does not meet its approved goals. However, the Commission does not have the statutory authority to require a third-party administrator to offer a particular program.

The Commission has jurisdiction over this matter pursuant to Sections 366.80 through 366.85 and 403.19, F.S.

Discussion of Issues

Issue 1: Does Florida Public Utilities Company's proposed Demand-Side Management Plan satisfy the Company's numeric conservation goals set by the Commission in Order No. PSC-09-0855-FOF-EG?

Recommendation: Yes. The 2010 Demand-Side Management Plan submitted by FPUC shows estimated conservation achievements for both peak demand and energy reduction which exceed those approved by the Commission in Order No. PSC-09-0855-FOF-EG. However, as discussed further in Issue 2, the Ceiling Insulation Upgrade for both the residential and the commercial sectors and the Commercial Heating & Cooling Efficiency programs do not appear to be cost-effective, and without the savings attributed to these programs the Plan does not meet either the commercial summer peak demand or the commercial annual energy reduction goals set by the Commission in Order No. PSC-09-0855-FOF-EG.

Consistent with Section 366.82(7), F.S., FPUC should file specific program modifications or additions that are needed in order for the 2010 DSM Plan to be cost-effective and in full compliance with Order No. PSC-09-0855-FOF-EG within 30 days of the Commission's Order in this docket. (Matthews)

Staff Analysis: By Order No. PSC-09-0855-FOF-EG, the Commission established annual goals for the FEECA utilities for the period 2010 through 2019. FPUC's approved goals are divided into residential and commercial/industrial sectors, with each of these sectors further subdivided into three categories: summer demand, winter demand, and annual energy. Furthermore, the FEECA Utilities were ordered to file a demand-side management plan to meet these goals within 90 days. The 2010 DSM Plan submitted by FPUC consists of programs which, if all the estimated conservation for demand and energy is included, fulfills this requirement, as discussed below.

Based on FPUC's current estimates and projections, the Company's 2010 DSM Plan as filed will sufficiently meet the Commission approved cumulative demand and energy goals for the residential sector and the commercial/industrial (C/I) sector. The projected demand and energy savings stated in FPUC's 2010 DSM Plan, along with the goals approved by the Commission in Order No. PSC-09-0855-FOF-EG, are summarized in Tables 1 and 2 below.

Table 1: Comparison of Residential Goals and Projected Savings

Year	Summer (MW)		Winter (MW)		Annual (GWh)	
	Commission Approved Goal	FPUC Projected Savings	Commission Approved Goal	FPUC Projected Savings	Commission Approved Goal	FPUC Projected Savings
2010	0.2	0.43	0.13	0.29	0.51	0.96
2011	0.2	0.43	0.13	0.29	0.51	0.96
2012	0.2	0.43	0.13	0.29	0.51	0.96
2013	0.2	0.43	0.13	0.29	0.51	0.96
2014	0.2	0.43	0.13	0.29	0.51	0.96
2015	0.2	0.43	0.13	0.29	0.51	0.96
2016	0.2	0.43	0.13	0.29	0.51	0.96
2017	0.2	0.43	0.13	0.29	0.51	0.96
2018	0.2	0.43	0.13	0.29	0.51	0.96
2019	0.2	0.43	0.13	0.29	0.51	0.96
Total	2.0	4.3	1.3	2.9	5.1	9.6

Table 2: Comparison of Commercial/Industrial Goals and Projected Savings

Year	Summer (MW)		Winter (MW)		Annual (GWh)	
	Commission Approved Goal	FPUC Projected Savings	Commission Approved Goal	FPUC Projected Savings	Commission Approved Goal	FPUC Projected Savings
2010	0.23	0.25	0.06	0.16	0.78	0.79
2011	0.23	0.25	0.06	0.16	0.78	0.79
2012	0.23	0.25	0.06	0.16	0.78	0.79
2013	0.23	0.25	0.06	0.16	0.78	0.79
2014	0.23	0.25	0.06	0.16	0.78	0.79
2015	0.23	0.25	0.06	0.16	0.78	0.79
2016	0.23	0.25	0.06	0.16	0.78	0.79
2017	0.23	0.25	0.06	0.16	0.78	0.79
2018	0.23	0.25	0.06	0.16	0.78	0.79
2019	0.23	0.25	0.06	0.16	0.78	0.79
Total	2.3	2.5	0.6	1.6	7.8	7.9

