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September 14, 2000

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RECORDS AND  
REPORTING

**BY HAND DELIVERY**

Ms. Blanca Bayó, Director  
Division of Records and Reporting  
Room 110, Easley Building  
Florida Public Service Commission  
2540 Shumard Oak Blvd.  
Tallahassee, Florida 32399-0850

Re: FPSC Docket 990721-EG

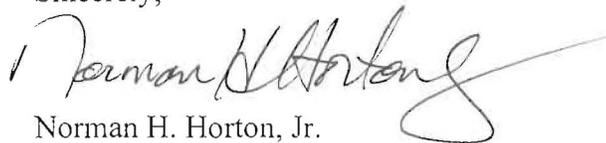
Dear Ms. Bayó:

Enclosed for filing on behalf of Florida Public Utilities Company are fifteen copies of Florida Public Utilities Company's 2001 Demand Side Management Plan in the above referenced docket.

Please acknowledge receipt of these documents by stamping the extra copy of this letter "filed" and returning the same to me.

Thank you for your assistance with this filing.

Sincerely,



Norman H. Horton, Jr.

APP \_\_\_\_\_  
CAF \_\_\_\_\_  
CMP \_\_\_\_\_  
CC \_\_\_\_\_  
CTR \_\_\_\_\_  
ECR \_\_\_\_\_  
LEG \_\_\_\_\_  
OPC \_\_\_\_\_  
PAI \_\_\_\_\_  
RGO \_\_\_\_\_  
SEC \_\_\_\_\_  
SEP \_\_\_\_\_  
OTH \_\_\_\_\_

NHH/amb  
Enclosure

cc: Mr. Mike Peacock  
Mr. Tom Ballinger (without enclosure)

RECEIVED & FILED

R.V.N

FPSC-BUREAU OF RECORDS

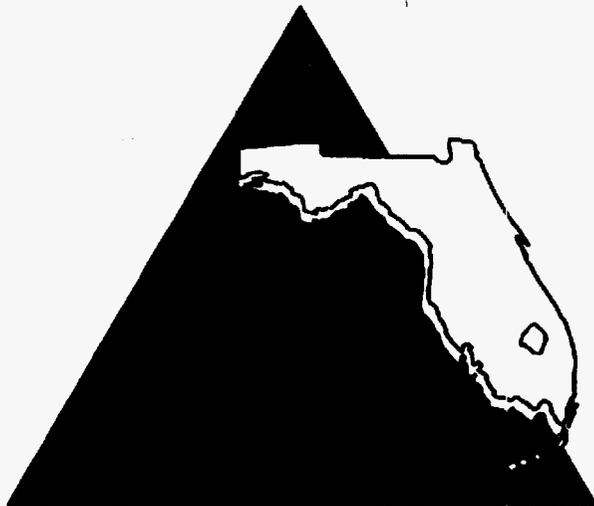
DOCUMENT NUMBER - DATE

11523 SEP 14 8

FPSC-RECORDS/REPORTING

01-1098  
52771

ORIGINAL



**Florida  
Public  
Utilities  
Company**

**2000<sup>1</sup>  
Demand Side  
Management  
Plan**

**September 1, 2000**

DOCUMENT NUMBER-DATE

11523 SEP 14 8

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

## INTRODUCTION

The following report contains Florida Public Utilities Company's 2001 Demand Side Management Plan. The report contains three (3) sections as described below.

**SECTION 1:** Section 1 contains an Executive Summary of the programs Florida Public Utilities Company proposes to meet the numerical demand and energy savings set by the Florida Public Service Commission in Order No. PSC-00-1029-PAA-EG. Tables are also included which summarize the demand and energy savings by year for the residential and commercial/industrial markets.

**SECTION 2:** The actual Demand Side Management Plan is contained in Section 2. The section is arranged by market - residential and commercial/industrial. Each program proposed for numeric goal achievement contains a detailed description and, when appropriate, a cost-effectiveness analysis.

**SECTION 3:** Florida Public Utilities Company's programs aimed at Affordable Housing Builders and Providers and Low Income Educational Program are contained in Section 3. The low-income Educational Program is a continuation of Florida Public Utilities Company's history of providing energy conservation and efficiency information to all customers without discrimination. A new initiative is being developed to target affordable housing builder and providers on the economic benefits of energy conservation and how to incorporate energy efficiency into building practices.

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

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Commercial/Industrial

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GoodCents Commercial Technical Assistance Program

**Energy Education**

Low Income

Affordable Housing Builders and Providers Program

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

## EXECUTIVE SUMMARY

Florida Public Utilities Company's 2001 Demand Side Management Plan continues the Company's history of developing and providing programs that focus on delivering customer value on energy purchases. Since the implementation of the GoodCents Home, Florida Public Utilities Company has been active in promoting and educating its customers on the benefits and rewards of energy efficiency. The GoodCents Home program has not only been successful in Northwest Florida but has been adopted by 270 utilities through the United States, providing clear evidence that selling efficiency to consumers can be done successfully.

The 2001 Demand Side Management Plan provides a portfolio of programs aimed at all segments of the market place. The proposed programs and related goals are aggressive and will employ all phases of the Company's operations. The programs will use all the Company's customer contact mechanisms: personal contact, advertising, and civic groups. For the first time, the Internet will also be used to inform, educate, promote, and deliver several of the demand side programs.

The 2001 Demand Side Management Plan contains existing programs and enhancements to current offering. In the residential market, the GoodCents Home will continue to be offered and additionally will be complemented with the Energy Star Home Program. In an effort to further enhance the GoodCents Home Program and market it more efficiently and effectively, the GoodCents Program signed a Memorandum of Understanding with the Department of Energy (DOE) and the Environmental Protection Agency (EPA). This agreement provides Florida Public Utilities Company the opportunity to offer the Energy Star Home Program to our builders and customers and correlates the performance of GoodCents homes to the nationally recognized Energy Star efficiency label.

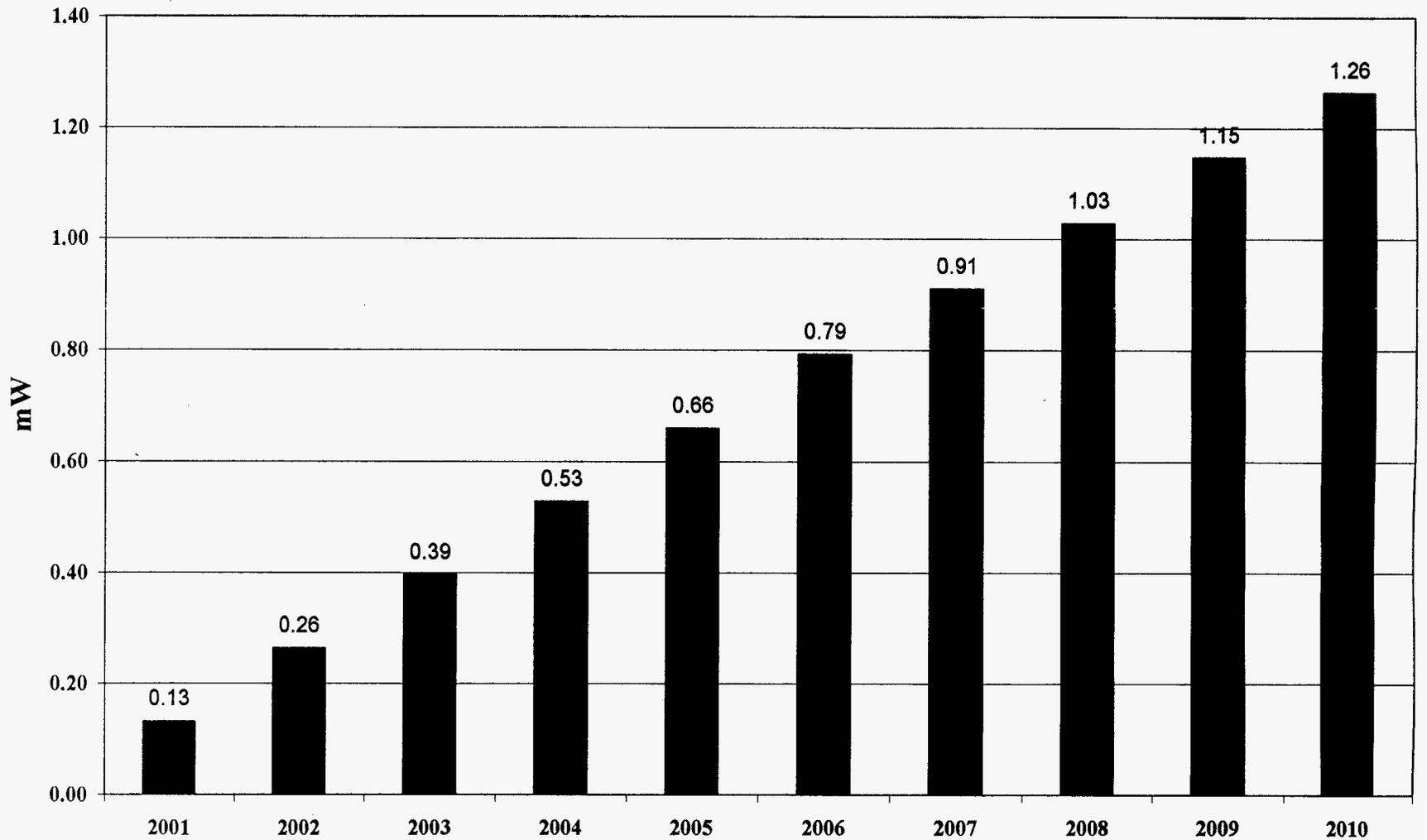
# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

Florida Public Utilities Company has provided customers benefits through energy conservation educational programs for many years. However, it is recognized that low-income customers may be less likely to participate in particular programs due to a lack of disposable income. The goal of the low-income educational program is to increase energy efficient awareness and the benefits of energy conservation for this targeted group. One of the most effective means of educating and communicating the value of energy conservation is through the GoodCents Energy Survey. The GoodCents Energy Survey continues to focus on increasing awareness and understanding of factors that influence energy purchases such as a home's thermal envelope, equipment, and lifestyle. In order to better reach a broader customer base, Florida Public Utilities Company will offer educational programs to low-income customers working with local low-income housing agencies within Florida Public Utilities Company's service territory. Florida Public Utilities Company plans to increase its GoodCents Energy Survey participation among low-income families and educate homebuilders within the affordable housing sector on energy efficiency and conservation.

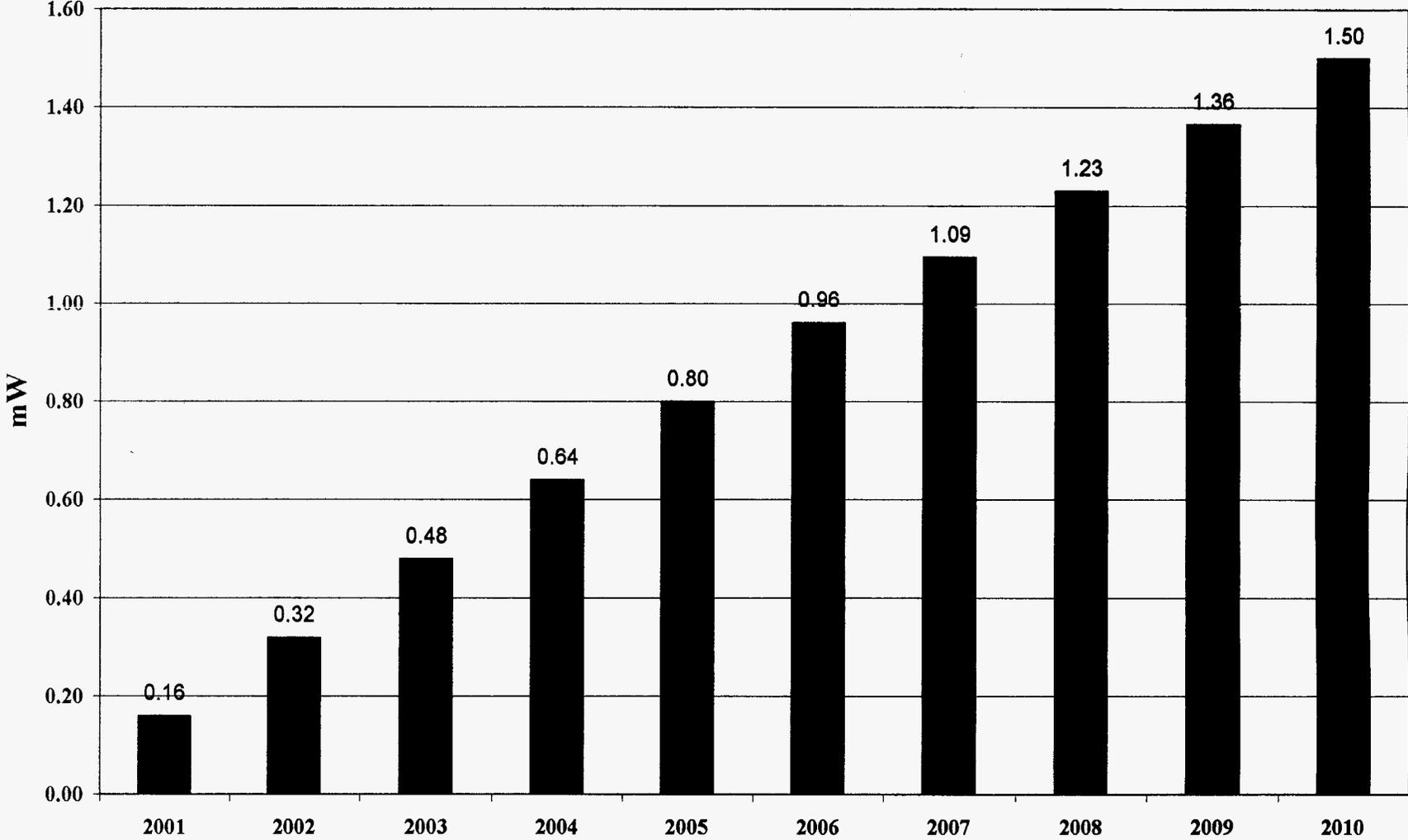
Further, Florida Public Utilities Company plans to identify the affordable housing builders within the service area and encourage them to attend education seminars and workshops related to energy efficient construction, retrofit programs, financing programs, etc., and to participate in the GoodCents Home program. Florida Public Utilities Company will work with local organizations to offer a minimum of two seminars and/or workshops per year.

A summary of the goals by market, residential and commercial/industrial, is provided in the following attached graphs. The graphs show the numeric goals Florida Public Utilities Company plans to achieve for the 10-year period of 2001 to 2010.

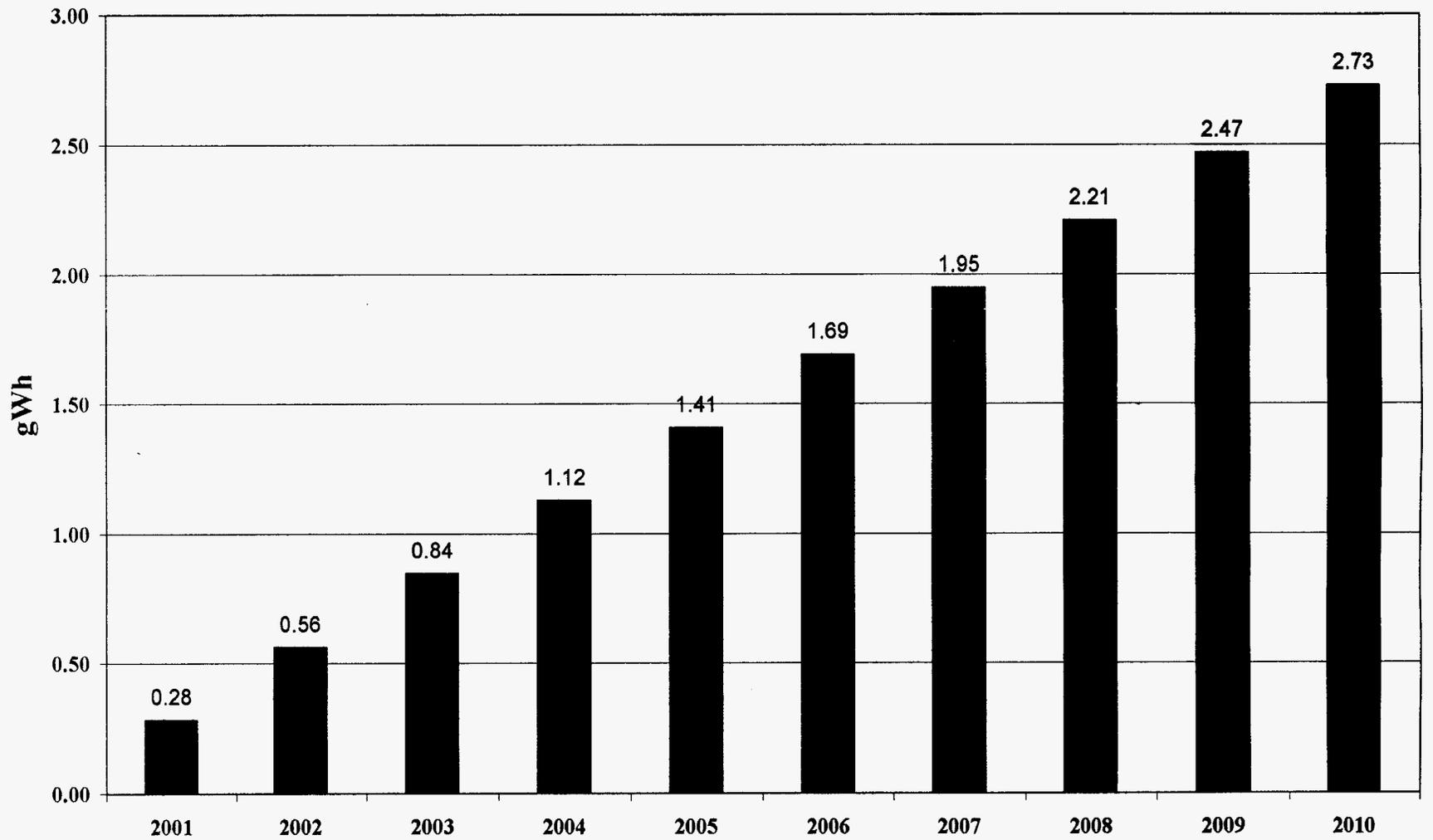
**Florida Public Utilities Company - Residential Market  
Summer mW: DSM Plan and Goals**



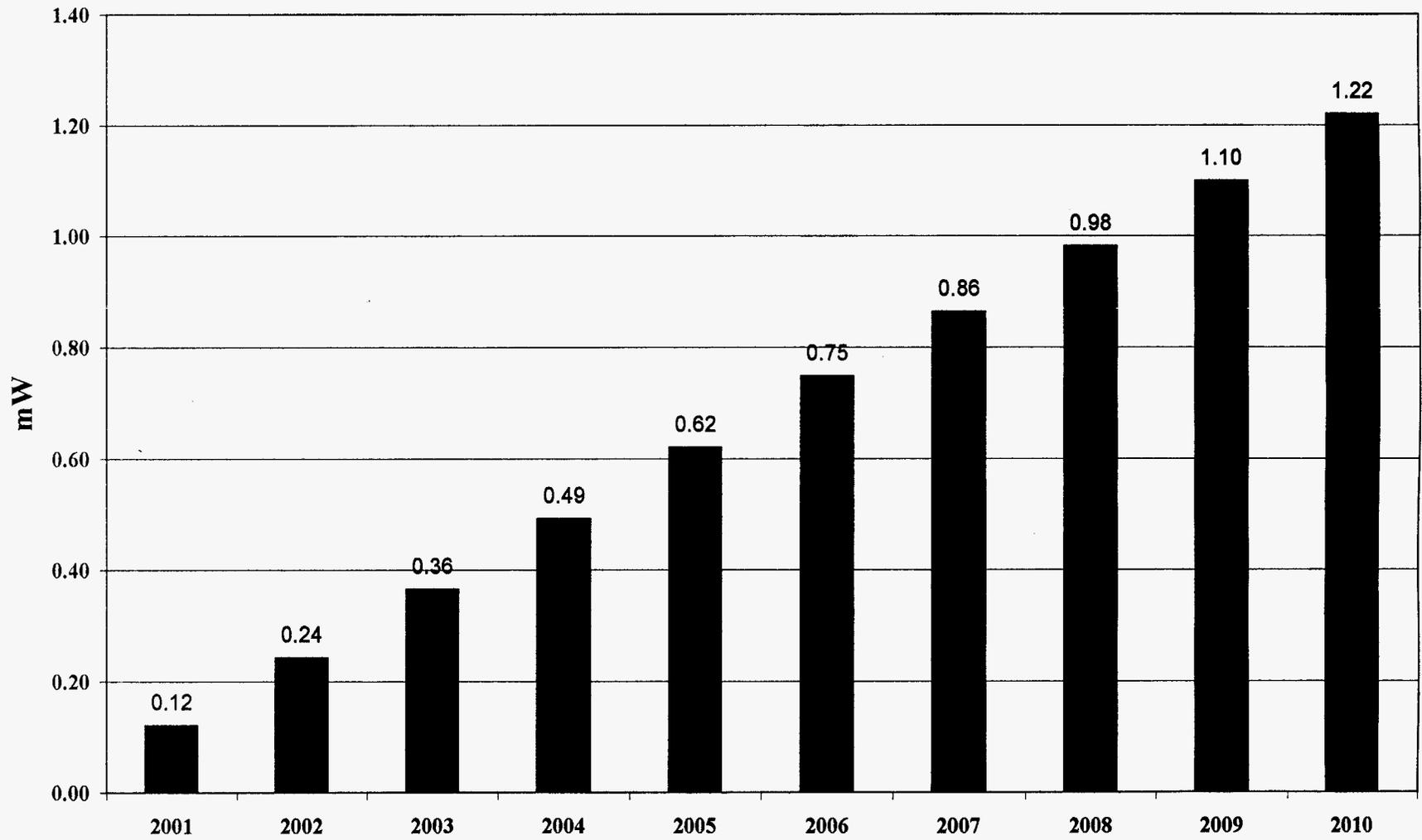
**Florida Public Utilities Company - Residential Market  
Winter mW: DSM Plan and Goals**



