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March 29, 2010

Ms. Ann Cole  
Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee FL 32399-0850

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COMMISSION  
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100154-EG

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Dear Ms. Cole:

RE: Gulf Power Company's Demand-Side Management Plan

Enclosed are an original and fifteen copies of the Petition for Approval of numeric Conservation Goals by Gulf Power Company and the 2010 Demand-Side Management Plan to be filed with the Florida Public Service Commission pursuant to Order No. PSC-09-0855-FOF-EG.

Sincerely,

*Susan D. Ritenour (lw)*

lw

Enclosures

COM	___	cc w/encl.:	Beggs & Lane
APA	___		Jeffrey A. Stone, Esq.
ECR	___		
GCL	2		
RAD	13		
SSC	___		
ADM	___		
OPC	___		
CLK	___		

2010 MAR 30  
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FPSC-COMMISSION CLERK

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

IN RE: Approval of Demand-Side )  
Management Plan of Gulf Power Company )  
)

Docket No.: 100154-EG  
Filed: March 29, 2010

**GULF POWER COMPANY'S PETITION FOR APPROVAL  
OF PROPOSED DEMAND-SIDE MANAGEMENT PLAN**

GULF POWER COMPANY ("Gulf Power," "Gulf," or "the Company"), by and through its undersigned counsel and pursuant to sections 366.82 and 366.06, Florida Statutes, and Rule 25-17.0021, Florida Administrative Code, hereby petitions the Florida Public Service Commission ("Commission") for approval of its Demand-Side Management ("DSM") Plan and authorization to recover reasonable and prudent expenditures associated with the implementation of such Plan through the Energy Conservation Cost Recovery ("ECCR") clause. As grounds for the relief requested by this petition, the Company respectfully shows:

1. Notices and communications with respect to this petition should be addressed to:

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Russell A. Badders  
Steven R. Griffin  
Beggs & Lane  
P.O. Box 12950  
Pensacola, Florida 32591

Susan D. Ritenour  
Secretary and Treasurer  
One Energy Place  
Pensacola, Florida 32520-0780

2. Gulf Power Company is an investor-owned electric utility with corporate headquarters located at 500 Bayfront Parkway, Pensacola, Florida. The Company owns, maintains and operates an electric generation, transmission and distribution system within the state of Florida through which it provides retail electric service to customers. Gulf is subject to the Florida Energy Efficiency and Conservation Act ("FEECA") and it recovers certain costs associated with its conservation activities through an ECCR clause that is subject to the Commission's jurisdiction.



3. Gulf Power currently has a Demand-Side Management Plan which was approved by the Commission through Order No. PSC-05-0273-PAA-EG.

4. DSM Goals were recently approved by the Commission for Gulf Power in Order No. PSC-09-0855-FOF-EG (the "Goals Order"), in Docket No. 080410-EG. On January 14, 2010, Gulf Power filed a Motion for Reconsideration of the Goals Order on the ground that a portion of the goals established by the Commission for Gulf Power consisted of the Technical Potential --rather than Achievable Potential-- for energy/demand savings of eight residential measures having a customer payback of two years or less. On March 16, 2010, the Commission denied Gulf's Motion for Reconsideration and affirmed the rulings embodied in the Goals Order.

5. Gulf Power, through its petition, formally files a Plan that is designed to achieve the numeric goals established by the Commission in the Goals Order. The Company's DSM Plan represents a substantial increase in scope and focus compared to its previous DSM plans and implements the largest expansion of DSM in the Company's history. The Commission-approved DSM Goals are 29%, 2% and 932% higher than Gulf's existing goals for summer demand, winter demand and annual energy, respectively. Gulf Power estimates the cost to deploy the proposed DSM Plan to be \$547 million over the ten year period 2010-2019 based on projections developed during the goal setting process. For a residential customer, the impact to the Energy Conservation Cost Recovery (ECCR) clause is projected to increase from a 2009 level of \$1.25/1,200 kWh to a peak level of \$7.05/1,200 kWh in 2015, or approximately 460%. In addition, the reduced energy consumption associated with programs designed to achieve the Commission-approved DSM goals represents a non-fuel revenue impact of approximately \$198 million to Gulf Power.

6. Gulf's DSM Plan will advance the policy objectives of Rule 25-17.001, Florida Administrative Code, and FEECA. Gulf's proposed DSM Plan details the programs Gulf intends to utilize to meet its numeric conservation goals and is made a part hereof by reference. Gulf


intends to file program participation standards within 30 days of the issuance of an order approving its DSM Plan.

7. Gulf Power's proposed DSM Plan is cost-effective under the Total Resource Cost test and the Participant's cost test, yields measurable results and is directly monitorable. Gulf has utilized the Commission-approved cost-effectiveness methodology to evaluate the proposed programs.

8. The Company submits that its proposed DSM Plan should be approved and the Commission should authorize recovery of the reasonable and prudent expenditures associated with the Company's DSM Plan through the ECCR clause, subject to the ongoing review and approval of the Commission in conjunction therewith.

**WHEREFORE**, Gulf Power requests that the Commission approve the Company's proposed DSM Plan which accompanies this petition and authorize Gulf Power to recover reasonable and prudent expenditures associated with the implementation of the Company's proposed DSM Plan through the ECCR clause, subject to the ongoing review and approval of the Commission in conjunction therewith.

Respectfully submitted this 29th day of March, 2010.



---

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100154-EG

# 2010 Demand-Side Management Plan

March 30, 2010

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FPSC-COMMISSION CLERK

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### Introduction

In accordance with Rules 25-17.001-.005, Florida Administrative Code, the Florida Public Service Commission (FPSC) considered numeric conservation goals for Gulf Power Company (Gulf) in Docket No. 080410-EG. In Commission Order No. PSC-09-0855-FOF-EG (the Goals Order), the Commission approved numeric goals for Gulf for the period 2010 through 2019 as follows:

Residential: Summer (mW) 118.9; Winter (mW) 100.5; and Annual Energy (gWh) 475.9

Commercial/Industrial: Summer (mW) 25.3; Winter (mW) 9.3; and Annual Energy (gWh) 97.9

In response to the Goals Order, Gulf petitions the FPSC for approval of this Demand-Side Management (DSM) Plan as described herein and to authorize Gulf to recover through its Energy Conservation Cost Recovery (ECCR) clause reasonable and prudent expenditures associated with implementation of these programs. The following report contains Gulf Power's 2010 Demand-Side Management Plan and is organized into four (4) sections:

Section 1 contains an Executive Summary of the Plan Gulf Power Company proposes to meet the numerical demand and energy savings set by the FPSC Goals Order. Tables are also included which summarize the demand and energy savings by year for the residential and commercial/industrial markets.

Section 2 contains the actual DSM Plan and is sub-divided into Residential, Commercial/Industrial, and Renewable Program sections. The plan includes 25 programs. Each proposed program contains a description and participation projections. Program standards will be filed upon approval of the Plan.

Section 3 contains a description of Gulf Power Company's Conservation Demonstration and Development program. The Conservation Demonstration and Development program pursues research to promote energy efficiency and conservation. This program enhances and complements the other DSM programs offered by the Company.

Section 4 contains the cost-effectiveness results for each of the programs and measures contained in the DSM Plan. Each report includes results of the Total Resource Cost (TRC) test, the Rate Impact Measure (RIM) test, and the Participant's Test (PT). These evaluations are based on the marketing and administrative costs projected by Itron to achieve the E-TRC<sup>1</sup> portfolio ten year energy and demand savings and the maximum incentive levels contemplated in the Plan.

In calculating the TRC and RIM tests for the measures in the Plan, Gulf Power included an estimate of the avoided cost of carbon compliance as a benefit of DSM. As the FPSC recognized in the Goals Order, DSM portfolios based on these "enhanced" versions of the cost-effectiveness tests --referred to as E-RIM and E-TRC-- result in greater energy savings than portfolios based on traditional RIM or TRC tests. Order at p. 15. For purposes of Gulf's DSM Plan, references to the TRC or RIM test results should be interpreted as including estimates of the avoided cost of carbon compliance, unless otherwise noted.

### Section 1: Executive Summary

Gulf Power Company's 2010 Demand-Side Management (DSM) Plan represents a substantial increase in scope and focus from the Company's previous DSM Plans. These changes are necessary to meet numeric goals established by the Goals Order. This DSM Plan represents the largest expansion of DSM in the Company's history and contains 25 programs incorporating 55 energy saving measures. These programs target all customer classes and offer increased emphasis on hard-to-reach segments such as low-income customers and renters. Gulf Power is also proposing programs to increase the deployment of solar photovoltaic (PV) and Solar Thermal Water Heating (STWH) demand-side renewable technologies.

This new Plan represents a shift of emphasis in the Company's approach to DSM. For all previous plans, the Commission approved programs passing the RIM test which resulted in programs that primarily emphasized peak demand reductions and minimized free-ridership associated with short payback measures. In accordance with the Goals Order, this DSM Plan is designed to achieve the energy and demand reductions associated with measures passing the E-TRC test and additional savings represented by the Technical Potential of eight residential measures having a simple payback to the customer of less than two years. These criteria result in programs designed to primarily emphasize energy reductions.

In order to achieve these higher goals, Gulf Power's Plan is designed to overcome many of the barriers to energy efficiency adoption. Lack of awareness, upfront cost, and split-incentives which affect many low-income and renter customer groups often prevent wide-scale acceptance. Gulf's proposed Plan addresses these barriers through a variety of innovative programs. These programs are designed to:

- increase awareness

- reduce the customers' cost of adopting quick payback measures
- incent the installation of more efficient HVAC and building envelope measures
- provide direct installation of energy-saving measures for customers who are least able to make investment-related improvements

Gulf's Plan is intended to allow flexibility in achieving the goals. First, Gulf is proposing a number of new programs in this Plan whose participation estimates are uncertain. Gulf has utilized assistance from Itron, other Florida IOU's, third party providers, and our staff of energy experts to project customer enrollment. Ultimately, though, the acceptability of these programs to customers is unknown. Gulf will continually monitor customer participation and may shift the focus on certain programs to achieve the goals set by the Commission. Second, each program is designed to offer certain incentive levels based on the percentage of customer cost that is being offset by the program. These incentive levels, like the programs themselves, are new and customer response is uncertain. Gulf proposes to utilize the Program Standards to set specific incentive levels and maintain the flexibility to make periodic adjustments as necessary to meet program objectives. These adjustments may reflect other financial incentives periodically available to customers including tax credits, actual program performance, or changes in incremental costs of measures due to program maturity. Cost-effectiveness evaluations of each program, however, are based on the maximum incentive levels contemplated in order to remain confident in overall program viability.

Gulf Power estimates the cost to deploy the proposed DSM Plan to be \$547 million over the ten year period 2010-2019. This cost includes the Renewable Spending Plan, incentives and administrative cost projections developed during the goal setting process. For a residential customer, the impact to the Energy Conservation Cost Recovery (ECCR) clause is projected to increase from a 2009 level of \$1.25/1,200 kWh to a peak level of \$7.05/1,200 kWh in 2015, or



## 2010 Demand-Side Management Plan



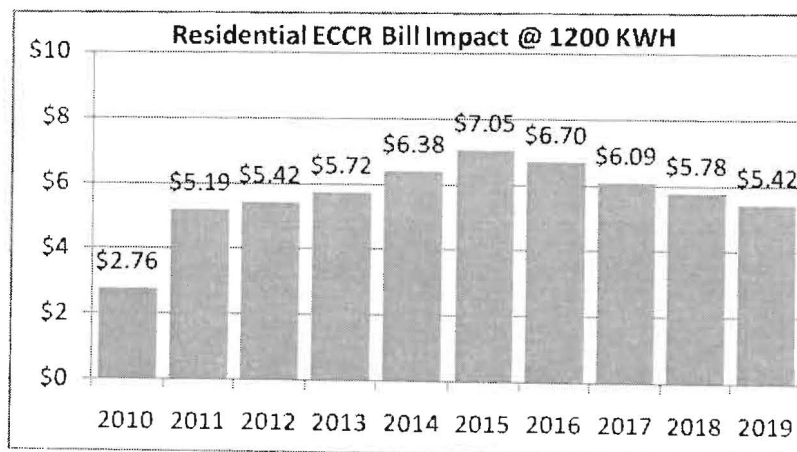
approximately 460%. In addition, the reduced energy consumption associated with these programs represents a non-fuel revenue impact of approximately \$198 million to Gulf Power over this same ten year period. The following table provides additional details of these projections:

DSM Plan Reductions (GWh) (1)			DSM Plan Cost (2)		Residential ECCR Impacts @ 1200 kWh <sup>1</sup> (3)	Non-fuel Revenue Impact (4) (1b x \$ / MWh)	DSM Plan costs + Non-fuel Revenue Impacts (2a + 2b + 4)
Year	Annual (1a)	Cumulative (1b)	Energy Efficiency and Demand Response (2a)	Renewables (2b)			
<i>Current</i>					\$1.25		
2010	18	18	\$22,720,243	\$900,338	\$2.76	\$1,052,820	\$24,673,401
2011	46	64	\$44,707,290	\$900,338	\$5.19	\$3,700,400	\$49,308,028
2012	51	114	\$48,679,305	\$900,338	\$5.42	\$6,841,120	\$56,420,763
2013	56	171	\$53,192,692	\$900,338	\$5.72	\$10,430,484	\$64,523,514
2014	65	236	\$60,536,084	\$900,338	\$6.38	\$14,790,120	\$76,226,542
2015	76	312	\$69,183,865		\$7.05	\$22,153,712	\$91,337,577
2016	72	384	\$67,132,391		\$6.70	\$27,657,096	\$94,789,487
2017	67	451	\$62,468,902		\$6.09	\$32,072,517	\$94,541,419
2018	64	515	\$60,396,381		\$5.78	\$37,616,900	\$98,013,281
2019	61	576	\$57,903,385		\$5.42	\$41,587,260	\$99,490,645
<b>TOTALS</b>		<b>576</b>	<b>\$546,920,537</b>	<b>\$4,501,690</b>		<b>\$197,902,429</b>	<b>\$749,324,656</b>
<b>Total measure impact<sup>2</sup></b>	<b>5,764</b>					<b>\$387,201,590</b>	

<sup>1</sup> Residential Class ECCR impacts of the program costs in 2a and 2b based on Gulf's standard ECCR calculation, calculated by applying those program costs to the residential class ECCR demand and energy allocation factors, summing the resulting costs, dividing that sum by the kWh energy sales for that customer class, and multiplying by 1200.

<sup>2</sup> assumes average 10 year life of measures implemented each year of Plan

The projected residential ECCR impacts for each year of the Plan are shown in the following table:



### Program Summaries

Gulf Power's proposed DSM Plan for the period 2010-2019 contains 20 new programs and 5 existing programs. The programs combine 55 energy and demand saving measures to achieve the goals established in the Goals Order. Designed to produce a thorough level of awareness and education about energy efficiency opportunities, the programs strive to overcome many of the barriers that limit customer adoption of energy efficiency decisions. Awareness and education are two key components of Gulf's strategy for customer engagement. Gulf will continue to promote the energy audit programs as the primary awareness and educational offering. Programs designed for schools, community groups, and contractors and trade allies will supplement the process. In addition, Gulf is introducing a new program targeted at behavioral changes in energy use that will provide customers with comparative information about similar customers' usage and customized tips for saving.

In the Residential sector, Gulf is introducing several new programs designed to increase customer action on many of the audit and education program recommendations. These include:

- Incentives for HVAC system improvements, building envelope improvements, and water heating upgrades. Gulf's geothermal heating and cooling program will be included in these offerings.
- Programs targeted at lighting and appliance efficiency.
- *EnergySelect* program as the primary means of demand-response utilizing Critical Peak Pricing (CPP).
- A new complementary program, *EnergySelect* LITE, is designed to expand participation in price responsive load management.

Focusing on difficult-to-reach customers, Gulf is introducing a Community Energy Saver program designed to provide direct installation of energy efficiency measures in qualifying low-income neighborhoods. Additionally, a Landlord/Renter program is being proposed to address the unique barriers faced by renters and landlords.

In the Commercial sector, Gulf is similarly introducing several new programs to increase adoption of many recommendations associated with the energy audit program. These programs include incentives for HVAC system improvements, building envelope and control improvements, and water heating. For the Food Service sector, Gulf is offering numerous incentives associated with ENERGY STAR cooking and restaurant equipment.

Gulf is proposing to increase the deployment of demand-side renewable technologies through four new programs. Gulf is seeking partnership opportunities with the Florida Solar Energy Center (FSEC) E-Shelter program to install 10 kW solar photovoltaic (PV) systems in schools throughout Northwest Florida. The renewable program also includes solar photovoltaic (PV) rebates and solar thermal water heating (STWH) rebates. These rebates are structured similarly to the state's current program administered by the Florida Energy and Climate Commission (FECC). A program to expand the installation of STWH systems in low-income households is also included in this Plan. The savings associated with these programs is reflected in Gulf's Plan to achieve the Commission approved goals.

## 2010 Demand-Side Management Plan



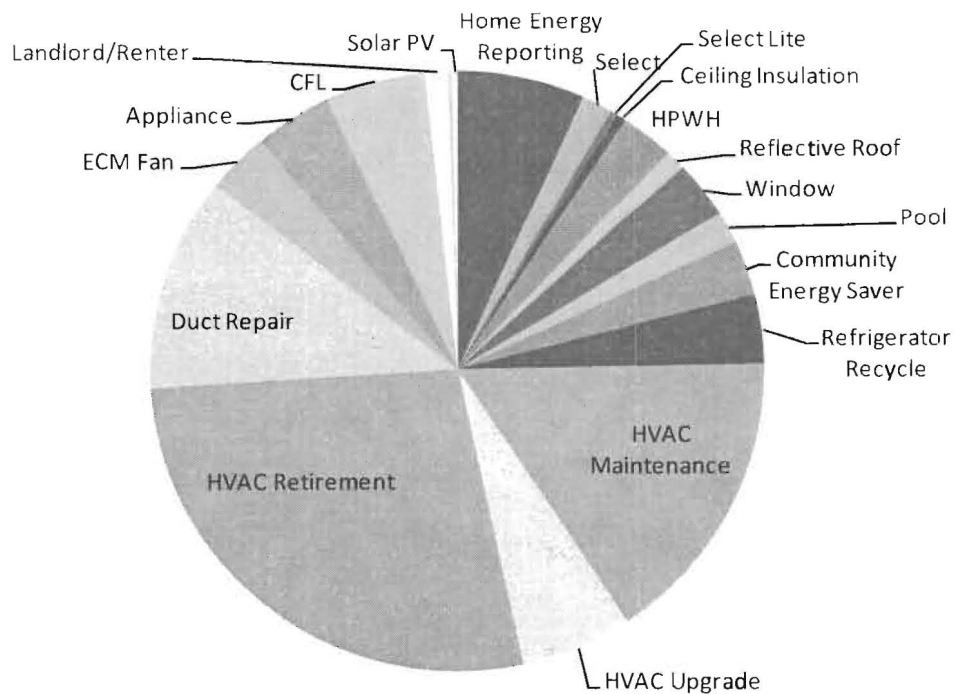
Overall, Gulf Power Company's 2010 DSM Plan has been designed to achieve the cumulative ten year demand and energy numeric goals set by the FPSC in the Goals Order. A summary of the annual program targets by market, residential and commercial/industrial, is provided below:

<b>Residential Savings at the Generator</b>						
Year	DSM Plan Annual gWh Reduction	DSM Plan Cumulative gWh Reduction	DSM Plan Annual Winter mW Reduction	DSM Plan Cumulative Winter mW Reduction	DSM Plan Annual Summer mW Reduction	DSM Plan Cumulative Summer mW Reduction
2010	15.4	15.4	5.9	5.9	5.0	5.0
2011	40.1	55.5	11.5	17.3	10.6	15.6
2012	54.5	98.6	14.5	29.0	13.6	26.5
2013	57.3	144.4	17.2	43.5	17.0	40.8
2014	65.1	198.1	19.0	59.8	19.4	57.4
2015	63.2	261.3	18.6	78.4	18.9	76.2
2016	58.5	319.9	17.0	95.3	17.0	93.2
2017	55.2	375.1	16.4	111.7	16.0	109.2
2018	52.7	427.8	15.9	127.6	15.2	124.3
2019	50.3	478.0	15.5	143.2	14.4	138.8

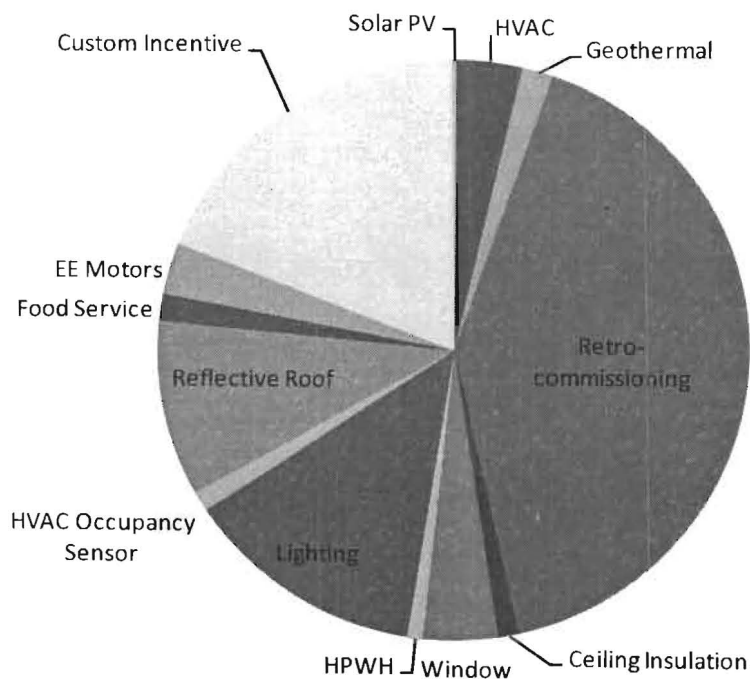
<b>Commercial/Industrial Savings at the Generator</b>						
Year	DSM Plan Annual gWh Reduction	DSM Plan Cumulative gWh Reduction	DSM Plan Annual Winter mW Reduction	DSM Plan Cumulative Winter mW Reduction	DSM Plan Annual Summer mW Reduction	DSM Plan Cumulative Summer mW Reduction
2010	2.6	2.6	0.7	0.7	0.9	0.9
2011	5.6	8.3	1.1	1.9	2.1	3.0
2012	7.5	15.8	1.4	3.3	2.8	5.8
2013	10.4	26.3	1.8	5.1	3.9	9.7
2014	11.8	38.1	2.1	7.2	4.4	14.1
2015	13.0	51.0	2.1	9.3	4.9	19.0
2016	12.8	63.8	2.1	11.4	4.9	23.9
2017	11.9	75.7	2.0	13.4	4.5	28.4
2018	11.6	87.3	1.9	15.3	4.4	32.7
2019	10.7	98.0	1.8	17.1	4.0	36.7

The contribution, by program, to the cumulative ten year energy reduction goals is illustrated in the following tables:

**Residential Ten Year Plan Savings by Program (gWh)**



**Commercial/Industrial Ten Year Plan Savings by Program (gWh)**



## **Section 2: 2010 Demand-Side Management Plan**

### **Residential Conservation Programs**

#### **Residential Energy Audit and Education**

Program Start Date: 1981 (modified 2010)

#### **Program Description:**

The Residential Energy Audit and Education Program is the primary educational program to help customers improve the energy efficiency of their new or existing home through energy conservation advice and information that encourages the implementation of efficiency measures and behaviors resulting in energy and utility bill savings. This program also increases the awareness of energy savings opportunities among Gulf's customers.

As part of Gulf Power's overall DSM Plan, many of the recommendations associated with this program are complemented with incentive-based programs to increase the likelihood of customer adoption. In addition to encouraging the installation of energy efficient HVAC equipment and appliances, Gulf Power views this program as a vehicle to promote energy efficient new home construction techniques and thermal envelope upgrades to existing homes.

#### **Individual measures:**

##### **Energy Audit**

Customers may choose to have a Gulf Power representative conduct an on-site audit of their home, or they may opt to participate in either a mail-in or on-line, interactive version of the audit. As part of both the new and existing home audit processes, the customer is provided with specific whole-house recommendations including available incentives and other alternatives to facilitate implementation. In addition, each customer participating in the new home pre-construction audit is also provided with a whole-house heat gain and heat loss calculation in accordance with the Air

Conditioning Contractors of America's "Manual J" procedures in order to properly size and maximize the efficiency of the HVAC system.

This measure is required under FPSC Rule 25-17.003.

### **Home Energy Reporting**

This program combines energy usage data with customer demographic information to develop specific, targeted recommendations that educate and motivate customers to reduce their energy consumption. These recommendations include both behavioral changes and purchasing decisions customers can make to improve their energy efficiency.

The approach to deploying this program involves providing a periodic direct mailing to either a random or targeted group of customers. The individualized report will provide an assessment of the customer's overall electricity consumption as compared to an average of "neighbors" in similar sized homes with similar household characteristics. Mailings are presented multiple times over the year giving the customer an opportunity to see improvements in their efficiency as compared to their peers as well as additional tips and recommendations. A pre-determined number of customers will automatically receive these reports, yet can opt out if they desire. Actual experience of other utilities offering this program suggests that as few as 1% of customers actually opt out.

Measurement of actual savings is accomplished with statistical analysis of billing data for customers participating in the program compared to a control group. This analysis is provided by the third-party program provider as a critical component of measuring the effectiveness of the program. As such, this program is projected to be cost-effective in accordance with FPSC Rule 25-17.008. Results are included in Section 4.

### School-based awareness and education

This measure will provide science-based energy-related curricula and training to science teachers at schools which are in Gulf's service area. During the 2009 pilot program, Gulf employees demonstrated energy efficiency and renewable energy activities at one third of the middle schools in Gulf's service area, reaching more than 3,300 students and their teachers. As a result, almost 50 science teachers attended professional training on energy-related curricula and activity kits. For the 2009-10 school year, those materials were provided and successfully implemented at one grade level in more than 50 middle schools throughout Northwest Florida. Gulf also conducted seven energy camps during the summer, and continues to participate in classroom activities on request. Gulf will continue this measure in additional grade-levels by providing teacher training and energy-related curricula and materials that correlate to state science standards and include real world projects such as home and school energy audits. In each additional year of the program, Gulf will expand the program to a minimum of 50 teachers annually, reaching approximately 5,000 students. The overall goal of the program is to implement energy conservation and renewable energy education to 5<sup>th</sup> through 9<sup>th</sup> grades in Gulf's service area.

Gulf will expand the Energy Education measure by adding a new element that models the ENERGY STAR Save 10% Challenge. The ENERGY STAR Challenge is a national call-to-action to improve the energy efficiency of America's commercial and industrial buildings by 10 percent or more. With nearly 200 public schools in Gulf's service area, there is great value in increasing the awareness of energy conservation among staff and students. Gulf will encourage schools to create Energy Clubs at a target group of middle schools which have implemented Gulf's Energy Education curricula, and will challenge the school staff and students to reduce energy use through low-cost measures and behavioral changes.



### **Community awareness and education**

This measure provides widespread customer awareness of energy-related topics through multiple methods such as live presentations; exhibits; demonstrations; workshops; printed brochures and guides; recorded advice; and Web-based information, resources links and self-use tools. During the 2009 pilot, more than 50 Gulf employees participated in training to build a Speakers' Bureau to provide energy conservation and renewable energy presentations and workshops throughout Northwest Florida. Gulf will continue to use company personnel primarily to raise awareness of energy sources used to produce electricity, and the importance of meeting future energy needs through an increased reliance on energy efficiency and conservation.

### **Technical training**

Contractor education will consist of training for local building designers, contractors and facility managers. During the 2009 pilot program, 58 contractors and vendors along with Gulf Power representatives participated in workshops covering the five critical aspects of building an energy efficient home – Framing, Electrical/Plumbing, Air Sealing, Insulation, and HVAC . High marks on evaluations and requests for additional training indicate the need to increase energy efficiency awareness among groups who can make an impact in decisions to retrofit, build or buy high efficiency buildings.

This measure will build on the success of the 2009 pilot by tailoring the workshop curriculum to attract additional decision-making groups, and expanding workshop participation.

This measure will provide technical training and advice about the benefits of energy efficient components of a home or business in addition to building science training and concepts which encourage construction of homes and buildings that are more energy efficient, durable, comfortable, and safe. This component also will provide participants with the training, tools, and

consultation services necessary to meet the strict building performance evaluations and verification required by a variety of federal energy efficiency certification programs.

### **Program Benefits and Cost**

The primary benefits of the Energy Audit and Education Program include: general energy education for customers, customer-specific energy efficiency recommendations, and increased awareness of the numerous energy conservation opportunities available to Gulf Power customers as part of this DSM plan.

The awareness and educational components of this program are an essential part of Gulf's overall strategy towards achieving the goals of this Plan. Upon approval, Gulf will begin development of the cost estimates associated with these aspects of the program.

### **Monitoring and Evaluation**

Gulf Power will monitor and evaluate program performance on a continual basis. For energy audits, participating customer information will be recorded in the program reporting and tracking database, as will actual customer adoption of those measures included as part of Gulf Power's overall DSM Plan. Also, customer satisfaction with the audit process and associated recommendations will be monitored as a means of evaluating overall program effectiveness. For other training and educational measures, customer participation and feedback will be monitored to gauge effectiveness.

## Residential Energy Audit

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	7,860	2.1%	7,860
2011	377,336	375,619	8,220	4.3%	16,080
2012	381,544	379,827	8,762	6.5%	24,842
2013	388,378	386,661	9,550	8.9%	34,392
2014	396,913	395,196	10,061	11.2%	44,453
2015	405,062	403,345	9,945	13.5%	54,398
2016	413,491	411,774	10,029	15.6%	64,427
2017	421,774	420,057	9,985	17.7%	74,412
2018	430,056	428,339	9,985	19.7%	84,397
2019	438,190	436,473	9,940	21.6%	94,337

## Home Energy Reporting

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	300	0.06	0.06	0	0	0
2011	300	0.06	0.06	10,000,000	2,100	2,100
2012	300	0.06	0.06	10,000,000	2,100	2,100
2013	300	0.06	0.06	10,000,000	2,100	2,100
2014	300	0.06	0.06	0	0	0
2015	300	0.06	0.06	0	0	0
2016	300	0.06	0.06	0	0	0
2017	300	0.06	0.06	0	0	0
2018	300	0.06	0.06	0	0	0
2019	300	0.06	0.06	0	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	327	0.08	0.08	0	0	0
2011	327	0.08	0.08	11,445,000	2,758	2,758
2012	327	0.08	0.08	11,445,000	2,758	2,758
2013	327	0.08	0.08	11,445,000	2,758	2,758
2014	327	0.08	0.08	0	0	0
2015	327	0.08	0.08	0	0	0
2016	327	0.08	0.08	0	0	0
2017	327	0.08	0.08	0	0	0
2018	327	0.08	0.08	0	0	0
2019	327	0.08	0.08	0	0	0

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	0	0.0%	0
2011	377,336	375,619	35,000	9.3%	35,000
2012	381,544	379,827	35,000	9.2%	35,000
2013	388,378	386,661	35,000	9.1%	35,000
2014	396,913	395,196	0	0.0%	0
2015	405,062	403,345	0	0.0%	0
2016	413,491	411,774	0	0.0%	0
2017	421,774	420,057	0	0.0%	0
2018	430,056	428,339	0	0.0%	0
2019	438,190	436,473	0	0.0%	0

### **Community Energy Saver Program**

**Program Start Date:** 2010

#### **Program Description**

The Community Energy Saver Program will assist low-income families with escalating energy costs which are often a higher percentage of their household income. Low-income customers present unique challenges for adoption of energy efficiency measures because of the higher initial cost of energy efficient equipment as well as a lack of awareness of energy efficiency opportunities.

The Community Energy Saver Program will implement a comprehensive package of electric conservation measures at no cost to the customer. In addition to direct installation of the conservation measures, the program will educate families on energy efficiency techniques and behavioral changes to help customers control their energy use and reduce their utility operating costs.

Gulf Power and the program administrator will identify customer neighborhoods or geographical areas to employ a door-to-door implementation strategy with a coinciding informational and educational communications campaign. This program also will leverage relationships with local weatherization agencies and low-income housing providers to gain additional efficiency measure installations.

Program goals include:

- Increasing customer awareness of the amount of energy consumed and energy efficiency opportunities;
- Reducing energy use and costs on monthly utility bills;
- Installing energy efficiency items to improve comfort and reduce energy use;

- Identifying customer needs that might be met by other programs and leveraging opportunities with other providers such as the Low Income Home Energy Assistance Program (LIHEAP) and Weatherization Assistance Program (WAP).

Gulf Power will administer this program through an independent, third party contractor, and will coordinate with community-based groups to target participants.

### **Individual Program Measures:**

- Energy Audit
- Compact fluorescent light bulbs (CFL) – up to 15 compact fluorescent light bulbs will be provided to each household to replace incandescent bulbs
- Hot water pipe wrap – up to 10 feet of insulating pipe wrap will be installed on water pipes adjacent to the water heater
- Water heater temperature check and adjustment – check water heater temperature setting and adjust to the recommended range upon request
- Low-flow faucet aerator – up to three low-flow aerators per household will be installed
- Low-flow shower head – up to two low-flow shower heads per household will be installed
- Refrigerator coil brush and initial coil cleaning – one coil brush will be provided along with an initial coil cleaning and instructions for use by home occupants
- Outlet and switch cover foam gaskets – foam gaskets will be provided and installed on electrical outlets and switch covers
- Customer education regarding measures installed and efficient use of energy in the home will be provided, including other efficiency measures/programs for which customers may be eligible

Specific eligibility requirements for the program are provided in the Program Participation Standards.

## Program Benefits and Cost Effectiveness

The following kW demand and kWh energy saving evaluations were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors. Evaluation results are shown for the RIM, TRC, and PT test ratios.

The incentive cost per household is expected to average \$57.70.

Measure	Units	Per Unit Reduction		
		Energy kWh	Summer Peak kW	Winter Peak kW
Energy Audit, Home Assessment and Energy Education	1.0	0	0	0
Compact Fluorescent Light Bulbs	5.0	395	.018	.024
Water Heater Temperature Check and Adjustment	1.0	16	.0012	.0036
DWH Pipe Wrap – 10 ft.	1.0	30	.0025	.0075
Faucet Aerators	2.0	100	.009	.025
Low-flow Showerheads	1.5	195	.017	.048

Based upon the unit counts indicated above, these installations will result in the following energy and demand reductions per household participating in this program:

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
Community Energy Saver	per home	736	0.047	0.11	0.59	1.7	14.7

### Monitoring and Evaluation

Gulf Power, or its designated program contractor, will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database. In addition, all participants will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform full field verification of installation on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations
- Number of disqualified installations, and the reason for disqualification

Gulf will complete a periodic evaluation of the results to ensure the average savings per residence and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.



## Residential Community Energy Saver

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	736	0.11	0.05	920,000	138	63
2011	736	0.11	0.05	1,840,000	275	125
2012	736	0.11	0.05	1,840,000	275	125
2013	736	0.11	0.05	1,840,000	275	125
2014	736	0.11	0.05	1,840,000	275	125
2015	736	0.11	0.05	1,104,000	165	75
2016	736	0.11	0.05	1,104,000	165	75
2017	736	0.11	0.05	1,104,000	165	75
2018	736	0.11	0.05	1,104,000	165	75
2019	736	0.11	0.05	1,104,000	165	75

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	802	0.14	0.07	1,002,800	181	82
2011	802	0.14	0.07	2,005,600	361	164
2012	802	0.14	0.07	2,005,600	361	164
2013	802	0.14	0.07	2,005,600	361	164
2014	802	0.14	0.07	2,005,600	361	164
2015	802	0.14	0.07	1,203,360	217	98
2016	802	0.14	0.07	1,203,360	217	98
2017	802	0.14	0.07	1,203,360	217	98
2018	802	0.14	0.07	1,203,360	217	98
2019	802	0.14	0.07	1,203,360	217	98

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	130,627	1,250	1.0%	1,250
2011	377,336	131,467	2,500	2.9%	3,750
2012	381,544	132,939	2,500	4.7%	6,250
2013	388,378	135,331	2,500	6.5%	8,750
2014	396,913	138,319	2,500	8.1%	11,250
2015	405,062	141,171	1,500	9.0%	12,750
2016	413,491	144,121	1,500	9.9%	14,250
2017	421,774	147,020	1,500	10.7%	15,750
2018	430,056	149,919	1,500	11.5%	17,250
2019	438,190	152,766	1,500	12.3%	18,750

### **Landlord / Renter Custom Incentive Program**

Program Start Date: 2010

#### **Program Description:**

The Landlord/Renter Custom Incentive Program is a flexible program designed to increase energy efficiency in the residential rental property sector. The rental sector presents unique challenges for adoption of energy efficiency decisions due to split incentives associated with energy efficiency investments. These split incentives exist when the property owner making the capital investment in energy efficient equipment does not realize the benefits of such investment through bill savings. In most rental agreements, the tenant, or renter, who has responsibility for utility payments, realizes the benefits of the energy efficient equipment investment. This situation frequently presents a barrier to adoption of energy efficient decisions, both on the part of the owner and the tenant (renter). It is the objective of this program to offer customized solutions to overcome this barrier.

This program will promote the installation of various energy efficiency measures available through other programs including HVAC, insulation, windows, water heating, lighting, appliances, etc. Depending on the individual circumstances of the rental property, additional incentives may be necessary to overcome the split-incentive barrier. This program will also promote the installation of low cost measures associated with the Community Energy Saver Program by the landlord of multi-family properties. These measures, when provided to the landlord for installation, will benefit the renter and represent one solution to the split-incentive barrier possible with this program. The program may provide other technical assistance services such as project savings evaluation as another means of overcoming this barrier. All projects considered for additional incentives under this program will be evaluated under the Commissions cost-effectiveness procedures. The maximum total incentive offered between this and any other

program will be limited to an amount which would produce a customer payback of no less than one year.

The primary administration duties and outreach of the program will be done by Gulf Power resources. A program manager will recruit potential customers to participate in this program and develop customized solutions for each property being evaluated under this program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

### **Individual Measures:**

This program will include availability of all other applicable residential DSM program measures as well as any unique savings opportunities present in a rental property arrangement that may meet the objectives of the program. At a minimum, the measures included in the Community Energy Saver Program will be provided to the participating landlords for installation in rental unit properties.

### **Program Benefits and Cost Effectiveness**

Due to the customized nature of this program, benefits are determined on a case by case basis. Each project will be evaluated to ensure cost effectiveness in accordance with Commission requirements.

### **Monitoring and Evaluation**

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database and will include project scope and date completed.

Any applicable incentives provided under this program will be subject to verification of measures installed and compliance with Program Standards.

### **Participation Projections**

Minimum participation projections are based on installation of measures associated with Community Energy Saver Program in limited multi-family properties.

## Residential Landlord-Renter Custom Incentive

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	736	0.11	0.05	552,000	83	38
2011	736	0.11	0.05	552,000	83	38
2012	736	0.11	0.05	552,000	83	38
2013	736	0.11	0.05	552,000	83	38
2014	736	0.11	0.05	552,000	83	38
2015	736	0.11	0.05	552,000	83	38
2016	736	0.11	0.05	552,000	83	38
2017	736	0.11	0.05	552,000	83	38
2018	736	0.11	0.05	552,000	83	38
2019	736	0.11	0.05	552,000	83	38

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	802	0.14	0.07	601,680	108	49
2011	802	0.14	0.07	601,680	108	49
2012	802	0.14	0.07	601,680	108	49
2013	802	0.14	0.07	601,680	108	49
2014	802	0.14	0.07	601,680	108	49
2015	802	0.14	0.07	601,680	108	49
2016	802	0.14	0.07	601,680	108	49
2017	802	0.14	0.07	601,680	108	49
2018	802	0.14	0.07	601,680	108	49
2019	802	0.14	0.07	601,680	108	49

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	750	0.2%	750
2011	377,336	375,619	750	0.4%	1,500
2012	381,544	379,827	750	0.6%	2,250
2013	388,378	386,661	750	0.8%	3,000
2014	396,913	395,196	750	0.9%	3,750
2015	405,062	403,345	750	1.1%	4,500
2016	413,491	411,774	750	1.3%	5,250
2017	421,774	420,057	750	1.4%	6,000
2018	430,056	428,339	750	1.6%	6,750
2019	438,190	436,473	750	1.7%	7,500

### **HVAC Efficiency Improvement Program**

Program Start Date: 2010

#### **Program Description:**

The Heating, Ventilation and Air Conditioning (HVAC) Efficiency Improvement program is designed to increase energy efficiency and improve HVAC cooling system performance for both new and existing single-family, multi-family and permanently anchored manufactured homes. Since as much as half of the energy used in a home goes to cooling and heating, customers can save energy and money by installing an efficient system.

The program includes the following five individual measures:

**HVAC Maintenance** – This measure offers basic re-commissioning at a reduced cost to the customer. This measure is designed to aid participating contractors in diagnosing the performance of the HVAC cooling system with the support of an independent computerized quality control process. These diagnoses include refrigerant level, evaporator airflow, refrigerant metering performance, and condenser performance. Based on the results, the best course of action to bring the system to its full efficiency will be attempted. Incentives up to 90 % of the cost to bring the system to its full efficiency will be realized by the customer through reduced pricing by participating contractors. If, however, the working system cannot be brought to an operating level of efficiency above 8 EER, the customer will be eligible for a HVAC Retirement Incentive.

**HVAC Retirement** – This measure offers an incentive to encourage the early replacement of inefficient cooling and heating systems that could not be brought to an operating efficiency level above 8 EER through the HVAC Maintenance measure. This incentive will be up to 30% of the full cost of the replacement system and will apply to the following equipment:

- 14 SEER A/C or heat pump (Tier 1)

- 16 SEER A/C or heat pump (Tier 2)
- 14 EER geothermal closed-loop heat pump (Tier 3)

**HVAC Upgrade** – This measure offers an incentive to encourage the installation of high efficiency cooling and heating systems in new homes or in existing homes needing a replacement unit. Incentives will be up to 50% of the incremental cost above minimum code equipment for the following:

- 14 SEER A/C or heat pump (Tier 1)
- 16 SEER A/C or heat pump (Tier 2)
- 14 EER geothermal closed-loop heat pump (Tier 3)

**Duct Repair** – This measure offers an incentive to eliminate or reduce air distribution losses by sealing and repairing the air distribution system – air handler, air ducts, return plenums, supply plenums and any connecting structure. Incentives will be up to 50% of the cost of sealing the ductwork to a program-approved level of tightness.

**Electronically Commutated Motor (ECM) Fan** – This measure offers an incentive to retrofit residential central HVAC cooling systems with high efficiency, variable speed, climate optimized, Brushless Permanent Magnet (BPM) fan motors. Incentives will be up to 70% of the full cost of installing this higher efficiency fan.

Gulf Power will utilize an independent third party to administer the HVAC Efficiency Improvement Program. Customers will realize the financial incentives associated with each qualifying measure through reduced pricing by the participating contractors.

Gulf Power will utilize the participating contractor network, the Residential Energy Audit Program, web-based resources, and other means to increase customer awareness of this program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

### Program Benefits and Cost Effectiveness

The energy and demand savings associated with this program were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors.

Cost-effective results are shown for RIM, TRC, and PT, and are based on the maximum incentive levels identified below.

Measure	Max Incentive	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
HVAC Maintenance	\$160	1,306	0.31	0.26	0.72	1.84	7.99
HVAC Retirement Tier 1	\$1,025	5,854	1.24	1.16	0.78	1.59	2.78
HVAC Retirement Tier 2	\$1,400	6,243	1.33	1.25	0.76	1.36	2.45
HVAC Retirement Tier 3	\$1,500	7,132	1.57	1.67	0.77	1.12	1.87
HVAC Upgrade Tier 1	\$300	1,567	0.32	0.43	0.75	2.11	5.13
HVAC Upgrade Tier 2	\$1,050	1,891	0.4	0.47	0.68	1.18	2.71
HVAC Upgrade Tier 3	\$1,500	3,456	0.64	1.08	0.72	1.06	2.05
Duct Repair	\$300	1,382	.32	.21	0.82	2.68	6.79
ECM Fan	\$200	1,109	.27	.14	0.82	2.56	6.71

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the independent third party program reporting and tracking database, including customer data, details of participating measures, incentives paid, and energy and demand savings.



All participants will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform full field verification of installation on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;
- Number of contractors and/or retailers actively promoting each program measure;
- Number, make and model of the most commonly installed qualifying equipment for each measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per residence and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

## Residential HVAC Maintenance

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,306	0.26	0.31	1,671,680	333	397
2011	1,306	0.26	0.31	3,134,400	624	744
2012	1,306	0.26	0.31	5,328,480	1,061	1,265
2013	1,306	0.26	0.31	8,489,000	1,690	2,015
2014	1,306	0.26	0.31	13,060,000	2,600	3,100
2015	1,306	0.26	0.31	11,754,000	2,340	2,790
2016	1,306	0.26	0.31	9,795,000	1,950	2,325
2017	1,306	0.26	0.31	7,836,000	1,560	1,860
2018	1,306	0.26	0.31	7,183,000	1,430	1,705
2019	1,306	0.26	0.31	6,856,500	1,365	1,628

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,424	0.34	0.41	1,822,131	437	521
2011	1,424	0.34	0.41	3,416,496	819	977
2012	1,424	0.34	0.41	5,808,043	1,393	1,661
2013	1,424	0.34	0.41	9,253,010	2,219	2,646
2014	1,424	0.34	0.41	14,235,400	3,415	4,071
2015	1,424	0.34	0.41	12,811,860	3,073	3,664
2016	1,424	0.34	0.41	10,676,550	2,561	3,053
2017	1,424	0.34	0.41	8,541,240	2,049	2,443
2018	1,424	0.34	0.41	7,829,470	1,878	2,239
2019	1,424	0.34	0.41	7,473,585	1,793	2,137

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	1,280	0.3%	1,280
2011	377,336	375,619	2,400	1.0%	3,680
2012	381,544	379,827	4,080	2.0%	7,760
2013	388,378	386,661	6,500	3.7%	14,260
2014	396,913	395,196	10,000	6.1%	24,260
2015	405,062	403,345	9,000	8.2%	33,260
2016	413,491	411,774	7,500	9.9%	40,760
2017	421,774	420,057	6,000	11.1%	46,760
2018	430,056	428,339	5,500	12.2%	52,260
2019	438,190	436,473	5,250	13.2%	57,510

## Residential HVAC Early Retirement Tier 1

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	5,854	1.16	1.24	1,990,360	394	422
2011	5,854	1.16	1.24	3,734,852	740	791
2012	5,854	1.16	1.24	6,345,736	1,257	1,344
2013	5,854	1.16	1.24	10,150,836	2,011	2,150
2014	5,854	1.16	1.24	15,600,910	3,091	3,305
2015	5,854	1.16	1.24	15,366,750	3,045	3,255
2016	5,854	1.16	1.24	15,366,750	3,045	3,255
2017	5,854	1.16	1.24	14,635,000	2,900	3,100
2018	5,854	1.16	1.24	13,171,500	2,610	2,790
2019	5,854	1.16	1.24	11,708,000	2,320	2,480

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	6,381	1.52	1.63	2,169,492	518	554
2011	6,381	1.52	1.63	4,070,989	972	1,039
2012	6,381	1.52	1.63	6,916,852	1,651	1,765
2013	6,381	1.52	1.63	11,064,411	2,642	2,824
2014	6,381	1.52	1.63	17,004,992	4,060	4,340
2015	6,381	1.52	1.63	16,749,758	3,999	4,275
2016	6,381	1.52	1.63	16,749,758	3,999	4,275
2017	6,381	1.52	1.63	15,952,150	3,809	4,071
2018	6,381	1.52	1.63	14,356,935	3,428	3,664
2019	6,381	1.52	1.63	12,761,720	3,047	3,257

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	340	0.1%	340
2011	377,336	375,619	638	0.3%	978
2012	381,544	379,827	1,084	0.5%	2,062
2013	388,378	386,661	1,734	1.0%	3,796
2014	396,913	395,196	2,665	1.6%	6,461
2015	405,062	403,345	2,625	2.3%	9,086
2016	413,491	411,774	2,625	2.8%	11,711
2017	421,774	420,057	2,500	3.4%	14,211
2018	430,056	428,339	2,250	3.8%	16,461
2019	438,190	436,473	2,000	4.2%	18,461

## Residential HVAC Early Retirement Tier 2

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	6,243	1.25	1.33	312,150	63	67
2011	6,243	1.25	1.33	561,870	113	120
2012	6,243	1.25	1.33	955,179	191	203
2013	6,243	1.25	1.33	1,529,535	306	326
2014	6,243	1.25	1.33	2,341,125	469	499
2015	6,243	1.25	1.33	2,341,125	469	499
2016	6,243	1.25	1.33	2,341,125	469	499
2017	6,243	1.25	1.33	2,341,125	469	499
2018	6,243	1.25	1.33	2,341,125	469	499
2019	6,243	1.25	1.33	2,185,050	438	466

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	6,805	1.64	1.75	340,244	82	87
2011	6,805	1.64	1.75	612,438	148	157
2012	6,805	1.64	1.75	1,041,145	251	267
2013	6,805	1.64	1.75	1,667,193	402	428
2014	6,805	1.64	1.75	2,551,826	616	655
2015	6,805	1.64	1.75	2,551,826	616	655
2016	6,805	1.64	1.75	2,551,826	616	655
2017	6,805	1.64	1.75	2,551,826	616	655
2018	6,805	1.64	1.75	2,551,826	616	655
2019	6,805	1.64	1.75	2,381,705	575	611

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	50	0.0%	50
2011	377,336	375,619	90	0.0%	140
2012	381,544	379,827	153	0.1%	293
2013	388,378	386,661	245	0.1%	538
2014	396,913	395,196	375	0.2%	913
2015	405,062	403,345	375	0.3%	1,288
2016	413,491	411,774	375	0.4%	1,663
2017	421,774	420,057	375	0.5%	2,038
2018	430,056	428,339	375	0.6%	2,413
2019	438,190	436,473	350	0.6%	2,763

## Residential HVAC Early Retirement Tier 3

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	7,132	1.67	1.57	71,320	17	16
2011	7,132	1.67	1.57	142,640	33	31
2012	7,132	1.67	1.57	213,960	50	47
2013	7,132	1.67	1.57	356,600	84	79
2014	7,132	1.67	1.57	534,900	125	118
2015	7,132	1.67	1.57	534,900	125	118
2016	7,132	1.67	1.57	534,900	125	118
2017	7,132	1.67	1.57	534,900	125	118
2018	7,132	1.67	1.57	392,260	92	86
2019	7,132	1.67	1.57	285,280	67	63

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	7,774	2.19	2.06	77,739	22	21
2011	7,774	2.19	2.06	155,478	44	41
2012	7,774	2.19	2.06	233,216	66	62
2013	7,774	2.19	2.06	388,694	110	103
2014	7,774	2.19	2.06	583,041	164	155
2015	7,774	2.19	2.06	583,041	164	155
2016	7,774	2.19	2.06	583,041	164	155
2017	7,774	2.19	2.06	583,041	164	155
2018	7,774	2.19	2.06	427,563	121	113
2019	7,774	2.19	2.06	310,955	88	82

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	10	0.0%	10
2011	377,336	375,619	20	0.0%	30
2012	381,544	379,827	30	0.0%	60
2013	388,378	386,661	50	0.0%	110
2014	396,913	395,196	75	0.0%	185
2015	405,062	403,345	75	0.1%	260
2016	413,491	411,774	75	0.1%	335
2017	421,774	420,057	75	0.1%	410
2018	430,056	428,339	55	0.1%	465
2019	438,190	436,473	40	0.1%	505

## Residential HVAC Efficiency Upgrade Tier 1

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,567	0.43	0.32	426,224	117	87
2011	1,567	0.43	0.32	799,170	219	163
2012	1,567	0.43	0.32	1,358,589	373	277
2013	1,567	0.43	0.32	2,174,996	597	444
2014	1,567	0.43	0.32	3,340,844	917	682
2015	1,567	0.43	0.32	2,938,125	806	600
2016	1,567	0.43	0.32	2,938,125	806	600
2017	1,567	0.43	0.32	2,938,125	806	600
2018	1,567	0.43	0.32	2,645,096	726	540
2019	1,567	0.43	0.32	2,350,500	645	480

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,708	0.56	0.42	464,584	154	114
2011	1,708	0.56	0.42	871,095	288	214
2012	1,708	0.56	0.42	1,480,862	490	364
2013	1,708	0.56	0.42	2,370,746	784	583
2014	1,708	0.56	0.42	3,641,520	1,204	896
2015	1,708	0.56	0.42	3,202,556	1,059	788
2016	1,708	0.56	0.42	3,202,556	1,059	788
2017	1,708	0.56	0.42	3,202,556	1,059	788
2018	1,708	0.56	0.42	2,883,155	953	709
2019	1,708	0.56	0.42	2,562,045	847	630

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	272	0.1%	272
2011	377,336	375,619	510	0.2%	782
2012	381,544	379,827	867	0.4%	1,649
2013	388,378	386,661	1,388	0.8%	3,037
2014	396,913	395,196	2,132	1.3%	5,169
2015	405,062	403,345	1,875	1.7%	7,044
2016	413,491	411,774	1,875	2.2%	8,919
2017	421,774	420,057	1,875	2.6%	10,794
2018	430,056	428,339	1,688	2.9%	12,482
2019	438,190	436,473	1,500	3.2%	13,982

## Residential HVAC Efficiency Upgrade Tier 2

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,891	0.47	0.40	71,858	18	15
2011	1,891	0.47	0.40	136,152	34	29
2012	1,891	0.47	0.40	230,702	57	49
2013	1,891	0.47	0.40	370,636	92	78
2014	1,891	0.47	0.40	567,300	141	120
2015	1,891	0.47	0.40	567,300	141	120
2016	1,891	0.47	0.40	567,300	141	120
2017	1,891	0.47	0.40	567,300	141	120
2018	1,891	0.47	0.40	520,025	129	110
2019	1,891	0.47	0.40	472,750	118	100

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	2,061	0.62	0.53	78,325	23	20
2011	2,061	0.62	0.53	148,406	44	38
2012	2,061	0.62	0.53	251,465	75	64
2013	2,061	0.62	0.53	403,993	121	103
2014	2,061	0.62	0.53	618,357	185	158
2015	2,061	0.62	0.53	618,357	185	158
2016	2,061	0.62	0.53	618,357	185	158
2017	2,061	0.62	0.53	618,357	185	158
2018	2,061	0.62	0.53	566,827	170	144
2019	2,061	0.62	0.53	515,298	154	131

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	38	0.0%	38
2011	377,336	375,619	72	0.0%	110
2012	381,544	379,827	122	0.1%	232
2013	388,378	386,661	196	0.1%	428
2014	396,913	395,196	300	0.2%	728
2015	405,062	403,345	300	0.3%	1,028
2016	413,491	411,774	300	0.3%	1,328
2017	421,774	420,057	300	0.4%	1,628
2018	430,056	428,339	275	0.4%	1,903
2019	438,190	436,473	250	0.5%	2,153

## Residential HVAC Efficiency Upgrade Tier 3

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	3,456	1.08	0.64	34,560	11	6
2011	3,456	1.08	0.64	62,208	19	12
2012	3,456	1.08	0.64	107,136	33	20
2013	3,456	1.08	0.64	169,344	53	31
2014	3,456	1.08	0.64	259,200	81	48
2015	3,456	1.08	0.64	259,200	81	48
2016	3,456	1.08	0.64	259,200	81	48
2017	3,456	1.08	0.64	259,200	81	48
2018	3,456	1.08	0.64	207,360	65	38
2019	3,456	1.08	0.64	172,800	54	32

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	3,767	1.42	0.84	37,670	14	8
2011	3,767	1.42	0.84	67,807	26	15
2012	3,767	1.42	0.84	116,778	44	26
2013	3,767	1.42	0.84	184,585	69	41
2014	3,767	1.42	0.84	282,528	106	63
2015	3,767	1.42	0.84	282,528	106	63
2016	3,767	1.42	0.84	282,528	106	63
2017	3,767	1.42	0.84	282,528	106	63
2018	3,767	1.42	0.84	226,022	85	50
2019	3,767	1.42	0.84	188,352	71	42

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	10	0.0%	10
2011	377,336	375,619	18	0.0%	28
2012	381,544	379,827	31	0.0%	59
2013	388,378	386,661	49	0.0%	108
2014	396,913	395,196	75	0.0%	183
2015	405,062	403,345	75	0.1%	258
2016	413,491	411,774	75	0.1%	333
2017	421,774	420,057	75	0.1%	408
2018	430,056	428,339	60	0.1%	468
2019	438,190	436,473	50	0.1%	518



### Residential Duct Repair

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,382	0.21	0.32	0	0	0
2011	1,382	0.21	0.32	1,382,000	210	320
2012	1,382	0.21	0.32	2,764,000	420	640
2013	1,382	0.21	0.32	5,804,400	882	1,344
2014	1,382	0.21	0.32	8,983,000	1,365	2,080
2015	1,382	0.21	0.32	8,292,000	1,260	1,920
2016	1,382	0.21	0.32	7,462,800	1,134	1,728
2017	1,382	0.21	0.32	6,910,000	1,050	1,600
2018	1,382	0.21	0.32	6,633,600	1,008	1,536
2019	1,382	0.21	0.32	6,219,000	945	1,440

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,506	0.28	0.42	0	0	0
2011	1,506	0.28	0.42	1,506,380	276	420
2012	1,506	0.28	0.42	3,012,760	552	841
2013	1,506	0.28	0.42	6,326,796	1,158	1,765
2014	1,506	0.28	0.42	9,791,470	1,793	2,732
2015	1,506	0.28	0.42	9,038,280	1,655	2,522
2016	1,506	0.28	0.42	8,134,452	1,489	2,269
2017	1,506	0.28	0.42	7,531,900	1,379	2,101
2018	1,506	0.28	0.42	7,230,624	1,324	2,017
2019	1,506	0.28	0.42	6,778,710	1,241	1,891

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	0	0.0%	0
2011	377,336	375,619	1,000	0.3%	1,000
2012	381,544	379,827	2,000	0.8%	3,000
2013	388,378	386,661	4,200	1.9%	7,200
2014	396,913	395,196	6,500	3.5%	13,700
2015	405,062	403,345	6,000	4.9%	19,700
2016	413,491	411,774	5,400	6.1%	25,100
2017	421,774	420,057	5,000	7.2%	30,100
2018	430,056	428,339	4,800	8.1%	34,900
2019	438,190	436,473	4,500	9.0%	39,400

## Residential ECM Fan

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,109	0.14	0.27	0	0	0
2011	1,109	0.14	0.27	443,600	56	108
2012	1,109	0.14	0.27	831,750	105	203
2013	1,109	0.14	0.27	1,413,975	179	344
2014	1,109	0.14	0.27	2,218,000	280	540
2015	1,109	0.14	0.27	3,327,000	420	810
2016	1,109	0.14	0.27	2,495,250	315	608
2017	1,109	0.14	0.27	1,996,200	252	486
2018	1,109	0.14	0.27	1,663,500	210	405
2019	1,109	0.14	0.27	1,330,800	168	324

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,209	0.18	0.35	0	0	0
2011	1,209	0.18	0.35	483,524	74	142
2012	1,209	0.18	0.35	906,608	138	266
2013	1,209	0.18	0.35	1,541,233	234	452
2014	1,209	0.18	0.35	2,417,620	368	709
2015	1,209	0.18	0.35	3,626,430	552	1,064
2016	1,209	0.18	0.35	2,719,823	414	798
2017	1,209	0.18	0.35	2,175,858	331	638
2018	1,209	0.18	0.35	1,813,215	276	532
2019	1,209	0.18	0.35	1,450,572	221	426

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	0	0.0%	0
2011	377,336	375,619	400	0.1%	400
2012	381,544	379,827	750	0.3%	1,150
2013	388,378	386,661	1,275	0.6%	2,425
2014	396,913	395,196	2,000	1.1%	4,425
2015	405,062	403,345	3,000	1.8%	7,425
2016	413,491	411,774	2,250	2.3%	9,675
2017	421,774	420,057	1,800	2.7%	11,475
2018	430,056	428,339	1,500	3.0%	12,975
2019	438,190	436,473	1,200	3.2%	14,175

### Heat Pump Water Heater Program

Program Start Date: 2010

#### Program Description:

The Heat Pump Water Heater (HPWH) Program will provide residential customers with an incentive to encourage the installation of high-efficiency Heat Pump Water Heating equipment for domestic hot water production. Domestic water heating represents the second-largest single end-use consumer of energy in an average residential home. The relatively high cost of this equipment has, in the past, proven to be a barrier to the technology's widespread adoption in the market. The objective of this program is to encourage customers to replace existing older or malfunctioning water heaters with the most efficient water heating equipment available in order to reduce energy use associated with domestic water heating. In addition, it is the intent of this program to influence the initial water heating purchase decisions of customers who are building or considering the construction of a new home.

This program will provide incentives directly to the customer for up to 75% of the incremental cost of installing a HPWH as a means of increasing adoption of the program.

Gulf Power will utilize the existing contractor network, the Residential Energy Audit Program, web-based resources, and other means to increase customer awareness of this program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

## Program Benefits and Cost Effectiveness

The energy and demand savings associated with this program were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors.

Cost-effective results are shown for RIM, TRC, and PT, and are based on the incentive levels identified below.

Maximum incentive cost per participant: \$1,000.

