Diamond Williams

100158-EG

From: Ann Bassett [abassett@lawfla.com]
Sent: Wednesday, September 29, 2010 10:37 AM
To: Filings@psc.state.fl.us
Subject: Docket No. 100158-EG
Attachments: 2010-09-29, 100158, FPUC's Petition to Approve Modification.pdf

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The Docket No. is 100158-EG Petition for approval of conservation programs by Florida Public Utilities Company

This is being filed on behalf of Florida Public Utilities Company

Total Number of Pages is 18

Florida Public Utilities Company's Petition to Approve Modified Demand Side Management Plan

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September 29, 2010

VIA ELECTRONIC FILING
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 is an electronic version of Florida Public Utilities Company's Petition to Approve Modified Demand Side Management Plan in the above referenced docket.

Thank you for your assistance.

Sincerely,

Norman H. Horton, Jr.

NHH/amb
Enclosure
cc: Mr. Jason Van Hoffman
Parties of Record

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

Petition for approval of conservation programs by Florida Public Utilities Company	)))	Docket No.: 100158-EG Filed: September 29, 2010

PETITION TO APPROVE MODIFIED DEMAND SIDE MANAGEMENT PLAN

COMES NOW, Florida Public Utilities Company (FPUC), through its undersigned attorney and files modifications to its 2010 Demand Side Management Plan ("DSM") and requests approval of the Plan incorporating the modifications. As basis FPUC states:

1. On March 30, 2010, FPUC filed its 2010 DSM Plan as required by Order No. PSC-09-0855-FOF-EG which established annual numeric goals for FPUC and other utilities subject to the Florida Energy Efficient and Conservation Act ("FEECA").

2. On August 19, 2010, Staff filed a Recommendation with respect to the proposed DSM plan for consideration by the Commission. Because of some changes to tables and decisions by the Commission as to the plans of other utilities, with respect to solar programs, the recommendations as to FPUC's plan has not been considered by the Commission.

3. With this petition, FPUC is proposing modification to its DSM plan to address some of the concerns raised by Staff in its initial recommendation and to include projected savings associated with the proposed solar programs. Among other revisions, FPUC would modify its plan to remove the residential and commercial ceiling insulation upgrade programs as they are still not shown to be cost effective by the E-TRC test. With respect to the Solar Photovoltaic program FPUC has modified its program to increase the incentive payment to $2.00 per watt of solar PV installed to a maximum of $5,000.

4. The modifications are discussed more fully in the document appended to this Petition as Attachment "A" which is incorporated herein. This Attachment describes the

modifications and includes updated tables reflecting the effect of the modifications. Attachment "B" is a description of the programs to be offered by FPUC.

5. With the modifications to the programs, FPUC's plan will be compliant with the goals and should be approved.

RESPECTFULLY SUBMITTED this 29th day of September, 2010.

NORMAN H. HORTON, JR.
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Attorneys for Florida Public Utilities Company

Introduction

This document discusses the revisions that FPUC has made to its 2010 Demand-Side Management Plan to address the Florida Public Service Commission Staff's recommendation dated August 19, 2010. The major changes include the use of E-TRC and E-RIM in determining cost effectiveness, the revision of the Solar Pilot programs and their inclusion in the demand and energy savings, and the removal of the ceiling insulation programs for residential and commercial customers. The changes to tables in the Staff's recommendation due to the revisions to FPUC's 2010 Demand-Side Management Plan are provided below.

Changes to FPUC's DSM Plan

In Issue #2 of the Staff's recommendation, it was observed that the residential and commercial ceiling programs and the commercial heating and cooling programs in FPUC's filed DSM plan were not cost-effective. It was found later that Table 5, which summarizes cost-effectiveness of FPUC's programs was not based completely upon the E-TRC and E-RIM test results. After correcting the table, the commercial heating and cooling efficiency program shows to be cost-effective. However, the residential and commercial ceiling upgrade programs were still not cost-effective. As a result, FPUC has removed these two programs from its DSM Plan.