However, as discussed in Issue 2, three of the measures included in the DSM Plan do not appear to be cost-effective. The Ceiling Insulation Upgrade program for both the residential and commercial sectors, as well as the Commercial Heating & Cooling Efficiency program, fail to pass the E-TRC Test. Without the savings attributed to these programs, the total summer demand and annual energy savings for FPUC's commercial programs are less than the associated goals approved by the Commission in Order No. PSC-09-0855-FOF-EG. The total savings for each sector is shown in Table 3 below, with and without the savings from the Ceiling Insulation Upgrade and the Heating & Cooling Efficiency Programs. As can be seen from this table, the savings for the commercial sector without these two programs are below Commission-approved goals. The residential demand and energy goals, along with the commercial winter demand goal continue to be exceeded even without the savings attributed to these programs.

Table 3: Savings with and without Ceiling Insulation and Heating & Cooling Programs

	Projected Savings		
	Summer MW	Winter MW	Annual GWh
Residential Programs:			
Energy Survey	1.18	1.18	3.22
Heating & Cooling Efficiency	2.92	1.6	5.94
Ceiling Insulation Upgrade	0.16	0.16	0.47
Total all programs:	4.26	2.94	9.63
Total without Ceiling Insulation Upgrade:	4.1	2.78	9.16
Commission Approved Goals (10-year cumulative):	2	1.3	5.1
Commercial Programs:			
Energy Survey	0.28	0.28	0.97
Indoor Efficient Lighting	0.4	0.26	2.04
Heating & Cooling Efficiency	0.97	0.53	1.98
Ceiling Insulation Upgrade	0.06	0.06	0.19
Window Film	0.11	0	0.46
Chiller Upgrade	0.66	0.42	2.27
Total all programs:	2.48	1.55	7.91
Total w/o Ceiling Insulation and H&C Efficiency:	1.45	0.96	5.74
Commission Approved Goals (10-year cumulative):	2.3	0.6	7.8

Order No. PSC-09-0855-FOF-EG sets annual goals for conservation in a total of six areas. The Commission did not establish cumulative goals. However, if the savings from each program are assumed to be achieved at a rate of one-tenth per year and those annual savings are

compared to the approved goals, the results are the same. Staff is aware that the values presented in this docket are projections based upon participation rates which may or may not occur. Based on these projections, it would appear that FPUC will not meet the Commission's goal for commercial/industrial summer peak demand and annual energy consumption if the savings from the Ceiling Insulation Upgrade and Heating & Cooling Efficiency programs are not included. Depending on the actual results realized, failure to meet its goals in any year may result in financial penalties or other appropriate action by the Commission at the time of the violation. Pursuant to Section 366.82(7), F.S., the Commission could deny FPUC's DSM Plan and require FPUC to submit a modified Plan within 30 days. However, such action would delay the implementation of cost-effective DSM programs for many months. Therefore, as discussed in Issue 2, staff is recommending that the cost-effective programs contained in FPUC's 2010 DSM Plan be approved at this time and that FPUC be required to file specific program modifications or additions that are needed in order for the 2010 DSM Plan to be cost-effective and in full compliance with Order No. PSC-09-0855-FOF-EG within 30 days of the Commission's Order in this docket.

Conclusion

Although the proposed annual energy and seasonal peak demand savings contained in FPUC's 2010 DSM Plan as filed satisfy the numeric conservation goals set by the Commission in Order No. PSC-09-0855-FOF-EG, the Commercial Heating & Cooling Efficiency and the Residential and Commercial Ceiling Insulation programs do not appear to be cost-effective. Without these programs, the Company's Plan does not meet the Commission's goals for summer peak demand and annual energy savings in the commercial sector, which may result in financial penalties or other appropriate action by the Commission. Consistent with Section 366.82(7), F.S., staff recommends that FPUC file specific program modifications or additions that are needed in order for the 2010 DSM Plan to be in full compliance with Order No. PSC-09-0855-FOF-EG within 30 days of the Commission's Order in this docket.