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak KW	Winter Peak KW	RIM	TRC	PT
Heat Pump Water Heater	per unit	1348	0.10	0.37	0.52	1.04	2.40

## Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database. This will include, but is not limited to, the date the application was received and processed along with the issue date of rebate.

All rebate applications and accompanying proof of purchase documentation will be subject to verification to validate information, including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Review application for completeness
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform a full field verification on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;
- Number of contractors and/or retailers actively promoting each program measure;
- Manufacturer and model of the most commonly installed qualifying equipment or material for each measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per residence and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

### Residential HPWH

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,348	0.37	0.10	134,800	37	10
2011	1,348	0.37	0.10	404,400	111	30
2012	1,348	0.37	0.10	808,800	222	60
2013	1,348	0.37	0.10	1,078,400	296	80
2014	1,348	0.37	0.10	1,348,000	370	100
2015	1,348	0.37	0.10	1,617,600	444	120
2016	1,348	0.37	0.10	1,617,600	444	120
2017	1,348	0.37	0.10	1,887,200	518	140
2018	1,348	0.37	0.10	2,156,800	592	160
2019	1,348	0.37	0.10	2,426,400	666	180

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,469	0.49	0.13	146,932	49	13
2011	1,469	0.49	0.13	440,796	146	39
2012	1,469	0.49	0.13	881,592	292	79
2013	1,469	0.49	0.13	1,175,456	389	105
2014	1,469	0.49	0.13	1,469,320	486	131
2015	1,469	0.49	0.13	1,763,184	583	158
2016	1,469	0.49	0.13	1,763,184	583	158
2017	1,469	0.49	0.13	2,057,048	680	184
2018	1,469	0.49	0.13	2,350,912	777	210
2019	1,469	0.49	0.13	2,644,776	875	236

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	100	0.0%	100
2011	377,336	375,619	300	0.1%	400
2012	381,544	379,827	600	0.3%	1,000
2013	388,378	386,661	800	0.5%	1,800
2014	396,913	395,196	1,000	0.7%	2,800
2015	405,062	403,345	1,200	1.0%	4,000
2016	413,491	411,774	1,200	1.3%	5,200
2017	421,774	420,057	1,400	1.6%	6,600
2018	430,056	428,339	1,600	1.9%	8,200
2019	438,190	436,473	1,800	2.3%	10,000

### **Ceiling Insulation Program**

**Program Start Date:** 2010

#### **Program Description:**

The Ceiling Insulation Program offers an incentive designed to encourage customers to install high efficiency insulation or increase insulation in existing residential single-family and multi-family homes. The objective of the program is to reduce heat loss and heat gain from both conductive and convective means by increased insulation. Reduced heat loss and heat gain lowers HVAC loads and operating cost. In addition, reduced HVAC loads may also result in the installation of lower capacity HVAC equipment with the resulting potential for additional energy, demand and cost benefits.

As a means of increasing program adoption, incentives up to 50% of the estimated cost of installing a minimum of R-19 additional insulation will be provided to the customer.

Gulf Power will utilize the existing contractor network, the Residential Energy Audit Program, web-based resources, and other means to increase customer awareness of this program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

#### **Program Benefits and Cost Effectiveness**

The energy and demand savings associated with this program were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors.

Cost-effective results are shown for RIM, TRC, and PT, and are based on the incentive levels identified below.

Maximum incentive cost per participant: \$300.

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
Insulation	per home	575	0.1	0.8	0.65	1.19	2.21

## Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database. This will include, but is not limited to, the date the application was received and processed along with the issue date of rebate.

All rebate applications and accompanying proof of purchase documentation will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Review application for completeness
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform a full field verification on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;



- Number of contractors and/or retailers actively promoting each program measure;
- Manufacturer and type of the most commonly installed qualifying material for this measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per residence and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

### Residential Ceiling Insulation

At the Meter						
Year	Per Customer k Wh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual k Wh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	575	0.80	0.10	57,500	80	10
2011	575	0.80	0.10	115,000	160	20
2012	575	0.80	0.10	201,250	280	35
2013	575	0.80	0.10	287,500	400	50
2014	575	0.80	0.10	287,500	400	50
2015	575	0.80	0.10	287,500	400	50
2016	575	0.80	0.10	287,500	400	50
2017	575	0.80	0.10	287,500	400	50
2018	575	0.80	0.10	287,500	400	50
2019	575	0.80	0.10	287,500	400	50

At the Generator						
Year	Per Customer k Wh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual k Wh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	627	1.05	0.13	62,675	105	13
2011	627	1.05	0.13	125,350	210	26
2012	627	1.05	0.13	219,363	368	46
2013	627	1.05	0.13	313,375	525	66
2014	627	1.05	0.13	313,375	525	66
2015	627	1.05	0.13	313,375	525	66
2016	627	1.05	0.13	313,375	525	66
2017	627	1.05	0.13	313,375	525	66
2018	627	1.05	0.13	313,375	525	66
2019	627	1.05	0.13	313,375	525	66

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	100	0.0%	100
2011	377,336	375,619	200	0.1%	300
2012	381,544	379,827	350	0.2%	650
2013	388,378	386,661	500	0.3%	1,150
2014	396,913	395,196	500	0.4%	1,650
2015	405,062	403,345	500	0.5%	2,150
2016	413,491	411,774	500	0.6%	2,650
2017	421,774	420,057	500	0.7%	3,150
2018	430,056	428,339	500	0.9%	3,650
2019	438,190	436,473	500	1.0%	4,150

### High Performance Window Program

Program Start Date: 2010

#### Program Description:

The High Performance Window Program will provide residential customers with an incentive to install high-efficiency windows or window films in existing or new residential applications. The objective of the program is to reduce solar heat gain into a home which, in turn, leads to reduced HVAC loads and operating costs. In new home construction, reduced HVAC loads may also result in the installation of lower capacity HVAC equipment with the resulting potential for additional energy, demand and cost benefits.

- This program includes high efficiency replacement windows for use in existing homes when the customer is considering removing old, inefficient, or otherwise defective windows.
- This program includes the retrofit use of high efficiency window films for existing homes when the customer wants to cost-effectively upgrade windows that are inefficient, but otherwise operable and useful.
- This program includes the installation of new high efficiency windows in new residential construction.

As a means of increasing program adoption, an incentive of \$1.50 per square foot of total window assembly area or applied window film will be offered directly to the customer. This incentive will be limited to no more than 75% or 30% of the estimated incremental cost of installing higher efficiency windows or window film, respectively.

Gulf Power will utilize the existing contractor network, the Residential Energy Audit Program, web-based resources, and other means to increase customer awareness of this program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

### Program Benefits and Cost Effectiveness

The energy and demand savings associated with this program were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors.

Cost-effective results are shown for RIM, TRC, and PT, and are based on the incentive levels identified below.

Maximum incentive cost per participant: \$1.50/sqft for windows or film.

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
Window	per home	1,338	.20	.50	0.69	2.25	7.29
Window film	per home	788	.20	0	0.74	1.05	1.60

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database. This will include, but is not limited to, the date the application was received and processed along with the issue date of rebate.

All rebate applications and accompanying proof of purchase documentation will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer

- Review application for completeness
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform a full field verification on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;
- Number of contractors and/or retailers actively promoting each program measure;
- Manufacturer and model of the most commonly installed qualifying equipment or material for each measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per residence and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

## Residential Window Replacement

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,338	0.50	0.20	133,800	50	20
2011	1,338	0.50	0.20	267,600	100	40
2012	1,338	0.50	0.20	468,300	175	70
2013	1,338	0.50	0.20	669,000	250	100
2014	1,338	0.50	0.20	1,003,500	375	150
2015	1,338	0.50	0.20	1,338,000	500	200
2016	1,338	0.50	0.20	1,672,500	625	250
2017	1,338	0.50	0.20	2,007,000	750	300
2018	1,338	0.50	0.20	2,676,000	1,000	400
2019	1,338	0.50	0.20	3,345,000	1,250	500

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,458	0.66	0.26	145,842	66	26
2011	1,458	0.66	0.26	291,684	131	53
2012	1,458	0.66	0.26	510,447	230	92
2013	1,458	0.66	0.26	729,210	328	131
2014	1,458	0.66	0.26	1,093,815	492	197
2015	1,458	0.66	0.26	1,458,420	657	263
2016	1,458	0.66	0.26	1,823,025	821	328
2017	1,458	0.66	0.26	2,187,630	985	394
2018	1,458	0.66	0.26	2,916,840	1,313	525
2019	1,458	0.66	0.26	3,646,050	1,642	657

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	100	0.0%	100
2011	377,336	375,619	200	0.1%	300
2012	381,544	379,827	350	0.2%	650
2013	388,378	386,661	500	0.3%	1,150
2014	396,913	395,196	750	0.5%	1,900
2015	405,062	403,345	1,000	0.7%	2,900
2016	413,491	411,774	1,250	1.0%	4,150
2017	421,774	420,057	1,500	1.3%	5,650
2018	430,056	428,339	2,000	1.8%	7,650
2019	438,190	436,473	2,500	2.3%	10,150

### Residential Window Film

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	788	0	0.20	39,400	0	10
2011	788	0	0.20	78,800	0	20
2012	788	0	0.20	157,600	0	40
2013	788	0	0.20	157,600	0	40
2014	788	0	0.20	157,600	0	40
2015	788	0	0.20	157,600	0	40
2016	788	0	0.20	157,600	0	40
2017	788	0	0.20	157,600	0	40
2018	788	0	0.20	157,600	0	40
2019	788	0	0.20	157,600	0	40

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	859	0	0.26	42,946	0	13
2011	859	0	0.26	85,892	0	26
2012	859	0	0.26	171,784	0	53
2013	859	0	0.26	171,784	0	53
2014	859	0	0.26	171,784	0	53
2015	859	0	0.26	171,784	0	53
2016	859	0	0.26	171,784	0	53
2017	859	0	0.26	171,784	0	53
2018	859	0	0.26	171,784	0	53
2019	859	0	0.26	171,784	0	53

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	50	0.0%	50
2011	377,336	375,619	100	0.0%	150
2012	381,544	379,827	200	0.1%	350
2013	388,378	386,661	200	0.1%	550
2014	396,913	395,196	200	0.2%	750
2015	405,062	403,345	200	0.2%	950
2016	413,491	411,774	200	0.3%	1,150
2017	421,774	420,057	200	0.3%	1,350
2018	430,056	428,339	200	0.4%	1,550
2019	438,190	436,473	200	0.4%	1,750

### **Reflective Roof**

**Program Start Date:** 2010

#### **Program Description:**

The Reflective Roof program will provide Gulf's residential customers with an incentive to install ENERGY STAR qualified cool/reflective roofing products when constructing a new home or replacing the roof on an existing residence. The objective of this program is to significantly decrease the amount of heat that is transferred through roof assemblies and into vented attic spaces which, in turn, decreases the transfer of heat into the home's conditioned living area. Reducing this heat transfer reduces the HVAC cooling load on the home and lowers HVAC operating costs. In new home construction, reduced HVAC loads may also result in the installation of lower capacity HVAC equipment and its subsequent potential for additional energy, demand and cost benefits

Customers will realize direct incentive benefits as participating contractors will be required to pass the incentives on to the customer in the form of reduced pricing on qualifying materials. As a means of increasing the program adoption, the incentive will be up to 50% of the estimated incremental cost of installing ENERGY STAR qualified roofing materials

Gulf Power will utilize the existing contractor network, the Residential Energy Audit Program, web-based resources, and other means to increase customer awareness of this program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

#### **Program Benefits and Cost Effectiveness**

The following kW demand and kWh energy saving evaluations were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering



modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors. Evaluation results are shown for RIM, TRC, and PT, and are based on the incentive levels below.

Maximum incentive cost per participant: \$400.

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
Reflective Roof	per home	1,029	.41	0	0.97	2.51	4.21

## Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database. This will include, but is not limited to, the date the application was received and processed along with the issue date of rebate.

All rebate applications and accompanying proof of purchase documentation will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Review application for completeness
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform a full field verification on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;

- Total amount of incentive payments made;
- Number of disqualified installations;
- Number of contractors and/or retailers actively promoting each program measure;
- Number, make and model of the most commonly installed qualifying materials for each measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per residence and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

### Residential Reflective Roof

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,029	0	0.41	102,900	0	41
2011	1,029	0	0.41	205,800	0	82
2012	1,029	0	0.41	308,700	0	123
2013	1,029	0	0.41	411,600	0	164
2014	1,029	0	0.41	514,500	0	205
2015	1,029	0	0.41	617,400	0	246
2016	1,029	0	0.41	720,300	0	287
2017	1,029	0	0.41	720,300	0	287
2018	1,029	0	0.41	720,300	0	287
2019	1,029	0	0.41	720,300	0	287

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,122	0	0.54	112,161	0	54
2011	1,122	0	0.54	224,322	0	108
2012	1,122	0	0.54	336,483	0	162
2013	1,122	0	0.54	448,644	0	215
2014	1,122	0	0.54	560,805	0	269
2015	1,122	0	0.54	672,966	0	323
2016	1,122	0	0.54	785,127	0	377
2017	1,122	0	0.54	785,127	0	377
2018	1,122	0	0.54	785,127	0	377
2019	1,122	0	0.54	785,127	0	377

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	100	0.0%	100
2011	377,336	375,619	200	0.1%	300
2012	381,544	379,827	300	0.2%	600
2013	388,378	386,661	400	0.3%	1,000
2014	396,913	395,196	500	0.4%	1,500
2015	405,062	403,345	600	0.5%	2,100
2016	413,491	411,774	700	0.7%	2,800
2017	421,774	420,057	700	0.8%	3,500
2018	430,056	428,339	700	1.0%	4,200
2019	438,190	436,473	700	1.1%	4,900

### **Variable Speed/Flow Pool Pump Program**

Program Start Date: 2010

#### **Program Description:**

The Variable Speed/Flow Pool Pump Program will provide an incentive to encourage the installation of high-efficiency variable speed or variable flow pool pumping and control equipment in both new and existing residential applications. Because the energy required to power standard pool pumping equipment can represent a significant portion of the total energy consumed in residences with pools, the objective of the program is to reduce the energy, demand, and cost associated with swimming pool operation.

Incentives up to 75% of the estimated incremental cost of installing a higher efficiency pool pump or control will be realized by customers through reduced pricing on qualifying equipment installed by participating contractors.

Gulf Power will utilize the existing contractor network, the Residential Energy Audit Program, web-based resources, and other means to increase customer awareness of this program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

#### **Program Benefits and Cost Effectiveness**

The energy and demand savings associated with this program were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors.

Cost-effective results are shown for RIM, TRC, and PT, and are based on the incentive levels identified below.

## 2010 Demand-Side Management Plan



Maximum incentive cost per participant: \$900.

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
Variable Speed/Flow Pool Pump	per unit	2,494	1.15	1.15	1.00	2.71	4.50

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database. This will include, but is not limited to, the date the application was received and processed along with the issue date of rebate.

All rebate applications and accompanying proof of purchase documentation will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Review application for completeness
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform a full field verification on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;
- Number of contractors and/or retailers actively promoting each program measure;

- Number, make and model of the most commonly installed qualifying equipment for each measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per residence and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

## Residential VS Pool Pump

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	2,494	1.15	1.15	249,400	115	115
2011	2,494	1.15	1.15	374,100	173	173
2012	2,494	1.15	1.15	623,500	288	288
2013	2,494	1.15	1.15	872,900	403	403
2014	2,494	1.15	1.15	997,600	460	460
2015	2,494	1.15	1.15	997,600	460	460
2016	2,494	1.15	1.15	997,600	460	460
2017	2,494	1.15	1.15	997,600	460	460
2018	2,494	1.15	1.15	997,600	460	460
2019	2,494	1.15	1.15	997,600	460	460

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	2,718	1.51	1.51	271,846	151	151
2011	2,718	1.51	1.51	407,769	227	227
2012	2,718	1.51	1.51	679,615	378	378
2013	2,718	1.51	1.51	951,461	529	529
2014	2,718	1.51	1.51	1,087,384	604	604
2015	2,718	1.51	1.51	1,087,384	604	604
2016	2,718	1.51	1.51	1,087,384	604	604
2017	2,718	1.51	1.51	1,087,384	604	604
2018	2,718	1.51	1.51	1,087,384	604	604
2019	2,718	1.51	1.51	1,087,384	604	604

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	100	0.0%	100
2011	377,336	375,619	150	0.1%	250
2012	381,544	379,827	250	0.1%	500
2013	388,378	386,661	350	0.2%	850
2014	396,913	395,196	400	0.3%	1,250
2015	405,062	403,345	400	0.4%	1,650
2016	413,491	411,774	400	0.5%	2,050
2017	421,774	420,057	400	0.6%	2,450
2018	430,056	428,339	400	0.7%	2,850
2019	438,190	436,473	400	0.7%	3,250

### EnergySelect

Program Start Date: 1995

#### Program Description:

The *EnergySelect* Program, formerly known as the GoodCents Select and Advanced Energy Management (AEM) programs, is designed to increase the efficiency of energy consumption on Gulf Power's system. The program is an interactive energy management system that allows residential customers to program their central heating and cooling system, electric water heater and pool pump, if they have one, to automatically respond to varying prices of electricity depending upon the time of day, day of week and season. These prices are in relation to the Company's cost of producing or purchasing energy. *EnergySelect* consists of three elements – a custom-designed programmable thermostat, a Residential Service Variable Pricing (RSVP) rate featuring four different prices for electricity and a communications gateway that facilitates two-way communication between the utility and the customer's home.

With this program, customers can save money by programming the largest portion of their energy purchases to occur in the lower price periods, while providing peak demand reduction benefits during the high and critical peak price periods.

**Individual Program Measures:** The primary features of this program offering are the following:

#### Equipment

- Programmable Communicating Thermostat (PCT)
- Load Control Relays (Water Heater, Pool Pump)
- Communication Gateway



These premise-mounted devices allow the customer to program and control the temperature set points and equipment run times of the major energy using appliances in their home. This is automated technology that provides automatic response to pricing signals depending on the customer's unique energy purchasing desires. These systems offer conservation of energy as well as the ability to take advantage of lower cost periods when demand for electricity is not high.

### Rate

- Residential Service Variable Price (RSVP). This rate is a Critical Peak Pricing (CPP) mechanism that encourages reduced usage during Gulf Power's peak demand period by participating customers. The rate along with the equipment mentioned above, allows participants to program the majority of their energy purchases to avoid high demand/high price periods and to take advantage of off peak/lower priced electricity. The rate has four price tiers, of which, the low and medium tiers offer cost savings over the standard RS rate and are in effect for 87% of the hours of the year. The high tier is in effect for 12% of the hours and the critical is capped at 1% of annual hours maximum.
- The RSVP rate schedule has a \$4.95 monthly participation fee in addition to the standard Customer Charge.

### Communication

- Wide area network communication to the gateway is facilitated by commercially available paging systems. Return path communication for AMR and diagnostics uses a shared connection with the customer's land-line telephone.
- Communication within the Home area network utilizes Power Line Carrier (PLC) technology.

The program is administered by Gulf Power with equipment installation and service provided by a contractor.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

### Program Benefits and Cost Effectiveness

Seasonal peak demand and annual energy impacts, as well as customer bill savings, are based directly on the results of Gulf Power's research conducted in 2003 on the energy, revenue and demand analysis of *EnergySelect*. The program is cost-effective using the FPSC's approved methodology (Rule 25-17.008).

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak KW	Winter Peak KW	RIM	TRC	PT
Energy Select	per customer	762	1.73	2.2	1.01	1.64	4.37

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement and customer satisfaction on a continual basis. Specifically, comprehensive customer research has been conducted with customers who have had the system installed along with a control group of customers that have not had the system installed. The control group was used to determine *EnergySelect*'s effect on perceived value of electric service and to assess barriers to program participation. Customer billing and load research information were also monitored to determine actual customer savings.

### Energy Select Program

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	762	2.20	1.73	762,000	2,200	1,730
2011	762	2.20	1.73	762,000	2,200	1,730
2012	762	2.20	1.73	762,000	2,200	1,730
2013	762	2.20	1.73	762,000	2,200	1,730
2014	762	2.20	1.73	762,000	2,200	1,730
2015	762	2.20	1.73	762,000	2,200	1,730
2016	762	2.20	1.73	762,000	2,200	1,730
2017	762	2.20	1.73	762,000	2,200	1,730
2018	762	2.20	1.73	762,000	2,200	1,730
2019	762	2.20	1.73	762,000	2,200	1,730

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	831	2.89	2.27	830,580	2,889	2,272
2011	831	2.89	2.27	830,580	2,889	2,272
2012	831	2.89	2.27	830,580	2,889	2,272
2013	831	2.89	2.27	830,580	2,889	2,272
2014	831	2.89	2.27	830,580	2,889	2,272
2015	831	2.89	2.27	830,580	2,889	2,272
2016	831	2.89	2.27	830,580	2,889	2,272
2017	831	2.89	2.27	830,580	2,889	2,272
2018	831	2.89	2.27	830,580	2,889	2,272
2019	831	2.89	2.27	830,580	2,889	2,272

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	1,000	0.3%	1,000
2011	377,336	375,619	1,000	0.5%	2,000
2012	381,544	379,827	1,000	0.8%	3,000
2013	388,378	386,661	1,000	1.0%	4,000
2014	396,913	395,196	1,000	1.3%	5,000
2015	405,062	403,345	1,000	1.5%	6,000
2016	413,491	411,774	1,000	1.7%	7,000
2017	421,774	420,057	1,000	1.9%	8,000
2018	430,056	428,339	1,000	2.1%	9,000
2019	438,190	436,473	1,000	2.3%	10,000

### Energy Select LITE

Program Start Date: 2010

**Program Description:** The *EnergySelect* LITE program will be a separate and complementary program offering to the *EnergySelect* program. *EnergySelect* LITE provides for expanded price responsive load management program participation from residential customers who do not meet the participation standards for *EnergySelect*. The *EnergySelect* LITE program does not require land-line telephone service and will be available to multi-family customers. The program is an interactive energy management system which allows residential customers to program their central heating and cooling system to automatically respond to varying prices of electricity depending upon the time of day, day of week and season, in relation to the Company's cost of producing or purchasing energy.

With this program, customers can save money by programming the largest portion of their energy purchases for air conditioning and heating to occur in the lower price periods. A high price tier encourages customers to reduce consumption during this period and a Critical Peak Price (CPP) is utilized to maximize the demand response (DR) benefit of the program during a limited number of hours during the year.

### Individual Program Measures:

*EnergySelect* LITE consists of three elements – a custom-designed programmable communicating thermostat, a variable price with Critical Peak Pricing (CPP) rate schedule, and a Time of Use interval meter.

The programmable communicating thermostat (PCT) is the customer interface with respect to programming their HVAC system to operate efficiently and cost effectively within their comfort and savings parameters. The variable price rate is the mechanism that provides incentive for the participant to minimize run time of their HVAC system during high price periods and to take

advantage of lower cost periods. The design of this rate schedule is currently underway and, upon program approval, will be filed in accordance with Commission rules. A wide-area communication system will deliver the Critical Peak price notification when it is invoked, and time of use (TOU) interval meters will facilitate customer metering.

The program will be administered by Gulf Power with equipment installation by the current *EnergySelect* installation contractor.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

### Program Benefits and Cost Effectiveness

Based on evaluations of similar utility programs and Gulf's experience with *EnergySelect*, this program is expected to produce energy and demand benefits as provided below. In addition, the program is expected to be cost effective.

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PCT
<i>EnergySelect</i> LITE	per customer	556	0.98	1.1	1.28	2.17	99

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement and customer satisfaction on a continual basis. Specifically, comprehensive customer research will be conducted to verify projected demand and energy savings as compared to non-participating customers, customer satisfaction and perceived value associated with this program.

### Energy Select Lite Program

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	556	1.10	0.98	166,800	330	294
2011	556	1.10	0.98	333,600	660	588
2012	556	1.10	0.98	333,600	660	588
2013	556	1.10	0.98	333,600	660	588
2014	556	1.10	0.98	333,600	660	588
2015	556	1.10	0.98	333,600	660	588
2016	556	1.10	0.98	0	0	0
2017	556	1.10	0.98	0	0	0
2018	556	1.10	0.98	0	0	0
2019	556	1.10	0.98	0	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	606	1.44	1.29	181,812	433	386
2011	606	1.44	1.29	363,624	867	772
2012	606	1.44	1.29	363,624	867	772
2013	606	1.44	1.29	363,624	867	772
2014	606	1.44	1.29	363,624	867	772
2015	606	1.44	1.29	363,624	867	772
2016	606	1.44	1.29	0	0	0
2017	606	1.44	1.29	0	0	0
2018	606	1.44	1.29	0	0	0
2019	606	1.44	1.29	0	0	0

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	300	0.1%	300
2011	377,336	375,619	600	0.2%	900
2012	381,544	379,827	600	0.4%	1,500
2013	388,378	386,661	600	0.5%	2,100
2014	396,913	395,196	600	0.7%	2,700
2015	405,062	403,345	600	0.8%	3,300
2016	413,491	411,774	0	0.8%	3,300
2017	421,774	420,057	0	0.8%	3,300
2018	430,056	428,339	0	0.8%	3,300
2019	438,190	436,473	0	0.8%	3,300

### Self-Install Energy Efficiency Program

Program Start Date: 2010

#### **Program Description:**

The Self-Install Energy Efficiency Program promotes the purchase and installation of ENERGY STAR rated appliances, lighting, and other self-installed energy saving measures for residential customers. The program focuses on increasing customer awareness of the benefits of energy efficient technologies and products through customer education, retail partnerships, promotional distribution of compact fluorescent light bulbs (CFLs), on-line store, energy audits, and seasonal promotional campaigns. The program also builds on Gulf Power's retail trade allies and the ENERGY STAR products network in order to increase the availability and local market penetration of self-install energy efficient products, thereby helping customers save energy and money.

This program will offer increased awareness, as well as cash incentives to overcome primary market barriers for customers to install energy efficient items. Those barriers include:

- Lack of information and awareness regarding the benefits of ENERGY STAR certification and its potential for reducing appliance and lighting operating costs.
- Prior negative experience with energy efficient technologies (specifically CFLs)
- Incrementally higher cost for CFL's and other energy saving measures.

#### **Individual measures include:**

**Energy Efficient Appliances:** Certain ENERGY STAR rated appliances will be promoted through energy audits, awareness programs, and retail partnerships. After-purchase rebates will be utilized for these measures. The maximum incentives planned for these appliances will be 50% of the estimated incremental cost above non-ENERGY STAR rated models.

- Refrigerator

- Freezer
- Clothes Washer
- Window A/C unit

**Energy Efficient Items:** CFL's will be promoted through a number of channels including energy audits, awareness campaigns, retail partnerships, and an on-line store. Incentives for CFL's may include point of sale discounts at the on-line store, retail buy-down, and limited promotional giveaways. Gulf also plans to facilitate availability of these measures through a partnership with an on-line provider of energy efficiency products. The on-line store will also offer other energy saving products such as low-flow showerheads, weather stripping, air filters, etc. Gulf will promote the availability of this on-line store on its web page as an option for customers to make discounted direct purchases of energy efficiency products.

Gulf Power will administer this program utilizing company resources.

Specific eligibility requirements for each measure promoted in this program are provided in the Program Participation Standards.

### **Program Benefits and Cost Effectiveness**

The following kW demand and kWh energy saving evaluations were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors. Evaluation results are shown for RIM, TRC, and PT, and are based on the maximum incentive levels in the following table.

Maximum incentive cost per participant: 50% of the estimated incremental cost compared to the base measure technology. See table below for measure specific maximum incentives.



Measure	Max. Incent. Per unit	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
Refrigerator	\$50	271	0.04	0.03	0.70	2.00	4.93
Freezer	\$25	82	0.01	0.01	0.59	1.20	3.17
Window A/C	\$150	432	0.22	0	1.22	3.73	4.45
Clothes Washer	\$75	197	0.03	0.03	0.59	1.02	2.22
CFL	100% of Cost	55	0.002	0.003	0.50	1.22	18.42

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Records of on-line and retail store purchases will be monitored to evaluate program participation, offerings, and customer satisfaction. Monitoring of any seasonal or other special promotions will also be tracked for incremental effectiveness in increasing adoption of these measures.

## Residential Energy Star Refrigerator

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	271	0.03	0.04	271,000	33	36
2011	271	0.03	0.04	542,000	66	72
2012	271	0.03	0.04	542,000	66	72
2013	271	0.03	0.04	677,500	83	90
2014	271	0.03	0.04	813,000	99	108
2015	271	0.03	0.04	948,500	116	126
2016	271	0.03	0.04	1,084,000	132	144
2017	271	0.03	0.04	1,084,000	132	144
2018	271	0.03	0.04	1,084,000	132	144
2019	271	0.03	0.04	1,084,000	132	144

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	295	0.04	0.05	295,390	43	47
2011	295	0.04	0.05	590,780	87	95
2012	295	0.04	0.05	590,780	87	95
2013	295	0.04	0.05	738,475	108	118
2014	295	0.04	0.05	886,170	130	142
2015	295	0.04	0.05	1,033,865	152	165
2016	295	0.04	0.05	1,181,560	173	189
2017	295	0.04	0.05	1,181,560	173	189
2018	295	0.04	0.05	1,181,560	173	189
2019	295	0.04	0.05	1,181,560	173	189

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	1,000	0.3%	1,000
2011	377,336	375,619	2,000	0.8%	3,000
2012	381,544	379,827	2,000	1.3%	5,000
2013	388,378	386,661	2,500	1.9%	7,500
2014	396,913	395,196	3,000	2.7%	10,500
2015	405,062	403,345	3,500	3.5%	14,000
2016	413,491	411,774	4,000	4.4%	18,000
2017	421,774	420,057	4,000	5.2%	22,000
2018	430,056	428,339	4,000	6.1%	26,000
2019	438,190	436,473	4,000	6.9%	30,000

## Residential Energy Star Freezer

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	82	0.010	0.011	16,400	2	2
2011	82	0.010	0.011	32,800	4	4
2012	82	0.010	0.011	41,000	5	6
2013	82	0.010	0.011	57,400	7	8
2014	82	0.010	0.011	57,400	7	8
2015	82	0.010	0.011	57,400	7	8
2016	82	0.010	0.011	57,400	7	8
2017	82	0.010	0.011	57,400	7	8
2018	82	0.010	0.011	57,400	7	8
2019	82	0.010	0.011	57,400	7	8

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	89	0.013	0.014	17,876	3	3
2011	89	0.013	0.014	35,752	5	6
2012	89	0.013	0.014	44,690	7	7
2013	89	0.013	0.014	62,566	9	10
2014	89	0.013	0.014	62,566	9	10
2015	89	0.013	0.014	62,566	9	10
2016	89	0.013	0.014	62,566	9	10
2017	89	0.013	0.014	62,566	9	10
2018	89	0.013	0.014	62,566	9	10
2019	89	0.013	0.014	62,566	9	10

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	200	0.1%	200
2011	377,336	375,619	400	0.2%	600
2012	381,544	379,827	500	0.3%	1,100
2013	388,378	386,661	700	0.5%	1,800
2014	396,913	395,196	700	0.6%	2,500
2015	405,062	403,345	700	0.8%	3,200
2016	413,491	411,774	700	0.9%	3,900
2017	421,774	420,057	700	1.1%	4,600
2018	430,056	428,339	700	1.2%	5,300
2019	438,190	436,473	700	1.4%	6,000

## Residential Energy Star Window A/C

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	432	0	0.22	64,800	0	33
2011	432	0	0.22	129,600	0	67
2012	432	0	0.22	172,800	0	89
2013	432	0	0.22	194,400	0	100
2014	432	0	0.22	216,000	0	111
2015	432	0	0.22	172,800	0	89
2016	432	0	0.22	172,800	0	89
2017	432	0	0.22	172,800	0	89
2018	432	0	0.22	172,800	0	89
2019	432	0	0.22	172,800	0	89

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	471	0	0.29	70,632	0	44
2011	471	0	0.29	141,264	0	87
2012	471	0	0.29	188,352	0	117
2013	471	0	0.29	211,896	0	131
2014	471	0	0.29	235,440	0	146
2015	471	0	0.29	188,352	0	117
2016	471	0	0.29	188,352	0	117
2017	471	0	0.29	188,352	0	117
2018	471	0	0.29	188,352	0	117
2019	471	0	0.29	188,352	0	117

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	150	0.0%	150
2011	377,336	375,619	300	0.1%	450
2012	381,544	379,827	400	0.2%	850
2013	388,378	386,661	450	0.3%	1,300
2014	396,913	395,196	500	0.5%	1,800
2015	405,062	403,345	400	0.5%	2,200
2016	413,491	411,774	400	0.6%	2,600
2017	421,774	420,057	400	0.7%	3,000
2018	430,056	428,339	400	0.8%	3,400
2019	438,190	436,473	400	0.9%	3,800

## Residential Energy Star Clothes Washer

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	197	0.028	0.028	98,500	14	14
2011	197	0.028	0.028	295,500	42	42
2012	197	0.028	0.028	492,500	70	70
2013	197	0.028	0.028	689,500	98	98
2014	197	0.028	0.028	886,500	126	126
2015	197	0.028	0.028	1,083,500	154	154
2016	197	0.028	0.028	1,280,500	182	182
2017	197	0.028	0.028	1,379,000	196	196
2018	197	0.028	0.028	1,379,000	196	196
2019	197	0.028	0.028	1,379,000	196	196

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	215	0.037	0.037	107,365	18	18
2011	215	0.037	0.037	322,095	55	55
2012	215	0.037	0.037	536,825	92	92
2013	215	0.037	0.037	751,555	129	129
2014	215	0.037	0.037	966,285	165	165
2015	215	0.037	0.037	1,181,015	202	202
2016	215	0.037	0.037	1,395,745	239	239
2017	215	0.037	0.037	1,503,110	257	257
2018	215	0.037	0.037	1,503,110	257	257
2019	215	0.037	0.037	1,503,110	257	257

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	500	0.1%	500
2011	377,336	375,619	1,500	0.5%	2,000
2012	381,544	379,827	2,500	1.2%	4,500
2013	388,378	386,661	3,500	2.1%	8,000
2014	396,913	395,196	4,500	3.2%	12,500
2015	405,062	403,345	5,500	4.5%	18,000
2016	413,491	411,774	6,500	5.9%	24,500
2017	421,774	420,057	7,000	7.5%	31,500
2018	430,056	428,339	7,000	9.0%	38,500
2019	438,190	436,473	7,000	10.4%	45,500

## Residential CFL

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	55	0.00333	0.00237	5,490,000	333	237
2011	55	0.00333	0.00237	8,235,000	499	356
2012	55	0.00333	0.00237	10,980,000	665	474
2013	55	0.00333	0.00237	0	0	0
2014	55	0.00333	0.00237	0	0	0
2015	55	0.00333	0.00237	0	0	0
2016	55	0.00333	0.00237	0	0	0
2017	55	0.00333	0.00237	0	0	0
2018	55	0.00333	0.00237	0	0	0
2019	55	0.00333	0.00237	0	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	60	0.00437	0.00311	5,984,100	437	311
2011	60	0.00437	0.00311	8,976,150	655	467
2012	60	0.00437	0.00311	11,968,200	874	623
2013	60	0.00437	0.00311	0	0	0
2014	60	0.00437	0.00311	0	0	0
2015	60	0.00437	0.00311	0	0	0
2016	60	0.00437	0.00311	0	0	0
2017	60	0.00437	0.00311	0	0	0
2018	60	0.00437	0.00311	0	0	0
2019	60	0.00437	0.00311	0	0	0

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	100,000	...	100,000
2011	377,336	375,619	150,000	...	250,000
2012	381,544	379,827	200,000	...	450,000
2013	388,378	386,661	0	...	450,000
2014	396,913	395,196	0	...	450,000
2015	405,062	403,345	0	...	450,000
2016	413,491	411,774	0	...	450,000
2017	421,774	420,057	0	...	450,000
2018	430,056	428,339	0	...	450,000
2019	438,190	436,473	0	...	450,000

Lamps installed

### **Refrigerator Recycling Program**

Program Start Date: 2010

#### **Program Summary:**

The Residential Refrigerator Recycling program is intended to eliminate inefficient or extraneous refrigerators in an environmentally safe manner and produce cost-effective long-term energy and peak demand savings in the residential sector. The objective of the program is to increase customer awareness of the economic and environmental costs associated with running inefficient, older appliances in a household, and to provide eligible customers with free refrigerator and freezer pick-up services in addition to a cash incentive.

This program offers a combination of free pick-up service and cash incentive to overcome primary market barriers for customers to get rid of older, secondary appliances.

Those barriers include:

- Lack of awareness of the energy costs and environmental impacts of continuing to operate the appliances;
- Perceived inconvenience and financial expense of disposing of the appliances;
- Concern about lack of refrigeration capacity; and
- Lack of awareness or understanding of the program and how to participate.

Gulf Power will utilize the existing retailer/contractor network, the Residential Energy Audit Program, web-based resources, and other means to increase customer awareness of this program.

This program will be administered by an independent third party contractor who also will have primary responsibility for program promotion and outreach.

### Program Benefits and Cost Effectiveness

The energy and demand savings associated with this program were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors.

Cost-effective results are shown for the RIM, TRC, and PCT, and are based on the incentive levels identified below.

Measure	Max Incentive	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
Refrigerator Recycling	\$35	738	.08	.08	0.84	2.09	23.44

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Gulf, or its designee, will randomly perform full field verification of installation on a minimum of 10 percent of the recycled appliances to ensure compliance with program standards.



### Residential Refrigerator Recycling

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	738	0.08	0.08	0	0	0
2011	738	0.08	0.08	1,291,500	140	140
2012	738	0.08	0.08	2,583,000	280	280
2013	738	0.08	0.08	2,583,000	280	280
2014	738	0.08	0.08	2,583,000	280	280
2015	738	0.08	0.08	2,583,000	280	280
2016	738	0.08	0.08	1,476,000	160	160
2017	738	0.08	0.08	1,476,000	160	160
2018	738	0.08	0.08	1,476,000	160	160
2019	738	0.08	0.08	1,476,000	160	160

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	804	0.11	0.11	0	0	0
2011	804	0.11	0.11	1,407,735	184	184
2012	804	0.11	0.11	2,815,470	368	368
2013	804	0.11	0.11	2,815,470	368	368
2014	804	0.11	0.11	2,815,470	368	368
2015	804	0.11	0.11	2,815,470	368	368
2016	804	0.11	0.11	1,608,840	210	210
2017	804	0.11	0.11	1,608,840	210	210
2018	804	0.11	0.11	1,608,840	210	210
2019	804	0.11	0.11	1,608,840	210	210

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	0	0.0%	0
2011	377,336	375,619	1,750	0.5%	1,750
2012	381,544	379,827	3,500	1.4%	5,250
2013	388,378	386,661	3,500	2.3%	8,750
2014	396,913	395,196	3,500	3.1%	12,250
2015	405,062	403,345	3,500	3.9%	15,750
2016	413,491	411,774	2,000	4.3%	17,750
2017	421,774	420,057	2,000	4.7%	19,750
2018	430,056	428,339	2,000	5.1%	21,750
2019	438,190	436,473	2,000	5.4%	23,750

## Commercial/Industrial Conservation Programs

### Commercial/Industrial Audit

Program Start Date: 1981

#### **Program Description:**

A commercial/industrial (C/I) audit is defined as an energy analysis of a commercial building or an industrial facility and its associated energy systems to determine its energy efficiency and to identify for the customer those measures that may improve its energy efficiency.

Gulf Power Company has developed an audit program, Commercial/Industrial Energy Analysis Program (CEAP). CEAP is an interactive program that provides assistance to C/I customers in identifying energy conservation opportunities. This program is a prime tool for the Gulf Power Company C/I Energy Specialists to introduce customers personally to conservation measures including low or no-cost improvements or new electro-technologies to replace old or inefficient equipment. As part of Gulf's overall DSM Plan, many of the recommendations associated with this audit program are complemented with incentive-based programs to increase the likelihood of customer adoption.

The CEAP allows the customer three primary ways to participate. A basic Energy Analysis Audit (EAA) is provided through either an on-site survey or an on-line analysis. Additionally, a more comprehensive analysis can be provided by conducting a Technical Assistance Audit (TAA).

These three methods are described below.

#### **Energy Analysis Audit**

The EAA process consists of an on-site review of the customer's facility operation, equipment, and energy usage pattern by the C/I Energy Specialist. The specialist identifies all areas of potential reduction in kW demand and kWh consumption. Information is provided which

includes an energy use summary and energy management options. This evaluation presents opportunities for reducing electrical operating costs that were revealed by the on-site evaluation.

Recommendations encourage the customer to implement measures that, if cost-effective, move the customer beyond the efficiency level typically installed in the marketplace.

Gulf Power Company also offers an on-line energy analysis tool that allows C/I customers to estimate costs and savings of implementing various measures. The tool produces an Energy Analysis Report that contains recommendations and information about demand and how it affects a customer's monthly bill. The tool also includes an Energy Systems Reference Library, where various C/I energy systems, building design, and energy technologies can be found.

### **Technical Assistance Audit Program**

The TAA Program is an interactive program that provides C/I 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 TAA process consists of an on-site review by the C/I Energy 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 providing an in-house energy simulation program model (EnerSim), in order to ascertain an economic payback or life cycle cost analysis for various improvements to the facility. When necessary, Gulf Power Company will subcontract the evaluation process to an independent engineering firm and/or contracting consultant.

### Commercial/Industrial Energy Analysis Program

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	600	1.3%	600
2011	55,016	46,872	600	2.6%	1,200
2012	55,584	47,317	600	3.8%	1,800
2013	56,431	48,039	600	5.0%	2,400
2014	57,460	48,940	600	6.1%	3,000
2015	58,450	49,802	600	7.2%	3,600
2016	59,469	50,692	600	8.3%	4,200
2017	60,476	51,568	600	9.3%	4,800
2018	61,486	52,443	600	10.3%	5,400
2019	62,491	53,302	600	11.3%	6,000

### **Commercial HVAC Retrocommissioning Program**

Program Start Date: 2010

#### **Program Summary:**

The Commercial HVAC Retrocommissioning Program offers basic retrocommissioning at a reduced cost for qualifying installations of existing commercial and industrial customers. It is designed to diagnose the performance of the HVAC cooling unit(s) operating in commercial buildings with the support of an independent computerized quality control process. These diagnoses include refrigerant level, evaporator airflow, refrigerant metering performance, and condenser performance. Based on the results, the best course of action to bring the cooling system to its full efficiency will be attempted. Incentives up to 70% of the cost to bring the system to its full efficiency will be realized by the customer through reduced pricing by participating contractors. The program includes air cooled and water cooled equipment – identified as A/C, heat pump, direct expansion (DX) or geothermal cooling and heating.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

#### **Program Benefits and Cost Effectiveness**

The following kW demand and kWh energy saving evaluations were developed using a variety of sources including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors. Evaluation results are shown for RIM, TRC, and PT, and are based on the incentive levels identified below.

Maximum incentive cost per participant: \$200.

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
HVAC Retrocommissioning	per unit	3,921	1.3	0.32	1.08	4.79	13.11

## Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the independent third party program reporting and tracking database, including customer data, details of participating measures, incentives paid, and energy and demand saving.

All participants will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Verify that the measure meets program specifications

Gulf, or its designee, will randomly perform full field verification of installation on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;
- Number of contractors and/or retailers actively promoting the program measure;
- Number, make and model of the most common qualifying measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per business and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

### Commercial HVAC Retrocommissioning

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	3,921	0.32	1.30	0	0	0
2011	3,921	0.32	1.30	1,568,400	128	520
2012	3,921	0.32	1.30	2,352,600	192	780
2013	3,921	0.32	1.30	3,921,000	320	1,300
2014	3,921	0.32	1.30	4,705,200	384	1,560
2015	3,921	0.32	1.30	5,489,400	448	1,820
2016	3,921	0.32	1.30	5,489,400	448	1,820
2017	3,921	0.32	1.30	4,705,200	384	1,560
2018	3,921	0.32	1.30	4,705,200	384	1,560
2019	3,921	0.32	1.30	3,921,000	320	1,300

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	4,274	0.42	1.71	0	0	0
2011	4,274	0.42	1.71	1,709,556	168	683
2012	4,274	0.42	1.71	2,564,334	252	1,024
2013	4,274	0.42	1.71	4,273,890	420	1,707
2014	4,274	0.42	1.71	5,128,668	504	2,049
2015	4,274	0.42	1.71	5,983,446	588	2,390
2016	4,274	0.42	1.71	5,983,446	588	2,390
2017	4,274	0.42	1.71	5,128,668	504	2,049
2018	4,274	0.42	1.71	5,128,668	504	2,049
2019	4,274	0.42	1.71	4,273,890	420	1,707

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	0	0.0%	0
2011	55,016	46,872	400	0.9%	400
2012	55,584	47,317	600	2.1%	1,000
2013	56,431	48,039	1,000	4.2%	2,000
2014	57,460	48,940	1,200	6.5%	3,200
2015	58,450	49,802	1,400	9.2%	4,600
2016	59,469	50,692	1,400	11.8%	6,000
2017	60,476	51,568	1,200	14.0%	7,200
2018	61,486	52,443	1,200	16.0%	8,400
2019	62,491	53,302	1,000	17.6%	9,400



### Commercial Building Efficiency Program

Program Start Date: 2010

#### **Program Summary:**

The Commercial Building Efficiency Program is designed as an umbrella efficiency program for existing commercial and industrial customers to encourage the installation of eligible high-efficiency equipment as a means of reducing energy and demand. The goal of the program is to increase awareness and customer demand for high-efficiency, energy-saving equipment; increase availability and market penetration of energy efficient equipment; and contribute toward long-term energy savings and peak demand reductions.

The most common critical areas in commercial buildings that affect summer peak demand are the thermal efficiency of the building and HVAC cooling equipment efficiency. The Commercial Building Efficiency Program provides requirements for these areas that exceed the Florida Model Energy code standards, and if adhered to, will help reduce energy consumption and peak kW demand.

To increase customer participation in this program, incentives will be provided to offset the incremental cost of high efficiency equipment. The program includes equipment with easily calculated savings and provides a straightforward and simple method for customers to participate.

#### **Individual Measures:**

##### **HVAC Efficiency Upgrade**

The HVAC Efficiency Upgrade Program is designed to encourage commercial and industrial (C/I) customers to invest in more efficient HVAC cooling equipment. Installing high efficiency HVAC cooling systems reduces operating costs. The program includes air cooled and water cooled equipment – identified as A/C, heat pump, direct expansion (DX) or geothermal – that

provides cooling plus heating. Incentives will apply to the following minimum efficiency equipment:

- Air Source A/C or heat pump (incentive up to 75% of incremental cost)
- Geothermal heat pump (incentive up to 33% of incremental cost)

### **Heat Pump Water Heater**

The Heat Pump Water Heater measure encourages the installation of high-efficiency Heat Pump Water Heating equipment for domestic hot water production. The objective is to provide a more energy efficient method of heating water using electricity as the fuel source. This objective can be accomplished by encouraging C/I customers to replace existing older or malfunctioning water heaters with this type of energy efficient technology for heating water or when building new structures. This program will provide incentives up to 50% of the incremental cost of installing high efficiency heat pump water heaters as a means of increasing the adoption of this program.

### **Ceiling/Roof Insulation**

The Ceiling/Roof Insulation measure offers an incentive designed to encourage C/I customers to increase existing ceiling or roof insulation above conditioned spaces in respective facilities. Increased insulation reduces heat loss and heat gain from both conductive and convective means, and as a result, lowers sizing requirements and operating costs of HVAC equipment. Incentives will be provided for up to 40% of the incremental cost of installing higher efficiency insulation.

### **Window Film**

The Window Film measure will provide C/I customers with an incentive to install high-efficiency window film in existing or new applications. The objective is to reduce solar heat gain into a building which, in turn, reduces HVAC load and operating costs. The program will provide incentives for up to 50% of the cost of installing window film.

### **Interior Lighting**

The Interior Lighting measure encourages C/I customers to invest in efficient lighting products, including the retrofit of older inefficient technology used by existing C/I customers. The measure also encourages the use of interior light occupancy sensors. The objective is to raise awareness about energy savings associated with lighting which can be a significant portion of energy consumption.

Efficient lighting choices include, but are not limited to:

- T-8, T-5, compact (hard wired) fluorescent lighting systems (incentive up to 15% of incremental cost)
- LED case lighting and exit lighting (incentive up to 17% of incremental cost)
- Occupancy sensors for lighting (incentives up to 50% of cost)

### **Reflective Roof**

The Reflective Roof measure encourages C/I customers to install ENERGY STAR qualified cool/reflective roofing products. Also, this program will provide the customer an alternative to roof replacement, if conditions are approved through local permitting officials. A reflective roof decreases the heat transferred through roof assemblies and vented attic spaces. By decreasing heat transfer to the space, the air condition runtime is reduced resulting in lower operating costs.

Incentives will be paid to customers for up to 50% of the incremental cost of installing ENERGY STAR qualified roofing materials.

The promotion of the Commercial Building Efficiency Program will build positive relationships with C/I customers, trade allies, and the general public.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

### Program Benefits and Cost Effectiveness

The following kW demand and kWh energy saving evaluations were developed using a variety of sources including measure savings data from the Itron study, computer-based engineering modeling software, and actual program performance data gathered by Gulf Power or its energy efficiency program contractors. Evaluation results are shown for RIM, TRC, and PT, and are based on the maximum incentives identified in the following table.

Measure	Max Incentives	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
HVAC Upgrade – Air Source A/C or Heat Pump	\$225/ton	652	0.15	0	0.90	2.89	4.22
HVAC upgrade – Geothermal	\$500/ton	685	0.29	0.27	0.92	1.65	1.68
Heat Pump Water Heater	\$7,500/5 ton	41,241	10	11.80	0.97	3.18	4.60
Insulation – ceiling / roof	0.15/sq ft	.863	.00052	.00011	1.28	4.54	4.67
Window Film	\$2.00/sq ft	11	.00325	0	0.98	2.39	3.22
Lighting: T-5, T-8 Retrofit: Hard-wired CFL	\$150/kW	4,380	1.0	1.0	1.02	3.50	5.67
Lighting: LED Exit Signs, Display Case	\$300/kW	4,380	1.0	1.0	1.00	2.49	3.28
Lighting: Occupancy Sensor	\$25/unit	800	.20	.20	1.04	5.76	20.84
Reflective Roof	\$0.90/ sq ft	2.45	0.00091	0	1.03	2.65	2.93

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the

program reporting and tracking database. This will include, but is not limited to, the date the application was received and processed along with the issue date of rebate.

All rebate applications and accompanying proof of purchase documentation will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Review application for completeness
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform a full field verification on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;
- Number, make and model of the most commonly installed qualifying equipment and/or material for each measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per customer and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

### Commercial HVAC Program

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	652	0	0.15	97,800	0	23
2011	652	0	0.15	195,600	0	45
2012	652	0	0.15	228,200	0	53
2013	652	0	0.15	260,800	0	60
2014	652	0	0.15	326,000	0	75
2015	652	0	0.15	391,200	0	90
2016	652	0	0.15	391,200	0	90
2017	652	0	0.15	456,400	0	105
2018	652	0	0.15	456,400	0	105
2019	652	0	0.15	456,400	0	105

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	711	0	0.20	106,602	0	30
2011	711	0	0.20	213,204	0	59
2012	711	0	0.20	248,738	0	69
2013	711	0	0.20	284,272	0	79
2014	711	0	0.20	355,340	0	98
2015	711	0	0.20	426,408	0	118
2016	711	0	0.20	426,408	0	118
2017	711	0	0.20	497,476	0	138
2018	711	0	0.20	497,476	0	138
2019	711	0	0.20	497,476	0	138

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	150	N/A	150
2011	55,016	46,872	300	N/A	450
2012	55,584	47,317	350	N/A	800
2013	56,431	48,039	400	N/A	1,200
2014	57,460	48,940	500	N/A	1,700
2015	58,450	49,802	600	N/A	2,300
2016	59,469	50,692	600	N/A	2,900
2017	60,476	51,568	700	N/A	3,600
2018	61,486	52,443	700	N/A	4,300
2019	62,491	53,302	700	N/A	5,000

\*Tons of HVAC installed

### Commercial Geothermal Heat Pump Program

At the Meter						
Year	Per Customer k Wh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual k Wh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	685	0.27	0.29	102,750	41	44
2011	685	0.27	0.29	119,875	47	51
2012	685	0.27	0.29	137,000	54	58
2013	685	0.27	0.29	171,250	68	73
2014	685	0.27	0.29	171,250	68	73
2015	685	0.27	0.29	171,250	68	73
2016	685	0.27	0.29	171,250	68	73
2017	685	0.27	0.29	171,250	68	73
2018	685	0.27	0.29	150,700	59	64
2019	685	0.27	0.29	150,700	59	64

At the Generator						
Year	Per Customer k Wh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual k Wh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	747	0.35	0.38	111,998	53	57
2011	747	0.35	0.38	130,664	62	67
2012	747	0.35	0.38	149,330	71	76
2013	747	0.35	0.38	186,663	89	95
2014	747	0.35	0.38	186,663	89	95
2015	747	0.35	0.38	186,663	89	95
2016	747	0.35	0.38	186,663	89	95
2017	747	0.35	0.38	186,663	89	95
2018	747	0.35	0.38	164,263	78	84
2019	747	0.35	0.38	164,263	78	84

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	150	N/A	150
2011	55,016	46,872	175	N/A	325
2012	55,584	47,317	200	N/A	525
2013	56,431	48,039	250	N/A	775
2014	57,460	48,940	250	N/A	1,025
2015	58,450	49,802	250	N/A	1,275
2016	59,469	50,692	250	N/A	1,525
2017	60,476	51,568	250	N/A	1,775
2018	61,486	52,443	220	N/A	1,995
2019	62,491	53,302	220	N/A	2,215

\*Tons of Geothermal HVAC installed

### Commercial HPWH Program

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	41,241	11.8	10.0	41,241	12	10
2011	41,241	11.8	10.0	41,241	12	10
2012	41,241	11.8	10.0	41,241	12	10
2013	41,241	11.8	10.0	41,241	12	10
2014	41,241	11.8	10.0	41,241	12	10
2015	41,241	11.8	10.0	82,482	24	20
2016	41,241	11.8	10.0	82,482	24	20
2017	41,241	11.8	10.0	123,723	35	30
2018	41,241	11.8	10.0	123,723	35	30
2019	41,241	11.8	10.0	123,723	35	30

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	44,953	15.5	13.1	44,953	15	13
2011	44,953	15.5	13.1	44,953	15	13
2012	44,953	15.5	13.1	44,953	15	13
2013	44,953	15.5	13.1	44,953	15	13
2014	44,953	15.5	13.1	44,953	15	13
2015	44,953	15.5	13.1	89,905	31	26
2016	44,953	15.5	13.1	89,905	31	26
2017	44,953	15.5	13.1	134,858	46	39
2018	44,953	15.5	13.1	134,858	46	39
2019	44,953	15.5	13.1	134,858	46	39

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	1	0.0%	1
2011	55,016	46,872	1	0.0%	2
2012	55,584	47,317	1	0.0%	3
2013	56,431	48,039	1	0.0%	4
2014	57,460	48,940	1	0.0%	5
2015	58,450	49,802	2	0.0%	7
2016	59,469	50,692	2	0.0%	9
2017	60,476	51,568	3	0.0%	12
2018	61,486	52,443	3	0.0%	15
2019	62,491	53,302	3	0.0%	18

installations (5 tons)



### Commercial Ceiling/Roof Insulation Program

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	0.863	0.00011	0.00052	25,860	3	16
2011	0.863	0.00011	0.00052	47,577	6	29
2012	0.863	0.00011	0.00052	69,472	9	42
2013	0.863	0.00011	0.00052	87,991	11	53
2014	0.863	0.00011	0.00052	103,382	13	62
2015	0.863	0.00011	0.00052	115,918	15	70
2016	0.863	0.00011	0.00052	125,880	16	76
2017	0.863	0.00011	0.00052	133,551	17	80
2018	0.863	0.00011	0.00052	139,205	18	84
2019	0.863	0.00011	0.00052	143,104	18	86

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	0.9	0.00014	0.00068	28,187	4	20
2011	0.9	0.00014	0.00068	51,859	8	38
2012	0.9	0.00014	0.00068	75,725	12	55
2013	0.9	0.00014	0.00068	95,910	15	69
2014	0.9	0.00014	0.00068	112,687	17	82
2015	0.9	0.00014	0.00068	126,351	19	92
2016	0.9	0.00014	0.00068	137,209	21	99
2017	0.9	0.00014	0.00068	145,571	22	105
2018	0.9	0.00014	0.00068	151,734	23	110
2019	0.9	0.00014	0.00068	155,983	24	113

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	29,965	N/A	29,965
2011	55,016	46,872	55,130	N/A	85,095
2012	55,584	47,317	80,501	N/A	165,596
2013	56,431	48,039	101,959	N/A	267,555
2014	57,460	48,940	119,794	N/A	387,349
2015	58,450	49,802	134,320	N/A	521,669
2016	59,469	50,692	145,863	N/A	667,532
2017	60,476	51,568	154,752	N/A	822,284
2018	61,486	52,443	161,304	N/A	983,588
2019	62,491	53,302	165,821	N/A	1,149,409

\*sq. ft. of insulation installed

## Commercial Window Film

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	11	0	0.0033	95,682	0	28
2011	11	0	0.0033	181,518	0	53
2012	11	0	0.0033	269,475	0	79
2013	11	0	0.0033	341,492	0	100
2014	11	0	0.0033	398,324	0	117
2015	11	0	0.0033	441,247	0	129
2016	11	0	0.0033	471,783	0	138
2017	11	0	0.0033	491,608	0	144
2018	11	0	0.0033	502,375	0	147
2019	11	0	0.0033	505,661	0	148

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	12	0	0.0043	104,293	0	37
2011	12	0	0.0043	197,855	0	70
2012	12	0	0.0043	293,727	0	104
2013	12	0	0.0043	372,226	0	131
2014	12	0	0.0043	434,173	0	153
2015	12	0	0.0043	480,959	0	170
2016	12	0	0.0043	514,244	0	181
2017	12	0	0.0043	535,853	0	189
2018	12	0	0.0043	547,589	0	193
2019	12	0	0.0043	551,170	0	194

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	8,620	N/A	8,620
2011	55,016	46,872	16,353	N/A	24,973
2012	55,584	47,317	24,277	N/A	49,250
2013	56,431	48,039	30,765	N/A	80,015
2014	57,460	48,940	35,885	N/A	115,900
2015	58,450	49,802	39,752	N/A	155,652
2016	59,469	50,692	42,503	N/A	198,155
2017	60,476	51,568	44,289	N/A	242,444
2018	61,486	52,443	45,259	N/A	287,703
2019	62,491	53,302	45,555	N/A	333,258

\*sq. ft. of window film installed

### Commercial Interior Lighting

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	4,380	1.00	1.00	219,000	50	50
2011	4,380	1.00	1.00	328,500	75	75
2012	4,380	1.00	1.00	438,000	100	100
2013	4,380	1.00	1.00	657,000	150	150
2014	4,380	1.00	1.00	657,000	150	150
2015	4,380	1.00	1.00	547,500	125	125
2016	4,380	1.00	1.00	438,000	100	100
2017	4,380	1.00	1.00	438,000	100	100
2018	4,380	1.00	1.00	438,000	100	100
2019	4,380	1.00	1.00	438,000	100	100

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	4,774	1.31	1.31	238,710	66	66
2011	4,774	1.31	1.31	358,065	98	98
2012	4,774	1.31	1.31	477,420	131	131
2013	4,774	1.31	1.31	716,130	197	197
2014	4,774	1.31	1.31	716,130	197	197
2015	4,774	1.31	1.31	596,775	164	164
2016	4,774	1.31	1.31	477,420	131	131
2017	4,774	1.31	1.31	477,420	131	131
2018	4,774	1.31	1.31	477,420	131	131
2019	4,774	1.31	1.31	477,420	131	131

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	50	N/A	50
2011	55,016	46,872	75	N/A	125
2012	55,584	47,317	100	N/A	225
2013	56,431	48,039	150	N/A	375
2014	57,460	48,940	150	N/A	525
2015	58,450	49,802	125	N/A	650
2016	59,469	50,692	100	N/A	750
2017	60,476	51,568	100	N/A	850
2018	61,486	52,443	100	N/A	950
2019	62,491	53,302	100	N/A	1,050

\*kW of lighting reduction

### Commercial Interior Lighting - LED

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	4,380	1.00	1.00	87,600	20	20
2011	4,380	1.00	1.00	131,400	30	30
2012	4,380	1.00	1.00	175,200	40	40
2013	4,380	1.00	1.00	219,000	50	50
2014	4,380	1.00	1.00	262,800	60	60
2015	4,380	1.00	1.00	262,800	60	60
2016	4,380	1.00	1.00	262,800	60	60
2017	4,380	1.00	1.00	262,800	60	60
2018	4,380	1.00	1.00	262,800	60	60
2019	4,380	1.00	1.00	262,800	60	60

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	4,774	1.31	1.31	95,484	26	26
2011	4,774	1.31	1.31	143,226	39	39
2012	4,774	1.31	1.31	190,968	53	53
2013	4,774	1.31	1.31	238,710	66	66
2014	4,774	1.31	1.31	286,452	79	79
2015	4,774	1.31	1.31	286,452	79	79
2016	4,774	1.31	1.31	286,452	79	79
2017	4,774	1.31	1.31	286,452	79	79
2018	4,774	1.31	1.31	286,452	79	79
2019	4,774	1.31	1.31	286,452	79	79

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	20	N/A	20
2011	55,016	46,872	30	N/A	50
2012	55,584	47,317	40	N/A	90
2013	56,431	48,039	50	N/A	140
2014	57,460	48,940	60	N/A	200
2015	58,450	49,802	60	N/A	260
2016	59,469	50,692	60	N/A	320
2017	60,476	51,568	60	N/A	380
2018	61,486	52,443	60	N/A	440
2019	62,491	53,302	60	N/A	500

\*kW of lighting reduction

### Commercial Occupancy Sensor - Interior Lighting

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	800	0.20	0.20	240,000	60	60
2011	800	0.20	0.20	400,000	100	100
2012	800	0.20	0.20	480,000	120	120
2013	800	0.20	0.20	560,000	140	140
2014	800	0.20	0.20	600,000	150	150
2015	800	0.20	0.20	600,000	150	150
2016	800	0.20	0.20	600,000	150	150
2017	800	0.20	0.20	600,000	150	150
2018	800	0.20	0.20	560,000	140	140
2019	800	0.20	0.20	480,000	120	120

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	872	0.26	0.26	261,600	79	79
2011	872	0.26	0.26	436,000	131	131
2012	872	0.26	0.26	523,200	158	158
2013	872	0.26	0.26	610,400	184	184
2014	872	0.26	0.26	654,000	197	197
2015	872	0.26	0.26	654,000	197	197
2016	872	0.26	0.26	654,000	197	197
2017	872	0.26	0.26	654,000	197	197
2018	872	0.26	0.26	610,400	184	184
2019	872	0.26	0.26	523,200	158	158

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	300	N/A	300
2011	55,016	46,872	500	N/A	800
2012	55,584	47,317	600	N/A	1,400
2013	56,431	48,039	700	N/A	2,100
2014	57,460	48,940	750	N/A	2,850
2015	58,450	49,802	750	N/A	3,600
2016	59,469	50,692	750	N/A	4,350
2017	60,476	51,568	750	N/A	5,100
2018	61,486	52,443	700	N/A	5,800
2019	62,491	53,302	600	N/A	6,400

\*Number of sensors installed

### Commercial Reflective Roof

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	2.45	0	0.00091	245,000	0	91
2011	2.45	0	0.00091	490,000	0	182
2012	2.45	0	0.00091	735,000	0	273
2013	2.45	0	0.00091	980,000	0	364
2014	2.45	0	0.00091	980,000	0	364
2015	2.45	0	0.00091	1,225,000	0	455
2016	2.45	0	0.00091	1,225,000	0	455
2017	2.45	0	0.00091	980,000	0	364
2018	2.45	0	0.00091	980,000	0	364
2019	2.45	0	0.00091	980,000	0	364

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	2.67	0	0.0012	267,050	0	120
2011	2.67	0	0.0012	534,100	0	239
2012	2.67	0	0.0012	801,150	0	359
2013	2.67	0	0.0012	1,068,200	0	478
2014	2.67	0	0.0012	1,068,200	0	478
2015	2.67	0	0.0012	1,335,250	0	598
2016	2.67	0	0.0012	1,335,250	0	598
2017	2.67	0	0.0012	1,068,200	0	478
2018	2.67	0	0.0012	1,068,200	0	478
2019	2.67	0	0.0012	1,068,200	0	478

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	100,000	N/A	100,000
2011	55,016	46,872	200,000	N/A	300,000
2012	55,584	47,317	300,000	N/A	600,000
2013	56,431	48,039	400,000	N/A	1,000,000
2014	57,460	48,940	400,000	N/A	1,400,000
2015	58,450	49,802	500,000	N/A	1,900,000
2016	59,469	50,692	500,000	N/A	2,400,000
2017	60,476	51,568	400,000	N/A	2,800,000
2018	61,486	52,443	400,000	N/A	3,200,000
2019	62,491	53,302	400,000	N/A	3,600,000

\*sq. ft. of reflective roof installed

### **Occupancy Sensor HVAC Control**

Program Start Date: 2010

#### **Program Description:**

The Occupancy Sensor HVAC Control Program is intended to help manage energy consumption and reduce energy waste in hotel rooms. The program provides hotel owners served by Gulf Power an opportunity to automatically control temperature settings in hotel rooms when the rooms are unoccupied. Controlling the temperature in unoccupied rooms will assist hotel owners to lower their operating costs. When programmed for optimum savings, the sensor will raise the room temperature approximately 8 degrees when the room is unoccupied. This temperature adjustment will conserve energy (kWh) usage approximately 5% per degree rise. Approximately 15,000 rooms in Gulf Power's service area could benefit from this measure. Many room tenants along the Gulf Coast leave their rooms unoccupied during the peak cooling time of the day to participate in outdoor recreational activities. During these unoccupied hours, energy usage can be decreased with the application of the HVAC occupancy sensors.