Based on the Agenda Conference for the other IOU's, FPUC has added the projected demand and energy savings resulting from the Solar Photovoltaic and Solar Thermal Water Heater pilot programs to its DSM plan. FPUC did not develop separate programs for residential and commercial, but has divided the total savings from each Solar Pilot Program equally among the residential and commercial sectors. Figures 2 and 3 below illustrate FPUC's projected participation and annual savings associated with the Solar PV and Solar Thermal Water Heater Pilot Programs.

Updated Tables from Staff's Recommendation

The table numbering in the following sections is identical to that of the Staff's recommendation for FPUC dated August 19, 2010. The tables from the recommendation have been updated where necessary to reflect the removal of the ceiling insulation upgrade programs and addition of the solar Pilot Programs.

Updated Comparison of DSM Plan Savings to Commission Approved Goals

Tables 1 and 2 below provide updated annual and cumulative savings compared to the DSM Goals. These updates reflect the addition of the Solar Pilot Photovoltaic and Solar Thermal Water Heater programs to the projected DSM savings. Based on FPUC's current estimates and projections, the Company's updated DSM Plan will sufficiently meet the Commission approved cumulative demand and energy goals for the residential sector and the commercial/industrial (C/I) sector. The updated projected demand and energy savings, along with the goals approved by the Commission in Order No. PSC-09-0855-FOF-EG, are also summarized in Tables 1 and 2 below.

ATTACHMENT "A"

Table 1 – Comparison of Residential Goals to DSM Plan

	Summer (MW)		Winter (MW)		Annual (GWh)	
Year	Commission Approved Goal	FPUC Projected Savings	Commission Approved Goal	FPUC Projected Savings	Commission Approved Goal	FPUC Projected Savings
2010	0.20	0.42	0.13	0.28	0.51	0.94
2011	0.20	0.42	0.13	0.28	0.51	0.94
2012	0.20	0.42	0.13	0.28	0.51	0.94
2013	0.20	0.42	0.13	0.28	0.51	0.94
2014	0.20	0.42	0.13	0.28	0.51	0.94
2015	0.20	0.42	0.13	0.28	0.51	0.94
2016	0.20	0.42	0.13	0.28	0.51	0.94
2017	0.20	0.42	0.13	0.28	0.51	0.94
2018	0.20	0.42	0.13	0.28	0.51	0.94
2019	0.20	0.42	0.13	0.28	0.51	0.94
Total	**2.00**	**4.22**	**1.30**	**2.81**	**5.10**	**9.43**

Table 2 - Comparison of Commercial/Industrial Goals to DSM Plan

	Summer (MW)		Winter (MW)		Annual (GWh)	
Year	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	0.15	0.78	0.80
2011	0.23	0.25	0.06	0.15	0.78	0.80
2012	0.23	0.25	0.06	0.15	0.78	0.80
2013	0.23	0.25	0.06	0.15	0.78	0.80
2014	0.23	0.25	0.06	0.15	0.78	0.80
2015	0.23	0.25	0.06	0.15	0.78	0.80
2016	0.23	0.25	0.06	0.15	0.78	0.80
2017	0.23	0.25	0.06	0.15	0.78	0.80
2018	0.23	0.25	0.06	0.15	0.78	0.80
2019	0.23	0.25	0.06	0.15	0.78	0.80
Total	**2.30**	**2.54**	**0.60**	**1.52**	**7.80**	**8.00**

In Table 3, the total savings for each sector is shown with FPUC's revised plan which eliminates the Ceiling Insulation Upgrade programs and adds the Solar Photovoltaic and Solar Thermal Water Heater programs. As can be seen from this table, the savings for the both sectors exceed Commission-approved goals.

Table 3: Program Savings Compared to Goals

	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
Solar Photovoltaic	0.10	0.03	0.18
Solar Hot Water Heater	0.01	0.03	0.09
Total all programs:	**4.22**	**2.84**	**9.44**
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
Solar Photovoltaic	0.10	0.03	0.18
Solar Hot Water Heater	0.01	0.03	0.09
Window Film	0.11	0	0.46
Chiller Upgrade	0.66	0.42	2.27
Total all programs:	**2.54**	**1.55**	**8.00**
Commission Approved Goals (10-year cumulative):	**2.3**	**0.6**	**7.8**

Based on these projections, FPUC will meet the Commission's goals.