Issue 2: Are the programs contained in FPUC's proposed DSM Plan cost-effective as this criterion is used in Commission Order No. PSC-09-0855-FOF-EG?

Recommendation: No. Three programs, the Residential and Commercial Ceiling Insulation Upgrade and the Commercial Heating & Cooling Efficiency programs, do not pass the E-TRC Test and should not be approved for cost recovery. All of the other programs proposed in FPUC's 2010 DSM Plan pass the E-TRC Test, and all of the programs pass the Participants Test. Audits, Pilot Programs, and Research & Development programs are not included in this evaluation because they are not required to pass cost-effectiveness testing. FPUC should be required to file program standards and a detailed verification methodology for its audit programs within 30 days of the Commission's Order in this docket.

The Commission should approve cost-effective programs to allow FPUC to file for cost recovery. However, FPUC must still demonstrate, during the cost recovery proceeding, that expenditures in executing its DSM Plan were reasonable and prudent. In addition, the Commission will evaluate FPUC's compliance filing and make a final determination at that time regarding the cost-effectiveness of any modified or new programs. (Matthews)

Staff Analysis: FPUC's proposed DSM Plan for the period 2010-2019 includes a variety of programs, one of which is retained from previous plans without modification, others incorporated with revisions, as well as new programs. In total, the Company's Plan consists of eleven programs, which are broken down in Table 4 below. A summary of each program can be found in Attachment A.

Table 4: Summary of FPUC's Proposed DSM Programs

	Residential	Commercial/Industrial	Renewable
Existing (unmodified)	1	0	0
Existing (modified)	2	2	0
New	0	4	2
Total	3	6	2

The analysis of the assumptions used to develop the costs and benefits data involved evaluating the incentives, participation rates, avoided unit costs, and savings information. These data were garnered from staff data requests, previous DSM programs, and from the numeric conservation goals docket. In general, staff believes the assumptions are reasonable for use in developing the peak demand and annual energy savings projected in FPUC's 2010 DSM Plan.

All of the DSM programs included in FPUC's 2010 DSM Plan include some type of incentive or rebate. In the case of the energy survey programs, the customer receives up to 10 compact fluorescent light (CFL) bulbs that are installed by the auditor during the survey process. In general, for each program the incentive/rebate is between 12 percent and 35 percent of the customer's equipment cost.

The participation rates assumed for existing programs are similar to the actual participation achieved in previous years. The participation rates assumed for new programs do not appear to be overly aggressive.

The peak demand and annual energy savings assumed for the programs in the 2010 DSM Plan are comparable to those actually achieved for existing programs. The expected values for new programs are generally equivalent to those from other utilities. These new programs were developed from programs previously implemented by other utilities, and therefore the expected savings are similar on a per-participant basis.

Because FPUC is a non-generating investor-owned utility, the avoided unit is replaced by purchased power. The value of the avoided unit equivalent of purchased power used in the cost-effectiveness evaluations for the DSM Plan are consistent with that utilized throughout Docket No. 080411-EG, which provided the basis for the DSM goals approved for FPUC by the Commission in Order No. PSC-09-0855-FOF-EG.

All of FPUC's assumptions appear reasonable and are consistent with the information on which the Commission based the Company's goals. The tables below summarize the E-TRC, E-RIM, and Participants test results for each of FPUC's proposed programs.

Cost-Effectiveness Results

By definition, a program passes a cost-effectiveness test if the benefits-to-cost ratio is greater than 1.00. All proposed programs pass the Participants Test. None of the measures pass the E-RIM Test. The residential and commercial versions of the Ceiling Insulation Upgrade as well as the Commercial Heating & Cooling Efficiency programs do not pass the E-TRC Test. Therefore, those particular programs are not cost-effective on a system basis. The shaded areas in Table 5 highlight the values that do not pass the referenced tests.