This program will provide incentives up to 50% of the cost of installing occupancy sensors on HVAC controls as a means of increasing the adoption of this program.

Gulf Power will promote this program through local hotel owners and through the Commercial Energy Audit Program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

### Program Benefits and Cost Effectiveness

The energy and demand savings associated with this program were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy efficiency program contractors.

Cost-effective results are shown for RIM, TRC and PT, and are based on the incentive levels identified below.

Maximum incentive cost per participant: \$75 per sensor.

Measure	Units	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
HVAC Occupancy Sensor	unit	512	.026	.00012	0.77	2.25	4.32

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Gulf, or its designee, will randomly perform full field verification of installation on a minimum of 10% of installations to ensure compliance with program standards.



## Commercial Occupancy Sensor - HVAC

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	512	0.00012	0.026	38,370	0	2
2011	512	0.00012	0.026	76,740	0	4
2012	512	0.00012	0.026	102,320	0	5
2013	512	0.00012	0.026	127,900	0	7
2014	512	0.00012	0.026	127,900	0	7
2015	512	0.00012	0.026	127,900	0	7
2016	512	0.00012	0.026	102,320	0	5
2017	512	0.00012	0.026	102,320	0	5
2018	512	0.00012	0.026	102,320	0	5
2019	512	0.00012	0.026	102,320	0	5

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	558	0.00016	0.034	41,823	0	3
2011	558	0.00016	0.034	83,647	0	5
2012	558	0.00016	0.034	111,529	0	7
2013	558	0.00016	0.034	139,411	0	9
2014	558	0.00016	0.034	139,411	0	9
2015	558	0.00016	0.034	139,411	0	9
2016	558	0.00016	0.034	111,529	0	7
2017	558	0.00016	0.034	111,529	0	7
2018	558	0.00016	0.034	111,529	0	7
2019	558	0.00016	0.034	111,529	0	7

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	75	N/A	75
2011	55,016	46,872	150	N/A	225
2012	55,584	47,317	200	N/A	425
2013	56,431	48,039	250	N/A	675
2014	57,460	48,940	250	N/A	925
2015	58,450	49,802	250	N/A	1,175
2016	59,469	50,692	200	N/A	1,375
2017	60,476	51,568	200	N/A	1,575
2018	61,486	52,443	200	N/A	1,775
2019	62,491	53,302	200	N/A	1,975

\*Number of sensors installed

### **High Efficiency Motor Program**

Program Start Date: 2010

#### **Program Description:**

The High Efficiency Motor Program is designed to encourage commercial and industrial customers to install premium-efficiency motors in new or existing facilities. The objective of the program is to reduce demand and energy associated with electric motors by encouraging customers to replace worn out, inefficient motors with high efficiency motors that qualify under the Program Standards.

Motor systems can consume as much as half of the energy used in the commercial and industrial sectors. Installing energy-efficient motors which use less energy to perform the same amount of work as standard motors can save substantial amounts of energy and reduce operating costs. High efficiency motors also have lower failure rates and longer service life.

As a means of increasing customer participation in the program, Gulf Power will offer incentives up to 50% of the incremental cost of installing a high efficiency motor.

This measure will be introduced through various means. These include, but are not limited to, Gulf Power C/I Audit Program, trade allies, or facility owner.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

#### **Program Benefits and Cost Effectiveness**

The energy and demand savings associated with this program were developed using a variety of sources, including: measure savings data from the Itron study; computer-based engineering modeling software; and actual program performance data gathered by Gulf Power or its energy

efficiency program contractors. Cost-effectiveness results are shown for RIM, TRC, and PT, and are based on the incentive levels in the following table.

Measure (per HP)	Max Incent.	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak KW	Winter Peak KW	RIM	TRC	PT
1 to 5 HP high efficiency motor	\$41.50 per HP	159	0.03	0.03	0.91	2.33	2.82
6 to 50 HP high efficiency motor	\$13 per HP	94	0.016	0.016	0.92	3.25	4.87
51 HP and up high efficiency motor	\$5 per HP	36	0.006	0.006	0.79	2.07	4.84

### Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database. This will include, but is not limited to, the date the application was received and processed along with the issue date of rebate.

All rebate applications and accompanying proof of purchase documentation will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Review application for completeness
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform a full field verification on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;
- Number, make and model of the most commonly installed qualifying equipment for each measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per customer and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

## Commercial EE Motor 1-5 HP

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	159	0.03	0.03	3,975	1	1
2011	159	0.03	0.03	7,950	2	2
2012	159	0.03	0.03	7,950	2	2
2013	159	0.03	0.03	7,950	2	2
2014	159	0.03	0.03	7,950	2	2
2015	159	0.03	0.03	7,950	2	2
2016	159	0.03	0.03	7,950	2	2
2017	159	0.03	0.03	7,950	2	2
2018	159	0.03	0.03	7,950	2	2
2019	159	0.03	0.03	7,950	2	2

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	173	0.04	0.04	4,333	1	1
2011	173	0.04	0.04	8,666	2	2
2012	173	0.04	0.04	8,666	2	2
2013	173	0.04	0.04	8,666	2	2
2014	173	0.04	0.04	8,666	2	2
2015	173	0.04	0.04	8,666	2	2
2016	173	0.04	0.04	8,666	2	2
2017	173	0.04	0.04	8,666	2	2
2018	173	0.04	0.04	8,666	2	2
2019	173	0.04	0.04	8,666	2	2

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	25	N/A	25
2011	55,016	46,872	50	N/A	75
2012	55,584	47,317	50	N/A	125
2013	56,431	48,039	50	N/A	175
2014	57,460	48,940	50	N/A	225
2015	58,450	49,802	50	N/A	275
2016	59,469	50,692	50	N/A	325
2017	60,476	51,568	50	N/A	375
2018	61,486	52,443	50	N/A	425
2019	62,491	53,302	50	N/A	475

\*Horsepower installed

## Commercial EE Motor 6-50 HP

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	94	0.016	0.016	94,000	16	16
2011	94	0.016	0.016	176,250	30	30
2012	94	0.016	0.016	176,250	30	30
2013	94	0.016	0.016	176,250	30	30
2014	94	0.016	0.016	176,250	30	30
2015	94	0.016	0.016	176,250	30	30
2016	94	0.016	0.016	176,250	30	30
2017	94	0.016	0.016	176,250	30	30
2018	94	0.016	0.016	176,250	30	30
2019	94	0.016	0.016	176,250	30	30

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	102	0.021	0.021	102,460	21	21
2011	102	0.021	0.021	192,113	39	39
2012	102	0.021	0.021	192,113	39	39
2013	102	0.021	0.021	192,113	39	39
2014	102	0.021	0.021	192,113	39	39
2015	102	0.021	0.021	192,113	39	39
2016	102	0.021	0.021	192,113	39	39
2017	102	0.021	0.021	192,113	39	39
2018	102	0.021	0.021	192,113	39	39
2019	102	0.021	0.021	192,113	39	39

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	1,000	N/A	1,000
2011	55,016	46,872	1,875	N/A	2,875
2012	55,584	47,317	1,875	N/A	4,750
2013	56,431	48,039	1,875	N/A	6,625
2014	57,460	48,940	1,875	N/A	8,500
2015	58,450	49,802	1,875	N/A	10,375
2016	59,469	50,692	1,875	N/A	12,250
2017	60,476	51,568	1,875	N/A	14,125
2018	61,486	52,443	1,875	N/A	16,000
2019	62,491	53,302	1,875	N/A	17,875

\*Horsepower installed

## Commercial EE Motor 51+ HP

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	36	0.006	0.006	43,200	7	7
2011	36	0.006	0.006	86,400	14	14
2012	36	0.006	0.006	86,400	14	14
2013	36	0.006	0.006	86,400	14	14
2014	36	0.006	0.006	86,400	14	14
2015	36	0.006	0.006	86,400	14	14
2016	36	0.006	0.006	86,400	14	14
2017	36	0.006	0.006	86,400	14	14
2018	36	0.006	0.006	86,400	14	14
2019	36	0.006	0.006	86,400	14	14

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	39	0.008	0.008	47,088	9	9
2011	39	0.008	0.008	94,176	19	19
2012	39	0.008	0.008	94,176	19	19
2013	39	0.008	0.008	94,176	19	19
2014	39	0.008	0.008	94,176	19	19
2015	39	0.008	0.008	94,176	19	19
2016	39	0.008	0.008	94,176	19	19
2017	39	0.008	0.008	94,176	19	19
2018	39	0.008	0.008	94,176	19	19
2019	39	0.008	0.008	94,176	19	19

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants*	Cumulative Penetration Level %	Cumulative Number of Program Participants*
2010	54,648	46,618	1,200	N/A	1,200
2011	55,016	46,872	2,400	N/A	3,600
2012	55,584	47,317	2,400	N/A	6,000
2013	56,431	48,039	2,400	N/A	8,400
2014	57,460	48,940	2,400	N/A	10,800
2015	58,450	49,802	2,400	N/A	13,200
2016	59,469	50,692	2,400	N/A	15,600
2017	60,476	51,568	2,400	N/A	18,000
2018	61,486	52,443	2,400	N/A	20,400
2019	62,491	53,302	2,400	N/A	22,800

\*Horsepower installed

### Food Service Efficiency Program

Program Start Date: 2010

#### Program Description:

The Food Service Efficiency Program encourages the installation of ENERGY STAR qualified or equivalent energy efficient commercial and industrial food service equipment. The objective of the program is to reduce energy consumption and demand as well as operating costs for the customer through the use of qualified food service equipment.

#### Individual Measures:

- **Convection Oven:** ENERGY STAR qualifying electric convection ovens must meet the specification requirements of 70% cooking energy efficiency and an idle energy rate of 1.6 kW. These ovens will be about 20% more efficient than standard models. Oven performance is based on ASTM standard test method F1496-99;
- **Fryer:** ENERGY STAR qualifying electric fryers must meet a minimum cooking efficiency of 80% while also meeting a maximum idle energy rate of 1,000 watts. These fryers are 30% more energy efficient than standard models, offer shorter cook times and higher production rates. Fryer performance is based on ASTM standard test method F1361-99;
- **Griddle:** ENERGY STAR qualifying electric griddles must meet a minimum cooking energy efficiency of 70% as well as a maximum idle energy rate of 355 watts/sq ft until January 1, 2011, when the requirement becomes 320 watts/sq ft. These griddles are about 10% more efficient than standard models. Griddle performance is based on ASTM standard test method F1275-03;



- **Steamer:** ENERGY STAR qualifying electric steamers must meet a minimum cooking efficiency of 50% while also meeting a maximum idle energy rate that varies with pan capacity. These steamers are up to 50% more efficient than standard models and use up to 90% less water. They also provide shorter cook time, higher production rate, and reduced heat loss due to better insulation. Steamer performance is based on ASTM standard test method F1484-04;
- **Holding Cabinet:** ENERGY STAR qualifying electric hot-food holding cabinets must meet a maximum idle energy rate of 40 watts/cubic ft. These holding cabinets are 65% more energy efficient than standard models and provide more uniform temperature throughout the cabinet while using less energy. Holding cabinet performance is based on ASTM standard test method F2140-01;
- **Ice Machine:** ENERGY STAR qualifying electric ice machines must meet a maximum potable water use limit as well as a maximum energy consumption limit, which varies upon equipment's harvest rate. These ice machines are 15% more energy efficient than standard models and use as much as 10% less water. Ice machine performance is based on ARI standard 810.

This program will provide incentives up to 50% of the incremental cost of installing high efficiency food service equipment as a means of increasing the adoption of this program.

Gulf Power will promote this program through local dealers and manufacturers' representatives as well as the Commercial Energy Audit Program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

## Program Benefits and Cost Effectiveness

The energy and demand savings associated with this program were developed using a variety of sources, including: ENERGY STAR life cycle cost calculator developed by the U.S. EPA and U.S. DOE; FSTC (Food Service Technology Center) life cycle cost calculator developed by Fisher Nickel, Inc. assisting the U.S. EPA; and actual program performance data gathered by Gulf Power. Cost-effectiveness results are shown for RIM, TRC, and PT, and are based on the incentive levels in the following table.

Measure	Max Incent.	Per Unit Reduction			Cost effectiveness test		
		Energy kWh	Summer Peak kW	Winter Peak kW	RIM	TRC	PT
Convection Oven	\$500	1,869	0.40	0.40	0.75	1.47	2.75
Fryer	\$400	1,160	0.20	0.20	0.66	1.10	2.21
Griddle	\$575	2,523	0.50	0.50	0.70	1.34	3.14
Steamer	\$1,100	60,081	13.79	13.79	1.17	29.48	34.28
Holding Cabinet	\$350	6,534	1.20	1.20	0.99	5.87	11.75
Ice Machine	\$100	1,797	0.20	0.20	0.73	2.14	11.04

## Monitoring and Evaluation

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database. This will include, but is not limited to, the date the application was received and processed along with the issue date of rebate.

All rebate applications and accompanying proof of purchase documentation will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Review application for completeness

- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform a full field verification on a minimum of 10% of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;
- Number, make and model of the most commonly installed qualifying equipment for each measure.

Gulf will complete a periodic evaluation of the results to ensure the average savings per customer and the number of participants is consistent with the program objectives and expectations, including customer satisfaction.

## Commercial Food Service - Convection Oven

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,869	0.40	0.40	1,869	0	0
2011	1,869	0.40	0.40	5,607	1	1
2012	1,869	0.40	0.40	5,607	1	1
2013	1,869	0.40	0.40	5,607	1	1
2014	1,869	0.40	0.40	7,476	2	2
2015	1,869	0.40	0.40	7,476	2	2
2016	1,869	0.40	0.40	9,345	2	2
2017	1,869	0.40	0.40	9,345	2	2
2018	1,869	0.40	0.40	11,214	2	2
2019	1,869	0.40	0.40	11,214	2	2

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	2,037	0.53	0.53	2,037	1	1
2011	2,037	0.53	0.53	6,112	2	2
2012	2,037	0.53	0.53	6,112	2	2
2013	2,037	0.53	0.53	6,112	2	2
2014	2,037	0.53	0.53	8,149	2	2
2015	2,037	0.53	0.53	8,149	2	2
2016	2,037	0.53	0.53	10,186	3	3
2017	2,037	0.53	0.53	10,186	3	3
2018	2,037	0.53	0.53	12,223	3	3
2019	2,037	0.53	0.53	12,223	3	3

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	1	0.0%	1
2011	55,016	46,872	3	0.0%	4
2012	55,584	47,317	3	0.0%	7
2013	56,431	48,039	3	0.0%	10
2014	57,460	48,940	4	0.0%	14
2015	58,450	49,802	4	0.0%	18
2016	59,469	50,692	5	0.0%	23
2017	60,476	51,568	5	0.1%	28
2018	61,486	52,443	6	0.1%	34
2019	62,491	53,302	6	0.1%	40

### Commercial Food Service - Fryer

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,160	0.20	0.20	2,320	0	0
2011	1,160	0.20	0.20	3,480	1	1
2012	1,160	0.20	0.20	4,640	1	1
2013	1,160	0.20	0.20	5,800	1	1
2014	1,160	0.20	0.20	6,960	1	1
2015	1,160	0.20	0.20	6,960	1	1
2016	1,160	0.20	0.20	6,960	1	1
2017	1,160	0.20	0.20	6,960	1	1
2018	1,160	0.20	0.20	6,960	1	1
2019	1,160	0.20	0.20	6,960	1	1

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,264	0.26	0.26	2,529	1	1
2011	1,264	0.26	0.26	3,793	1	1
2012	1,264	0.26	0.26	5,058	1	1
2013	1,264	0.26	0.26	6,322	1	1
2014	1,264	0.26	0.26	7,586	2	2
2015	1,264	0.26	0.26	7,586	2	2
2016	1,264	0.26	0.26	7,586	2	2
2017	1,264	0.26	0.26	7,586	2	2
2018	1,264	0.26	0.26	7,586	2	2
2019	1,264	0.26	0.26	7,586	2	2

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	2	0.0%	2
2011	55,016	46,872	3	0.0%	5
2012	55,584	47,317	4	0.0%	9
2013	56,431	48,039	5	0.0%	14
2014	57,460	48,940	6	0.0%	20
2015	58,450	49,802	6	0.1%	26
2016	59,469	50,692	6	0.1%	32
2017	60,476	51,568	6	0.1%	38
2018	61,486	52,443	6	0.1%	44
2019	62,491	53,302	6	0.1%	50

## Commercial Food Service - Griddle

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	2,523	0.50	0.50	2,523	1	1
2011	2,523	0.50	0.50	2,523	1	1
2012	2,523	0.50	0.50	2,523	1	1
2013	2,523	0.50	0.50	2,523	1	1
2014	2,523	0.50	0.50	2,523	1	1
2015	2,523	0.50	0.50	5,046	1	1
2016	2,523	0.50	0.50	5,046	1	1
2017	2,523	0.50	0.50	5,046	1	1
2018	2,523	0.50	0.50	5,046	1	1
2019	2,523	0.50	0.50	5,046	1	1

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	2,750	0.66	0.66	2,750	1	1
2011	2,750	0.66	0.66	2,750	1	1
2012	2,750	0.66	0.66	2,750	1	1
2013	2,750	0.66	0.66	2,750	1	1
2014	2,750	0.66	0.66	2,750	1	1
2015	2,750	0.66	0.66	5,500	1	1
2016	2,750	0.66	0.66	5,500	1	1
2017	2,750	0.66	0.66	5,500	1	1
2018	2,750	0.66	0.66	5,500	1	1
2019	2,750	0.66	0.66	5,500	1	1

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	1	0.0%	1
2011	55,016	46,872	1	0.0%	2
2012	55,584	47,317	1	0.0%	3
2013	56,431	48,039	1	0.0%	4
2014	57,460	48,940	1	0.0%	5
2015	58,450	49,802	2	0.0%	7
2016	59,469	50,692	2	0.0%	9
2017	60,476	51,568	2	0.0%	11
2018	61,486	52,443	2	0.0%	13
2019	62,491	53,302	2	0.0%	15

## Commercial Food Service - Steamer

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	60,081	13.79	13.79	0	0	0
2011	60,081	13.79	13.79	0	0	0
2012	60,081	13.79	13.79	0	0	0
2013	60,081	13.79	13.79	60,081	14	14
2014	60,081	13.79	13.79	60,081	14	14
2015	60,081	13.79	13.79	60,081	14	14
2016	60,081	13.79	13.79	0	0	0
2017	60,081	13.79	13.79	60,081	14	14
2018	60,081	13.79	13.79	0	0	0
2019	60,081	13.79	13.79	60,081	14	14

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	65,488	18.11	18.11	0	0	0
2011	65,488	18.11	18.11	0	0	0
2012	65,488	18.11	18.11	0	0	0
2013	65,488	18.11	18.11	65,488	18	18
2014	65,488	18.11	18.11	65,488	18	18
2015	65,488	18.11	18.11	65,488	18	18
2016	65,488	18.11	18.11	0	0	0
2017	65,488	18.11	18.11	65,488	18	18
2018	65,488	18.11	18.11	0	0	0
2019	65,488	18.11	18.11	65,488	18	18

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	0	0.0%	0
2011	55,016	46,872	0	0.0%	0
2012	55,584	47,317	0	0.0%	0
2013	56,431	48,039	1	0.0%	1
2014	57,460	48,940	1	0.0%	2
2015	58,450	49,802	1	0.0%	3
2016	59,469	50,692	0	0.0%	3
2017	60,476	51,568	1	0.0%	4
2018	61,486	52,443	0	0.0%	4
2019	62,491	53,302	1	0.0%	5

### Commercial Food Service - Holding Cabinet

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	6,534	1.20	1.20	32,670	6	6
2011	6,534	1.20	1.20	39,204	7	7
2012	6,534	1.20	1.20	52,272	10	10
2013	6,534	1.20	1.20	52,272	10	10
2014	6,534	1.20	1.20	65,340	12	12
2015	6,534	1.20	1.20	65,340	12	12
2016	6,534	1.20	1.20	78,408	14	14
2017	6,534	1.20	1.20	78,408	14	14
2018	6,534	1.20	1.20	91,476	17	17
2019	6,534	1.20	1.20	98,010	18	18

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	7,122	1.58	1.58	35,610	8	8
2011	7,122	1.58	1.58	42,732	9	9
2012	7,122	1.58	1.58	56,976	13	13
2013	7,122	1.58	1.58	56,976	13	13
2014	7,122	1.58	1.58	71,221	16	16
2015	7,122	1.58	1.58	71,221	16	16
2016	7,122	1.58	1.58	85,465	19	19
2017	7,122	1.58	1.58	85,465	19	19
2018	7,122	1.58	1.58	99,709	22	22
2019	7,122	1.58	1.58	106,831	24	24

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	5	0.0%	5
2011	55,016	46,872	6	0.0%	11
2012	55,584	47,317	8	0.0%	19
2013	56,431	48,039	8	0.1%	27
2014	57,460	48,940	10	0.1%	37
2015	58,450	49,802	10	0.1%	47
2016	59,469	50,692	12	0.1%	59
2017	60,476	51,568	12	0.1%	71
2018	61,486	52,443	14	0.2%	85
2019	62,491	53,302	15	0.2%	100



### Commercial Food Service - Ice Machine

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,797	0.20	0.20	10,782	1	1
2011	1,797	0.20	0.20	21,564	2	2
2012	1,797	0.20	0.20	21,564	2	2
2013	1,797	0.20	0.20	21,564	2	2
2014	1,797	0.20	0.20	21,564	2	2
2015	1,797	0.20	0.20	21,564	2	2
2016	1,797	0.20	0.20	21,564	2	2
2017	1,797	0.20	0.20	21,564	2	2
2018	1,797	0.20	0.20	21,564	2	2
2019	1,797	0.20	0.20	21,564	2	2

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,959	0.26	0.26	11,752	2	2
2011	1,959	0.26	0.26	23,505	3	3
2012	1,959	0.26	0.26	23,505	3	3
2013	1,959	0.26	0.26	23,505	3	3
2014	1,959	0.26	0.26	23,505	3	3
2015	1,959	0.26	0.26	23,505	3	3
2016	1,959	0.26	0.26	23,505	3	3
2017	1,959	0.26	0.26	23,505	3	3
2018	1,959	0.26	0.26	23,505	3	3
2019	1,959	0.26	0.26	23,505	3	3

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	6	0.0%	6
2011	55,016	46,872	12	0.0%	18
2012	55,584	47,317	12	0.1%	30
2013	56,431	48,039	12	0.1%	42
2014	57,460	48,940	12	0.1%	54
2015	58,450	49,802	12	0.1%	66
2016	59,469	50,692	12	0.2%	78
2017	60,476	51,568	12	0.2%	90
2018	61,486	52,443	12	0.2%	102
2019	62,491	53,302	12	0.2%	114

### **Commercial/Industrial Custom Incentive**

**(formerly Energy Services)**

Program Start Date: 2000

#### **Program Description:**

The Commercial/Industrial Custom Incentive program is designed to establish the capability and process to offer advanced energy services and energy efficient end-use equipment to Commercial/Industrial customers. These energy services include comprehensive audits, design, and construction of energy conservation projects. Specifically, the types of projects covered under this program would be demand reduction or efficiency improvement retrofits that are beyond the scope of other programs included in this Plan.

Examples of custom projects may include, but not be limited to, installation of Variable Frequency Drive (VFD) Controls, Energy Management Systems (EMS), chiller efficiency upgrades, desiccant and mechanical dehumidification systems, and more complex building retrocommissioning.

The Commercial/Industrial Custom Incentive program will be administered in three phases: (1) the audit; (2) the proposal; and (3) design/construction. The energy audit will be conducted under the existing FPSC approved audit program. Once the customer accepts audit recommendations, Gulf Power will develop a scope and incentive proposal for the project. Any incentive associated with this program will be provided upon successful installation and verification of the energy saving measures associated with the project.

The level of incentives contemplated under this program is limited to any combination of monetary or technical assistance that brings the project payback to no less than two years. For Commercial/Industrial customers, a two year payback represents a reasonable economic criteria for consideration of energy efficiency investments.

### **Program Benefits and Cost Effectiveness**

The TAA provides specific recommendations on energy conservation opportunities for the customer. Due to the customized nature of this program, benefits are determined on a case by case basis. Each project will be evaluated to ensure cost effectiveness in accordance with Commission requirements.

Program participation and savings are based on Gulf's recent experience with this program.

### **Monitoring and Evaluation**

Gulf Power will monitor and evaluate program performance and progress toward goal achievement on a continual basis. Monitoring and evaluation 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.

## Commercial/Industrial Custom Incentive

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	...	...	...	1,000,000	326	326
2011	...	...	...	1,200,000	391	391
2012	...	...	...	1,500,000	489	489
2013	...	...	...	1,750,000	571	571
2014	...	...	...	2,000,000	652	652
2015	...	...	...	2,000,000	652	652
2016	...	...	...	2,000,000	652	652
2017	...	...	...	2,000,000	652	652
2018	...	...	...	1,800,000	587	587
2019	...	...	...	1,750,000	571	571

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	...	...	...	1,090,000	428	428
2011	...	...	...	1,308,000	514	514
2012	...	...	...	1,635,000	643	643
2013	...	...	...	1,907,500	750	750
2014	...	...	...	2,180,000	857	857
2015	...	...	...	2,180,000	857	857
2016	...	...	...	2,180,000	857	857
2017	...	...	...	2,180,000	857	857
2018	...	...	...	1,962,000	771	771
2019	...	...	...	1,907,500	750	750

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	46,618	...	...	...
2011	55,016	46,872	...	...	...
2012	55,584	47,317	...	...	...
2013	56,431	48,039	...	...	...
2014	57,460	48,940	...	...	...
2015	58,450	49,802	...	...	...
2016	59,469	50,692	...	...	...
2017	60,476	51,568	...	...	...
2018	61,486	52,443	...	...	...
2019	62,491	53,302	...	...	...

### **Real Time Pricing Program**

Program Start Date: 1999

#### **Program Description**

Real Time Pricing (RTP) is a rate schedule that provides hourly prices of electricity on a day-ahead basis and is available to large Commercial and Industrial customers of Gulf Power Company. The objective of this program is to encourage customers to reduce demand on Gulf's system during peak times when the marginal cost of generating or purchasing electricity is at its highest. This rate schedule was approved by the FPSC in 1999 and has been utilized in the Company's DSM Plan as a program to achieve peak demand reductions in the Commercial/Industrial customer segments.

Based on Gulf's experience with this program, the industrial segment has the most responsiveness to hourly prices. This is largely because this segment has access to on-site or co-generation facilities, processes that allow shifting of production, or other energy management control systems or procedures. Certain large commercial customers, however, have demonstrated responsiveness and currently participate in the program.

#### **Program Benefits and Costs**

Gulf has estimated that, on average, currently participating customers reduce their summer demand by 2,000 kW and winter demand by 1,000 kW. As of December 2009, 24 customers are presently on the RTP rate schedule.

Gulf will not seek to recover any expenses related to this program through ECCR.

Gulf Power Company believes new customers or returning participants will choose RTP after they have invested in energy management systems or other load shedding technologies to respond to hourly prices. The cost-effectiveness would not be expected to diminish below 1.0 over time

with additional customer participation. Gulf Power expects two additional participants to be added to the RTP program during the plan period.

## Real Time Pricing Program

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	...	1,000	2,000	...	2,000	4,000
2011	...	1,000	2,000	...	0	0
2012	...	1,000	2,000	...	0	0
2013	...	1,000	2,000	...	0	0
2014	...	1,000	2,000	...	0	0
2015	...	1,000	2,000	...	0	0
2016	...	1,000	2,000	...	0	0
2017	...	1,000	2,000	...	0	0
2018	...	1,000	2,000	...	0	0
2019	...	1,000	2,000	...	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	...	1,313	2,627	0	2,627	5,253
2011	...	1,313	2,627	0	0	0
2012	...	1,313	2,627	0	0	0
2013	...	1,313	2,627	0	0	0
2014	...	1,313	2,627	0	0	0
2015	...	1,313	2,627	0	0	0
2016	...	1,313	2,627	0	0	0
2017	...	1,313	2,627	0	0	0
2018	...	1,313	2,627	0	0	0
2019	...	1,313	2,627	0	0	0

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	54,648	18	2	11.1%	2
2011	55,016	18	0	11.1%	2
2012	55,584	18	0	11.1%	2
2013	56,431	18	0	11.1%	2
2014	57,460	18	0	11.1%	2
2015	58,450	18	0	11.1%	2
2016	59,469	18	0	11.1%	2
2017	60,476	18	0	11.1%	2
2018	61,486	18	0	11.1%	2
2019	62,491	18	0	11.1%	2

Note: Total eligible customers = 18 customers in 2009 with > 2,000 kW annual maximum demand.

### Renewable Energy Plan

Program Start Date: 2010

#### Program Summary:

This program promotes the deployment of demand-side renewable technologies through a portfolio of four programs.

These programs include providing capital to supplement deployment of PV systems up to 10 kW in public education facilities, offering PV rebates and solar thermal water heating (STWH) rebates structured similarly to the state's current program administered by the Florida Energy and Climate Commission (FECC), and facilitating the installation of STWH systems in low-income housing units.

#### Individual Programs

**Solar for Schools:** Gulf Power's Solar for Schools program will provide capital funding to supplement deployment of PV systems up to 10 kW in qualifying public education facilities served by Gulf Power. As partnership opportunities are made available, Gulf intends to leverage other program resources such as those provided under the Florida Solar Energy Center's (FSEC) E-Shelter program to expand the reach of the program. Gulf's program will also offer educational benefits by providing resources to enable the data collected from the installed systems to be used in the schools' energy curriculum.

Gulf Power proposes to provide the capital for the installation of all the PV system equipment needed to support at least one school in each county that has a qualifying school served by Gulf. Gulf will own and ensure maintenance of the equipment for a period of five years. At the end of the five-year period, ownership of the equipment will be transferred to the respective schools for their continued use. To reduce the short-term cost recovery impact to Gulf Power customers, Gulf proposes to amortize the capital investment of the Solar PV equipment over the five-year



period that it will own the equipment. As such, Gulf proposes to include the amortization cost of this capital investment during the comparable five-year period in Gulf's Energy Conservation Cost Recovery Clause.

Upon Commission approval, this program will replace Gulf's existing Solar for Schools program eliminating the need for voluntary customer contributions.

Specific eligibility requirements for this program will be provided in the Program Participation Standards.

**Solar Thermal Water Heating:** Gulf Power's Solar Thermal Water Heating Program will provide Gulf Power residential customers up to a \$1,000 incentive to install certified STWH systems. The STWH systems to be installed will offer customers an opportunity to reduce their hot water energy needs otherwise served by natural gas or electric resistance heating. The systems operate in conjunction with a back-up natural gas or electric resistance source of hot water to ensure an uninterrupted supply of hot water to the customer.

This program will be a continuation of Gulf Power's Solar Thermal Water Heating Pilot program approved by the Commission in December, 2008. Under this pilot program, Gulf provided 93 rebates to residential customers. Through participant surveys, Gulf validated that the incentive program had a direct impact on the deployment of these systems in our area. More than 85% of participating customers would not have installed their systems without the Gulf Power incentive. However, 75% of the participating customers indicated that they would have installed their systems at a slightly lower incentive level. Gulf will, therefore, evaluate the reduction of the new incentive over time as economic and market conditions warrant. Overall, participating customers were satisfied with their systems and the Gulf Power incentive process. A focus group study of non-participating customers indicated that the high capital cost of these systems was the primary barrier to installation of the technology.

Specific eligibility requirements for this program will be provided in the Program Participation Standards.

**Solar PV:** Gulf Power's Solar PV Program will provide Gulf Power residential and commercial customers an incentive to encourage the installation of a solar energy system on their home or business. The incentive value will be up to \$2/watt with a maximum incentive per customer of \$10,000. Qualifying systems will be designed to offset part or all of a customer's energy needs and will help customers save money on their energy bills.

Specific eligibility requirements for the program will be provided in the Program Participation Standards.

**Solar Thermal Water Heating for Low-Income Housing:** Under this program, Gulf Power will facilitate the installation of STWH systems in qualifying low-income housing. Gulf anticipates funding up to fifteen low-income installations per year.

Specific eligibility requirements for the program will be provided in the Program Participation Standards.

### **Program Costs**

The Goals Order sets an annual renewable spending target of \$900,338 for Gulf Power. Gulf proposes the following allocation of funds to each program annually for 2010-2015:

<u>Solar for Schools</u>	\$140,000
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Gulf anticipates this funding will facilitate the installation of at least one 10 kW school PV system annually. This funding allocation includes dollars for battery back-up as well as data acquisition equipment.

Solar Thermal Water Heating Rebate \$100,000

Assuming full enrollment at an incentive level of \$1,000 per installation, this funding will facilitate installation of 100 STWH systems across Gulf's service area annually.

Solar PV Rebate \$435,000

Assuming full enrollment at an incentive level of \$2/Watt of installed capacity, this funding will facilitate approximately 220 kW of small PV installations across Gulf's service area annually.

Solar Thermal Water Heating for Low-Income \$ 75,000

Gulf anticipates this funding to facilitate the installation of up to 15 STWH systems in low-income housing units.

Administrative Costs \$150,338

This allocation includes funding to support program marketing, IT expenditures and other administrative costs associated with these program offerings. IT expenditures are expected to be higher during the initial year of implementation.

### **Program Administration**

The Solar for Schools program will be administered by Gulf through an application and contractor bid process with consideration to modeling the process after the FSEC SunSmart E-Shelter program. Selection of schools and contractors will be based on various program criteria with consideration to utilizing FSEC's program criteria. A minimum five-year system maintenance agreement will be included in the contractor bid process.

The STWH and solar PV rebate programs will be administered by Gulf through an on-line application and reservation process. Reservations for the incentive will be managed annually and will be awarded to customers on a first come – first serve basis. Reservations will be limited to the number of incentives supported by the renewable program spending cap allocated annually to each program.

The low-income STWH program will be administered by Gulf. Gulf will provide system installation criteria to interested low-income housing units to be used by the low-income managing agent to secure a qualified contractor to install a qualifying system. Gulf personnel will verify each selection prior to system installation.

### **Monitoring**

Gulf Power will monitor and evaluate program performance on a continual basis. Participating customer information will be recorded in a program database, including all information listed on the customer application, date of application receipt and processing, and issue date of rebate, if applicable. The incentive applications will require customer and system information useful in estimating energy savings for each program.

All rebate applications and required documentation will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Review application for completeness
- System size and orientation

Gulf will also perform field verifications on final installations to ensure compliance with program standards.

Systems installed under the Solar for Schools program will include a data acquisition system that will monitor system performance and output. This data along with other information regarding the participating schools' energy education plans will be recorded in a program database.

### Residential Solar Thermal

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	1,906	0.25	0.25	219,190	29	29
2011	1,906	0.25	0.25	219,190	29	29
2012	1,906	0.25	0.25	219,190	29	29
2013	1,906	0.25	0.25	219,190	29	29
2014	1,906	0.25	0.25	219,190	29	29
2015	1,906	0.25	0.25	0	0	0
2016	1,906	0.25	0.25	0	0	0
2017	1,906	0.25	0.25	0	0	0
2018	1,906	0.25	0.25	0	0	0
2019	1,906	0.25	0.25	0	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	2,078	0.33	0.33	238,917	38	38
2011	2,078	0.33	0.33	238,917	38	38
2012	2,078	0.33	0.33	238,917	38	38
2013	2,078	0.33	0.33	238,917	38	38
2014	2,078	0.33	0.33	238,917	38	38
2015	2,078	0.33	0.33	0	0	0
2016	2,078	0.33	0.33	0	0	0
2017	2,078	0.33	0.33	0	0	0
2018	2,078	0.33	0.33	0	0	0
2019	2,078	0.33	0.33	0	0	0

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	115	0.0%	115
2011	377,336	375,619	115	0.1%	230
2012	381,544	379,827	115	0.1%	345
2013	388,378	386,661	115	0.1%	460
2014	396,913	395,196	115	0.1%	575
2015	405,062	403,345	0	0.1%	575
2016	413,491	411,774	0	0.1%	575
2017	421,774	420,057	0	0.1%	575
2018	430,056	428,339	0	0.1%	575
2019	438,190	436,473	0	0.1%	575

### Residential Solar PV

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	6,388	1.50	3.00	255,520	60	120
2011	6,388	1.50	3.00	255,520	60	120
2012	6,388	1.50	3.00	255,520	60	120
2013	6,388	1.50	3.00	255,520	60	120
2014	6,388	1.50	3.00	255,520	60	120
2015	6,388	1.50	3.00	0	0	0
2016	6,388	1.50	3.00	0	0	0
2017	6,388	1.50	3.00	0	0	0
2018	6,388	1.50	3.00	0	0	0
2019	6,388	1.50	3.00	0	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	6,963	1.97	3.94	278,517	79	158
2011	6,963	1.97	3.94	278,517	79	158
2012	6,963	1.97	3.94	278,517	79	158
2013	6,963	1.97	3.94	278,517	79	158
2014	6,963	1.97	3.94	278,517	79	158
2015	6,963	1.97	3.94	0	0	0
2016	6,963	1.97	3.94	0	0	0
2017	6,963	1.97	3.94	0	0	0
2018	6,963	1.97	3.94	0	0	0
2019	6,963	1.97	3.94	0	0	0

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	40	0.01%	40
2011	377,336	375,619	40	0.02%	80
2012	381,544	379,827	40	0.03%	120
2013	388,378	386,661	40	0.04%	160
2014	396,913	395,196	40	0.05%	200
2015	405,062	403,345	0	0.05%	200
2016	413,491	411,774	0	0.05%	200
2017	421,774	420,057	0	0.05%	200
2018	430,056	428,339	0	0.05%	200
2019	438,190	436,473	0	0.05%	200

## Commercial Solar PV

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	6,388	1.50	3.00	38,328	9	18
2011	6,388	1.50	3.00	38,328	9	18
2012	6,388	1.50	3.00	38,328	9	18
2013	6,388	1.50	3.00	38,328	9	18
2014	6,388	1.50	3.00	38,328	9	18
2015	6,388	1.50	3.00	0	0	0
2016	6,388	1.50	3.00	0	0	0
2017	6,388	1.50	3.00	0	0	0
2018	6,388	1.50	3.00	0	0	0
2019	6,388	1.50	3.00	0	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2010	6,963	1.97	3.94	41,778	12	24
2011	6,963	1.97	3.94	41,778	12	24
2012	6,963	1.97	3.94	41,778	12	24
2013	6,963	1.97	3.94	41,778	12	24
2014	6,963	1.97	3.94	41,778	12	24
2015	6,963	1.97	3.94	0	0	0
2016	6,963	1.97	3.94	0	0	0
2017	6,963	1.97	3.94	0	0	0
2018	6,963	1.97	3.94	0	0	0
2019	6,963	1.97	3.94	0	0	0

Customers and Participation Rates					
Year	Total Number of Customers	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level %	Cumulative Number of Program Participants
2010	374,936	373,219	6	0.00%	6
2011	377,336	375,619	6	0.00%	12
2012	381,544	379,827	6	0.00%	18
2013	388,378	386,661	6	0.01%	24
2014	396,913	395,196	6	0.01%	30
2015	405,062	403,345	0	0.01%	30
2016	413,491	411,774	0	0.01%	30
2017	421,774	420,057	0	0.01%	30
2018	430,056	428,339	0	0.01%	30
2019	438,190	436,473	0	0.01%	30

## **Section 3: Conservation Demonstration and Development**

### **Program Description**

The primary purpose of the Conservation Demonstration and Development (CDD) program is to pursue research, development, and demonstration projects designed to promote energy efficiency and conservation. This program enhances and complements the residential, commercial, and industrial conservation programs currently implemented at Gulf Power Company.

The CDD program is designed to serve as an umbrella program for the identification, evaluation, demonstration, data collection and development of new or emerging end-use technologies.

Unlike most of Gulf Power Company's conservation programs, which focus on specific end-uses, the CDD program addresses a wide variety of energy applications. This program also includes on-going end-use research necessary to support energy and demand savings associated with new or emerging technologies.

### **Monitoring and Evaluations**

A technology investigated under this program will be subject to comprehensive monitoring and evaluation. Prior to implementation, justification of projects funded through this program will be clearly documented. This includes project concept or description, research and design considerations, project potential, contributions to program goals, and anticipated costs. Any expenditure resulting from this program will also be properly accounted for and reported. Any projects not requiring field test will be fully documented with all methodology, modeling, or engineering estimates provided to justify all conclusions.



Specific deliverables provided, as a result of a technology investigation under this program will include project description, conservation achieved and projected, technical evaluation, economic considerations and customer acceptability. These findings will be reported and filed with the FPSC staff for consideration.

### **Benefits and Costs**

The program will allow Gulf Power Company to “pursue research, development and demonstration projects designed to promote energy efficiency and conservation” as stated in Order No. 22176 issued November 14, 1989, Docket No. 890737-PU, and is consistent with meeting the goals in Rule 25-17.001, Florida Administrative Code.

This program allows for actual data to be derived from field tests, thus validating engineering estimates and modeling techniques. Cost benefit analysis from these emerging technology projects will be more reliable and allow for better assessment of the future impact of these demand and energy conservation measures.

Additionally, customer acceptance and satisfaction can be gauged by a better understanding of implementation barriers and potential disadvantages. This is important in that customer response will ultimately be the determining factor in any new idea or product regardless of the demand or energy conservation.

### **Participation Standards**

Programs investigated under this program cover a wide array of activities and are subject to specific screening criteria prior to study implementation. Such screening criteria include potential for energy and demand reduction, high technology maturity, and broad customer acceptability.

These activities can include short term, low cost literature searches, engineering and financial analyses of promising technologies, data collection to provide baseline information, or field testing programs with actual customers to verify operation and energy performance. Field-testing would be limited to demonstration of emerging end-use technologies that meet guidelines described in the program description. Funding for field tests would be bound by the proposed expenditure limitations. If any field test or pilot project requires warranted funding beyond the scope of the CDD program, Gulf Power Company will petition the FPSC for approval to conduct the project as an ECCR program.

Gulf Power Company proposes to limit expenditures to an annual maximum of \$250,000 for all projects. Additionally, Gulf Power Company proposes to notify the FPSC of any project that exceeds \$25,000. Funding for research and development meeting the minimum program criteria will be recovered through ECCR.

Since technologies investigated under this program are test projects, and the level of benefits that might be anticipated are unknown, Gulf Power Company will be limited in its ability to predict the demand or energy reductions that might result from these programs.

### **Energy Select Electric Vehicle Pilot**

Program Start Date: 2010

#### **Program Description:**

The Energy Select Electric Vehicle Pilot Program will provide residential customers with an incentive to encourage electric vehicle transportation and off-peak charging through the Energy Select Program. Because advanced Electric Vehicles (EVs) and Plug-in Hybrid Electric Vehicles (PHEVs) are now or are soon to be available from several major manufacturers (such as Ford's Escape and Focus, Chevrolet's Volt, Nissan's Leaf, Toyota's Prius, and Volkswagen's Golf), methods for appropriately and efficiently managing the vehicle charging process will become increasingly important for the security of the electrical grid. The objective of this pilot program is to measure customer acceptance of EVs and PHEVs as well as customer response to charging these electric vehicles using Gulf Power's already established Energy Select Program. By reducing the consumption of petroleum fuels, increasing the efficient use of Gulf Power's electrical system, and reducing the growth of peak demand, this pilot program is expected to fulfill requirements of Rule 25-17.001 (2) Florida Administrative Code

Gulf Power's existing Energy Select Program is uniquely positioned to immediately begin implementing a "Smart Grid" type application whereby electric vehicles are automatically charged off-peak via a Load Control Relay that has been pre-programmed by the customer to charge the vehicle overnight during the low price periods of the RSVP rate.

This three-year pilot program will provide incentives directly to the customer of up to \$1,000 per electric vehicle charged via the Energy Select Program. Annual expenses are expected to be no more than \$100,000 and are proposed in addition to the currently approved \$250,000 annual recovery for the CDD program.

Gulf Power will utilize existing Energy Select marketing channels, vehicle distribution networks, and other means to increase customer awareness of this program.

Specific eligibility requirements for the program are provided in the Program Participation Standards.

### **Program Benefits and Cost Effectiveness**

Benefits, costs, energy impacts and demand impacts of this pilot program will be determined by the end of the pilot program. At that time, cost-effectiveness results will be calculated and reported.

### **Monitoring and Evaluation**

Gulf Power will monitor and evaluate program performance and progress toward objective achievement on a continual basis. Participating customer information will be recorded in the program reporting and tracking database. This will include, but is not limited to, the date the application was received and processed along with the issue date of incentive.

All incentive applications and accompanying proof of purchase documentation will be subject to verification to validate information including, but not limited to:

- Verify that applicant is an existing Gulf Power customer
- Review application for completeness
- Verify that the measure installation meets program specifications

Gulf, or its designee, will randomly perform a full field verification on a minimum of 10 percent of installations to ensure compliance with program standards.

The following program performance indicators will be monitored and evaluated to determine the program's effectiveness:

- Number of completed qualifying installations;
- Total amount of incentive payments made;
- Number of disqualified installations;
- Number of distributors or third party vendors actively promoting the pilot program;
- Manufacturer and model of the most commonly installed qualifying equipment.

Gulf will complete an end-of-pilot evaluation of program results, including a survey of customer satisfaction.

## Section 4: Cost-Effectiveness Results

The following charts are cost-effectiveness results for each of the programs and measures contained in the DSM Plan. Each report includes results of the TRC test, the RIM test, and the PT.

### RESIDENTIAL CONSERVATION PROGRAMS

Home Energy Report .....	4-1
Community Energy Saver .....	4-5
HVAC Maintenance .....	4-9
HVAC Retirement Tier 1.....	4-13
HVAC Retirement Tier 2.....	4-17
HVAC Retirement Tier 3.....	4-21
HVAC Upgrade Tier 1.....	4-25
HVAC Upgrade Tier 2.....	4-29
HVAC Upgrade Tier 3.....	4-33
HVAC Duct Repair.....	4-37
HVAC ECM Fan .....	4-41
Heat Pump Water Heater .....	4-45
Ceiling Insulation .....	4-49
High Performance Window .....	4-53
High Performance Window Film .....	4-57
Reflective Roof .....	4-61
Variable Speed Pool Pump .....	4-65
EnergySelect .....	4-69
EnergySelect LITE .....	4-73
Self-Install – ES Refrigerator .....	4-77
Self-Install – ES Freezer .....	4-81
Self-Install – ES Window A/C Unit.....	4-85
Self-Install – ES Clothes Washer.....	4-89
Self-Install – CFL .....	4-93
Refrigerator Recycling.....	4-97

### COMMERCIAL / INDUSTRIAL CONSERVATION PROGRAMS

HVAC Retrocommissioning .....	4-101
Commercial Building Eff. – HVAC .....	4-105
Commercial Building Eff. – Geothermal.....	4-109
Commercial Building Eff. – Heat Pump Water Heater.....	4-113
Commercial Building Eff. – Ceiling Insulation.....	4-117
Commercial Building Eff. – Window Film .....	4-121
Commercial Building Eff. – Interior Lighting .....	4-125
Commercial Building Eff. – Interior Lighting LED .....	4-129
Commercial Building Eff. – Interior Lighting Occupancy Sensor .....	4-133
Commercial Building Eff. – Reflective Roof .....	4-137
HVAC Occupancy Sensor .....	4-141
High Efficiency Motor 1-5 HP .....	4-145
High Efficiency Motor 6-50 HP .....	4-149
High Efficiency Motor 51+ HP .....	4-153
Food Services – Convection Oven.....	4-157
Food Services – Fryer.....	4-161
Food Services – Griddle .....	4-165
Food Services – Steamer.....	4-169
Food Services – Holding Cabinet .....	4-173
Food Services – Ice Machine.....	4-177

## 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	-0.06	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.08	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(327)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(300)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.06	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	4	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$10.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$25.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (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, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.54%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	3.61%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	23.96%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$2,883	\$3,173	\$2,883
NPV Costs (\$000s)	\$1,149	\$821	\$3,501
NPV Net Benefits (\$000s)	\$1,734	\$2,352	(\$618)
Benefit:Cost Ratio	2.510	3.866	0.824

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.