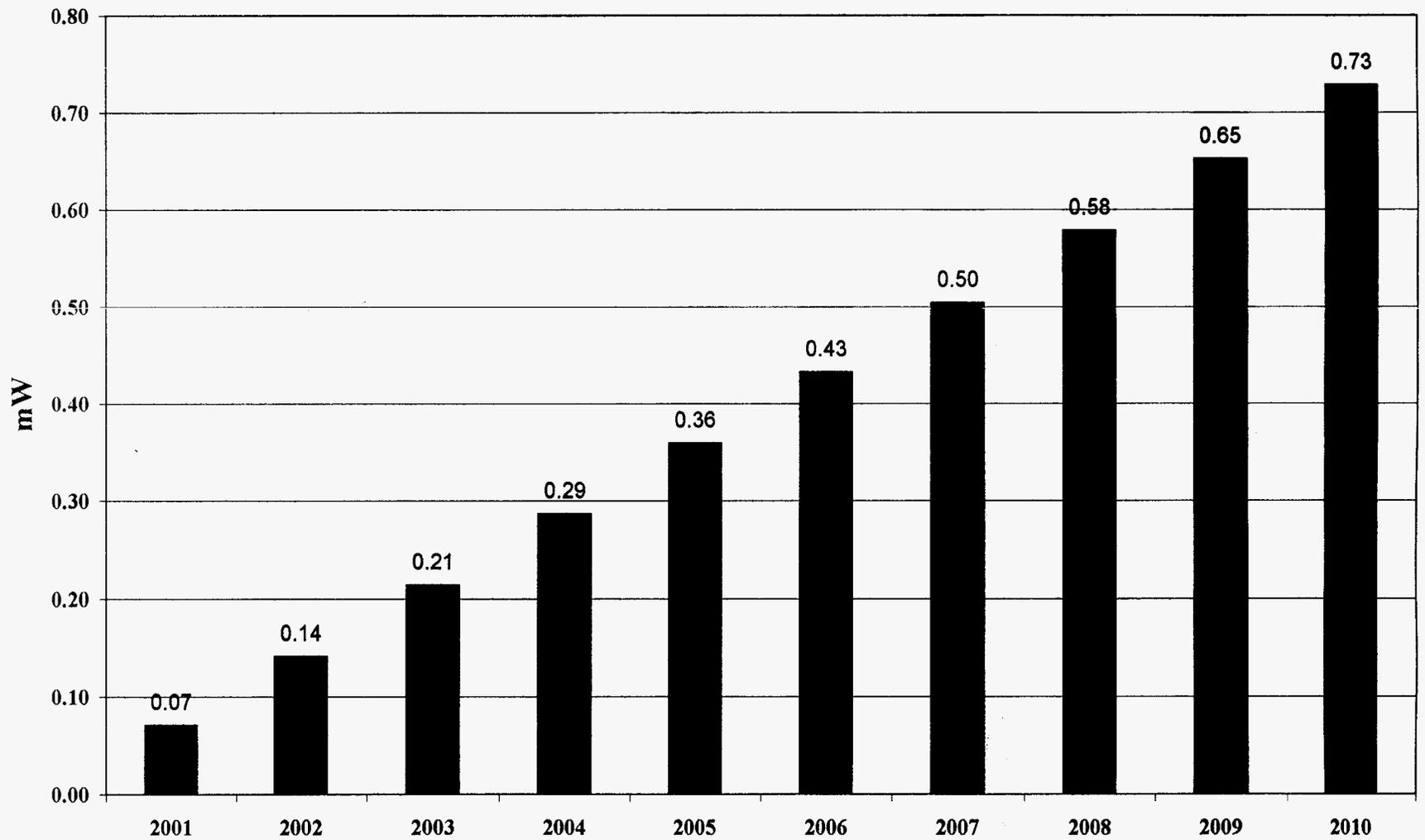
### Florida Public Utilities Company - Residential Market Annual gWh: DSM Plan and Goals



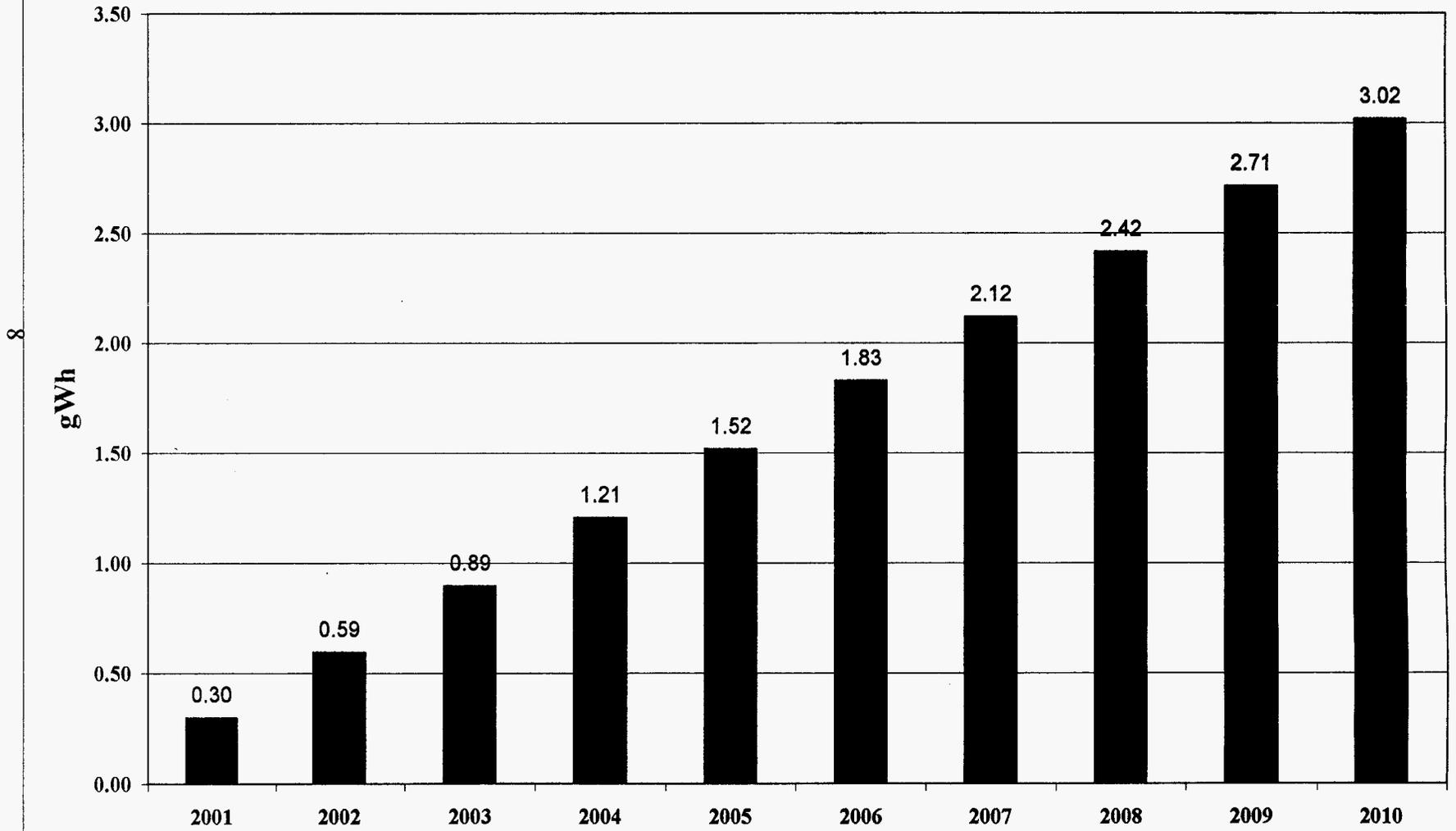
**Florida Public Utilities Company - Commercial Markets  
Summer mW: DSM Plan and Goals**



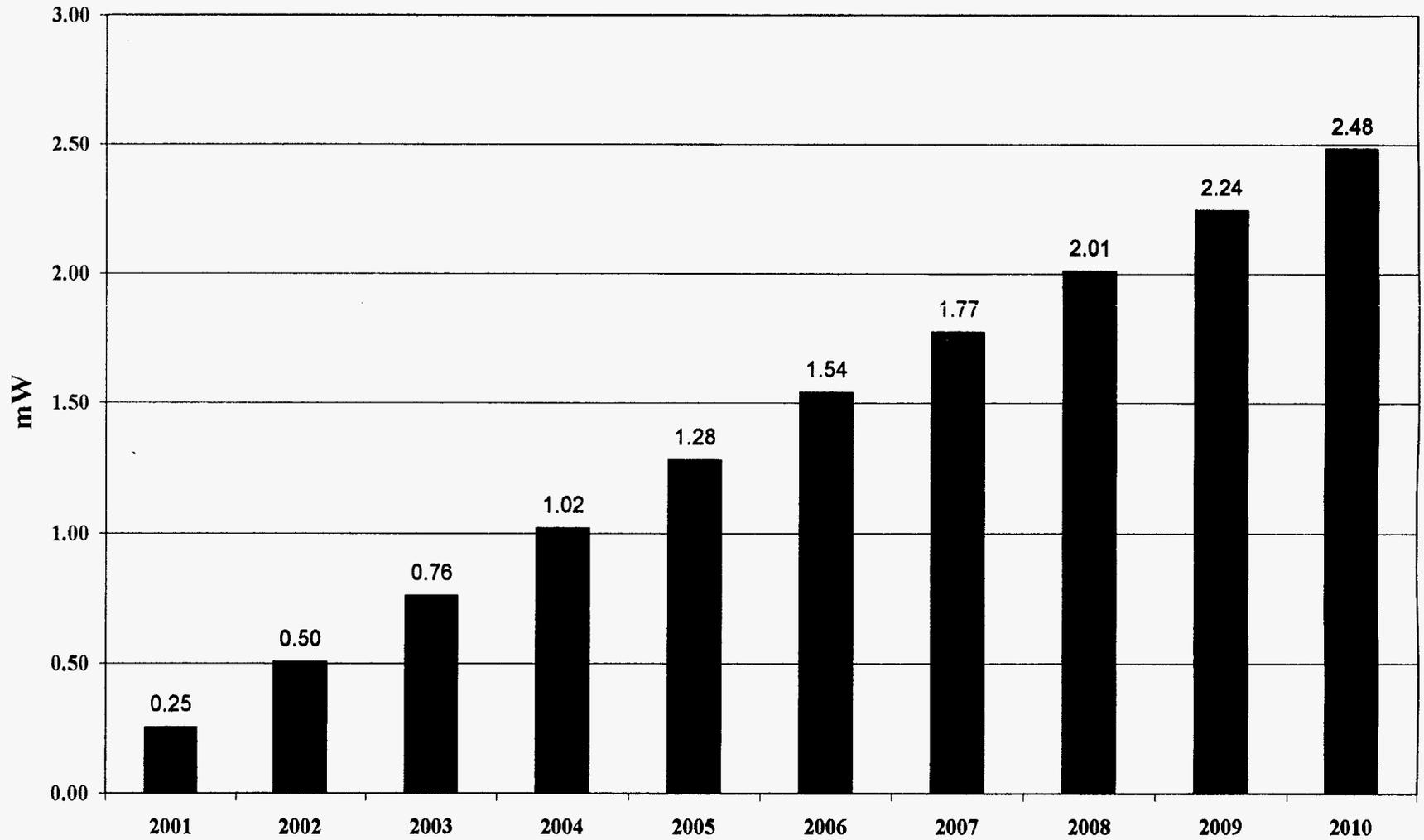
**Florida Public Utilities Company - Commercial Market  
Winter mW: DSM Plan and Goals**



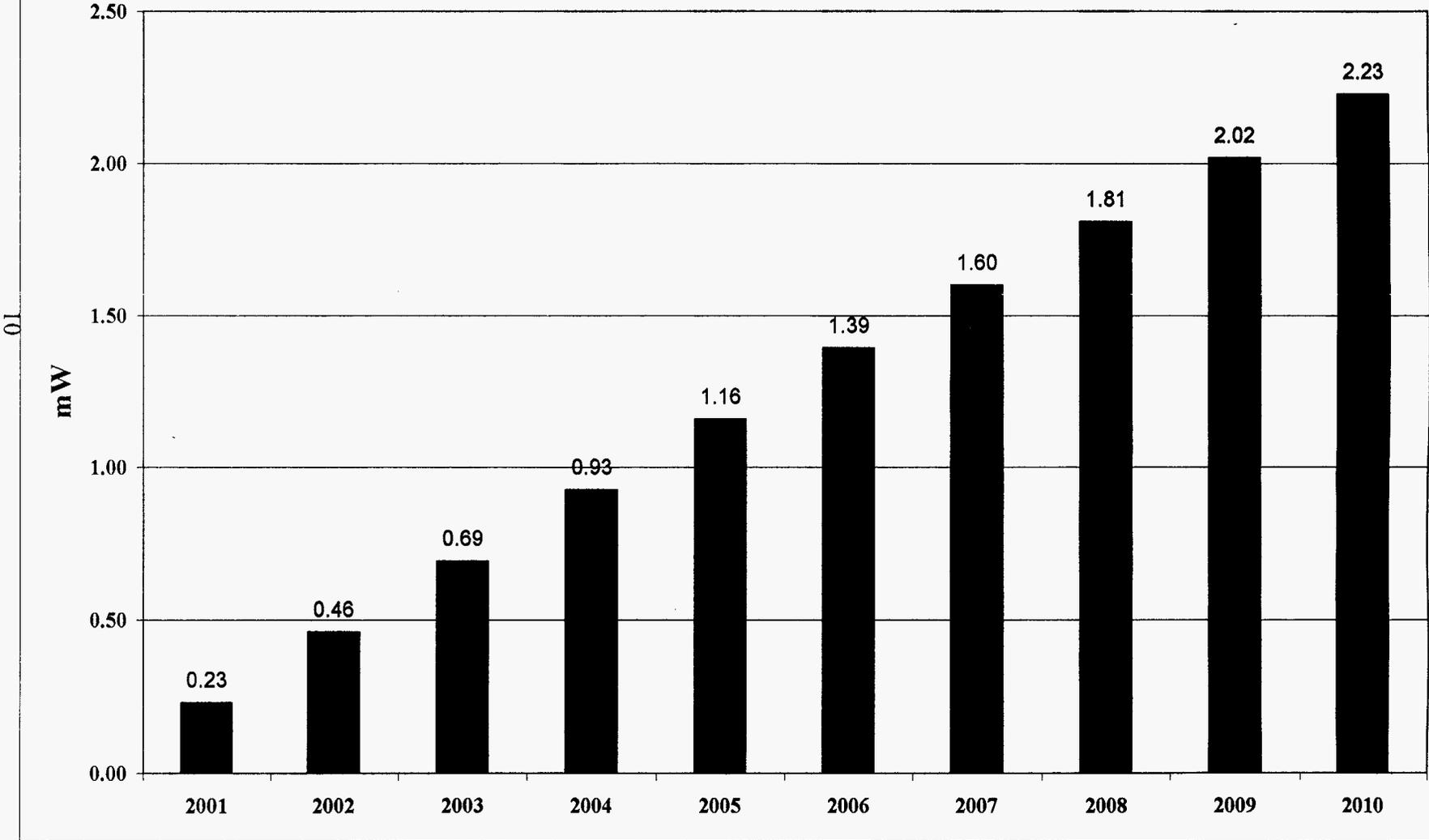
**Florida Public Utilities Company - Commercial Markets  
Annual gWh: DSM Plan and Goals**



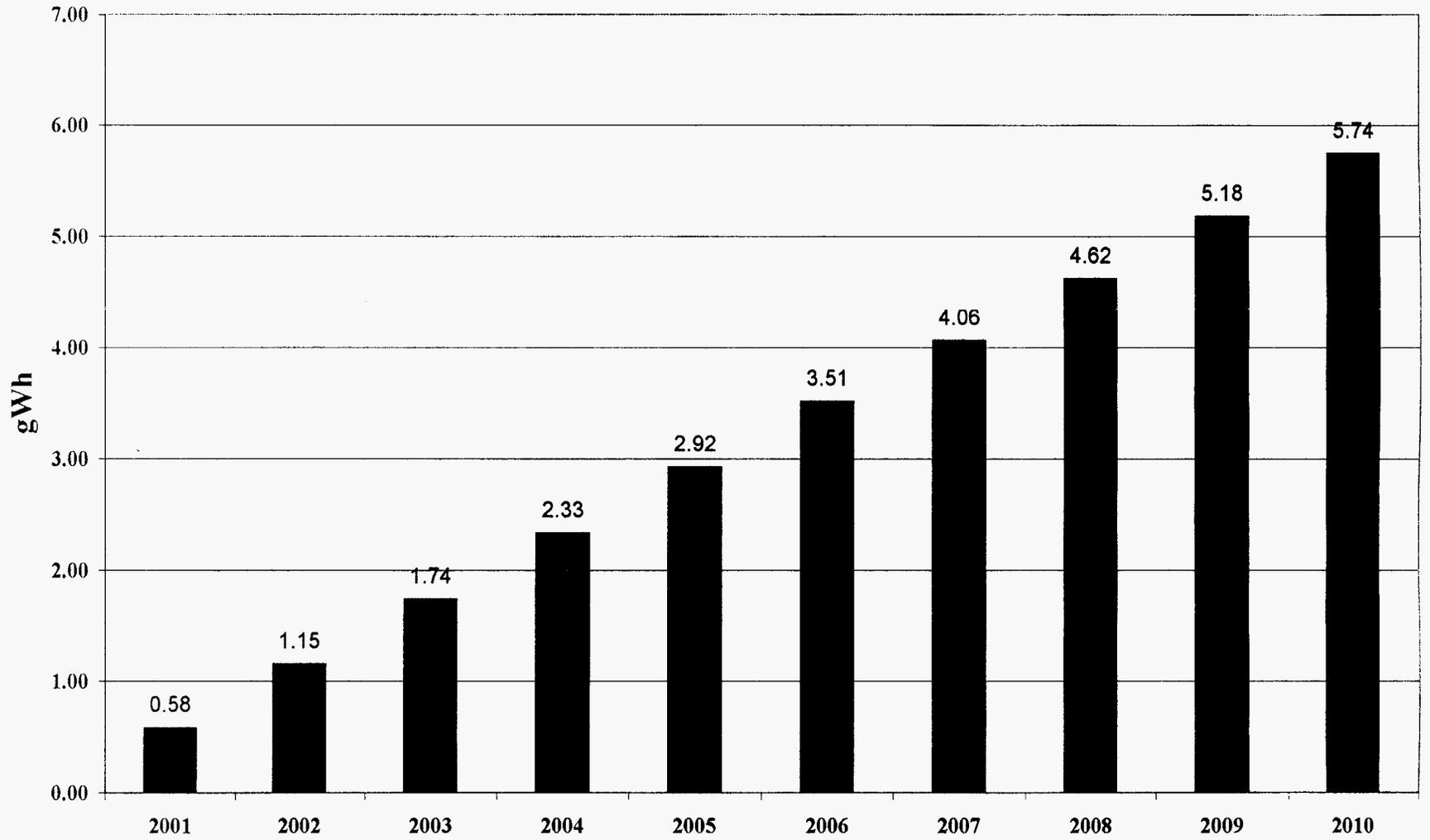
### Florida Public Utilities Company - Total All Markets Summer mW: DSM Plan and Goals



**Florida Public Utilities Company - Total All Markets  
Winter mW: DSM Plan and Goals**



**Florida Public Utilities Company - Total All Markets :  
Annual gWh: DSM Plan and Goals**



# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

## Residential Programs

### Residential Geothermal Heat Pump Program

- **Program Description**

The objective of the Residential Geothermal Heat Pump Program is to reduce the demand and energy requirements of new and existing residential customers through the promotion and installation of advanced and emerging geothermal systems. Due to the long life of space conditioning equipment, the choices that are made over the next decade regarding space conditioning equipment will have important economic and environmental ramifications lasting well into the next century. Geothermal heat pumps provide significant benefits to participating customers in the form of reduced operating costs and increased comfort levels, and are superior to other available heating and cooling technologies with respect to source efficiency and environmental impacts. Florida Public Utilities Company's Geothermal Heat Pump program is designed to overcome existing market barriers, specifically, lack of consumer awareness, knowledge and acceptance of this technology. This program will promote efficiency levels well above current market conditions, specifically those units with an Energy Efficiency Ratio (EER) of 13.0 or higher.

According to the Department of Energy (DOE) geothermal technology is the most energy-efficient and environmentally clean space-conditioning system available today. Additionally, a recent DOE study indicates that geothermal systems have the lowest life-cycle cost of any HVAC system today.

In addition, the Environmental Protection Agency (EPA) in a 1993 report titled "Space Conditioning: The Next Frontier" stated that advanced residential space conditioning equipment can save consumers money, significantly reduce emissions and can be highly cost-effective for utility conservation programs. In this report, EPA explored advanced alternative space conditioning technologies and the opportunities each provides for cost-effective energy savings and pollution prevention. EPA compared

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

the performance and cost of emerging high-efficiency space conditioning equipment with equipment already on the market (i.e. high efficiency air source heat pump, emerging ground source heat pump, emerging gas-fired heat pump, advanced gas furnace/high efficient AC, etc.). All comparisons were based on source energy performance taking into account losses associated with all stages of energy use, i.e. energy production, transmission, and distribution.

A summary of the major findings included:

- The emerging ground source heat pump had the highest source heating season performance factor (HSPF) in all locations.
- The emerging ground source heat pump also had the highest cooling HSPF in all locations, followed by the advanced ground source heat pump.
- The emerging and advanced ground source heat pump systems were highly cost-effective as replacement units when compared to all other systems.

Florida Public Utilities Company intends to continue this program over a sustained period of time in order to educate consumers on geothermal technology and raise awareness about the availability, affordability, and improved customer satisfaction associated with these units. This commitment is necessary to foster a stable market for this promising technology. Not only will this increase customer and trade ally confidence, it will serve to encourage competition within this technology market and reduce the higher initial cost generally associated with new technology.

- **Participation Standards**

- The Residential Geothermal Heat Pump Program will provide Florida Public Utilities Company's residential customers an incentive to install advanced residential space conditioning technologies; specifically, geothermal HVAC systems. Florida Public Utilities Company will promote these systems by providing: guaranteed heating and cooling operating costs to customers installing

## FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

geothermal heat pumps in single family homes; \$500 rebate for multifamily projects; financing availability for qualified geothermal installations in existing homes; economic analyses and comparisons; and Florida Public Utilities Company will participate in field days and demonstration projects.

- All Florida Public Utilities Company served single and multifamily dwellings in new or existing structures are eligible for the program. Single-family is defined as a unit occupied by one family or household, which includes single-family detached or duplex. Multifamily is defined as three or more units attached within a single structure.
- All participants must be willing to have an existing home energy survey or new home plan review completed to address proper HVAC sizing, proper installation and other conservation measures.
- To qualify for the guaranteed heating and cooling cost or the multifamily incentive the geothermal heat pump must meet the minimum efficiency of 13.0 EER at 90° entering water temperature (85° if 90° data is not published) and water flow of 3.0 gallons per minute per ton.
- The incentive will be issued for only one 13.0 EER geothermal unit per dwelling unit. It is not based on the unit size (ex: 12,000 BTUH or 36,000 BTUH).
- All participants will be paid per dwelling unit in one single payment after verification and inspection by a Florida Public Utilities Company Energy Consultant.

To qualify for guaranteed heating and cooling costs, the closed loop geothermal installation must meet specific installation guidelines. A Florida Public Utilities Company Energy Consultant will perform duct diagnostics during new home construction process or at existing home before and after equipment installation as necessary to assure installation guidelines are met.

The equipment contractor or electrician will set the Florida Public Utilities Company provided electrical meter and meter enclosure in close proximity to the geothermal unit.

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

Heating and cooling costs will be estimated for determining the guaranteed amount by performing a Residential Building Energy Program (RBEP) energy calculation on the home with the performance data on the actual unit to be installed and comfort conditions of seventy-two (72) degrees winter and seventy-five (75) degrees summer. The annual heating and cooling kWh times 7.0 cents will give the approximate annual cost. Guarantee will actually be based on kWh usage.