Table 5: Cost-Effectiveness Test Results by Program

Program	E-TRC	E-RIM	Participants
<i>Residential Programs</i>			
Energy Survey	1.276	0.538	1.000
Heating and Cooling Efficiency	1.407	0.845	1.406
Ceiling Insulation Upgrade	0.546	0.634	1.163
<i>Commercial Programs</i>			
Energy Survey	1.577	0.560	1.000
Indoor Efficient Lighting Program	2.221	0.636	11.166
Heating and Cooling Efficiency	0.980	0.735	2.630
Ceiling Insulation Upgrade	0.376	0.410	1.163
Window Film Installation	1.804	0.664	4.249
Chiller Upgrade	1.818	0.717	3.204

As mentioned above, one residential program and two commercial programs included in FPUC's 2010 DSM Plan do not appear to be cost-effective, due to the benefits-to-costs ratios for the E-TRC and the E-RIM tests being less than 1.00. As discussed in Issue 1, if the estimated savings associated with these programs are removed from the plan, then FPUC is not projected to meet its Commission approved goals for summer peak demand and annual energy in the commercial/industrial sector. Staff is recommending that these programs not be approved at this time, and that FPUC file a modified DSM Plan in which all included programs pass the E-TRC test.

Although they are not required to pass cost-effectiveness screening tests, the residential and commercial Energy Survey programs are included in the above table. These savings, which were included in the goal-setting exercise, are counted toward the Commission-approved goals for both the residential and the commercial/industrial sectors. The savings attributed to these programs are divided into two components: an "energy audit" or behavior-based portion, and a "CFL installation" or equipment-based portion.

FPUC's DSM Plan states that the estimates for demand savings achieved from residential audits, which are approximately fifteen percent of the total savings, are adopted from Progress Energy Florida's Home Energy Check Program. The estimated demand savings from commercial audits account for approximately thirty percent of the total savings, and were adopted from OUC's Commercial Energy Survey. Annual energy savings from audits were estimated to be 20 percent and 45 percent for residential and commercial sectors, respectively. However, FPUC provided no information verifying that similar results could be achieved in their service territory. FPUC's DSM Plan also states that the Company "conducts follow-up surveys after the customers have implemented the specific recommendations." No further explanation is provided regarding how these savings will be verified. Rule 25-17.0021(4)(i), F.A.C., requires a utility's DSM plan to include "A methodology for measuring actual kilowatt and kilowatt-hour savings achieved from each program, including a description of research design, instrumentation, use of control groups, and other details sufficient to ensure that results are valid." Staff recommends that FPUC provide additional justification for including audit savings within the compliance filing.

Program Standards

Most programs have an administrative component that describes the eligibility requirements, billing practices, etc. Historically, this information is provided to staff, for administrative approval, after a program has been approved by the Commission. Therefore, FPUC should file its program standards for all its programs, including any modified or new programs, within 30 days of the Commission's Order in this docket. If final incentive levels are estimated in the program standards, these will be brought back to the Commission for approval.

Conclusion

As the Residential and Commercial Ceiling Insulation Upgrade and the Commercial Heating & Cooling Efficiency programs do not appear to be cost-effective and should not be approved for cost recovery. Consistent with Section 366.82(7), F.S., staff recommends that

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Date: August 19, 2010

FPUC file specific program modifications or additions that are needed in order for the 2010 DSM Plan to be cost-effective and in full compliance with Order No. PSC-09-0855-FOF-EG within 30 days of the Commission's Order in this docket. In addition, staff recommends that FPUC file program standards and a detailed verification methodology for its audit programs within 30 days of the Commission's Order in this docket.

Issue 3: Does FPUC's proposed DSM Plan include pilot programs that encourage the development of solar water heating and solar PV technologies consistent with Commission Order No. PSC-09-0855-FOF-EG?