Updated Evaluation of Cost-Effectiveness

FPUC's proposed DSM Plan for the period 2010-2019 includes a variety of programs. All of FPUC's existing programs have been updated and modified and in addition, new programs included. In total, the Company's Plan consists of nine programs, which are broken down in Table 4 below.

	Residential	Commercial/Industrial	Renewable
Existing (unmodified)	0	0	0
Existing (modified)	2	1	0
New	0	4	2
Total	2	5	2

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. All proposed programs pass the E-TRC Test. Therefore, these programs are projected to be cost-effective. 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 Name	E-TRC	E-RIM	Participant
Residential Portfolio			
1. Energy Survey	1.276	0.538	1.000
2. Heating and Cooling Efficiency	1.407	0.845	1.406
Commercial/Industrial Portfolio			
1. Energy Survey	2.301	0.655	1.000
2. Indoor Efficient Lighting Program	3.267	0.743	11.166
3. Heating and Cooling Efficiency	1.407	0.845	2.630
4. Window Film Installation	2.646	0.776	4.249
5. Chiller Upgrade	2.652	0.825	3.204

Solar Pilot Programs

The Commission-approved annual expense cap for FPUC's Solar Pilot Program is $47,233. Figure 1 below illustrates the cost breakdown between the rebates for the two Solar Pilot Programs and the total administrative costs associated with these programs. As shown in Figure 3 below, the projected annual expenditures for FPUC's pilot programs do not exceed the approved annual expense cap.

Figure 1 – Solar Pilot Program Costs

Program Name	First Full Year Expenditures ($)	First Full Year Percentage of Annual
Solar Photovoltaics	$40,000	84.69%
Solar Water Heating	$2,400	5.08%
Administrative & Education/Marketing Costs	$4,723	10.00%
Total	$47,233	99.77%

Changes to FPUC's Solar PV Program

FPUC has updated its Solar Photovoltaic Pilot Program to provide higher incentives for potential Solar PV Program participants. FPUC will now offer customers a rebate of $2.00 per watt of rated capacity of a solar photovoltaic installation up to a maximum of $5,000 per customer.

FPUC's demand-side renewable energy portfolio is comprised of the following pilot programs:

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 $2.00 per watt of solar PV installed, up to a maximum of $5,000. The payment of incentives under this program is subject to the cap for renewable energy systems. FPUC selected an incentive of $2.00 per watt based on pilot programs of the other IOU's. FPUC has no experience with respect to penetration levels for PV programs, and if adequate penetration levels are not achieved FPUC may request a modification to the program to increase the incentive level. The total projected annual participation and savings is included in Figure 2 below.

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. Again if adequate penetration levels are not achieved, FPUC may request a modification to the program to increase the incentive level. The payment of incentives under this program is subject to the cap for renewable energy systems. The total projected annual participation and savings is included in Figure 3 below.

Figure 2 – Solar Photovoltaic Annual Participants and Savings

AT THE METER							
	ACTUAL ANNUAL	REDUCTION PER INSTALLATION			TOTAL ANNUAL REDUCTION		
YEAR	PARTICIPANTS	kWh	WINTER kW	SUMMER KW	KWH	WINTER KW	SUMMER KW
2010	8	4,380	0.07	2.50	35,040	0.6	20.0
2011	8	4,380	0.07	2.50	35,040	0.6	20.0
2012	8	4,380	0.07	2.50	35,040	0.6	20.0
2013	8	4,380	0.07	2.50	35,040	0.6	20.0
2014	8	4,380	0.07	2.50	35,040	0.6	20.0
2015	8	4,380	0.07	2.50	35,040	0.6	20.0
2016	8	4,380	0.07	2.50	35,040	0.6	20.0
2017	8	4,380	0.07	2.50	35,040	0.6	20.0
2018	8	4,380	0.07	2.50	35,040	0.6	20.0
2019	8	4,380	0.07	2.50	35,040	0.6	20.0