Meter must be read by Florida Public Utilities Company personnel at the time of owner occupancy to assure accurate record (unit could be used during construction for heating/cooling or drying in some cases). One year from date of original meter reading, Florida Public Utilities Company representative will read the meter to determine actual kWh usage during the first year. At the end of year two, a Florida Public Utilities Company representative will read the meter to determine actual kWh usage during the second year. If actual kWh for either of the two years exceeds the warranted usage, documentation of the warranted and actual usage will be forwarded to Florida Public Utilities Company Corporate Office Marketing for customer reimbursement. A copy of the geothermal heat pump heating and cooling cost guarantee is provided as Attachment A.

Florida Public Utilities Company reserves the right to weather normalize the original estimate of guaranteed amount if combined heating and cooling degree hours exceed typical meteorological year (TMY) degree hours by 10% or more.

- **Benefits and Costs**

All kW and kWh reduction is compared to a minimum code base unit of 10.0 SEER. The minimum summer kW reduction projected is 1.2 ranging to 1.7 dependent on existing home or new home construction, respectively. The weighted average summer kW reduction is 1.45 for all homes. The annual kWh reductions range from 1,183 for existing homes and 2,841 for new home construction with

# FLORIDA PUBLIC UTILITIES COMPANY

## DEMAND SIDE MANAGEMENT PLAN

a weighted average annual net reduction of 2,012 kWh. The kW and kWh savings are measured at the meter.

Calculations for kW and kWh savings are derived from the Residential Building Energy Program (RBEP) computer simulations. Inputs are based on Gulf Power's 1996 and 1997 averages for new home and existing home geothermal installations. The computations include only the effect of equipment efficiency alterations, not BTUH capacity or thermal package changes. Greater savings in kW and kWh will be realized when thermal packages are also improved.

- **Monitoring and Evaluation**

Florida Public Utilities Company will validate engineering analysis of energy and demand savings with billing data and metering of customer equipment. In order to assess levels and reasons for program non-participation, interviews will be conducted with program participants, dealers and customers that chose not to participate. Dependent upon the level of participation, surveys may be conducted among customers with the geothermal heat pump and those that have other systems to establish levels of customer satisfaction with the technology.

- **Cost Effectiveness**

Not applicable.

Attachment A

**GEOHERMAL HEAT PUMP  
 HEATING AND COOLING COST GUARANTEE**

Homeowner Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City, State, Zip \_\_\_\_\_  
 Phone Number \_\_\_\_\_  
 Date of Commencement \_\_\_\_\_  
 Warranted Heating and Cooling Cost \_\_\_\_\_

Florida Public Utilities Company, along with the Geothermal Heat Pump Installing Contractor and the Geothermal Loop Installer, certify that the geothermal closed loop heat pump(s) installed at the following location has met the installation guidelines necessary to qualify for a guarantee of the maximum energy use required to operate the geothermal system under normal operating conditions and the following limitations during two consecutive one year periods commencing at the date as noted above.

Meter reading (submeter) beginning \_\_\_\_\_  
 Meter reading (submeter) end of year one \_\_\_\_\_  
 Meter reading (submeter) end of year two \_\_\_\_\_  
 Warranted usage kWh annual \_\_\_\_\_  
 Actual kWh year one \_\_\_\_\_  
 Actual kWh year two \_\_\_\_\_

Florida Public Utilities Company warrants to the homeowner named above, that the energy required to operate the geothermal heat pump(s) installed at the listed address will not exceed the Warranted Usage kilowatt-hours (kWh). Heating and cooling Warranted Usage kWh were calculated by use of the Residential Building Energy Program (RBEP). The estimated operating cost of this Warranted Usage kWh is derived by multiplying the kWh times 7 cents. Florida Public Utilities Company reserves the right to adjust the warranted usage kWh by weather normalization if the combined

heating and cooling degree hours exceed Typical Meteorological Year (TMY) degree hours by 10% or more.

Should the Actual Usage kWh exceed the Warranted Usage kWh in any one-year period, Florida Public Utilities Company will reimburse the homeowner for 100 percent of the difference according to the following formula:

$$\begin{aligned} & \text{Meter reading (submeter) end of period} \\ & - \text{beginning meter reading (submeter)} \\ & \quad \text{Actual Usage for heating and cooling} \\ & - \text{Warranted Usage (may be weather adjusted)} \\ & \times \text{Rate (customer's average annual cost per kWh)} \\ & = \text{Reimbursement Due} \end{aligned}$$

**Homeowner Responsibilities**

In order to maintain this guarantee, the Homeowner agrees to:

1. Maintain reasonable temperatures not below seventy-five (75) degrees F during the cooling season or above seventy-two (72) degrees F during the heating season.
2. Practice reasonable energy conservation habits.
3. Change or clean heat pump filters regularly as recommended by the equipment manufacturer.
4. Service the HVAC equipment as recommended by the equipment manufacturer.
5. Provide reasonable access Florida Public Utilities Company Energy Consultant to read and record meter reading at the end of year one and year two time periods.
6. Inform Florida Public Utilities Company Energy Consultant of any alteration or modifications to property or equipment as well as any equipment malfunction that may affect heat pump energy consumption. Homeowner agrees that such alteration, modification or malfunction may cause this guarantee to terminate.

Florida Public Utilities Energy Consultant  
 Energy Consultant Signature \_\_\_\_\_

Geothermal Dealer  
 Dealer Signature \_\_\_\_\_

Geothermal Loop Installer  
 Loop Installer Signature \_\_\_\_\_

## **LIMITATIONS**

Florida Public Utilities Company shall not be liable for any incidental or consequential damages resulting from breach of the guarantee other than as expressly stated in this agreement.

The Homeowner recognizes and agrees that Florida Public Utilities Company is not a seller, distributor, manufacturer or installer of the equipment described herein, and that Florida Public Utilities Company makes no warranties, express or implied, including warranties of merchantability or fitness for purpose, except that Florida Public Utilities Company warrants that the energy required to operate the geothermal heat pump(s) installed at the listed address will not exceed the Warranted Usage kilowatt hours. Homeowner agrees that Florida Public Utilities Company will not be liable for any direct, indirect or consequential damage suffered by the Homeowner or third party caused by the heating and cooling system, its use, installation, manufacture, or performance or lack of performance. This warranty is non-transferable.

## **INSPECTIONS**

Florida Public Utilities Company shall have the right to verify by conducting an inspection of the Homeowner's dwelling any warranty claim made by the Homeowner. Florida Public Utilities Company shall have the right to enter the Homeowner's dwelling and to make an inspection at a reasonable time by giving to the Homeowner a notice of intention to inspect at least 48 hours prior to such inspection. Customer shall not withhold consent to Florida Public Utilities Company to conduct an inspection and agrees to be present at the dwelling at the time of the inspection.

## **GEOHERMAL HEAT PUMP**

### **Installation Guidelines**

Job specifications and installation guidelines are as follows:

- Must be closed loop geothermal heat pump.
- The geothermal heat pump must meet the minimum efficiency of 13.0 EER at 90° entering water temperature (85° if 90° data is not published) and water flow of 3.0 gallons per minute per ton.
- Pressure and temperature (P/T) ports shall be installed on all loop systems.
- All piping for loop shall be PE 3408 polyethylene pipe with heat fused joints.
- Exposed polyethylene pipe shall be insulated with minimum 3/8 inch armaflex or equivalent to prevent condensation and potential moisture damage to surrounding materials.
- All loop piping is to be pressure tested above ground prior to placing in bore holes or trench.
- All vertical bore holes are to be grouted/sealed at surface penetrations or in accordance with standard water management requirements.
- Unit shall be set on sound deadening/vibration isolation pad.
- Equipment shall be sized according to Manual J or equivalent load calculation procedure.
- Equipment contractor shall provide manufacturer letter of certification to install ground source closed loop heat pumps.
- Loop contractor to provide manufacturer letter of certification in heat fusion, design (sizing), and installation of ground source closed loop systems.
- Loop contractor guarantees that loop temperature will not exceed design condition of 100-degree entering water temperature during normal cooling operations.
- Ducts shall be visually inspected for leakage. Any visible problem areas or leakage points shall be repaired or sealed.

**Florida Public Utilities Company  
Demand Side Management Plan  
Geothermal Heat Pump Program**

<b>AT THE METER</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	2,012	1.9	1.45	-	0.00	0.00
2002	2,012	1.9	1.45	-	0.00	0.00
2003	2,012	1.9	1.45	-	0.00	0.00
2004	2,012	1.9	1.45	-	0.00	0.00
2005	2,012	1.9	1.45	-	0.00	0.00
2006	2,012	1.9	1.45	-	0.00	0.00
2007	2,012	1.9	1.45	-	0.00	0.00
2008	2,012	1.9	1.45	-	0.00	0.00
2009	2,012	1.9	1.45	-	0.00	0.00
2010	2,012	1.9	1.45	-	0.00	0.00

<b>AT THE GENERATOR</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	2,167	2.46	1.88	-	0.00	0.00
2002	2,167	2.46	1.88	-	0.00	0.00
2003	2,167	2.46	1.88	-	0.00	0.00
2004	2,167	2.46	1.88	-	0.00	0.00
2005	2,167	2.46	1.88	-	0.00	0.00
2006	2,167	2.46	1.88	-	0.00	0.00
2007	2,167	2.46	1.88	-	0.00	0.00
2008	2,167	2.46	1.88	-	0.00	0.00
2009	2,167	2.46	1.88	-	0.00	0.00
2010	2,167	2.46	1.88	-	0.00	0.00

<b>Customers and Participation Rates</b>					
<b>YEAR</b>	<b>Total Number Of Customers</b>	<b>Total Number Of Eligible Customers</b>	<b>Annual Number of Program Participants</b>	<b>Cumulative Penetration Level %</b>	<b>Cumulative Number of Program Part.</b>
2001	21,632	190	0	0.0%	0
2002	22,170	190	0	0.0%	0
2003	22,688	194	0	0.0%	0
2004	23,184	194	0	0.0%	0
2005	23,714	194	0	0.0%	0
2006	24,231	196	0	0.0%	0
2007	24,424	114	0	0.0%	0
2008	24,619	118	0	0.0%	0
2009	24,818	118	0	0.0%	0
2010	25,018	118	0	0.0%	0

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

## **GoodCents Home/Energy Star Program**

- **Program Description**

The GoodCents Home Program has long been the standard for energy efficient construction in Northwest Florida and throughout other parts of the country where the GoodCents Program has been utilized by as many as 270 different utilities. For Florida Public Utilities Company and our customers, GoodCents homes provides guidance concerning energy efficiency in new construction by promoting energy efficient home construction techniques by evaluating components in the categories of design and construction practices.

In an effort to further enhance the GoodCents Home Program and market it more efficiently and effectively, GoodCents signed a Memorandum of Understanding with the Department of Energy (DOE) and the Environmental Protection Agency (EPA). Since Florida Public Utilities Company is a member of GoodCents this agreement provides the opportunity to offer the Energy Star Home Program to builders and customers and correlates the performance of GoodCents homes to the nationally recognized Energy Star efficiency label. In many cases, a standard GoodCents home will also qualify as an Energy Star home. The GoodCents Home standards continue to exceed the minimum efficiency standards for new construction as set forth by the Florida Model Energy Code.

- **Participation Standards**

The GoodCents Home/Energy Star Program is available to individuals or entities constructing new residential buildings served by Florida Public Utilities Company's service area.

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

- **Benefits and Costs**

Through Florida Public Utilities Company's GoodCents Home/Energy Star Program, participating customers will experience lower utility bills, increased comfort, and the eligibility to utilize energy efficient home mortgage products. Florida Public Utilities Company's benefits include kWh energy reduction, kW demand savings, and increased customer satisfaction. Regardless of its designation as GoodCents or GoodCents and Energy Star, the average GoodCents home constructed in Northwest Florida today achieves a 0.5 kW demand reduction in the summer, 0.9 kW demand reduction in the winter and 929 kWh annual energy reduction. The energy and demand savings were determined through engineering analysis using the Residential Building Energy Program (RBEP) to compare an 1,800 square foot GoodCents /Energy Star Home to the same home built to the Florida Model Energy Code minimum standard as outlined below.

	<b><u>Code Built Home</u></b>	<b><u>GoodCents/ Energy Star Home</u></b>
Wall Insulation	R-11 Wall Insulation	R-13 Wall Insulation
Ceiling Insulation	R-30 Attic Insulation	R-38 Attic Insulation
Windows	Double Pane Windows	Double Pane Windows
Doors	Wood Doors	Insulated Doors
Heating	.78 AFUE/3.1 COP	.90 AFUE/3.25 COP
Cooling	10.0 SEER	12.0 SEER

- **Monitoring and Evaluation**

Florida Public Utilities Company will track the number of homes meeting the GoodCents/Energy Star Home guidelines. Florida Public Utilities Company will validate engineering analysis of energy and demand savings with building data and metering. Depending on the level of program participation, interviews may be performed with participants and non-participants, including both builders and homeowners, to establish acceptance and customer satisfaction with the program

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

- **Cost-Effectiveness**

This program is cost effective using the Commission's approved methodology (Rule 25-17.008). The summary tables of demand and energy reductions are included in Attachment A. The cost effectiveness FIRE model results are included in Attachment B.

**Florida Public Utilities Company  
 Demand Side Management Plan**

**GoodCents Home/Energy Star Program**

<b>AT THE METER</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	929	0.90	0.50	52,953	51	29
2002	929	0.90	0.50	105,906	103	57
2003	929	0.90	0.50	159,974	155	86
2004	929	0.90	0.50	214,042	207	115
2005	929	0.90	0.50	268,109	260	144
2006	929	0.90	0.50	322,735	313	174
2007	929	0.90	0.50	354,506	343	191
2008	929	0.90	0.50	387,393	375	209
2009	929	0.90	0.50	420,280	407	226
2010	929	0.90	0.50	453,166	439	244

<b>AT THE GENERATOR</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	971	1.10	0.61	55,347	63	35
2002	971	1.10	0.61	110,694	125	70
2003	971	1.10	0.61	167,206	189	105
2004	971	1.10	0.61	223,718	253	141
2005	971	1.10	0.61	280,231	317	176
2006	971	1.10	0.61	337,325	382	212
2007	971	1.10	0.61	370,534	420	233
2008	971	1.10	0.61	404,907	459	254
2009	971	1.10	0.61	439,280	498	276
2010	971	1.10	0.61	473,654	537	298

<b>Customers and Participation Rates</b>					
<b>YEAR</b>	<b>Total Number Of Customers</b>	<b>Total Number Of Eligible Customers</b>	<b>Annual Number of Program Participants</b>	<b>Total Penetration Level %</b>	<b>Cumulative Number of Program Part.</b>
2001	21,632	190	57	30.0%	57
2002	22,170	190	57	30.0%	114
2003	22,688	194	58	30.0%	172
2004	23,184	194	58	30.0%	230
2005	23,714	194	58	30.0%	288
2006	24,231	196	59	30.0%	347
2007	24,424	114	34	30.0%	381
2008	24,619	118	35	30.0%	416
2009	24,818	118	35	30.0%	451
2010	25,018	118	35	30.0%	486

INPUT DATA -- PART 1

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

I. Program Demand Impacts and Line Losses

(1) Change in Peak kW Customer at meter	-0.50	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.61	kW Gen/Cus
(3) kW Line Loss Percentage	5.99%	
(4) Change in kWh per Customer at generator	(971)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	4.50%	
(6) Group Line Loss Multiplier	1.0014	
(7) Annual Change in Customer kWh at Meter	(929)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.90	kW/Cus

II. Economic Life and K-Factors

(1) DSM Program Study Period	30	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4084	
(5) K-Factor for T&D	1.4038	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

III. Utility & Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$200.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.25	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$475.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	3.50%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	3.50%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	3.50%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	3.50%	
* (12) Utility Discount Rate	8.07%	
* (13) Utility AFUDC Rate	9.84%	
* (14) Utility Nonrecurring Rebate/Incentive	\$0.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

IV. Incremental Generation, Transmission, & Distribution Costs

(1) Base Year	2001	
(2) In-Service Year For Incremental Generation	2001	**
(3) In-Service Year For Incremental T & D	2002	
(4) Base Year Incremental Generation Cost	\$234.85	\$/kW
(5) Base Year Incremental Transmission Cost	\$58.33	\$/kW
(6) Base Year Incremental Distribution Cost	\$34.18	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	3.50%	
(8) Generator Fixed O & M Cost	\$3.21	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	2.88%	
(10) Transmission Fixed O & M Cost	\$0.73	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$0.85	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	3.50%	
(13) Incremental Gen Variable O & M Costs	\$0.389	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	3.52%	
(15) Incremental Gen Capacity Factor	3.40%	
(16) Incremental Generating Unit Fuel Cost	\$0.0363	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	3.34%	
(18) Incremental Purchased Capacity Cost	\$22.71	\$/kW/Yr
(19) Incremental Capacity Cost Esc Rate	2.38%	

Stop Revenue Loss at In-Service Year? (Y=1, N=0) 0

V. (1) Non-Fuel Cost in Customer Bill (Base Year)

(1) Non-Fuel Cost In Customer Bill (Base Year)	\$0.0122	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$0.0000	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	0	kW/Mo.

Summary Results for This Analysis

	RIM	Participants'
NPV Benefits(\$000s)	\$302	\$202
NPV Costs (\$000s)	\$276	\$196
NPV Net Benefits (\$000s)	\$25	\$6
Benefit:Cost Ratio	1.09	1.03

\*\* The relevant avoidable generation unit is a combustion turbine peaking unit. Since the kilowatt savings occur at the time of the system peak, this is the appropriate unit against which to measure cost savings.

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**INPUT DATA -- PART 2**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11
<u>Year</u>	<u>Cumulative Total Participating Customers</u>	<u>Cumulative Participating Customers Adj Free Rides</u>	<u>Utility Average System Fuel Cost (C / kWh)</u>	<u>Marginal Fuel Cost (Decreases) (C / kWh)</u>	<u>Marginal Fuel Cost (Increases) (C / kWh)</u>	<u>Replacement Fuel Cost (C / kWh)</u>	<u>Program kW Effectiveness Factor</u>	<u>Program kWh Effectiveness Factor</u>	<u>Other Costs (\$000)</u>	<u>Other Benefits (\$000)</u>
2001	57	57	3.3200	3.3200	3.3200	3.3200	1.00	1.00	\$0	\$0
2002	114	114	3.3500	3.3500	3.3500	3.3500	1.00	1.00	\$0	\$0
2003	172	172	3.3800	3.3800	3.3800	3.3800	1.00	1.00	\$0	\$0
2004	230	230	3.4100	3.4100	3.4100	3.4100	1.00	1.00	\$0	\$0
2005	288	288	3.4500	3.4500	3.4500	3.4500	1.00	1.00	\$0	\$0
2006	347	347	3.4800	3.4800	3.4800	3.4800	1.00	1.00	\$0	\$0
2007	381	381	3.5200	3.5200	3.5200	3.5200	1.00	1.00	\$0	\$0
2008	416	416	3.5800	3.5800	3.5800	3.5800	1.00	1.00	\$0	\$0
2009	451	451	3.6500	3.6500	3.6500	3.6500	1.00	1.00	\$0	\$0
2010	486	486	3.7200	3.7200	3.7200	3.7200	1.00	1.00	\$0	\$0
2011	486	486	3.3770	3.3770	3.3770	3.3770	1.00	1.00	\$0	\$0
2012	486	486	3.8300	3.8300	3.8300	3.8300	1.00	1.00	\$0	\$0
2013	486	486	3.8900	3.8900	3.8900	3.8900	1.00	1.00	\$0	\$0
2014	486	486	3.9500	3.9500	3.9500	3.9500	1.00	1.00	\$0	\$0
2015	486	486	4.0100	4.0100	4.0100	4.0100	1.00	1.00	\$0	\$0
2016	486	486	4.0700	4.0700	4.0700	4.0700	1.00	1.00	\$0	\$0
2017	486	486	4.1300	4.1300	4.1300	4.1300	1.00	1.00	\$0	\$0
2018	486	486	4.1900	4.1900	4.1900	4.1900	1.00	1.00	\$0	\$0
2019	486	486	4.2500	4.2500	4.2500	4.2500	1.00	1.00	\$0	\$0
2020	486	486	4.3100	4.3100	4.3100	4.3100	1.00	1.00	\$0	\$0
2021	486	486	4.3800	4.3800	4.3800	4.3800	1.00	1.00	\$0	\$0
2022	486	486	4.4500	4.4500	4.4500	4.4500	1.00	1.00	\$0	\$0
2023	486	486	4.5100	4.5100	4.5100	4.5100	1.00	1.00	\$0	\$0
2024	486	486	4.5800	4.5800	4.5800	4.5800	1.00	1.00	\$0	\$0
2025	486	486	4.6500	4.6500	4.6500	4.6500	1.00	1.00	\$0	\$0
2026	486	486	4.7200	4.7200	4.7200	4.7200	1.00	1.00	\$0	\$0
2027	486	486	4.7900	4.7900	4.7900	4.7900	1.00	1.00	\$0	\$0
2028	486	486	4.8600	4.8600	4.8600	4.8600	1.00	1.00	\$0	\$0
2029	486	486	4.9300	4.9300	4.9300	4.9300	1.00	1.00	\$0	\$0
2030	486	486	5.0100	5.0100	5.0100	5.0100	1.00	1.00	\$0	\$0

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Incremental Generation Capacity Costs or Benefits

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

1	2	3	4	5	6	(6a)	7
Year	Incremental Owned Gen. Capacity Cost (\$000s)	Incremental Generation Fixed O&M (\$000s)	Incremental Generation Variable O&M (\$000s)	Fuel Cost for the Incr. Cap. (\$000s)	Replacement Fuel Cost (\$000s)	Incremental Purchased Gen. Capacity Cost (\$000s)	Incremental Gen. Capacity Costs (\$000s)
2001		(\$0)	(\$0)	(\$0)	(\$0)	(\$1)	(\$1)
2002		(\$0)	(\$0)	(\$1)	(\$1)	(\$2)	(\$2)
2003		(\$0)	(\$0)	(\$1)	(\$1)	(\$2)	(\$2)
2004		(\$0)	(\$0)	(\$2)	(\$1)	(\$3)	(\$4)
2005		(\$1)	(\$0)	(\$2)	(\$2)	(\$4)	(\$5)
2006		(\$1)	(\$0)	(\$3)	(\$2)	(\$5)	(\$7)
2007		(\$1)	(\$0)	(\$3)	(\$2)	(\$6)	(\$8)
2008		(\$1)	(\$0)	(\$3)	(\$3)	(\$7)	(\$9)
2009		(\$1)	(\$0)	(\$4)	(\$3)	(\$8)	(\$10)
2010		(\$1)	(\$0)	(\$4)	(\$3)	(\$8)	(\$11)
2011		(\$1)	(\$0)	(\$4)	(\$3)	(\$9)	(\$11)
2012		(\$1)	(\$0)	(\$4)	(\$3)	(\$9)	(\$11)
2013		(\$1)	(\$0)	(\$4)	(\$3)	(\$9)	(\$11)
2014		(\$1)	(\$0)	(\$5)	(\$3)	(\$9)	(\$12)
2015		(\$1)	(\$0)	(\$5)	(\$4)	(\$9)	(\$12)
2016		(\$1)	(\$0)	(\$5)	(\$4)	(\$10)	(\$12)
2017		(\$1)	(\$0)	(\$5)	(\$4)	(\$10)	(\$13)
2018		(\$2)	(\$0)	(\$5)	(\$4)	(\$10)	(\$13)
2019		(\$2)	(\$0)	(\$6)	(\$4)	(\$10)	(\$14)
2020		(\$2)	(\$0)	(\$6)	(\$4)	(\$11)	(\$14)
2021		(\$2)	(\$0)	(\$6)	(\$4)	(\$11)	(\$15)
2022		(\$2)	(\$0)	(\$6)	(\$4)	(\$11)	(\$15)
2023		(\$2)	(\$0)	(\$7)	(\$4)	(\$11)	(\$16)
2024		(\$2)	(\$0)	(\$7)	(\$4)	(\$12)	(\$16)
2025		(\$2)	(\$0)	(\$7)	(\$4)	(\$12)	(\$17)
2026		(\$2)	(\$0)	(\$7)	(\$4)	(\$12)	(\$17)
2027		(\$2)	(\$0)	(\$8)	(\$4)	(\$12)	(\$18)
2028		(\$2)	(\$0)	(\$8)	(\$4)	(\$13)	(\$19)
2029		(\$2)	(\$0)	(\$8)	(\$4)	(\$13)	(\$19)
2030		(\$2)	(\$0)	(\$8)	(\$4)	(\$13)	(\$20)
Nominal		(\$40)	(\$5)	(\$144)	(\$96)	(\$261)	(\$355)
NPV	\$0	(\$12)	(\$2)	(\$41)	(\$30)	(\$73)	(\$104)