Recommendation: Yes. The cost of these proposed programs is within the annual expenditure cap of \$47,233 as specified by Commission Order No. PSC-09-0855-FOF-EG. However, the allocation of funds to: (1) solar thermal vs. solar PV, (2) private customers vs. public institutions, and (3) low-income residential varies widely among the investor-owned utilities. If the Commission desires to have more uniformity among the IOUs' programs, then the Commission should initiate public workshops to explore that issue further. (Matthews)

Staff Analysis: Commission Order No. PSC-09-0855-FOF-EG directed the IOUs to file pilot programs focused on encouraging solar water heating and solar PV technologies subject to an expenditure cap of 10 percent of the average annual recovery through the ECCR clause in the previous five years. The Commission-approved annual expense cap for FPUC is \$47,233. The projected annual expenditures for FPUC's pilot programs do not exceed the approved annual expense cap.

As a pilot program, the utility should collect information relating to customer acceptance rates, energy production, and other data to refine potential future program offerings for solar renewable technologies. FPUC's demand-side renewable energy portfolio is comprised of the following pilot programs:

Solar Water Heating – A program designed to encourage the installation of solar water heaters and thereby reduce the consumption of fossil fuels. Each participating customer is eligible for only one incentive payment of \$200 for the installation of a solar water heating system. The payment of incentives under this program is subject to the cap for renewable energy systems.

Solar Photovoltaic – A program designed to encourage the installation of solar PV systems and thereby reduce the consumption of fossil fuels. Each participating customer is eligible for only one incentive payment of \$0.25 per watt of solar PV installed, up to a maximum of \$500. The payment of incentives under this program is subject to the cap for renewable energy systems. FPUC selected an incentive of \$0.25 per watt based on the fact that it has no experience with respect to penetration levels, and if adequate penetration levels are not achieved FPUC may request a modification to the program to increase the incentive level.

FPUC has proposed two programs which are designed to promote the deployment of demand-side renewable technologies. However, the DSM Plan includes little detailed information regarding these programs. FPUC, in the course of implementing these pilot programs, will develop figures for expected savings, and perform cost-effectiveness analyses for both the solar hot water and the solar PV programs. Approximately 10 percent of the total costs will be allocated to administrative costs.

Comparison With Other Utilities

Commission Order No. PSC-09-0855-FOF-EG provided no guidance on how the annual expense cap was to be allocated. While each utility has complied with Order No PSC-09-0855-FOF-EG, the renewable pilot programs of each of the IOUs varies in the weight it provides to the two major types of solar renewable resources, photovoltaics (PV) and thermal water heating (Thermal), as outlined in Table 6 below. However, all IOUs generally tend to allocate a greater percentage of funding to PV applications.

Table 6 - Percentage of Funds Allocated by Technology Type⁵

Company	FPL	PEF	TECO	GULF	FPUC
PV	41.0%	67.3%	86.7%	63.9%	Not Available
Thermal	37.6%	20.9%	13.3%	19.4%	
The percentages above do not sum to 100% as administrative, education, and R&D costs are excluded.					

The distribution of funds between solar installations intended for public facilities, specifically schools, and privately owned facilities, including residential housing and commercial properties, is another area of variation among the utilities. Table 7 below, illustrates these differences, which overall favor private installations.

Table 7 - Percentage of Funds Allocated by Ownership Type

Company	FPL	PEF	TECO	GULF	FPUC
Public	7.2%	31.7%	10.4%	15.5%	Not Available
Private	68.9%	56.5%	89.6%	67.8%	
The percentages above do not sum to 100% due to administrative and education costs being excluded.					

The variations between the utilities' plans represent different service territories and program designs. If the Commission desires increased uniformity in the values of the pilot programs between utilities, it could initiate a workshop or other proceeding to establish the appropriate split between these technological and customer categories.

⁵ Refer to Docket No. 100154-EG – In re: Petition of approval of demand-side management plan of Gulf Power Company. Docket No. 100155-EG – In re: Petition of approval of demand-side management plan of Florida Power & Light Company. Docket No. 100158-EG – In re: Petition of approval of demand-side management plan of Florida Public Utilities Company. Docket No. 100159-EG – In re: Petition of approval of demand-side management plan of Tampa Electric Company. Docket No. 100160-EG – In re: Petition of approval of demand-side management plan of Progress Energy Florida, Inc.