## 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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$890	\$0	\$0	\$0	(\$1,254)	\$0	\$0	\$890	\$1,254	\$364	\$336
2011	\$0	\$0	\$0	\$0	(\$1,237)	\$0	\$0	\$0	\$1,237	\$1,237	\$1,388
2012	\$0	\$0	\$0	\$0	(\$1,230)	\$0	\$0	\$0	\$1,230	\$1,230	\$2,352

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

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Run Date:

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Filename: Community Energy Saver

## 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	-0.05	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.06	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(803)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(736)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.11	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	16	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$363.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$57.70	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$57.70	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	1.70%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2010
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$137.53 \$/kW
(6) Base Year Incremental Distribution Cost	\$69.97 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.58%
(10) Transmission Fixed O & M Cost	\$1.72 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0801 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	3.59%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	8.49%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$9,807	\$11,615	\$9,807
NPV Costs (\$000s)	\$5,759	\$790	\$16,584
NPV Net Benefits (\$000s)	\$4,047	\$10,825	(\$6,778)
Benefit:Cost Ratio	1.703	14.704	0.591

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$461	\$73	\$0	\$0	\$0	(\$2)	(\$87)	\$535	\$89	(\$446)	(\$411)
2011	\$0	\$938.62	\$149	\$0	\$0	\$0	(\$7)	(\$264)	\$1,088	\$270	(\$818)	(\$1,107)
2012	\$0	\$954.57	\$152	\$0	\$0	\$0	(\$11)	(\$441)	\$1,106	\$452	(\$654)	(\$1,620)
2013	\$0	\$970.80	\$154	\$0	\$0	\$0	(\$16)	(\$656)	\$1,125	\$672	(\$453)	(\$1,948)
2014	\$0	\$987.31	\$157	\$0	\$0	(\$105)	(\$21)	(\$817)	\$1,144	\$943	(\$201)	(\$2,082)
2015	\$0	\$602.45	\$96	\$0	\$0	(\$121)	(\$24)	(\$1,105)	\$698	\$1,249	\$551	(\$1,743)
2016	\$0	\$612.70	\$97	\$0	\$0	(\$137)	(\$27)	(\$1,284)	\$710	\$1,448	\$738	(\$1,325)
2017	\$0	\$623.11	\$99	\$0	\$0	(\$153)	(\$30)	(\$1,448)	\$722	\$1,631	\$909	(\$849)
2018	\$0	\$633.70	\$101	\$0	\$0	(\$170)	(\$34)	(\$1,645)	\$734	\$1,848	\$1,114	(\$312)
2019	\$0	\$644.48	\$102	\$0	\$0	(\$187)	(\$37)	(\$1,864)	\$747	\$2,088	\$1,341	\$285
2020	\$0	\$0	\$0	\$0	\$0	(\$189)	(\$38)	(\$1,839)	\$0	\$2,066	\$2,066	\$1,132
2021	\$0	\$0	\$0	\$0	\$0	(\$192)	(\$39)	(\$1,844)	\$0	\$2,074	\$2,074	\$1,917
2022	\$0	\$0	\$0	\$0	\$0	(\$194)	(\$39)	(\$1,895)	\$0	\$2,129	\$2,129	\$2,660
2023	\$0	\$0	\$0	\$0	\$0	(\$197)	(\$40)	(\$1,966)	\$0	\$2,202	\$2,202	\$3,368
2024	\$0	\$0	\$0	\$0	\$0	(\$199)	(\$41)	(\$2,048)	\$0	\$2,287	\$2,287	\$4,047
<hr/>												
Nominal		\$7,429	\$1,181			(\$1,842)	(\$404)	(\$19,202)	\$8,610	\$21,449	\$12,839	
NPV		\$4,970	\$790	\$0	\$0	(\$807)	(\$189)	(\$8,811)	\$5,759	\$9,807	\$4,047	
Discount Rate =	8.44%											
Benefit/Cost Ratio =	1.70											

**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 (\$000s)	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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$461.464	\$73.351	(\$109.889)	\$0.000	(\$2.137)	(\$86.596)	\$0.000	\$0.000	\$644.704	\$88.733	(\$555.970)	(\$512.713)
2011	\$0.000	\$938.617	\$149.196	(\$325.049)	\$0.000	(\$6.521)	(\$263.518)	\$0.000	\$0.000	\$1,412.863	\$270.039	(\$1,142.824)	(\$1,484.618)
2012	\$0.000	\$954.574	\$151.733	(\$538.671)	\$0.000	(\$11.053)	(\$441.227)	\$0.000	\$0.000	\$1,644.977	\$452.280	(\$1,192.697)	(\$2,420.018)
2013	\$0.000	\$970.802	\$154.312	(\$765.827)	\$0.000	(\$15.737)	(\$655.937)	\$0.000	\$0.000	\$1,890.940	\$671.674	(\$1,219.266)	(\$3,301.855)
2014	\$0.000	\$987.305	\$156.935	(\$1,016.632)	(\$105.065)	(\$20.577)	(\$817.417)	\$0.000	\$0.000	\$2,160.872	\$943.060	(\$1,217.813)	(\$4,114.110)
2015	\$0.000	\$602.454	\$95.762	(\$1,349.091)	(\$120.599)	(\$23.717)	(\$1,104.613)	\$0.000	\$0.000	\$2,047.307	\$1,248.928	(\$798.378)	(\$4,605.180)
2016	\$0.000	\$612.695	\$97.390	(\$1,561.094)	(\$136.520)	(\$26.958)	(\$1,284.477)	\$0.000	\$0.000	\$2,271.179	\$1,447.955	(\$823.224)	(\$5,072.135)
2017	\$0.000	\$623.111	\$99.045	(\$1,719.684)	(\$152.839)	(\$30.302)	(\$1,448.301)	\$0.000	\$0.000	\$2,441.841	\$1,631.441	(\$810.400)	(\$5,496.050)
2018	\$0.000	\$633.704	\$100.729	(\$1,942.046)	(\$169.564)	(\$33.752)	(\$1,644.706)	\$0.000	\$0.000	\$2,676.479	\$1,848.022	(\$828.457)	(\$5,895.692)
2019	\$0.000	\$644.477	\$102.442	(\$2,173.223)	(\$186.708)	(\$37.311)	(\$1,863.762)	\$0.000	\$0.000	\$2,920.142	\$2,087.781	(\$832.361)	(\$6,265.977)
2020	\$0.000	\$0.000	\$0.000	(\$2,266.090)	(\$189.147)	(\$37.945)	(\$1,838.995)	\$0.000	\$0.000	\$2,266.090	\$2,066.088	(\$200.003)	(\$6,348.027)
2021	\$0.000	\$0.000	\$0.000	(\$2,358.623)	(\$191.628)	(\$38.590)	(\$1,844.042)	\$0.000	\$0.000	\$2,358.623	\$2,074.260	(\$284.363)	(\$6,455.610)
2022	\$0.000	\$0.000	\$0.000	(\$2,449.590)	(\$194.151)	(\$39.246)	(\$1,895.358)	\$0.000	\$0.000	\$2,449.590	\$2,128.756	(\$320.834)	(\$6,567.547)
2023	\$0.000	\$0.000	\$0.000	(\$2,536.955)	(\$196.717)	(\$39.913)	(\$1,965.700)	\$0.000	\$0.000	\$2,536.955	\$2,202.330	(\$334.624)	(\$6,675.211)
2024	\$0.000	\$0.000	\$0.000	(\$2,633.794)	(\$199.327)	(\$40.592)	(\$2,047.556)	\$0.000	\$0.000	\$2,633.794	\$2,287.475	(\$346.319)	(\$6,777.968)
<b>Nominal</b>		\$7,429.202	\$1,180.895	(\$23,746.258)	(\$1,842.266)	(\$404.350)	(\$19,202.206)			\$32,356.356	\$21,448.822	(\$10,907.534)	
<b>NPV</b>		\$4,969.531	\$789.923	(\$10,825.036)	(\$806.767)	(\$188.646)	(\$8,811.108)	\$0.000	\$0.000	\$16,584.489	\$9,606.521	(\$6,777.968)	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		0.59											

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

[illegible]

## 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	-0.31	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.41	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(1,424)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,306)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.26	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	16	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$644.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$185.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$160.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.58%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.57%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	8.49%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$60,022	\$58,142	\$60,022
NPV Costs (\$000s)	\$32,595	\$7,274	\$83,464
NPV Net Benefits (\$000s)	\$27,427	\$50,869	(\$23,441)
Benefit:Cost Ratio	1.841	7.993	0.719

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$838	\$241	\$0	\$0	\$0	\$0	(\$163)	\$1,079	\$163	(\$916)	(\$845)
2011	\$0	\$1,599	\$459	\$0	\$0	\$0	(\$70)	(\$480)	\$2,058	\$551	(\$1,507)	(\$2,126)
2012	\$0	\$2,764	\$794	\$0	\$0	\$0	(\$151)	(\$1,024)	\$3,558	\$1,175	(\$2,383)	(\$3,995)
2013	\$0	\$4,478	\$1,286	\$0	\$0	\$0	(\$282)	(\$2,008)	\$5,764	\$2,290	(\$3,474)	(\$6,508)
2014	\$0	\$7,006	\$2,013	\$0	\$0	(\$1,501)	(\$489)	(\$2,869)	\$9,019	\$4,858	(\$4,161)	(\$9,283)
2015	\$0	\$6,413	\$1,842	\$0	\$0	(\$2,084)	(\$681)	(\$4,660)	\$8,255	\$7,426	(\$830)	(\$9,793)
2016	\$0	\$5,435	\$1,561	\$0	\$0	(\$2,587)	(\$949)	(\$5,941)	\$6,996	\$9,377	\$2,380	(\$8,443)
2017	\$0	\$4,422	\$1,270	\$0	\$0	(\$3,006)	(\$991)	(\$6,946)	\$5,692	\$10,942	\$5,250	(\$5,697)
2018	\$0	\$4,122	\$1,184	\$0	\$0	(\$3,403)	(\$1,126)	(\$7,989)	\$5,306	\$12,518	\$7,211	(\$2,218)
2019	\$0	\$4,002	\$1,150	\$0	\$0	(\$3,793)	(\$1,261)	(\$9,097)	\$5,151	\$14,151	\$8,999	\$1,786
2020	\$0	\$0	\$0	\$0	\$0	(\$3,843)	(\$1,282)	(\$9,022)	\$0	\$14,147	\$14,147	\$7,589
2021	\$0	\$0	\$0	\$0	\$0	(\$3,893)	(\$1,304)	(\$9,004)	\$0	\$14,201	\$14,201	\$12,962
2022	\$0	\$0	\$0	\$0	\$0	(\$3,945)	(\$1,326)	(\$9,284)	\$0	\$14,555	\$14,555	\$18,040
2023	\$0	\$0	\$0	\$0	\$0	(\$3,997)	(\$1,348)	(\$9,622)	\$0	\$14,968	\$14,968	\$22,856
2024	\$0	\$0	\$0	\$0	\$0	(\$4,050)	(\$1,371)	(\$9,985)	\$0	\$15,406	\$15,406	\$27,427
<b>Nominal</b>		\$41,079	\$11,801			(\$36,100)	(\$12,533)	(\$98,094)	\$52,879	\$136,727	\$83,848	
<b>NPV</b>		\$25,321	\$7,274	\$0	\$0	(\$15,564)	(\$5,555)	(\$38,903)	\$32,595	\$60,022	\$27,427	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.84										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$241	\$0	\$0	\$0	(\$200)	\$0	\$205	\$241	\$404	\$164	\$151
2011	\$459	\$0	\$0	\$0	(\$566)	\$0	\$384	\$459	\$950	\$491	\$568
2012	\$794	\$0	\$0	\$0	(\$1,187)	\$0	\$653	\$794	\$1,840	\$1,046	\$1,388
2013	\$1,286	\$0	\$0	\$0	(\$2,215)	\$0	\$1,040	\$1,286	\$3,255	\$1,968	\$2,812
2014	\$2,013	\$0	\$0	\$0	(\$3,890)	\$0	\$1,600	\$2,013	\$5,490	\$3,477	\$5,131
2015	\$1,842	\$0	\$0	\$0	(\$6,245)	\$0	\$1,440	\$1,842	\$7,685	\$5,843	\$8,725
2016	\$1,561	\$0	\$0	\$0	(\$7,923)	\$0	\$1,200	\$1,561	\$9,123	\$7,562	\$13,014
2017	\$1,270	\$0	\$0	\$0	(\$9,060)	\$0	\$960	\$1,270	\$10,020	\$8,749	\$17,591
2018	\$1,184	\$0	\$0	\$0	(\$10,440)	\$0	\$880	\$1,184	\$11,320	\$10,136	\$22,481
2019	\$1,150	\$0	\$0	\$0	(\$11,828)	\$0	\$840	\$1,150	\$12,668	\$11,518	\$27,605
2020	\$0	\$0	\$0	\$0	(\$12,333)	\$0	\$0	\$0	\$12,333	\$12,333	\$32,665
2021	\$0	\$0	\$0	\$0	(\$12,837)	\$0	\$0	\$0	\$12,837	\$12,837	\$37,521
2022	\$0	\$0	\$0	\$0	(\$13,332)	\$0	\$0	\$0	\$13,332	\$13,332	\$42,173
2023	\$0	\$0	\$0	\$0	(\$13,808)	\$0	\$0	\$0	\$13,808	\$13,808	\$46,615
2024	\$0	\$0	\$0	\$0	(\$14,335)	\$0	\$0	\$0	\$14,335	\$14,335	\$50,869
<b>Nominal</b>	\$11,801				(\$120,198)		\$9,202	\$11,801	\$129,400	\$117,599	
<b>NPV</b>	\$6,708		\$0	\$0	(\$52,429)	\$0	\$5,714	\$7,274	\$58,142	\$50,869	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		7.99									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$838.333	\$204.800	(\$199.673)	\$0.000	\$0.000	(\$163.194)	\$0.000	\$0.000	\$1,242.806	\$163.194	(\$1,079.612)	(\$995.612)
2011	\$0.000	\$1,598.597	\$384.000	(\$566.019)	\$0.000	(\$70.486)	(\$480.289)	\$0.000	\$0.000	\$2,548.616	\$550.775	(\$1,997.841)	(\$2,694.661)
2012	\$0.000	\$2,763.814	\$652.800	(\$1,186.780)	\$0.000	(\$151.160)	(\$1,023.569)	\$0.000	\$0.000	\$4,603.395	\$1,174.730	(\$3,428.665)	(\$5,383.670)
2013	\$0.000	\$4,477.989	\$1,040.000	(\$2,214.662)	\$0.000	(\$282.499)	(\$2,007.976)	\$0.000	\$0.000	\$7,732.651	\$2,290.475	(\$5,442.177)	(\$9,319.735)
2014	\$0.000	\$7,006.331	\$1,600.000	(\$3,890.159)	(\$1,500.767)	(\$488.775)	(\$2,868.866)	\$0.000	\$0.000	\$12,496.489	\$4,858.408	(\$7,638.081)	(\$14,414.173)
2015	\$0.000	\$6,412.894	\$1,440.000	(\$6,244.803)	(\$2,083.869)	(\$681.493)	(\$4,660.205)	\$0.000	\$0.000	\$14,097.698	\$7,425.568	(\$6,672.130)	(\$18,518.093)
2016	\$0.000	\$5,434.928	\$1,200.000	(\$7,923.439)	(\$2,586.611)	(\$849.365)	(\$5,940.592)	\$0.000	\$0.000	\$14,558.367	\$9,376.568	(\$5,181.798)	(\$21,457.349)
2017	\$0.000	\$4,421.857	\$960.000	(\$9,059.579)	(\$3,005.679)	(\$990.959)	(\$6,945.680)	\$0.000	\$0.000	\$14,441.437	\$10,942.318	(\$3,499.119)	(\$23,287.715)
2018	\$0.000	\$4,122.277	\$880.000	(\$10,440.112)	(\$3,402.758)	(\$1,126.346)	(\$7,988.624)	\$0.000	\$0.000	\$15,442.389	\$12,517.727	(\$2,924.662)	(\$24,698.553)
2019	\$0.000	\$4,001.794	\$840.000	(\$11,828.013)	(\$3,793.330)	(\$1,260.569)	(\$9,096.671)	\$0.000	\$0.000	\$16,669.807	\$14,150.571	(\$2,519.236)	(\$25,819.263)
2020	\$0.000	\$0.000	\$0.000	(\$12,333.453)	(\$3,842.893)	(\$1,281.999)	(\$9,022.023)	\$0.000	\$0.000	\$12,333.453	\$14,146.914	\$1,813.462	(\$25,075.294)
2021	\$0.000	\$0.000	\$0.000	(\$12,837.072)	(\$3,893.298)	(\$1,303.793)	(\$9,004.222)	\$0.000	\$0.000	\$12,837.072	\$14,201.313	\$1,364.241	(\$24,559.163)
2022	\$0.000	\$0.000	\$0.000	(\$13,332.170)	(\$3,944.560)	(\$1,325.957)	(\$9,284.337)	\$0.000	\$0.000	\$13,332.170	\$14,554.854	\$1,222.683	(\$24,132.578)
2023	\$0.000	\$0.000	\$0.000	(\$13,807.662)	(\$3,996.694)	(\$1,348.498)	(\$9,622.381)	\$0.000	\$0.000	\$13,807.662	\$14,967.573	\$1,159.911	(\$23,759.381)
2024	\$0.000	\$0.000	\$0.000	(\$14,334.723)	(\$4,049.714)	(\$1,371.423)	(\$9,984.962)	\$0.000	\$0.000	\$14,334.723	\$15,406.099	\$1,071.376	(\$23,441.490)
<hr/>													
Nominal		\$41,078.815	\$9,201.600	(\$120,198.319)	(\$36,100.172)	(\$12,533.323)	(\$88,093.591)			\$170,478.734	\$136,727.086	(\$33,751.648)	
NPV		\$25,321.146	\$5,713.509	(\$52,428.963)	(\$15,564.387)	(\$5,554.867)	(\$38,902.875)	\$0.000	\$0.000	\$83,463.618	\$60,022.128	(\$23,441.490)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.72											

Run Date:

25-Mar-10

04:17 PM

Filename: HVAC Retirement Tier 1

## 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	-1.24	kW/Cus
(2) Change in Peak kW per Customer at generator	-1.63	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(6,384)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(5,854)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-1.16	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	29	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$2,886.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$4,100.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$1,025.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.70%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.93%	

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)	\$0.0509	\$/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

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$136,614	\$140,720	\$136,614
NPV Costs (\$000s)	\$86.099	\$50,530	\$176,288
NPV Net Benefits (\$000s)	\$50,516	\$90,190	(\$39,674)
Benefit:Cost Ratio	1.587	2.785	0.775

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$998	\$1,418	\$0	\$0	\$0	\$0	(\$194)	\$2,416	\$194	(\$2,221)	(\$2,048)
2011	\$0	\$1,904	\$2,705	\$0	\$0	\$0	(\$75)	(\$572)	\$4,610	\$647	(\$3,963)	(\$5,419)
2012	\$0	\$3,291	\$4,675	\$0	\$0	\$0	(\$161)	(\$1,219)	\$7,966	\$1,380	(\$6,586)	(\$10,584)
2013	\$0	\$5,353	\$7,605	\$0	\$0	\$0	(\$301)	(\$2,396)	\$12,959	\$2,697	(\$10,262)	(\$18,006)
2014	\$0	\$8,368	\$11,887	\$0	\$0	(\$1,599)	(\$521)	(\$3,425)	\$20,255	\$5,544	(\$14,711)	(\$27,817)
2015	\$0	\$8,382	\$11,908	\$0	\$0	(\$2,277)	(\$745)	(\$5,706)	\$20,290	\$8,728	(\$11,562)	(\$34,929)
2016	\$0	\$8,525	\$12,110	\$0	\$0	(\$2,973)	(\$976)	(\$7,651)	\$20,635	\$11,600	(\$9,035)	(\$40,054)
2017	\$0	\$8,257	\$11,730	\$0	\$0	(\$3,654)	(\$1,205)	(\$9,462)	\$19,986	\$14,320	(\$5,666)	(\$43,018)
2018	\$0	\$7,557	\$10,736	\$0	\$0	(\$4,287)	(\$1,419)	(\$11,279)	\$18,294	\$16,985	(\$1,308)	(\$43,649)
2019	\$0	\$6,832	\$9,706	\$0	\$0	(\$4,871)	(\$1,619)	(\$13,089)	\$16,537	\$19,578	\$3,041	(\$42,296)
2020	\$0	\$0	\$0	\$0	\$0	(\$4,934)	(\$1,646)	(\$12,982)	\$0	\$19,562	\$19,562	(\$34,271)
2021	\$0	\$0	\$0	\$0	\$0	(\$4,999)	(\$1,674)	(\$12,956)	\$0	\$19,629	\$19,629	(\$26,845)
2022	\$0	\$0	\$0	\$0	\$0	(\$5,065)	(\$1,703)	(\$13,359)	\$0	\$20,126	\$20,126	(\$19,823)
2023	\$0	\$0	\$0	\$0	\$0	(\$5,132)	(\$1,731)	(\$13,845)	\$0	\$20,709	\$20,709	(\$13,160)
2024	\$0	\$0	\$0	\$0	\$0	(\$5,200)	(\$1,761)	(\$14,367)	\$0	\$21,328	\$21,328	(\$6,832)
2025	\$0	\$0	\$0	\$0	\$0	(\$5,269)	(\$1,791)	(\$14,998)	\$0	\$22,058	\$22,058	(\$796)
2026	\$0	\$0	\$0	\$0	\$0	(\$5,340)	(\$1,821)	(\$15,635)	\$0	\$22,796	\$22,796	\$4,956
2027	\$0	\$0	\$0	\$0	\$0	(\$5,411)	(\$1,852)	(\$16,212)	\$0	\$23,475	\$23,475	\$10,419
2028	\$0	\$0	\$0	\$0	\$0	(\$5,484)	(\$1,884)	(\$16,878)	\$0	\$24,246	\$24,246	\$15,622
2029	\$0	\$0	\$0	\$0	\$0	(\$5,558)	(\$1,916)	(\$17,118)	\$0	\$24,592	\$24,592	\$20,489
2030	\$0	\$0	\$0	\$0	\$0	(\$5,633)	(\$1,948)	(\$17,527)	\$0	\$25,109	\$25,109	\$25,071
2031	\$0	\$0	\$0	\$0	\$0	(\$5,710)	(\$1,981)	(\$17,938)	\$0	\$25,629	\$25,629	\$29,385
2032	\$0	\$0	\$0	\$0	\$0	(\$5,788)	(\$2,015)	(\$18,399)	\$0	\$26,202	\$26,202	\$33,452
2033	\$0	\$0	\$0	\$0	\$0	(\$5,867)	(\$2,049)	(\$18,874)	\$0	\$26,791	\$26,791	\$37,286
2034	\$0	\$0	\$0	\$0	\$0	(\$5,948)	(\$2,084)	(\$19,342)	\$0	\$27,374	\$27,374	\$40,899
2035	\$0	\$0	\$0	\$0	\$0	(\$6,030)	(\$2,120)	(\$19,793)	\$0	\$27,942	\$27,942	\$44,301
2036	\$0	\$0	\$0	\$0	\$0	(\$6,113)	(\$2,156)	(\$20,253)	\$0	\$28,521	\$28,521	\$47,502
2037	\$0	\$0	\$0	\$0	\$0	(\$6,198)	(\$2,192)	(\$20,718)	\$0	\$29,108	\$29,108	\$50,516
Nominal		\$59,466	\$84,481			(\$119,339)	(\$41,346)	(\$356,186)	\$143,947	\$516,871	\$372,924	
NPV		\$35,568	\$50,530	\$0	\$0	(\$32,075)	(\$11,245)	(\$93,294)	\$86,099	\$136,614	\$50,516	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		1.59										

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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$1,418	\$0	\$0	\$0	(\$238)	\$0	\$349	\$1,418	\$586	(\$831)	(\$767)
2011	\$2,705	\$0	\$0	\$0	(\$674)	\$0	\$654	\$2,705	\$1,328	(\$1,377)	(\$1,939)
2012	\$4,675	\$0	\$0	\$0	(\$1,414)	\$0	\$1,111	\$4,675	\$2,525	(\$2,150)	(\$3,624)
2013	\$7,605	\$0	\$0	\$0	(\$2,643)	\$0	\$1,777	\$7,605	\$4,420	(\$3,185)	(\$5,928)
2014	\$11,887	\$0	\$0	\$0	(\$4,644)	\$0	\$2,732	\$11,887	\$7,376	(\$4,512)	(\$8,938)
2015	\$11,908	\$0	\$0	\$0	(\$7,647)	\$0	\$2,691	\$11,908	\$10,337	(\$1,571)	(\$9,904)
2016	\$12,110	\$0	\$0	\$0	(\$10,204)	\$0	\$2,691	\$12,110	\$12,895	\$784	(\$9,459)
2017	\$11,730	\$0	\$0	\$0	(\$12,341)	\$0	\$2,563	\$11,730	\$14,904	\$3,174	(\$7,798)
2018	\$10,736	\$0	\$0	\$0	(\$14,740)	\$0	\$2,306	\$10,736	\$17,046	\$6,310	(\$4,754)
2019	\$9,706	\$0	\$0	\$0	(\$17,019)	\$0	\$2,050	\$9,706	\$19,069	\$9,363	(\$589)
2020	\$0	\$0	\$0	\$0	(\$17,746)	\$0	\$0	\$0	\$17,746	\$17,746	\$6,691
2021	\$0	\$0	\$0	\$0	(\$18,471)	\$0	\$0	\$0	\$18,471	\$18,471	\$13,679
2022	\$0	\$0	\$0	\$0	(\$19,183)	\$0	\$0	\$0	\$19,183	\$19,183	\$20,372
2023	\$0	\$0	\$0	\$0	(\$19,867)	\$0	\$0	\$0	\$19,867	\$19,867	\$26,765
2024	\$0	\$0	\$0	\$0	(\$20,626)	\$0	\$0	\$0	\$20,626	\$20,626	\$32,885
2025	\$0	\$0	\$0	\$0	(\$21,245)	\$0	\$0	\$0	\$21,245	\$21,245	\$38,698
2026	\$0	\$0	\$0	\$0	(\$21,860)	\$0	\$0	\$0	\$21,860	\$21,860	\$44,214
2027	\$0	\$0	\$0	\$0	(\$22,700)	\$0	\$0	\$0	\$22,700	\$22,700	\$49,496
2028	\$0	\$0	\$0	\$0	(\$23,460)	\$0	\$0	\$0	\$23,460	\$23,460	\$54,531
2029	\$0	\$0	\$0	\$0	(\$24,343)	\$0	\$0	\$0	\$24,343	\$24,343	\$59,348
2030	\$0	\$0	\$0	\$0	(\$25,180)	\$0	\$0	\$0	\$25,180	\$25,180	\$63,943
2031	\$0	\$0	\$0	\$0	(\$25,936)	\$0	\$0	\$0	\$25,936	\$25,936	\$68,309
2032	\$0	\$0	\$0	\$0	(\$26,704)	\$0	\$0	\$0	\$26,704	\$26,704	\$72,453
2033	\$0	\$0	\$0	\$0	(\$27,481)	\$0	\$0	\$0	\$27,481	\$27,481	\$76,387
2034	\$0	\$0	\$0	\$0	(\$28,270)	\$0	\$0	\$0	\$28,270	\$28,270	\$80,118
2035	\$0	\$0	\$0	\$0	(\$29,070)	\$0	\$0	\$0	\$29,070	\$29,070	\$83,657
2036	\$0	\$0	\$0	\$0	(\$29,882)	\$0	\$0	\$0	\$29,882	\$29,882	\$87,011
2037	\$0	\$0	\$0	\$0	(\$30,706)	\$0	\$0	\$0	\$30,706	\$30,706	\$90,190
Nominal	\$84,481				(\$504,294)		\$18,923	\$84,481	\$523,216	\$438,735	
NPV	\$46,599		\$0	\$0	(\$129,318)	\$0	\$11,402	\$50,530	\$140,720	\$90,190	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		2.78									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$997.921	\$348.500	(\$237.737)	\$0.000	\$0.000	(\$194.304)	\$0.000	\$0.000	\$1,584.158	\$194.304	(\$1,389.854)	(\$1,281.715)
2011	\$0.000	\$1,904.403	\$653.950	(\$674.267)	\$0.000	(\$74.930)	(\$572.141)	\$0.000	\$0.000	\$3,232.620	\$647.071	(\$2,585.549)	(\$3,480.575)
2012	\$0.000	\$3,290.701	\$1,111.100	(\$1,413.536)	\$0.000	(\$160.666)	(\$1,219.140)	\$0.000	\$0.000	\$5,815.337	\$1,379.807	(\$4,435.530)	(\$6,959.242)
2013	\$0.000	\$5,353.394	\$1,777.350	(\$2,642.553)	\$0.000	(\$300.804)	(\$2,395.933)	\$0.000	\$0.000	\$9,773.297	\$2,696.737	(\$7,076.560)	(\$12,077.378)
2014	\$0.000	\$8,367.550	\$2,731.625	(\$4,643.931)	(\$1,598.756)	(\$520.689)	(\$3,424.749)	\$0.000	\$0.000	\$15,743.106	\$5,544.194	(\$10,198.912)	(\$18,879.836)
2015	\$0.000	\$8,382.071	\$2,690.625	(\$7,646.783)	(\$2,277.094)	(\$744.684)	(\$5,706.437)	\$0.000	\$0.000	\$18,719.480	\$8,728.215	(\$9,991.264)	(\$25,025.303)
2016	\$0.000	\$8,524.567	\$2,690.625	(\$10,204.296)	(\$2,972.699)	(\$976.143)	(\$7,650.663)	\$0.000	\$0.000	\$21,419.488	\$11,599.507	(\$9,819.981)	(\$30,595.461)
2017	\$0.000	\$8,256.652	\$2,562.500	(\$12,341.493)	(\$3,653.867)	(\$1,204.664)	(\$9,461.815)	\$0.000	\$0.000	\$23,160.645	\$14,320.345	(\$8,840.299)	(\$35,219.763)
2018	\$0.000	\$7,557.313	\$2,306.250	(\$14,740.137)	(\$4,287.240)	(\$1,419.118)	(\$11,278.941)	\$0.000	\$0.000	\$24,603.700	\$16,985.299	(\$7,618.401)	(\$38,894.832)
2019	\$0.000	\$6,831.811	\$2,050.000	(\$17,018.966)	(\$4,870.713)	(\$1,618.596)	(\$13,088.923)	\$0.000	\$0.000	\$25,900.778	\$19,578.231	(\$6,322.546)	(\$41,707.484)
2020	\$0.000	\$0.000	\$0.000	(\$17,746.229)	(\$4,934.352)	(\$1,646.112)	(\$12,981.513)	\$0.000	\$0.000	\$17,746.229	\$19,561.977	\$1,815.749	(\$40,962.577)
2021	\$0.000	\$0.000	\$0.000	(\$18,470.871)	(\$4,999.073)	(\$1,674.096)	(\$12,955.900)	\$0.000	\$0.000	\$18,470.871	\$19,629.070	\$1,158.198	(\$40,524.398)
2022	\$0.000	\$0.000	\$0.000	(\$19,183.253)	(\$5,064.895)	(\$1,702.556)	(\$13,358.948)	\$0.000	\$0.000	\$19,183.253	\$20,126.399	\$943.146	(\$40,195.342)
2023	\$0.000	\$0.000	\$0.000	(\$19,867.423)	(\$5,131.836)	(\$1,731.499)	(\$13,845.350)	\$0.000	\$0.000	\$19,867.423	\$20,708.684	\$841.262	(\$39,924.669)
2024	\$0.000	\$0.000	\$0.000	(\$20,625.795)	(\$5,199.914)	(\$1,760.935)	(\$14,367.058)	\$0.000	\$0.000	\$20,625.795	\$21,327.906	\$702.111	(\$39,716.343)
2025	\$0.000	\$0.000	\$0.000	(\$21,245.198)	(\$5,269.150)	(\$1,790.870)	(\$14,997.706)	\$0.000	\$0.000	\$21,245.198	\$22,057.727	\$812.529	(\$39,494.014)
2026	\$0.000	\$0.000	\$0.000	(\$21,859.568)	(\$5,339.563)	(\$1,821.315)	(\$15,635.264)	\$0.000	\$0.000	\$21,859.568	\$22,796.143	\$936.575	(\$39,257.681)
2027	\$0.000	\$0.000	\$0.000	(\$22,700.242)	(\$5,411.173)	(\$1,852.278)	(\$16,211.948)	\$0.000	\$0.000	\$22,700.242	\$23,475.399	\$775.157	(\$39,077.299)
2028	\$0.000	\$0.000	\$0.000	(\$23,460.022)	(\$5,484.000)	(\$1,883.766)	(\$16,877.904)	\$0.000	\$0.000	\$23,460.022	\$24,245.670	\$785.648	(\$38,908.701)
2029	\$0.000	\$0.000	\$0.000	(\$24,342.873)	(\$5,558.066)	(\$1,915.790)	(\$17,118.468)	\$0.000	\$0.000	\$24,342.873	\$24,932.324	\$589.450	(\$38,859.334)
2030	\$0.000	\$0.000	\$0.000	(\$25,179.545)	(\$5,633.390)	(\$1,948.359)	(\$17,527.001)	\$0.000	\$0.000	\$25,179.545	\$25,108.750	(\$70.795)	(\$38,872.255)
2031	\$0.000	\$0.000	\$0.000	(\$25,936.405)	(\$5,709.995)	(\$1,981.481)	(\$17,937.890)	\$0.000	\$0.000	\$25,936.405	\$25,629.366	(\$307.039)	(\$38,923.930)
2032	\$0.000	\$0.000	\$0.000	(\$26,703.537)	(\$5,787.902)	(\$2,015.166)	(\$18,399.037)	\$0.000	\$0.000	\$26,703.537	\$26,202.105	(\$501.432)	(\$39,001.757)
2033	\$0.000	\$0.000	\$0.000	(\$27,481.285)	(\$5,867.134)	(\$2,049.424)	(\$18,874.124)	\$0.000	\$0.000	\$27,481.285	\$26,790.682	(\$690.603)	(\$39,100.604)
2034	\$0.000	\$0.000	\$0.000	(\$28,270.005)	(\$5,947.713)	(\$2,084.264)	(\$19,341.610)	\$0.000	\$0.000	\$28,270.005	\$27,373.587	(\$896.419)	(\$39,218.928)
2035	\$0.000	\$0.000	\$0.000	(\$29,070.065)	(\$6,029.661)	(\$2,119.697)	(\$19,792.940)	\$0.000	\$0.000	\$29,070.065	\$27,942.298	(\$1,127.767)	(\$39,356.206)
2036	\$0.000	\$0.000	\$0.000	(\$29,881.845)	(\$6,113.003)	(\$2,155.731)	(\$20,252.678)	\$0.000	\$0.000	\$29,881.845	\$28,521.412	(\$1,360.433)	(\$39,508.921)
2037	\$0.000	\$0.000	\$0.000	(\$30,705.737)	(\$6,197.761)	(\$2,192.379)	(\$20,717.762)	\$0.000	\$0.000	\$30,705.737	\$29,107.902	(\$1,597.835)	(\$39,674.331)
Nominal	\$59,466.384	\$18,922.525	(\$504,293.599)	(\$119,338.948)	(\$41,346.013)	(\$356,186.150)				\$582,682.507	\$516,871.111	(\$65,811.396)	
NPV	\$35,568.348	\$11,402.412	(\$129,317.724)	(\$32,075.339)	(\$11,244.667)	(\$93,294.147)		\$0.000	\$0.000	\$176,288.484	\$136,614.153	(\$39,674.331)	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	0.77												

Run Date:

25-Mar-10

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Filename: HVAC Retirement Tier 2

## 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	-1.33	kW/Cus
(2) Change in Peak kW per Customer at generator	-1.75	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(6,808)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(6,243)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-1.25	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	29	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$3,077.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$5,600.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$1,260.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$1,400.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.70%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.93%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$21,606	\$25,038	\$21,606
NPV Costs (\$000s)	\$15,860	\$10,236	\$28,359
NPV Net Benefits (\$000s)	\$5,746	\$14,802	(\$6,753)
Benefit:Cost Ratio	1.362	2.446	0.762

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$156	\$285	\$0	\$0	\$0	\$0	(\$30)	\$441	\$30	(\$411)	(\$379)
2011	\$0	\$286	\$521	\$0	\$0	\$0	(\$12)	(\$97)	\$808	\$99	(\$709)	(\$982)
2012	\$0	\$495	\$901	\$0	\$0	\$0	(\$24)	(\$185)	\$1,396	\$209	(\$1,187)	(\$1,913)
2013	\$0	\$806	\$1,468	\$0	\$0	\$0	(\$46)	(\$362)	\$2,274	\$408	(\$1,866)	(\$3,263)
2014	\$0	\$1,255	\$2,285	\$0	\$0	(\$242)	(\$79)	(\$516)	\$3,540	\$837	(\$2,703)	(\$5,065)
2015	\$0	\$1,277	\$2,324	\$0	\$0	(\$346)	(\$113)	(\$863)	\$3,600	\$1,322	(\$2,278)	(\$6,466)
2016	\$0	\$1,298	\$2,363	\$0	\$0	(\$453)	(\$149)	(\$1,159)	\$3,661	\$1,760	(\$1,901)	(\$7,545)
2017	\$0	\$1,320	\$2,403	\$0	\$0	(\$562)	(\$185)	(\$1,447)	\$3,724	\$2,194	(\$1,529)	(\$8,345)
2018	\$0	\$1,343	\$2,444	\$0	\$0	(\$674)	(\$223)	(\$1,763)	\$3,787	\$2,660	(\$1,127)	(\$8,888)
2019	\$0	\$1,275	\$2,320	\$0	\$0	(\$782)	(\$260)	(\$2,089)	\$3,595	\$3,131	(\$464)	(\$9,094)
2020	\$0	\$0	\$0	\$0	\$0	(\$792)	(\$264)	(\$2,072)	\$0	\$3,128	\$3,128	(\$7,811)
2021	\$0	\$0	\$0	\$0	\$0	(\$803)	(\$269)	(\$2,068)	\$0	\$3,139	\$3,139	(\$6,623)
2022	\$0	\$0	\$0	\$0	\$0	(\$813)	(\$273)	(\$2,132)	\$0	\$3,219	\$3,219	(\$5,500)
2023	\$0	\$0	\$0	\$0	\$0	(\$824)	(\$278)	(\$2,210)	\$0	\$3,312	\$3,312	(\$4,435)
2024	\$0	\$0	\$0	\$0	\$0	(\$835)	(\$283)	(\$2,293)	\$0	\$3,411	\$3,411	(\$3,423)
2025	\$0	\$0	\$0	\$0	\$0	(\$846)	(\$287)	(\$2,394)	\$0	\$3,527	\$3,527	(\$2,458)
2026	\$0	\$0	\$0	\$0	\$0	(\$857)	(\$292)	(\$2,496)	\$0	\$3,645	\$3,645	(\$1,538)
2027	\$0	\$0	\$0	\$0	\$0	(\$869)	(\$297)	(\$2,588)	\$0	\$3,754	\$3,754	(\$665)
2028	\$0	\$0	\$0	\$0	\$0	(\$880)	(\$302)	(\$2,694)	\$0	\$3,877	\$3,877	\$167
2029	\$0	\$0	\$0	\$0	\$0	(\$892)	(\$308)	(\$2,732)	\$0	\$3,932	\$3,932	\$945
2030	\$0	\$0	\$0	\$0	\$0	(\$904)	(\$313)	(\$2,798)	\$0	\$4,015	\$4,015	\$1,678
2031	\$0	\$0	\$0	\$0	\$0	(\$917)	(\$318)	(\$2,863)	\$0	\$4,098	\$4,098	\$2,368
2032	\$0	\$0	\$0	\$0	\$0	(\$929)	(\$323)	(\$2,937)	\$0	\$4,189	\$4,189	\$3,018
2033	\$0	\$0	\$0	\$0	\$0	(\$942)	(\$329)	(\$3,013)	\$0	\$4,283	\$4,283	\$3,631
2034	\$0	\$0	\$0	\$0	\$0	(\$955)	(\$335)	(\$3,087)	\$0	\$4,377	\$4,377	\$4,209
2035	\$0	\$0	\$0	\$0	\$0	(\$968)	(\$340)	(\$3,159)	\$0	\$4,467	\$4,467	\$4,753
2036	\$0	\$0	\$0	\$0	\$0	(\$981)	(\$346)	(\$3,233)	\$0	\$4,560	\$4,560	\$5,265
2037	\$0	\$0	\$0	\$0	\$0	(\$995)	(\$352)	(\$3,307)	\$0	\$4,654	\$4,654	\$5,746
<hr/>												
Nominal		\$9,513	\$17,313			(\$19,061)	(\$6,601)	(\$56,576)	\$26,826	\$82,237	\$55,411	
NPV		\$5,624	\$10,236	\$0	\$0	(\$5,094)	(\$1,784)	(\$14,728)	\$15,860	\$21,606	\$5,746	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		1.36										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$285	\$0	\$0	\$0	(\$37)	\$64	\$70	\$285	\$171	(\$113)	(\$105)
2011	\$521	\$0	\$0	\$0	(\$103)	\$117	\$126	\$521	\$346	(\$175)	(\$253)
2012	\$901	\$0	\$0	\$0	(\$214)	\$203	\$214	\$901	\$631	(\$270)	(\$465)
2013	\$1,468	\$0	\$0	\$0	(\$399)	\$330	\$343	\$1,468	\$1,073	(\$395)	(\$751)
2014	\$2,285	\$0	\$0	\$0	(\$700)	\$514	\$525	\$2,285	\$1,739	(\$546)	(\$1,115)
2015	\$2,324	\$0	\$0	\$0	(\$1,156)	\$523	\$525	\$2,324	\$2,204	(\$120)	(\$1,189)
2016	\$2,363	\$0	\$0	\$0	(\$1,545)	\$532	\$525	\$2,363	\$2,602	\$239	(\$1,053)
2017	\$2,403	\$0	\$0	\$0	(\$1,888)	\$541	\$525	\$2,403	\$2,953	\$550	(\$765)
2018	\$2,444	\$0	\$0	\$0	(\$2,304)	\$550	\$525	\$2,444	\$3,379	\$935	(\$314)
2019	\$2,320	\$0	\$0	\$0	(\$2,716)	\$522	\$490	\$2,320	\$3,728	\$1,409	\$312
2020	\$0	\$0	\$0	\$0	(\$2,833)	\$0	\$0	\$0	\$2,833	\$2,833	\$1,474
2021	\$0	\$0	\$0	\$0	(\$2,948)	\$0	\$0	\$0	\$2,948	\$2,948	\$2,590
2022	\$0	\$0	\$0	\$0	(\$3,062)	\$0	\$0	\$0	\$3,062	\$3,062	\$3,658
2023	\$0	\$0	\$0	\$0	(\$3,171)	\$0	\$0	\$0	\$3,171	\$3,171	\$4,678
2024	\$0	\$0	\$0	\$0	(\$3,292)	\$0	\$0	\$0	\$3,292	\$3,292	\$5,655
2025	\$0	\$0	\$0	\$0	(\$3,391)	\$0	\$0	\$0	\$3,391	\$3,391	\$6,583
2026	\$0	\$0	\$0	\$0	(\$3,489)	\$0	\$0	\$0	\$3,489	\$3,489	\$7,463
2027	\$0	\$0	\$0	\$0	(\$3,623)	\$0	\$0	\$0	\$3,623	\$3,623	\$8,307
2028	\$0	\$0	\$0	\$0	(\$3,745)	\$0	\$0	\$0	\$3,745	\$3,745	\$9,110
2029	\$0	\$0	\$0	\$0	(\$3,885)	\$0	\$0	\$0	\$3,885	\$3,885	\$9,879
2030	\$0	\$0	\$0	\$0	(\$4,019)	\$0	\$0	\$0	\$4,019	\$4,019	\$10,613
2031	\$0	\$0	\$0	\$0	(\$4,140)	\$0	\$0	\$0	\$4,140	\$4,140	\$11,309
2032	\$0	\$0	\$0	\$0	(\$4,262)	\$0	\$0	\$0	\$4,262	\$4,262	\$11,971
2033	\$0	\$0	\$0	\$0	(\$4,386)	\$0	\$0	\$0	\$4,386	\$4,386	\$12,599
2034	\$0	\$0	\$0	\$0	(\$4,512)	\$0	\$0	\$0	\$4,512	\$4,512	\$13,194
2035	\$0	\$0	\$0	\$0	(\$4,640)	\$0	\$0	\$0	\$4,640	\$4,640	\$13,759
2036	\$0	\$0	\$0	\$0	(\$4,770)	\$0	\$0	\$0	\$4,770	\$4,770	\$14,294
2037	\$0	\$0	\$0	\$0	(\$4,901)	\$0	\$0	\$0	\$4,901	\$4,901	\$14,802
<b>Nominal</b>	\$17,313				(\$90,132)	\$3,895	\$3,868	\$17,313	\$87,896	\$70,583	
<b>NPV</b>	\$9,439	\$0	\$0	\$0	(\$20,430)	\$2,303	\$2,305	\$10,236	\$25,038	\$14,802	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		2.45									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$156.465	\$70.000	(\$37.285)	\$0.000	\$0.000	(\$30.473)	\$0.000	\$0.000	\$263.750	\$30.473	(\$233.277)	(\$215.127)
2011	\$0.000	\$286.426	\$126.000	(\$102.935)	\$0.000	(\$11.505)	(\$87.344)	\$0.000	\$0.000	\$515.360	\$98.849	(\$416.512)	(\$569.346)
2012	\$0.000	\$495.201	\$214.200	(\$214.203)	\$0.000	(\$24.487)	(\$184.745)	\$0.000	\$0.000	\$923.605	\$209.232	(\$714.373)	(\$1,129.609)
2013	\$0.000	\$806.450	\$343.000	(\$399.411)	\$0.000	(\$45.727)	(\$362.136)	\$0.000	\$0.000	\$1,548.861	\$407.862	(\$1,140.999)	(\$1,954.839)
2014	\$0.000	\$1,255.346	\$525.000	(\$699.838)	(\$242.317)	(\$78.919)	(\$516.108)	\$0.000	\$0.000	\$2,480.184	\$837.343	(\$1,642.841)	(\$3,050.579)
2015	\$0.000	\$1,276.687	\$525.000	(\$1,156.012)	(\$346.222)	(\$113.226)	(\$862.678)	\$0.000	\$0.000	\$2,957.700	\$1,322.125	(\$1,635.574)	(\$4,056.594)
2016	\$0.000	\$1,298.391	\$525.000	(\$1,545.332)	(\$452.772)	(\$148.677)	(\$1,158.612)	\$0.000	\$0.000	\$3,368.723	\$1,760.060	(\$1,608.663)	(\$4,969.072)
2017	\$0.000	\$1,320.463	\$525.000	(\$1,887.504)	(\$562.034)	(\$185.300)	(\$1,447.087)	\$0.000	\$0.000	\$3,732.967	\$2,194.420	(\$1,538.547)	(\$5,773.875)
2018	\$0.000	\$1,342.911	\$525.000	(\$2,304.322)	(\$674.076)	(\$223.126)	(\$1,763.234)	\$0.000	\$0.000	\$4,172.234	\$2,660.436	(\$1,511.798)	(\$6,503.157)
2019	\$0.000	\$1,274.691	\$490.000	(\$2,716.436)	(\$781.894)	(\$259.833)	(\$2,089.153)	\$0.000	\$0.000	\$4,461.127	\$3,130.880	(\$1,350.247)	(\$7,103.829)
2020	\$0.000	\$0.000	\$0.000	(\$2,832.516)	(\$792.110)	(\$264.250)	(\$2,072.009)	\$0.000	\$0.000	\$2,832.516	\$3,128.369	\$295.853	(\$6,982.456)
2021	\$0.000	\$0.000	\$0.000	(\$2,948.178)	(\$802.500)	(\$268.742)	(\$2,067.921)	\$0.000	\$0.000	\$2,948.178	\$3,139.163	\$190.985	(\$6,910.201)
2022	\$0.000	\$0.000	\$0.000	(\$3,061.883)	(\$813.066)	(\$273.311)	(\$2,132.252)	\$0.000	\$0.000	\$3,061.883	\$3,218.629	\$156.747	(\$6,855.513)
2023	\$0.000	\$0.000	\$0.000	(\$3,171.084)	(\$823.812)	(\$277.957)	(\$2,209.888)	\$0.000	\$0.000	\$3,171.084	\$3,311.657	\$140.573	(\$6,810.284)
2024	\$0.000	\$0.000	\$0.000	(\$3,292.130)	(\$834.741)	(\$282.682)	(\$2,293.159)	\$0.000	\$0.000	\$3,292.130	\$3,410.582	\$118.452	(\$6,775.138)
2025	\$0.000	\$0.000	\$0.000	(\$3,390.994)	(\$845.856)	(\$287.488)	(\$2,393.818)	\$0.000	\$0.000	\$3,390.994	\$3,527.162	\$136.167	(\$6,737.879)
2026	\$0.000	\$0.000	\$0.000	(\$3,489.055)	(\$857.159)	(\$292.375)	(\$2,495.580)	\$0.000	\$0.000	\$3,489.055	\$3,645.114	\$156.059	(\$6,698.499)
2027	\$0.000	\$0.000	\$0.000	(\$3,623.237)	(\$868.654)	(\$297.346)	(\$2,587.626)	\$0.000	\$0.000	\$3,623.237	\$3,753.626	\$130.389	(\$6,668.157)
2028	\$0.000	\$0.000	\$0.000	(\$3,744.507)	(\$880.345)	(\$302.401)	(\$2,693.921)	\$0.000	\$0.000	\$3,744.507	\$3,876.667	\$132.159	(\$6,639.796)
2029	\$0.000	\$0.000	\$0.000	(\$3,885.421)	(\$892.235)	(\$307.541)	(\$2,732.318)	\$0.000	\$0.000	\$3,885.421	\$3,932.094	\$46.673	(\$6,630.560)
2030	\$0.000	\$0.000	\$0.000	(\$4,018.964)	(\$904.327)	(\$312.770)	(\$2,797.525)	\$0.000	\$0.000	\$4,018.964	\$4,014.621	(\$4.343)	(\$6,631.352)
2031	\$0.000	\$0.000	\$0.000	(\$4,139.769)	(\$916.624)	(\$318.087)	(\$2,863.107)	\$0.000	\$0.000	\$4,139.769	\$4,097.818	(\$41.950)	(\$6,638.413)
2032	\$0.000	\$0.000	\$0.000	(\$4,262.212)	(\$929.131)	(\$323.494)	(\$2,936.712)	\$0.000	\$0.000	\$4,262.212	\$4,189.337	(\$72.875)	(\$6,649.724)
2033	\$0.000	\$0.000	\$0.000	(\$4,386.350)	(\$941.850)	(\$328.994)	(\$3,012.542)	\$0.000	\$0.000	\$4,386.350	\$4,283.385	(\$102.965)	(\$6,664.461)
2034	\$0.000	\$0.000	\$0.000	(\$4,512.240)	(\$954.785)	(\$334.586)	(\$3,087.158)	\$0.000	\$0.000	\$4,512.240	\$4,376.530	(\$135.710)	(\$6,682.374)
2035	\$0.000	\$0.000	\$0.000	(\$4,639.939)	(\$967.940)	(\$340.274)	(\$3,159.196)	\$0.000	\$0.000	\$4,639.939	\$4,467.411	(\$172.528)	(\$6,703.376)
2036	\$0.000	\$0.000	\$0.000	(\$4,769.509)	(\$981.319)	(\$346.059)	(\$3,232.576)	\$0.000	\$0.000	\$4,769.509	\$4,559.954	(\$209.555)	(\$6,726.899)
2037	\$0.000	\$0.000	\$0.000	(\$4,901.012)	(\$994.925)	(\$351.942)	(\$3,306.809)	\$0.000	\$0.000	\$4,901.012	\$4,653.676	(\$247.336)	(\$6,752.504)
<b>Nominal</b>	\$9,513.033	\$3,868.200	\$3,868.200	(\$80,132.281)	(\$19,060.694)	(\$6,601.098)	(\$56,575.685)			\$93,513.514	\$82,237.477	(\$11,276.037)	
<b>NPV</b>	\$5,624.159	\$2,304.516	\$2,304.516	(\$20,429.960)	(\$5,094.090)	(\$1,783.743)	(\$14,728.297)	\$0.000	\$0.000	\$28,358.634	\$21,606.131	(\$6,752.504)	
<b>Discount Rate =</b>	8.44%												
<b>Benefit/Cost Ratio =</b>	0.76												

Run Date:

25-Mar-10

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Filename: HVAC Retirement Tier 3

## 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	-1.57	kW/Cus
(2) Change in Peak kW per Customer at generator	-2.06	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(7,778)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(7,132)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-1.67	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	29	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$3,515.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$8,750.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$2,175.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$1,500.00	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.70%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.93%	

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)	\$0.0509	\$/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

	TRC	Participants <sup>1</sup>	RIM
NPV Benefits(\$000s)	\$4,666	\$5,562	\$4,666
NPV Costs (\$000s)	\$4,177	\$2,980	\$6,019
NPV Net Benefits (\$000s)	\$489	\$2,582	(\$1,353)
Benefit:Cost Ratio	1.117	1.866	0.775

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$36	\$89	\$0	\$0	\$0	\$0	(\$7)	\$125	\$7	(\$118)	(\$109)
2011	\$0	\$73	\$181	\$0	\$0	\$0	(\$3)	(\$21)	\$254	\$24	(\$229)	(\$304)
2012	\$0	\$111	\$276	\$0	\$0	\$0	(\$6)	(\$43)	\$387	\$49	(\$338)	(\$569)
2013	\$0	\$188	\$468	\$0	\$0	\$0	(\$11)	(\$85)	\$656	\$96	(\$560)	(\$974)
2014	\$0	\$287	\$714	\$0	\$0	(\$58)	(\$19)	(\$119)	\$1,001	\$196	(\$804)	(\$1,511)
2015	\$0	\$292	\$726	\$0	\$0	(\$83)	(\$27)	(\$199)	\$1,018	\$308	(\$709)	(\$1,947)
2016	\$0	\$297	\$738	\$0	\$0	(\$108)	(\$35)	(\$267)	\$1,035	\$410	(\$625)	(\$2,302)
2017	\$0	\$302	\$751	\$0	\$0	(\$133)	(\$44)	(\$333)	\$1,053	\$510	(\$543)	(\$2,586)
2018	\$0	\$225	\$560	\$0	\$0	(\$153)	(\$51)	(\$388)	\$785	\$592	(\$193)	(\$2,679)
2019	\$0	\$166	\$414	\$0	\$0	(\$169)	(\$56)	(\$436)	\$581	\$661	\$80	(\$2,643)
2020	\$0	\$0	\$0	\$0	\$0	(\$171)	(\$57)	(\$433)	\$0	\$661	\$661	(\$2,372)
2021	\$0	\$0	\$0	\$0	\$0	(\$173)	(\$58)	(\$432)	\$0	\$663	\$663	(\$2,121)
2022	\$0	\$0	\$0	\$0	\$0	(\$175)	(\$59)	(\$445)	\$0	\$680	\$680	(\$1,884)
2023	\$0	\$0	\$0	\$0	\$0	(\$178)	(\$60)	(\$461)	\$0	\$699	\$699	(\$1,659)
2024	\$0	\$0	\$0	\$0	\$0	(\$180)	(\$61)	(\$479)	\$0	\$720	\$720	(\$1,445)
2025	\$0	\$0	\$0	\$0	\$0	(\$182)	(\$62)	(\$500)	\$0	\$744	\$744	(\$1,242)
2028	\$0	\$0	\$0	\$0	\$0	(\$185)	(\$63)	(\$521)	\$0	\$769	\$769	(\$1,048)
2027	\$0	\$0	\$0	\$0	\$0	(\$187)	(\$64)	(\$540)	\$0	\$792	\$792	(\$863)
2028	\$0	\$0	\$0	\$0	\$0	(\$190)	(\$65)	(\$562)	\$0	\$818	\$818	(\$688)
2029	\$0	\$0	\$0	\$0	\$0	(\$193)	(\$66)	(\$571)	\$0	\$829	\$829	(\$524)
2030	\$0	\$0	\$0	\$0	\$0	(\$195)	(\$67)	(\$584)	\$0	\$847	\$847	(\$369)
2031	\$0	\$0	\$0	\$0	\$0	(\$198)	(\$69)	(\$598)	\$0	\$864	\$864	(\$224)
2032	\$0	\$0	\$0	\$0	\$0	(\$200)	(\$70)	(\$613)	\$0	\$883	\$883	(\$87)
2033	\$0	\$0	\$0	\$0	\$0	(\$203)	(\$71)	(\$629)	\$0	\$903	\$903	\$43
2034	\$0	\$0	\$0	\$0	\$0	(\$206)	(\$72)	(\$645)	\$0	\$923	\$923	\$164
2035	\$0	\$0	\$0	\$0	\$0	(\$209)	(\$73)	(\$660)	\$0	\$942	\$942	\$279
2036	\$0	\$0	\$0	\$0	\$0	(\$212)	(\$75)	(\$675)	\$0	\$961	\$961	\$387
2037	\$0	\$0	\$0	\$0	\$0	(\$215)	(\$76)	(\$690)	\$0	\$981	\$981	\$489
<b>Nominal</b>		\$1,976	\$4,918			(\$4,156)	(\$1,441)	(\$11,936)	\$6,894	\$17,533	\$10,639	
<b>NPV</b>		\$1,197	\$2,980	\$0	\$0	(\$1,124)	(\$395)	(\$3,148)	\$4,177	\$4,666	\$489	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.12										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$89	\$0	\$0	\$0	(\$9)	\$22	\$15	\$89	\$46	(\$43)	(\$40)
2011	\$181	\$0	\$0	\$0	(\$25)	\$45	\$30	\$181	\$100	(\$81)	(\$109)
2012	\$276	\$0	\$0	\$0	(\$50)	\$69	\$45	\$276	\$164	(\$112)	(\$197)
2013	\$468	\$0	\$0	\$0	(\$93)	\$116	\$75	\$468	\$285	(\$183)	(\$329)
2014	\$714	\$0	\$0	\$0	(\$162)	\$177	\$113	\$714	\$452	(\$262)	(\$504)
2015	\$726	\$0	\$0	\$0	(\$267)	\$180	\$113	\$726	\$560	(\$167)	(\$607)
2016	\$738	\$0	\$0	\$0	(\$356)	\$184	\$113	\$738	\$652	(\$87)	(\$656)
2017	\$751	\$0	\$0	\$0	(\$434)	\$187	\$113	\$751	\$733	(\$18)	(\$665)
2018	\$560	\$0	\$0	\$0	(\$507)	\$139	\$83	\$560	\$729	\$169	(\$584)
2019	\$414	\$0	\$0	\$0	(\$567)	\$103	\$60	\$414	\$730	\$316	(\$443)
2020	\$0	\$0	\$0	\$0	(\$591)	\$0	\$0	\$0	\$591	\$591	(\$201)
2021	\$0	\$0	\$0	\$0	(\$616)	\$0	\$0	\$0	\$616	\$616	\$32
2022	\$0	\$0	\$0	\$0	(\$639)	\$0	\$0	\$0	\$639	\$639	\$255
2023	\$0	\$0	\$0	\$0	(\$662)	\$0	\$0	\$0	\$662	\$662	\$468
2024	\$0	\$0	\$0	\$0	(\$687)	\$0	\$0	\$0	\$687	\$687	\$672
2025	\$0	\$0	\$0	\$0	(\$708)	\$0	\$0	\$0	\$708	\$708	\$966
2026	\$0	\$0	\$0	\$0	(\$729)	\$0	\$0	\$0	\$729	\$729	\$1,050
2027	\$0	\$0	\$0	\$0	(\$757)	\$0	\$0	\$0	\$757	\$757	\$1,226
2028	\$0	\$0	\$0	\$0	(\$782)	\$0	\$0	\$0	\$782	\$782	\$1,394
2029	\$0	\$0	\$0	\$0	(\$811)	\$0	\$0	\$0	\$811	\$811	\$1,554
2030	\$0	\$0	\$0	\$0	(\$839)	\$0	\$0	\$0	\$839	\$839	\$1,707
2031	\$0	\$0	\$0	\$0	(\$864)	\$0	\$0	\$0	\$864	\$864	\$1,853
2032	\$0	\$0	\$0	\$0	(\$890)	\$0	\$0	\$0	\$890	\$890	\$1,991
2033	\$0	\$0	\$0	\$0	(\$916)	\$0	\$0	\$0	\$916	\$916	\$2,122
2034	\$0	\$0	\$0	\$0	(\$942)	\$0	\$0	\$0	\$942	\$942	\$2,246
2035	\$0	\$0	\$0	\$0	(\$969)	\$0	\$0	\$0	\$969	\$969	\$2,364
2036	\$0	\$0	\$0	\$0	(\$996)	\$0	\$0	\$0	\$996	\$996	\$2,476
2037	\$0	\$0	\$0	\$0	(\$1,023)	\$0	\$0	\$0	\$1,023	\$1,023	\$2,582
<b>Nominal</b>	\$4,918				(\$16,891)	\$1,222	\$758	\$4,918	\$18,871	\$13,953	
<b>NPV</b>	\$2,748	\$0	\$0	\$0	(\$4,359)	\$741	\$462	\$2,980	\$5,562	\$2,582	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		1.87									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$35.748	\$15.000	(\$8.519)	\$0.000	\$0.000	(\$6.962)	\$0.000	\$0.000	\$59.266	\$6.962	(\$52.304)	(\$48.234)
2011	\$0.000	\$72.711	\$30.000	(\$25.198)	\$0.000	(\$2.910)	(\$21.382)	\$0.000	\$0.000	\$127.909	\$24.292	(\$103.617)	(\$136.355)
2012	\$0.000	\$110.920	\$45.000	(\$50.110)	\$0.000	(\$5.919)	(\$43.219)	\$0.000	\$0.000	\$206.030	\$49.138	(\$156.892)	(\$259.401)
2013	\$0.000	\$188.009	\$75.000	(\$93.293)	\$0.000	(\$11.036)	(\$84.586)	\$0.000	\$0.000	\$356.302	\$95.623	(\$260.680)	(\$447.938)
2014	\$0.000	\$286.808	\$112.500	(\$162.001)	(\$57.960)	(\$18.877)	(\$119.470)	\$0.000	\$0.000	\$561.309	\$196.307	(\$365.001)	(\$691.386)
2015	\$0.000	\$291.684	\$112.500	(\$266.586)	(\$82.501)	(\$26.981)	(\$198.941)	\$0.000	\$0.000	\$670.770	\$308.423	(\$362.348)	(\$914.260)
2016	\$0.000	\$296.642	\$112.500	(\$365.625)	(\$107.666)	(\$35.354)	(\$266.630)	\$0.000	\$0.000	\$764.768	\$409.650	(\$355.117)	(\$1,115.692)
2017	\$0.000	\$301.685	\$112.500	(\$433.796)	(\$133.472)	(\$44.005)	(\$332.577)	\$0.000	\$0.000	\$847.981	\$510.054	(\$337.927)	(\$1,292.460)
2018	\$0.000	\$224.997	\$82.500	(\$507.291)	(\$153.339)	(\$50.757)	(\$388.172)	\$0.000	\$0.000	\$814.788	\$592.267	(\$222.520)	(\$1,399.802)
2019	\$0.000	\$166.416	\$60.000	(\$567.189)	(\$168.697)	(\$56.060)	(\$436.213)	\$0.000	\$0.000	\$793.605	\$360.970	(\$132.635)	(\$1,458.806)
2020	\$0.000	\$0.000	\$0.000	(\$591.427)	(\$170.901)	(\$57.013)	(\$432.633)	\$0.000	\$0.000	\$591.427	\$660.547	\$69.121	(\$1,430.450)
2021	\$0.000	\$0.000	\$0.000	(\$615.577)	(\$173.142)	(\$57.982)	(\$431.780)	\$0.000	\$0.000	\$615.577	\$662.904	\$47.328	(\$1,412.544)
2022	\$0.000	\$0.000	\$0.000	(\$639.318)	(\$175.422)	(\$58.968)	(\$445.212)	\$0.000	\$0.000	\$639.318	\$679.602	\$40.284	(\$1,398.489)
2023	\$0.000	\$0.000	\$0.000	(\$662.119)	(\$177.741)	(\$59.970)	(\$461.422)	\$0.000	\$0.000	\$662.119	\$699.133	\$37.014	(\$1,386.580)
2024	\$0.000	\$0.000	\$0.000	(\$687.394)	(\$180.099)	(\$60.990)	(\$478.809)	\$0.000	\$0.000	\$687.394	\$719.898	\$32.504	(\$1,376.936)
2025	\$0.000	\$0.000	\$0.000	(\$708.036)	(\$182.497)	(\$62.027)	(\$499.827)	\$0.000	\$0.000	\$708.036	\$744.350	\$36.314	(\$1,366.999)
2026	\$0.000	\$0.000	\$0.000	(\$728.511)	(\$184.935)	(\$63.081)	(\$521.075)	\$0.000	\$0.000	\$728.511	\$769.091	\$40.580	(\$1,356.760)
2027	\$0.000	\$0.000	\$0.000	(\$756.528)	(\$187.416)	(\$64.153)	(\$540.294)	\$0.000	\$0.000	\$756.528	\$791.863	\$35.334	(\$1,348.537)
2028	\$0.000	\$0.000	\$0.000	(\$781.850)	(\$189.938)	(\$65.244)	(\$562.488)	\$0.000	\$0.000	\$781.850	\$817.670	\$35.820	(\$1,340.850)
2029	\$0.000	\$0.000	\$0.000	(\$811.272)	(\$192.503)	(\$66.353)	(\$570.505)	\$0.000	\$0.000	\$811.272	\$829.362	\$18.089	(\$1,337.270)
2030	\$0.000	\$0.000	\$0.000	(\$839.156)	(\$195.112)	(\$67.481)	(\$584.120)	\$0.000	\$0.000	\$839.156	\$846.714	\$7.558	(\$1,335.891)
2031	\$0.000	\$0.000	\$0.000	(\$864.380)	(\$197.765)	(\$68.628)	(\$597.814)	\$0.000	\$0.000	\$864.380	\$864.208	(\$0.172)	(\$1,335.920)
2032	\$0.000	\$0.000	\$0.000	(\$889.946)	(\$200.464)	(\$69.795)	(\$613.183)	\$0.000	\$0.000	\$889.946	\$883.441	(\$6.505)	(\$1,336.930)
2033	\$0.000	\$0.000	\$0.000	(\$915.866)	(\$203.208)	(\$70.982)	(\$629.016)	\$0.000	\$0.000	\$915.866	\$903.205	(\$12.661)	(\$1,338.742)
2034	\$0.000	\$0.000	\$0.000	(\$942.151)	(\$205.999)	(\$72.188)	(\$644.596)	\$0.000	\$0.000	\$942.151	\$922.783	(\$19.369)	(\$1,341.298)
2035	\$0.000	\$0.000	\$0.000	(\$968.815)	(\$208.837)	(\$73.416)	(\$659.637)	\$0.000	\$0.000	\$968.815	\$941.889	(\$26.925)	(\$1,344.576)
2036	\$0.000	\$0.000	\$0.000	(\$995.869)	(\$211.723)	(\$74.664)	(\$674.959)	\$0.000	\$0.000	\$995.869	\$961.346	(\$34.523)	(\$1,348.451)
2037	\$0.000	\$0.000	\$0.000	(\$1,023.327)	(\$214.659)	(\$75.933)	(\$690.459)	\$0.000	\$0.000	\$1,023.327	\$981.050	(\$42.276)	(\$1,352.828)
<hr/>													
<b>Nominal</b>		\$1,975.620	\$757.500	(\$16,891.150)	(\$4,155.995)	(\$1,440.768)	(\$11,935.981)			\$19,624.269	\$17,532.743	(\$2,091.526)	
<b>NPV</b>		\$1,197.119	\$462.265	(\$4,359.132)	(\$1,123.518)	(\$394.589)	(\$3,147.581)	\$0.000	\$0.000	\$6,018.516	\$4,665.688	(\$1,352.828)	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		0.78											

Run Date:

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Filename:

HVAC Upgrade Tier 1

## 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	-0.32	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.41	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(1,709)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,567)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.43	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	29	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$787.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$600.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$300.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.70%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.93%	

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)	\$0.0509	\$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$27.371	\$28.871	\$27.371
NPV Costs (\$000s)	\$13,000	\$5,624	\$36,248
NPV Net Benefits (\$000s)	\$14.372	\$23,248	(\$8.876)
Benefit:Cost Ratio	2.106	5.134	0.755