Incremental T&D Capacity and Incremental Fuel

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

1 Year	2 Incremental Transmission Capacity Cost (\$000s)	3 Incremental Transmission O&M Cost (\$000s)	4 Total Incremental Trans. Cost (\$000s)	5 Incremental Distribution Capacity Cost (\$000s)	6 Incremental Distribution O&M Cost (\$000s)	7 Total Incremental Dist. Cost (\$000s)	8 Effective Incremental Fuel Costs (\$000s)
2001	\$0	\$0	\$0	\$0	\$0	\$0	(\$2)
2002	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$4)
2003	(\$1)	(\$0)	(\$1)	(\$0)	(\$0)	(\$0)	(\$6)
2004	(\$1)	(\$0)	(\$1)	(\$0)	(\$0)	(\$1)	(\$8)
2005	(\$1)	(\$0)	(\$1)	(\$1)	(\$0)	(\$1)	(\$10)
2006	(\$1)	(\$0)	(\$1)	(\$1)	(\$0)	(\$1)	(\$12)
2007	(\$1)	(\$0)	(\$2)	(\$1)	(\$0)	(\$1)	(\$13)
2008	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$1)	(\$14)
2009	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$1)	(\$16)
2010	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$2)	(\$18)
2011	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$2)	(\$16)
2012	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$2)	(\$18)
2013	(\$2)	(\$0)	(\$3)	(\$1)	(\$0)	(\$2)	(\$18)
2014	(\$2)	(\$0)	(\$3)	(\$1)	(\$0)	(\$2)	(\$19)
2015	(\$2)	(\$0)	(\$3)	(\$1)	(\$0)	(\$2)	(\$19)
2016	(\$2)	(\$0)	(\$3)	(\$1)	(\$0)	(\$2)	(\$19)
2017	(\$3)	(\$0)	(\$3)	(\$1)	(\$0)	(\$2)	(\$19)
2018	(\$3)	(\$0)	(\$3)	(\$2)	(\$0)	(\$2)	(\$20)
2019	(\$3)	(\$0)	(\$3)	(\$2)	(\$0)	(\$2)	(\$20)
2020	(\$3)	(\$0)	(\$3)	(\$2)	(\$0)	(\$2)	(\$20)
2021	(\$3)	(\$0)	(\$3)	(\$2)	(\$1)	(\$2)	(\$21)
2022	(\$3)	(\$0)	(\$3)	(\$2)	(\$1)	(\$2)	(\$21)
2023	(\$3)	(\$0)	(\$4)	(\$2)	(\$1)	(\$2)	(\$21)
2024	(\$3)	(\$0)	(\$4)	(\$2)	(\$1)	(\$2)	(\$22)
2025	(\$3)	(\$0)	(\$4)	(\$2)	(\$1)	(\$3)	(\$22)
2026	(\$3)	(\$1)	(\$4)	(\$2)	(\$1)	(\$3)	(\$22)
2027	(\$4)	(\$1)	(\$4)	(\$2)	(\$1)	(\$3)	(\$23)
2028	(\$4)	(\$1)	(\$4)	(\$2)	(\$1)	(\$3)	(\$23)
2029	(\$4)	(\$1)	(\$4)	(\$2)	(\$1)	(\$3)	(\$23)
2030	(\$4)	(\$1)	(\$5)	(\$2)	(\$1)	(\$3)	(\$24)
Nominal	(\$68)	(\$10)	(\$79)	(\$40)	(\$12)	(\$52)	(\$511)
NPV	(\$20)	(\$3)	(\$22)	(\$11)	(\$3)	(\$15)	(\$161)

Worksheet for Utility Program Costs and Participants' Benefits & Costs

Utility Program Costs, Rebates, & Incentives								Participating Customers' Benefits and Costs						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Year	Annual Incremental kWh Generated (000s)	Utility Non-recurring Costs (\$000)	Utility Recurring Costs (\$000)	Total Utility Program Costs (\$000)	Utility Non-recurring Rebates/Incent. (\$000)	Utility Recurring Rebates/Incent. (\$000)	Total Utility Paid Rebates/Incent. (\$000)	Participant Equipment Costs (\$000)	Participant O&M Costs (\$000)	Total Participant Costs (\$000)	Change in Participants' Billed kWh (000s)	Change in Participants' Billed Fuel (\$000)	Change in Participants' Billed Non-Fuel (\$000)	Change in Participants' Electric Bills (\$000)
2001	(55)	\$11	\$0	\$11	\$0	\$0	\$0	\$27	\$0	\$27	(53)	(\$2)	(\$1)	(\$2)
2002	(111)	\$11	\$0	\$11	\$0	\$0	\$0	\$28	\$0	\$28	(106)	(\$4)	(\$1)	(\$5)
2003	(167)	\$12	\$0	\$12	\$0	\$0	\$0	\$30	\$0	\$30	(160)	(\$5)	(\$2)	(\$7)
2004	(223)	\$12	\$0	\$12	\$0	\$0	\$0	\$31	\$0	\$31	(214)	(\$7)	(\$3)	(\$10)
2005	(280)	\$12	\$0	\$12	\$0	\$0	\$0	\$32	\$0	\$32	(268)	(\$9)	(\$3)	(\$12)
2006	(337)	\$12	\$0	\$12	\$0	\$0	\$0	\$33	\$0	\$33	(322)	(\$11)	(\$4)	(\$15)
2007	(370)	\$7	\$0	\$7	\$0	\$0	\$0	\$20	\$0	\$20	(354)	(\$12)	(\$4)	(\$17)
2008	(404)	\$7	\$0	\$7	\$0	\$0	\$0	\$21	\$0	\$21	(386)	(\$14)	(\$5)	(\$19)
2009	(438)	\$7	\$0	\$7	\$0	\$0	\$0	\$22	\$0	\$22	(419)	(\$15)	(\$5)	(\$20)
2010	(472)	\$7	\$0	\$7	\$0	\$0	\$0	\$23	\$0	\$23	(451)	(\$17)	(\$5)	(\$22)
2011	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$15)	(\$5)	(\$21)
2012	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$17)	(\$5)	(\$23)
2013	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$18)	(\$5)	(\$23)
2014	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$18)	(\$5)	(\$23)
2015	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$19)	(\$5)	(\$24)
2016	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$18)	(\$5)	(\$24)
2017	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$19)	(\$5)	(\$24)
2018	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$19)	(\$5)	(\$24)
2019	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$19)	(\$5)	(\$24)
2020	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$19)	(\$5)	(\$25)
2021	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$20)	(\$5)	(\$25)
2022	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$20)	(\$5)	(\$26)
2023	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$20)	(\$5)	(\$26)
2024	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$21)	(\$5)	(\$26)
2025	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$21)	(\$5)	(\$27)
2026	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$21)	(\$5)	(\$27)
2027	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$22)	(\$5)	(\$27)
2028	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$22)	(\$5)	(\$27)
2029	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$22)	(\$5)	(\$28)
2030	(472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(451)	(\$23)	(\$5)	(\$28)
Nominal NPV	(12,292)	\$97	\$3	\$100				\$266	\$0	\$266	(11,763)	(\$490)	(\$143)	(\$833)
	(\$4,142)		\$1	\$74		\$0	\$0	\$181	\$0	\$196	(\$3,963)	(\$154)	(\$48)	(\$202)

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**Total Resource Cost-Effectiveness Measure**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11	12	13
Year	Change in Electric Supply Costs (\$000s)	Utility's Program Costs (\$000s)	Participants' Program Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Incremental Generation Cap Costs (\$000s)	Incremental T&D Cap Costs (\$000s)	Incremental Prog Induced Fuel Costs (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits (\$000s)	Cumulative Discounted Net Benefits (\$000s)
2001	\$0	\$11	\$27	\$0	\$0	(\$1)	\$0	(\$2)	\$38	\$3	(\$36)	(\$36)
2002	\$0	\$11	\$28	\$0	\$0	(\$2)	(\$1)	(\$4)	\$39	\$6	(\$33)	(\$66)
2003	\$0	\$12	\$30	\$0	\$0	(\$3)	(\$1)	(\$6)	\$41	\$10	(\$31)	(\$93)
2004	\$0	\$12	\$31	\$0	\$0	(\$4)	(\$1)	(\$8)	\$42	\$13	(\$29)	(\$116)
2005	\$0	\$12	\$32	\$0	\$0	(\$5)	(\$2)	(\$10)	\$43	\$17	(\$26)	(\$136)
2006	\$0	\$12	\$33	\$0	\$0	(\$7)	(\$2)	(\$12)	\$45	\$21	(\$24)	(\$152)
2007	\$0	\$7	\$20	\$0	\$0	(\$8)	(\$3)	(\$13)	\$27	\$23	(\$3)	(\$154)
2008	\$0	\$7	\$21	\$0	\$0	(\$9)	(\$3)	(\$14)	\$28	\$26	(\$2)	(\$156)
2009	\$0	\$7	\$22	\$0	\$0	(\$10)	(\$3)	(\$16)	\$29	\$29	(\$0)	(\$156)
2010	\$0	\$7	\$23	\$0	\$0	(\$11)	(\$4)	(\$18)	\$30	\$32	\$2	(\$155)
2011	\$0	\$0	\$0	\$0	\$0	(\$11)	(\$4)	(\$16)	\$0	\$31	\$31	(\$140)
2012	\$0	\$0	\$0	\$0	\$0	(\$11)	(\$4)	(\$18)	\$0	\$33	\$33	(\$126)
2013	\$0	\$0	\$0	\$0	\$0	(\$11)	(\$4)	(\$18)	\$0	\$34	\$34	(\$113)
2014	\$0	\$0	\$0	\$0	\$0	(\$12)	(\$4)	(\$19)	\$0	\$35	\$35	(\$100)
2015	\$0	\$0	\$0	\$0	\$0	(\$12)	(\$4)	(\$19)	\$0	\$35	\$35	(\$88)
2016	\$0	\$0	\$0	\$0	\$0	(\$12)	(\$5)	(\$19)	\$0	\$36	\$36	(\$77)
2017	\$0	\$0	\$0	\$0	\$0	(\$13)	(\$5)	(\$19)	\$0	\$37	\$37	(\$66)
2018	\$0	\$0	\$0	\$0	\$0	(\$13)	(\$5)	(\$20)	\$0	\$38	\$38	(\$56)
2019	\$0	\$0	\$0	\$0	\$0	(\$14)	(\$5)	(\$20)	\$0	\$39	\$39	(\$47)
2020	\$0	\$0	\$0	\$0	\$0	(\$14)	(\$5)	(\$20)	\$0	\$40	\$40	(\$37)
2021	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$6)	(\$21)	\$0	\$41	\$41	(\$29)
2022	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$6)	(\$21)	\$0	\$42	\$42	(\$20)
2023	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$6)	(\$21)	\$0	\$43	\$43	(\$13)
2024	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$6)	(\$22)	\$0	\$44	\$44	(\$5)
2025	\$0	\$0	\$0	\$0	\$0	(\$17)	(\$6)	(\$22)	\$0	\$45	\$45	\$2
2026	\$0	\$0	\$0	\$0	\$0	(\$17)	(\$7)	(\$22)	\$0	\$46	\$46	\$8
2027	\$0	\$0	\$0	\$0	\$0	(\$18)	(\$7)	(\$23)	\$0	\$47	\$47	\$15
2028	\$0	\$0	\$0	\$0	\$0	(\$19)	(\$7)	(\$23)	\$0	\$48	\$48	\$21
2029	\$0	\$0	\$0	\$0	\$0	(\$19)	(\$7)	(\$23)	\$0	\$50	\$49	\$26
2030	\$0	\$0	\$0	\$0	\$0	(\$20)	(\$8)	(\$24)	\$0	\$51	\$51	\$32
Nominal		\$100	\$266			(\$355)	(\$131)	(\$511)	\$366	\$997	\$631	
NPV		\$74	\$196	\$0	\$0	(\$104)	(\$37)	(\$161)	\$270	\$302	\$32	
Discount Rate =		8.07%										
Benefit/Cost Ratio =		1.12										

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**Participants' Cost-Effectiveness Measure**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11	12
Year	Customer Equip Costs (\$000s)	Customer O&M Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Change in Participants' Electric Bills (\$000s)	Tax Credits (\$000s)	Utility Paid Rebates & Incentives (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits (\$000s)	Cumulative Discounted Net Benefits (\$000s)
2001	\$27	\$0	\$0	\$0	(\$2)	\$0	\$0	\$27	\$2	(\$25)	(\$25)
2002	\$28	\$0	\$0	\$0	(\$5)	\$0	\$0	\$28	\$5	(\$23)	(\$46)
2003	\$30	\$0	\$0	\$0	(\$7)	\$0	\$0	\$30	\$7	(\$22)	(\$65)
2004	\$31	\$0	\$0	\$0	(\$10)	\$0	\$0	\$31	\$10	(\$21)	(\$81)
2005	\$32	\$0	\$0	\$0	(\$12)	\$0	\$0	\$32	\$12	(\$19)	(\$95)
2006	\$33	\$0	\$0	\$0	(\$15)	\$0	\$0	\$33	\$15	(\$18)	(\$108)
2007	\$20	\$0	\$0	\$0	(\$17)	\$0	\$0	\$20	\$17	(\$3)	(\$110)
2008	\$21	\$0	\$0	\$0	(\$19)	\$0	\$0	\$21	\$19	(\$3)	(\$111)
2009	\$22	\$0	\$0	\$0	(\$20)	\$0	\$0	\$22	\$20	(\$1)	(\$112)
2010	\$23	\$0	\$0	\$0	(\$22)	\$0	\$0	\$23	\$22	(\$0)	(\$112)
2011	\$0	\$0	\$0	\$0	(\$21)	\$0	\$0	\$0	\$21	\$21	(\$103)
2012	\$0	\$0	\$0	\$0	(\$23)	\$0	\$0	\$0	\$23	\$23	(\$93)
2013	\$0	\$0	\$0	\$0	(\$23)	\$0	\$0	\$0	\$23	\$23	(\$84)
2014	\$0	\$0	\$0	\$0	(\$23)	\$0	\$0	\$0	\$23	\$23	(\$75)
2015	\$0	\$0	\$0	\$0	(\$24)	\$0	\$0	\$0	\$24	\$24	(\$67)
2016	\$0	\$0	\$0	\$0	(\$24)	\$0	\$0	\$0	\$24	\$24	(\$60)
2017	\$0	\$0	\$0	\$0	(\$24)	\$0	\$0	\$0	\$24	\$24	(\$53)
2018	\$0	\$0	\$0	\$0	(\$24)	\$0	\$0	\$0	\$24	\$24	(\$46)
2019	\$0	\$0	\$0	\$0	(\$25)	\$0	\$0	\$0	\$25	\$25	(\$40)
2020	\$0	\$0	\$0	\$0	(\$25)	\$0	\$0	\$0	\$25	\$25	(\$34)
2021	\$0	\$0	\$0	\$0	(\$25)	\$0	\$0	\$0	\$25	\$25	(\$29)
2022	\$0	\$0	\$0	\$0	(\$26)	\$0	\$0	\$0	\$26	\$26	(\$24)
2023	\$0	\$0	\$0	\$0	(\$26)	\$0	\$0	\$0	\$26	\$26	(\$19)
2024	\$0	\$0	\$0	\$0	(\$26)	\$0	\$0	\$0	\$26	\$26	(\$15)
2025	\$0	\$0	\$0	\$0	(\$27)	\$0	\$0	\$0	\$27	\$27	(\$11)
2026	\$0	\$0	\$0	\$0	(\$27)	\$0	\$0	\$0	\$27	\$27	(\$7)
2027	\$0	\$0	\$0	\$0	(\$27)	\$0	\$0	\$0	\$27	\$27	(\$3)
2028	\$0	\$0	\$0	\$0	(\$27)	\$0	\$0	\$0	\$27	\$27	(\$0)
2029	\$0	\$0	\$0	\$0	(\$28)	\$0	\$0	\$0	\$28	\$28	\$3
2030	\$0	\$0	\$0	\$0	(\$28)	\$0	\$0	\$0	\$28	\$28	\$6
Nominal	\$266				(\$633)			\$266	\$633	\$367	
NPV	\$181	\$0	\$0	\$0	(\$202)	\$0	\$0	\$196	\$202	\$6	
Discount Rate =		8.07%									
Benefit/Cost Ratio =		1.03									

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**Ratepayers' Impact Cost-Effectiveness Measure**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	Change in Electric Supply Costs (\$000s)	Utility's Program Costs (\$000s)	Utility Paid Rebates & Incentives (\$000s)	Change in Electric Revenues (\$000)	Incremental Generation Cap Costs (\$000s)	Incremental T&D Cap Costs (\$000s)	Incremental Prog Induced Fuel Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits to All Customers (\$000s)	Cumulative Discounted Net Benefits (\$000s)
2001	\$0	\$11	\$0	(\$2)	(\$1)	\$0	(\$2)	\$0	\$0	\$14	\$3	(\$11)	(\$11)
2002	\$0	\$11	\$0	(\$5)	(\$2)	(\$1)	(\$4)	\$0	\$0	\$16	\$6	(\$10)	(\$20)
2003	\$0	\$12	\$0	(\$7)	(\$3)	(\$1)	(\$6)	\$0	\$0	\$19	\$10	(\$9)	(\$28)
2004	\$0	\$12	\$0	(\$10)	(\$4)	(\$1)	(\$8)	\$0	\$0	\$22	\$13	(\$8)	(\$35)
2005	\$0	\$12	\$0	(\$12)	(\$5)	(\$2)	(\$10)	\$0	\$0	\$24	\$17	(\$7)	(\$40)
2006	\$0	\$12	\$0	(\$15)	(\$7)	(\$2)	(\$12)	\$0	\$0	\$27	\$21	(\$6)	(\$45)
2007	\$0	\$7	\$0	(\$17)	(\$8)	(\$3)	(\$13)	\$0	\$0	\$24	\$23	(\$0)	(\$45)
2008	\$0	\$7	\$0	(\$19)	(\$9)	(\$3)	(\$14)	\$0	\$0	\$26	\$26	\$0	(\$44)
2009	\$0	\$7	\$0	(\$20)	(\$10)	(\$3)	(\$16)	\$0	\$0	\$28	\$29	\$1	(\$44)
2010	\$0	\$7	\$0	(\$22)	(\$11)	(\$4)	(\$18)	\$0	\$0	\$29	\$32	\$2	(\$43)
2011	\$0	\$0	\$0	(\$21)	(\$11)	(\$4)	(\$16)	\$0	\$0	\$21	\$31	\$10	(\$38)
2012	\$0	\$0	\$0	(\$23)	(\$11)	(\$4)	(\$18)	\$0	\$0	\$23	\$33	\$10	(\$33)
2013	\$0	\$0	\$0	(\$23)	(\$11)	(\$4)	(\$18)	\$0	\$0	\$23	\$34	\$11	(\$29)
2014	\$0	\$0	\$0	(\$23)	(\$12)	(\$4)	(\$19)	\$0	\$0	\$23	\$35	\$11	(\$25)
2015	\$0	\$0	\$0	(\$24)	(\$12)	(\$4)	(\$19)	\$0	\$0	\$24	\$35	\$12	(\$21)
2016	\$0	\$0	\$0	(\$24)	(\$12)	(\$5)	(\$19)	\$0	\$0	\$24	\$36	\$12	(\$17)
2017	\$0	\$0	\$0	(\$24)	(\$13)	(\$5)	(\$19)	\$0	\$0	\$24	\$37	\$13	(\$14)
2018	\$0	\$0	\$0	(\$24)	(\$13)	(\$5)	(\$20)	\$0	\$0	\$25	\$38	\$14	(\$10)
2019	\$0	\$0	\$0	(\$25)	(\$14)	(\$5)	(\$20)	\$0	\$0	\$25	\$39	\$14	(\$6)
2020	\$0	\$0	\$0	(\$25)	(\$14)	(\$5)	(\$20)	\$0	\$0	\$25	\$40	\$15	(\$3)
2021	\$0	\$0	\$0	(\$25)	(\$15)	(\$6)	(\$21)	\$0	\$0	\$25	\$41	\$16	\$0
2022	\$0	\$0	\$0	(\$26)	(\$15)	(\$6)	(\$21)	\$0	\$0	\$26	\$42	\$16	\$4
2023	\$0	\$0	\$0	(\$26)	(\$16)	(\$6)	(\$21)	\$0	\$0	\$26	\$43	\$17	\$7
2024	\$0	\$0	\$0	(\$26)	(\$16)	(\$6)	(\$22)	\$0	\$0	\$26	\$44	\$18	\$10
2025	\$0	\$0	\$0	(\$27)	(\$17)	(\$6)	(\$22)	\$0	\$0	\$27	\$45	\$19	\$13
2026	\$0	\$0	\$0	(\$27)	(\$17)	(\$7)	(\$22)	\$0	\$0	\$27	\$46	\$19	\$15
2027	\$0	\$0	\$0	(\$27)	(\$18)	(\$7)	(\$23)	\$0	\$0	\$27	\$47	\$20	\$18
2028	\$0	\$0	\$0	(\$27)	(\$19)	(\$7)	(\$23)	\$0	\$0	\$28	\$48	\$21	\$21
2029	\$0	\$0	\$0	(\$28)	(\$19)	(\$7)	(\$23)	\$0	\$0	\$28	\$50	\$22	\$23
2030	\$0	\$0	\$0	(\$28)	(\$20)	(\$8)	(\$24)	\$0	\$0	\$28	\$51	\$23	\$25
<b>Nominal NPV</b>		\$100		(\$633)	(\$355)	(\$131)	(\$511)			\$733	\$997	\$264	
		\$74	\$0	(\$202)	(\$104)	(\$37)	(\$161)	\$0	\$0	\$276	\$302	\$25	

Discount Rate = 8.07%  
 Benefit/Cost Ratio = 1.09

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# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

## GoodCents Energy Surveys

- **Program Description**

The objective of the GoodCents Energy Survey (formerly known as the Residential Audit Program) is to provide Florida Public Utilities Company's residential customers with energy conservation advice that encourages the implementation of efficiency measures resulting in energy savings for the customer. These measures, once implemented, also lower Florida Public Utilities Company's energy requirements, as well as improve operating efficiencies. Florida Public Utilities Company views this program as a vehicle to promote the installation of cost-effective conservation features. During the survey process, the customer is provided with specific whole-house recommendations. Also during the survey process duct leakage will be addressed. If a problem is identified recommendations will be made for further analysis and repairs. Blower Door testing is required to identify and quantify the duct leakage and will be performed by a contractor. After identification of the leakage sites and quantities, the customer will be given a written summary of the test findings and the potential for savings, along with a list of approved repair contractors. Through follow-up survey work, Florida Public Utilities Company monitors and tracks the installation of cost-effective conservation features and/or duct leakage repairs. As a result, the increase in operating efficiencies provides for a reduction in weather-sensitive peak demand, as well as a reduction in energy consumption. As technology advances and the use of the Internet becomes a vital part of everyone's life, in the future Florida Public Utilities Company will utilize this resource by possibly implementing an on-line energy survey. This will allow us to reach customers that we would otherwise not reach and allow us to be able to promote energy efficient awareness across a broader spectrum.