Conclusion

FPUC's proposed DSM Plan includes pilot programs to encourage the development of solar water heating and solar PV technologies. The cost of the proposed pilot programs is within the annual expenditure cap specified by Commission Order No. PSC-09-0855-FOF-EG. Staff recommends that the pilot programs included in FPUC's proposed DSM Plan be approved and incorporated into the compliance filing. However, the allocation of funds to: (1) solar thermal vs. solar PV, (2) private customers vs. public institutions, and (3) low-income residential varies widely among the investor-owned utilities. If the Commission desires to have more uniformity among the IOUs' programs, then the Commission should initiate public workshops to explore that issue further.

Issue 4: Do any of the programs in FPUC's proposed DSM Plan have an undue impact on the costs passed on to customers?

Recommendation: No. Based on the projections provided in FPUC's 2010 DSM Plan, it does not appear that any of the cost-effective programs would have an undue impact on customer's costs. However, three of the programs included in the DSM Plan are not cost-effective, and therefore could cause undue cost impacts to customers. The Commission should evaluate the Company's compliance filing and make a final determination at that time regarding any undue rate impacts to customers. (Matthews)

Staff Analysis: By Order No. PSC-09-0855-FOF-EG, the Commission approved new aggressive DSM goals. The Commission approved DSM goals are 91 percent higher than FPUC's existing goals for annual energy consumption, and although the goals for the winter peak demand are lower than those set previously by the Commission, the goals for summer peak demand are 60 percent higher. Table 8 below shows a comparison of the goals approved in the previous goal-setting exercise, and the current Order.

Table 8: Goal Comparison

2004-2014 GOALS			2009-2019 GOALS			% Change		
Sum (MW)	Win (MW)	Energy (GWh)	Sum (MW)	Win (MW)	Energy (GWh)	Sum (MW)	Win (MW)	Energy (GWh)
2.69	2.96	6.77	4.3	1.9	12.9	60%	-36%	91%

When setting conservation goals there are two basic components to a rate impact: ECCR and base rates. The costs to implement a DSM program consist of administrative, equipment, and incentive payments to the participants. These costs are recovered by the utility through the ECCR clause. When new DSM programs are implemented or incentive payments to participants are increased, the cost of implementing the program may lead to an increase in rates as these costs are recovered.

ECCR Clause

FPUC estimates the cost to deploy the proposed DSM Plan to be \$2,290,440 (nominal) over the ten-year period 2010-2019. For a residential customer using 1,200 kWh, the impact to the ECCR clause is projected to increase from the current level of \$0.96 per month to \$1.47 per month by 2010, which is a 53 percent increase. However, the rate impact declines each year after the first year.

The estimated ECCR revenue requirements for years one, five, and ten of the ten-year program are shown in Table 9 below.

Table 9: Estimated Rate Impact

Year	ECCR Revenue Requirement	Rate Impact (\$/mo.)	Percent Increase
2010	\$591,724	1.47	53%
2014	\$621,069	1.23	-28%
2019	\$662,067	1.01	-5%

While rates may increase due to additional DSM programs, customers should be able to reduce or eliminate the potential rate impact of the DSM Plan by participating in DSM programs. However, the goals are based on the E-TRC Test, which does not consider costs associated with utility incentives so those who do not or cannot participate in an incentive program will not see their monthly utility bill go down unless they directly decrease their consumption of electricity. If that is not possible, non-participants could actually see an increase in their monthly bill.

Staff ranked FPUC's programs based upon their contribution to the ECCR rate impact and has identified the top five programs that account for the greatest percentage of rate impact in Table 10 below.

Table 10: Programs Accounting for Greatest Percent of ECCR

Program	% ECCR	% Sum	% Win	% Energy
Res. Energy Survey	44%	18%	26%	18%
Res. Heating & Cooling Efficiency	19.4%	43%	36%	34%
Comm. Indoor Efficient Lighting	8.9%	6%	6%	12%
Comm. Energy Survey	7.4%	4%	6%	6%
Comm. Heating & Cooling Efficiency	6.5%	14%	12%	11%
Total	86.2%	85%	86%	81%

In the event the Commission desires to reduce the rate impact of FPUC's DSM Plan, these five programs represent the largest contributors to the ECCR clause. The increase in monthly rates required by FPUC's DSM Plan is compounded by the current economic situation in which an increase in the cost of electricity is undesirable. Staff would note that if a program is removed to reduce the rate impact, the Company's goals should be modified accordingly.