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$218	\$166	\$0	\$0	\$0	\$0	(\$42)	\$384	\$42	(\$342)	(\$315)
2011	\$0	\$415	\$316	\$0	\$0	\$0	(\$15)	(\$122)	\$732	\$138	(\$594)	(\$821)
2012	\$0	\$718	\$547	\$0	\$0	\$0	(\$33)	(\$261)	\$1,265	\$294	(\$971)	(\$1,582)
2013	\$0	\$1,169	\$891	\$0	\$0	\$0	(\$61)	(\$513)	\$2,059	\$574	(\$1,485)	(\$2,657)
2014	\$0	\$1,825	\$1,392	\$0	\$0	(\$325)	(\$106)	(\$733)	\$3,217	\$1,164	(\$2,053)	(\$4,026)
2015	\$0	\$1,633	\$1,245	\$0	\$0	(\$448)	(\$147)	(\$1,184)	\$2,877	\$1,779	(\$1,098)	(\$4,701)
2016	\$0	\$1,660	\$1,266	\$0	\$0	(\$575)	(\$189)	(\$1,560)	\$2,926	\$2,324	(\$603)	(\$5,043)
2017	\$0	\$1,689	\$1,287	\$0	\$0	(\$705)	(\$232)	(\$1,924)	\$2,976	\$2,861	(\$115)	(\$5,103)
2018	\$0	\$1,546	\$1,179	\$0	\$0	(\$826)	(\$273)	(\$2,289)	\$2,725	\$3,389	\$664	(\$4,783)
2019	\$0	\$1,397	\$1,065	\$0	\$0	(\$937)	(\$311)	(\$2,654)	\$2,463	\$3,902	\$1,440	(\$4,143)
2020	\$0	\$0	\$0	\$0	\$0	(\$949)	(\$317)	(\$2,632)	\$0	\$3,898	\$3,898	(\$2,543)
2021	\$0	\$0	\$0	\$0	\$0	(\$962)	(\$322)	(\$2,627)	\$0	\$3,911	\$3,911	(\$1,064)
2022	\$0	\$0	\$0	\$0	\$0	(\$974)	(\$328)	(\$2,708)	\$0	\$4,010	\$4,010	\$335
2023	\$0	\$0	\$0	\$0	\$0	(\$987)	(\$333)	(\$2,807)	\$0	\$4,127	\$4,127	\$1,663
2024	\$0	\$0	\$0	\$0	\$0	(\$1,000)	(\$339)	(\$2,913)	\$0	\$4,252	\$4,252	\$2,925
2025	\$0	\$0	\$0	\$0	\$0	(\$1,014)	(\$345)	(\$3,041)	\$0	\$4,399	\$4,399	\$4,128
2026	\$0	\$0	\$0	\$0	\$0	(\$1,027)	(\$350)	(\$3,170)	\$0	\$4,548	\$4,548	\$5,276
2027	\$0	\$0	\$0	\$0	\$0	(\$1,041)	(\$356)	(\$3,287)	\$0	\$4,684	\$4,684	\$6,366
2028	\$0	\$0	\$0	\$0	\$0	(\$1,055)	(\$362)	(\$3,422)	\$0	\$4,839	\$4,839	\$7,405
2029	\$0	\$0	\$0	\$0	\$0	(\$1,069)	(\$369)	(\$3,471)	\$0	\$4,908	\$4,908	\$8,376
2030	\$0	\$0	\$0	\$0	\$0	(\$1,084)	(\$375)	(\$3,553)	\$0	\$5,012	\$5,012	\$9,291
2031	\$0	\$0	\$0	\$0	\$0	(\$1,099)	(\$381)	(\$3,637)	\$0	\$5,116	\$5,116	\$10,152
2032	\$0	\$0	\$0	\$0	\$0	(\$1,114)	(\$388)	(\$3,730)	\$0	\$5,231	\$5,231	\$10,964
2033	\$0	\$0	\$0	\$0	\$0	(\$1,129)	(\$394)	(\$3,826)	\$0	\$5,350	\$5,350	\$11,729
2034	\$0	\$0	\$0	\$0	\$0	(\$1,144)	(\$401)	(\$3,921)	\$0	\$5,467	\$5,467	\$12,451
2035	\$0	\$0	\$0	\$0	\$0	(\$1,160)	(\$408)	(\$4,013)	\$0	\$5,581	\$5,581	\$13,130
2036	\$0	\$0	\$0	\$0	\$0	(\$1,176)	(\$415)	(\$4,106)	\$0	\$5,697	\$5,697	\$13,770
2037	\$0	\$0	\$0	\$0	\$0	(\$1,192)	(\$422)	(\$4,200)	\$0	\$5,814	\$5,814	\$14,372
Nominal		\$12,270	\$9,354			(\$22,995)	(\$7,972)	(\$72,345)	\$21,624	\$103,311	\$81,687	
NPV		\$7,376	\$5,624	\$0	\$0	(\$6,193)	(\$2,175)	(\$19,004)	\$13,000	\$27,371	\$14,372	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		2.11										



Run Date:

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Filename: HVAC Upgrade Tier 1

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$166	\$0	\$0	\$0	(\$51)	\$0	\$82	\$166	\$133	(\$33)	(\$31)
2011	\$316	\$0	\$0	\$0	(\$144)	\$0	\$153	\$316	\$297	(\$19)	(\$47)
2012	\$547	\$0	\$0	\$0	(\$303)	\$0	\$260	\$547	\$563	\$16	(\$35)
2013	\$891	\$0	\$0	\$0	(\$566)	\$0	\$416	\$891	\$982	\$91	\$31
2014	\$1,392	\$0	\$0	\$0	(\$995)	\$0	\$640	\$1,392	\$1,634	\$242	\$193
2015	\$1,245	\$0	\$0	\$0	(\$1,587)	\$0	\$563	\$1,245	\$2,149	\$905	\$749
2016	\$1,266	\$0	\$0	\$0	(\$2,080)	\$0	\$563	\$1,266	\$2,643	\$1,377	\$1,530
2017	\$1,287	\$0	\$0	\$0	(\$2,509)	\$0	\$563	\$1,287	\$3,072	\$1,784	\$2,464
2018	\$1,179	\$0	\$0	\$0	(\$2,992)	\$0	\$506	\$1,179	\$3,498	\$2,320	\$3,583
2019	\$1,065	\$0	\$0	\$0	(\$3,450)	\$0	\$450	\$1,065	\$3,900	\$2,835	\$4,844
2020	\$0	\$0	\$0	\$0	(\$3,598)	\$0	\$0	\$0	\$3,598	\$3,598	\$6,320
2021	\$0	\$0	\$0	\$0	(\$3,745)	\$0	\$0	\$0	\$3,745	\$3,745	\$7,736
2022	\$0	\$0	\$0	\$0	(\$3,889)	\$0	\$0	\$0	\$3,889	\$3,889	\$9,093
2023	\$0	\$0	\$0	\$0	(\$4,028)	\$0	\$0	\$0	\$4,028	\$4,028	\$10,389
2024	\$0	\$0	\$0	\$0	(\$4,182)	\$0	\$0	\$0	\$4,182	\$4,182	\$11,630
2025	\$0	\$0	\$0	\$0	(\$4,307)	\$0	\$0	\$0	\$4,307	\$4,307	\$12,809
2026	\$0	\$0	\$0	\$0	(\$4,432)	\$0	\$0	\$0	\$4,432	\$4,432	\$13,927
2027	\$0	\$0	\$0	\$0	(\$4,602)	\$0	\$0	\$0	\$4,602	\$4,602	\$14,998
2028	\$0	\$0	\$0	\$0	(\$4,756)	\$0	\$0	\$0	\$4,756	\$4,756	\$16,018
2029	\$0	\$0	\$0	\$0	(\$4,935)	\$0	\$0	\$0	\$4,935	\$4,935	\$16,995
2030	\$0	\$0	\$0	\$0	(\$5,105)	\$0	\$0	\$0	\$5,105	\$5,105	\$17,927
2031	\$0	\$0	\$0	\$0	(\$5,258)	\$0	\$0	\$0	\$5,258	\$5,258	\$18,812
2032	\$0	\$0	\$0	\$0	(\$5,414)	\$0	\$0	\$0	\$5,414	\$5,414	\$19,652
2033	\$0	\$0	\$0	\$0	(\$5,571)	\$0	\$0	\$0	\$5,571	\$5,571	\$20,450
2034	\$0	\$0	\$0	\$0	(\$5,731)	\$0	\$0	\$0	\$5,731	\$5,731	\$21,206
2035	\$0	\$0	\$0	\$0	(\$5,894)	\$0	\$0	\$0	\$5,894	\$5,894	\$21,923
2036	\$0	\$0	\$0	\$0	(\$6,058)	\$0	\$0	\$0	\$6,058	\$6,058	\$22,603
2037	\$0	\$0	\$0	\$0	(\$6,225)	\$0	\$0	\$0	\$6,225	\$6,225	\$23,248
Nominal	\$9,354				(\$102,407)		\$4,195	\$9,354	\$106,601	\$97,247	
NPV	\$5,186	\$0	\$0	\$0	(\$26,331)	\$0	\$2,541	\$5,624	\$28,871	\$23,248	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		5.13									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$217.703	\$81.600	(\$50.910)	\$0.000	\$0.000	(\$41.609)	\$0.000	\$0.000	\$350.213	\$41.609	(\$308.604)	(\$284.593)
2011	\$0.000	\$415.133	\$153.000	(\$144.316)	\$0.000	(\$15.220)	(\$122.458)	\$0.000	\$0.000	\$712.449	\$137.678	(\$574.771)	(\$773.402)
2012	\$0.000	\$717.723	\$260.100	(\$302.590)	\$0.000	(\$32.640)	(\$260.977)	\$0.000	\$0.000	\$1,280.413	\$293.617	(\$986.797)	(\$1,547.320)
2013	\$0.000	\$1,168.552	\$416.400	(\$565.925)	\$0.000	(\$61.135)	(\$513.109)	\$0.000	\$0.000	\$2,150.877	\$574.244	(\$1,576.632)	(\$2,687.623)
2014	\$0.000	\$1,825.436	\$639.600	(\$994.509)	(\$324.921)	(\$105.821)	(\$733.419)	\$0.000	\$0.000	\$3,459.546	\$1,164.161	(\$2,295.385)	(\$4,218.596)
2015	\$0.000	\$1,632.682	\$562.500	(\$1,586.871)	(\$448.453)	(\$146.659)	(\$1,184.208)	\$0.000	\$0.000	\$3,782.054	\$1,779.319	(\$2,002.735)	(\$5,450.446)
2016	\$0.000	\$1,660.438	\$562.500	(\$2,080.279)	(\$575.125)	(\$188.854)	(\$1,559.687)	\$0.000	\$0.000	\$4,303.217	\$2,323.666	(\$1,979.551)	(\$6,573.300)
2017	\$0.000	\$1,688.665	\$562.500	(\$2,509.237)	(\$705.017)	(\$232.441)	(\$1,923.749)	\$0.000	\$0.000	\$4,760.403	\$2,861.207	(\$1,899.196)	(\$7,566.757)
2018	\$0.000	\$1,546.093	\$506.400	(\$2,991.891)	(\$825.838)	(\$273.360)	(\$2,289.352)	\$0.000	\$0.000	\$5,044.384	\$3,388.550	(\$1,655.835)	(\$9,365.522)
2019	\$0.000	\$1,397.255	\$450.000	(\$3,450.353)	(\$937.121)	(\$311.416)	(\$2,653.593)	\$0.000	\$0.000	\$5,297.608	\$3,902.129	(\$1,395.478)	(\$8,986.315)
2020	\$0.000	\$0.000	\$0.000	(\$3,597.795)	(\$949.365)	(\$316.710)	(\$2,631.817)	\$0.000	\$0.000	\$3,597.795	\$3,897.892	\$300.097	(\$8,863.201)
2021	\$0.000	\$0.000	\$0.000	(\$3,744.706)	(\$961.817)	(\$322.094)	(\$2,626.624)	\$0.000	\$0.000	\$3,744.706	\$3,910.536	\$165.830	(\$8,800.463)
2022	\$0.000	\$0.000	\$0.000	(\$3,889.131)	(\$974.481)	(\$327.570)	(\$2,708.337)	\$0.000	\$0.000	\$3,889.131	\$4,010.388	\$121.256	(\$8,758.157)
2023	\$0.000	\$0.000	\$0.000	(\$4,027.837)	(\$987.360)	(\$333.139)	(\$2,806.947)	\$0.000	\$0.000	\$4,027.837	\$4,127.447	\$99.610	(\$8,726.108)
2024	\$0.000	\$0.000	\$0.000	(\$4,181.586)	(\$1,000.459)	(\$338.802)	(\$2,912.716)	\$0.000	\$0.000	\$4,181.586	\$4,251.977	\$70.391	(\$8,705.223)
2025	\$0.000	\$0.000	\$0.000	(\$4,307.161)	(\$1,013.780)	(\$344.562)	(\$3,040.571)	\$0.000	\$0.000	\$4,307.161	\$4,398.913	\$91.751	(\$8,680.117)
2026	\$0.000	\$0.000	\$0.000	(\$4,431.716)	(\$1,027.327)	(\$350.419)	(\$3,169.827)	\$0.000	\$0.000	\$4,431.716	\$4,547.573	\$115.857	(\$8,650.882)
2027	\$0.000	\$0.000	\$0.000	(\$4,602.151)	(\$1,041.105)	(\$356.376)	(\$3,286.742)	\$0.000	\$0.000	\$4,602.151	\$4,684.223	\$82.072	(\$8,631.783)
2028	\$0.000	\$0.000	\$0.000	(\$4,756.185)	(\$1,055.116)	(\$362.435)	(\$3,421.755)	\$0.000	\$0.000	\$4,756.185	\$4,839.306	\$83.121	(\$8,613.946)
2029	\$0.000	\$0.000	\$0.000	(\$4,935.171)	(\$1,069.367)	(\$368.596)	(\$3,470.526)	\$0.000	\$0.000	\$4,935.171	\$4,908.488	(\$26.682)	(\$8,619.226)
2030	\$0.000	\$0.000	\$0.000	(\$5,104.794)	(\$1,083.859)	(\$374.862)	(\$3,553.350)	\$0.000	\$0.000	\$5,104.794	\$5,012.071	(\$92.723)	(\$8,636.149)
2031	\$0.000	\$0.000	\$0.000	(\$5,258.237)	(\$1,098.598)	(\$381.235)	(\$3,636.652)	\$0.000	\$0.000	\$5,258.237	\$5,116.484	(\$141.752)	(\$8,660.006)
2032	\$0.000	\$0.000	\$0.000	(\$5,413.762)	(\$1,113.587)	(\$387.716)	(\$3,730.143)	\$0.000	\$0.000	\$5,413.762	\$5,231.446	(\$182.316)	(\$8,688.303)
2033	\$0.000	\$0.000	\$0.000	(\$5,571.439)	(\$1,128.831)	(\$394.307)	(\$3,826.460)	\$0.000	\$0.000	\$5,571.439	\$5,349.598	(\$221.841)	(\$8,720.056)
2034	\$0.000	\$0.000	\$0.000	(\$5,731.341)	(\$1,144.334)	(\$401.010)	(\$3,921.236)	\$0.000	\$0.000	\$5,731.341	\$5,466.581	(\$264.760)	(\$8,755.003)
2035	\$0.000	\$0.000	\$0.000	(\$5,893.542)	(\$1,160.101)	(\$407.828)	(\$4,012.737)	\$0.000	\$0.000	\$5,893.542	\$5,580.666	(\$312.876)	(\$8,793.088)
2036	\$0.000	\$0.000	\$0.000	(\$6,058.118)	(\$1,176.136)	(\$414.761)	(\$4,105.942)	\$0.000	\$0.000	\$6,058.118	\$5,696.839	(\$361.280)	(\$8,833.643)
2037	\$0.000	\$0.000	\$0.000	(\$6,225.151)	(\$1,192.443)	(\$421.812)	(\$4,200.231)	\$0.000	\$0.000	\$6,225.151	\$5,814.486	(\$410.665)	(\$8,876.156)
<hr/>													
Nominal		\$12,269.681	\$4,194.600	(\$102,406.706)	(\$22,994.538)	(\$7,971.782)	(\$72,344.772)			\$118,870.986	\$103,311.092	(\$15,559.894)	
NPV		\$7,376.207	\$2,540.881	(\$26,330.555)	(\$6,192.509)	(\$2,174.799)	(\$19,004.180)	\$0.000	\$0.000	\$36,247.644	\$27,371.488	(\$8,876.156)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.76											

Run Date:

25-Mar-10

04:33 PM

Filename:

HVAC Upgrade Tier 2

## 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	-0.40	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.53	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(2,062)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,891)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-0.47	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	29	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$932.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$2,100.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$1,365.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$1,050.00	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.70%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.93%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$5,114	\$8,151	\$5,114
NPV Costs (\$000s)	\$4,336	\$3,003	\$7,532
NPV Net Benefits (\$000s)	\$778	\$5,147	(\$2,417)
Benefit:Cost Ratio	1.179	2.714	0.679

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$36	\$81	\$0	\$0	\$0	\$0	(\$7)	\$117	\$7	(\$110)	(\$102)
2011	\$0	\$69	\$156	\$0	\$0	\$0	(\$3)	(\$21)	\$226	\$24	(\$202)	(\$274)
2012	\$0	\$120	\$269	\$0	\$0	\$0	(\$6)	(\$44)	\$389	\$50	(\$339)	(\$539)
2013	\$0	\$195	\$440	\$0	\$0	\$0	(\$11)	(\$87)	\$636	\$98	(\$538)	(\$928)
2014	\$0	\$304	\$685	\$0	\$0	(\$58)	(\$19)	(\$125)	\$990	\$202	(\$788)	(\$1,454)
2015	\$0	\$309	\$697	\$0	\$0	(\$83)	(\$27)	(\$209)	\$1,006	\$319	(\$688)	(\$1,877)
2016	\$0	\$315	\$709	\$0	\$0	(\$109)	(\$36)	(\$280)	\$1,024	\$425	(\$599)	(\$2,216)
2017	\$0	\$320	\$721	\$0	\$0	(\$135)	(\$45)	(\$350)	\$1,041	\$530	(\$511)	(\$2,484)
2018	\$0	\$298	\$672	\$0	\$0	(\$160)	(\$53)	(\$421)	\$970	\$634	(\$336)	(\$2,646)
2019	\$0	\$276	\$621	\$0	\$0	(\$183)	(\$61)	(\$493)	\$897	\$737	(\$160)	(\$2,717)
2020	\$0	\$0	\$0	\$0	\$0	(\$186)	(\$62)	(\$489)	\$0	\$737	\$737	(\$2,415)
2021	\$0	\$0	\$0	\$0	\$0	(\$188)	(\$63)	(\$488)	\$0	\$739	\$739	(\$2,135)
2022	\$0	\$0	\$0	\$0	\$0	(\$191)	(\$64)	(\$503)	\$0	\$758	\$758	(\$1,871)
2023	\$0	\$0	\$0	\$0	\$0	(\$193)	(\$65)	(\$522)	\$0	\$780	\$780	(\$1,620)
2024	\$0	\$0	\$0	\$0	\$0	(\$196)	(\$66)	(\$541)	\$0	\$803	\$803	(\$1,382)
2025	\$0	\$0	\$0	\$0	\$0	(\$198)	(\$67)	(\$565)	\$0	\$831	\$831	(\$1,154)
2026	\$0	\$0	\$0	\$0	\$0	(\$201)	(\$69)	(\$589)	\$0	\$858	\$858	(\$938)
2027	\$0	\$0	\$0	\$0	\$0	(\$204)	(\$70)	(\$611)	\$0	\$884	\$884	(\$732)
2028	\$0	\$0	\$0	\$0	\$0	(\$206)	(\$71)	(\$636)	\$0	\$913	\$913	(\$536)
2029	\$0	\$0	\$0	\$0	\$0	(\$209)	(\$72)	(\$645)	\$0	\$926	\$926	(\$353)
2030	\$0	\$0	\$0	\$0	\$0	(\$212)	(\$73)	(\$660)	\$0	\$946	\$946	(\$180)
2031	\$0	\$0	\$0	\$0	\$0	(\$215)	(\$75)	(\$676)	\$0	\$965	\$965	(\$18)
2032	\$0	\$0	\$0	\$0	\$0	(\$218)	(\$76)	(\$693)	\$0	\$987	\$987	\$135
2033	\$0	\$0	\$0	\$0	\$0	(\$221)	(\$77)	(\$711)	\$0	\$1,009	\$1,009	\$280
2034	\$0	\$0	\$0	\$0	\$0	(\$224)	(\$78)	(\$729)	\$0	\$1,031	\$1,031	\$416
2035	\$0	\$0	\$0	\$0	\$0	(\$227)	(\$80)	(\$746)	\$0	\$1,052	\$1,052	\$544
2036	\$0	\$0	\$0	\$0	\$0	(\$230)	(\$81)	(\$763)	\$0	\$1,074	\$1,074	\$664
2037	\$0	\$0	\$0	\$0	\$0	(\$233)	(\$82)	(\$780)	\$0	\$1,096	\$1,096	\$778
Nominal		\$2,243	\$5,053			(\$4,478)	(\$1,551)	(\$13,384)	\$7,296	\$19,413	\$12,117	
NPV		\$1,333	\$3,003	\$0	\$0	(\$1,200)	(\$420)	(\$3,494)	\$4,336	\$5,114	\$778	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		1.18										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$81	\$0	\$0	\$0	(\$9)	\$53	\$40	\$81	\$101	\$20	\$19
2011	\$156	\$0	\$0	\$0	(\$24)	\$102	\$76	\$156	\$202	\$45	\$57
2012	\$269	\$0	\$0	\$0	(\$51)	\$175	\$128	\$269	\$355	\$85	\$124
2013	\$440	\$0	\$0	\$0	(\$96)	\$286	\$206	\$440	\$588	\$148	\$231
2014	\$685	\$0	\$0	\$0	(\$169)	\$446	\$315	\$685	\$930	\$244	\$394
2015	\$697	\$0	\$0	\$0	(\$279)	\$453	\$315	\$697	\$1,048	\$351	\$609
2016	\$709	\$0	\$0	\$0	(\$374)	\$461	\$315	\$709	\$1,150	\$441	\$859
2017	\$721	\$0	\$0	\$0	(\$457)	\$469	\$315	\$721	\$1,240	\$519	\$1,131
2018	\$672	\$0	\$0	\$0	(\$550)	\$437	\$289	\$672	\$1,276	\$604	\$1,422
2019	\$621	\$0	\$0	\$0	(\$641)	\$404	\$263	\$621	\$1,308	\$686	\$1,728
2020	\$0	\$0	\$0	\$0	(\$669)	\$0	\$0	\$0	\$669	\$669	\$2,002
2021	\$0	\$0	\$0	\$0	(\$696)	\$0	\$0	\$0	\$696	\$696	\$2,265
2022	\$0	\$0	\$0	\$0	(\$723)	\$0	\$0	\$0	\$723	\$723	\$2,517
2023	\$0	\$0	\$0	\$0	(\$748)	\$0	\$0	\$0	\$748	\$748	\$2,758
2024	\$0	\$0	\$0	\$0	(\$777)	\$0	\$0	\$0	\$777	\$777	\$2,989
2025	\$0	\$0	\$0	\$0	(\$800)	\$0	\$0	\$0	\$800	\$800	\$3,208
2026	\$0	\$0	\$0	\$0	(\$824)	\$0	\$0	\$0	\$824	\$824	\$3,415
2027	\$0	\$0	\$0	\$0	(\$855)	\$0	\$0	\$0	\$855	\$855	\$3,614
2028	\$0	\$0	\$0	\$0	(\$884)	\$0	\$0	\$0	\$884	\$884	\$3,804
2029	\$0	\$0	\$0	\$0	(\$917)	\$0	\$0	\$0	\$917	\$917	\$3,986
2030	\$0	\$0	\$0	\$0	(\$949)	\$0	\$0	\$0	\$949	\$949	\$4,159
2031	\$0	\$0	\$0	\$0	(\$977)	\$0	\$0	\$0	\$977	\$977	\$4,323
2032	\$0	\$0	\$0	\$0	(\$1,006)	\$0	\$0	\$0	\$1,006	\$1,006	\$4,479
2033	\$0	\$0	\$0	\$0	(\$1,035)	\$0	\$0	\$0	\$1,035	\$1,035	\$4,627
2034	\$0	\$0	\$0	\$0	(\$1,065)	\$0	\$0	\$0	\$1,065	\$1,065	\$4,768
2035	\$0	\$0	\$0	\$0	(\$1,095)	\$0	\$0	\$0	\$1,095	\$1,095	\$4,901
2036	\$0	\$0	\$0	\$0	(\$1,126)	\$0	\$0	\$0	\$1,126	\$1,126	\$5,028
2037	\$0	\$0	\$0	\$0	(\$1,157)	\$0	\$0	\$0	\$1,157	\$1,157	\$5,147
<b>Nominal</b>	\$5,053				(\$18,953)	\$3,285	\$2,261	\$5,053	\$24,499	\$19,445	
<b>NPV</b>	\$2,770	\$0	\$0	\$0	(\$4,845)	\$1,952	\$1,354	\$3,003	\$8,151	\$5,147	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		2.71									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$36.018	\$39.900	(\$8.583)	\$0.000	\$0.000	(\$7.015)	\$0.000	\$0.000	\$84.501	\$7.015	(\$77.486)	(\$71.457)
2011	\$0.000	\$69.405	\$75.600	(\$24.498)	\$0.000	(\$2.719)	(\$20.787)	\$0.000	\$0.000	\$169.503	\$23.506	(\$145.997)	(\$195.619)
2012	\$0.000	\$119.602	\$128.100	(\$51.374)	\$0.000	(\$5.831)	(\$44.309)	\$0.000	\$0.000	\$299.076	\$50.140	(\$248.936)	(\$390.853)
2013	\$0.000	\$195.414	\$205.800	(\$96.245)	\$0.000	(\$10.941)	(\$87.263)	\$0.000	\$0.000	\$497.459	\$98.204	(\$399.256)	(\$679.615)
2014	\$0.000	\$304.188	\$315.000	(\$169.027)	(\$58.110)	(\$18.926)	(\$124.652)	\$0.000	\$0.000	\$788.215	\$201.688	(\$586.527)	(\$1,070.817)
2015	\$0.000	\$309.359	\$315.000	(\$279.472)	(\$83.107)	(\$27.179)	(\$208.557)	\$0.000	\$0.000	\$903.831	\$318.843	(\$584.988)	(\$1,430.633)
2016	\$0.000	\$314.618	\$315.000	(\$373.789)	(\$108.741)	(\$35.707)	(\$280.248)	\$0.000	\$0.000	\$1,003.407	\$424.696	(\$578.711)	(\$1,758.894)
2017	\$0.000	\$319.967	\$315.000	(\$456.706)	(\$135.027)	(\$44.518)	(\$350.141)	\$0.000	\$0.000	\$1,091.672	\$529.686	(\$561.986)	(\$2,052.865)
2018	\$0.000	\$298.289	\$288.750	(\$550.456)	(\$159.882)	(\$52.922)	(\$421.201)	\$0.000	\$0.000	\$1,137.495	\$634.005	(\$503.490)	(\$2,295.745)
2019	\$0.000	\$275.782	\$262.500	(\$641.152)	(\$183.240)	(\$60.893)	(\$493.096)	\$0.000	\$0.000	\$1,179.433	\$737.229	(\$442.205)	(\$2,492.465)
2020	\$0.000	\$0.000	\$0.000	(\$668.550)	(\$185.634)	(\$61.928)	(\$489.050)	\$0.000	\$0.000	\$668.550	\$736.611	\$68.062	(\$2,464.543)
2021	\$0.000	\$0.000	\$0.000	(\$695.849)	(\$188.069)	(\$62.981)	(\$488.085)	\$0.000	\$0.000	\$695.849	\$739.134	\$43.285	(\$2,448.167)
2022	\$0.000	\$0.000	\$0.000	(\$722.686)	(\$190.545)	(\$64.051)	(\$503.269)	\$0.000	\$0.000	\$722.686	\$757.865	\$35.179	(\$2,435.893)
2023	\$0.000	\$0.000	\$0.000	(\$748.461)	(\$193.063)	(\$65.140)	(\$521.593)	\$0.000	\$0.000	\$748.461	\$779.796	\$31.335	(\$2,425.811)
2024	\$0.000	\$0.000	\$0.000	(\$777.031)	(\$195.625)	(\$66.248)	(\$541.247)	\$0.000	\$0.000	\$777.031	\$803.119	\$26.088	(\$2,418.070)
2025	\$0.000	\$0.000	\$0.000	(\$800.366)	(\$198.229)	(\$67.374)	(\$565.005)	\$0.000	\$0.000	\$800.366	\$830.608	\$30.243	(\$2,409.795)
2026	\$0.000	\$0.000	\$0.000	(\$823.511)	(\$200.878)	(\$68.519)	(\$589.024)	\$0.000	\$0.000	\$823.511	\$858.421	\$34.911	(\$2,400.986)
2027	\$0.000	\$0.000	\$0.000	(\$855.181)	(\$203.572)	(\$69.684)	(\$610.749)	\$0.000	\$0.000	\$855.181	\$884.005	\$28.824	(\$2,394.279)
2028	\$0.000	\$0.000	\$0.000	(\$883.804)	(\$206.312)	(\$70.869)	(\$635.837)	\$0.000	\$0.000	\$883.804	\$913.018	\$29.214	(\$2,388.009)
2029	\$0.000	\$0.000	\$0.000	(\$917.064)	(\$209.098)	(\$72.073)	(\$644.900)	\$0.000	\$0.000	\$917.064	\$926.072	\$9.008	(\$2,386.226)
2030	\$0.000	\$0.000	\$0.000	(\$948.583)	(\$211.932)	(\$73.299)	(\$660.291)	\$0.000	\$0.000	\$948.583	\$945.522	(\$3.062)	(\$2,386.785)
2031	\$0.000	\$0.000	\$0.000	(\$977.096)	(\$214.814)	(\$74.545)	(\$675.770)	\$0.000	\$0.000	\$977.096	\$965.129	(\$11.967)	(\$2,388.799)
2032	\$0.000	\$0.000	\$0.000	(\$1,005.996)	(\$217.745)	(\$75.812)	(\$693.143)	\$0.000	\$0.000	\$1,005.996	\$986.700	(\$19.297)	(\$2,391.794)
2033	\$0.000	\$0.000	\$0.000	(\$1,035.296)	(\$220.726)	(\$77.101)	(\$711.041)	\$0.000	\$0.000	\$1,035.296	\$1,008.867	(\$26.429)	(\$2,395.577)
2034	\$0.000	\$0.000	\$0.000	(\$1,065.010)	(\$223.757)	(\$78.412)	(\$728.652)	\$0.000	\$0.000	\$1,065.010	\$1,030.821	(\$34.189)	(\$2,400.090)
2035	\$0.000	\$0.000	\$0.000	(\$1,095.150)	(\$226.840)	(\$79.745)	(\$745.655)	\$0.000	\$0.000	\$1,095.150	\$1,052.240	(\$42.910)	(\$2,405.313)
2036	\$0.000	\$0.000	\$0.000	(\$1,125.732)	(\$229.976)	(\$81.100)	(\$762.975)	\$0.000	\$0.000	\$1,125.732	\$1,074.050	(\$51.682)	(\$2,411.115)
2037	\$0.000	\$0.000	\$0.000	(\$1,156.770)	(\$233.164)	(\$82.479)	(\$780.496)	\$0.000	\$0.000	\$1,156.770	\$1,096.139	(\$60.632)	(\$2,417.391)
<hr/>													
Nominal		\$2,242.642	\$2,260.650	(\$18,953.438)	(\$4,478.087)	(\$1,550.993)	(\$13,384.049)			\$23,456.729	\$19,413.130	(\$4,043.600)	
NPV		\$1,332.953	\$1,353.767	(\$4,844.861)	(\$1,200.058)	(\$420.330)	(\$3,493.802)	\$0.000	\$0.000	\$7,531.582	\$5,114.190	(\$2,417.391)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.68											

Run Date:

25-Mar-10

04:38 PM

Filename: HVAC Upgrade Tier 3

## 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	-0.64	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.84	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(3,769)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(3,456)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-1.08	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	29	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$1,318.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$5,250.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	0.00%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$2,175.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$1,500.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.70%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.93%	

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)	\$0.0509	\$/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

	TRC	Participants <sup>1</sup>	RIM
NPV Benefits(\$000s)	\$2,181	\$3,375	\$2,181
NPV Costs (\$000s)	\$2,058	\$1,645	\$3,033
NPV Net Benefits (\$000s)	\$123	\$1,729	(\$852)
Benefit:Cost Ratio	1.060	2.051	0.719

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$13	\$53	\$0	\$0	\$0	\$0	(\$3)	\$66	\$3	(\$62)	(\$57)
2011	\$0	\$24	\$95	\$0	\$0	\$0	(\$1)	(\$10)	\$118	\$11	(\$107)	(\$149)
2012	\$0	\$41	\$163	\$0	\$0	\$0	(\$2)	(\$21)	\$204	\$23	(\$181)	(\$291)
2013	\$0	\$65	\$257	\$0	\$0	\$0	(\$4)	(\$40)	\$322	\$45	(\$277)	(\$491)
2014	\$0	\$99	\$394	\$0	\$0	(\$23)	(\$8)	(\$57)	\$493	\$88	(\$404)	(\$761)
2015	\$0	\$99	\$394	\$0	\$0	(\$33)	(\$11)	(\$96)	\$493	\$140	(\$353)	(\$978)
2016	\$0	\$99	\$394	\$0	\$0	(\$44)	(\$14)	(\$128)	\$493	\$186	(\$306)	(\$1,151)
2017	\$0	\$99	\$394	\$0	\$0	(\$54)	(\$18)	(\$160)	\$493	\$232	(\$260)	(\$1,287)
2018	\$0	\$79	\$315	\$0	\$0	(\$63)	(\$21)	(\$189)	\$394	\$273	(\$121)	(\$1,346)
2019	\$0	\$66	\$263	\$0	\$0	(\$71)	(\$23)	(\$217)	\$328	\$311	(\$18)	(\$1,354)
2020	\$0	\$0	\$0	\$0	\$0	(\$71)	(\$24)	(\$215)	\$0	\$310	\$310	(\$1,226)
2021	\$0	\$0	\$0	\$0	\$0	(\$72)	(\$24)	(\$215)	\$0	\$311	\$311	(\$1,109)
2022	\$0	\$0	\$0	\$0	\$0	(\$73)	(\$25)	(\$221)	\$0	\$319	\$319	(\$997)
2023	\$0	\$0	\$0	\$0	\$0	(\$74)	(\$25)	(\$229)	\$0	\$329	\$329	(\$891)
2024	\$0	\$0	\$0	\$0	\$0	(\$75)	(\$26)	(\$238)	\$0	\$339	\$339	(\$791)
2025	\$0	\$0	\$0	\$0	\$0	(\$76)	(\$26)	(\$248)	\$0	\$351	\$351	(\$695)
2026	\$0	\$0	\$0	\$0	\$0	(\$77)	(\$26)	(\$259)	\$0	\$363	\$363	(\$603)
2027	\$0	\$0	\$0	\$0	\$0	(\$78)	(\$27)	(\$269)	\$0	\$374	\$374	(\$516)
2028	\$0	\$0	\$0	\$0	\$0	(\$79)	(\$27)	(\$280)	\$0	\$386	\$386	(\$433)
2029	\$0	\$0	\$0	\$0	\$0	(\$80)	(\$28)	(\$284)	\$0	\$392	\$392	(\$356)
2030	\$0	\$0	\$0	\$0	\$0	(\$82)	(\$28)	(\$290)	\$0	\$400	\$400	(\$283)
2031	\$0	\$0	\$0	\$0	\$0	(\$83)	(\$29)	(\$297)	\$0	\$409	\$409	(\$214)
2032	\$0	\$0	\$0	\$0	\$0	(\$84)	(\$29)	(\$305)	\$0	\$418	\$418	(\$149)
2033	\$0	\$0	\$0	\$0	\$0	(\$85)	(\$30)	(\$313)	\$0	\$427	\$427	(\$88)
2034	\$0	\$0	\$0	\$0	\$0	(\$86)	(\$30)	(\$320)	\$0	\$437	\$437	(\$31)
2035	\$0	\$0	\$0	\$0	\$0	(\$87)	(\$31)	(\$328)	\$0	\$446	\$446	\$24
2036	\$0	\$0	\$0	\$0	\$0	(\$89)	(\$31)	(\$335)	\$0	\$455	\$455	\$75
2037	\$0	\$0	\$0	\$0	\$0	(\$90)	(\$32)	(\$343)	\$0	\$465	\$465	\$123
<b>Nominal</b>		\$683	\$2,720			(\$1,732)	(\$600)	(\$5,911)	\$3,402	\$8,243	\$4,840	
<b>NPV</b>		\$413	\$1,645	\$0	\$0	(\$466)	(\$164)	(\$1,552)	\$2,058	\$2,181	\$123	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.06										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$53	\$0	\$0	\$0	(\$4)	\$22	\$15	\$53	\$41	(\$11)	(\$10)
2011	\$95	\$0	\$0	\$0	(\$11)	\$40	\$27	\$95	\$79	(\$16)	(\$24)
2012	\$163	\$0	\$0	\$0	(\$24)	\$71	\$47	\$163	\$141	(\$21)	(\$40)
2013	\$257	\$0	\$0	\$0	(\$44)	\$114	\$74	\$257	\$232	(\$25)	(\$59)
2014	\$394	\$0	\$0	\$0	(\$78)	\$177	\$113	\$394	\$368	(\$26)	(\$76)
2015	\$394	\$0	\$0	\$0	(\$128)	\$180	\$113	\$394	\$421	\$27	(\$59)
2016	\$394	\$0	\$0	\$0	(\$171)	\$184	\$113	\$394	\$467	\$74	(\$18)
2017	\$394	\$0	\$0	\$0	(\$209)	\$187	\$113	\$394	\$508	\$115	\$42
2018	\$315	\$0	\$0	\$0	(\$247)	\$152	\$90	\$315	\$489	\$174	\$126
2019	\$263	\$0	\$0	\$0	(\$282)	\$129	\$75	\$263	\$486	\$223	\$226
2020	\$0	\$0	\$0	\$0	(\$294)	\$0	\$0	\$0	\$294	\$294	\$346
2021	\$0	\$0	\$0	\$0	(\$306)	\$0	\$0	\$0	\$306	\$306	\$462
2022	\$0	\$0	\$0	\$0	(\$318)	\$0	\$0	\$0	\$318	\$318	\$573
2023	\$0	\$0	\$0	\$0	(\$329)	\$0	\$0	\$0	\$329	\$329	\$679
2024	\$0	\$0	\$0	\$0	(\$342)	\$0	\$0	\$0	\$342	\$342	\$780
2025	\$0	\$0	\$0	\$0	(\$352)	\$0	\$0	\$0	\$352	\$352	\$876
2026	\$0	\$0	\$0	\$0	(\$362)	\$0	\$0	\$0	\$362	\$362	\$968
2027	\$0	\$0	\$0	\$0	(\$376)	\$0	\$0	\$0	\$376	\$376	\$1,055
2028	\$0	\$0	\$0	\$0	(\$389)	\$0	\$0	\$0	\$389	\$389	\$1,139
2029	\$0	\$0	\$0	\$0	(\$403)	\$0	\$0	\$0	\$403	\$403	\$1,219
2030	\$0	\$0	\$0	\$0	(\$417)	\$0	\$0	\$0	\$417	\$417	\$1,295
2031	\$0	\$0	\$0	\$0	(\$430)	\$0	\$0	\$0	\$430	\$430	\$1,367
2032	\$0	\$0	\$0	\$0	(\$442)	\$0	\$0	\$0	\$442	\$442	\$1,436
2033	\$0	\$0	\$0	\$0	(\$455)	\$0	\$0	\$0	\$455	\$455	\$1,501
2034	\$0	\$0	\$0	\$0	(\$468)	\$0	\$0	\$0	\$468	\$468	\$1,563
2035	\$0	\$0	\$0	\$0	(\$482)	\$0	\$0	\$0	\$482	\$482	\$1,621
2036	\$0	\$0	\$0	\$0	(\$495)	\$0	\$0	\$0	\$495	\$495	\$1,677
2037	\$0	\$0	\$0	\$0	(\$509)	\$0	\$0	\$0	\$509	\$509	\$1,729
<b>Nominal</b>	\$2,720				(\$8,368)	\$1,256	\$777	\$2,720	\$10,401	\$7,682	
<b>NPV</b>	\$1,517	\$0	\$0	\$0	(\$2,150)	\$755	\$470	\$1,645	\$3,375	\$1,729	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		2.05									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$13.180	\$15.000	(\$4.128)	\$0.000	\$0.000	(\$3.374)	\$0.000	\$0.000	\$32.308	\$3.374	(\$28.934)	(\$26.683)
2011	\$0.000	\$23.724	\$27.000	(\$11.997)	\$0.000	(\$1.107)	(\$9.670)	\$0.000	\$0.000	\$62.121	\$10.778	(\$51.343)	(\$70.347)
2012	\$0.000	\$40.858	\$46.500	(\$23.878)	\$0.000	(\$2.373)	(\$20.594)	\$0.000	\$0.000	\$111.236	\$22.967	(\$88.269)	(\$139.574)
2013	\$0.000	\$64.582	\$73.500	(\$44.386)	\$0.000	(\$4.417)	(\$40.243)	\$0.000	\$0.000	\$182.468	\$44.660	(\$137.807)	(\$239.243)
2014	\$0.000	\$98.850	\$112.500	(\$77.653)	(\$23.372)	(\$7.612)	(\$57.267)	\$0.000	\$0.000	\$289.003	\$88.250	(\$200.753)	(\$373.141)
2015	\$0.000	\$98.850	\$112.500	(\$128.188)	(\$33.372)	(\$10.914)	(\$95.661)	\$0.000	\$0.000	\$339.538	\$139.947	(\$199.591)	(\$495.907)
2016	\$0.000	\$98.850	\$112.500	(\$171.299)	(\$43.627)	(\$14.326)	(\$128.431)	\$0.000	\$0.000	\$382.649	\$186.384	(\$196.264)	(\$607.233)
2017	\$0.000	\$98.850	\$112.500	(\$209.182)	(\$54.144)	(\$17.851)	(\$160.373)	\$0.000	\$0.000	\$420.532	\$232.367	(\$188.165)	(\$705.661)
2018	\$0.000	\$79.080	\$90.000	(\$247.407)	(\$62.911)	(\$20.824)	(\$189.312)	\$0.000	\$0.000	\$416.487	\$273.047	(\$143.440)	(\$774.855)
2019	\$0.000	\$65.900	\$75.000	(\$281.922)	(\$70.538)	(\$23.441)	(\$216.820)	\$0.000	\$0.000	\$422.822	\$310.799	(\$112.023)	(\$824.690)
2020	\$0.000	\$0.000	\$0.000	(\$293.969)	(\$71.460)	(\$23.839)	(\$215.041)	\$0.000	\$0.000	\$293.969	\$310.340	\$16.371	(\$817.974)
2021	\$0.000	\$0.000	\$0.000	(\$305.973)	(\$72.397)	(\$24.244)	(\$214.617)	\$0.000	\$0.000	\$305.973	\$311.258	\$5.285	(\$815.974)
2022	\$0.000	\$0.000	\$0.000	(\$317.774)	(\$73.351)	(\$24.657)	(\$221.293)	\$0.000	\$0.000	\$317.774	\$319.300	\$1.527	(\$815.441)
2023	\$0.000	\$0.000	\$0.000	(\$329.107)	(\$74.320)	(\$25.076)	(\$229.350)	\$0.000	\$0.000	\$329.107	\$328.746	(\$0.361)	(\$815.557)
2024	\$0.000	\$0.000	\$0.000	(\$341.670)	(\$75.306)	(\$25.502)	(\$237.993)	\$0.000	\$0.000	\$341.670	\$338.801	(\$2.869)	(\$816.409)
2025	\$0.000	\$0.000	\$0.000	(\$351.930)	(\$76.309)	(\$25.936)	(\$248.439)	\$0.000	\$0.000	\$351.930	\$350.684	(\$1.246)	(\$816.750)
2026	\$0.000	\$0.000	\$0.000	(\$362.107)	(\$77.328)	(\$26.377)	(\$259.001)	\$0.000	\$0.000	\$362.107	\$362.705	\$0.598	(\$816.599)
2027	\$0.000	\$0.000	\$0.000	(\$376.033)	(\$78.365)	(\$26.825)	(\$268.553)	\$0.000	\$0.000	\$376.033	\$373.744	(\$2.289)	(\$817.131)
2028	\$0.000	\$0.000	\$0.000	(\$388.619)	(\$79.420)	(\$27.281)	(\$279.585)	\$0.000	\$0.000	\$388.619	\$386.286	(\$2.333)	(\$817.632)
2029	\$0.000	\$0.000	\$0.000	(\$403.244)	(\$80.493)	(\$27.745)	(\$283.570)	\$0.000	\$0.000	\$403.244	\$391.808	(\$11.436)	(\$819.895)
2030	\$0.000	\$0.000	\$0.000	(\$417.103)	(\$81.584)	(\$28.216)	(\$290.338)	\$0.000	\$0.000	\$417.103	\$400.137	(\$16.966)	(\$822.991)
2031	\$0.000	\$0.000	\$0.000	(\$429.641)	(\$82.693)	(\$28.696)	(\$297.144)	\$0.000	\$0.000	\$429.641	\$408.533	(\$21.108)	(\$826.544)
2032	\$0.000	\$0.000	\$0.000	(\$442.348)	(\$83.821)	(\$29.184)	(\$304.783)	\$0.000	\$0.000	\$442.348	\$417.788	(\$24.560)	(\$830.356)
2033	\$0.000	\$0.000	\$0.000	(\$455.232)	(\$84.969)	(\$29.680)	(\$312.653)	\$0.000	\$0.000	\$455.232	\$427.302	(\$27.930)	(\$834.354)
2034	\$0.000	\$0.000	\$0.000	(\$468.297)	(\$86.136)	(\$30.185)	(\$320.397)	\$0.000	\$0.000	\$468.297	\$436.717	(\$31.580)	(\$838.522)
2035	\$0.000	\$0.000	\$0.000	(\$481.550)	(\$87.322)	(\$30.698)	(\$327.873)	\$0.000	\$0.000	\$481.550	\$445.893	(\$35.657)	(\$842.862)
2036	\$0.000	\$0.000	\$0.000	(\$494.997)	(\$88.529)	(\$31.220)	(\$335.489)	\$0.000	\$0.000	\$494.997	\$455.238	(\$39.760)	(\$847.326)
2037	\$0.000	\$0.000	\$0.000	(\$508.645)	(\$89.757)	(\$31.750)	(\$343.193)	\$0.000	\$0.000	\$508.645	\$464.700	(\$43.945)	(\$851.875)
<b>Nominal</b>													
NPV		\$682.724	\$777.000	(\$8,367.677)	(\$1,731.524)	(\$599.974)	(\$5,911.056)			\$9,827.401	\$8,242.554	(\$1,584.847)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.72											
NPV		\$413.057	\$470.096	(\$2,150.084)	(\$466.274)	(\$163.523)	(\$1,551.565)	\$0.000	\$0.000	\$3,033.237	\$2,181.362	(\$851.875)	

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HVAC Duct Repair

## 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	-0.32	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.42	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(1,507)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,382)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-0.21	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	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$627.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$400.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$200.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.69%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.83%	

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)	\$0.0509	\$/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

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$71,798	\$70,815	\$71,798
NPV Costs (\$000s)	\$26,787	\$10,433	\$87,169
NPV Net Benefits (\$000s)	\$45,011	\$60,381	(\$15,371)
Benefit:Cost Ratio	2.680	6.787	0.824

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$0	\$648	\$414	\$0	\$0	\$0	(\$20)	(\$198)	\$1,062	\$158	(\$904)	(\$769)
2012	\$0	\$1,319	\$841	\$0	\$0	\$0	(\$60)	(\$419)	\$2,161	\$479	(\$1,681)	(\$2,088)
2013	\$0	\$2,817	\$1,797	\$0	\$0	\$0	(\$147)	(\$1,073)	\$4,614	\$1,220	(\$3,394)	(\$4,543)
2014	\$0	\$4,434	\$2,829	\$0	\$0	(\$875)	(\$285)	(\$1,714)	\$7,263	\$2,874	(\$4,388)	(\$7,470)
2015	\$0	\$4,162	\$2,655	\$0	\$0	(\$1,274)	(\$417)	(\$2,921)	\$6,818	\$4,612	(\$2,206)	(\$8,827)
2016	\$0	\$3,810	\$2,431	\$0	\$0	(\$1,644)	(\$540)	(\$3,871)	\$6,240	\$6,055	(\$185)	(\$8,932)
2017	\$0	\$3,588	\$2,289	\$0	\$0	(\$1,997)	(\$658)	(\$4,731)	\$5,876	\$7,387	\$1,511	(\$8,142)
2018	\$0	\$3,503	\$2,235	\$0	\$0	(\$2,346)	(\$776)	(\$5,645)	\$5,737	\$8,768	\$3,030	(\$6,680)
2019	\$0	\$3,340	\$2,131	\$0	\$0	(\$2,683)	(\$891)	(\$6,595)	\$5,470	\$10,169	\$4,699	(\$4,589)
2020	\$0	\$0	\$0	\$0	\$0	(\$2,718)	(\$907)	(\$6,541)	\$0	\$10,165	\$10,165	(\$419)
2021	\$0	\$0	\$0	\$0	\$0	(\$2,753)	(\$922)	(\$6,528)	\$0	\$10,203	\$10,203	\$3,441
2022	\$0	\$0	\$0	\$0	\$0	(\$2,790)	(\$938)	(\$6,731)	\$0	\$10,458	\$10,458	\$7,090
2023	\$0	\$0	\$0	\$0	\$0	(\$2,826)	(\$954)	(\$6,976)	\$0	\$10,756	\$10,756	\$10,550
2024	\$0	\$0	\$0	\$0	\$0	(\$2,864)	(\$970)	(\$7,239)	\$0	\$11,073	\$11,073	\$13,836
2025	\$0	\$0	\$0	\$0	\$0	(\$2,902)	(\$986)	(\$7,557)	\$0	\$11,445	\$11,445	\$16,967
2026	\$0	\$0	\$0	\$0	\$0	(\$2,941)	(\$1,003)	(\$7,878)	\$0	\$11,822	\$11,822	\$19,950
2027	\$0	\$0	\$0	\$0	\$0	(\$2,980)	(\$1,020)	(\$8,168)	\$0	\$12,169	\$12,169	\$22,782
2028	\$0	\$0	\$0	\$0	\$0	(\$3,020)	(\$1,038)	(\$8,504)	\$0	\$12,562	\$12,562	\$25,478
2029	\$0	\$0	\$0	\$0	\$0	(\$3,061)	(\$1,055)	(\$8,825)	\$0	\$12,741	\$12,741	\$27,999
2030	\$0	\$0	\$0	\$0	\$0	(\$3,103)	(\$1,073)	(\$8,831)	\$0	\$13,007	\$13,007	\$30,373
2031	\$0	\$0	\$0	\$0	\$0	(\$3,145)	(\$1,091)	(\$9,038)	\$0	\$13,274	\$13,274	\$32,607
2032	\$0	\$0	\$0	\$0	\$0	(\$3,188)	(\$1,110)	(\$9,270)	\$0	\$13,568	\$13,568	\$34,713
2033	\$0	\$0	\$0	\$0	\$0	(\$3,231)	(\$1,129)	(\$9,510)	\$0	\$13,870	\$13,870	\$36,698
2034	\$0	\$0	\$0	\$0	\$0	(\$3,276)	(\$1,148)	(\$9,745)	\$0	\$14,169	\$14,169	\$38,569
2035	\$0	\$0	\$0	\$0	\$0	(\$3,321)	(\$1,167)	(\$9,973)	\$0	\$14,461	\$14,461	\$40,329
2036	\$0	\$0	\$0	\$0	\$0	(\$3,367)	(\$1,187)	(\$10,204)	\$0	\$14,758	\$14,758	\$41,986
2037	\$0	\$0	\$0	\$0	\$0	(\$3,414)	(\$1,207)	(\$10,439)	\$0	\$15,060	\$15,060	\$43,545
2038	\$0	\$0	\$0	\$0	\$0	(\$3,461)	(\$1,228)	(\$10,668)	\$0	\$15,357	\$15,357	\$45,011
Nominal		\$27,621	\$17,621			(\$69,180)	(\$23,929)	(\$189,530)	\$45,241	\$282,639	\$237,397	
NPV		\$16,354	\$10,433	\$0	\$0	(\$17,993)	(\$6,256)	(\$47,549)	\$26,787	\$71,798	\$45,011	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		2.68										

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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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$414	\$0	\$0	\$0	(\$163)	\$0	\$200	\$414	\$363	(\$51)	(\$43)
2012	\$841	\$0	\$0	\$0	(\$486)	\$0	\$400	\$841	\$886	\$44	(\$9)
2013	\$1,797	\$0	\$0	\$0	(\$1,183)	\$0	\$840	\$1,797	\$2,023	\$226	\$155
2014	\$2,829	\$0	\$0	\$0	(\$2,325)	\$0	\$1,300	\$2,829	\$3,625	\$796	\$686
2015	\$2,655	\$0	\$0	\$0	(\$3,914)	\$0	\$1,200	\$2,655	\$5,114	\$2,459	\$2,198
2016	\$2,431	\$0	\$0	\$0	(\$5,163)	\$0	\$1,080	\$2,431	\$6,243	\$3,813	\$4,361
2017	\$2,289	\$0	\$0	\$0	(\$6,171)	\$0	\$1,000	\$2,289	\$7,171	\$4,882	\$6,914
2018	\$2,235	\$0	\$0	\$0	(\$7,378)	\$0	\$960	\$2,235	\$8,338	\$6,103	\$9,859
2019	\$2,131	\$0	\$0	\$0	(\$8,575)	\$0	\$900	\$2,131	\$9,475	\$7,344	\$13,126
2020	\$0	\$0	\$0	\$0	(\$8,941)	\$0	\$0	\$0	\$8,941	\$8,941	\$16,794
2021	\$0	\$0	\$0	\$0	(\$9,306)	\$0	\$0	\$0	\$9,306	\$9,306	\$20,315
2022	\$0	\$0	\$0	\$0	(\$9,665)	\$0	\$0	\$0	\$9,665	\$9,665	\$23,687
2023	\$0	\$0	\$0	\$0	(\$10,010)	\$0	\$0	\$0	\$10,010	\$10,010	\$26,908
2024	\$0	\$0	\$0	\$0	(\$10,392)	\$0	\$0	\$0	\$10,392	\$10,392	\$29,991
2025	\$0	\$0	\$0	\$0	(\$10,704)	\$0	\$0	\$0	\$10,704	\$10,704	\$32,920
2026	\$0	\$0	\$0	\$0	(\$11,014)	\$0	\$0	\$0	\$11,014	\$11,014	\$35,699
2027	\$0	\$0	\$0	\$0	(\$11,437)	\$0	\$0	\$0	\$11,437	\$11,437	\$38,361
2028	\$0	\$0	\$0	\$0	(\$11,820)	\$0	\$0	\$0	\$11,820	\$11,820	\$40,898
2029	\$0	\$0	\$0	\$0	(\$12,265)	\$0	\$0	\$0	\$12,265	\$12,265	\$43,325
2030	\$0	\$0	\$0	\$0	(\$12,687)	\$0	\$0	\$0	\$12,687	\$12,687	\$45,640
2031	\$0	\$0	\$0	\$0	(\$13,068)	\$0	\$0	\$0	\$13,068	\$13,068	\$47,840
2032	\$0	\$0	\$0	\$0	(\$13,454)	\$0	\$0	\$0	\$13,454	\$13,454	\$49,928
2033	\$0	\$0	\$0	\$0	(\$13,846)	\$0	\$0	\$0	\$13,846	\$13,846	\$51,910
2034	\$0	\$0	\$0	\$0	(\$14,244)	\$0	\$0	\$0	\$14,244	\$14,244	\$53,790
2035	\$0	\$0	\$0	\$0	(\$14,647)	\$0	\$0	\$0	\$14,647	\$14,647	\$55,573
2036	\$0	\$0	\$0	\$0	(\$15,056)	\$0	\$0	\$0	\$15,056	\$15,056	\$57,263
2037	\$0	\$0	\$0	\$0	(\$15,471)	\$0	\$0	\$0	\$15,471	\$15,471	\$58,864
2038	\$0	\$0	\$0	\$0	(\$15,892)	\$0	\$0	\$0	\$15,892	\$15,892	\$60,381
<b>Nominal NPV</b>	\$17,621	\$0	\$0	\$0	(\$269,278)	\$0	\$7,880	\$17,621	\$277,158	\$259,537	
<b>Discount Rate =</b>	8.44%										
<b>Benefit/Cost Ratio =</b>	6.79										
	\$9,621				(\$66,119)	\$0	\$4,696	\$10,433	\$70,815	\$60,381	

**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 (\$000s)	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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2011	\$0.000	\$648,499	\$200,000	(\$162,760)	\$0.000	(\$19,772)	(\$138,108)	\$0.000	\$0.000	\$1,011,259	\$157,880	(\$853,379)	(\$725,750)
2012	\$0.000	\$1,319,047	\$400,000	(\$485,506)	\$0.000	(\$60,323)	(\$418,737)	\$0.000	\$0.000	\$2,204,554	\$479,061	(\$1,725,493)	(\$2,079,007)
2013	\$0.000	\$2,817,089	\$840,000	(\$1,183,274)	\$0.000	(\$147,237)	(\$1,072,843)	\$0.000	\$0.000	\$4,840,364	\$1,220,081	(\$3,620,283)	(\$4,697,384)
2014	\$0.000	\$4,433,898	\$1,300,000	(\$2,324,673)	\$0.000	(\$874,845)	(\$284,923)	\$0.000	\$0.000	\$8,058,571	\$2,874,140	(\$5,184,431)	(\$8,155,290)
2015	\$0.000	\$4,162,407	\$1,200,000	(\$3,914,061)	\$0.000	(\$1,274,098)	(\$416,672)	\$0.000	\$0.000	\$9,276,468	\$4,611,650	(\$4,664,817)	(\$11,024,544)
2016	\$0.000	\$3,809,851	\$1,080,000	(\$5,163,190)	\$0.000	(\$1,644,216)	(\$539,911)	\$0.000	\$0.000	\$10,053,041	\$6,055,225	(\$3,997,816)	(\$13,292,213)
2017	\$0.000	\$3,587,610	\$1,000,000	(\$6,171,133)	\$0.000	(\$1,997,206)	(\$658,470)	\$0.000	\$0.000	\$10,758,742	\$7,386,880	(\$3,371,863)	(\$15,056,012)
2018	\$0.000	\$3,502,655	\$960,000	(\$7,377,786)	\$0.000	(\$2,345,715)	(\$776,454)	\$0.000	\$0.000	\$11,840,441	\$8,767,545	(\$3,072,895)	(\$16,538,358)
2019	\$0.000	\$3,339,563	\$900,000	(\$8,574,909)	\$0.000	(\$2,682,636)	(\$891,472)	\$0.000	\$0.000	\$12,814,471	\$10,168,887	(\$2,645,584)	(\$17,715,274)
2020	\$0.000	\$0.000	\$0.000	(\$8,941,336)	\$0.000	(\$2,717,687)	(\$906,627)	\$0.000	\$0.000	\$8,941,336	\$10,164,975	\$1,223,639	(\$17,213,278)
2021	\$0.000	\$0.000	\$0.000	(\$9,306,443)	\$0.000	(\$2,753,333)	(\$922,040)	\$0.000	\$0.000	\$9,306,443	\$10,203,129	\$896,687	(\$16,874,036)
2022	\$0.000	\$0.000	\$0.000	\$9,665,372	\$0.000	(\$2,789,586)	(\$937,714)	\$0.000	\$0.000	\$9,665,372	\$10,458,130	\$792,758	(\$16,597,449)
2023	\$0.000	\$0.000	\$0.000	(\$10,010,087)	\$0.000	(\$2,826,455)	(\$953,656)	\$0.000	\$0.000	\$10,010,087	\$10,756,010	\$745,923	(\$16,357,451)
2024	\$0.000	\$0.000	\$0.000	(\$10,392,189)	\$0.000	(\$2,863,950)	(\$969,868)	\$0.000	\$0.000	\$10,392,189	\$11,072,578	\$680,389	(\$16,155,571)
2025	\$0.000	\$0.000	\$0.000	(\$10,704,271)	\$0.000	(\$2,902,083)	(\$986,355)	\$0.000	\$0.000	\$10,704,271	\$11,444,947	\$740,676	(\$15,952,903)
2026	\$0.000	\$0.000	\$0.000	(\$11,013,818)	\$0.000	(\$2,940,864)	(\$1,003,124)	\$0.000	\$0.000	\$11,013,818	\$11,821,726	\$807,908	(\$15,749,036)
2027	\$0.000	\$0.000	\$0.000	(\$11,437,387)	\$0.000	(\$2,990,305)	(\$1,020,177)	\$0.000	\$0.000	\$11,437,387	\$12,168,779	\$731,392	(\$15,578,840)
2028	\$0.000	\$0.000	\$0.000	(\$11,820,198)	\$0.000	(\$3,020,416)	(\$1,037,520)	\$0.000	\$0.000	\$11,820,198	\$12,561,771	\$741,573	(\$15,419,700)
2029	\$0.000	\$0.000	\$0.000	(\$12,265,017)	\$0.000	(\$3,061,209)	(\$1,055,157)	\$0.000	\$0.000	\$12,265,017	\$12,741,408	\$476,391	(\$15,325,422)
2030	\$0.000	\$0.000	\$0.000	(\$12,686,569)	\$0.000	(\$3,102,695)	(\$1,073,095)	\$0.000	\$0.000	\$12,686,569	\$13,006,670	\$320,100	(\$15,267,002)
2031	\$0.000	\$0.000	\$0.000	(\$13,067,909)	\$0.000	(\$3,144,887)	(\$1,091,338)	\$0.000	\$0.000	\$13,067,909	\$13,274,128	\$206,219	(\$15,232,295)
2032	\$0.000	\$0.000	\$0.000	(\$13,454,424)	\$0.000	(\$3,187,796)	(\$1,109,890)	\$0.000	\$0.000	\$13,454,424	\$13,567,936	\$113,512	(\$15,214,677)
2033	\$0.000	\$0.000	\$0.000	(\$13,846,288)	\$0.000	(\$3,231,434)	(\$1,128,759)	\$0.000	\$0.000	\$13,846,288	\$13,869,812	\$23,524	(\$15,211,310)
2034	\$0.000	\$0.000	\$0.000	(\$14,243,680)	\$0.000	(\$3,275,814)	(\$1,147,948)	\$0.000	\$0.000	\$14,243,680	\$14,168,921	(\$74,759)	(\$15,221,178)
2035	\$0.000	\$0.000	\$0.000	(\$14,646,786)	\$0.000	(\$3,320,949)	(\$1,167,463)	\$0.000	\$0.000	\$14,646,786	\$14,460,971	(\$185,815)	(\$15,243,796)
2036	\$0.000	\$0.000	\$0.000	(\$15,055,796)	\$0.000	(\$3,366,851)	(\$1,187,309)	\$0.000	\$0.000	\$15,055,796	\$14,758,356	(\$297,440)	(\$15,277,185)
2037	\$0.000	\$0.000	\$0.000	(\$15,470,910)	\$0.000	(\$3,413,533)	(\$1,207,494)	\$0.000	\$0.000	\$15,470,910	\$15,059,553	(\$411,357)	(\$15,319,769)
2038	\$0.000	\$0.000	\$0.000	(\$15,892,330)	\$0.000	(\$3,461,009)	(\$1,228,021)	\$0.000	\$0.000	\$15,892,330	\$15,357,356	(\$534,974)	(\$15,370,841)
Nominal	\$27,620,618	\$7,880,000	(\$269,278,103)	(\$69,179,573)	(\$23,928,789)	(\$189,530,142)				\$304,778,721	\$282,638,504	(\$22,140,217)	
NPV	\$16,354,019	\$4,695,674	(\$66,118,997)	(\$17,993,437)	(\$6,255,696)	(\$47,548,716)	\$0.000	\$0.000		\$87,168,690	\$71,797,848	(\$15,370,841)	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	0.82												