- **Participation Standards**

The GoodCents Energy Survey Program is available to all residential customers served by Florida Public Utilities Company. The program provides participating customers with the information needed to determine which energy saving measures are best suited to their individual needs and requirements.

# FLORIDA PUBLIC UTILITIES COMPANY

## DEMAND SIDE MANAGEMENT PLAN

Customers are notified of this no cost service every six months as specified in Rule 25-17.003 of the Florida Administrative Code.

- **Benefits and Costs**

The Residential Building Energy Program (RBEP) was used to estimate energy consumption impacts. Based on the RBEP analysis for a typical Northwest Florida home, it is estimated that the GoodCents Energy Survey Program yields an approximate reduction in demand of 0.1 kW per customer, and an energy reduction of 211 kWh per customer on an annual basis. The reduction is greater if duct leakage has been identified and repairs are made. Estimated annual energy savings are 500 kWh per customer.

Costs for the program are based on typical costs incurred for upgrading attic insulation from R-19 to R-38 and upgrading cooling system efficiency from 7.0 SEER to an average of 10.5. Estimated costs per customer are \$1,019.

- **Monitoring and Evaluation**

Availability of the audit program to residential customers is communicated through bill stuffers, newspaper advertisements, and other media. Each participating customer is presented with an assessment of his or her current energy situation and recommendations for improvement. Assistance with the locating of qualified contractors and the proper installation of survey features is provided.

Follow-up surveys are typically performed when specific upgrades or recommendations are undertaken by the customer. In addition, data regarding the installations is accumulated to reflect, more accurately, the impact of the energy survey.

- **Cost Effectiveness**

Not applicable.

**Florida Public Utilities Company  
Demand Side Management Plan**

**GoodCents Energy Survey Program**

<b>AT THE METER</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	211	0.06	0.107	63,300	18	32
2002	211	0.06	0.107	126,600	36	64
2003	211	0.06	0.107	189,900	54	96
2004	211	0.06	0.107	253,200	72	128
2005	211	0.06	0.107	316,500	90	161
2006	211	0.06	0.107	379,800	108	193
2007	211	0.06	0.107	443,100	126	225
2008	211	0.06	0.107	506,400	144	257
2009	211	0.06	0.107	569,700	162	289
2010	211	0.06	0.107	633,000	180	321

<b>AT THE GENERATOR</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	228	0.078	0.139	68,400	23	42
2002	228	0.078	0.139	136,800	47	83
2003	228	0.078	0.139	205,200	70	125
2004	228	0.078	0.139	273,600	94	167
2005	228	0.078	0.139	342,000	117	209
2006	228	0.078	0.139	410,400	140	250
2007	228	0.078	0.139	478,800	164	292
2008	228	0.078	0.139	547,200	187	334
2009	228	0.078	0.139	615,600	211	375
2010	228	0.078	0.139	684,000	234	417

<b>Customers and Participation Rates</b>					
<b>YEAR</b>	<b>Total Number Of Customers</b>	<b>Total Number Of Eligible Customers</b>	<b>Annual Number of Program Participants</b>	<b>Cumulative Penetration Level %</b>	<b>Cumulative Number of Program Part.</b>
2001	21,632	20,550	300	1.5%	300
2002	22,170	21,062	300	2.8%	600
2003	22,688	21,554	300	4.2%	900
2004	23,184	22,025	300	5.4%	1,200
2005	23,714	22,528	300	6.7%	1,500
2006	24,231	23,019	300	7.8%	1,800
2007	24,424	23,203	300	9.1%	2,100
2008	24,619	23,388	300	10.3%	2,400
2009	24,818	23,577	300	11.5%	2,700
2010	25,018	23,767	300	12.6%	3,000

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

## GoodCents Loan Program

- **Program Description**

The objective of GoodCents Loan Program is to provide Florida Public Utilities Company residential customers a vehicle to encourage installation of energy conservation features in their homes. The GoodCents Loan Program provides financing for up to \$20,000 for a period of 12 years to customers that choose to install energy conservation features in their existing homes.

The program is designed to work in concert with Florida Public Utilities Company GoodCent Energy Survey Program. During the survey process, the customer is provided with specific whole-house recommendations. A Florida Public Utilities Company representative will submit a completed loan application once the customer decides to install the conservation features. After the application has been approved, the customer will contact a contractor from the approved list of participating contractors, which is provided by Florida Public Utilities Company. After the work is completed, an inspection is performed by Florida Public Utilities Company to ensure all energy conservation features covered by the loan are installed. Confirmation of installed features is provided to the participating bank. The increased operating efficiencies of the installed features provide a reduction in weather sensitive peak demand as well as a reduction in energy consumption. This program was designed to promote the efficient use of energy while maintaining and/or increasing the level of comfort, quality of service, and customer options. These factors are of paramount importance in order for any demand side program to be successful. This program, when implemented in conjunction with Florida Public Utilities Company GoodCents Energy Survey Program, not only emphasizes the importance of energy efficiency, but also responds to the needs of Florida Public Utilities Company's customers whose satisfaction is essential in the overall success of our conservation program.

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

- **Participation Standards**

To be eligible for participation in this program, the residential customer must receive residential electric service from Florida Public Utilities Company. In addition, the customer must have a Florida Public Utilities Company representative perform a survey on the home and make specific recommendations. The loan must be made directly to the owner of the property to be improved unless the owner of the property signs as a guarantor on the note evidencing the loan. The customer must notify Florida Public Utilities Company when the work is completed so a follow-up survey can be performed to ensure the energy conservation features were installed.

- **Benefits and Cost**

Based on a Residential Building Energy Program (RBEP) analysis for a base home served by Florida Public Utilities Company, it is estimated that the GoodCents Loan Program will yield a demand reduction of approximately 5,000 kWh per customer. Customer costs for this program are estimated to be \$2,500 per customer based on typical costs to upgrade R-19 to R-38 attic insulation and to upgrade the cooling system efficiency from 7.0 SEER to 11.0 SEER. Utility costs for this program are estimated to be \$350.00 per customer.

- **Monitoring and Evaluation**

Florida Public Utilities Company will monitor the program quarterly to determine compliance by participating financial institutions. This is made possible by the financial institutions' submission of monthly reports. Florida Public Utilities personnel will periodically contact the participating institutions to determine if they are in compliance with program standards.

# FLORIDA PUBLIC UTILITIES COMPANY

## DEMAND SIDE MANAGEMENT PLAN

- **GoodCents Loan Program Features**

Loans eligible for the GoodCents Loan Program may be for any of the following conservation measures.

1. Caulking of windows, doors, or both
2. Weather-stripping of windows, doors, or both
3. Duct or pipe insulation
4. Water heater insulation
5. Heat-reflective and heat-absorbing window or door material
6. Clock thermostats
7. Ceiling insulation (minimum R-38)
8. Load management devices
9. Window panel inserts
10. Floor insulation (minimum R-19)
11. Replacement of furnaces or boilers
12. Replacement of central air conditioning (minimum 11.0 SEER)
13. Wall insulation
14. Furnace replacement burner
15. Replacement of resistance heat with heat pump or natural gas (minimum SEER 11.0 and minimum gas efficiency 85%)
16. Repair or replacement of water heating systems listed below:
  - A. Solar water heaters
  - B. Heat pump water heaters, 2.8 COP min.
  - C. Natural gas water heaters, EF .54
  - D. Electric water heaters, EF .90
17. Solar swimming pool heating, if the pool is presently heated with nonrenewable resource
18. Waste heat recovery heating system (minimum efficiency as set by Florida Model Energy Code 903(D)2A)
19. Replacement of window air conditioning units with central heat pump or natural gas (minimum SEER 11.0 and minimum gas efficiency 85%)
20. Installation or repair of duct system
21. Insulated doors, storm doors, storm shutters, insulated windows and storm windows.
22. Installation of a geothermal heat pump (minimum 13.0 EER at 90° F entering water temperature) including closed-loop heat exchanger
23. Vinyl siding when used to upgrade wood siding
24. Exhaust fans
25. Dehumidifying equipment
26. Repair or replacement of major energy-consuming appliances (e.g. ovens, dryers, ranges, refrigerators, freezers) when financed in conjunction with other Eligible Improvements.
27. Lighting and fans
28. Sub-flooring and floor covering when related to eligible improvements
29. Roofing when involving a continuous ridge vent.

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

- **Cost Effectiveness**

The two most commonly installed and significant energy efficiency features are R-38 attic insulation and high efficiency HVAC equipment (11.0 SEER). These two features have been used in the analysis of the cost effectiveness of the GoodCents Loan Program.

This program is cost effective using the Commission's approved methodology (Rule 25-17.008).

Summary tables of demand and energy reductions are included in Attachment A. The cost effectiveness FIRE model results are included in Attachment B.

**Florida Public Utilities Company  
 Demand Side Management Plan**

**GoodCents Loan Program**

<b>AT THE METER</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	5,000	2.00	1.50	150,000	60	45
2002	5,000	2.00	1.50	300,000	120	90
2003	5,000	2.00	1.50	450,000	180	135
2004	5,000	2.00	1.50	600,000	240	180
2005	5,000	2.00	1.50	750,000	300	225
2006	5,000	2.00	1.50	900,000	360	270
2007	5,000	2.00	1.50	1,050,000	420	315
2008	5,000	2.00	1.50	1,200,000	480	360
2009	5,000	2.00	1.50	1,350,000	540	405
2010	5,000	2.00	1.50	1,500,000	600	450

<b>AT THE GENERATOR</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	5,225	2.43	1.83	156,750	73	55
2002	5,225	2.43	1.83	313,500	146	110
2003	5,225	2.43	1.83	470,250	219	165
2004	5,225	2.43	1.83	627,000	292	220
2005	5,225	2.43	1.83	783,750	365	275
2006	5,225	2.43	1.83	940,500	437	329
2007	5,225	2.43	1.83	1,097,250	510	384
2008	5,225	2.43	1.83	1,254,000	583	439
2009	5,225	2.43	1.83	1,410,750	656	494
2010	5,225	2.43	1.83	1,567,500	729	549

<b>Customers and Participation Rates</b>					
<b>YEAR</b>	<b>Total Number Of Customers</b>	<b>Total Number Of Eligible Customers</b>	<b>Annual Number of Program Participants</b>	<b>Cumulative Penetration Level %</b>	<b>Cumulative Number of Program Part.</b>
2001	21,632	10,816	30	0.3%	30
2002	22,170	11,085	30	0.5%	60
2003	22,688	11,344	30	0.8%	90
2004	23,184	11,592	30	1.0%	120
2005	23,714	11,857	30	1.3%	150
2006	24,231	12,116	30	1.5%	180
2007	24,424	12,212	30	1.7%	210
2008	24,619	12,310	30	1.9%	240
2009	24,818	12,409	30	2.2%	270
2010	25,018	12,509	30	2.4%	300

INPUT DATA -- PART 1

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

I. Program Demand Impacts and Line Losses

(1) Change in Peak kW Customer at meter	-1.50	kW/Cus
(2) Change in Peak kW per Customer at generator	-1.83	kW Gen/Cus
(3) kW Line Loss Percentage	5.99%	
(4) Change in kWh per Customer at generator	(5,225)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	4.50%	
(6) Group Line Loss Multiplier	1.0014	
(7) Annual Change in Customer kWh at Meter	(5,000)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-2.00	kW/Cus

II. Economic Life and K-Factors

(1) DSM Program Study Period	30	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4084	
(5) K-Factor for T&D	1.4038	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

III. Utility & Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$350.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$2,500.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	3.50%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	3.50%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	3.50%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	3.50%	
* (12) Utility Discount Rate	8.07%	
* (13) Utility AFUDC Rate	9.84%	
* (14) Utility Nonrecurring Rebate/Incentive	\$0.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

IV. Incremental Generation, Transmission, & Distribution Costs

(1) Base Year	2001	
(2) In-Service Year For Incremental Generation	2001	**
(3) In-Service Year For Incremental T & D	2002	
(4) Base Year Incremental Generation Cost	\$234.85	\$/kW
(5) Base Year Incremental Transmission Cost	\$58.33	\$/kW
(6) Base Year Incremental Distribution Cost	\$34.18	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	3.50%	
(8) Generator Fixed O & M Cost	\$3.21	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	2.88%	
(10) Transmission Fixed O & M Cost	\$0.73	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$0.85	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	3.50%	
(13) Incremental Gen Variable O & M Costs	\$0.389	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	3.52%	
(15) Incremental Gen Capacity Factor	3.40%	
(16) Incremental Generating Unit Fuel Cost	\$0.0363	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	3.34%	
(18) Incremental Purchased Capacity Cost	\$22.71	\$/kW/Yr
(19) Incremental Capacity Cost Esc Rate	2.38%	

Stop Revenue Loss at In-Service Year? (Y=1, N=0) 0

V. (1) Non-Fuel Cost In Customer Bill (Base Year)

(1) Non-Fuel Cost In Customer Bill (Base Year)	\$0.0122	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$0.0000	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	0	kW/Mo.

Summary Results for This Analysis

	RIM	Participants'
NPV Benefits(\$000s)	\$765	\$644
NPV Costs (\$000s)	\$720	\$622
NPV Net Benefits (\$000s)	\$45	\$21
Benefit:Cost Ratio	1.06	1.03

\*\* The relevant avoidable generation unit is a combustion turbine peaking unit. Since the kilowatt savings occur at the time of the system peak, this is the appropriate unit against which to measure cost savings.

**INPUT DATA -- PART 2**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11
Year	Cumulative Total Participating Customers	Cumulative Participating Customers <u>Adj Free Rides</u>	Utility Average System Fuel Cost (C / kWh)	Marginal Fuel Cost (Decreases) (C / kWh)	Marginal Fuel Cost (Increases) (C / kWh)	Replacement Fuel Cost (C / kWh)	Program kW Effectiveness Factor	Program kWh Effectiveness Factor	Other Costs (\$000)	Other Benefits (\$000)
2001	30	30	3.3200	3.3200	3.3200	3.3200	1.00	1.00	\$0	\$0
2002	60	60	3.3500	3.3500	3.3500	3.3500	1.00	1.00	\$0	\$0
2003	90	90	3.3800	3.3800	3.3800	3.3800	1.00	1.00	\$0	\$0
2004	120	120	3.4100	3.4100	3.4100	3.4100	1.00	1.00	\$0	\$0
2005	150	150	3.4500	3.4500	3.4500	3.4500	1.00	1.00	\$0	\$0
2006	180	180	3.4800	3.4800	3.4800	3.4800	1.00	1.00	\$0	\$0
2007	210	210	3.5200	3.5200	3.5200	3.5200	1.00	1.00	\$0	\$0
2008	240	240	3.5800	3.5800	3.5800	3.5800	1.00	1.00	\$0	\$0
2009	270	270	3.6500	3.6500	3.6500	3.6500	1.00	1.00	\$0	\$0
2010	300	300	3.7200	3.7200	3.7200	3.7200	1.00	1.00	\$0	\$0
2011	300	300	3.3770	3.3770	3.3770	3.3770	1.00	1.00	\$0	\$0
2012	300	300	3.8300	3.8300	3.8300	3.8300	1.00	1.00	\$0	\$0
2013	300	300	3.8900	3.8900	3.8900	3.8900	1.00	1.00	\$0	\$0
2014	300	300	3.9500	3.9500	3.9500	3.9500	1.00	1.00	\$0	\$0
2015	300	300	4.0100	4.0100	4.0100	4.0100	1.00	1.00	\$0	\$0
2016	300	300	4.0700	4.0700	4.0700	4.0700	1.00	1.00	\$0	\$0
2017	300	300	4.1300	4.1300	4.1300	4.1300	1.00	1.00	\$0	\$0
2018	300	300	4.1900	4.1900	4.1900	4.1900	1.00	1.00	\$0	\$0
2019	300	300	4.2500	4.2500	4.2500	4.2500	1.00	1.00	\$0	\$0
2020	300	300	4.3100	4.3100	4.3100	4.3100	1.00	1.00	\$0	\$0
2021	300	300	4.3800	4.3800	4.3800	4.3800	1.00	1.00	\$0	\$0
2022	300	300	4.4500	4.4500	4.4500	4.4500	1.00	1.00	\$0	\$0
2023	300	300	4.5100	4.5100	4.5100	4.5100	1.00	1.00	\$0	\$0
2024	300	300	4.5800	4.5800	4.5800	4.5800	1.00	1.00	\$0	\$0
2025	300	300	4.6500	4.6500	4.6500	4.6500	1.00	1.00	\$0	\$0
2026	300	300	4.7200	4.7200	4.7200	4.7200	1.00	1.00	\$0	\$0
2027	300	300	4.7900	4.7900	4.7900	4.7900	1.00	1.00	\$0	\$0
2028	300	300	4.8600	4.8600	4.8600	4.8600	1.00	1.00	\$0	\$0
2029	300	300	4.9300	4.9300	4.9300	4.9300	1.00	1.00	\$0	\$0
2030	300	300	5.0100	5.0100	5.0100	5.0100	1.00	1.00	\$0	\$0

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Incremental Generation Capacity Costs or Benefits

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

1	2	3	4	5	6	(6a)	7
Year	Incremental Owned Gen. Capacity Cost (\$000s)	Incremental Generation Fixed O&M (\$000s)	Incremental Generation Variable O&M (\$000s)	Fuel Cost for the Incr. Cap. (\$000s)	Replacement Fuel Cost (\$000s)	Incremental Purchased Gen. Capacity Cost (\$000s)	Incremental Gen. Capacity Costs (\$000s)
2001		(\$0)	(\$0)	(\$1)	(\$1)	(\$1)	(\$1)
2002		(\$0)	(\$0)	(\$1)	(\$1)	(\$3)	(\$3)
2003		(\$1)	(\$0)	(\$2)	(\$2)	(\$4)	(\$5)
2004		(\$1)	(\$0)	(\$2)	(\$2)	(\$5)	(\$6)
2005		(\$1)	(\$0)	(\$3)	(\$3)	(\$7)	(\$8)
2006		(\$1)	(\$0)	(\$4)	(\$3)	(\$8)	(\$10)
2007		(\$1)	(\$0)	(\$5)	(\$4)	(\$10)	(\$13)
2008		(\$2)	(\$0)	(\$6)	(\$5)	(\$12)	(\$15)
2009		(\$2)	(\$0)	(\$7)	(\$5)	(\$14)	(\$17)
2010		(\$2)	(\$0)	(\$8)	(\$6)	(\$15)	(\$20)
2011		(\$2)	(\$0)	(\$8)	(\$6)	(\$16)	(\$21)
2012		(\$2)	(\$0)	(\$8)	(\$6)	(\$16)	(\$21)
2013		(\$2)	(\$0)	(\$8)	(\$6)	(\$17)	(\$21)
2014		(\$3)	(\$0)	(\$8)	(\$6)	(\$17)	(\$22)
2015		(\$3)	(\$0)	(\$9)	(\$7)	(\$17)	(\$22)
2016		(\$3)	(\$0)	(\$9)	(\$7)	(\$18)	(\$23)
2017		(\$3)	(\$0)	(\$9)	(\$7)	(\$18)	(\$24)
2018		(\$3)	(\$0)	(\$10)	(\$7)	(\$19)	(\$25)
2019		(\$3)	(\$0)	(\$11)	(\$7)	(\$19)	(\$26)
2020		(\$3)	(\$0)	(\$11)	(\$7)	(\$19)	(\$27)
2021		(\$3)	(\$0)	(\$11)	(\$7)	(\$20)	(\$28)
2022		(\$3)	(\$0)	(\$12)	(\$7)	(\$20)	(\$29)
2023		(\$3)	(\$0)	(\$12)	(\$7)	(\$21)	(\$29)
2024		(\$3)	(\$0)	(\$13)	(\$7)	(\$21)	(\$30)
2025		(\$3)	(\$1)	(\$13)	(\$8)	(\$22)	(\$31)
2026		(\$4)	(\$1)	(\$13)	(\$8)	(\$22)	(\$32)
2027		(\$4)	(\$1)	(\$14)	(\$8)	(\$23)	(\$33)
2028		(\$4)	(\$1)	(\$14)	(\$8)	(\$23)	(\$34)
2029		(\$4)	(\$1)	(\$15)	(\$8)	(\$24)	(\$35)
2030		(\$4)	(\$1)	(\$15)	(\$8)	(\$25)	(\$36)
Nominal		(\$73)	(\$10)	(\$263)	(\$174)	(\$476)	(\$649)
NPV	\$0	(\$21)	(\$3)	(\$74)	(\$53)	(\$131)	(\$186)

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Incremental T&D Capacity and Incremental Fuel