As discussed in Issue 1, staff recommends that FPUC should file specific program modifications or additions that are needed in order for the 2010 DSM Plan to be in compliance with Order No. PSC-09-0855-FOF-EG within 30 days of the Commission's Order in this docket. The Commission will have an opportunity to review these updated values upon receipt of the

filing, and can make a determination on whether the programs have an undue rate impact at that time.

Base Rates

Energy saving DSM programs can have an impact on a utility's base rates. When revenues go down because fewer kWh were consumed, the utility may have to request a rate increase to maintain a reasonable Return on Equity (ROE). Based on FPUC's current projections, the company's energy savings will have a 100 basis point impact on earnings by 2014. Other factors also impact company earnings, and may either delay or accelerate a base rate proceeding.

Conclusion

Based on the projections provided in FPUC's 2010 DSM Plan, it does not appear that any of the cost-effective programs would have an undue impact on customer's costs. However, three of the programs included in the DSM Plan are not cost-effective, and therefore could cause undue cost impacts to customers. The Commission should evaluate the Company's compliance filing and make a final determination at that time regarding any undue rate impacts to customers.

Docket No. 100158-EG
Date: August 19, 2010

Issue 5: Should this docket be closed?

Recommendation: No. This docket should remain open in order for FPUC to refile its demand-side management plan within 30 days from the date of this order. In addition, if the Commission approves any programs, the programs should become effective on the date of the Consummating Order. If a protest is filed within 21 days of the issuance of the order, the programs should not be implemented until after the resolution of the protest. (Fleming, Sayler)

Staff Analysis: This docket should remain open in order for FPUC to refile its demand-side management plan within 30 days from the date of this order. In addition, if the Commission approves any programs, the programs should become effective on the date of the Consummating Order. If a protest is filed within 21 days of the issuance of the order, the programs should not be implemented until after the resolution of the protest.

Descriptions of FPUC's DSM Programs

Residential Programs:

1. *Residential Energy Survey:* The Residential Energy Survey is designed to provide customers with energy conservation advice and to encourage the implementation of efficiency measures resulting in energy savings. During the survey, up to ten compact fluorescent bulbs are installed by the FPUC auditor in locations with the highest probability of being in use during times of peak demand. The survey process also checks the residence for possible duct leakage, and the customer is provided with information regarding further analysis and repairs should a potential problem be identified. Follow-up work monitors and tracks the installation of additional conservation features and/or duct repairs.
2. *Residential Heating & Cooling Efficiency Upgrade:* The Residential Heating & Cooling Efficiency Upgrade program is designed to reduce the rate of growth in peak demand and energy consumption by increasing the saturation of high-efficiency heat pumps and central air-conditioning systems. This objective is accomplished by installing new equipment with a minimum 14 Seasonal Energy Efficiency Rating (SEER). FPUC will provide a \$100 incentive to the customer, and a \$25 or \$75 incentive to the equipment dealer, depending on the type of system being replaced.
3. *Residential Ceiling Insulation Upgrade:* The Residential Ceiling Insulation Upgrade program is designed to reduce peak demand and energy consumption by decreasing the load presented on residential air-conditioning and heating equipment. The program requires residential customers to increase their ceiling insulation level to at least R-30 in order to be eligible for an incentive of \$0.125 per square foot, up to a maximum of \$375, in the form of a rebate.