Run Date:

25-Mar-10

04:44 PM

Filename:

Res ECM Fan

## 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	-0.27	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.36	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(1,209)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,109)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.14	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	26	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$503.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$300.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$200.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran. & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.61%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.75%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	6.28%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$19,370	\$19,020	\$19,370
NPV Costs (\$000s)	\$7,578	\$2,831	\$23,767
NPV Net Benefits (\$000s)	\$11,792	\$16,189	(\$4,397)
Benefit:Cost Ratio	2.556	6.718	0.815

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$0	\$208	\$124	\$0	\$0	\$0	(\$7)	(\$44)	\$332	\$51	(\$281)	(\$239)
2012	\$0	\$397	\$237	\$0	\$0	\$0	(\$20)	(\$129)	\$633	\$148	(\$485)	(\$620)
2013	\$0	\$686	\$409	\$0	\$0	\$0	(\$42)	(\$290)	\$1,095	\$332	(\$763)	(\$1,172)
2014	\$0	\$1,094	\$653	\$0	\$0	(\$239)	(\$78)	(\$444)	\$1,747	\$761	(\$986)	(\$1,830)
2015	\$0	\$1,670	\$996	\$0	\$0	(\$406)	(\$133)	(\$883)	\$2,665	\$1,422	(\$1,243)	(\$2,594)
2016	\$0	\$1,273	\$760	\$0	\$0	(\$536)	(\$176)	(\$1,197)	\$2,033	\$1,909	(\$124)	(\$2,665)
2017	\$0	\$1,036	\$618	\$0	\$0	(\$644)	(\$212)	(\$1,447)	\$1,654	\$2,303	\$649	(\$2,325)
2018	\$0	\$878	\$524	\$0	\$0	(\$737)	(\$244)	(\$1,684)	\$1,402	\$2,665	\$1,264	(\$1,715)
2019	\$0	\$714	\$426	\$0	\$0	(\$816)	(\$271)	(\$1,904)	\$1,141	\$2,991	\$1,850	(\$892)
2020	\$0	\$0	\$0	\$0	\$0	(\$827)	(\$276)	(\$1,888)	\$0	\$2,991	\$2,991	\$335
2021	\$0	\$0	\$0	\$0	\$0	(\$837)	(\$280)	(\$1,885)	\$0	\$3,002	\$3,002	\$1,470
2022	\$0	\$0	\$0	\$0	\$0	(\$848)	(\$285)	(\$1,943)	\$0	\$3,077	\$3,077	\$2,544
2023	\$0	\$0	\$0	\$0	\$0	(\$860)	(\$290)	(\$2,014)	\$0	\$3,164	\$3,164	\$3,562
2024	\$0	\$0	\$0	\$0	\$0	(\$871)	(\$295)	(\$2,090)	\$0	\$3,256	\$3,256	\$4,528
2025	\$0	\$0	\$0	\$0	\$0	(\$883)	(\$300)	(\$2,182)	\$0	\$3,364	\$3,364	\$5,448
2026	\$0	\$0	\$0	\$0	\$0	(\$894)	(\$305)	(\$2,274)	\$0	\$3,474	\$3,474	\$6,325
2027	\$0	\$0	\$0	\$0	\$0	(\$906)	(\$310)	(\$2,358)	\$0	\$3,575	\$3,575	\$7,157
2028	\$0	\$0	\$0	\$0	\$0	(\$919)	(\$316)	(\$2,455)	\$0	\$3,689	\$3,689	\$7,948
2029	\$0	\$0	\$0	\$0	\$0	(\$931)	(\$321)	(\$2,490)	\$0	\$3,742	\$3,742	\$8,689
2030	\$0	\$0	\$0	\$0	\$0	(\$944)	(\$326)	(\$2,549)	\$0	\$3,819	\$3,819	\$9,386
2031	\$0	\$0	\$0	\$0	\$0	(\$956)	(\$332)	(\$2,609)	\$0	\$3,898	\$3,898	\$10,042
2032	\$0	\$0	\$0	\$0	\$0	(\$969)	(\$338)	(\$2,676)	\$0	\$3,983	\$3,983	\$10,660
2033	\$0	\$0	\$0	\$0	\$0	(\$983)	(\$343)	(\$2,745)	\$0	\$4,071	\$4,071	\$11,243
2034	\$0	\$0	\$0	\$0	\$0	(\$996)	(\$349)	(\$2,813)	\$0	\$4,159	\$4,159	\$11,792
<b>Nominal</b>		\$7,957	\$4,746			(\$17,001)	(\$5,848)	(\$42,997)	\$12,703	\$65,846	\$53,143	
<b>NPV</b>		\$4,747	\$2,831	\$0	\$0	(\$5,070)	(\$1,759)	(\$12,541)	\$7,578	\$19,370	\$11,792	
<b>Discount Rate =</b>		6.44%										
<b>Benefit/Cost Ratio =</b>		2.56										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$124	\$0	\$0	\$0	(\$52)	\$0	\$80	\$124	\$132	\$8	\$7
2012	\$237	\$0	\$0	\$0	(\$149)	\$0	\$150	\$237	\$299	\$63	\$56
2013	\$409	\$0	\$0	\$0	(\$320)	\$0	\$255	\$409	\$575	\$166	\$176
2014	\$653	\$0	\$0	\$0	(\$603)	\$0	\$400	\$653	\$1,003	\$350	\$409
2015	\$996	\$0	\$0	\$0	(\$1,184)	\$0	\$600	\$996	\$1,784	\$788	\$894
2016	\$760	\$0	\$0	\$0	(\$1,597)	\$0	\$450	\$760	\$2,047	\$1,288	\$1,624
2017	\$618	\$0	\$0	\$0	(\$1,888)	\$0	\$360	\$618	\$2,248	\$1,630	\$2,477
2018	\$524	\$0	\$0	\$0	(\$2,201)	\$0	\$300	\$524	\$2,501	\$1,977	\$3,431
2019	\$426	\$0	\$0	\$0	(\$2,476)	\$0	\$240	\$426	\$2,716	\$2,289	\$4,449
2020	\$0	\$0	\$0	\$0	(\$2,581)	\$0	\$0	\$0	\$2,581	\$2,581	\$5,508
2021	\$0	\$0	\$0	\$0	(\$2,687)	\$0	\$0	\$0	\$2,687	\$2,687	\$6,525
2022	\$0	\$0	\$0	\$0	(\$2,790)	\$0	\$0	\$0	\$2,790	\$2,790	\$7,498
2023	\$0	\$0	\$0	\$0	(\$2,890)	\$0	\$0	\$0	\$2,890	\$2,890	\$8,428
2024	\$0	\$0	\$0	\$0	(\$3,000)	\$0	\$0	\$0	\$3,000	\$3,000	\$9,318
2025	\$0	\$0	\$0	\$0	(\$3,090)	\$0	\$0	\$0	\$3,090	\$3,090	\$10,164
2026	\$0	\$0	\$0	\$0	(\$3,180)	\$0	\$0	\$0	\$3,180	\$3,180	\$10,966
2027	\$0	\$0	\$0	\$0	(\$3,302)	\$0	\$0	\$0	\$3,302	\$3,302	\$11,735
2028	\$0	\$0	\$0	\$0	(\$3,413)	\$0	\$0	\$0	\$3,413	\$3,413	\$12,467
2029	\$0	\$0	\$0	\$0	(\$3,541)	\$0	\$0	\$0	\$3,541	\$3,541	\$13,168
2030	\$0	\$0	\$0	\$0	(\$3,663)	\$0	\$0	\$0	\$3,663	\$3,663	\$13,836
2031	\$0	\$0	\$0	\$0	(\$3,773)	\$0	\$0	\$0	\$3,773	\$3,773	\$14,471
2032	\$0	\$0	\$0	\$0	(\$3,884)	\$0	\$0	\$0	\$3,884	\$3,884	\$15,074
2033	\$0	\$0	\$0	\$0	(\$3,997)	\$0	\$0	\$0	\$3,997	\$3,997	\$15,646
2034	\$0	\$0	\$0	\$0	(\$4,112)	\$0	\$0	\$0	\$4,112	\$4,112	\$16,189
Nominal	\$4,746				(\$60,373)		\$2,835	\$4,746	\$63,208	\$58,462	
NPV	\$2,611	\$0	\$0	\$0	(\$17,319)	\$0	\$1,701	\$2,831	\$19,020	\$16,189	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		6.72									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2011	\$0.000	\$208.099	\$80.000	(\$52.243)	\$0.000	(\$6.685)	(\$44.331)	\$0.000	\$0.000	\$340.342	\$51.016	(\$289.327)	(\$246.055)
2012	\$0.000	\$396.819	\$150.000	(\$149.346)	\$0.000	(\$19.547)	(\$128.808)	\$0.000	\$0.000	\$696.165	\$148.355	(\$547.810)	(\$675.688)
2013	\$0.000	\$686.060	\$255.000	(\$319.807)	\$0.000	(\$41.919)	(\$289.961)	\$0.000	\$0.000	\$1,260.867	\$331.880	(\$928.987)	(\$1,347.580)
2014	\$0.000	\$1,094.467	\$400.000	(\$602.529)	(\$238.859)	(\$77.792)	(\$444.346)	\$0.000	\$0.000	\$2,096.996	\$760.997	(\$1,335.999)	(\$2,238.663)
2015	\$0.000	\$1,669.610	\$600.000	(\$1,183.808)	(\$405.929)	(\$132.752)	(\$883.421)	\$0.000	\$0.000	\$3,453.418	\$1,422.102	(\$2,031.316)	(\$3,488.093)
2016	\$0.000	\$1,273.495	\$450.000	(\$1,597.051)	(\$535.739)	(\$175.921)	(\$1,197.388)	\$0.000	\$0.000	\$3,320.546	\$1,909.048	(\$1,411.498)	(\$4,288.733)
2017	\$0.000	\$1,036.115	\$360.000	(\$1,887.881)	(\$643.615)	(\$212.197)	(\$1,447.376)	\$0.000	\$0.000	\$3,283.996	\$2,303.188	(\$980.808)	(\$4,801.787)
2018	\$0.000	\$878.108	\$300.000	(\$2,201.058)	(\$737.182)	(\$244.014)	(\$1,684.218)	\$0.000	\$0.000	\$3,379.166	\$2,665.414	(\$713.752)	(\$5,146.096)
2019	\$0.000	\$714.428	\$240.000	(\$2,475.596)	(\$815.842)	(\$271.114)	(\$1,903.928)	\$0.000	\$0.000	\$3,430.025	\$2,990.884	(\$439.141)	(\$5,341.453)
2020	\$0.000	\$0.000	\$0.000	(\$2,581.385)	(\$826.501)	(\$275.723)	(\$1,888.304)	\$0.000	\$0.000	\$2,581.385	\$2,990.529	\$409.144	(\$5,173.603)
2021	\$0.000	\$0.000	\$0.000	(\$2,686.792)	(\$837.342)	(\$280.410)	(\$1,884.579)	\$0.000	\$0.000	\$2,686.792	\$3,002.331	\$315.539	(\$5,054.225)
2022	\$0.000	\$0.000	\$0.000	(\$2,790.416)	(\$848.367)	(\$285.177)	(\$1,943.206)	\$0.000	\$0.000	\$2,790.416	\$3,076.751	\$286.335	(\$4,954.325)
2023	\$0.000	\$0.000	\$0.000	(\$2,889.936)	(\$859.580)	(\$290.025)	(\$2,013.959)	\$0.000	\$0.000	\$2,889.936	\$3,163.564	\$273.628	(\$4,866.286)
2024	\$0.000	\$0.000	\$0.000	(\$3,000.250)	(\$870.983)	(\$294.956)	(\$2,089.847)	\$0.000	\$0.000	\$3,000.250	\$3,255.786	\$255.536	(\$4,790.466)
2025	\$0.000	\$0.000	\$0.000	(\$3,090.349)	(\$882.580)	(\$299.970)	(\$2,181.582)	\$0.000	\$0.000	\$3,090.349	\$3,364.132	\$273.783	(\$4,715.551)
2026	\$0.000	\$0.000	\$0.000	(\$3,179.715)	(\$894.374)	(\$305.069)	(\$2,274.322)	\$0.000	\$0.000	\$3,179.715	\$3,473.765	\$294.050	(\$4,641.352)
2027	\$0.000	\$0.000	\$0.000	(\$3,302.001)	(\$906.369)	(\$310.256)	(\$2,358.207)	\$0.000	\$0.000	\$3,302.001	\$3,574.831	\$272.830	(\$4,577.863)
2028	\$0.000	\$0.000	\$0.000	(\$3,412.519)	(\$918.567)	(\$315.530)	(\$2,455.077)	\$0.000	\$0.000	\$3,412.519	\$3,689.174	\$276.655	(\$4,518.494)
2029	\$0.000	\$0.000	\$0.000	(\$3,540.940)	(\$930.973)	(\$320.894)	(\$2,490.070)	\$0.000	\$0.000	\$3,540.940	\$3,741.937	\$200.997	(\$4,478.716)
2030	\$0.000	\$0.000	\$0.000	(\$3,662.643)	(\$943.590)	(\$326.349)	(\$2,549.496)	\$0.000	\$0.000	\$3,662.643	\$3,819.435	\$156.792	(\$4,450.101)
2031	\$0.000	\$0.000	\$0.000	(\$3,772.736)	(\$956.421)	(\$331.897)	(\$2,609.264)	\$0.000	\$0.000	\$3,772.736	\$3,897.582	\$124.846	(\$4,429.089)
2032	\$0.000	\$0.000	\$0.000	(\$3,884.324)	(\$969.471)	(\$337.539)	(\$2,676.343)	\$0.000	\$0.000	\$3,884.324	\$3,983.353	\$99.029	(\$4,413.719)
2033	\$0.000	\$0.000	\$0.000	(\$3,997.456)	(\$982.742)	(\$343.277)	(\$2,745.450)	\$0.000	\$0.000	\$3,997.456	\$4,071.469	\$74.013	(\$4,403.125)
2034	\$0.000	\$0.000	\$0.000	(\$4,112.184)	(\$996.239)	(\$349.113)	(\$2,813.451)	\$0.000	\$0.000	\$4,112.184	\$4,158.802	\$46.618	(\$4,396.972)
<b>Nominal</b>													
NPV		\$7,957.201	\$2,835.000	(\$60,372.966)	(\$17,001.264)	(\$5,848.127)	(\$42,996.932)			\$71,165.167	\$65,846.323	(\$5,318.844)	
Discount Rate =		8.44%	\$1,700.998	(\$17,319.136)	(\$5,070.215)	(\$1,759.006)	(\$12,541.022)	\$0.000	\$0.000	\$23,767.215	\$19,370.244	(\$4,396.972)	
Benefit/Cost Ratio =		0.81											

## 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	-0.10	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.14	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(1,470)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,348)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.37	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	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$664.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$1,400.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$1,000.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.69%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.83%	

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)	\$0.0509	\$/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

	TRC	Participants <sup>1</sup>	RIM
NPV Benefits(\$000s)	\$13,356	\$21,715	\$13,356
NPV Costs (\$000s)	\$12,892	\$9,050	\$25,558
NPV Net Benefits (\$000s)	\$464	\$12,666	(\$12,202)
Benefit:Cost Ratio	1.036	2.400	0.523

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$66	\$142	\$0	\$0	\$0	\$0	(\$13)	\$209	\$13	(\$196)	(\$180)
2011	\$0	\$199	\$434	\$0	\$0	\$0	(\$3)	(\$54)	\$634	\$56	(\$577)	(\$671)
2012	\$0	\$398	\$884	\$0	\$0	\$0	(\$6)	(\$136)	\$1,282	\$143	(\$1,139)	(\$1,565)
2013	\$0	\$531	\$1,198	\$0	\$0	\$0	(\$12)	(\$262)	\$1,729	\$273	(\$1,456)	(\$2,618)
2014	\$0	\$664	\$1,523	\$0	\$0	(\$58)	(\$19)	(\$342)	\$2,187	\$418	(\$1,769)	(\$3,798)
2015	\$0	\$797	\$1,859	\$0	\$0	(\$83)	(\$27)	(\$578)	\$2,656	\$689	(\$1,967)	(\$5,007)
2016	\$0	\$797	\$1,890	\$0	\$0	(\$110)	(\$36)	(\$782)	\$2,687	\$928	(\$1,759)	(\$6,005)
2017	\$0	\$930	\$2,243	\$0	\$0	(\$141)	(\$46)	(\$1,012)	\$3,173	\$1,199	(\$1,973)	(\$7,037)
2018	\$0	\$1,062	\$2,607	\$0	\$0	(\$177)	(\$59)	(\$1,294)	\$3,669	\$1,530	(\$2,139)	(\$8,070)
2019	\$0	\$1,195	\$2,983	\$0	\$0	(\$219)	(\$73)	(\$1,633)	\$4,178	\$1,925	(\$2,253)	(\$9,072)
2020	\$0	\$0	\$0	\$0	\$0	(\$222)	(\$74)	(\$1,619)	\$0	\$1,915	\$1,915	(\$8,286)
2021	\$0	\$0	\$0	\$0	\$0	(\$225)	(\$75)	(\$1,616)	\$0	\$1,916	\$1,916	(\$7,561)
2022	\$0	\$0	\$0	\$0	\$0	(\$228)	(\$77)	(\$1,666)	\$0	\$1,971	\$1,971	(\$6,874)
2023	\$0	\$0	\$0	\$0	\$0	(\$231)	(\$78)	(\$1,727)	\$0	\$2,036	\$2,036	(\$6,219)
2024	\$0	\$0	\$0	\$0	\$0	(\$234)	(\$79)	(\$1,792)	\$0	\$2,105	\$2,105	(\$5,594)
2025	\$0	\$0	\$0	\$0	\$0	(\$237)	(\$81)	(\$1,871)	\$0	\$2,188	\$2,188	(\$4,995)
2026	\$0	\$0	\$0	\$0	\$0	(\$240)	(\$82)	(\$1,950)	\$0	\$2,272	\$2,272	(\$4,422)
2027	\$0	\$0	\$0	\$0	\$0	(\$243)	(\$83)	(\$2,022)	\$0	\$2,349	\$2,349	(\$3,875)
2028	\$0	\$0	\$0	\$0	\$0	(\$247)	(\$85)	(\$2,105)	\$0	\$2,437	\$2,437	(\$3,352)
2029	\$0	\$0	\$0	\$0	\$0	(\$250)	(\$86)	(\$2,135)	\$0	\$2,472	\$2,472	(\$2,863)
2030	\$0	\$0	\$0	\$0	\$0	(\$253)	(\$88)	(\$2,186)	\$0	\$2,527	\$2,527	(\$2,402)
2031	\$0	\$0	\$0	\$0	\$0	(\$257)	(\$89)	(\$2,237)	\$0	\$2,584	\$2,584	(\$1,967)
2032	\$0	\$0	\$0	\$0	\$0	(\$260)	(\$91)	(\$2,295)	\$0	\$2,646	\$2,646	(\$1,556)
2033	\$0	\$0	\$0	\$0	\$0	(\$264)	(\$92)	(\$2,354)	\$0	\$2,710	\$2,710	(\$1,168)
2034	\$0	\$0	\$0	\$0	\$0	(\$268)	(\$94)	(\$2,413)	\$0	\$2,774	\$2,774	(\$802)
2035	\$0	\$0	\$0	\$0	\$0	(\$271)	(\$95)	(\$2,469)	\$0	\$2,836	\$2,836	(\$457)
2036	\$0	\$0	\$0	\$0	\$0	(\$275)	(\$97)	(\$2,526)	\$0	\$2,898	\$2,898	(\$132)
2037	\$0	\$0	\$0	\$0	\$0	(\$279)	(\$99)	(\$2,584)	\$0	\$2,962	\$2,962	\$175
2038	\$0	\$0	\$0	\$0	\$0	(\$283)	(\$100)	(\$2,641)	\$0	\$3,024	\$3,024	\$464
<b>Nominal</b>		\$6,640	\$15,763			(\$5,556)	(\$1,926)	(\$46,315)	\$22,403	\$53,797	\$31,393	
<b>NPV</b>		\$3,843	\$9,050	\$0	\$0	(\$1,415)	(\$495)	(\$11,445)	\$12,892	\$13,356	\$464	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.04										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$142	\$0	\$0	\$0	(\$16)	\$0	\$100	\$142	\$116	(\$26)	(\$24)
2011	\$434	\$0	\$0	\$0	(\$64)	\$0	\$300	\$434	\$264	(\$171)	(\$85)
2012	\$884	\$0	\$0	\$0	(\$158)	\$0	\$600	\$884	\$758	(\$126)	(\$183)
2013	\$1,198	\$0	\$0	\$0	(\$289)	\$0	\$800	\$1,198	\$1,089	(\$110)	(\$262)
2014	\$1,523	\$0	\$0	\$0	(\$463)	\$0	\$1,000	\$1,523	\$1,463	(\$60)	(\$302)
2015	\$1,859	\$0	\$0	\$0	(\$775)	\$0	\$1,200	\$1,859	\$1,975	\$116	(\$231)
2016	\$1,890	\$0	\$0	\$0	(\$1,043)	\$0	\$1,200	\$1,890	\$2,243	\$353	(\$30)
2017	\$2,243	\$0	\$0	\$0	(\$1,320)	\$0	\$1,400	\$2,243	\$2,720	\$477	\$219
2018	\$2,607	\$0	\$0	\$0	(\$1,691)	\$0	\$1,600	\$2,607	\$3,291	\$684	\$549
2019	\$2,983	\$0	\$0	\$0	(\$2,123)	\$0	\$1,800	\$2,983	\$3,923	\$940	\$967
2020	\$0	\$0	\$0	\$0	(\$2,214)	\$0	\$0	\$0	\$2,214	\$2,214	\$1,875
2021	\$0	\$0	\$0	\$0	(\$2,304)	\$0	\$0	\$0	\$2,304	\$2,304	\$2,747
2022	\$0	\$0	\$0	\$0	(\$2,393)	\$0	\$0	\$0	\$2,393	\$2,393	\$3,582
2023	\$0	\$0	\$0	\$0	(\$2,478)	\$0	\$0	\$0	\$2,478	\$2,478	\$4,379
2024	\$0	\$0	\$0	\$0	(\$2,573)	\$0	\$0	\$0	\$2,573	\$2,573	\$5,142
2025	\$0	\$0	\$0	\$0	(\$2,650)	\$0	\$0	\$0	\$2,650	\$2,650	\$5,867
2026	\$0	\$0	\$0	\$0	(\$2,727)	\$0	\$0	\$0	\$2,727	\$2,727	\$6,556
2027	\$0	\$0	\$0	\$0	(\$2,831)	\$0	\$0	\$0	\$2,831	\$2,831	\$7,214
2028	\$0	\$0	\$0	\$0	(\$2,926)	\$0	\$0	\$0	\$2,926	\$2,926	\$7,842
2029	\$0	\$0	\$0	\$0	(\$3,036)	\$0	\$0	\$0	\$3,036	\$3,036	\$8,443
2030	\$0	\$0	\$0	\$0	(\$3,141)	\$0	\$0	\$0	\$3,141	\$3,141	\$9,016
2031	\$0	\$0	\$0	\$0	(\$3,235)	\$0	\$0	\$0	\$3,235	\$3,235	\$9,561
2032	\$0	\$0	\$0	\$0	(\$3,331)	\$0	\$0	\$0	\$3,331	\$3,331	\$10,078
2033	\$0	\$0	\$0	\$0	(\$3,428)	\$0	\$0	\$0	\$3,428	\$3,428	\$10,569
2034	\$0	\$0	\$0	\$0	(\$3,526)	\$0	\$0	\$0	\$3,526	\$3,526	\$11,034
2035	\$0	\$0	\$0	\$0	(\$3,626)	\$0	\$0	\$0	\$3,626	\$3,626	\$11,475
2036	\$0	\$0	\$0	\$0	(\$3,727)	\$0	\$0	\$0	\$3,727	\$3,727	\$11,894
2037	\$0	\$0	\$0	\$0	(\$3,830)	\$0	\$0	\$0	\$3,830	\$3,830	\$12,290
2038	\$0	\$0	\$0	\$0	(\$3,934)	\$0	\$0	\$0	\$3,934	\$3,934	\$12,666
<b>Nominal NPV</b>	\$15,763	\$8,345	\$0	\$0	(\$65,852)	\$0	\$10,000	\$15,763	\$75,852	\$60,088	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		2.40									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$66.400	\$100.000	(\$16.101)	\$0.000	\$0.000	(\$13.160)	\$0.000	\$0.000	\$182.501	\$13.160	(\$169.342)	(\$156.166)
2011	\$0.000	\$199.200	\$300.000	(\$63.502)	\$0.000	(\$2.546)	(\$53.884)	\$0.000	\$0.000	\$562.702	\$56.430	(\$506.273)	(\$586.721)
2012	\$0.000	\$398.400	\$600.000	(\$157.854)	\$0.000	(\$6.472)	(\$136.145)	\$0.000	\$0.000	\$1,156.254	\$142.617	(\$1,013.637)	(\$1,381.689)
2013	\$0.000	\$531.200	\$800.000	(\$288.541)	\$0.000	(\$11.848)	(\$261.612)	\$0.000	\$0.000	\$1,619.741	\$273.460	(\$1,346.280)	(\$2,355.389)
2014	\$0.000	\$664.000	\$1,000.000	(\$463.427)	(\$57.551)	(\$18.744)	(\$341.762)	\$0.000	\$0.000	\$2,127.427	\$418.057	(\$1,709.370)	(\$3,495.502)
2015	\$0.000	\$796.800	\$1,200.000	(\$775.181)	(\$83.269)	(\$27.232)	(\$578.481)	\$0.000	\$0.000	\$2,771.981	\$688.982	(\$2,082.999)	(\$4,776.722)
2016	\$0.000	\$796.800	\$1,200.000	(\$1,043.349)	(\$109.642)	(\$36.003)	(\$782.250)	\$0.000	\$0.000	\$3,040.149	\$927.895	(\$2,112.254)	(\$5,974.849)
2017	\$0.000	\$929.600	\$1,400.000	(\$1,319.849)	(\$140.957)	(\$46.473)	(\$1,011.884)	\$0.000	\$0.000	\$3,649.449	\$1,199.315	(\$2,450.134)	(\$7,256.498)
2018	\$0.000	\$1,062.400	\$1,600.000	(\$1,690.816)	(\$177.399)	(\$58.721)	(\$1,293.788)	\$0.000	\$0.000	\$4,353.216	\$1,529.908	(\$2,823.308)	(\$8,618.444)
2019	\$0.000	\$1,195.200	\$1,800.000	(\$2,122.830)	(\$219.156)	(\$72.828)	(\$1,632.623)	\$0.000	\$0.000	\$5,118.030	\$1,924.607	(\$3,193.423)	(\$10,039.073)
2020	\$0.000	\$0.000	\$0.000	(\$2,213.543)	(\$222.019)	(\$74.066)	(\$1,619.225)	\$0.000	\$0.000	\$2,213.543	\$1,915.311	(\$298.233)	(\$10,161.422)
2021	\$0.000	\$0.000	\$0.000	(\$2,303.930)	(\$224.931)	(\$75.325)	(\$1,616.030)	\$0.000	\$0.000	\$2,303.930	\$1,916.287	(\$387.643)	(\$10,308.078)
2022	\$0.000	\$0.000	\$0.000	(\$2,392.788)	(\$227.893)	(\$76.606)	(\$1,666.304)	\$0.000	\$0.000	\$2,392.788	\$1,970.803	(\$421.985)	(\$10,455.306)
2023	\$0.000	\$0.000	\$0.000	(\$2,478.127)	(\$230.905)	(\$77.908)	(\$1,726.974)	\$0.000	\$0.000	\$2,478.127	\$2,035.787	(\$442.339)	(\$10,597.627)
2024	\$0.000	\$0.000	\$0.000	(\$2,572.721)	(\$233.968)	(\$79.233)	(\$1,792.049)	\$0.000	\$0.000	\$2,572.721	\$2,105.249	(\$467.472)	(\$10,736.332)
2025	\$0.000	\$0.000	\$0.000	(\$2,649.981)	(\$237.083)	(\$80.579)	(\$1,870.711)	\$0.000	\$0.000	\$2,649.981	\$2,188.374	(\$461.607)	(\$10,862.640)
2026	\$0.000	\$0.000	\$0.000	(\$2,726.613)	(\$240.251)	(\$81.949)	(\$1,950.236)	\$0.000	\$0.000	\$2,726.613	\$2,272.437	(\$454.176)	(\$10,977.245)
2027	\$0.000	\$0.000	\$0.000	(\$2,831.473)	(\$243.474)	(\$83.342)	(\$2,022.168)	\$0.000	\$0.000	\$2,831.473	\$2,348.984	(\$482.489)	(\$11,089.522)
2028	\$0.000	\$0.000	\$0.000	(\$2,926.243)	(\$246.750)	(\$84.759)	(\$2,105.234)	\$0.000	\$0.000	\$2,926.243	\$2,436.744	(\$489.499)	(\$11,194.568)
2029	\$0.000	\$0.000	\$0.000	(\$3,036.364)	(\$250.083)	(\$86.200)	(\$2,135.241)	\$0.000	\$0.000	\$3,036.364	\$2,471.524	(\$564.840)	(\$11,306.350)
2030	\$0.000	\$0.000	\$0.000	(\$3,140.724)	(\$253.472)	(\$87.666)	(\$2,186.198)	\$0.000	\$0.000	\$3,140.724	\$2,527.336	(\$613.388)	(\$11,418.295)
2031	\$0.000	\$0.000	\$0.000	(\$3,235.130)	(\$256.919)	(\$89.156)	(\$2,237.450)	\$0.000	\$0.000	\$3,235.130	\$2,583.525	(\$651.605)	(\$11,527.963)
2032	\$0.000	\$0.000	\$0.000	(\$3,330.817)	(\$260.424)	(\$90.672)	(\$2,294.970)	\$0.000	\$0.000	\$3,330.817	\$2,646.066	(\$684.751)	(\$11,634.242)
2033	\$0.000	\$0.000	\$0.000	(\$3,427.828)	(\$263.989)	(\$92.213)	(\$2,354.229)	\$0.000	\$0.000	\$3,427.828	\$2,710.432	(\$717.396)	(\$11,736.924)
2034	\$0.000	\$0.000	\$0.000	(\$3,526.207)	(\$267.615)	(\$93.781)	(\$2,412.540)	\$0.000	\$0.000	\$3,526.207	\$2,773.936	(\$752.272)	(\$11,836.221)
2035	\$0.000	\$0.000	\$0.000	(\$3,626.001)	(\$271.302)	(\$95.375)	(\$2,468.836)	\$0.000	\$0.000	\$3,626.001	\$2,835.513	(\$790.488)	(\$11,932.444)
2036	\$0.000	\$0.000	\$0.000	(\$3,727.257)	(\$275.052)	(\$96.996)	(\$2,526.181)	\$0.000	\$0.000	\$3,727.257	\$2,898.229	(\$829.028)	(\$12,025.506)
2037	\$0.000	\$0.000	\$0.000	(\$3,830.024)	(\$278.866)	(\$98.645)	(\$2,584.192)	\$0.000	\$0.000	\$3,830.024	\$2,961.703	(\$868.321)	(\$12,115.396)
2038	\$0.000	\$0.000	\$0.000	(\$3,934.352)	(\$282.744)	(\$100.322)	(\$2,641.082)	\$0.000	\$0.000	\$3,934.352	\$3,024.148	(\$910.204)	(\$12,202.289)
<b>Nominal</b>		\$6,640.000	\$10,000.000	(\$65,851.572)	(\$5,555.715)	(\$1,925.660)	(\$46,315.442)			\$82,491.572	\$53,796.817	(\$28,694.755)	
<b>NPV</b>		\$3,842.687	\$5,787.179	(\$15,928.197)	(\$1,415.392)	(\$495.016)	(\$11,445.367)	\$0.000	\$0.000	\$25,558.064	\$13,355.775	(\$12,202.289)	
<b>Discount Rate =</b>	8.44%												
<b>Benefit/Cost Ratio =</b>	0.52												

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Filename: Res Insulation

## 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	-0.10	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.13	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(627)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(575)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-0.80	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	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$283.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$600.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$300.00	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.69%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.83%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$2,947	\$3,728	\$2,947
NPV Costs (\$000s)	\$2,482	\$1,686	\$4,524
NPV Net Benefits (\$000s)	\$465	\$2,042	(\$1,577)
Benefit:Cost Ratio	1.187	2.211	0.651

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$29	\$61	\$0	\$0	\$0	\$0	(\$6)	\$90	\$6	(\$84)	(\$78)
2011	\$0	\$59	\$124	\$0	\$0	\$0	(\$2)	(\$17)	\$183	\$19	(\$164)	(\$217)
2012	\$0	\$104	\$221	\$0	\$0	\$0	(\$4)	(\$38)	\$325	\$42	(\$283)	(\$439)
2013	\$0	\$151	\$321	\$0	\$0	\$0	(\$7)	(\$71)	\$472	\$79	(\$394)	(\$724)
2014	\$0	\$154	\$326	\$0	\$0	(\$33)	(\$11)	(\$86)	\$480	\$130	(\$351)	(\$958)
2015	\$0	\$157	\$332	\$0	\$0	(\$43)	(\$14)	(\$133)	\$488	\$190	(\$298)	(\$1,141)
2016	\$0	\$159	\$338	\$0	\$0	(\$54)	(\$18)	(\$170)	\$497	\$242	(\$255)	(\$1,285)
2017	\$0	\$162	\$343	\$0	\$0	(\$65)	(\$22)	(\$206)	\$505	\$293	(\$212)	(\$1,397)
2018	\$0	\$165	\$349	\$0	\$0	(\$77)	(\$25)	(\$246)	\$514	\$348	(\$166)	(\$1,477)
2019	\$0	\$167	\$355	\$0	\$0	(\$88)	(\$29)	(\$289)	\$523	\$407	(\$116)	(\$1,528)
2020	\$0	\$0	\$0	\$0	\$0	(\$89)	(\$30)	(\$287)	\$0	\$406	\$406	(\$1,362)
2021	\$0	\$0	\$0	\$0	\$0	(\$91)	(\$30)	(\$286)	\$0	\$407	\$407	(\$1,208)
2022	\$0	\$0	\$0	\$0	\$0	(\$92)	(\$31)	(\$295)	\$0	\$418	\$418	(\$1,062)
2023	\$0	\$0	\$0	\$0	\$0	(\$93)	(\$31)	(\$306)	\$0	\$430	\$430	(\$924)
2024	\$0	\$0	\$0	\$0	\$0	(\$94)	(\$32)	(\$317)	\$0	\$443	\$443	(\$792)
2025	\$0	\$0	\$0	\$0	\$0	(\$96)	(\$32)	(\$331)	\$0	\$459	\$459	(\$666)
2026	\$0	\$0	\$0	\$0	\$0	(\$97)	(\$33)	(\$345)	\$0	\$475	\$475	(\$547)
2027	\$0	\$0	\$0	\$0	\$0	(\$98)	(\$34)	(\$358)	\$0	\$490	\$490	(\$433)
2028	\$0	\$0	\$0	\$0	\$0	(\$99)	(\$34)	(\$373)	\$0	\$506	\$506	(\$324)
2029	\$0	\$0	\$0	\$0	\$0	(\$101)	(\$35)	(\$378)	\$0	\$513	\$513	(\$222)
2030	\$0	\$0	\$0	\$0	\$0	(\$102)	(\$35)	(\$387)	\$0	\$524	\$524	(\$127)
2031	\$0	\$0	\$0	\$0	\$0	(\$104)	(\$36)	(\$396)	\$0	\$536	\$536	(\$36)
2032	\$0	\$0	\$0	\$0	\$0	(\$105)	(\$37)	(\$406)	\$0	\$548	\$548	\$49
2033	\$0	\$0	\$0	\$0	\$0	(\$106)	(\$37)	(\$417)	\$0	\$560	\$560	\$129
2034	\$0	\$0	\$0	\$0	\$0	(\$108)	(\$38)	(\$427)	\$0	\$573	\$573	\$204
2035	\$0	\$0	\$0	\$0	\$0	(\$109)	(\$38)	(\$437)	\$0	\$585	\$585	\$276
2036	\$0	\$0	\$0	\$0	\$0	(\$111)	(\$39)	(\$447)	\$0	\$597	\$597	\$343
2037	\$0	\$0	\$0	\$0	\$0	(\$112)	(\$40)	(\$457)	\$0	\$610	\$610	\$406
2038	\$0	\$0	\$0	\$0	\$0	(\$114)	(\$40)	(\$468)	\$0	\$622	\$622	\$465
<b>Nominal</b>												
NPV		\$1,307	\$2,770			(\$2,282)	(\$795)	(\$8,379)	\$4,077	\$11,456	\$7,379	
Discount Rate =		8.44%				(\$596)	(\$211)	(\$2,140)	\$2,482	\$2,947	\$465	
Benefit/Cost Ratio =		1.19										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$61	\$0	\$0	\$0	(\$7)	\$0	\$30	\$61	\$37	(\$24)	(\$22)
2011	\$124	\$0	\$0	\$0	(\$20)	\$0	\$60	\$124	\$80	(\$44)	(\$60)
2012	\$221	\$0	\$0	\$0	(\$44)	\$0	\$105	\$221	\$149	(\$72)	(\$116)
2013	\$321	\$0	\$0	\$0	(\$79)	\$0	\$150	\$321	\$229	(\$92)	(\$183)
2014	\$326	\$0	\$0	\$0	(\$116)	\$0	\$150	\$326	\$266	(\$60)	(\$223)
2015	\$332	\$0	\$0	\$0	(\$178)	\$0	\$150	\$332	\$328	(\$4)	(\$225)
2016	\$338	\$0	\$0	\$0	(\$227)	\$0	\$150	\$338	\$377	\$39	(\$203)
2017	\$343	\$0	\$0	\$0	(\$269)	\$0	\$150	\$343	\$419	\$75	(\$164)
2018	\$349	\$0	\$0	\$0	(\$321)	\$0	\$150	\$349	\$471	\$122	(\$105)
2019	\$355	\$0	\$0	\$0	(\$376)	\$0	\$150	\$355	\$526	\$171	(\$29)
2020	\$0	\$0	\$0	\$0	(\$392)	\$0	\$0	\$0	\$392	\$392	\$132
2021	\$0	\$0	\$0	\$0	(\$408)	\$0	\$0	\$0	\$408	\$408	\$286
2022	\$0	\$0	\$0	\$0	(\$424)	\$0	\$0	\$0	\$424	\$424	\$434
2023	\$0	\$0	\$0	\$0	(\$439)	\$0	\$0	\$0	\$439	\$439	\$575
2024	\$0	\$0	\$0	\$0	(\$455)	\$0	\$0	\$0	\$455	\$455	\$710
2025	\$0	\$0	\$0	\$0	(\$469)	\$0	\$0	\$0	\$469	\$469	\$839
2026	\$0	\$0	\$0	\$0	(\$483)	\$0	\$0	\$0	\$483	\$483	\$960
2027	\$0	\$0	\$0	\$0	(\$501)	\$0	\$0	\$0	\$501	\$501	\$1,077
2028	\$0	\$0	\$0	\$0	(\$518)	\$0	\$0	\$0	\$518	\$518	\$1,188
2029	\$0	\$0	\$0	\$0	(\$538)	\$0	\$0	\$0	\$538	\$538	\$1,294
2030	\$0	\$0	\$0	\$0	(\$556)	\$0	\$0	\$0	\$556	\$556	\$1,396
2031	\$0	\$0	\$0	\$0	(\$573)	\$0	\$0	\$0	\$573	\$573	\$1,492
2032	\$0	\$0	\$0	\$0	(\$590)	\$0	\$0	\$0	\$590	\$590	\$1,584
2033	\$0	\$0	\$0	\$0	(\$607)	\$0	\$0	\$0	\$607	\$607	\$1,671
2034	\$0	\$0	\$0	\$0	(\$624)	\$0	\$0	\$0	\$624	\$624	\$1,753
2035	\$0	\$0	\$0	\$0	(\$642)	\$0	\$0	\$0	\$642	\$642	\$1,831
2036	\$0	\$0	\$0	\$0	(\$660)	\$0	\$0	\$0	\$660	\$660	\$1,905
2037	\$0	\$0	\$0	\$0	(\$678)	\$0	\$0	\$0	\$678	\$678	\$1,975
2038	\$0	\$0	\$0	\$0	(\$696)	\$0	\$0	\$0	\$696	\$696	\$2,042
<b>Nominal</b>	\$2,770				(\$11,887)		\$1,245	\$2,770	\$13,132	\$10,362	
<b>NPV</b>	\$1,555		\$0	\$0	(\$2,964)	\$0	\$764	\$1,686	\$3,728	\$2,042	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		2.21									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$28.781	\$30.000	(\$6.868)	\$0.000	\$0.000	(\$5.613)	\$0.000	\$0.000	\$65.649	\$5.613	(\$60.036)	(\$55.365)
2011	\$0.000	\$58.541	\$80.000	(\$20.316)	\$0.000	(\$1.854)	(\$17.239)	\$0.000	\$0.000	\$138.856	\$19.092	(\$119.764)	(\$157.217)
2012	\$0.000	\$104.188	\$105.000	(\$43.767)	\$0.000	(\$4.084)	(\$37.748)	\$0.000	\$0.000	\$252.955	\$41.832	(\$211.123)	(\$322.795)
2013	\$0.000	\$151.370	\$150.000	(\$78.634)	\$0.000	(\$7.349)	(\$71.295)	\$0.000	\$0.000	\$380.004	\$78.644	(\$301.360)	(\$540.754)
2014	\$0.000	\$153.943	\$150.000	(\$116.489)	(\$32.926)	(\$10.724)	(\$85.907)	\$0.000	\$0.000	\$420.433	\$129.557	(\$290.876)	(\$734.762)
2015	\$0.000	\$156.560	\$150.000	(\$177.730)	(\$43.454)	(\$14.211)	(\$132.631)	\$0.000	\$0.000	\$484.290	\$190.296	(\$293.995)	(\$915.593)
2016	\$0.000	\$159.222	\$150.000	(\$226.804)	(\$54.248)	(\$17.813)	(\$170.046)	\$0.000	\$0.000	\$536.026	\$242.107	(\$293.919)	(\$1,082.312)
2017	\$0.000	\$161.929	\$150.000	(\$268.701)	(\$65.316)	(\$21.534)	(\$206.004)	\$0.000	\$0.000	\$580.629	\$292.854	(\$287.776)	(\$1,232.845)
2018	\$0.000	\$164.682	\$150.000	(\$321.036)	(\$76.664)	(\$25.377)	(\$245.652)	\$0.000	\$0.000	\$635.717	\$347.693	(\$288.025)	(\$1,371.787)
2019	\$0.000	\$167.481	\$150.000	(\$375.787)	(\$88.301)	(\$29.343)	(\$289.009)	\$0.000	\$0.000	\$693.268	\$406.653	(\$286.614)	(\$1,499.290)
2020	\$0.000	\$0.000	\$0.000	(\$391.845)	(\$89.454)	(\$29.842)	(\$286.638)	\$0.000	\$0.000	\$391.845	\$405.934	\$14.089	(\$1,493.510)
2021	\$0.000	\$0.000	\$0.000	(\$407.845)	(\$90.628)	(\$30.349)	(\$286.072)	\$0.000	\$0.000	\$407.845	\$407.049	(\$0.796)	(\$1,493.811)
2022	\$0.000	\$0.000	\$0.000	(\$423.575)	(\$91.821)	(\$30.865)	(\$294.972)	\$0.000	\$0.000	\$423.575	\$417.658	(\$5.917)	(\$1,495.875)
2023	\$0.000	\$0.000	\$0.000	(\$438.682)	(\$93.034)	(\$31.390)	(\$305.712)	\$0.000	\$0.000	\$438.682	\$430.136	(\$8.545)	(\$1,498.625)
2024	\$0.000	\$0.000	\$0.000	(\$455.427)	(\$94.269)	(\$31.924)	(\$317.231)	\$0.000	\$0.000	\$455.427	\$443.424	(\$12.003)	(\$1,502.186)
2025	\$0.000	\$0.000	\$0.000	(\$469.104)	(\$95.524)	(\$32.466)	(\$331.156)	\$0.000	\$0.000	\$469.104	\$459.146	(\$9.957)	(\$1,504.911)
2026	\$0.000	\$0.000	\$0.000	(\$482.669)	(\$96.800)	(\$33.018)	(\$345.234)	\$0.000	\$0.000	\$482.669	\$475.053	(\$7.617)	(\$1,506.833)
2027	\$0.000	\$0.000	\$0.000	(\$501.232)	(\$98.099)	(\$33.580)	(\$357.967)	\$0.000	\$0.000	\$501.232	\$489.645	(\$11.586)	(\$1,509.529)
2028	\$0.000	\$0.000	\$0.000	(\$518.008)	(\$99.419)	(\$34.151)	(\$372.672)	\$0.000	\$0.000	\$518.008	\$506.241	(\$11.767)	(\$1,512.054)
2029	\$0.000	\$0.000	\$0.000	(\$537.502)	(\$100.762)	(\$34.731)	(\$377.984)	\$0.000	\$0.000	\$537.502	\$513.476	(\$24.025)	(\$1,516.809)
2030	\$0.000	\$0.000	\$0.000	(\$555.976)	(\$102.127)	(\$35.322)	(\$387.004)	\$0.000	\$0.000	\$555.976	\$524.453	(\$31.523)	(\$1,522.562)
2031	\$0.000	\$0.000	\$0.000	(\$572.688)	(\$103.516)	(\$35.922)	(\$396.077)	\$0.000	\$0.000	\$572.688	\$535.515	(\$37.173)	(\$1,528.818)
2032	\$0.000	\$0.000	\$0.000	(\$589.626)	(\$104.928)	(\$36.533)	(\$406.259)	\$0.000	\$0.000	\$589.626	\$547.720	(\$41.906)	(\$1,535.322)
2033	\$0.000	\$0.000	\$0.000	(\$606.799)	(\$106.365)	(\$37.154)	(\$416.749)	\$0.000	\$0.000	\$606.799	\$560.268	(\$46.532)	(\$1,541.983)
2034	\$0.000	\$0.000	\$0.000	(\$624.215)	(\$107.825)	(\$37.785)	(\$427.072)	\$0.000	\$0.000	\$624.215	\$572.682	(\$51.532)	(\$1,548.785)
2035	\$0.000	\$0.000	\$0.000	(\$641.880)	(\$109.311)	(\$38.428)	(\$437.037)	\$0.000	\$0.000	\$641.880	\$584.776	(\$57.104)	(\$1,555.736)
2036	\$0.000	\$0.000	\$0.000	(\$659.805)	(\$110.822)	(\$39.081)	(\$447.188)	\$0.000	\$0.000	\$659.805	\$597.091	(\$62.713)	(\$1,562.776)
2037	\$0.000	\$0.000	\$0.000	(\$677.997)	(\$112.359)	(\$39.745)	(\$457.458)	\$0.000	\$0.000	\$677.997	\$609.562	(\$68.435)	(\$1,569.860)
2038	\$0.000	\$0.000	\$0.000	(\$696.465)	(\$113.921)	(\$40.421)	(\$467.528)	\$0.000	\$0.000	\$696.465	\$621.871	(\$74.594)	(\$1,576.981)
<hr/>													
<b>Nominal</b>		\$1,306.697	\$1,245.000	(\$11,887.467)	(\$2,281.891)	(\$794.997)	(\$8,379.153)			\$14,439.165	\$11,456.042	(\$2,983.123)	
<b>NPV</b>		\$795.459	\$764.474	(\$2,963.994)	(\$595.539)	(\$211.455)	(\$2,139.952)	\$0.000	\$0.000	\$4,523.927	\$2,946.946	(\$1,576.981)	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		0.65											

## 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	-0.20	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.26	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(1,459)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,338)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-0.50	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	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$660.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$368.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$276.00	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.69%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.83%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$14,600	\$16,908	\$14,600
NPV Costs (\$000s)	\$6,482	\$2,320	\$21,069
NPV Net Benefits (\$000s)	\$8,119	\$14,588	(\$6,469)
Benefit:Cost Ratio	2.253	7.287	0.693

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$67	\$37	\$0	\$0	\$0	\$0	(\$13)	\$105	\$13	(\$91)	(\$84)
2011	\$0	\$137	\$76	\$0	\$0	\$0	(\$4)	(\$40)	\$213	\$44	(\$169)	(\$228)
2012	\$0	\$243	\$135	\$0	\$0	\$0	(\$8)	(\$88)	\$378	\$96	(\$282)	(\$449)
2013	\$0	\$353	\$197	\$0	\$0	\$0	(\$15)	(\$166)	\$550	\$181	(\$369)	(\$717)
2014	\$0	\$539	\$300	\$0	\$0	(\$76)	(\$25)	(\$230)	\$839	\$331	(\$508)	(\$1,055)
2015	\$0	\$730	\$407	\$0	\$0	(\$117)	(\$38)	(\$416)	\$1,137	\$572	(\$566)	(\$1,403)
2016	\$0	\$928	\$518	\$0	\$0	(\$170)	(\$56)	(\$620)	\$1,446	\$845	(\$601)	(\$1,744)
2017	\$0	\$1,133	\$632	\$0	\$0	(\$234)	(\$77)	(\$860)	\$1,765	\$1,171	(\$593)	(\$2,054)
2018	\$0	\$1,536	\$857	\$0	\$0	(\$321)	(\$106)	(\$1,198)	\$2,393	\$1,626	(\$767)	(\$2,424)
2019	\$0	\$1,953	\$1,089	\$0	\$0	(\$432)	(\$144)	(\$1,645)	\$3,042	\$2,220	(\$822)	(\$2,790)
2020	\$0	\$0	\$0	\$0	\$0	(\$438)	(\$146)	(\$1,631)	\$0	\$2,215	\$2,215	(\$1,881)
2021	\$0	\$0	\$0	\$0	\$0	(\$443)	(\$148)	(\$1,628)	\$0	\$2,220	\$2,220	(\$1,041)
2022	\$0	\$0	\$0	\$0	\$0	(\$449)	(\$151)	(\$1,679)	\$0	\$2,279	\$2,279	(\$246)
2023	\$0	\$0	\$0	\$0	\$0	(\$455)	(\$154)	(\$1,740)	\$0	\$2,349	\$2,349	\$509
2024	\$0	\$0	\$0	\$0	\$0	(\$461)	(\$156)	(\$1,805)	\$0	\$2,423	\$2,423	\$1,228
2025	\$0	\$0	\$0	\$0	\$0	(\$467)	(\$159)	(\$1,885)	\$0	\$2,511	\$2,511	\$1,915
2026	\$0	\$0	\$0	\$0	\$0	(\$474)	(\$162)	(\$1,965)	\$0	\$2,600	\$2,600	\$2,571
2027	\$0	\$0	\$0	\$0	\$0	(\$480)	(\$164)	(\$2,037)	\$0	\$2,681	\$2,681	\$3,195
2028	\$0	\$0	\$0	\$0	\$0	(\$486)	(\$167)	(\$2,121)	\$0	\$2,774	\$2,774	\$3,791
2029	\$0	\$0	\$0	\$0	\$0	(\$493)	(\$170)	(\$2,151)	\$0	\$2,814	\$2,814	\$4,348
2030	\$0	\$0	\$0	\$0	\$0	(\$500)	(\$173)	(\$2,203)	\$0	\$2,875	\$2,875	\$4,872
2031	\$0	\$0	\$0	\$0	\$0	(\$506)	(\$176)	(\$2,254)	\$0	\$2,936	\$2,936	\$5,366
2032	\$0	\$0	\$0	\$0	\$0	(\$513)	(\$179)	(\$2,312)	\$0	\$3,004	\$3,004	\$5,833
2033	\$0	\$0	\$0	\$0	\$0	(\$520)	(\$182)	(\$2,372)	\$0	\$3,074	\$3,074	\$6,273
2034	\$0	\$0	\$0	\$0	\$0	(\$527)	(\$185)	(\$2,431)	\$0	\$3,143	\$3,143	\$6,687
2035	\$0	\$0	\$0	\$0	\$0	(\$535)	(\$188)	(\$2,487)	\$0	\$3,210	\$3,210	\$7,078
2036	\$0	\$0	\$0	\$0	\$0	(\$542)	(\$191)	(\$2,545)	\$0	\$3,278	\$3,278	\$7,446
2037	\$0	\$0	\$0	\$0	\$0	(\$550)	(\$194)	(\$2,603)	\$0	\$3,348	\$3,348	\$7,793
2038	\$0	\$0	\$0	\$0	\$0	(\$557)	(\$198)	(\$2,661)	\$0	\$3,416	\$3,416	\$8,119
<b>Nominal</b>		\$7,619	\$4,248			(\$10,747)	(\$3,714)	(\$45,786)	\$11,867	\$60,247	\$49,390	
<b>NPV</b>		\$4,161	\$2,320	\$0	\$0	(\$2,673)	(\$926)	(\$11,001)	\$6,482	\$14,600	\$8,119	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		2.25										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$37	\$0	\$0	\$0	(\$16)	\$0	\$28	\$37	\$44	\$6	\$6
2011	\$76	\$0	\$0	\$0	(\$47)	\$0	\$55	\$76	\$102	\$26	\$28
2012	\$135	\$0	\$0	\$0	(\$102)	\$0	\$97	\$135	\$198	\$63	\$77
2013	\$197	\$0	\$0	\$0	(\$183)	\$0	\$138	\$197	\$321	\$124	\$167
2014	\$300	\$0	\$0	\$0	(\$312)	\$0	\$207	\$300	\$519	\$219	\$313
2015	\$407	\$0	\$0	\$0	(\$558)	\$0	\$276	\$407	\$834	\$427	\$576
2016	\$518	\$0	\$0	\$0	(\$826)	\$0	\$345	\$518	\$1,171	\$654	\$947
2017	\$632	\$0	\$0	\$0	(\$1,121)	\$0	\$414	\$632	\$1,535	\$904	\$1,419
2018	\$857	\$0	\$0	\$0	(\$1,566)	\$0	\$552	\$857	\$2,118	\$1,261	\$2,028
2019	\$1,089	\$0	\$0	\$0	(\$2,139)	\$0	\$690	\$1,089	\$2,829	\$1,740	\$2,802
2020	\$0	\$0	\$0	\$0	(\$2,230)	\$0	\$0	\$0	\$2,230	\$2,230	\$3,717
2021	\$0	\$0	\$0	\$0	(\$2,321)	\$0	\$0	\$0	\$2,321	\$2,321	\$4,595
2022	\$0	\$0	\$0	\$0	(\$2,411)	\$0	\$0	\$0	\$2,411	\$2,411	\$5,436
2023	\$0	\$0	\$0	\$0	(\$2,497)	\$0	\$0	\$0	\$2,497	\$2,497	\$6,239
2024	\$0	\$0	\$0	\$0	(\$2,592)	\$0	\$0	\$0	\$2,592	\$2,592	\$7,008
2025	\$0	\$0	\$0	\$0	(\$2,670)	\$0	\$0	\$0	\$2,670	\$2,670	\$7,739
2026	\$0	\$0	\$0	\$0	(\$2,747)	\$0	\$0	\$0	\$2,747	\$2,747	\$8,432
2027	\$0	\$0	\$0	\$0	(\$2,853)	\$0	\$0	\$0	\$2,853	\$2,853	\$9,096
2028	\$0	\$0	\$0	\$0	(\$2,948)	\$0	\$0	\$0	\$2,948	\$2,948	\$9,728
2029	\$0	\$0	\$0	\$0	(\$3,059)	\$0	\$0	\$0	\$3,059	\$3,059	\$10,334
2030	\$0	\$0	\$0	\$0	(\$3,164)	\$0	\$0	\$0	\$3,164	\$3,164	\$10,911
2031	\$0	\$0	\$0	\$0	(\$3,259)	\$0	\$0	\$0	\$3,259	\$3,259	\$11,460
2032	\$0	\$0	\$0	\$0	(\$3,356)	\$0	\$0	\$0	\$3,356	\$3,356	\$11,981
2033	\$0	\$0	\$0	\$0	(\$3,453)	\$0	\$0	\$0	\$3,453	\$3,453	\$12,475
2034	\$0	\$0	\$0	\$0	(\$3,553)	\$0	\$0	\$0	\$3,553	\$3,553	\$12,944
2035	\$0	\$0	\$0	\$0	(\$3,653)	\$0	\$0	\$0	\$3,653	\$3,653	\$13,388
2036	\$0	\$0	\$0	\$0	(\$3,755)	\$0	\$0	\$0	\$3,755	\$3,755	\$13,810
2037	\$0	\$0	\$0	\$0	(\$3,859)	\$0	\$0	\$0	\$3,859	\$3,859	\$14,209
2038	\$0	\$0	\$0	\$0	(\$3,964)	\$0	\$0	\$0	\$3,964	\$3,964	\$14,588
<b>Nominal</b>	\$4,248				(\$65,213)		\$2,801	\$4,248	\$68,015	\$63,766	
<b>NPV</b>	\$2,140	\$0	\$0	\$0	(\$15,367)	\$0	\$1,541	\$2,320	\$16,908	\$14,588	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		7.29									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$67.122	\$27.600	(\$15.982)	\$0.000	\$0.000	(\$13.062)	\$0.000	\$0.000	\$110.704	\$13.062	(\$97.642)	(\$90.045)
2011	\$0.000	\$136.526	\$55.200	(\$47.273)	\$0.000	(\$3.707)	(\$40.113)	\$0.000	\$0.000	\$239.000	\$43.821	(\$195.179)	(\$256.033)
2012	\$0.000	\$242.982	\$96.600	(\$101.844)	\$0.000	(\$8.169)	(\$87.838)	\$0.000	\$0.000	\$441.426	\$96.007	(\$345.420)	(\$526.936)
2013	\$0.000	\$353.019	\$138.000	(\$182.978)	\$0.000	(\$14.698)	(\$165.901)	\$0.000	\$0.000	\$673.997	\$180.599	(\$493.397)	(\$883.787)
2014	\$0.000	\$538.530	\$207.000	(\$312.135)	(\$75.831)	(\$24.697)	(\$230.190)	\$0.000	\$0.000	\$1,057.665	\$330.717	(\$726.948)	(\$1,368.646)
2015	\$0.000	\$730.247	\$276.000	(\$557.837)	(\$117.223)	(\$38.336)	(\$416.288)	\$0.000	\$0.000	\$1,564.084	\$571.847	(\$992.237)	(\$1,978.955)
2016	\$0.000	\$928.326	\$345.000	(\$826.496)	(\$169.908)	(\$55.793)	(\$619.664)	\$0.000	\$0.000	\$2,099.822	\$845.365	(\$1,254.457)	(\$2,690.517)
2017	\$0.000	\$1,132.929	\$414.000	(\$1,121.489)	(\$234.307)	(\$77.250)	(\$859.808)	\$0.000	\$0.000	\$2,668.418	\$1,171.365	(\$1,497.053)	(\$3,473.615)
2018	\$0.000	\$1,536.252	\$552.000	(\$1,565.706)	(\$321.360)	(\$106.373)	(\$1,198.055)	\$0.000	\$0.000	\$3,653.958	\$1,625.788	(\$2,028.170)	(\$4,451.992)
2019	\$0.000	\$1,952.961	\$690.000	(\$2,138.688)	(\$431.928)	(\$143.535)	(\$1,644.819)	\$0.000	\$0.000	\$4,781.648	\$2,220.282	(\$2,561.366)	(\$5,591.443)
2020	\$0.000	\$0.000	\$0.000	(\$2,230.079)	(\$437.572)	(\$145.975)	(\$1,631.321)	\$0.000	\$0.000	\$2,230.079	\$2,214.868	(\$15.211)	(\$5,597.683)
2021	\$0.000	\$0.000	\$0.000	(\$2,321.141)	(\$443.311)	(\$148.457)	(\$1,628.103)	\$0.000	\$0.000	\$2,321.141	\$2,219.870	(\$101.271)	(\$5,635.997)
2022	\$0.000	\$0.000	\$0.000	(\$2,410.663)	(\$449.148)	(\$150.980)	(\$1,678.752)	\$0.000	\$0.000	\$2,410.663	\$2,278.880	(\$131.783)	(\$5,681.975)
2023	\$0.000	\$0.000	\$0.000	(\$2,496.639)	(\$455.084)	(\$153.547)	(\$1,739.875)	\$0.000	\$0.000	\$2,496.639	\$2,348.507	(\$148.132)	(\$5,729.636)
2024	\$0.000	\$0.000	\$0.000	(\$2,591.940)	(\$461.121)	(\$156.157)	(\$1,805.436)	\$0.000	\$0.000	\$2,591.940	\$2,422.715	(\$169.225)	(\$5,779.847)
2025	\$0.000	\$0.000	\$0.000	(\$2,669.777)	(\$467.261)	(\$158.812)	(\$1,884.686)	\$0.000	\$0.000	\$2,669.777	\$2,510.759	(\$159.018)	(\$5,823.359)
2026	\$0.000	\$0.000	\$0.000	(\$2,746.982)	(\$473.505)	(\$161.512)	(\$1,964.805)	\$0.000	\$0.000	\$2,746.982	\$2,599.822	(\$147.160)	(\$5,860.492)
2027	\$0.000	\$0.000	\$0.000	(\$2,852.625)	(\$479.856)	(\$164.257)	(\$2,037.274)	\$0.000	\$0.000	\$2,852.625	\$2,681.387	(\$171.238)	(\$5,900.340)
2028	\$0.000	\$0.000	\$0.000	(\$2,948.103)	(\$486.314)	(\$167.050)	(\$2,120.961)	\$0.000	\$0.000	\$2,948.103	\$2,774.325	(\$173.778)	(\$5,937.633)
2029	\$0.000	\$0.000	\$0.000	(\$3,059.046)	(\$492.882)	(\$169.890)	(\$2,151.192)	\$0.000	\$0.000	\$3,059.046	\$2,813.963	(\$245.083)	(\$5,986.135)
2030	\$0.000	\$0.000	\$0.000	(\$3,164.187)	(\$499.561)	(\$172.778)	(\$2,202.530)	\$0.000	\$0.000	\$3,164.187	\$2,874.869	(\$289.317)	(\$6,038.936)
2031	\$0.000	\$0.000	\$0.000	(\$3,259.297)	(\$506.355)	(\$175.715)	(\$2,254.164)	\$0.000	\$0.000	\$3,259.297	\$2,936.234	(\$323.063)	(\$6,093.309)
2032	\$0.000	\$0.000	\$0.000	(\$3,355.699)	(\$513.263)	(\$178.702)	(\$2,312.114)	\$0.000	\$0.000	\$3,355.699	\$3,004.080	(\$351.619)	(\$6,147.883)
2033	\$0.000	\$0.000	\$0.000	(\$3,453.435)	(\$520.290)	(\$181.740)	(\$2,371.816)	\$0.000	\$0.000	\$3,453.435	\$3,073.846	(\$379.589)	(\$6,202.214)
2034	\$0.000	\$0.000	\$0.000	(\$3,552.549)	(\$527.435)	(\$184.830)	(\$2,430.563)	\$0.000	\$0.000	\$3,552.549	\$3,142.828	(\$409.722)	(\$6,256.296)
2035	\$0.000	\$0.000	\$0.000	(\$3,653.089)	(\$534.702)	(\$187.972)	(\$2,487.279)	\$0.000	\$0.000	\$3,653.089	\$3,209.953	(\$443.135)	(\$6,310.237)
2036	\$0.000	\$0.000	\$0.000	(\$3,755.101)	(\$542.093)	(\$191.167)	(\$2,545.052)	\$0.000	\$0.000	\$3,755.101	\$3,278.312	(\$476.789)	(\$6,363.759)
2037	\$0.000	\$0.000	\$0.000	(\$3,858.635)	(\$549.609)	(\$194.417)	(\$2,603.497)	\$0.000	\$0.000	\$3,858.635	\$3,347.523	(\$511.112)	(\$6,416.670)
2038	\$0.000	\$0.000	\$0.000	(\$3,963.743)	(\$557.253)	(\$197.722)	(\$2,660.812)	\$0.000	\$0.000	\$3,963.743	\$3,415.787	(\$547.956)	(\$6,468.981)
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Nominal		\$7,618.894	\$2,801.400	(\$65,213.158)	(\$10,747.173)	(\$3,714.238)	(\$45,785.972)			\$75,633.452	\$60,247.383	(\$15,386.069)	
NPV		\$4,161.318	\$1,541.284	(\$15,366.747)	(\$2,673.052)	(\$926.427)	(\$11,000.888)	\$0.000	\$0.000	\$21,069.348	\$14,600.367	(\$6,468.981)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.69											