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

1	2	3	4	5	6	7	8
Year	Incremental Transmission Capacity Cost (\$000s)	Incremental Transmission O&M Cost (\$000s)	Total Incremental Trans. Cost (\$000s)	Incremental Distribution Capacity Cost (\$000s)	Incremental Distribution O&M Cost (\$000s)	Total Incremental Dist. Cost (\$000s)	Effective Incremental Fuel Costs (\$000s)
2001	\$0	\$0	\$0	\$0	\$0	\$0	(\$5)
2002	(\$1)	(\$0)	(\$1)	(\$0)	(\$0)	(\$0)	(\$11)
2003	(\$1)	(\$0)	(\$1)	(\$1)	(\$0)	(\$1)	(\$16)
2004	(\$1)	(\$0)	(\$1)	(\$1)	(\$0)	(\$1)	(\$21)
2005	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$1)	(\$27)
2006	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$1)	(\$33)
2007	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$1)	(\$39)
2008	(\$3)	(\$0)	(\$3)	(\$2)	(\$0)	(\$2)	(\$45)
2009	(\$3)	(\$0)	(\$3)	(\$2)	(\$1)	(\$2)	(\$51)
2010	(\$4)	(\$1)	(\$4)	(\$2)	(\$1)	(\$3)	(\$58)
2011	(\$4)	(\$1)	(\$4)	(\$2)	(\$1)	(\$3)	(\$53)
2012	(\$4)	(\$1)	(\$5)	(\$2)	(\$1)	(\$3)	(\$60)
2013	(\$4)	(\$1)	(\$5)	(\$2)	(\$1)	(\$3)	(\$61)
2014	(\$4)	(\$1)	(\$5)	(\$2)	(\$1)	(\$3)	(\$62)
2015	(\$4)	(\$1)	(\$5)	(\$3)	(\$1)	(\$3)	(\$63)
2016	(\$4)	(\$1)	(\$5)	(\$3)	(\$1)	(\$3)	(\$64)
2017	(\$5)	(\$1)	(\$5)	(\$3)	(\$1)	(\$4)	(\$65)
2018	(\$5)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$66)
2019	(\$5)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$67)
2020	(\$5)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$68)
2021	(\$5)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$69)
2022	(\$6)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$70)
2023	(\$6)	(\$1)	(\$7)	(\$3)	(\$1)	(\$4)	(\$71)
2024	(\$6)	(\$1)	(\$7)	(\$3)	(\$1)	(\$5)	(\$72)
2025	(\$6)	(\$1)	(\$7)	(\$4)	(\$1)	(\$5)	(\$73)
2026	(\$6)	(\$1)	(\$7)	(\$4)	(\$1)	(\$5)	(\$74)
2027	(\$7)	(\$1)	(\$8)	(\$4)	(\$1)	(\$5)	(\$75)
2028	(\$7)	(\$1)	(\$8)	(\$4)	(\$1)	(\$5)	(\$76)
2029	(\$7)	(\$1)	(\$8)	(\$4)	(\$1)	(\$5)	(\$77)
2030	(\$7)	(\$1)	(\$8)	(\$4)	(\$1)	(\$6)	(\$79)
Nominal	(\$125)	(\$19)	(\$144)	(\$73)	(\$22)	(\$95)	(\$1,668)
NPV	(\$35)	(\$5)	(\$40)	(\$21)	(\$6)	(\$27)	(\$512)

Worksheet for Utility Program Costs and Participants' Benefits & Costs

Utility Program Costs, Rebates, & Incentives								Participating Customers' Benefits and Costs						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Year	Annual Incremental kWh Generated (000s)	Utility Non-recurring Costs (\$000)	Utility Recurring Costs (\$000)	Total Utility Program Costs (\$000)	Utility Non-recurring Rebates/Incent. (\$000)	Utility Recurring Rebates/Incent. (\$000)	Total Utility Paid Rebates/Incent. (\$000)	Participant Equipment Costs (\$000)	Participant O&M Costs (\$000)	Total Participant Costs (\$000)	Change in Participants' Billed kWh (000s)	Change in Participants' Billed Fuel (\$000)	Change in Participants' Billed Non-Fuel (\$000)	Change in Participants' Electric Bills (\$000)
2001	(157)	\$11	\$0	\$11	\$0	\$0	\$0	\$75	\$0	\$75	(150)	(\$5)	(\$2)	(\$7)
2002	(314)	\$11	\$0	\$11	\$0	\$0	\$0	\$78	\$0	\$78	(300)	(\$10)	(\$4)	(\$14)
2003	(470)	\$11	\$0	\$11	\$0	\$0	\$0	\$80	\$0	\$80	(450)	(\$15)	(\$5)	(\$21)
2004	(627)	\$11	\$0	\$11	\$0	\$0	\$0	\$83	\$0	\$83	(600)	(\$20)	(\$7)	(\$28)
2005	(784)	\$11	\$0	\$11	\$0	\$0	\$0	\$86	\$0	\$86	(750)	(\$26)	(\$9)	(\$35)
2006	(941)	\$11	\$0	\$11	\$0	\$0	\$0	\$89	\$0	\$89	(900)	(\$31)	(\$11)	(\$42)
2007	(1,097)	\$11	\$0	\$11	\$0	\$0	\$0	\$92	\$0	\$92	(1,050)	(\$37)	(\$13)	(\$50)
2008	(1,254)	\$11	\$0	\$11	\$0	\$0	\$0	\$95	\$0	\$95	(1,200)	(\$43)	(\$15)	(\$58)
2009	(1,411)	\$11	\$0	\$11	\$0	\$0	\$0	\$99	\$0	\$99	(1,350)	(\$49)	(\$16)	(\$66)
2010	(1,568)	\$11	\$0	\$11	\$0	\$0	\$0	\$102	\$0	\$102	(1,500)	(\$56)	(\$18)	(\$74)
2011	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$51)	(\$18)	(\$69)
2012	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$58)	(\$18)	(\$76)
2013	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$58)	(\$18)	(\$77)
2014	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$59)	(\$18)	(\$78)
2015	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$60)	(\$18)	(\$78)
2016	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$61)	(\$18)	(\$79)
2017	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$62)	(\$18)	(\$80)
2018	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$63)	(\$18)	(\$81)
2019	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$64)	(\$18)	(\$82)
2020	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$65)	(\$18)	(\$83)
2021	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$66)	(\$18)	(\$84)
2022	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$67)	(\$18)	(\$85)
2023	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$68)	(\$18)	(\$86)
2024	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$69)	(\$18)	(\$87)
2026	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$70)	(\$18)	(\$88)
2026	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$71)	(\$18)	(\$89)
2027	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$72)	(\$18)	(\$90)
2028	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$73)	(\$18)	(\$91)
2029	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$74)	(\$18)	(\$92)
2030	(1,568)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(1,500)	(\$75)	(\$18)	(\$94)
Nominal NPV	(39,971)	\$105	\$0	\$105	\$0	\$0	\$0	\$880	\$0	\$880	(38,250)	(\$1,598)	(\$465)	(\$2,064)
	(\$13,135)			\$76				\$576		\$622	(\$12,569)	(\$491)	(\$153)	(\$644)

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**Total Resource Cost-Effectiveness Measure  
Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11	12	13
Year	Change in Electric Supply Costs (\$000s)	Utility's Program Costs (\$000s)	Participants' Program Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Incremental Generation Cap Costs (\$000s)	Incremental T&D Cap Costs (\$000s)	Incremental Prog Induced Fuel Costs (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits (\$000s)	Cumulative Discounted Net Benefits (\$000s)
2001	\$0	\$11	\$75	\$0	\$0	(\$1)	\$0	(\$5)	\$86	\$7	(\$79)	(\$79)
2002	\$0	\$11	\$78	\$0	\$0	(\$3)	(\$1)	(\$11)	\$88	\$15	(\$74)	(\$147)
2003	\$0	\$11	\$80	\$0	\$0	(\$5)	(\$2)	(\$16)	\$91	\$22	(\$69)	(\$206)
2004	\$0	\$11	\$83	\$0	\$0	(\$6)	(\$2)	(\$21)	\$94	\$30	(\$64)	(\$266)
2005	\$0	\$11	\$86	\$0	\$0	(\$8)	(\$3)	(\$27)	\$97	\$38	(\$58)	(\$299)
2006	\$0	\$11	\$89	\$0	\$0	(\$10)	(\$4)	(\$33)	\$100	\$47	(\$53)	(\$335)
2007	\$0	\$11	\$92	\$0	\$0	(\$13)	(\$4)	(\$39)	\$103	\$56	(\$47)	(\$364)
2008	\$0	\$11	\$95	\$0	\$0	(\$15)	(\$5)	(\$45)	\$106	\$65	(\$41)	(\$388)
2009	\$0	\$11	\$99	\$0	\$0	(\$17)	(\$6)	(\$51)	\$109	\$75	(\$35)	(\$406)
2010	\$0	\$11	\$102	\$0	\$0	(\$20)	(\$7)	(\$58)	\$113	\$85	(\$28)	(\$420)
2011	\$0	\$0	\$0	\$0	\$0	(\$21)	(\$7)	(\$53)	\$0	\$81	\$81	(\$383)
2012	\$0	\$0	\$0	\$0	\$0	(\$21)	(\$7)	(\$60)	\$0	\$88	\$88	(\$345)
2013	\$0	\$0	\$0	\$0	\$0	(\$21)	(\$8)	(\$61)	\$0	\$90	\$90	(\$310)
2014	\$0	\$0	\$0	\$0	\$0	(\$22)	(\$8)	(\$62)	\$0	\$92	\$92	(\$277)
2015	\$0	\$0	\$0	\$0	\$0	(\$22)	(\$8)	(\$63)	\$0	\$94	\$94	(\$245)
2016	\$0	\$0	\$0	\$0	\$0	(\$23)	(\$9)	(\$64)	\$0	\$95	\$95	(\$215)
2017	\$0	\$0	\$0	\$0	\$0	(\$24)	(\$9)	(\$65)	\$0	\$98	\$98	(\$187)
2018	\$0	\$0	\$0	\$0	\$0	(\$25)	(\$9)	(\$66)	\$0	\$100	\$100	(\$160)
2019	\$0	\$0	\$0	\$0	\$0	(\$26)	(\$10)	(\$67)	\$0	\$102	\$102	(\$135)
2020	\$0	\$0	\$0	\$0	\$0	(\$27)	(\$10)	(\$68)	\$0	\$104	\$104	(\$111)
2021	\$0	\$0	\$0	\$0	\$0	(\$28)	(\$10)	(\$69)	\$0	\$107	\$107	(\$89)
2022	\$0	\$0	\$0	\$0	\$0	(\$29)	(\$11)	(\$70)	\$0	\$109	\$109	(\$67)
2023	\$0	\$0	\$0	\$0	\$0	(\$29)	(\$11)	(\$71)	\$0	\$111	\$111	(\$47)
2024	\$0	\$0	\$0	\$0	\$0	(\$30)	(\$11)	(\$72)	\$0	\$113	\$113	(\$28)
2025	\$0	\$0	\$0	\$0	\$0	(\$31)	(\$12)	(\$73)	\$0	\$116	\$116	(\$10)
2026	\$0	\$0	\$0	\$0	\$0	(\$32)	(\$12)	(\$74)	\$0	\$118	\$118	\$7
2027	\$0	\$0	\$0	\$0	\$0	(\$33)	(\$13)	(\$75)	\$0	\$121	\$121	\$23
2028	\$0	\$0	\$0	\$0	\$0	(\$34)	(\$13)	(\$76)	\$0	\$123	\$123	\$38
2029	\$0	\$0	\$0	\$0	\$0	(\$35)	(\$13)	(\$77)	\$0	\$126	\$126	\$53
2030	\$0	\$0	\$0	\$0	\$0	(\$36)	(\$14)	(\$79)	\$0	\$129	\$129	\$66
<b>Nominal</b>		\$105	\$880			(\$649)	(\$239)	(\$1,668)	\$985	\$2,556	\$1,571	
<b>NPV</b>		\$76	\$622	\$0	\$0	(\$186)	(\$67)	(\$512)	\$698	\$765	\$66	
<b>Discount Rate =</b>		8.07%										
<b>Benefit/Cost Ratio =</b>		1.09										

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**Participants' Cost-Effectiveness Measure**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11	12
Year	Customer Equip Costs (\$000s)	Customer O&M Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Change in Participants' Electric Bills (\$000s)	Tax Credits (\$000s)	Utility Paid Rebates & Incentives (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits (\$000s)	Cumulative Discounted Net Benefits (\$000s)
2001	\$75	\$0	\$0	\$0	(\$7)	\$0	\$0	\$75	\$7	(\$68)	(\$68)
2002	\$78	\$0	\$0	\$0	(\$14)	\$0	\$0	\$78	\$14	(\$64)	(\$127)
2003	\$80	\$0	\$0	\$0	(\$21)	\$0	\$0	\$80	\$21	(\$60)	(\$178)
2004	\$83	\$0	\$0	\$0	(\$28)	\$0	\$0	\$83	\$28	(\$55)	(\$222)
2005	\$86	\$0	\$0	\$0	(\$35)	\$0	\$0	\$86	\$35	(\$51)	(\$260)
2006	\$89	\$0	\$0	\$0	(\$42)	\$0	\$0	\$89	\$42	(\$47)	(\$291)
2007	\$92	\$0	\$0	\$0	(\$50)	\$0	\$0	\$92	\$50	(\$42)	(\$318)
2008	\$95	\$0	\$0	\$0	(\$58)	\$0	\$0	\$95	\$58	(\$38)	(\$340)
2009	\$99	\$0	\$0	\$0	(\$66)	\$0	\$0	\$99	\$66	(\$33)	(\$358)
2010	\$102	\$0	\$0	\$0	(\$74)	\$0	\$0	\$102	\$74	(\$28)	(\$372)
2011	\$0	\$0	\$0	\$0	(\$69)	\$0	\$0	\$0	\$69	\$69	(\$340)
2012	\$0	\$0	\$0	\$0	(\$76)	\$0	\$0	\$0	\$76	\$76	(\$308)
2013	\$0	\$0	\$0	\$0	(\$77)	\$0	\$0	\$0	\$77	\$77	(\$277)
2014	\$0	\$0	\$0	\$0	(\$78)	\$0	\$0	\$0	\$78	\$78	(\$249)
2015	\$0	\$0	\$0	\$0	(\$78)	\$0	\$0	\$0	\$78	\$78	(\$223)
2016	\$0	\$0	\$0	\$0	(\$79)	\$0	\$0	\$0	\$79	\$79	(\$198)
2017	\$0	\$0	\$0	\$0	(\$80)	\$0	\$0	\$0	\$80	\$80	(\$175)
2018	\$0	\$0	\$0	\$0	(\$81)	\$0	\$0	\$0	\$81	\$81	(\$153)
2019	\$0	\$0	\$0	\$0	(\$82)	\$0	\$0	\$0	\$82	\$82	(\$133)
2020	\$0	\$0	\$0	\$0	(\$83)	\$0	\$0	\$0	\$83	\$83	(\$114)
2021	\$0	\$0	\$0	\$0	(\$84)	\$0	\$0	\$0	\$84	\$84	(\$96)
2022	\$0	\$0	\$0	\$0	(\$85)	\$0	\$0	\$0	\$85	\$85	(\$79)
2023	\$0	\$0	\$0	\$0	(\$86)	\$0	\$0	\$0	\$86	\$86	(\$63)
2024	\$0	\$0	\$0	\$0	(\$87)	\$0	\$0	\$0	\$87	\$87	(\$49)
2025	\$0	\$0	\$0	\$0	(\$88)	\$0	\$0	\$0	\$88	\$88	(\$35)
2026	\$0	\$0	\$0	\$0	(\$89)	\$0	\$0	\$0	\$89	\$89	(\$22)
2027	\$0	\$0	\$0	\$0	(\$90)	\$0	\$0	\$0	\$90	\$90	(\$10)
2028	\$0	\$0	\$0	\$0	(\$91)	\$0	\$0	\$0	\$91	\$91	\$1
2029	\$0	\$0	\$0	\$0	(\$92)	\$0	\$0	\$0	\$92	\$92	\$11
2030	\$0	\$0	\$0	\$0	(\$94)	\$0	\$0	\$0	\$94	\$94	\$21
Nominal	\$880				(\$2,064)			\$880	\$2,064	\$1,184	
NPV	\$576	\$0	\$0	\$0	(\$644)	\$0	\$0	\$622	\$644	\$21	
Discount Rate =		8.07%									
Benefit/Cost Ratio =		1.03									

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**Ratepayers' Impact Cost-Effectiveness Measure**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	Change in Electric Supply Costs (\$000s)	Utility's Program Costs (\$000s)	Utility Paid Rebates & Incentives (\$000s)	Change in Electric Revenues (\$000)	Incremental Generation Cap Costs (\$000s)	Incremental T&D Cap Costs (\$000s)	Incremental Prog Induced Fuel Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits to All Customers (\$000s)	Cumulative Discounted Net Benefits (\$000s)
2001	\$0	\$11	\$0	(\$7)	(\$1)	\$0	(\$5)	\$0	\$0	\$17	\$7	(\$11)	(\$11)
2002	\$0	\$11	\$0	(\$14)	(\$3)	(\$1)	(\$11)	\$0	\$0	\$24	\$15	(\$10)	(\$19)
2003	\$0	\$11	\$0	(\$21)	(\$5)	(\$2)	(\$16)	\$0	\$0	\$31	\$22	(\$9)	(\$27)
2004	\$0	\$11	\$0	(\$28)	(\$6)	(\$2)	(\$21)	\$0	\$0	\$38	\$30	(\$8)	(\$34)
2005	\$0	\$11	\$0	(\$35)	(\$8)	(\$3)	(\$27)	\$0	\$0	\$46	\$38	(\$7)	(\$39)
2006	\$0	\$11	\$0	(\$42)	(\$10)	(\$4)	(\$33)	\$0	\$0	\$53	\$47	(\$6)	(\$43)
2007	\$0	\$11	\$0	(\$50)	(\$13)	(\$4)	(\$39)	\$0	\$0	\$60	\$56	(\$5)	(\$46)
2008	\$0	\$11	\$0	(\$58)	(\$15)	(\$5)	(\$45)	\$0	\$0	\$68	\$65	(\$3)	(\$48)
2009	\$0	\$11	\$0	(\$66)	(\$17)	(\$6)	(\$51)	\$0	\$0	\$76	\$75	(\$2)	(\$49)
2010	\$0	\$11	\$0	(\$74)	(\$20)	(\$7)	(\$58)	\$0	\$0	\$85	\$85	\$0	(\$48)
2011	\$0	\$0	\$0	(\$69)	(\$21)	(\$7)	(\$53)	\$0	\$0	\$69	\$81	\$12	(\$43)
2012	\$0	\$0	\$0	(\$76)	(\$21)	(\$7)	(\$60)	\$0	\$0	\$76	\$88	\$12	(\$38)
2013	\$0	\$0	\$0	(\$77)	(\$21)	(\$8)	(\$61)	\$0	\$0	\$77	\$90	\$13	(\$33)
2014	\$0	\$0	\$0	(\$78)	(\$22)	(\$8)	(\$62)	\$0	\$0	\$78	\$92	\$14	(\$27)
2015	\$0	\$0	\$0	(\$78)	(\$22)	(\$8)	(\$63)	\$0	\$0	\$78	\$94	\$15	(\$22)
2016	\$0	\$0	\$0	(\$79)	(\$23)	(\$9)	(\$64)	\$0	\$0	\$79	\$95	\$16	(\$17)
2017	\$0	\$0	\$0	(\$80)	(\$24)	(\$9)	(\$65)	\$0	\$0	\$80	\$98	\$17	(\$12)
2018	\$0	\$0	\$0	(\$81)	(\$25)	(\$9)	(\$66)	\$0	\$0	\$81	\$100	\$19	(\$7)
2019	\$0	\$0	\$0	(\$82)	(\$26)	(\$10)	(\$67)	\$0	\$0	\$82	\$102	\$20	(\$2)
2020	\$0	\$0	\$0	(\$83)	(\$27)	(\$10)	(\$68)	\$0	\$0	\$83	\$104	\$21	\$3
2021	\$0	\$0	\$0	(\$84)	(\$28)	(\$10)	(\$69)	\$0	\$0	\$84	\$107	\$22	\$7
2022	\$0	\$0	\$0	(\$85)	(\$29)	(\$11)	(\$70)	\$0	\$0	\$85	\$109	\$24	\$12
2023	\$0	\$0	\$0	(\$86)	(\$29)	(\$11)	(\$71)	\$0	\$0	\$86	\$111	\$25	\$16
2024	\$0	\$0	\$0	(\$87)	(\$30)	(\$11)	(\$72)	\$0	\$0	\$87	\$113	\$26	\$21
2025	\$0	\$0	\$0	(\$88)	(\$31)	(\$12)	(\$73)	\$0	\$0	\$88	\$116	\$28	\$25
2026	\$0	\$0	\$0	(\$89)	(\$32)	(\$12)	(\$74)	\$0	\$0	\$89	\$118	\$29	\$29
2027	\$0	\$0	\$0	(\$90)	(\$33)	(\$13)	(\$75)	\$0	\$0	\$90	\$121	\$31	\$34
2028	\$0	\$0	\$0	(\$91)	(\$34)	(\$13)	(\$76)	\$0	\$0	\$91	\$123	\$32	\$37
2029	\$0	\$0	\$0	(\$92)	(\$35)	(\$13)	(\$77)	\$0	\$0	\$92	\$126	\$34	\$41
2030	\$0	\$0	\$0	(\$94)	(\$36)	(\$14)	(\$79)	\$0	\$0	\$94	\$129	\$35	\$45
<b>Nominal</b>		\$105		(\$2,064)	(\$649)	(\$239)	(\$1,668)			\$2,169	\$2,556	\$387	
<b>NPV</b>		\$76	\$0	(\$644)	(\$186)	(\$67)	(\$512)	\$0	\$0	\$720	\$765	\$45	
<b>Discount Rate =</b>		8.07%											
<b>Benefit/Cost Ratio =</b>		1.06											

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# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

## Commercial/Industrial Programs

### GoodCents Commercial Buildings

- **Program Description**

The commercial/industrial market is comprised of a wide range of diverse businesses with variable size and operational characteristics. The success of the GoodCents Building program lies in its ability to address this diversity by focusing on the mutual characteristics of commercial buildings. The most common critical areas in commercial buildings that affect summer peak kW demand are the thermal efficiency of the building and HVAC equipment efficiency. The GoodCents Building program provides requirements for these areas that, if adhered to, will help reduce peak kW demand and energy consumption.

The promotion of the GoodCents Building program through the years has featured a positive relationship with trade allies, the public and local commercial/industrial customers. The program's design continues to be sufficiently flexible to allow an architect or designer to use initiative and ingenuity to achieve results that are meaningful to both the customer and Florida Public Utilities Company.

The GoodCents Building program is designed to ensure that buildings are constructed with energy efficiency levels above the Florida Model Energy code standards. These standards include both HVAC efficiency and thermal envelope requirements.

To provide an accurate quantitative analysis of the kW and kWh savings due to the GoodCents Building Program, the GoodCents standards for average commercial buildings are compared to the Florida Model Energy Code. The features used to prepare the customer's analysis include: wall and

## FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

ceiling R-values; glass area; description of glass; and equipment used in determining the kW and kWh differences for the two types of structures. The AXCESS - Energy Analysis Computer Program (AXCESS) is used to calculate the kW and kWh differences. Use of the AXCESS program is further described in the Benefits and Costs section.

### **Prescriptive Envelope Option:**

The Prescriptive Envelope Option provides architects/designers and building owners a menu of items available for a GoodCents Building certification. Except for one, the features in this option are all structural in nature. The minimum requirements listed are those for insulation levels and window (glass) shading. As described in the Participation Standards section on the following pages, the minimum window requirement consists of two choices. The first choice of 100 percent externally shaded at 3:00 p.m. indicates the need for overhangs. Windows (glass) that would be naturally shaded by the building itself at 3:00 p.m. would not need external overhangs installed (i.e. N, NE, E, SE). The second choice considers the shading coefficient of the glass itself. The shading coefficient of .65 (35 percent solar reduction) does not allow for internal shading (blinds, curtains, etc.).

The Additional Requirements section of the Prescriptive Option allows the customer a choice of three of the seven requirements listed. These choices include increased insulation levels above the minimum requirements, improved entryways with the incorporation of vestibules and exterior door improvements, and increased glass performance. One option is more behavioral rather than structural, that being the installation of an Energy Management System.

### ***Thermal Performance Option:***

A building may meet GoodCents standards through its thermal performance. This option requires a building to use the entire exterior thermal envelope by calculating both solar and transmission heat gains into the performance formula. The resulting BTUH heat gain is then divided by the total envelope square footage (total exterior shell of the conditioned space including walls,

## **FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN**

windows, roof/ceiling, and floors if off-grade) to obtain a BTUH/Sq. Ft. ratio. Depending upon the conditioned floor square footage of the building, this ratio must meet the requirements of the applicable building size described in the program. By using this calculation, the performance of the entire envelope of the building is evaluated.