Commercial Programs:

1. *Commercial Energy Survey:* The Commercial Energy Survey program is designed to meet the individual needs of large customers in identifying advanced energy conservation opportunities. The process consists of an on-site review of the facility operation, equipment, and energy usage pattern by an FPUC Conservation Specialist, who identifies areas of potential reduction in peak demand and energy consumption. The economic payback or life cycle cost for recommended improvements, along with end-use technology opportunities, is determined. During the survey, up to ten compact fluorescent bulbs are installed by the FPUC auditor in locations with the highest probability of being in use during times of peak demand.
2. *Commercial Indoor Efficient Lighting Rebate:* The Commercial Indoor Efficient Lighting Rebate program is designed to reduce peak demand and energy consumption by decreasing the load presented by commercial lighting equipment, and also by reducing the load on cooling equipment. This program features a two-tiered rebate system. Tier 1

requires that commercial customers achieve a lighting load reduction of at least 1 kW by replacing both ballasts and lamps, while Tier 2 requires a reduction of at least 1kW by replacing lamps only. Customers that improve the efficiency of their lighting systems in this way will qualify for incentives of \$0.10 per watt (Tier 1), or \$0.025 per watt (Tier 2).

3. *Commercial Heating & Cooling Efficiency Upgrade:* The Commercial Heating & Cooling Efficiency Upgrade program is designed to reduce the rate of growth in peak demand and energy consumption by increasing the saturation of high-efficiency heat pumps and central air-conditioning systems in the commercial sector. This objective is accomplished by installing new equipment with a minimum 14 Seasonal Energy Efficiency Rating (SEER). FPUC will provide a \$100 incentive to the customer, and a \$25 or \$75 incentive to the equipment dealer, depending on the type of system being replaced.
4. *Commercial Ceiling Insulation Upgrade:* The Commercial Ceiling Insulation Upgrade program is designed to reduce peak demand and energy consumption by decreasing the load presented on commercial air-conditioning and heating equipment. The program requires commercial customers to increase their ceiling insulation level to at least R-30 in order to be eligible for an incentive of \$0.125 per square foot, up to a maximum of \$375, in the form of a rebate.
5. *Commercial Window Film Installation:* The Commercial Window Film Installation program is designed to reduce peak demand and energy consumption by decreasing the load presented on commercial air-conditioning and heating equipment. The program requires commercial customers to install solar window film with a shading coefficient of 0.45 or less on eastern facing or western facing windows. This program features an incentive of \$0.50 per square foot of covered area, up to a maximum of \$100, in the form of a rebate.
6. *Commercial Chiller Upgrade:* The Commercial Chiller Upgrade program is designed to reduce the rate of growth in peak demand and energy consumption by replacing existing chillers in commercial buildings with a more efficient system. This program includes water-cooled centrifugal chillers, water-cooled scroll or screw chillers, and air-cooled electric chillers. Participating customers will qualify for a rebate of up to \$100 per kW of additional savings above the minimum efficiency levels.

Renewable Energy Programs:

1. *Solar Water Heating:* The Solar Water Heating program is designed to encourage the installation of solar water heaters and thereby reduce the consumption of fossil fuels. Each participating customer is eligible for only one incentive payment of \$200 for the installation of a solar water heating system. The payment of incentives under this program is subject to the cap for renewable energy systems.
2. *Solar PV:* The Solar PV program is designed to encourage the installation of solar photovoltaic systems and thereby reduce the consumption of fossil fuels. Each participating customer is eligible for only one incentive payment of \$0.25 per watt of ac

solar PV installed, up to a maximum of \$500. The payment of incentives under this program is subject to the cap for renewable energy systems.

Energy Education Programs:

1. *Conservation Demonstration and Development:* The Conservation Demonstration and Development (CDD) program is designed to promote energy efficiency and conservation by pursuing research, development, and demonstration projects for the identification and evaluation of promising new end-use technologies. The CDD program does not focus on any specific end-use technology but, instead, will address a wide variety of energy applications.
2. *Low Income:* FPUC presently has energy education programs that identify low-cost and no-cost energy conservation measures. These programs are tailored to better assist low-income customers in managing their energy purchases.
3. *Affordable Housing Builders and Providers:* FPUC will identify the affordable housing builders within the service area and will encourage them to attend educational seminars and workshops related to energy efficient construction, retrofit programs, and financing programs. FPUC will work with sponsors to reduce or eliminate attendance fees at a minimum of two seminars and/or workshops per year.