## 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	-0.20	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.26	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(859)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(788)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	0.00	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$388.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$920.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	0.00%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$276.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.82%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$1,499	\$1,606	\$1,499
NPV Costs (\$000s)	\$1,429	\$1,005	\$2,029
NPV Net Benefits (\$000s)	\$70	\$600	(\$530)
Benefit:Cost Ratio	1.049	1.597	0.739

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$19	\$46	\$0	\$0	\$0	\$0	(\$4)	\$65	\$4	(\$62)	(\$57)
2011	\$0	\$39	\$92	\$0	\$0	\$0	(\$2)	(\$12)	\$131	\$14	(\$117)	(\$156)
2012	\$0	\$78	\$184	\$0	\$0	\$0	(\$4)	(\$28)	\$262	\$32	(\$229)	(\$336)
2013	\$0	\$78	\$184	\$0	\$0	\$0	(\$7)	(\$47)	\$262	\$54	(\$208)	(\$487)
2014	\$0	\$78	\$184	\$0	\$0	(\$30)	(\$10)	(\$54)	\$262	\$93	(\$168)	(\$599)
2015	\$0	\$78	\$184	\$0	\$0	(\$38)	(\$13)	(\$80)	\$262	\$131	(\$130)	(\$679)
2016	\$0	\$78	\$184	\$0	\$0	(\$47)	(\$15)	(\$101)	\$262	\$164	(\$98)	(\$735)
2017	\$0	\$78	\$184	\$0	\$0	(\$56)	(\$18)	(\$121)	\$262	\$195	(\$66)	(\$769)
2018	\$0	\$78	\$184	\$0	\$0	(\$65)	(\$22)	(\$143)	\$262	\$230	(\$32)	(\$785)
2019	\$0	\$78	\$184	\$0	\$0	(\$74)	(\$25)	(\$167)	\$262	\$266	\$5	(\$783)
2020	\$0	\$0	\$0	\$0	\$0	(\$75)	(\$25)	(\$166)	\$0	\$266	\$266	(\$673)
2021	\$0	\$0	\$0	\$0	\$0	(\$76)	(\$26)	(\$165)	\$0	\$267	\$267	(\$572)
2022	\$0	\$0	\$0	\$0	\$0	(\$77)	(\$26)	(\$170)	\$0	\$274	\$274	(\$477)
2023	\$0	\$0	\$0	\$0	\$0	(\$78)	(\$26)	(\$177)	\$0	\$282	\$282	(\$386)
2024	\$0	\$0	\$0	\$0	\$0	(\$80)	(\$27)	(\$183)	\$0	\$290	\$290	(\$300)
2025	\$0	\$0	\$0	\$0	\$0	(\$81)	(\$27)	(\$191)	\$0	\$299	\$299	(\$218)
2026	\$0	\$0	\$0	\$0	\$0	(\$82)	(\$28)	(\$200)	\$0	\$309	\$309	(\$140)
2027	\$0	\$0	\$0	\$0	\$0	(\$83)	(\$28)	(\$207)	\$0	\$318	\$318	(\$66)
2028	\$0	\$0	\$0	\$0	\$0	(\$84)	(\$29)	(\$215)	\$0	\$328	\$328	\$4
2029	\$0	\$0	\$0	\$0	\$0	(\$85)	(\$29)	(\$218)	\$0	\$333	\$333	\$70
<b>Nominal</b>		\$679	\$1,610			(\$1,112)	(\$388)	(\$2,649)	\$2,289	\$4,149	\$1,860	
<b>NPV</b>		\$424	\$1,005	\$0	\$0	(\$397)	(\$143)	(\$960)	\$1,429	\$1,499	\$70	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.05										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$46	\$0	\$0	\$0	(\$5)	\$0	\$14	\$46	\$19	(\$27)	(\$25)
2011	\$92	\$0	\$0	\$0	(\$14)	\$0	\$28	\$92	\$42	(\$50)	(\$68)
2012	\$184	\$0	\$0	\$0	(\$32)	\$0	\$55	\$184	\$87	(\$97)	(\$144)
2013	\$184	\$0	\$0	\$0	(\$52)	\$0	\$55	\$184	\$107	(\$77)	(\$200)
2014	\$184	\$0	\$0	\$0	(\$73)	\$0	\$55	\$184	\$128	(\$56)	(\$237)
2015	\$184	\$0	\$0	\$0	(\$108)	\$0	\$55	\$184	\$163	(\$21)	(\$250)
2016	\$184	\$0	\$0	\$0	(\$135)	\$0	\$55	\$184	\$190	\$6	(\$247)
2017	\$184	\$0	\$0	\$0	(\$158)	\$0	\$55	\$184	\$213	\$29	(\$232)
2018	\$184	\$0	\$0	\$0	(\$187)	\$0	\$55	\$184	\$242	\$58	(\$204)
2019	\$184	\$0	\$0	\$0	(\$217)	\$0	\$55	\$184	\$272	\$88	(\$164)
2020	\$0	\$0	\$0	\$0	(\$226)	\$0	\$0	\$0	\$226	\$226	(\$72)
2021	\$0	\$0	\$0	\$0	(\$236)	\$0	\$0	\$0	\$236	\$236	\$18
2022	\$0	\$0	\$0	\$0	(\$245)	\$0	\$0	\$0	\$245	\$245	\$103
2023	\$0	\$0	\$0	\$0	(\$254)	\$0	\$0	\$0	\$254	\$254	\$185
2024	\$0	\$0	\$0	\$0	(\$263)	\$0	\$0	\$0	\$263	\$263	\$263
2025	\$0	\$0	\$0	\$0	(\$271)	\$0	\$0	\$0	\$271	\$271	\$337
2026	\$0	\$0	\$0	\$0	(\$279)	\$0	\$0	\$0	\$279	\$279	\$407
2027	\$0	\$0	\$0	\$0	(\$290)	\$0	\$0	\$0	\$290	\$290	\$475
2028	\$0	\$0	\$0	\$0	(\$299)	\$0	\$0	\$0	\$299	\$299	\$539
2029	\$0	\$0	\$0	\$0	(\$311)	\$0	\$0	\$0	\$311	\$311	\$600
Nominal NPV	\$1,610	\$0	\$0	\$0	(\$3,653)	\$0	\$483	\$1,610	\$4,136	\$2,526	
	\$927				(\$1,304)		\$302	\$1,005	\$1,606	\$600	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		1.60									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$19.400	\$13.800	(\$4.706)	\$0.000	\$0.000	(\$3.846)	\$0.000	\$0.000	\$37.906	\$3.846	(\$34.060)	(\$31.410)
2011	\$0.000	\$38.800	\$27.600	(\$13.921)	\$0.000	(\$1.854)	(\$11.812)	\$0.000	\$0.000	\$80.321	\$13.665	(\$66.655)	(\$88.095)
2012	\$0.000	\$77.600	\$55.200	(\$32.297)	\$0.000	(\$4.399)	(\$27.855)	\$0.000	\$0.000	\$165.097	\$32.254	(\$132.843)	(\$192.281)
2013	\$0.000	\$77.600	\$55.200	(\$51.539)	\$0.000	(\$7.030)	(\$46.729)	\$0.000	\$0.000	\$184.339	\$53.758	(\$130.580)	(\$286.723)
2014	\$0.000	\$77.600	\$55.200	(\$72.564)	(\$29.933)	(\$9.749)	(\$53.514)	\$0.000	\$0.000	\$205.364	\$93.195	(\$112.169)	(\$361.538)
2015	\$0.000	\$77.600	\$55.200	(\$107.623)	(\$38.401)	(\$12.558)	(\$80.314)	\$0.000	\$0.000	\$240.423	\$131.273	(\$109.150)	(\$428.674)
2016	\$0.000	\$77.600	\$55.200	(\$134.884)	(\$47.083)	(\$15.461)	(\$101.129)	\$0.000	\$0.000	\$267.684	\$163.673	(\$104.011)	(\$487.672)
2017	\$0.000	\$77.600	\$55.200	(\$157.816)	(\$55.985)	(\$18.458)	(\$120.992)	\$0.000	\$0.000	\$290.616	\$195.435	(\$95.181)	(\$537.460)
2018	\$0.000	\$77.600	\$55.200	(\$186.832)	(\$65.112)	(\$21.553)	(\$142.961)	\$0.000	\$0.000	\$319.632	\$229.626	(\$90.006)	(\$580.879)
2019	\$0.000	\$77.600	\$55.200	(\$217.165)	(\$74.470)	(\$24.747)	(\$167.017)	\$0.000	\$0.000	\$349.965	\$266.235	(\$83.730)	(\$618.127)
2020	\$0.000	\$0.000	\$0.000	(\$226.445)	(\$75.443)	(\$25.168)	(\$165.646)	\$0.000	\$0.000	\$226.445	\$266.258	\$39.813	(\$601.794)
2021	\$0.000	\$0.000	\$0.000	(\$235.691)	(\$76.433)	(\$25.596)	(\$165.319)	\$0.000	\$0.000	\$235.691	\$267.348	\$31.657	(\$589.817)
2022	\$0.000	\$0.000	\$0.000	(\$244.781)	(\$77.439)	(\$26.031)	(\$170.462)	\$0.000	\$0.000	\$244.781	\$273.933	\$29.151	(\$579.646)
2023	\$0.000	\$0.000	\$0.000	(\$253.512)	(\$78.463)	(\$26.474)	(\$176.669)	\$0.000	\$0.000	\$253.512	\$281.605	\$28.094	(\$570.607)
2024	\$0.000	\$0.000	\$0.000	(\$263.189)	(\$79.504)	(\$26.924)	(\$183.326)	\$0.000	\$0.000	\$263.189	\$289.753	\$26.565	(\$562.725)
2025	\$0.000	\$0.000	\$0.000	(\$271.092)	(\$80.562)	(\$27.381)	(\$191.373)	\$0.000	\$0.000	\$271.092	\$299.317	\$28.225	(\$555.002)
2026	\$0.000	\$0.000	\$0.000	(\$278.932)	(\$81.639)	(\$27.847)	(\$199.509)	\$0.000	\$0.000	\$278.932	\$308.994	\$30.063	(\$547.416)
2027	\$0.000	\$0.000	\$0.000	(\$289.659)	(\$82.734)	(\$28.320)	(\$206.867)	\$0.000	\$0.000	\$289.659	\$317.921	\$28.262	(\$540.839)
2028	\$0.000	\$0.000	\$0.000	(\$299.354)	(\$83.847)	(\$28.802)	(\$215.365)	\$0.000	\$0.000	\$299.354	\$328.014	\$28.660	(\$534.689)
2029	\$0.000	\$0.000	\$0.000	(\$310.619)	(\$84.980)	(\$29.291)	(\$218.434)	\$0.000	\$0.000	\$310.619	\$332.705	\$22.086	(\$530.318)
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Nominal		\$679.000	\$483.000	(\$3,652.619)	(\$1,112.028)	(\$387.641)	(\$2,649.140)			\$4,814.619	\$4,148.810	(\$665.809)	
NPV		\$423.924	\$301.554	(\$1,303.983)	(\$396.543)	(\$142.852)	(\$959.748)	\$0.000	\$0.000	\$2,029.461	\$1,499.143	(\$530.318)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.74											

## 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	-0.41	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.54	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(1,122)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,029)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	0.00	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	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$507.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$500.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$250.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.69%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.83%	

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)	\$0.0509	\$/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

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$8,167	\$6,801	\$8,167
NPV Costs (\$000s)	\$3,248	\$1,613	\$8,436
NPV Net Benefits (\$000s)	\$4,920	\$5,188	(\$269)
Benefit:Cost Ratio	2.515	4.217	0.968

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$52	\$51	\$0	\$0	\$0	\$0	(\$10)	\$102	\$10	(\$92)	(\$85)
2011	\$0	\$105	\$103	\$0	\$0	\$0	(\$8)	(\$31)	\$208	\$38	(\$170)	(\$230)
2012	\$0	\$160	\$158	\$0	\$0	\$0	(\$15)	(\$62)	\$318	\$78	(\$240)	(\$418)
2013	\$0	\$217	\$214	\$0	\$0	\$0	(\$26)	(\$111)	\$431	\$137	(\$294)	(\$630)
2014	\$0	\$276	\$272	\$0	\$0	(\$123)	(\$40)	(\$140)	\$548	\$302	(\$245)	(\$794)
2015	\$0	\$337	\$332	\$0	\$0	(\$174)	(\$57)	(\$232)	\$669	\$463	(\$206)	(\$920)
2016	\$0	\$399	\$394	\$0	\$0	(\$235)	(\$77)	(\$322)	\$793	\$634	(\$159)	(\$1,011)
2017	\$0	\$406	\$401	\$0	\$0	(\$298)	(\$98)	(\$410)	\$807	\$805	(\$1)	(\$1,012)
2018	\$0	\$413	\$407	\$0	\$0	(\$362)	(\$120)	(\$506)	\$820	\$987	\$167	(\$931)
2019	\$0	\$420	\$414	\$0	\$0	(\$427)	(\$142)	(\$611)	\$834	\$1,180	\$346	(\$777)
2020	\$0	\$0	\$0	\$0	\$0	(\$433)	(\$144)	(\$606)	\$0	\$1,183	\$1,183	(\$292)
2021	\$0	\$0	\$0	\$0	\$0	(\$439)	(\$147)	(\$604)	\$0	\$1,190	\$1,190	\$158
2022	\$0	\$0	\$0	\$0	\$0	(\$445)	(\$149)	(\$623)	\$0	\$1,217	\$1,217	\$583
2023	\$0	\$0	\$0	\$0	\$0	(\$450)	(\$152)	(\$646)	\$0	\$1,248	\$1,248	\$985
2024	\$0	\$0	\$0	\$0	\$0	(\$456)	(\$155)	(\$670)	\$0	\$1,281	\$1,281	\$1,365
2025	\$0	\$0	\$0	\$0	\$0	(\$462)	(\$157)	(\$700)	\$0	\$1,319	\$1,319	\$1,726
2026	\$0	\$0	\$0	\$0	\$0	(\$469)	(\$160)	(\$729)	\$0	\$1,358	\$1,358	\$2,068
2027	\$0	\$0	\$0	\$0	\$0	(\$475)	(\$163)	(\$756)	\$0	\$1,394	\$1,394	\$2,393
2028	\$0	\$0	\$0	\$0	\$0	(\$481)	(\$165)	(\$787)	\$0	\$1,434	\$1,434	\$2,701
2029	\$0	\$0	\$0	\$0	\$0	(\$488)	(\$168)	(\$799)	\$0	\$1,455	\$1,455	\$2,988
2030	\$0	\$0	\$0	\$0	\$0	(\$494)	(\$171)	(\$818)	\$0	\$1,483	\$1,483	\$3,299
2031	\$0	\$0	\$0	\$0	\$0	(\$501)	(\$174)	(\$837)	\$0	\$1,512	\$1,512	\$3,514
2032	\$0	\$0	\$0	\$0	\$0	(\$508)	(\$177)	(\$858)	\$0	\$1,543	\$1,543	\$3,753
2033	\$0	\$0	\$0	\$0	\$0	(\$515)	(\$180)	(\$881)	\$0	\$1,575	\$1,575	\$3,979
2034	\$0	\$0	\$0	\$0	\$0	(\$522)	(\$183)	(\$902)	\$0	\$1,607	\$1,607	\$4,191
2035	\$0	\$0	\$0	\$0	\$0	(\$529)	(\$186)	(\$923)	\$0	\$1,639	\$1,639	\$4,390
2036	\$0	\$0	\$0	\$0	\$0	(\$536)	(\$189)	(\$945)	\$0	\$1,671	\$1,671	\$4,578
2037	\$0	\$0	\$0	\$0	\$0	(\$544)	(\$192)	(\$967)	\$0	\$1,703	\$1,703	\$4,754
2038	\$0	\$0	\$0	\$0	\$0	(\$551)	(\$196)	(\$988)	\$0	\$1,735	\$1,735	\$4,920
<hr/>												
Nominal		\$2,784	\$2,746			(\$10,918)	(\$3,791)	(\$17,474)	\$5,530	\$32,183	\$26,653	
NPV		\$1,635	\$1,613	\$0	\$0	(\$2,806)	(\$987)	(\$4,374)	\$3,248	\$8,167	\$4,920	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		2.51										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$51	\$0	\$0	\$0	(\$12)	\$0	\$25	\$51	\$37	(\$14)	(\$13)
2011	\$103	\$0	\$0	\$0	(\$36)	\$0	\$50	\$103	\$86	(\$17)	(\$27)
2012	\$158	\$0	\$0	\$0	(\$72)	\$0	\$75	\$158	\$147	(\$10)	(\$35)
2013	\$214	\$0	\$0	\$0	(\$122)	\$0	\$100	\$214	\$222	\$8	(\$29)
2014	\$272	\$0	\$0	\$0	(\$190)	\$0	\$125	\$272	\$315	\$43	(\$1)
2015	\$332	\$0	\$0	\$0	(\$311)	\$0	\$150	\$332	\$461	\$129	\$78
2016	\$394	\$0	\$0	\$0	(\$429)	\$0	\$175	\$394	\$604	\$210	\$198
2017	\$401	\$0	\$0	\$0	(\$534)	\$0	\$175	\$401	\$709	\$309	\$359
2018	\$407	\$0	\$0	\$0	(\$661)	\$0	\$175	\$407	\$836	\$429	\$566
2019	\$414	\$0	\$0	\$0	(\$794)	\$0	\$175	\$414	\$969	\$555	\$813
2020	\$0	\$0	\$0	\$0	(\$828)	\$0	\$0	\$0	\$828	\$828	\$1,152
2021	\$0	\$0	\$0	\$0	(\$862)	\$0	\$0	\$0	\$862	\$862	\$1,478
2022	\$0	\$0	\$0	\$0	(\$895)	\$0	\$0	\$0	\$895	\$895	\$1,791
2023	\$0	\$0	\$0	\$0	(\$927)	\$0	\$0	\$0	\$927	\$927	\$2,089
2024	\$0	\$0	\$0	\$0	(\$962)	\$0	\$0	\$0	\$962	\$962	\$2,374
2025	\$0	\$0	\$0	\$0	(\$991)	\$0	\$0	\$0	\$991	\$991	\$2,646
2026	\$0	\$0	\$0	\$0	(\$1,020)	\$0	\$0	\$0	\$1,020	\$1,020	\$2,903
2027	\$0	\$0	\$0	\$0	(\$1,059)	\$0	\$0	\$0	\$1,059	\$1,059	\$3,149
2028	\$0	\$0	\$0	\$0	(\$1,095)	\$0	\$0	\$0	\$1,095	\$1,095	\$3,384
2029	\$0	\$0	\$0	\$0	(\$1,136)	\$0	\$0	\$0	\$1,136	\$1,136	\$3,609
2030	\$0	\$0	\$0	\$0	(\$1,175)	\$0	\$0	\$0	\$1,175	\$1,175	\$3,823
2031	\$0	\$0	\$0	\$0	(\$1,210)	\$0	\$0	\$0	\$1,210	\$1,210	\$4,027
2032	\$0	\$0	\$0	\$0	(\$1,246)	\$0	\$0	\$0	\$1,246	\$1,246	\$4,220
2033	\$0	\$0	\$0	\$0	(\$1,282)	\$0	\$0	\$0	\$1,282	\$1,282	\$4,404
2034	\$0	\$0	\$0	\$0	(\$1,319)	\$0	\$0	\$0	\$1,319	\$1,319	\$4,578
2035	\$0	\$0	\$0	\$0	(\$1,356)	\$0	\$0	\$0	\$1,356	\$1,356	\$4,743
2036	\$0	\$0	\$0	\$0	(\$1,394)	\$0	\$0	\$0	\$1,394	\$1,394	\$4,900
2037	\$0	\$0	\$0	\$0	(\$1,433)	\$0	\$0	\$0	\$1,433	\$1,433	\$5,048
2038	\$0	\$0	\$0	\$0	(\$1,472)	\$0	\$0	\$0	\$1,472	\$1,472	\$5,188
<b>Nominal</b>	\$2,746				(\$24,823)		\$1,225	\$2,746	\$26,048	\$23,302	
<b>NPV</b>	\$1,487	\$0	\$0	\$0	(\$6,076)	\$0	\$725	\$1,613	\$6,801	\$5,188	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		4.22									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$51.562	\$25.000	(\$12.291)	\$0.000	\$0.000	(\$10.045)	\$0.000	\$0.000	\$88.853	\$10.045	(\$78.807)	(\$72.676)
2011	\$0.000	\$104.877	\$50.000	(\$36.356)	\$0.000	(\$7.600)	(\$30.850)	\$0.000	\$0.000	\$191.233	\$38.449	(\$152.784)	(\$202.609)
2012	\$0.000	\$159.990	\$75.000	(\$72.299)	\$0.000	(\$15.458)	(\$62.356)	\$0.000	\$0.000	\$307.289	\$77.814	(\$229.475)	(\$382.580)
2013	\$0.000	\$216.946	\$100.000	(\$122.366)	\$0.000	(\$26.201)	(\$110.946)	\$0.000	\$0.000	\$439.312	\$137.147	(\$302.165)	(\$601.122)
2014	\$0.000	\$275.793	\$125.000	(\$189.513)	(\$122.726)	(\$39.970)	(\$139.760)	\$0.000	\$0.000	\$590.306	\$302.456	(\$287.851)	(\$793.112)
2015	\$0.000	\$336.577	\$150.000	(\$310.662)	(\$174.016)	(\$56.909)	(\$231.832)	\$0.000	\$0.000	\$797.239	\$462.758	(\$334.482)	(\$998.846)
2016	\$0.000	\$399.349	\$175.000	(\$428.854)	(\$235.005)	(\$77.169)	(\$321.533)	\$0.000	\$0.000	\$1,003.203	\$633.707	(\$369.497)	(\$1,208.434)
2017	\$0.000	\$406.138	\$175.000	(\$534.286)	(\$297.549)	(\$98.101)	(\$409.619)	\$0.000	\$0.000	\$1,115.424	\$805.269	(\$310.155)	(\$1,370.675)
2018	\$0.000	\$413.042	\$175.000	(\$661.085)	(\$361.687)	(\$119.722)	(\$505.853)	\$0.000	\$0.000	\$1,249.127	\$987.262	(\$261.866)	(\$1,496.997)
2019	\$0.000	\$420.064	\$175.000	(\$794.030)	(\$427.460)	(\$142.050)	(\$610.671)	\$0.000	\$0.000	\$1,389.094	\$1,180.181	(\$208.912)	(\$1,589.934)
2020	\$0.000	\$0.000	\$0.000	(\$827.960)	(\$433.045)	(\$144.465)	(\$605.660)	\$0.000	\$0.000	\$827.960	\$1,183.170	\$355.210	(\$1,444.210)
2021	\$0.000	\$0.000	\$0.000	(\$861.769)	(\$438.725)	(\$146.921)	(\$604.465)	\$0.000	\$0.000	\$861.769	\$1,190.111	\$328.342	(\$1,319.989)
2022	\$0.000	\$0.000	\$0.000	(\$895.006)	(\$444.502)	(\$149.418)	(\$623.269)	\$0.000	\$0.000	\$895.006	\$1,217.190	\$322.184	(\$1,207.581)
2023	\$0.000	\$0.000	\$0.000	(\$926.928)	(\$450.377)	(\$151.959)	(\$645.963)	\$0.000	\$0.000	\$926.926	\$1,248.298	\$321.372	(\$1,104.181)
2024	\$0.000	\$0.000	\$0.000	(\$962.308)	(\$456.351)	(\$154.542)	(\$670.303)	\$0.000	\$0.000	\$962.308	\$1,281.196	\$318.888	(\$1,009.563)
2025	\$0.000	\$0.000	\$0.000	(\$991.207)	(\$462.427)	(\$157.169)	(\$699.727)	\$0.000	\$0.000	\$991.207	\$1,319.323	\$328.116	(\$919.781)
2026	\$0.000	\$0.000	\$0.000	(\$1,019.871)	(\$468.607)	(\$159.841)	(\$729.472)	\$0.000	\$0.000	\$1,019.871	\$1,357.920	\$338.050	(\$834.479)
2027	\$0.000	\$0.000	\$0.000	(\$1,059.093)	(\$474.892)	(\$162.558)	(\$756.378)	\$0.000	\$0.000	\$1,059.093	\$1,393.828	\$334.735	(\$756.585)
2028	\$0.000	\$0.000	\$0.000	(\$1,094.541)	(\$481.283)	(\$165.322)	(\$787.448)	\$0.000	\$0.000	\$1,094.541	\$1,434.053	\$339.512	(\$683.726)
2029	\$0.000	\$0.000	\$0.000	(\$1,135.731)	(\$487.783)	(\$168.132)	(\$798.672)	\$0.000	\$0.000	\$1,135.731	\$1,454.587	\$318.857	(\$620.624)
2030	\$0.000	\$0.000	\$0.000	(\$1,174.766)	(\$494.394)	(\$170.990)	(\$817.732)	\$0.000	\$0.000	\$1,174.766	\$1,483.116	\$308.350	(\$564.349)
2031	\$0.000	\$0.000	\$0.000	(\$1,210.078)	(\$501.117)	(\$173.897)	(\$836.903)	\$0.000	\$0.000	\$1,210.078	\$1,511.916	\$301.839	(\$513.549)
2032	\$0.000	\$0.000	\$0.000	(\$1,245.869)	(\$507.954)	(\$176.854)	(\$858.418)	\$0.000	\$0.000	\$1,245.869	\$1,543.225	\$297.356	(\$467.397)
2033	\$0.000	\$0.000	\$0.000	(\$1,282.155)	(\$514.907)	(\$179.860)	(\$880.583)	\$0.000	\$0.000	\$1,282.155	\$1,575.350	\$293.195	(\$425.431)
2034	\$0.000	\$0.000	\$0.000	(\$1,318.953)	(\$521.979)	(\$182.918)	(\$902.394)	\$0.000	\$0.000	\$1,318.953	\$1,607.291	\$288.337	(\$387.372)
2035	\$0.000	\$0.000	\$0.000	(\$1,356.281)	(\$529.171)	(\$186.027)	(\$923.451)	\$0.000	\$0.000	\$1,356.281	\$1,638.649	\$282.369	(\$353.000)
2036	\$0.000	\$0.000	\$0.000	(\$1,394.155)	(\$536.485)	(\$189.190)	(\$944.900)	\$0.000	\$0.000	\$1,394.155	\$1,670.575	\$276.421	(\$321.971)
2037	\$0.000	\$0.000	\$0.000	(\$1,432.594)	(\$543.924)	(\$192.406)	(\$966.599)	\$0.000	\$0.000	\$1,432.594	\$1,702.929	\$270.335	(\$293.985)
2038	\$0.000	\$0.000	\$0.000	(\$1,471.617)	(\$551.489)	(\$195.677)	(\$987.878)	\$0.000	\$0.000	\$1,471.617	\$1,735.044	\$263.427	(\$268.837)
<b>Nominal</b>		\$2,784.338	\$1,225.000	(\$24,822.619)	(\$10,917.853)	(\$3,791.325)	(\$17,473.680)			\$28,831.958	\$32,182.858	\$3,350.901	
<b>NPV</b>		\$1,635.184	\$725.433	(\$6,075.647)	(\$2,806.208)	(\$987.171)	(\$4,374.048)	\$0.000	\$0.000	\$8,436.264	\$8,167.427	(\$268.837)	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		0.97											

## 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	-1.15	kW/Cus
(2) Change in Peak kW per Customer at generator	-1.51	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(2,720)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(2,494)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-1.15	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	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$1,229.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	1.70%	
(4) Customer Equipment Cost	\$1,200.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$900.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.69%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.83%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$14,488	\$11,829	\$14,488
NPV Costs (\$000s)	\$5,332	\$2,634	\$14,526
NPV Net Benefits (\$000s)	\$9,156	\$9,194	(\$39)
Benefit:Cost Ratio	2.717	4.490	0.997

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$125	\$122	\$0	\$0	\$0	\$0	(\$24)	\$247	\$24	(\$223)	(\$205)
2011	\$0	\$191	\$186	\$0	\$0	\$0	(\$18)	(\$62)	\$377	\$80	(\$297)	(\$458)
2012	\$0	\$323	\$316	\$0	\$0	\$0	(\$36)	(\$126)	\$639	\$162	(\$477)	(\$832)
2013	\$0	\$460	\$449	\$0	\$0	\$0	(\$62)	(\$229)	\$909	\$291	(\$618)	(\$1,279)
2014	\$0	\$535	\$522	\$0	\$0	(\$287)	(\$93)	(\$282)	\$1,057	\$663	(\$394)	(\$1,542)
2015	\$0	\$544	\$531	\$0	\$0	(\$384)	(\$125)	(\$441)	\$1,075	\$950	(\$125)	(\$1,619)
2016	\$0	\$553	\$540	\$0	\$0	(\$483)	(\$158)	(\$571)	\$1,093	\$1,212	\$119	(\$1,551)
2017	\$0	\$563	\$549	\$0	\$0	(\$584)	(\$193)	(\$695)	\$1,112	\$1,472	\$360	(\$1,363)
2018	\$0	\$572	\$559	\$0	\$0	(\$688)	(\$228)	(\$832)	\$1,131	\$1,748	\$617	(\$1,065)
2019	\$0	\$582	\$568	\$0	\$0	(\$795)	(\$264)	(\$982)	\$1,150	\$2,041	\$891	(\$669)
2020	\$0	\$0	\$0	\$0	\$0	(\$806)	(\$269)	(\$974)	\$0	\$2,048	\$2,048	\$171
2021	\$0	\$0	\$0	\$0	\$0	(\$816)	(\$273)	(\$972)	\$0	\$2,061	\$2,061	\$951
2022	\$0	\$0	\$0	\$0	\$0	(\$827)	(\$278)	(\$1,002)	\$0	\$2,107	\$2,107	\$1,686
2023	\$0	\$0	\$0	\$0	\$0	(\$838)	(\$283)	(\$1,038)	\$0	\$2,159	\$2,159	\$2,381
2024	\$0	\$0	\$0	\$0	\$0	(\$849)	(\$288)	(\$1,078)	\$0	\$2,214	\$2,214	\$3,038
2025	\$0	\$0	\$0	\$0	\$0	(\$860)	(\$292)	(\$1,125)	\$0	\$2,278	\$2,278	\$3,661
2026	\$0	\$0	\$0	\$0	\$0	(\$872)	(\$297)	(\$1,173)	\$0	\$2,342	\$2,342	\$4,252
2027	\$0	\$0	\$0	\$0	\$0	(\$883)	(\$302)	(\$1,216)	\$0	\$2,402	\$2,402	\$4,811
2028	\$0	\$0	\$0	\$0	\$0	(\$895)	(\$308)	(\$1,266)	\$0	\$2,469	\$2,469	\$5,341
2029	\$0	\$0	\$0	\$0	\$0	(\$907)	(\$313)	(\$1,284)	\$0	\$2,504	\$2,504	\$5,836
2030	\$0	\$0	\$0	\$0	\$0	(\$920)	(\$318)	(\$1,315)	\$0	\$2,552	\$2,552	\$6,302
2031	\$0	\$0	\$0	\$0	\$0	(\$932)	(\$324)	(\$1,345)	\$0	\$2,601	\$2,601	\$6,740
2032	\$0	\$0	\$0	\$0	\$0	(\$945)	(\$329)	(\$1,380)	\$0	\$2,654	\$2,654	\$7,152
2033	\$0	\$0	\$0	\$0	\$0	(\$958)	(\$335)	(\$1,416)	\$0	\$2,708	\$2,708	\$7,539
2034	\$0	\$0	\$0	\$0	\$0	(\$971)	(\$340)	(\$1,451)	\$0	\$2,762	\$2,762	\$7,904
2035	\$0	\$0	\$0	\$0	\$0	(\$984)	(\$346)	(\$1,485)	\$0	\$2,815	\$2,815	\$8,247
2036	\$0	\$0	\$0	\$0	\$0	(\$998)	(\$352)	(\$1,519)	\$0	\$2,869	\$2,869	\$8,569
2037	\$0	\$0	\$0	\$0	\$0	(\$1,012)	(\$358)	(\$1,554)	\$0	\$2,924	\$2,924	\$8,871
2038	\$0	\$0	\$0	\$0	\$0	(\$1,026)	(\$364)	(\$1,588)	\$0	\$2,978	\$2,978	\$9,156
<hr/>												
Nominal		\$4,448	\$4,343			(\$20,521)	(\$7,147)	(\$28,122)	\$8,790	\$55,090	\$47,300	
NPV		\$2,698	\$2,634	\$0	\$0	(\$5,346)	(\$1,896)	(\$7,246)	\$5,332	\$14,488	\$9,156	
Discount Rate =	8.44%											
Benefit/Cost Ratio =	2.72											



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$122	\$0	\$0	\$0	(\$30)	\$0	\$90	\$122	\$120	(\$2)	(\$2)
2011	\$186	\$0	\$0	\$0	(\$73)	\$0	\$135	\$186	\$208	\$22	\$17
2012	\$316	\$0	\$0	\$0	(\$146)	\$0	\$225	\$316	\$371	\$55	\$60
2013	\$449	\$0	\$0	\$0	(\$252)	\$0	\$315	\$449	\$567	\$118	\$146
2014	\$522	\$0	\$0	\$0	(\$383)	\$0	\$360	\$522	\$743	\$221	\$293
2015	\$531	\$0	\$0	\$0	(\$592)	\$0	\$360	\$531	\$952	\$421	\$551
2016	\$540	\$0	\$0	\$0	(\$761)	\$0	\$360	\$540	\$1,121	\$581	\$981
2017	\$549	\$0	\$0	\$0	(\$906)	\$0	\$360	\$549	\$1,266	\$717	\$1,256
2018	\$559	\$0	\$0	\$0	(\$1,087)	\$0	\$360	\$559	\$1,447	\$889	\$1,685
2019	\$568	\$0	\$0	\$0	(\$1,276)	\$0	\$360	\$568	\$1,636	\$1,068	\$2,160
2020	\$0	\$0	\$0	\$0	(\$1,331)	\$0	\$0	\$0	\$1,331	\$1,331	\$2,706
2021	\$0	\$0	\$0	\$0	(\$1,385)	\$0	\$0	\$0	\$1,385	\$1,385	\$3,230
2022	\$0	\$0	\$0	\$0	(\$1,439)	\$0	\$0	\$0	\$1,439	\$1,439	\$3,732
2023	\$0	\$0	\$0	\$0	(\$1,490)	\$0	\$0	\$0	\$1,490	\$1,490	\$4,211
2024	\$0	\$0	\$0	\$0	(\$1,547)	\$0	\$0	\$0	\$1,547	\$1,547	\$4,670
2025	\$0	\$0	\$0	\$0	(\$1,593)	\$0	\$0	\$0	\$1,593	\$1,593	\$5,106
2026	\$0	\$0	\$0	\$0	(\$1,640)	\$0	\$0	\$0	\$1,640	\$1,640	\$5,520
2027	\$0	\$0	\$0	\$0	(\$1,703)	\$0	\$0	\$0	\$1,703	\$1,703	\$5,916
2028	\$0	\$0	\$0	\$0	(\$1,760)	\$0	\$0	\$0	\$1,760	\$1,760	\$6,294
2029	\$0	\$0	\$0	\$0	(\$1,826)	\$0	\$0	\$0	\$1,826	\$1,826	\$6,655
2030	\$0	\$0	\$0	\$0	(\$1,889)	\$0	\$0	\$0	\$1,889	\$1,889	\$7,000
2031	\$0	\$0	\$0	\$0	(\$1,945)	\$0	\$0	\$0	\$1,945	\$1,945	\$7,327
2032	\$0	\$0	\$0	\$0	(\$2,003)	\$0	\$0	\$0	\$2,003	\$2,003	\$7,638
2033	\$0	\$0	\$0	\$0	(\$2,061)	\$0	\$0	\$0	\$2,061	\$2,061	\$7,933
2034	\$0	\$0	\$0	\$0	(\$2,120)	\$0	\$0	\$0	\$2,120	\$2,120	\$8,213
2035	\$0	\$0	\$0	\$0	(\$2,180)	\$0	\$0	\$0	\$2,180	\$2,180	\$8,478
2036	\$0	\$0	\$0	\$0	(\$2,241)	\$0	\$0	\$0	\$2,241	\$2,241	\$8,730
2037	\$0	\$0	\$0	\$0	(\$2,303)	\$0	\$0	\$0	\$2,303	\$2,303	\$8,968
2038	\$0	\$0	\$0	\$0	(\$2,366)	\$0	\$0	\$0	\$2,366	\$2,366	\$9,194
<b>Nominal</b>	\$4,343				(\$40,328)		\$2,925	\$4,343	\$43,253	\$38,911	
<b>NPV</b>	\$2,429	\$0	\$0	\$0	(\$10,039)	\$0	\$1,790	\$2,634	\$11,829	\$9,194	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		4.49									

**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 (\$000s)	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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$124.989	\$90.000	(\$29.789)	\$0.000	\$0.000	(\$24.347)	\$0.000	\$0.000	\$244.779	\$24.347	(\$220.432)	(\$203.281)
2011	\$0.000	\$190.871	\$135.000	(\$73.431)	\$0.000	(\$17.764)	(\$62.309)	\$0.000	\$0.000	\$399.102	\$80.072	(\$319.029)	(\$474.597)
2012	\$0.000	\$323.188	\$225.000	(\$146.027)	\$0.000	(\$36.131)	(\$125.944)	\$0.000	\$0.000	\$694.214	\$162.076	(\$532.139)	(\$891.939)
2013	\$0.000	\$460.155	\$315.000	(\$252.093)	\$0.000	(\$62.467)	(\$228.566)	\$0.000	\$0.000	\$1,027.247	\$291.033	(\$736.214)	(\$1,424.407)
2014	\$0.000	\$534.831	\$360.000	(\$382.772)	(\$286.859)	(\$93.425)	(\$282.282)	\$0.000	\$0.000	\$1,277.603	\$662.566	(\$615.037)	(\$1,834.624)
2015	\$0.000	\$543.923	\$360.000	(\$591.608)	(\$383.503)	(\$125.418)	(\$441.489)	\$0.000	\$0.000	\$1,495.531	\$950.410	(\$545.121)	(\$2,169.919)
2016	\$0.000	\$553.170	\$360.000	(\$761.004)	(\$482.600)	(\$158.471)	(\$570.562)	\$0.000	\$0.000	\$1,674.173	\$1,211.633	(\$462.541)	(\$2,432.285)
2017	\$0.000	\$562.574	\$360.000	(\$906.469)	(\$584.212)	(\$192.612)	(\$694.960)	\$0.000	\$0.000	\$1,829.043	\$1,471.784	(\$357.259)	(\$2,619.164)
2018	\$0.000	\$572.138	\$360.000	(\$1,087.261)	(\$688.403)	(\$227.868)	(\$831.957)	\$0.000	\$0.000	\$2,019.399	\$1,748.227	(\$271.171)	(\$2,749.976)
2019	\$0.000	\$581.864	\$360.000	(\$1,276.454)	(\$795.237)	(\$264.267)	(\$981.693)	\$0.000	\$0.000	\$2,218.318	\$2,041.197	(\$177.120)	(\$2,828.770)
2020	\$0.000	\$0.000	\$0.000	(\$1,331.000)	(\$805.628)	(\$268.759)	(\$973.637)	\$0.000	\$0.000	\$1,331.000	\$2,048.024	\$717.025	(\$2,534.612)
2021	\$0.000	\$0.000	\$0.000	(\$1,385.349)	(\$816.195)	(\$273.328)	(\$971.716)	\$0.000	\$0.000	\$1,385.349	\$2,061.239	\$675.890	(\$2,278.903)
2022	\$0.000	\$0.000	\$0.000	(\$1,438.779)	(\$826.941)	(\$277.975)	(\$1,001.946)	\$0.000	\$0.000	\$1,438.779	\$2,106.862	\$668.083	(\$2,045.814)
2023	\$0.000	\$0.000	\$0.000	(\$1,490.093)	(\$837.871)	(\$282.700)	(\$1,038.427)	\$0.000	\$0.000	\$1,490.093	\$2,158.998	\$668.905	(\$1,830.597)
2024	\$0.000	\$0.000	\$0.000	(\$1,546.972)	(\$848.986)	(\$287.506)	(\$1,077.556)	\$0.000	\$0.000	\$1,546.972	\$2,214.048	\$667.075	(\$1,632.667)
2025	\$0.000	\$0.000	\$0.000	(\$1,593.429)	(\$860.290)	(\$292.394)	(\$1,124.855)	\$0.000	\$0.000	\$1,593.429	\$2,277.539	\$684.111	(\$1,445.476)
2026	\$0.000	\$0.000	\$0.000	(\$1,639.508)	(\$871.786)	(\$297.365)	(\$1,172.673)	\$0.000	\$0.000	\$1,639.508	\$2,341.824	\$702.317	(\$1,268.255)
2027	\$0.000	\$0.000	\$0.000	(\$1,702.560)	(\$883.478)	(\$302.420)	(\$1,215.926)	\$0.000	\$0.000	\$1,702.560	\$2,401.824	\$699.264	(\$1,105.534)
2028	\$0.000	\$0.000	\$0.000	(\$1,759.545)	(\$895.368)	(\$307.561)	(\$1,265.874)	\$0.000	\$0.000	\$1,759.545	\$2,468.803	\$709.259	(\$953.329)
2029	\$0.000	\$0.000	\$0.000	(\$1,825.760)	(\$907.461)	(\$312.790)	(\$1,283.916)	\$0.000	\$0.000	\$1,825.760	\$2,504.167	\$678.407	(\$819.071)
2030	\$0.000	\$0.000	\$0.000	(\$1,888.512)	(\$919.759)	(\$318.107)	(\$1,314.557)	\$0.000	\$0.000	\$1,888.512	\$2,552.423	\$663.911	(\$697.905)
2031	\$0.000	\$0.000	\$0.000	(\$1,945.278)	(\$932.266)	(\$323.515)	(\$1,345.375)	\$0.000	\$0.000	\$1,945.278	\$2,601.156	\$655.878	(\$587.519)
2032	\$0.000	\$0.000	\$0.000	(\$2,002.814)	(\$944.986)	(\$329.015)	(\$1,379.961)	\$0.000	\$0.000	\$2,002.814	\$2,653.962	\$651.148	(\$486.455)
2033	\$0.000	\$0.000	\$0.000	(\$2,061.147)	(\$957.922)	(\$334.608)	(\$1,415.594)	\$0.000	\$0.000	\$2,061.147	\$2,708.124	\$646.977	(\$393.852)
2034	\$0.000	\$0.000	\$0.000	(\$2,120.302)	(\$971.078)	(\$340.296)	(\$1,450.656)	\$0.000	\$0.000	\$2,120.302	\$2,762.031	\$641.728	(\$309.146)
2035	\$0.000	\$0.000	\$0.000	(\$2,180.308)	(\$984.458)	(\$346.081)	(\$1,484.507)	\$0.000	\$0.000	\$2,180.308	\$2,816.046	\$634.738	(\$231.882)
2036	\$0.000	\$0.000	\$0.000	(\$2,241.193)	(\$998.065)	(\$351.965)	(\$1,518.988)	\$0.000	\$0.000	\$2,241.193	\$2,869.018	\$627.825	(\$161.406)
2037	\$0.000	\$0.000	\$0.000	(\$2,302.987)	(\$1,011.904)	(\$357.948)	(\$1,553.870)	\$0.000	\$0.000	\$2,302.987	\$2,923.722	\$620.735	(\$97.147)
2038	\$0.000	\$0.000	\$0.000	(\$2,365.719)	(\$1,025.977)	(\$364.033)	(\$1,588.078)	\$0.000	\$0.000	\$2,365.719	\$2,978.088	\$612.369	(\$38.686)
<hr/>													
<b>Nominal</b>		\$4,447.502	\$2,925.000	(\$40,328.159)	(\$20,521.234)	(\$7,146.789)	(\$28,422.220)			\$47,700.662	\$56,090.243	\$8,389.582	
<b>NPV</b>		\$2,697.869	\$1,789.962	(\$10,038.551)	(\$5,345.698)	(\$1,896.266)	(\$7,245.733)	\$0.000	\$0.000	\$14,526.383	\$14,487.696	(\$38.686)	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		1.00											

## 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	-1.73	kW/Cus
(2) Change in Peak kW per Customer at generator	-2.27	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(831)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(762)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-2.20	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	31	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$0.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$0.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$59.40	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	0.00%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(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, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2010
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$137.53 \$/kW
(6) Base Year Incremental Distribution Cost	\$69.97 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.63%
(10) Transmission Fixed O & M Cost	\$1.72 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.69%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.73%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$43,185	\$21,151	\$43,185
NPV Costs (\$000s)	\$26,378	\$4,843	\$42,686
NPV Net Benefits (\$000s)	\$16,807	\$16,308	\$499
Benefit:Cost Ratio	1.637	4.368	1.012

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$1,659	\$59	\$0	\$0	\$0	(\$63)	(\$74)	\$1,719	\$138	(\$1,581)	(\$1,458)
2011	\$0	\$1,752	\$119	\$0	\$0	\$0	(\$122)	(\$152)	\$1,871	\$227	(\$1,590)	(\$2,810)
2012	\$0	\$1,845	\$178	\$0	\$0	\$0	(\$196)	(\$231)	\$2,024	\$427	(\$1,597)	(\$4,062)
2013	\$0	\$1,937	\$238	\$0	\$0	\$0	(\$266)	(\$329)	\$2,175	\$595	(\$1,580)	(\$5,205)
2014	\$0	\$2,027	\$297	\$0	\$0	(\$1,726)	(\$338)	(\$345)	\$2,324	\$2,409	\$85	(\$5,149)
2015	\$0	\$2,115	\$356	\$0	\$0	(\$2,098)	(\$413)	(\$491)	\$2,472	\$3,001	\$529	(\$4,823)
2016	\$0	\$2,202	\$416	\$0	\$0	(\$2,479)	(\$490)	(\$595)	\$2,618	\$3,564	\$946	(\$4,287)
2017	\$0	\$2,287	\$475	\$0	\$0	(\$2,870)	(\$569)	(\$693)	\$2,762	\$4,132	\$1,370	(\$3,570)
2018	\$0	\$2,370	\$535	\$0	\$0	(\$3,270)	(\$651)	(\$803)	\$2,905	\$4,724	\$1,819	(\$2,692)
2019	\$0	\$2,452	\$594	\$0	\$0	(\$3,681)	(\$736)	(\$923)	\$3,046	\$5,339	\$2,294	(\$1,672)
2020	\$0	\$2,531	\$653	\$0	\$0	(\$4,102)	(\$823)	(\$1,007)	\$3,185	\$5,932	\$2,747	(\$545)
2021	\$0	\$2,610	\$713	\$0	\$0	(\$4,534)	(\$913)	(\$1,096)	\$3,323	\$6,543	\$3,220	\$673
2022	\$0	\$2,687	\$772	\$0	\$0	(\$4,976)	(\$1,006)	(\$1,225)	\$3,459	\$7,206	\$3,748	\$1,981
2023	\$0	\$2,762	\$832	\$0	\$0	(\$5,430)	(\$1,102)	(\$1,367)	\$3,593	\$7,898	\$4,305	\$3,366
2024	\$0	\$2,835	\$891	\$0	\$0	(\$5,895)	(\$1,200)	(\$1,520)	\$3,726	\$8,615	\$4,888	\$4,816
2025	\$0	\$2,900	\$946	\$0	\$0	(\$6,374)	(\$1,300)	(\$1,647)	\$3,859	\$9,341	\$5,495	\$6,320
2026	\$0	\$2,961	\$1,004	\$0	\$0	(\$6,863)	(\$1,401)	(\$1,799)	\$3,994	\$10,066	\$6,100	\$7,652
2027	\$0	\$3,017	\$1,064	\$0	\$0	(\$7,363)	(\$1,503)	(\$1,907)	\$4,129	\$10,773	\$6,656	\$8,961
2028	\$0	\$3,070	\$1,126	\$0	\$0	(\$7,874)	(\$1,606)	(\$2,012)	\$4,264	\$11,474	\$7,218	\$10,126
2029	\$0	\$3,120	\$1,189	\$0	\$0	(\$8,395)	(\$1,710)	(\$2,117)	\$4,399	\$12,165	\$7,771	\$11,155
2030	\$0	\$3,167	\$1,253	\$0	\$0	(\$8,926)	(\$1,815)	(\$2,224)	\$4,534	\$12,846	\$8,325	\$12,067
2031	\$0	\$3,211	\$1,318	\$0	\$0	(\$9,467)	(\$1,920)	(\$2,331)	\$4,669	\$13,517	\$8,878	\$12,876
2032	\$0	\$3,252	\$1,384	\$0	\$0	(\$10,018)	(\$2,025)	(\$2,438)	\$4,804	\$14,178	\$9,393	\$13,594
2033	\$0	\$3,290	\$1,450	\$0	\$0	(\$10,579)	(\$2,130)	(\$2,545)	\$4,939	\$14,829	\$9,898	\$14,231
2034	\$0	\$3,325	\$1,517	\$0	\$0	(\$11,140)	(\$2,235)	(\$2,652)	\$5,074	\$15,470	\$10,393	\$14,797
2035	\$0	\$3,358	\$1,584	\$0	\$0	(\$11,701)	(\$2,340)	(\$2,759)	\$5,209	\$16,091	\$10,878	\$15,299
2036	\$0	\$3,388	\$1,651	\$0	\$0	(\$12,262)	(\$2,445)	(\$2,866)	\$5,344	\$16,692	\$11,353	\$15,745
2037	\$0	\$3,415	\$1,718	\$0	\$0	(\$12,823)	(\$2,550)	(\$2,973)	\$5,479	\$17,283	\$11,818	\$16,142
2038	\$0	\$3,440	\$1,785	\$0	\$0	(\$13,384)	(\$2,655)	(\$3,080)	\$5,614	\$17,854	\$12,273	\$16,494
2039	\$0	\$3,463	\$1,852	\$0	\$0	(\$13,945)	(\$2,760)	(\$3,187)	\$5,749	\$18,405	\$12,728	\$16,807
				\$0	\$0							
Nominal		\$55,042	\$16,214			(\$107,251)	(\$22,715)	(\$30,266)	\$71,256	\$160,232	\$88,976	
NPV		\$21,535	\$4,843	\$0	\$0	(\$28,720)	(\$6,350)	(\$8,116)	\$26,378	\$43,185	\$16,807	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		1.64										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$59	\$0	\$0	(\$213)	\$0	\$0	\$59	\$213	\$154	\$142
2011	\$0	\$119	\$0	\$0	(\$424)	\$0	\$0	\$119	\$424	\$305	\$401
2012	\$0	\$178	\$0	\$0	(\$634)	\$0	\$0	\$178	\$634	\$456	\$759
2013	\$0	\$238	\$0	\$0	(\$851)	\$0	\$0	\$238	\$851	\$614	\$1,203
2014	\$0	\$297	\$0	\$0	(\$1,079)	\$0	\$0	\$297	\$1,079	\$782	\$1,725
2015	\$0	\$356	\$0	\$0	(\$1,391)	\$0	\$0	\$356	\$1,391	\$1,034	\$2,361
2016	\$0	\$416	\$0	\$0	(\$1,650)	\$0	\$0	\$416	\$1,650	\$1,234	\$3,061
2017	\$0	\$475	\$0	\$0	(\$1,882)	\$0	\$0	\$475	\$1,882	\$1,407	\$3,797
2018	\$0	\$535	\$0	\$0	(\$2,149)	\$0	\$0	\$535	\$2,149	\$1,615	\$4,576
2019	\$0	\$594	\$0	\$0	(\$2,423)	\$0	\$0	\$594	\$2,423	\$1,829	\$5,390
2020	\$0	\$653	\$0	\$0	(\$2,721)	\$0	\$0	\$653	\$2,721	\$2,068	\$6,238
2021	\$0	\$713	\$0	\$0	(\$3,030)	\$0	\$0	\$713	\$3,030	\$2,317	\$7,115
2022	\$0	\$772	\$0	\$0	(\$3,348)	\$0	\$0	\$772	\$3,348	\$2,576	\$8,013
2023	\$0	\$832	\$0	\$0	(\$3,673)	\$0	\$0	\$832	\$3,673	\$2,841	\$8,927
2024	\$0	\$891	\$0	\$0	(\$4,015)	\$0	\$0	\$891	\$4,015	\$3,124	\$9,854
2025	\$0	\$946	\$0	\$0	(\$3,877)	\$0	\$0	\$946	\$3,877	\$3,030	\$10,684
2026	\$0	\$804	\$0	\$0	(\$3,742)	\$0	\$0	\$804	\$3,742	\$2,938	\$11,425
2027	\$0	\$764	\$0	\$0	(\$3,631)	\$0	\$0	\$764	\$3,631	\$2,867	\$12,092
2028	\$0	\$726	\$0	\$0	(\$3,515)	\$0	\$0	\$726	\$3,515	\$2,789	\$12,691
2029	\$0	\$689	\$0	\$0	(\$3,411)	\$0	\$0	\$689	\$3,411	\$2,722	\$13,229
2030	\$0	\$655	\$0	\$0	(\$3,306)	\$0	\$0	\$655	\$3,306	\$2,651	\$13,713
2031	\$0	\$622	\$0	\$0	(\$3,196)	\$0	\$0	\$622	\$3,196	\$2,574	\$14,146
2032	\$0	\$591	\$0	\$0	(\$3,090)	\$0	\$0	\$591	\$3,090	\$2,499	\$14,534
2033	\$0	\$562	\$0	\$0	(\$2,988)	\$0	\$0	\$562	\$2,988	\$2,426	\$14,881
2034	\$0	\$533	\$0	\$0	(\$2,888)	\$0	\$0	\$533	\$2,888	\$2,355	\$15,192
2035	\$0	\$507	\$0	\$0	(\$2,792)	\$0	\$0	\$507	\$2,792	\$2,285	\$15,470
2036	\$0	\$481	\$0	\$0	(\$2,699)	\$0	\$0	\$481	\$2,699	\$2,217	\$15,719
2037	\$0	\$457	\$0	\$0	(\$2,609)	\$0	\$0	\$457	\$2,609	\$2,151	\$15,942
2038	\$0	\$435	\$0	\$0	(\$2,521)	\$0	\$0	\$435	\$2,521	\$2,087	\$16,141
2039	\$0	\$413	\$0	\$0	(\$2,310)	\$0	\$0	\$413	\$2,310	\$1,897	\$16,308
Nominal NPV		\$16,214			(\$76,058)			\$16,214	\$76,058	\$59,844	
Discount Rate =		8.44%			(\$21,151)			\$4,843	\$21,151	\$16,308	
Benefit/Cost Ratio =		4.37									