### **HVAC Efficiency Requirements:**

Besides increased efficiency requirements, differentiation has been made between single phase and three-phase equipment with a cooling capacity less than 65,000 BTU/h. The lack of market availability for three phase units in the higher efficiencies justifies a lower standard than that of a single-phase unit. The addition of the package thermal air conditioners and heat pumps (PTAC or PTHP) has allowed a more complete list of possible cooling types in the commercial market.

The HVAC requirements are applicable to both the Prescriptive and Thermal Performance Options. Florida Public Utilities Company's continuing efforts to influence the market toward high efficiency equipment and quality construction standards are the foundation of the GoodCents Building program.

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

- **Participation Standards**

To qualify for the GoodCents Commercial certification, customers must meet the HVAC requirements and meet or exceed the standards in either the Prescriptive or Performance options.

### **HVAC Efficiency Requirements (A/C or Heat Pump):**

*Systems with cooling capacity < 65,000 BTU/h*

Unitary split systems

Single Phase                      Min. 11.0 SEER

Three Phase                        Min. 10.2 SEER

Unitary package systems                      Min. 10.0 SEER

Packaged Terminal A/C or Heat Pump (PTAC or PTHP)

<12,000                                Min. 9.0 EER

>12,001                                Min. 8.7 EER

*Systems with cooling capacity > 65,001 and < 135,000 BTU/h*

Unitary split systems                      Min. 9.0 EER

Unitary package systems                      Min. 9.0 EER

*Systems with cooling capacity > 135,001 BTU/h*

Unitary split systems                      Min. 9.0 EER

Unitary package systems                      Min. 8.5 EER

### **Prescriptive Envelope Option:**

*Minimum Insulation Requirements:*

R-19 Roof/Ceiling structure

R-11 Exterior Walls

*Minimum Window (including glass doors) Requirements:*

All glass is 100% externally shaded at 3:00 p.m.

or

All glass has a shading coefficient (without any internal shading) of .65 or lower as rated by the manufacturer

### **Additional Requirements**

In addition to the above requirements, the building must also meet at least three of the seven requirements listed below.

1. Increase roof/ceiling insulation to R-30.
2. Increase exterior wall insulation to R-13.
3. Incorporate a vestibule on all regularly used entrances and exits.
4. Total glass area is less than 12% of gross exterior wall area.
5. All exterior glass (except glass doors) is double pane.
6. Metal insulated or double pane glass exterior doors.
7. Install programmable thermostats or Energy Management Systems on all HVAC systems.

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## Thermal Performance Option:

The solar and transmission heat gain designed at 93° outside and 78° inside shall not exceed the following levels of heat gain per square foot of the above grade exterior envelope.

Conditioned Floor Square Footage	BTU/h/Sq. Ft. of Exterior Envelope
0 to 5,000	5.5
5,001 to 15,000	5.0
Over 15,000	4.5

The benefits that accrue by the construction of a new GoodCents Building or the retrofit of an existing building are:

- Customer
  1. Lower life cycle costs.
  2. Lower operating costs.
  3. Lower risks.
  4. Improved comfort.
  
- Architects / Engineers
  1. Lower design risks.
  2. Increased client satisfaction.
  3. Innovation and differentiation.
  
- Florida Public Utilities Company
  1. Improved load factor (peak clipping/valley filling).
  2. Improved demand-side management.
  3. Strategic conservation.
  4. Improved productivity and effectiveness.

- **Benefits and Costs**

A summary sheet describes the features used in order to prepare the analysis and is contained in Attachment A. Such items provided are: wall and ceiling R-values, glass area, description of glass and equipment used in determining the kW and kWh difference for the two types of structures.

With regard to the customer equipment cost, generally, there will be an increased cost to improve the buildings thermal requirements, but this cost will be partially offset by the reduced size of the HVAC

# FLORIDA PUBLIC UTILITIES COMPANY

## DEMAND SIDE MANAGEMENT PLAN

equipment. The kW, kWh and cost figures used in the cost-effectiveness determination were weighted between the new and improved customers with an estimate of 80 percent new and 20 percent improved. The AXCESS-Energy Analysis Computer Program (AXCESS) was used to calculate the kW and kWh savings.

The AXCESS computer program for evaluation of alternative HVAC systems is designed to calculate the total energy use and demands of a building, including the variations that normally occur in the number of people occupying the building and the variations in building equipment use. Using building specific information, energy requirements are calculated in hourly intervals. Designated equipment and controls are operated by the program to maintain specified temperature and humidity conditions. Total building energy, demands, and individual equipment energy and demands are metered and displayed in a wide variety of report formats. The user provides data in a logical flow:

1. general information, construction data, and building use information
2. interior and exterior building loads (people and equipment)
3. profiles of occupancy and equipment use
4. building zones specifications (orientation, glass, wall, floor, and ceiling areas; percent of base loads in the zone; number of people; etc.)
5. thermal system types, cooling primary system types, and heating primary system types for each building zone
6. controls (temperature, humidity, time clocks, etc.)

AXCESS performs up to 8760 hourly calculations for each zone using hourly weather data. As the hourly zone energy requirements are determined, the program operates all HVAC components (fans, pumps, compressors, burners, economizers, storage systems, etc.) and calculates each component's energy use in BTU's. BTU's are converted to fuel units as specified by the user (electricity at 3,413 BTU/kWh). Output data is specified by the user and may be as short as annual summaries or may be reports for every hour of the year.

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

A utility cost of \$1,380 per customer is based on 1998 data for actual costs. Customer costs were estimated to be \$111. This is considered to be the per customer cost-differential necessary to bring the building standards up to what is required for this program.

- **Monitoring and Evaluation**

Florida Public Utilities Company's representatives are made aware of the possible construction or renovation of a building either through official notification, architect/engineers' request for assistance, or a request for temporary service made by the construction firm or owner.

A Florida Public Utilities Company representative contacts the architect/engineer, if not previously contacted, to begin assisting in the design phase of the building in order to incorporate the conservation measures necessary to qualify for the GoodCents Building program. The assistance provided consists of load calculations, lighting designs(both interior and exterior), equipment recommendations, recommendations of energy storage systems, heat recovery systems, economizers, demand control equipment, and specialized equipment recommendations.

During the construction phase, the representative visually inspects for the installation of the GoodCents features and equipment. At the end of the construction phase, the representative assists in acquiring electrical service to meet the customer's needs.

- **Cost-Effectiveness**

This program is cost-effective using the Florida Public Service Commission's approved methodology (Rule 25-17.008). The cost effectiveness runs included in Attachment C and the charts shown in Attachment B are reflective of the total GoodCents Building program.

**Attachment A**

**Summary Sheet  
 GoodCents Building Program**

	<u>Florida Public Utilities GoodCents Building</u>	<u>Florida 1997 Model Energy Code</u>
Sq. Ft.	4,444	4,444
Glass	½" Double Pane 0.55 SC 1/4" Plate ~ 12% of Gross Walls/West	1/4" clear plate 340 sq. ft./West
Ceiling	R-30	R-10
HVAC	11 SEER/120 MBTUH cooling with resis- tance heat	10 SEER/144 MBTUH Heat Pumps
kWh	80,008	88,679
kW Summer/ Winter Peak	23 kW 12.7 kW	28 kW 13.0 kW
Design Total Heat Gain BTUH/sq. ft. of Thermal Envelope	5.5	13.6

**Florida Public Utilities Company  
 Demand Side Management Plan**

**GoodCents Commercial Building Program**

<b>AT THE METER</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	8,671	0.36	4.65	83,242	3	45
2002	8,671	0.36	4.65	166,483	7	89
2003	8,671	0.36	4.65	249,725	10	134
2004	8,671	0.36	4.65	340,770	14	183
2005	8,671	0.36	4.65	431,816	18	232
2006	8,671	0.36	4.65	522,861	22	280
2007	8,671	0.36	4.65	595,698	25	319
2008	8,671	0.36	4.65	72,836	28	359
2009	8,671	0.36	4.65	145,673	31	398
2010	8,671	0.36	4.65	218,509	34	437

<b>AT THE GENERATOR</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	9,061	0.44	5.67	86,986	4	54
2002	9,061	0.44	5.67	173,971	8	109
2003	9,061	0.44	5.67	260,957	13	163
2004	9,061	0.44	5.67	356,097	17	223
2005	9,061	0.44	5.67	451,238	22	282
2006	9,061	0.44	5.67	546,378	27	342
2007	9,061	0.44	5.67	622,491	30	390
2008	9,061	0.44	5.67	698,603	34	437
2009	9,061	0.44	5.67	774,716	38	485
2010	9,061	0.44	5.67	850,828	41	532

<b>Customers and Participation Rates</b>					
<b>YEAR</b>	<b>Total Number Of Customers</b>	<b>Total Number Of Eligible Customers</b>	<b>Annual Number of Program Participants</b>	<b>Cumulative Penetration Level %</b>	<b>Cumulative Number of Program Part.</b>
2001	3,518	32	10	30.0%	10
2002	3,613	32	10	30.0%	20
2003	3,711	32	10	30.0%	30
2004	3,802	35	11	30.0%	41
2005	3,892	35	11	30.0%	52
2006	3,986	35	11	30.0%	63
2007	4,038	28	8	30.0%	71
2008	4,091	28	8	30.0%	79
2009	4,145	28	8	30.0%	87
2010	4,200	28	8	30.0%	95

INPUT DATA -- PART 1

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

I. Program Demand Impacts and Line Losses

(1) Change in Peak kW Customer at meter	-4.65	kW/Cus
(2) Change in Peak kW per Customer at generator	-5.67	kW Gen/Cus
(3) kW Line Loss Percentage	5.99%	
(4) Change in kWh per Customer at generator	(9,061)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	4.50%	
(6) Group Line Loss Multiplier	1.0014	
(7) Annual Change in Customer kWh at Meter	(8,671)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.36	kW/Cus

II. Economic Life and K-Factors

(1) DSM Program Study Period	30	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4084	
(5) K-Factor for T&D	1.4038	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

III. Utility & Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$800.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$111.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	3.50%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	3.50%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	3.50%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	3.50%	
* (12) Utility Discount Rate	8.07%	
* (13) Utility AFUDC Rate	9.84%	
* (14) Utility Nonrecurring Rebate/Incentive	\$0.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

IV. Incremental Generation, Transmission, & Distribution Costs

(1) Base Year	2001	
(2) In-Service Year For Incremental Generation	2001	**
(3) In-Service Year For Incremental T & D	2002	
(4) Base Year Incremental Generation Cost	\$234.85	\$/kW
(5) Base Year Incremental Transmission Cost	\$58.33	\$/kW
(6) Base Year Incremental Distribution Cost	\$34.18	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	3.50%	
(8) Generator Fixed O & M Cost	\$3.21	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	2.88%	
(10) Transmission Fixed O & M Cost	\$0.73	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$0.85	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	3.50%	
(13) Incremental Gen Variable O & M Costs	\$0.389	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	3.52%	
(15) Incremental Gen Capacity Factor	3.40%	
(16) Incremental Generating Unit Fuel Cost	\$0.0363	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	3.34%	
(18) Incremental Purchased Capacity Cost	\$22.71	\$/kW/YR
(19) Incremental Capacity Cost Esc Rate	2.38%	

Stop Revenue Loss at In-Service Year? (Y=1, N=0) 0

V. (1) Non-Fuel Cost In Customer Bill (Base Year)

(1) Non-Fuel Cost In Customer Bill (Base Year)	\$0.0278	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$2.085	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	0	kW/Mo.

Summary Results for This Analysis

	RIM	Participants'
NPV Benefits(\$000s)	\$539	\$471
NPV Costs (\$000s)	\$527	\$9
NPV Net Benefits (\$000s)	\$12	\$462
Benefit:Cost Ratio	1.02	53.22

\*\* The relevant avoidable generation unit is a combustion turbine peaking unit. Since the kilowatt savings occur at the time of the system peak, this is the appropriate unit against which to measure cost savings.

**INPUT DATA -- PART 2**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11
<u>Year</u>	<u>Cumulative Total Participating Customers</u>	<u>Cumulative Participating Customers Adj Free Rides</u>	<u>Utility Average System Fuel Cost (C / kWh)</u>	<u>Marginal Fuel Cost (Decreases) (C / kWh)</u>	<u>Marginal Fuel Cost (Increases) (C / kWh)</u>	<u>Replacement Fuel Cost (C / kWh)</u>	<u>Program kW Effectiveness Factor</u>	<u>Program kWh Effectiveness Factor</u>	<u>Other Costs (\$000)</u>	<u>Other Benefits (\$000)</u>
2001	10	10	3.3200	3.3200	3.3200	3.3200	1.00	1.00	\$0	\$0
2002	20	20	3.3500	3.3500	3.3500	3.3500	1.00	1.00	\$0	\$0
2003	30	30	3.3800	3.3800	3.3800	3.3800	1.00	1.00	\$0	\$0
2004	41	41	3.4100	3.4100	3.4100	3.4100	1.00	1.00	\$0	\$0
2005	52	52	3.4500	3.4500	3.4500	3.4500	1.00	1.00	\$0	\$0
2006	63	63	3.4800	3.4800	3.4800	3.4800	1.00	1.00	\$0	\$0
2007	71	71	3.5200	3.5200	3.5200	3.5200	1.00	1.00	\$0	\$0
2008	79	79	3.5800	3.5800	3.5800	3.5800	1.00	1.00	\$0	\$0
2009	87	87	3.6500	3.6500	3.6500	3.6500	1.00	1.00	\$0	\$0
2010	95	95	3.7200	3.7200	3.7200	3.7200	1.00	1.00	\$0	\$0
2011	95	95	3.3770	3.3770	3.3770	3.3770	1.00	1.00	\$0	\$0
2012	95	95	3.8300	3.8300	3.8300	3.8300	1.00	1.00	\$0	\$0
2013	95	95	3.8900	3.8900	3.8900	3.8900	1.00	1.00	\$0	\$0
2014	95	95	3.9500	3.9500	3.9500	3.9500	1.00	1.00	\$0	\$0
2015	95	95	4.0100	4.0100	4.0100	4.0100	1.00	1.00	\$0	\$0
2016	95	95	4.0700	4.0700	4.0700	4.0700	1.00	1.00	\$0	\$0
2017	95	95	4.1300	4.1300	4.1300	4.1300	1.00	1.00	\$0	\$0
2018	95	95	4.1900	4.1900	4.1900	4.1900	1.00	1.00	\$0	\$0
2019	95	95	4.2500	4.2500	4.2500	4.2500	1.00	1.00	\$0	\$0
2020	95	95	4.3100	4.3100	4.3100	4.3100	1.00	1.00	\$0	\$0
2021	95	95	4.3800	4.3800	4.3800	4.3800	1.00	1.00	\$0	\$0
2022	95	95	4.4500	4.4500	4.4500	4.4500	1.00	1.00	\$0	\$0
2023	95	95	4.5100	4.5100	4.5100	4.5100	1.00	1.00	\$0	\$0
2024	95	95	4.5800	4.5800	4.5800	4.5800	1.00	1.00	\$0	\$0
2025	95	95	4.6500	4.6500	4.6500	4.6500	1.00	1.00	\$0	\$0
2026	95	95	4.7200	4.7200	4.7200	4.7200	1.00	1.00	\$0	\$0
2027	95	95	4.7900	4.7900	4.7900	4.7900	1.00	1.00	\$0	\$0
2028	95	95	4.8600	4.8600	4.8600	4.8600	1.00	1.00	\$0	\$0
2029	95	95	4.9300	4.9300	4.9300	4.9300	1.00	1.00	\$0	\$0
2030	95	95	5.0100	5.0100	5.0100	5.0100	1.00	1.00	\$0	\$0

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Incremental Generation Capacity Costs or Benefits

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

1 Year	2 Incremental Owned Gen. Capacity Cost (\$000s)	3 Incremental Generation Fixed O&M (\$000s)	4 Incremental Generation Variable O&M (\$000s)	5 Fuel Cost for the Incr. Cap. (\$000s)	6 Replacement Fuel Cost (\$000s)	(6a) Incremental Purchased Gen. Capacity Cost (\$000s)	7 Incremental Gen. Capacity Costs (\$000s)
2001		(\$0)	(\$0)	(\$1)	(\$1)	(\$1)	(\$2)
2002		(\$0)	(\$0)	(\$1)	(\$1)	(\$3)	(\$3)
2003		(\$1)	(\$0)	(\$2)	(\$2)	(\$4)	(\$5)
2004		(\$1)	(\$0)	(\$3)	(\$2)	(\$6)	(\$7)
2005		(\$1)	(\$0)	(\$3)	(\$3)	(\$7)	(\$9)
2006		(\$1)	(\$0)	(\$4)	(\$4)	(\$9)	(\$11)
2007		(\$2)	(\$0)	(\$5)	(\$4)	(\$11)	(\$13)
2008		(\$2)	(\$0)	(\$6)	(\$5)	(\$12)	(\$15)
2009		(\$2)	(\$0)	(\$7)	(\$5)	(\$14)	(\$17)
2010		(\$2)	(\$0)	(\$8)	(\$6)	(\$15)	(\$19)
2011		(\$2)	(\$0)	(\$8)	(\$5)	(\$15)	(\$20)
2012		(\$2)	(\$0)	(\$8)	(\$6)	(\$16)	(\$20)
2013		(\$2)	(\$0)	(\$8)	(\$6)	(\$16)	(\$21)
2014		(\$2)	(\$0)	(\$8)	(\$6)	(\$17)	(\$21)
2015		(\$3)	(\$0)	(\$9)	(\$6)	(\$17)	(\$22)
2016		(\$3)	(\$0)	(\$9)	(\$7)	(\$17)	(\$23)
2017		(\$3)	(\$0)	(\$9)	(\$7)	(\$18)	(\$24)
2018		(\$3)	(\$0)	(\$10)	(\$7)	(\$18)	(\$24)
2019		(\$3)	(\$0)	(\$10)	(\$7)	(\$19)	(\$26)
2020		(\$3)	(\$0)	(\$11)	(\$7)	(\$19)	(\$26)
2021		(\$3)	(\$0)	(\$11)	(\$7)	(\$20)	(\$27)
2022		(\$3)	(\$0)	(\$12)	(\$7)	(\$20)	(\$26)
2023		(\$3)	(\$0)	(\$12)	(\$7)	(\$20)	(\$29)
2024		(\$3)	(\$0)	(\$12)	(\$7)	(\$21)	(\$30)
2025		(\$3)	(\$0)	(\$13)	(\$7)	(\$21)	(\$31)
2026		(\$4)	(\$1)	(\$13)	(\$8)	(\$22)	(\$32)
2027		(\$4)	(\$1)	(\$14)	(\$8)	(\$23)	(\$33)
2028		(\$4)	(\$1)	(\$14)	(\$8)	(\$23)	(\$34)
2029		(\$4)	(\$1)	(\$15)	(\$8)	(\$24)	(\$35)
2030		(\$4)	(\$1)	(\$15)	(\$8)	(\$24)	(\$36)
Nominal		(\$73)	(\$10)	(\$260)	(\$172)	(\$471)	(\$841)
NPV	\$0	(\$21)	(\$3)	(\$74)	(\$53)	(\$130)	(\$185)

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Incremental T&D Capacity and Incremental Fuel

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

1	2	3	4	5	6	7	8
Year	Incremental Transmission Capacity Cost (\$000s)	Incremental Transmission O&M Cost (\$000s)	Total Incremental Trans. Cost (\$000s)	Incremental Distribution Capacity Cost (\$000s)	Incremental Distribution O&M Cost (\$000s)	Total Incremental Dist. Cost (\$000s)	Effective Incremental Fuel Costs (\$000s)
2001	\$0	\$0	\$0	\$0	\$0	\$0	(\$3)
2002	(\$1)	(\$0)	(\$1)	(\$0)	(\$0)	(\$0)	(\$6)
2003	(\$1)	(\$0)	(\$1)	(\$1)	(\$0)	(\$1)	(\$9)
2004	(\$1)	(\$0)	(\$1)	(\$1)	(\$0)	(\$1)	(\$13)
2005	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$1)	(\$16)
2006	(\$2)	(\$0)	(\$2)	(\$1)	(\$0)	(\$2)	(\$20)
2007	(\$2)	(\$0)	(\$3)	(\$1)	(\$0)	(\$2)	(\$23)
2008	(\$3)	(\$0)	(\$3)	(\$2)	(\$0)	(\$2)	(\$26)
2009	(\$3)	(\$0)	(\$4)	(\$2)	(\$1)	(\$2)	(\$29)
2010	(\$4)	(\$1)	(\$4)	(\$2)	(\$1)	(\$3)	(\$32)
2011	(\$4)	(\$1)	(\$4)	(\$2)	(\$1)	(\$3)	(\$29)
2012	(\$4)	(\$1)	(\$4)	(\$2)	(\$1)	(\$3)	(\$33)
2013	(\$4)	(\$1)	(\$5)	(\$2)	(\$1)	(\$3)	(\$33)
2014	(\$4)	(\$1)	(\$5)	(\$2)	(\$1)	(\$3)	(\$34)
2015	(\$4)	(\$1)	(\$5)	(\$3)	(\$1)	(\$3)	(\$35)
2016	(\$4)	(\$1)	(\$5)	(\$3)	(\$1)	(\$3)	(\$35)
2017	(\$5)	(\$1)	(\$5)	(\$3)	(\$1)	(\$3)	(\$36)
2018	(\$5)	(\$1)	(\$5)	(\$3)	(\$1)	(\$4)	(\$36)
2019	(\$5)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$37)
2020	(\$5)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$37)
2021	(\$5)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$38)
2022	(\$5)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$38)
2023	(\$6)	(\$1)	(\$6)	(\$3)	(\$1)	(\$4)	(\$39)
2024	(\$6)	(\$1)	(\$7)	(\$3)	(\$1)	(\$4)	(\$39)
2025	(\$6)	(\$1)	(\$7)	(\$4)	(\$1)	(\$5)	(\$40)
2026	(\$6)	(\$1)	(\$7)	(\$4)	(\$1)	(\$5)	(\$41)
2027	(\$6)	(\$1)	(\$7)	(\$4)	(\$1)	(\$5)	(\$41)
2028	(\$7)	(\$1)	(\$8)	(\$4)	(\$1)	(\$5)	(\$42)
2029	(\$7)	(\$1)	(\$8)	(\$4)	(\$1)	(\$5)	(\$42)
2030	(\$7)	(\$1)	(\$8)	(\$4)	(\$1)	(\$5)	(\$43)
Nominal	(\$124)	(\$18)	(\$142)	(\$72)	(\$22)	(\$94)	(\$924)
NPV	(\$35)	(\$5)	(\$40)	(\$21)	(\$6)	(\$27)	(\$287)