AT THE GENERATOR							
	ACTUAL ANNUAL	REDUCTION PER INSTALLATION			TOTAL ANNUAL REDUCTION		
YEAR	PARTICIPANTS	KWH	WINTER KW	SUMMER KW	KWH	WINTER KW	SUMMER KW
2010	8	4,588	0.08	2.62	36,701	0.6	20.9
2011	8	4,588	0.08	2.62	36,701	0.6	20.9
2012	8	4,588	0.08	2.62	36,701	0.6	20.9
2013	8	4,588	0.08	2.62	36,701	0.6	20.9
2014	8	4,588	0.08	2.62	36,701	0.6	20.9
2015	8	4,588	0.08	2.62	36,701	0.6	20.9
2016	8	4,588	0.08	2.62	36,701	0.6	20.9
2017	8	4,588	0.08	2.62	36,701	0.6	20.9
2018	8	4,588	0.08	2.62	36,701	0.6	20.9
2019	8	4,588	0.08	2.62	36,701	0.6	20.9

Figure 3 – Solar Thermal Water Heater Annual Participants and Savings

AT THE METER							
YEAR	ACTUAL ANNUAL PARTICIPANTS	REDUCTION PER INSTALLATION			TOTAL ANNUAL REDUCTION		
		kWh	WINTER kW	SUMMER KW	KWH	WINTER KW	SUMMER KW
2010	12	1,482	0.45	0.22	17,784	5.4	2.6
2011	12	1,482	0.45	0.22	17,784	5.4	2.6
2012	12	1,482	0.45	0.22	17,784	5.4	2.6
2013	12	1,482	0.45	0.22	17,784	5.4	2.6
2014	12	1,482	0.45	0.22	17,784	5.4	2.6
2015	12	1,482	0.45	0.22	17,784	5.4	2.6
2016	12	1,482	0.45	0.22	17,784	5.4	2.6
2017	12	1,482	0.45	0.22	17,784	5.4	2.6
2018	12	1,482	0.45	0.22	17,784	5.4	2.6
2019	12	1,482	0.45	0.22	17,784	5.4	2.6

AT THE GENERATOR							
YEAR	ACTUAL ANNUAL PARTICIPANTS	REDUCTION PER INSTALLATION			TOTAL ANNUAL REDUCTION		
		KWH	WINTER KW	SUMMER KW	KWH	WINTER KW	SUMMER KW
2010	12	1,552	0.47	0.23	18,627	5.7	2.8
2011	12	1,552	0.47	0.23	18,627	5.7	2.8
2012	12	1,552	0.47	0.23	18,627	5.7	2.8
2013	12	1,552	0.47	0.23	18,627	5.7	2.8
2014	12	1,552	0.47	0.23	18,627	5.7	2.8
2015	12	1,552	0.47	0.23	18,627	5.7	2.8
2016	12	1,552	0.47	0.23	18,627	5.7	2.8
2017	12	1,552	0.47	0.23	18,627	5.7	2.8
2018	12	1,552	0.47	0.23	18,627	5.7	2.8
2019	12	1,552	0.47	0.23	18,627	5.7	2.8

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 Type

Company	FPL	PEF	PEF	GULF	FPUC
PV	41.00%	67.30%	86.70%	63.90%	84.69%
Thermal	37.60%	20.90%	13.30%	19.40%	5.08%
The percentages above do not sum to 100% as administrative, education, and R&D costs are excluded.					

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.

Commercial Programs:

1. *Commercial Energy Survey:* The Commercial Energy Survey program is designed to meet the individual needs of commercial 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 1 kW 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 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.

5. *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 $2.00 per watt of ac solar PV installed, up to a maximum of $5,000. 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.

ATTACHMENT "B"

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.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished by Electronic Mail and/or U. S. Mail on this 29th day of September, 2010.

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