Worksheet for Utility Program Costs and Participants' Benefits & Costs

Utility Program Costs, Rebates, & Incentives								Participating Customers' Benefits and Costs							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Year	Annual Incremental kWh Generated (000s)	Utility Non-recurring Costs (\$000)	Utility Recurring Costs (\$000)	Total Utility Program Costs (\$000)	Utility Non-recurring Rebates/Incent. (\$000)	Utility Recurring Rebates/Incent. (\$000)	Total Utility Paid Rebates/Incent. (\$000)	Participant Equipment Costs (\$000)	Participant O&M Costs (\$000)	Total Participant Costs (\$000)	Change in Participants' Billed kWh (000s)	Change in Participants' Billed Fuel (\$000)	Change in Participants' Billed Non-Fuel (\$000)	Change in Participants' Electric Bills (\$000)	
2001	(91)	\$8	\$0	\$8	\$0	\$0	\$0	\$1	\$0	\$1	(87)	(\$3)	(\$2)	(\$5)	
2002	(181)	\$8	\$0	\$8	\$0	\$0	\$0	\$1	\$0	\$1	(173)	(\$8)	(\$5)	(\$11)	
2003	(272)	\$8	\$0	\$8	\$0	\$0	\$0	\$1	\$0	\$1	(260)	(\$8)	(\$7)	(\$16)	
2004	(372)	\$9	\$0	\$9	\$0	\$0	\$0	\$1	\$0	\$1	(356)	(\$12)	(\$10)	(\$22)	
2005	(471)	\$9	\$0	\$9	\$0	\$0	\$0	\$1	\$0	\$1	(451)	(\$16)	(\$13)	(\$28)	
2006	(571)	\$9	\$0	\$9	\$0	\$0	\$0	\$1	\$0	\$1	(546)	(\$19)	(\$15)	(\$34)	
2007	(643)	\$6	\$0	\$6	\$0	\$0	\$0	\$1	\$0	\$1	(616)	(\$22)	(\$17)	(\$39)	
2008	(716)	\$6	\$0	\$6	\$0	\$0	\$0	\$1	\$0	\$1	(685)	(\$25)	(\$19)	(\$44)	
2009	(788)	\$6	\$0	\$6	\$0	\$0	\$0	\$1	\$0	\$1	(754)	(\$28)	(\$21)	(\$49)	
2010	(861)	\$6	\$0	\$6	\$0	\$0	\$0	\$1	\$0	\$1	(824)	(\$31)	(\$23)	(\$54)	
2011	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$28)	(\$23)	(\$51)	
2012	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$32)	(\$23)	(\$54)	
2013	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$32)	(\$23)	(\$55)	
2014	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$33)	(\$23)	(\$55)	
2015	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$33)	(\$23)	(\$55)	
2016	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$34)	(\$23)	(\$56)	
2017	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$34)	(\$23)	(\$57)	
2018	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$35)	(\$23)	(\$57)	
2019	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$35)	(\$23)	(\$58)	
2020	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$36)	(\$23)	(\$58)	
2021	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$36)	(\$23)	(\$59)	
2022	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$37)	(\$23)	(\$60)	
2023	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$37)	(\$23)	(\$60)	
2024	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$37)	(\$23)	(\$60)	
2025	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$38)	(\$23)	(\$61)	
2026	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$38)	(\$23)	(\$61)	
2027	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$39)	(\$23)	(\$62)	
2028	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$40)	(\$23)	(\$62)	
2029	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$40)	(\$23)	(\$63)	
2030	(861)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(824)	(\$41)	(\$23)	(\$64)	
Nominal NPV	(22,182)	\$76	\$0	\$76	\$56	\$0	\$0	\$12	\$8	\$0	\$12	(\$21,227)	(\$886)	(\$590)	(\$1,475)
	(\$7,375)										(\$7,057)	(\$275)	(\$198)	(\$471)	

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**Total Resource Cost-Effectiveness Measure**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11	12	13
Year	Change in Electric Supply Costs (\$000s)	Utility's Program Costs (\$000s)	Participants' Program Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Incremental Generation Cap Costs (\$000s)	Incremental T&D Cap Costs (\$000s)	Incremental Prog Induced Fuel Costs (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits (\$000s)	Cumulative Discounted Net Benefits (\$000s)
2001	\$0	\$8	\$1	\$0	\$0	(\$2)	\$0	(\$3)	\$9	\$5	(\$5)	(\$5)
2002	\$0	\$8	\$1	\$0	\$0	(\$3)	(\$1)	(\$6)	\$9	\$10	\$1	(\$3)
2003	\$0	\$8	\$1	\$0	\$0	(\$5)	(\$2)	(\$9)	\$9	\$16	\$7	\$2
2004	\$0	\$9	\$1	\$0	\$0	(\$7)	(\$2)	(\$13)	\$10	\$22	\$12	\$11
2005	\$0	\$9	\$1	\$0	\$0	(\$9)	(\$3)	(\$16)	\$10	\$28	\$18	\$25
2006	\$0	\$9	\$1	\$0	\$0	(\$11)	(\$4)	(\$20)	\$10	\$35	\$25	\$42
2007	\$0	\$6	\$1	\$0	\$0	(\$13)	(\$5)	(\$23)	\$7	\$40	\$33	\$62
2008	\$0	\$6	\$1	\$0	\$0	(\$15)	(\$5)	(\$26)	\$8	\$46	\$39	\$85
2009	\$0	\$6	\$1	\$0	\$0	(\$17)	(\$6)	(\$29)	\$8	\$52	\$44	\$109
2010	\$0	\$6	\$1	\$0	\$0	(\$19)	(\$7)	(\$32)	\$8	\$58	\$50	\$134
2011	\$0	\$0	\$0	\$0	\$0	(\$20)	(\$7)	(\$29)	\$0	\$56	\$56	\$160
2012	\$0	\$0	\$0	\$0	\$0	(\$20)	(\$7)	(\$33)	\$0	\$61	\$61	\$186
2013	\$0	\$0	\$0	\$0	\$0	(\$21)	(\$8)	(\$33)	\$0	\$62	\$62	\$210
2014	\$0	\$0	\$0	\$0	\$0	(\$21)	(\$8)	(\$34)	\$0	\$63	\$63	\$233
2015	\$0	\$0	\$0	\$0	\$0	(\$22)	(\$8)	(\$35)	\$0	\$65	\$65	\$255
2016	\$0	\$0	\$0	\$0	\$0	(\$23)	(\$8)	(\$35)	\$0	\$66	\$66	\$275
2017	\$0	\$0	\$0	\$0	\$0	(\$24)	(\$9)	(\$36)	\$0	\$68	\$68	\$295
2018	\$0	\$0	\$0	\$0	\$0	(\$24)	(\$9)	(\$36)	\$0	\$70	\$70	\$314
2019	\$0	\$0	\$0	\$0	\$0	(\$26)	(\$9)	(\$37)	\$0	\$71	\$71	\$331
2020	\$0	\$0	\$0	\$0	\$0	(\$26)	(\$10)	(\$37)	\$0	\$73	\$73	\$348
2021	\$0	\$0	\$0	\$0	\$0	(\$27)	(\$10)	(\$38)	\$0	\$75	\$75	\$364
2022	\$0	\$0	\$0	\$0	\$0	(\$28)	(\$10)	(\$38)	\$0	\$77	\$77	\$379
2023	\$0	\$0	\$0	\$0	\$0	(\$29)	(\$11)	(\$39)	\$0	\$78	\$78	\$393
2024	\$0	\$0	\$0	\$0	\$0	(\$30)	(\$11)	(\$39)	\$0	\$80	\$80	\$407
2025	\$0	\$0	\$0	\$0	\$0	(\$31)	(\$11)	(\$40)	\$0	\$82	\$82	\$420
2026	\$0	\$0	\$0	\$0	\$0	(\$32)	(\$12)	(\$41)	\$0	\$84	\$84	\$432
2027	\$0	\$0	\$0	\$0	\$0	(\$33)	(\$12)	(\$41)	\$0	\$86	\$86	\$443
2028	\$0	\$0	\$0	\$0	\$0	(\$34)	(\$13)	(\$42)	\$0	\$88	\$88	\$454
2029	\$0	\$0	\$0	\$0	\$0	(\$35)	(\$13)	(\$42)	\$0	\$90	\$90	\$464
2030	\$0	\$0	\$0	\$0	\$0	(\$36)	(\$14)	(\$43)	\$0	\$93	\$93	\$474
Nominal		\$76	\$12			(\$641)	(\$236)	(\$924)	\$88	\$1,801	\$1,713	
NPV		\$56	\$9	\$0	\$0	(\$185)	(\$67)	(\$287)	\$65	\$539	\$474	
Discount Rate =		8.07%										
Benefit/Cost Ratio =		8.31										

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**Participants' Cost-Effectiveness Measure**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11	12
Year	Customer Equip Costs (\$000s)	Customer O&M Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Change in Participants' Electric Bills (\$000s)	Tax Credits (\$000s)	Utility Paid Rebates & Incentives (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits (\$000s)	Cumulative Discounted Net Benefits (\$000s)
2001	\$1	\$0	\$0	\$0	(\$5)	\$0	\$0	\$1	\$5	\$4	\$4
2002	\$1	\$0	\$0	\$0	(\$11)	\$0	\$0	\$1	\$11	\$9	\$13
2003	\$1	\$0	\$0	\$0	(\$16)	\$0	\$0	\$1	\$16	\$15	\$26
2004	\$1	\$0	\$0	\$0	(\$22)	\$0	\$0	\$1	\$22	\$21	\$42
2005	\$1	\$0	\$0	\$0	(\$28)	\$0	\$0	\$1	\$28	\$27	\$62
2006	\$1	\$0	\$0	\$0	(\$34)	\$0	\$0	\$1	\$34	\$33	\$84
2007	\$1	\$0	\$0	\$0	(\$39)	\$0	\$0	\$1	\$39	\$38	\$108
2008	\$1	\$0	\$0	\$0	(\$44)	\$0	\$0	\$1	\$44	\$42	\$132
2009	\$1	\$0	\$0	\$0	(\$49)	\$0	\$0	\$1	\$49	\$47	\$158
2010	\$1	\$0	\$0	\$0	(\$54)	\$0	\$0	\$1	\$54	\$52	\$184
2011	\$0	\$0	\$0	\$0	(\$51)	\$0	\$0	\$0	\$51	\$51	\$207
2012	\$0	\$0	\$0	\$0	(\$54)	\$0	\$0	\$0	\$54	\$54	\$230
2013	\$0	\$0	\$0	\$0	(\$55)	\$0	\$0	\$0	\$55	\$55	\$252
2014	\$0	\$0	\$0	\$0	(\$55)	\$0	\$0	\$0	\$55	\$55	\$272
2015	\$0	\$0	\$0	\$0	(\$56)	\$0	\$0	\$0	\$56	\$56	\$291
2016	\$0	\$0	\$0	\$0	(\$56)	\$0	\$0	\$0	\$56	\$56	\$309
2017	\$0	\$0	\$0	\$0	(\$57)	\$0	\$0	\$0	\$57	\$57	\$325
2018	\$0	\$0	\$0	\$0	(\$57)	\$0	\$0	\$0	\$57	\$57	\$341
2019	\$0	\$0	\$0	\$0	(\$58)	\$0	\$0	\$0	\$58	\$58	\$355
2020	\$0	\$0	\$0	\$0	(\$58)	\$0	\$0	\$0	\$58	\$58	\$368
2021	\$0	\$0	\$0	\$0	(\$59)	\$0	\$0	\$0	\$59	\$59	\$381
2022	\$0	\$0	\$0	\$0	(\$60)	\$0	\$0	\$0	\$60	\$60	\$392
2023	\$0	\$0	\$0	\$0	(\$60)	\$0	\$0	\$0	\$60	\$60	\$403
2024	\$0	\$0	\$0	\$0	(\$61)	\$0	\$0	\$0	\$61	\$61	\$414
2025	\$0	\$0	\$0	\$0	(\$61)	\$0	\$0	\$0	\$61	\$61	\$423
2026	\$0	\$0	\$0	\$0	(\$62)	\$0	\$0	\$0	\$62	\$62	\$432
2027	\$0	\$0	\$0	\$0	(\$62)	\$0	\$0	\$0	\$62	\$62	\$440
2028	\$0	\$0	\$0	\$0	(\$63)	\$0	\$0	\$0	\$63	\$63	\$448
2029	\$0	\$0	\$0	\$0	(\$64)	\$0	\$0	\$0	\$64	\$64	\$455
2030	\$0	\$0	\$0	\$0	(\$64)	\$0	\$0	\$0	\$64	\$64	\$462
Nominal	\$12				(\$1,475)			\$12	\$1,475	\$1,463	
NPV	\$8	\$0	\$0	\$0	(\$471)	\$0	\$0	\$9	\$471	\$462	
Discount Rate =	8.07%										
Benefit/Cost Ratio =	53.22										

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**Ratepayers' Impact Cost-Effectiveness Measure**  
**Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	Change in Electric Supply Costs (\$000s)	Utility's Program Costs (\$000s)	Utility Paid Rebates & Incentives (\$000s)	Change in Electric Revenues (\$000)	Incremental Generation Cap Costs (\$000s)	Incremental T&D Cap Costs (\$000s)	Incremental Prog Induced Fuel Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits to All Customers (\$000s)	Cumulative Discounted Net Benefits (\$000s)
2001	\$0	\$8	\$0	(\$5)	(\$2)	\$0	(\$3)	\$0	\$0	\$13	\$5	(\$9)	(\$9)
2002	\$0	\$8	\$0	(\$11)	(\$3)	(\$1)	(\$6)	\$0	\$0	\$19	\$10	(\$8)	(\$16)
2003	\$0	\$8	\$0	(\$16)	(\$5)	(\$2)	(\$9)	\$0	\$0	\$24	\$16	(\$8)	(\$24)
2004	\$0	\$9	\$0	(\$22)	(\$7)	(\$2)	(\$13)	\$0	\$0	\$31	\$22	(\$9)	(\$31)
2005	\$0	\$9	\$0	(\$28)	(\$9)	(\$3)	(\$16)	\$0	\$0	\$37	\$28	(\$9)	(\$37)
2006	\$0	\$9	\$0	(\$34)	(\$11)	(\$4)	(\$20)	\$0	\$0	\$43	\$35	(\$8)	(\$42)
2007	\$0	\$6	\$0	(\$39)	(\$13)	(\$5)	(\$23)	\$0	\$0	\$45	\$40	(\$5)	(\$45)
2008	\$0	\$6	\$0	(\$44)	(\$15)	(\$5)	(\$26)	\$0	\$0	\$50	\$46	(\$4)	(\$47)
2009	\$0	\$6	\$0	(\$49)	(\$17)	(\$6)	(\$29)	\$0	\$0	\$55	\$52	(\$3)	(\$49)
2010	\$0	\$6	\$0	(\$54)	(\$19)	(\$7)	(\$32)	\$0	\$0	\$60	\$58	(\$2)	(\$50)
2011	\$0	\$0	\$0	(\$51)	(\$20)	(\$7)	(\$29)	\$0	\$0	\$51	\$56	\$6	(\$47)
2012	\$0	\$0	\$0	(\$54)	(\$20)	(\$7)	(\$33)	\$0	\$0	\$54	\$61	\$6	(\$45)
2013	\$0	\$0	\$0	(\$55)	(\$21)	(\$8)	(\$33)	\$0	\$0	\$55	\$62	\$7	(\$42)
2014	\$0	\$0	\$0	(\$55)	(\$21)	(\$8)	(\$34)	\$0	\$0	\$55	\$63	\$8	(\$39)
2015	\$0	\$0	\$0	(\$56)	(\$22)	(\$8)	(\$35)	\$0	\$0	\$56	\$65	\$9	(\$36)
2016	\$0	\$0	\$0	(\$56)	(\$23)	(\$8)	(\$35)	\$0	\$0	\$56	\$66	\$10	(\$33)
2017	\$0	\$0	\$0	(\$57)	(\$24)	(\$9)	(\$36)	\$0	\$0	\$57	\$68	\$11	(\$30)
2018	\$0	\$0	\$0	(\$57)	(\$24)	(\$9)	(\$36)	\$0	\$0	\$57	\$70	\$12	(\$27)
2019	\$0	\$0	\$0	(\$58)	(\$26)	(\$9)	(\$37)	\$0	\$0	\$58	\$71	\$14	(\$23)
2020	\$0	\$0	\$0	(\$58)	(\$26)	(\$10)	(\$37)	\$0	\$0	\$58	\$73	\$15	(\$20)
2021	\$0	\$0	\$0	(\$59)	(\$27)	(\$10)	(\$38)	\$0	\$0	\$59	\$75	\$16	(\$17)
2022	\$0	\$0	\$0	(\$60)	(\$28)	(\$10)	(\$38)	\$0	\$0	\$60	\$77	\$17	(\$13)
2023	\$0	\$0	\$0	(\$60)	(\$29)	(\$11)	(\$39)	\$0	\$0	\$60	\$78	\$18	(\$10)
2024	\$0	\$0	\$0	(\$61)	(\$30)	(\$11)	(\$39)	\$0	\$0	\$61	\$80	\$20	(\$7)
2025	\$0	\$0	\$0	(\$61)	(\$31)	(\$11)	(\$40)	\$0	\$0	\$61	\$82	\$21	(\$4)
2026	\$0	\$0	\$0	(\$62)	(\$32)	(\$12)	(\$41)	\$0	\$0	\$62	\$84	\$22	(\$0)
2027	\$0	\$0	\$0	(\$62)	(\$33)	(\$12)	(\$41)	\$0	\$0	\$62	\$86	\$24	\$3
2028	\$0	\$0	\$0	(\$63)	(\$34)	(\$13)	(\$42)	\$0	\$0	\$63	\$88	\$25	\$6
2029	\$0	\$0	\$0	(\$64)	(\$35)	(\$13)	(\$42)	\$0	\$0	\$64	\$90	\$27	\$9
2030	\$0	\$0	\$0	(\$64)	(\$36)	(\$14)	(\$43)	\$0	\$0	\$64	\$93	\$28	\$12
Nominal		\$76		(\$1,475)	(\$641)	(\$236)	(\$924)			\$1,551	\$1,801	\$250	
NPV		\$56	\$0	(\$471)	(\$185)	(\$67)	(\$287)	\$0	\$0	\$527	\$539	\$12	
Discount Rate =		8.07%											
Benefit/Cost Ratio =		1.02											

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# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

## **GoodCents Commercial Technical Assistance Audit (TAA) Program**

- **Program Description**

The Technical Assistance Audit Program is an interactive program that provides commercial customers assistance in identifying advanced energy conservation opportunities. It is customized to meet the individual needs of large customers as required; therefore, it is an evolving program.

The Technical Assistance Audit process consists of an on-site review by Florida Public Utilities Company Conservation Specialist of the customer's facility operation, equipment and energy usage pattern. The specialist identifies all areas of potential reduction in kW demand and kWh consumption as well as identifying end-use technology opportunities. A technical evaluation is then performed which often includes performing an AXCESS simulation in order to ascertain an economic payback or life cycle cost analysis for various improvements to the facility. When necessary Florida Public Utilities Company will subcontract the evaluation process to an independent engineering firm and/or contracting consultant.

- **Participation Standards**

The Technical Assistance Audit Program is available to all commercial and industrial customers with a minimum annual peak demand of 20kW.

- **Benefits and Cost**

The Technical Assistance Audit provides specific recommendation on energy conservation opportunities for the customer. The cost to the customer will be based on the recommendations regarding equipment, operational options, or other suggestions. The age of the existing stock of appliances and building structure envelope are key determinates in the cost of implementation to the customer. Because the program provides specific and unique options to the customer, gross or average cost estimates are not computed.

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

The benefits to Florida Public Utilities Company are energy conservation as well as improved customer satisfaction. In recent research of commercial/industrial customers, consistent response for areas of improvement from this class of customer include this type of individualized attention and service in helping them improve their cost of operation and efficiency.

- **Monitoring and Evaluation**

Monitoring and evaluation of the Technical Assistance Audits will be administered on a case-by-case basis. Energy efficiency levels resulting in lower operating costs, improved customer perception, and kW and kWh reductions will be monitored in determining the effectiveness of this program.

- **Cost Effectiveness**

Not applicable

**Florida Public Utilities Company  
 Demand Side Management Plan**

**GoodCents Commercial Technical Assistance Program**

<b>AT THE METER</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	5,887	1.60	1.60	200,158	54	54
2002	5,887	1.60	1.60	400,316	109	109
2003	5,887	1.60	1.60	606,361	165	165
2004	5,887	1.60	1.60	812,406	221	221
2005	5,887	1.60	1.60	1,018,451	277	277
2006	5,887	1.60	1.60	1,224,496	333	333
2007	5,887	1.60	1.60	1,430,541	389	389
2008	5,887	1.60	1.60	1,642,473	446	446
2009	5,887	1.60	1.60	1,854,405	504	504
2010	5,887	1.60	1.60	2,072,224	563	563

<b>AT THE GENERATOR</b>						
<b>YEAR</b>	<b>Per Customer kWh Reduction</b>	<b>Per Customer Winter kW Reduction</b>	<b>Per Customer Summer kW Reduction</b>	<b>Total Annual kWh Reduction</b>	<b>Total Annual Winter kW Reduction</b>	<b>Total Annual Summer kW Reduction</b>
2001	6,152	1.95	1.95	209,168	66	66
2002	6,152	1.95	1.95	418,336	133	133
2003	6,152	1.95	1.95	633,656	201	201
2004	6,152	1.95	1.95	848,976	269	269
2005	6,152	1.95	1.95	1,064,296	337	337
2006	6,152	1.95	1.95	1,279,616	406	406
2007	6,152	1.95	1.95	1,494,936	474	474
2008	6,152	1.95	1.95	1,716,408	544	544
2009	6,152	1.95	1.95	1,937,880	614	614
2010	6,152	1.95	1.95	2,165,504	686	686

<b>Customers and Participation Rates</b>					
<b>YEAR</b>	<b>Total Number Of Customers</b>	<b>Total Number Of Eligible Customers</b>	<b>Annual Number of Program Participants</b>	<b>Cumulative Penetration Level %</b>	<b>Cumulative Number of Program Part.</b>
2001	3,518	1,055	34	3.2%	34
2002	3,613	1,084	34	3.1%	68
2003	3,711	1,113	35	3.1%	103
2004	3,802	1,141	35	3.1%	138
2005	3,892	1,168	35	3.0%	173
2006	3,986	1,196	35	2.9%	208
2007	4,038	1,211	35	2.9%	243
2008	4,091	1,227	36	2.9%	279
2009	4,145	1,244	36	2.9%	315
2010	4,200	1,260	37	2.9%	352

# FLORIDA PUBLIC UTILITIES COMPANY DEMAND SIDE MANAGEMENT PLAN

## Energy Education

- **Low Income**

Florida Public Utilities Company presently has energy education programs that identify low cost and or no cost energy conservation measures. In order to better assist low-income customers in managing their energy purchases, the presentation and format of these energy education programs are tailored to the audience. These programs provide basic energy education, as well as inform the customers of other specific services, such as free energy surveys, that Florida Public Utilities Company currently offers.

- **Affordable Housing Builders and Providers**

Florida Public Utilities Company will identify the affordable housing builders within the service area and will encourage them to attend education seminars and workshops related to energy efficient construction, retrofit programs, financing programs, etc., and to participate in the GoodCents Home program. Florida Public Utilities Company will work with the Florida Energy Extension Service and other seminar sponsors to offer a minimum of two seminars and/or workshops per year. Florida Public Utilities Company will work with all sponsors to reduce or eliminate attendance fees for affordable housing providers.