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$1,659	\$0	(\$213)	\$0	(\$63)	(\$74)	\$0	\$0	\$1,873	\$138	(\$1,735)	(\$1,600)
2011	\$0	\$1,752	\$0	(\$424)	\$0	(\$129)	(\$152)	\$0	\$0	\$2,176	\$281	(\$1,895)	(\$3,212)
2012	\$0	\$1,845	\$0	(\$634)	\$0	(\$196)	(\$231)	\$0	\$0	\$2,480	\$427	(\$2,053)	(\$4,822)
2013	\$0	\$1,937	\$0	(\$851)	\$0	(\$266)	(\$329)	\$0	\$0	\$2,789	\$595	(\$2,194)	(\$6,409)
2014	\$0	\$2,027	\$0	(\$1,079)	(\$1,726)	(\$338)	(\$345)	\$0	\$0	\$3,106	\$2,409	(\$697)	(\$6,874)
2015	\$0	\$2,115	\$0	(\$1,391)	(\$2,098)	(\$413)	(\$491)	\$0	\$0	\$3,506	\$3,001	(\$505)	(\$7,184)
2016	\$0	\$2,202	\$0	(\$1,650)	(\$2,479)	(\$490)	(\$595)	\$0	\$0	\$3,852	\$3,564	(\$288)	(\$7,348)
2017	\$0	\$2,287	\$0	(\$1,882)	(\$2,870)	(\$569)	(\$693)	\$0	\$0	\$4,169	\$4,132	(\$37)	(\$7,367)
2018	\$0	\$2,370	\$0	(\$2,149)	(\$3,270)	(\$651)	(\$803)	\$0	\$0	\$4,519	\$4,724	\$205	(\$7,269)
2019	\$0	\$2,452	\$0	(\$2,423)	(\$3,681)	(\$736)	(\$923)	\$0	\$0	\$4,874	\$5,339	\$465	(\$7,062)
2020	\$0	\$2,531	\$0	(\$2,721)	(\$4,102)	(\$823)	(\$1,007)	\$0	\$0	\$5,253	\$5,932	\$679	(\$6,783)
2021	\$0	\$2,610	\$0	(\$3,030)	(\$4,534)	(\$913)	(\$1,096)	\$0	\$0	\$5,640	\$6,543	\$903	(\$6,441)
2022	\$0	\$2,687	\$0	(\$3,348)	(\$4,976)	(\$1,006)	(\$1,225)	\$0	\$0	\$6,034	\$7,206	\$1,172	(\$6,032)
2023	\$0	\$2,762	\$0	(\$3,673)	(\$5,430)	(\$1,102)	(\$1,367)	\$0	\$0	\$6,435	\$7,898	\$1,463	(\$5,562)
2024	\$0	\$2,835	\$0	(\$4,015)	(\$5,895)	(\$1,200)	(\$1,520)	\$0	\$0	\$6,851	\$8,615	\$1,764	(\$5,038)
2025	\$0	\$2,000	\$0	(\$3,877)	(\$5,674)	(\$1,160)	(\$1,507)	\$0	\$0	\$5,877	\$8,341	\$2,464	(\$4,364)
2026	\$0	\$1,991	\$0	(\$3,742)	(\$5,463)	(\$1,121)	(\$1,492)	\$0	\$0	\$5,732	\$8,076	\$2,343	(\$3,773)
2027	\$0	\$1,425	\$0	(\$3,631)	(\$5,259)	(\$1,083)	(\$1,470)	\$0	\$0	\$5,055	\$7,812	\$2,757	(\$3,131)
2028	\$0	\$1,411	\$0	(\$3,515)	(\$5,064)	(\$1,046)	(\$1,454)	\$0	\$0	\$4,926	\$7,563	\$2,638	(\$2,565)
2029	\$0	\$1,396	\$0	(\$3,411)	(\$4,875)	(\$1,011)	(\$1,401)	\$0	\$0	\$4,807	\$7,287	\$2,480	(\$2,074)
2030	\$0	\$1,379	\$0	(\$3,306)	(\$4,694)	(\$976)	(\$1,363)	\$0	\$0	\$4,684	\$7,033	\$2,349	(\$1,646)
2031	\$0	\$1,360	\$0	(\$3,196)	(\$4,520)	(\$943)	(\$1,325)	\$0	\$0	\$4,556	\$6,788	\$2,233	(\$1,270)
2032	\$0	\$1,339	\$0	(\$3,090)	(\$4,353)	(\$911)	(\$1,291)	\$0	\$0	\$4,429	\$6,555	\$2,126	(\$940)
2033	\$0	\$1,317	\$0	(\$2,988)	(\$4,192)	(\$880)	(\$1,258)	\$0	\$0	\$4,304	\$6,330	\$2,026	(\$650)
2034	\$0	\$1,293	\$0	(\$2,888)	(\$4,037)	(\$851)	(\$1,225)	\$0	\$0	\$4,181	\$6,112	\$1,931	(\$395)
2035	\$0	\$1,268	\$0	(\$2,792)	(\$3,888)	(\$822)	(\$1,191)	\$0	\$0	\$4,060	\$5,901	\$1,841	(\$171)
2036	\$0	\$1,241	\$0	(\$2,699)	(\$3,745)	(\$794)	(\$1,157)	\$0	\$0	\$3,940	\$5,696	\$1,756	\$26
2037	\$0	\$1,214	\$0	(\$2,609)	(\$3,607)	(\$767)	(\$1,125)	\$0	\$0	\$3,822	\$5,499	\$1,677	\$200
2038	\$0	\$1,185	\$0	(\$2,521)	(\$3,474)	(\$741)	(\$1,092)	\$0	\$0	\$3,706	\$5,307	\$1,601	\$353
2039	\$0	\$1,154	\$0	(\$2,310)	(\$3,346)	(\$716)	(\$1,065)	\$0	\$0	\$3,464	\$5,128	\$1,664	\$499
								\$0	\$0				
<b>Nominal</b>		\$55,042,227		(\$76,057,901)	(\$107,250,535)	(\$22,715,272)	(\$30,266,160)			\$131,100,128	\$160,231,967	\$29,131,839	
<b>NPV</b>		\$21,535,481	\$0.000	(\$21,150,639)	(\$28,719,724)	(\$6,349,675)	(\$8,115,886)	\$0.000	\$0.000	\$42,686,120	\$43,185,265	\$499,165	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		1.01											

## 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	-0.98	kW/Cus
(2) Change in Peak kW per Customer at generator	-1.29	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(606)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(556)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-1.10	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	31	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$0.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$0.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	0.00%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (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, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014	**
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$137.53	\$/kW
(6) Base Year Incremental Distribution Cost	\$69.97	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.63%	
(10) Transmission Fixed O & M Cost	\$1.72	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.69%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.73%	

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)	\$0.0509	\$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$8,569	\$2,729	\$8,569
NPV Costs (\$000s)	\$3,950	\$0	\$6,679
NPV Net Benefits (\$000s)	\$4,618	\$2,729	\$1,890
Benefit:Cost Ratio	2.169	99.000	1.283

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$320	\$0	\$0	\$0	\$0	\$0	(\$16)	\$320	\$16	(\$304)	(\$280)
2011	\$0	\$381	\$0	\$0	\$0	\$0	(\$33)	(\$50)	\$381	\$83	(\$298)	(\$534)
2012	\$0	\$442	\$0	\$0	\$0	\$0	(\$56)	(\$84)	\$442	\$140	(\$302)	(\$771)
2013	\$0	\$502	\$0	\$0	\$0	\$0	(\$79)	(\$126)	\$502	\$205	(\$297)	(\$986)
2014	\$0	\$562	\$0	\$0	\$0	(\$528)	(\$103)	(\$136)	\$562	\$767	\$205	(\$849)
2015	\$0	\$622	\$0	\$0	\$0	(\$654)	(\$128)	(\$197)	\$622	\$979	\$357	(\$630)
2016	\$0	\$372	\$0	\$0	\$0	(\$662)	(\$131)	(\$205)	\$372	\$997	\$625	(\$275)
2017	\$0	\$362	\$0	\$0	\$0	(\$671)	(\$133)	(\$209)	\$362	\$1,012	\$650	\$65
2018	\$0	\$352	\$0	\$0	\$0	(\$679)	(\$135)	(\$215)	\$352	\$1,029	\$678	\$392
2019	\$0	\$341	\$0	\$0	\$0	(\$688)	(\$137)	(\$222)	\$341	\$1,048	\$706	\$706
2020	\$0	\$332	\$0	\$0	\$0	(\$697)	(\$140)	(\$220)	\$332	\$1,057	\$726	\$1,004
2021	\$0	\$322	\$0	\$0	\$0	(\$706)	(\$142)	(\$220)	\$322	\$1,068	\$746	\$1,286
2022	\$0	\$312	\$0	\$0	\$0	(\$716)	(\$145)	(\$227)	\$312	\$1,087	\$774	\$1,556
2023	\$0	\$303	\$0	\$0	\$0	(\$725)	(\$147)	(\$235)	\$303	\$1,107	\$804	\$1,815
2024	\$0	\$294	\$0	\$0	\$0	(\$735)	(\$149)	(\$244)	\$294	\$1,128	\$834	\$2,063
2025	\$0	\$285	\$0	\$0	\$0	(\$744)	(\$152)	(\$255)	\$285	\$1,151	\$866	\$2,300
2026	\$0	\$276	\$0	\$0	\$0	(\$754)	(\$155)	(\$265)	\$276	\$1,174	\$898	\$2,526
2027	\$0	\$267	\$0	\$0	\$0	(\$764)	(\$157)	(\$275)	\$267	\$1,197	\$930	\$2,742
2028	\$0	\$259	\$0	\$0	\$0	(\$775)	(\$160)	(\$287)	\$259	\$1,221	\$962	\$2,949
2029	\$0	\$250	\$0	\$0	\$0	(\$785)	(\$163)	(\$291)	\$250	\$1,238	\$988	\$3,145
2030	\$0	\$242	\$0	\$0	\$0	(\$796)	(\$165)	(\$298)	\$242	\$1,259	\$1,017	\$3,330
2031	\$0	\$234	\$0	\$0	\$0	(\$807)	(\$168)	(\$305)	\$234	\$1,279	\$1,046	\$3,506
2032	\$0	\$226	\$0	\$0	\$0	(\$818)	(\$171)	(\$312)	\$226	\$1,301	\$1,076	\$3,673
2033	\$0	\$218	\$0	\$0	\$0	(\$829)	(\$174)	(\$320)	\$218	\$1,323	\$1,106	\$3,831
2034	\$0	\$210	\$0	\$0	\$0	(\$840)	(\$177)	(\$328)	\$210	\$1,346	\$1,136	\$3,981
2035	\$0	\$202	\$0	\$0	\$0	(\$852)	(\$180)	(\$336)	\$202	\$1,368	\$1,166	\$4,123
2036	\$0	\$194	\$0	\$0	\$0	(\$864)	(\$183)	(\$344)	\$194	\$1,390	\$1,197	\$4,258
2037	\$0	\$186	\$0	\$0	\$0	(\$876)	(\$186)	(\$352)	\$186	\$1,413	\$1,227	\$4,385
2038	\$0	\$179	\$0	\$0	\$0	(\$888)	(\$189)	(\$359)	\$179	\$1,437	\$1,258	\$4,505
2039	\$0	\$171	\$0	\$0	\$0	(\$900)	(\$192)	(\$369)	\$171	\$1,462	\$1,291	\$4,618
Nominal		\$9,217				(\$19,752)	(\$4,231)	(\$7,302)	\$9,217	\$31,284	\$22,067	
NPV		\$3,950	\$0	\$0	\$0	(\$5,355)	(\$1,213)	(\$2,001)	\$3,950	\$8,569	\$4,618	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		2.17										





**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$320	\$0	(\$20)	\$0	\$0	(\$16)	\$0	\$0	\$340	\$16	(\$324)	(\$299)
2011	\$0	\$381	\$0	(\$59)	\$0	(\$33)	(\$50)	\$0	\$0	\$440	\$53	(\$357)	(\$603)
2012	\$0	\$442	\$0	(\$98)	\$0	(\$56)	(\$84)	\$0	\$0	\$540	\$140	(\$400)	(\$916)
2013	\$0	\$502	\$0	(\$139)	\$0	(\$79)	(\$126)	\$0	\$0	\$641	\$205	(\$436)	(\$1,232)
2014	\$0	\$562	\$0	(\$184)	(\$528)	(\$103)	(\$136)	\$0	\$0	\$747	\$767	\$21	(\$1,218)
2015	\$0	\$622	\$0	(\$264)	(\$654)	(\$128)	(\$197)	\$0	\$0	\$885	\$979	\$94	(\$1,160)
2016	\$0	\$372	\$0	(\$273)	(\$662)	(\$131)	(\$205)	\$0	\$0	\$645	\$997	\$352	(\$961)
2017	\$0	\$362	\$0	(\$272)	(\$671)	(\$133)	(\$209)	\$0	\$0	\$634	\$1,012	\$378	(\$763)
2018	\$0	\$352	\$0	(\$281)	(\$679)	(\$135)	(\$215)	\$0	\$0	\$632	\$1,029	\$397	(\$571)
2019	\$0	\$341	\$0	(\$289)	(\$688)	(\$137)	(\$222)	\$0	\$0	\$630	\$1,048	\$417	(\$386)
2020	\$0	\$332	\$0	(\$301)	(\$697)	(\$140)	(\$220)	\$0	\$0	\$633	\$1,057	\$424	(\$212)
2021	\$0	\$322	\$0	(\$314)	(\$706)	(\$142)	(\$220)	\$0	\$0	\$636	\$1,068	\$433	(\$48)
2022	\$0	\$312	\$0	(\$326)	(\$716)	(\$145)	(\$227)	\$0	\$0	\$638	\$1,087	\$449	\$109
2023	\$0	\$303	\$0	(\$337)	(\$725)	(\$147)	(\$235)	\$0	\$0	\$640	\$1,107	\$467	\$259
2024	\$0	\$294	\$0	(\$350)	(\$735)	(\$149)	(\$244)	\$0	\$0	\$644	\$1,128	\$484	\$402
2025	\$0	\$285	\$0	(\$361)	(\$744)	(\$152)	(\$255)	\$0	\$0	\$646	\$1,151	\$505	\$541
2026	\$0	\$276	\$0	(\$371)	(\$754)	(\$155)	(\$265)	\$0	\$0	\$647	\$1,174	\$527	\$674
2027	\$0	\$267	\$0	(\$385)	(\$764)	(\$157)	(\$275)	\$0	\$0	\$653	\$1,197	\$544	\$800
2028	\$0	\$259	\$0	(\$398)	(\$775)	(\$160)	(\$287)	\$0	\$0	\$657	\$1,221	\$564	\$921
2029	\$0	\$250	\$0	(\$413)	(\$785)	(\$163)	(\$291)	\$0	\$0	\$664	\$1,238	\$575	\$1,035
2030	\$0	\$242	\$0	(\$427)	(\$796)	(\$165)	(\$298)	\$0	\$0	\$669	\$1,259	\$589	\$1,143
2031	\$0	\$234	\$0	(\$440)	(\$807)	(\$168)	(\$305)	\$0	\$0	\$674	\$1,279	\$605	\$1,245
2032	\$0	\$226	\$0	(\$453)	(\$818)	(\$171)	(\$312)	\$0	\$0	\$679	\$1,301	\$622	\$1,341
2033	\$0	\$218	\$0	(\$467)	(\$829)	(\$174)	(\$320)	\$0	\$0	\$684	\$1,323	\$639	\$1,433
2034	\$0	\$210	\$0	(\$480)	(\$840)	(\$177)	(\$328)	\$0	\$0	\$690	\$1,346	\$656	\$1,519
2035	\$0	\$202	\$0	(\$494)	(\$852)	(\$180)	(\$336)	\$0	\$0	\$695	\$1,368	\$673	\$1,601
2036	\$0	\$194	\$0	(\$507)	(\$864)	(\$183)	(\$344)	\$0	\$0	\$701	\$1,390	\$689	\$1,678
2037	\$0	\$186	\$0	(\$521)	(\$876)	(\$186)	(\$352)	\$0	\$0	\$708	\$1,413	\$706	\$1,751
2038	\$0	\$179	\$0	(\$536)	(\$888)	(\$189)	(\$359)	\$0	\$0	\$714	\$1,437	\$722	\$1,820
2039	\$0	\$171	\$0	(\$506)	(\$900)	(\$192)	(\$369)	\$0	\$0	\$677	\$1,462	\$785	\$1,890
								\$0	\$0				
Nominal		\$9,217,396		(\$10,266,509)	(\$19,751,543)	(\$4,230,729)	(\$7,301,874)			\$19,483,904	\$31,284,147	\$11,800,242	
NPV		\$3,950,244	\$0.000	(\$2,728,796)	(\$5,354,670)	(\$1,213,251)	(\$2,000,644)	\$0.000	\$0.000	\$6,679,040	\$8,568,566	\$1,889,526	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		1.28											

Run Date:

25-Mar-10

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Filename:

Res ES Refrigerator

## 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	-0.04	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.05	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(296)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(271)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-0.03	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	26	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$122.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$100.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$50.00	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.61%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.75%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	6.28%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$8,452	\$9,926	\$8,452
NPV Costs (\$000s)	\$4,237	\$2,014	\$12,149
NPV Net Benefits (\$000s)	\$4,214	\$7,912	(\$3,697)
Benefit:Cost Ratio	1.995	4.928	0.696

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$122	\$102	\$0	\$0	\$0	\$0	(\$26)	\$224	\$26	(\$197)	(\$182)
2011	\$0	\$244	\$207	\$0	\$0	\$0	(\$7)	(\$81)	\$451	\$88	(\$363)	(\$491)
2012	\$0	\$244	\$210	\$0	\$0	\$0	(\$11)	(\$137)	\$454	\$148	(\$306)	(\$731)
2013	\$0	\$305	\$267	\$0	\$0	\$0	(\$17)	(\$219)	\$572	\$236	(\$336)	(\$974)
2014	\$0	\$366	\$326	\$0	\$0	(\$75)	(\$25)	(\$258)	\$692	\$358	(\$335)	(\$1,197)
2015	\$0	\$427	\$387	\$0	\$0	(\$102)	(\$33)	(\$407)	\$814	\$542	(\$272)	(\$1,364)
2016	\$0	\$488	\$450	\$0	\$0	(\$133)	(\$44)	(\$544)	\$938	\$721	(\$218)	(\$1,488)
2017	\$0	\$488	\$458	\$0	\$0	(\$164)	(\$54)	(\$678)	\$946	\$896	(\$49)	(\$1,514)
2018	\$0	\$488	\$466	\$0	\$0	(\$197)	(\$65)	(\$825)	\$954	\$1,086	\$133	(\$1,449)
2019	\$0	\$488	\$473	\$0	\$0	(\$230)	(\$76)	(\$985)	\$961	\$1,291	\$329	(\$1,303)
2020	\$0	\$0	\$0	\$0	\$0	(\$233)	(\$78)	(\$977)	\$0	\$1,287	\$1,287	(\$775)
2021	\$0	\$0	\$0	\$0	\$0	(\$236)	(\$79)	(\$975)	\$0	\$1,289	\$1,289	(\$287)
2022	\$0	\$0	\$0	\$0	\$0	(\$239)	(\$80)	(\$1,005)	\$0	\$1,324	\$1,324	\$175
2023	\$0	\$0	\$0	\$0	\$0	(\$242)	(\$82)	(\$1,042)	\$0	\$1,365	\$1,365	\$614
2024	\$0	\$0	\$0	\$0	\$0	(\$245)	(\$83)	(\$1,081)	\$0	\$1,409	\$1,409	\$1,032
2025	\$0	\$0	\$0	\$0	\$0	(\$249)	(\$84)	(\$1,128)	\$0	\$1,461	\$1,461	\$1,432
2026	\$0	\$0	\$0	\$0	\$0	(\$252)	(\$86)	(\$1,176)	\$0	\$1,514	\$1,514	\$1,814
2027	\$0	\$0	\$0	\$0	\$0	(\$255)	(\$87)	(\$1,220)	\$0	\$1,562	\$1,562	\$2,178
2028	\$0	\$0	\$0	\$0	\$0	(\$259)	(\$89)	(\$1,270)	\$0	\$1,617	\$1,617	\$2,525
2029	\$0	\$0	\$0	\$0	\$0	(\$262)	(\$90)	(\$1,288)	\$0	\$1,640	\$1,640	\$2,850
2030	\$0	\$0	\$0	\$0	\$0	(\$266)	(\$92)	(\$1,319)	\$0	\$1,676	\$1,676	\$3,156
2031	\$0	\$0	\$0	\$0	\$0	(\$269)	(\$93)	(\$1,349)	\$0	\$1,712	\$1,712	\$3,444
2032	\$0	\$0	\$0	\$0	\$0	(\$273)	(\$95)	(\$1,384)	\$0	\$1,752	\$1,752	\$3,716
2033	\$0	\$0	\$0	\$0	\$0	(\$277)	(\$97)	(\$1,420)	\$0	\$1,793	\$1,793	\$3,972
2034	\$0	\$0	\$0	\$0	\$0	(\$281)	(\$98)	(\$1,455)	\$0	\$1,834	\$1,834	\$4,214
<b>Nominal</b>		\$3,660	\$3,347			(\$4,738)	(\$1,647)	(\$22,247)	\$7,007	\$28,632	\$21,625	
<b>NPV</b>		\$2,223	\$2,014	\$0	\$0	(\$1,401)	(\$499)	(\$6,551)	\$4,237	\$8,452	\$4,214	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.99										

Run Date: 25-Mar-10  
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Filename: Res ES Refrigerator

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$102	\$0	\$0	\$0	(\$32)	\$0	\$50	\$102	\$82	(\$19)	(\$18)
2011	\$207	\$0	\$0	\$0	(\$96)	\$0	\$100	\$207	\$196	(\$11)	(\$27)
2012	\$210	\$0	\$0	\$0	(\$159)	\$0	\$100	\$210	\$259	\$48	\$11
2013	\$267	\$0	\$0	\$0	(\$242)	\$0	\$125	\$267	\$367	\$99	\$82
2014	\$326	\$0	\$0	\$0	(\$349)	\$0	\$150	\$326	\$499	\$173	\$198
2015	\$387	\$0	\$0	\$0	(\$545)	\$0	\$175	\$387	\$720	\$333	\$403
2016	\$450	\$0	\$0	\$0	(\$726)	\$0	\$200	\$450	\$926	\$476	\$673
2017	\$458	\$0	\$0	\$0	(\$884)	\$0	\$200	\$458	\$1,084	\$627	\$1,001
2018	\$466	\$0	\$0	\$0	(\$1,078)	\$0	\$200	\$466	\$1,278	\$812	\$1,392
2019	\$473	\$0	\$0	\$0	(\$1,280)	\$0	\$200	\$473	\$1,480	\$1,007	\$1,840
2020	\$0	\$0	\$0	\$0	(\$1,335)	\$0	\$0	\$0	\$1,335	\$1,335	\$2,388
2021	\$0	\$0	\$0	\$0	(\$1,390)	\$0	\$0	\$0	\$1,390	\$1,390	\$2,914
2022	\$0	\$0	\$0	\$0	(\$1,443)	\$0	\$0	\$0	\$1,443	\$1,443	\$3,417
2023	\$0	\$0	\$0	\$0	(\$1,495)	\$0	\$0	\$0	\$1,495	\$1,495	\$3,898
2024	\$0	\$0	\$0	\$0	(\$1,552)	\$0	\$0	\$0	\$1,552	\$1,552	\$4,358
2025	\$0	\$0	\$0	\$0	(\$1,598)	\$0	\$0	\$0	\$1,598	\$1,598	\$4,796
2026	\$0	\$0	\$0	\$0	(\$1,644)	\$0	\$0	\$0	\$1,644	\$1,644	\$5,211
2027	\$0	\$0	\$0	\$0	(\$1,708)	\$0	\$0	\$0	\$1,708	\$1,708	\$5,608
2028	\$0	\$0	\$0	\$0	(\$1,765)	\$0	\$0	\$0	\$1,765	\$1,765	\$5,987
2029	\$0	\$0	\$0	\$0	(\$1,831)	\$0	\$0	\$0	\$1,831	\$1,831	\$6,349
2030	\$0	\$0	\$0	\$0	(\$1,894)	\$0	\$0	\$0	\$1,894	\$1,894	\$6,695
2031	\$0	\$0	\$0	\$0	(\$1,951)	\$0	\$0	\$0	\$1,951	\$1,951	\$7,023
2032	\$0	\$0	\$0	\$0	(\$2,009)	\$0	\$0	\$0	\$2,009	\$2,009	\$7,335
2033	\$0	\$0	\$0	\$0	(\$2,067)	\$0	\$0	\$0	\$2,067	\$2,067	\$7,631
2034	\$0	\$0	\$0	\$0	(\$2,127)	\$0	\$0	\$0	\$2,127	\$2,127	\$7,912
<hr/>											
Nominal	\$3,347				(\$31,201)		\$1,500	\$3,347	\$32,701	\$29,354	
NPV	\$1,857	\$0	\$0	\$0	(\$9,015)	\$0	\$911	\$2,014	\$9,926	\$7,912	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		4.93									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$122.000	\$50.000	(\$32.369)	\$0.000	\$0.000	(\$26.456)	\$0.000	\$0.000	\$204.369	\$26.456	(\$177.914)	(\$164.071)
2011	\$0.000	\$244.000	\$100.000	(\$95.748)	\$0.000	(\$6.673)	(\$81.246)	\$0.000	\$0.000	\$439.748	\$87.919	(\$351.829)	(\$463.281)
2012	\$0.000	\$244.000	\$100.000	(\$158.674)	\$0.000	(\$11.311)	(\$136.852)	\$0.000	\$0.000	\$502.674	\$148.163	(\$354.511)	(\$741.315)
2013	\$0.000	\$305.000	\$125.000	(\$241.699)	\$0.000	(\$17.254)	(\$219.142)	\$0.000	\$0.000	\$671.699	\$236.397	(\$435.303)	(\$1,056.148)
2014	\$0.000	\$366.000	\$150.000	(\$349.375)	(\$75.431)	(\$24.567)	(\$257.653)	\$0.000	\$0.000	\$865.375	\$357.651	(\$507.724)	(\$1,394.789)
2015	\$0.000	\$427.000	\$175.000	(\$545.445)	(\$101.863)	(\$33.313)	(\$407.040)	\$0.000	\$0.000	\$1,147.445	\$542.216	(\$605.229)	(\$1,767.056)
2016	\$0.000	\$488.000	\$200.000	(\$726.069)	(\$132.651)	(\$43.559)	(\$544.370)	\$0.000	\$0.000	\$1,414.069	\$720.579	(\$693.490)	(\$2,160.422)
2017	\$0.000	\$488.000	\$200.000	(\$884.468)	(\$164.222)	(\$54.143)	(\$678.093)	\$0.000	\$0.000	\$1,572.468	\$896.458	(\$676.010)	(\$2,514.039)
2018	\$0.000	\$488.000	\$200.000	(\$1,077.793)	(\$196.596)	(\$65.075)	(\$824.711)	\$0.000	\$0.000	\$1,765.793	\$1,086.383	(\$679.409)	(\$2,841.781)
2019	\$0.000	\$488.000	\$200.000	(\$1,280.312)	(\$229.794)	(\$76.363)	(\$984.660)	\$0.000	\$0.000	\$1,968.312	\$1,290.818	(\$677.494)	(\$3,143.172)
2020	\$0.000	\$0.000	\$0.000	(\$1,335.023)	(\$232.797)	(\$77.662)	(\$976.580)	\$0.000	\$0.000	\$1,335.023	\$1,287.039	(\$47.984)	(\$3,162.857)
2021	\$0.000	\$0.000	\$0.000	(\$1,389.537)	(\$235.850)	(\$78.982)	(\$974.653)	\$0.000	\$0.000	\$1,389.537	\$1,289.485	(\$100.051)	(\$3,200.709)
2022	\$0.000	\$0.000	\$0.000	(\$1,443.128)	(\$238.956)	(\$80.325)	(\$1,004.974)	\$0.000	\$0.000	\$1,443.128	\$1,324.254	(\$118.874)	(\$3,242.183)
2023	\$0.000	\$0.000	\$0.000	(\$1,494.597)	(\$242.114)	(\$81.690)	(\$1,041.565)	\$0.000	\$0.000	\$1,494.597	\$1,365.369	(\$129.228)	(\$3,283.762)
2024	\$0.000	\$0.000	\$0.000	(\$1,551.648)	(\$245.326)	(\$83.079)	(\$1,080.813)	\$0.000	\$0.000	\$1,551.648	\$1,409.217	(\$142.431)	(\$3,326.023)
2025	\$0.000	\$0.000	\$0.000	(\$1,598.245)	(\$248.592)	(\$84.491)	(\$1,128.255)	\$0.000	\$0.000	\$1,598.245	\$1,461.339	(\$136.906)	(\$3,363.484)
2026	\$0.000	\$0.000	\$0.000	(\$1,644.463)	(\$251.914)	(\$85.927)	(\$1,176.218)	\$0.000	\$0.000	\$1,644.463	\$1,514.060	(\$130.404)	(\$3,396.390)
2027	\$0.000	\$0.000	\$0.000	(\$1,707.706)	(\$255.293)	(\$87.388)	(\$1,219.601)	\$0.000	\$0.000	\$1,707.706	\$1,562.282	(\$145.424)	(\$3,430.231)
2028	\$0.000	\$0.000	\$0.000	(\$1,764.863)	(\$258.729)	(\$88.874)	(\$1,269.700)	\$0.000	\$0.000	\$1,764.863	\$1,617.302	(\$147.561)	(\$3,461.897)
2029	\$0.000	\$0.000	\$0.000	(\$1,831.279)	(\$262.223)	(\$90.385)	(\$1,287.797)	\$0.000	\$0.000	\$1,831.279	\$1,640.405	(\$190.874)	(\$3,499.671)
2030	\$0.000	\$0.000	\$0.000	(\$1,894.220)	(\$265.777)	(\$91.921)	(\$1,318.531)	\$0.000	\$0.000	\$1,894.220	\$1,676.228	(\$217.992)	(\$3,539.455)
2031	\$0.000	\$0.000	\$0.000	(\$1,951.158)	(\$269.391)	(\$93.484)	(\$1,349.441)	\$0.000	\$0.000	\$1,951.158	\$1,712.316	(\$238.842)	(\$3,579.653)
2032	\$0.000	\$0.000	\$0.000	(\$2,008.868)	(\$273.066)	(\$95.073)	(\$1,384.133)	\$0.000	\$0.000	\$2,008.868	\$1,752.272	(\$256.596)	(\$3,619.479)
2033	\$0.000	\$0.000	\$0.000	(\$2,067.377)	(\$276.804)	(\$96.689)	(\$1,419.873)	\$0.000	\$0.000	\$2,067.377	\$1,793.366	(\$274.010)	(\$3,658.699)
2034	\$0.000	\$0.000	\$0.000	(\$2,126.711)	(\$280.606)	(\$98.333)	(\$1,455.041)	\$0.000	\$0.000	\$2,126.711	\$1,833.980	(\$292.731)	(\$3,697.338)
<b>Nominal</b>		\$3,660.000	\$1,500.000	(\$31,200.776)	(\$4,737.995)	(\$1,646.561)	(\$22,247.399)			\$36,360.776	\$28,631.955	(\$7,728.821)	
<b>NPV</b>		\$2,223.302	\$911.189	(\$9,014.527)	(\$1,401.267)	(\$499.175)	(\$6,551.238)	\$0.000	\$0.000	\$12,149.018	\$8,451.679	(\$3,697.338)	
<b>Discount Rate =</b>	8.44%												
<b>Benefit/Cost Ratio =</b>	0.70												

Run Date:

25-Mar-10

04:56 PM

Filename:

Res ES Freezer

## 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	-0.01	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.01	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(89)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(82)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.01	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	26	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$62.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$50.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$25.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.61%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.75%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	6.28%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$525	\$651	\$525
NPV Costs (\$000s)	\$437	\$205	\$883
NPV Net Benefits (\$000s)	\$88	\$446	(\$358)
Benefit:Cost Ratio	1.202	3.173	0.595

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$12	\$10	\$0	\$0	\$0	\$0	(\$2)	\$23	\$2	(\$21)	(\$19)
2011	\$0	\$25	\$21	\$0	\$0	\$0	(\$0)	(\$5)	\$45	\$5	(\$40)	(\$53)
2012	\$0	\$31	\$26	\$0	\$0	\$0	(\$1)	(\$9)	\$57	\$10	(\$47)	(\$91)
2013	\$0	\$43	\$37	\$0	\$0	\$0	(\$1)	(\$16)	\$81	\$17	(\$64)	(\$137)
2014	\$0	\$43	\$38	\$0	\$0	(\$5)	(\$2)	(\$19)	\$81	\$26	(\$56)	(\$174)
2015	\$0	\$43	\$39	\$0	\$0	(\$7)	(\$2)	(\$28)	\$82	\$38	(\$45)	(\$201)
2016	\$0	\$43	\$39	\$0	\$0	(\$9)	(\$3)	(\$36)	\$83	\$47	(\$35)	(\$221)
2017	\$0	\$43	\$40	\$0	\$0	(\$10)	(\$3)	(\$43)	\$83	\$57	(\$27)	(\$235)
2018	\$0	\$43	\$41	\$0	\$0	(\$12)	(\$4)	(\$51)	\$84	\$67	(\$17)	(\$243)
2019	\$0	\$43	\$41	\$0	\$0	(\$14)	(\$5)	(\$60)	\$85	\$78	(\$7)	(\$246)
2020	\$0	\$0	\$0	\$0	\$0	(\$14)	(\$5)	(\$59)	\$0	\$78	\$78	(\$214)
2021	\$0	\$0	\$0	\$0	\$0	(\$14)	(\$5)	(\$59)	\$0	\$78	\$78	(\$185)
2022	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$5)	(\$61)	\$0	\$80	\$80	(\$157)
2023	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$5)	(\$63)	\$0	\$83	\$83	(\$130)
2024	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$5)	(\$65)	\$0	\$85	\$85	(\$105)
2025	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$5)	(\$68)	\$0	\$89	\$89	(\$80)
2026	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$5)	(\$71)	\$0	\$92	\$92	(\$57)
2027	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$5)	(\$74)	\$0	\$95	\$95	(\$35)
2028	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$5)	(\$77)	\$0	\$98	\$98	(\$14)
2029	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$6)	(\$78)	\$0	\$99	\$99	\$6
2030	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$6)	(\$80)	\$0	\$102	\$102	\$24
2031	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$6)	(\$82)	\$0	\$104	\$104	\$42
2032	\$0	\$0	\$0	\$0	\$0	(\$17)	(\$6)	(\$84)	\$0	\$106	\$106	\$58
2033	\$0	\$0	\$0	\$0	\$0	(\$17)	(\$6)	(\$86)	\$0	\$109	\$109	\$74
2034	\$0	\$0	\$0	\$0	\$0	(\$17)	(\$6)	(\$88)	\$0	\$111	\$111	\$88
<b>Nominal</b>		\$372	\$333			(\$293)	(\$102)	(\$1,362)	\$705	\$1,756	\$1,051	
<b>NPV</b>		\$231	\$205	\$0	\$0	(\$87)	(\$31)	(\$406)	\$437	\$525	\$88	
<b>Discount Rate =</b>	8.44%											
<b>Benefit/Cost Ratio =</b>	1.20											



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$10	\$0	\$0	\$0	(\$2)	\$0	\$5	\$10	\$7	(\$3)	(\$3)
2011	\$21	\$0	\$0	\$0	(\$6)	\$0	\$10	\$21	\$16	(\$5)	(\$7)
2012	\$26	\$0	\$0	\$0	(\$11)	\$0	\$13	\$26	\$23	(\$3)	(\$10)
2013	\$37	\$0	\$0	\$0	(\$18)	\$0	\$18	\$37	\$35	(\$2)	(\$11)
2014	\$38	\$0	\$0	\$0	(\$25)	\$0	\$18	\$38	\$43	\$5	(\$8)
2015	\$39	\$0	\$0	\$0	(\$38)	\$0	\$18	\$39	\$55	\$16	\$2
2016	\$39	\$0	\$0	\$0	(\$48)	\$0	\$18	\$39	\$65	\$26	\$16
2017	\$40	\$0	\$0	\$0	(\$56)	\$0	\$18	\$40	\$73	\$33	\$34
2018	\$41	\$0	\$0	\$0	(\$66)	\$0	\$18	\$41	\$84	\$43	\$55
2019	\$41	\$0	\$0	\$0	(\$77)	\$0	\$18	\$41	\$95	\$54	\$79
2020	\$0	\$0	\$0	\$0	(\$81)	\$0	\$0	\$0	\$81	\$81	\$112
2021	\$0	\$0	\$0	\$0	(\$84)	\$0	\$0	\$0	\$84	\$84	\$144
2022	\$0	\$0	\$0	\$0	(\$87)	\$0	\$0	\$0	\$87	\$87	\$174
2023	\$0	\$0	\$0	\$0	(\$90)	\$0	\$0	\$0	\$90	\$90	\$203
2024	\$0	\$0	\$0	\$0	(\$94)	\$0	\$0	\$0	\$94	\$94	\$231
2025	\$0	\$0	\$0	\$0	(\$97)	\$0	\$0	\$0	\$97	\$97	\$257
2026	\$0	\$0	\$0	\$0	(\$100)	\$0	\$0	\$0	\$100	\$100	\$283
2027	\$0	\$0	\$0	\$0	(\$103)	\$0	\$0	\$0	\$103	\$103	\$307
2028	\$0	\$0	\$0	\$0	(\$107)	\$0	\$0	\$0	\$107	\$107	\$330
2029	\$0	\$0	\$0	\$0	(\$111)	\$0	\$0	\$0	\$111	\$111	\$351
2030	\$0	\$0	\$0	\$0	(\$115)	\$0	\$0	\$0	\$115	\$115	\$372
2031	\$0	\$0	\$0	\$0	(\$118)	\$0	\$0	\$0	\$118	\$118	\$392
2032	\$0	\$0	\$0	\$0	(\$122)	\$0	\$0	\$0	\$122	\$122	\$411
2033	\$0	\$0	\$0	\$0	(\$125)	\$0	\$0	\$0	\$125	\$125	\$429
2034	\$0	\$0	\$0	\$0	(\$129)	\$0	\$0	\$0	\$129	\$129	\$446
Nominal	\$333				(\$1,908)		\$150	\$333	\$2,058	\$1,725	
NPV	\$189		\$0	\$0	(\$558)	\$0	\$93	\$205	\$651	\$446	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		3.17									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$12.400	\$5.000	(\$1.959)	\$0.000	\$0.000	(\$1.601)	\$0.000	\$0.000	\$19.359	\$1.601	(\$17.758)	(\$16.376)
2011	\$0.000	\$24.800	\$10.000	(\$5.794)	\$0.000	(\$0.408)	(\$4.917)	\$0.000	\$0.000	\$40.594	\$5.325	(\$35.270)	(\$46.371)
2012	\$0.000	\$31.000	\$12.500	(\$10.563)	\$0.000	(\$0.760)	(\$9.110)	\$0.000	\$0.000	\$54.063	\$9.870	(\$44.192)	(\$81.030)
2013	\$0.000	\$43.400	\$17.500	(\$17.552)	\$0.000	(\$1.265)	(\$15.914)	\$0.000	\$0.000	\$78.452	\$17.179	(\$61.273)	(\$125.346)
2014	\$0.000	\$43.400	\$17.500	(\$25.170)	(\$5.488)	(\$1.787)	(\$18.562)	\$0.000	\$0.000	\$86.070	\$25.837	(\$60.233)	(\$165.520)
2015	\$0.000	\$43.400	\$17.500	(\$37.724)	(\$7.114)	(\$2.327)	(\$28.152)	\$0.000	\$0.000	\$98.624	\$37.592	(\$61.031)	(\$203.059)
2016	\$0.000	\$43.400	\$17.500	(\$47.601)	(\$8.782)	(\$2.884)	(\$35.689)	\$0.000	\$0.000	\$108.501	\$47.354	(\$61.146)	(\$237.743)
2017	\$0.000	\$43.400	\$17.500	(\$55.958)	(\$10.492)	(\$3.459)	(\$42.901)	\$0.000	\$0.000	\$116.858	\$56.852	(\$60.006)	(\$269.132)
2018	\$0.000	\$43.400	\$17.500	(\$66.479)	(\$12.245)	(\$4.053)	(\$50.869)	\$0.000	\$0.000	\$127.379	\$67.167	(\$60.212)	(\$298.177)
2019	\$0.000	\$43.400	\$17.500	(\$77.480)	(\$14.043)	(\$4.667)	(\$59.588)	\$0.000	\$0.000	\$138.380	\$78.298	(\$60.082)	(\$324.906)
2020	\$0.000	\$0.000	\$0.000	(\$80.791)	(\$14.226)	(\$4.746)	(\$59.099)	\$0.000	\$0.000	\$80.791	\$78.072	(\$2.719)	(\$326.021)
2021	\$0.000	\$0.000	\$0.000	(\$84.090)	(\$14.413)	(\$4.827)	(\$58.983)	\$0.000	\$0.000	\$84.090	\$78.222	(\$5.868)	(\$328.241)
2022	\$0.000	\$0.000	\$0.000	(\$87.333)	(\$14.603)	(\$4.909)	(\$60.818)	\$0.000	\$0.000	\$87.333	\$80.329	(\$7.004)	(\$330.685)
2023	\$0.000	\$0.000	\$0.000	(\$90.448)	(\$14.796)	(\$4.992)	(\$63.032)	\$0.000	\$0.000	\$90.448	\$82.820	(\$7.628)	(\$333.139)
2024	\$0.000	\$0.000	\$0.000	(\$93.900)	(\$14.992)	(\$5.077)	(\$65.407)	\$0.000	\$0.000	\$93.900	\$85.476	(\$8.424)	(\$335.639)
2025	\$0.000	\$0.000	\$0.000	(\$96.720)	(\$15.192)	(\$5.163)	(\$68.278)	\$0.000	\$0.000	\$96.720	\$88.633	(\$8.087)	(\$337.851)
2026	\$0.000	\$0.000	\$0.000	(\$99.517)	(\$15.395)	(\$5.251)	(\$71.181)	\$0.000	\$0.000	\$99.517	\$91.827	(\$7.691)	(\$339.792)
2027	\$0.000	\$0.000	\$0.000	(\$103.345)	(\$15.601)	(\$5.340)	(\$73.806)	\$0.000	\$0.000	\$103.345	\$94.748	(\$8.597)	(\$341.793)
2028	\$0.000	\$0.000	\$0.000	(\$106.804)	(\$15.811)	(\$5.431)	(\$76.838)	\$0.000	\$0.000	\$106.804	\$98.080	(\$8.723)	(\$343.665)
2029	\$0.000	\$0.000	\$0.000	(\$110.823)	(\$16.025)	(\$5.524)	(\$77.933)	\$0.000	\$0.000	\$110.823	\$99.481	(\$11.341)	(\$345.909)
2030	\$0.000	\$0.000	\$0.000	(\$114.632)	(\$16.242)	(\$5.617)	(\$79.793)	\$0.000	\$0.000	\$114.632	\$101.652	(\$12.979)	(\$348.278)
2031	\$0.000	\$0.000	\$0.000	(\$118.077)	(\$16.463)	(\$5.713)	(\$81.664)	\$0.000	\$0.000	\$118.077	\$103.839	(\$14.238)	(\$350.674)
2032	\$0.000	\$0.000	\$0.000	(\$121.570)	(\$16.687)	(\$5.810)	(\$83.763)	\$0.000	\$0.000	\$121.570	\$106.260	(\$15.309)	(\$353.050)
2033	\$0.000	\$0.000	\$0.000	(\$125.111)	(\$16.916)	(\$5.909)	(\$85.926)	\$0.000	\$0.000	\$125.111	\$108.750	(\$16.360)	(\$355.392)
2034	\$0.000	\$0.000	\$0.000	(\$128.701)	(\$17.148)	(\$6.009)	(\$88.054)	\$0.000	\$0.000	\$128.701	\$111.212	(\$17.489)	(\$357.701)
<hr/>													
Nominal NPV	\$372.000	\$231.432	\$150.000	(\$1,908.142)	(\$292.674)	(\$101.929)	(\$1,361.877)	\$0.000	\$0.000	\$2,430.142	\$1,756.480	(\$673.663)	
		\$93.319		(\$557.939)	(\$87.499)	(\$31.323)	(\$406.168)			\$882.690	\$524.989	(\$357.701)	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	0.59												

Run Date:

25-Mar-10

04:59 PM

Filename:

Res ES Window AC

## 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	-0.22	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.29	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(471)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(432)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	0.00	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$112.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$150.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$75.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.82%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$2,491	\$1,767	\$2,491
NPV Costs (\$000s)	\$668	\$397	\$2,038
NPV Net Benefits (\$000s)	\$1,823	\$1,370	\$453
Benefit:Cost Ratio	3.729	4.443	1.222

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$17	\$23	\$0	\$0	\$0	\$0	(\$6)	\$40	\$6	(\$33)	(\$31)
2011	\$0	\$34	\$47	\$0	\$0	\$0	(\$6)	(\$19)	\$90	\$26	(\$55)	(\$77)
2012	\$0	\$45	\$63	\$0	\$0	\$0	(\$12)	(\$37)	\$108	\$49	(\$59)	(\$123)
2013	\$0	\$50	\$72	\$0	\$0	\$0	(\$18)	(\$61)	\$123	\$79	(\$44)	(\$155)
2014	\$0	\$56	\$82	\$0	\$0	(\$80)	(\$26)	(\$70)	\$138	\$176	\$39	(\$129)
2015	\$0	\$45	\$66	\$0	\$0	(\$99)	(\$32)	(\$102)	\$111	\$233	\$122	(\$54)
2016	\$0	\$45	\$68	\$0	\$0	(\$118)	(\$39)	(\$125)	\$112	\$282	\$170	\$42
2017	\$0	\$45	\$69	\$0	\$0	(\$138)	(\$46)	(\$147)	\$113	\$331	\$218	\$156
2018	\$0	\$45	\$70	\$0	\$0	(\$159)	(\$52)	(\$172)	\$115	\$383	\$268	\$285
2019	\$0	\$45	\$71	\$0	\$0	(\$179)	(\$60)	(\$199)	\$116	\$438	\$322	\$429
2020	\$0	\$0	\$0	\$0	\$0	(\$182)	(\$61)	(\$197)	\$0	\$440	\$440	\$609
2021	\$0	\$0	\$0	\$0	\$0	(\$184)	(\$62)	(\$197)	\$0	\$443	\$443	\$776
2022	\$0	\$0	\$0	\$0	\$0	(\$187)	(\$63)	(\$203)	\$0	\$452	\$452	\$934
2023	\$0	\$0	\$0	\$0	\$0	(\$189)	(\$64)	(\$210)	\$0	\$463	\$463	\$1,083
2024	\$0	\$0	\$0	\$0	\$0	(\$192)	(\$65)	(\$218)	\$0	\$475	\$475	\$1,224
2025	\$0	\$0	\$0	\$0	\$0	(\$194)	(\$66)	(\$228)	\$0	\$488	\$488	\$1,358
2026	\$0	\$0	\$0	\$0	\$0	(\$197)	(\$67)	(\$238)	\$0	\$501	\$501	\$1,484
2027	\$0	\$0	\$0	\$0	\$0	(\$199)	(\$68)	(\$246)	\$0	\$514	\$514	\$1,604
2028	\$0	\$0	\$0	\$0	\$0	(\$202)	(\$69)	(\$256)	\$0	\$528	\$528	\$1,717
2029	\$0	\$0	\$0	\$0	\$0	(\$205)	(\$71)	(\$260)	\$0	\$535	\$535	\$1,823
Nominal		\$426	\$630			(\$2,703)	(\$946)	(\$3,193)	\$1,055	\$6,843	\$5,787	
NPV		\$271	\$397	\$0	\$0	(\$970)	(\$352)	(\$1,169)	\$668	\$2,491	\$1,823	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		3.73										

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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$23	\$0	\$0	\$0	(\$8)	\$0	\$11	\$23	\$19	(\$4)	(\$4)
2011	\$47	\$0	\$0	\$0	(\$23)	\$0	\$23	\$47	\$15	(\$1)	(\$5)
2012	\$63	\$0	\$0	\$0	(\$43)	\$0	\$30	\$63	\$73	\$10	\$3
2013	\$72	\$0	\$0	\$0	(\$67)	\$0	\$34	\$72	\$101	\$28	\$24
2014	\$82	\$0	\$0	\$0	(\$95)	\$0	\$38	\$82	\$133	\$51	\$58
2015	\$66	\$0	\$0	\$0	(\$137)	\$0	\$30	\$66	\$167	\$100	\$120
2016	\$68	\$0	\$0	\$0	(\$167)	\$0	\$30	\$68	\$197	\$130	\$193
2017	\$69	\$0	\$0	\$0	(\$192)	\$0	\$30	\$69	\$222	\$154	\$274
2018	\$70	\$0	\$0	\$0	(\$225)	\$0	\$30	\$70	\$255	\$185	\$363
2019	\$71	\$0	\$0	\$0	(\$259)	\$0	\$30	\$71	\$289	\$218	\$459
2020	\$0	\$0	\$0	\$0	(\$270)	\$0	\$0	\$0	\$270	\$270	\$570
2021	\$0	\$0	\$0	\$0	(\$281)	\$0	\$0	\$0	\$281	\$281	\$676
2022	\$0	\$0	\$0	\$0	(\$291)	\$0	\$0	\$0	\$291	\$291	\$778
2023	\$0	\$0	\$0	\$0	(\$302)	\$0	\$0	\$0	\$302	\$302	\$875
2024	\$0	\$0	\$0	\$0	(\$313)	\$0	\$0	\$0	\$313	\$313	\$968
2025	\$0	\$0	\$0	\$0	(\$323)	\$0	\$0	\$0	\$323	\$323	\$1,056
2026	\$0	\$0	\$0	\$0	(\$332)	\$0	\$0	\$0	\$332	\$332	\$1,140
2027	\$0	\$0	\$0	\$0	(\$345)	\$0	\$0	\$0	\$345	\$345	\$1,220
2028	\$0	\$0	\$0	\$0	(\$356)	\$0	\$0	\$0	\$356	\$356	\$1,297
2029	\$0	\$0	\$0	\$0	(\$370)	\$0	\$0	\$0	\$370	\$370	\$1,370
Nominal	\$630				(\$4,398)		\$285	\$630	\$4,683	\$4,053	
NPV	\$366	\$0	\$0	\$0	(\$1,586)	\$0	\$181	\$397	\$1,767	\$1,370	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		4.45									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$16.800	\$11.250	(\$7.740)	\$0.000	\$0.000	(\$6.326)	\$0.000	\$0.000	\$35.790	\$6.326	(\$29.464)	(\$27.172)
2011	\$0.000	\$33.600	\$22.500	(\$22.895)	\$0.000	(\$6.172)	(\$19.427)	\$0.000	\$0.000	\$78.995	\$25.600	(\$53.395)	(\$72.581)
2012	\$0.000	\$44.800	\$30.000	(\$43.000)	\$0.000	(\$11.857)	(\$37.086)	\$0.000	\$0.000	\$117.800	\$48.944	(\$68.856)	(\$126.583)
2013	\$0.000	\$50.400	\$33.750	(\$66.784)	\$0.000	(\$18.443)	(\$60.551)	\$0.000	\$0.000	\$150.934	\$78.994	(\$71.940)	(\$178.614)
2014	\$0.000	\$56.000	\$37.500	(\$95.475)	(\$79.742)	(\$25.971)	(\$70.410)	\$0.000	\$0.000	\$188.975	\$176.122	(\$12.853)	(\$187.186)
2015	\$0.000	\$44.800	\$30.000	(\$136.634)	(\$98.710)	(\$32.281)	(\$101.964)	\$0.000	\$0.000	\$211.434	\$232.956	\$21.521	(\$173.949)
2016	\$0.000	\$44.800	\$30.000	(\$167.184)	(\$118.158)	(\$38.799)	(\$125.346)	\$0.000	\$0.000	\$241.984	\$282.303	\$40.319	(\$151.079)
2017	\$0.000	\$44.800	\$30.000	(\$192.263)	(\$138.096)	(\$45.530)	(\$147.402)	\$0.000	\$0.000	\$267.063	\$331.027	\$63.964	(\$117.620)
2018	\$0.000	\$44.800	\$30.000	(\$224.675)	(\$158.537)	(\$52.477)	(\$171.918)	\$0.000	\$0.000	\$299.475	\$382.933	\$83.458	(\$77.360)
2019	\$0.000	\$44.800	\$30.000	(\$258.519)	(\$179.495)	(\$59.648)	(\$198.821)	\$0.000	\$0.000	\$333.319	\$437.965	\$104.646	(\$30.807)
2020	\$0.000	\$0.000	\$0.000	(\$269.566)	(\$181.840)	(\$60.662)	(\$197.190)	\$0.000	\$0.000	\$269.566	\$439.692	\$170.126	\$38.987
2021	\$0.000	\$0.000	\$0.000	(\$280.574)	(\$184.225)	(\$61.694)	(\$196.801)	\$0.000	\$0.000	\$280.574	\$442.720	\$162.146	\$100.331
2022	\$0.000	\$0.000	\$0.000	(\$291.395)	(\$186.651)	(\$62.742)	(\$202.923)	\$0.000	\$0.000	\$291.395	\$452.316	\$160.922	\$156.475
2023	\$0.000	\$0.000	\$0.000	(\$301.787)	(\$189.118)	(\$63.809)	(\$210.312)	\$0.000	\$0.000	\$301.787	\$463.238	\$161.451	\$208.422
2024	\$0.000	\$0.000	\$0.000	(\$313.307)	(\$191.627)	(\$64.894)	(\$218.236)	\$0.000	\$0.000	\$313.307	\$474.757	\$161.450	\$256.326
2025	\$0.000	\$0.000	\$0.000	(\$322.716)	(\$194.178)	(\$65.997)	(\$227.816)	\$0.000	\$0.000	\$322.716	\$487.991	\$165.275	\$301.550
2026	\$0.000	\$0.000	\$0.000	(\$332.048)	(\$196.773)	(\$67.119)	(\$237.501)	\$0.000	\$0.000	\$332.048	\$501.392	\$169.344	\$344.282
2027	\$0.000	\$0.000	\$0.000	(\$344.818)	(\$199.412)	(\$68.260)	(\$246.260)	\$0.000	\$0.000	\$344.818	\$513.932	\$169.114	\$383.635
2028	\$0.000	\$0.000	\$0.000	(\$356.359)	(\$202.096)	(\$69.420)	(\$256.376)	\$0.000	\$0.000	\$356.359	\$527.892	\$171.533	\$420.446
2029	\$0.000	\$0.000	\$0.000	(\$369.770)	(\$204.825)	(\$70.600)	(\$260.031)	\$0.000	\$0.000	\$369.770	\$535.456	\$165.687	\$453.235
Nominal		\$425.600	\$285.000	(\$4,397.508)	(\$2,703.482)	(\$946.377)	(\$3,192.697)			\$5,108.108	\$6,842.557	\$1,734.449	
NPV		\$270.949	\$181.439	(\$1,585.593)	(\$969.706)	(\$352.391)	(\$1,169.119)	\$0.000	\$0.000	\$2,037.981	\$2,491.216	\$453.235	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		1.22											

Run Date:

25-Mar-10

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Filename: Res ES Clothes Washer

## 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	-0.03	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.04	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(215)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(197)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-0.03	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$112.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$150.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$75.00	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.82%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%	

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)	\$0.0509	\$/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

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$7,560	\$9,814	\$7,560
NPV Costs (\$000s)	\$7,391	\$4,428	\$12,777
NPV Net Benefits (\$000s)	\$169	\$5,386	(\$5,217)
Benefit:Cost Ratio	1.023	2.216	0.592

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$56	\$76	\$0	\$0	\$0	\$0	(\$10)	\$132	\$10	(\$123)	(\$113)
2011	\$0	\$168	\$233	\$0	\$0	\$0	(\$3)	(\$39)	\$401	\$43	(\$358)	(\$417)
2012	\$0	\$280	\$394	\$0	\$0	\$0	(\$8)	(\$90)	\$674	\$97	(\$577)	(\$970)
2013	\$0	\$392	\$562	\$0	\$0	\$0	(\$14)	(\$170)	\$954	\$184	(\$769)	(\$1,426)
2014	\$0	\$504	\$734	\$0	\$0	(\$70)	(\$23)	(\$223)	\$1,238	\$316	(\$923)	(\$2,042)
2015	\$0	\$616	\$913	\$0	\$0	(\$102)	(\$33)	(\$380)	\$1,529	\$516	(\$1,013)	(\$2,665)
2016	\$0	\$728	\$1,097	\$0	\$0	(\$140)	(\$46)	(\$539)	\$1,825	\$725	(\$1,100)	(\$3,289)
2017	\$0	\$784	\$1,202	\$0	\$0	(\$183)	(\$60)	(\$706)	\$1,986	\$949	(\$1,037)	(\$3,831)
2018	\$0	\$784	\$1,222	\$0	\$0	(\$226)	(\$75)	(\$888)	\$2,006	\$1,189	(\$817)	(\$4,225)
2019	\$0	\$784	\$1,243	\$0	\$0	(\$271)	(\$90)	(\$1,086)	\$2,027	\$1,447	(\$580)	(\$4,483)
2020	\$0	\$0	\$0	\$0	\$0	(\$275)	(\$92)	(\$1,077)	\$0	\$1,443	\$1,443	(\$3,891)
2021	\$0	\$0	\$0	\$0	\$0	(\$278)	(\$93)	(\$1,075)	\$0	\$1,446	\$1,446	(\$3,344)
2022	\$0	\$0	\$0	\$0	\$0	(\$282)	(\$95)	(\$1,108)	\$0	\$1,485	\$1,485	(\$2,826)
2023	\$0	\$0	\$0	\$0	\$0	(\$286)	(\$96)	(\$1,148)	\$0	\$1,530	\$1,530	(\$2,334)
2024	\$0	\$0	\$0	\$0	\$0	(\$289)	(\$98)	(\$1,192)	\$0	\$1,579	\$1,579	(\$1,866)
2025	\$0	\$0	\$0	\$0	\$0	(\$293)	(\$100)	(\$1,244)	\$0	\$1,637	\$1,637	(\$1,418)
2026	\$0	\$0	\$0	\$0	\$0	(\$297)	(\$101)	(\$1,297)	\$0	\$1,695	\$1,695	(\$990)
2027	\$0	\$0	\$0	\$0	\$0	(\$301)	(\$103)	(\$1,345)	\$0	\$1,749	\$1,749	(\$583)
2028	\$0	\$0	\$0	\$0	\$0	(\$305)	(\$105)	(\$1,400)	\$0	\$1,810	\$1,810	(\$194)
2029	\$0	\$0	\$0	\$0	\$0	(\$309)	(\$107)	(\$1,420)	\$0	\$1,836	\$1,836	\$169
<b>Nominal</b>		\$5,096	\$7,676			(\$3,908)	(\$1,343)	(\$16,434)	\$12,772	\$21,685	\$8,913	
<b>NPV</b>		\$2,963	\$4,428	\$0	\$0	(\$1,360)	(\$476)	(\$5,724)	\$7,391	\$7,560	\$169	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.02										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$76	\$0	\$0	\$0	(\$12)	\$0	\$38	\$76	\$49	(\$27)	(\$25)
2011	\$233	\$0	\$0	\$0	(\$46)	\$0	\$113	\$233	\$159	(\$74)	(\$88)
2012	\$394	\$0	\$0	\$0	(\$104)	\$0	\$188	\$394	\$291	(\$103)	(\$169)
2013	\$562	\$0	\$0	\$0	(\$187)	\$0	\$263	\$562	\$450	(\$112)	(\$249)
2014	\$734	\$0	\$0	\$0	(\$302)	\$0	\$338	\$734	\$640	(\$95)	(\$312)
2015	\$913	\$0	\$0	\$0	(\$510)	\$0	\$413	\$913	\$922	\$9	(\$307)
2016	\$1,097	\$0	\$0	\$0	(\$718)	\$0	\$488	\$1,097	\$1,206	\$109	(\$245)
2017	\$1,202	\$0	\$0	\$0	(\$921)	\$0	\$525	\$1,202	\$1,446	\$244	(\$117)
2018	\$1,222	\$0	\$0	\$0	(\$1,160)	\$0	\$525	\$1,222	\$1,685	\$463	\$106
2019	\$1,243	\$0	\$0	\$0	(\$1,412)	\$0	\$525	\$1,243	\$1,937	\$694	\$415
2020	\$0	\$0	\$0	\$0	(\$1,472)	\$0	\$0	\$0	\$1,472	\$1,472	\$1,019
2021	\$0	\$0	\$0	\$0	(\$1,532)	\$0	\$0	\$0	\$1,532	\$1,532	\$1,598
2022	\$0	\$0	\$0	\$0	(\$1,591)	\$0	\$0	\$0	\$1,591	\$1,591	\$2,153
2023	\$0	\$0	\$0	\$0	(\$1,648)	\$0	\$0	\$0	\$1,648	\$1,648	\$2,684
2024	\$0	\$0	\$0	\$0	(\$1,711)	\$0	\$0	\$0	\$1,711	\$1,711	\$3,191
2025	\$0	\$0	\$0	\$0	(\$1,762)	\$0	\$0	\$0	\$1,762	\$1,762	\$3,673
2026	\$0	\$0	\$0	\$0	(\$1,813)	\$0	\$0	\$0	\$1,813	\$1,813	\$4,131
2027	\$0	\$0	\$0	\$0	(\$1,883)	\$0	\$0	\$0	\$1,883	\$1,883	\$4,569
2028	\$0	\$0	\$0	\$0	(\$1,946)	\$0	\$0	\$0	\$1,946	\$1,946	\$4,987
2029	\$0	\$0	\$0	\$0	(\$2,019)	\$0	\$0	\$0	\$2,019	\$2,019	\$5,386
<b>Nominal NPV</b>	\$7,676	\$4,084	\$0	\$0	(\$22,749)	\$0	\$3,413	\$7,676	\$26,161	\$18,485	
<b>Discount Rate =</b>											
<b>Benefit/Cost Ratio =</b>											

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$56.000	\$37.500	(\$11.765)	\$0.000	\$0.000	(\$9.616)	\$0.000	\$0.000	\$105.265	\$9.616	(\$95.649)	(\$88.207)
2011	\$0.000	\$168.000	\$112.500	(\$46.402)	\$0.000	(\$3.460)	(\$39.374)	\$0.000	\$0.000	\$326.902	\$42.834	(\$284.068)	(\$329.791)
2012	\$0.000	\$280.000	\$187.500	(\$103.811)	\$0.000	(\$7.917)	(\$89.535)	\$0.000	\$0.000	\$571.311	\$97.452	(\$473.859)	(\$701.426)
2013	\$0.000	\$392.000	\$262.500	(\$187.414)	\$0.000	(\$14.315)	(\$169.923)	\$0.000	\$0.000	\$841.914	\$184.238	(\$657.676)	(\$1,177.091)
2014	\$0.000	\$504.000	\$337.500	(\$302.350)	(\$69.844)	(\$22.747)	(\$222.973)	\$0.000	\$0.000	\$1,143.850	\$315.564	(\$828.286)	(\$1,729.540)
2015	\$0.000	\$616.000	\$412.500	(\$509.791)	(\$101.863)	(\$33.313)	(\$380.433)	\$0.000	\$0.000	\$1,538.291	\$515.609	(\$1,022.682)	(\$2,358.575)
2016	\$0.000	\$728.000	\$487.500	(\$718.404)	(\$140.430)	(\$46.113)	(\$538.623)	\$0.000	\$0.000	\$1,933.904	\$725.166	(\$1,208.738)	(\$3,044.204)
2017	\$0.000	\$784.000	\$525.000	(\$920.592)	(\$182.884)	(\$60.296)	(\$705.787)	\$0.000	\$0.000	\$2,229.592	\$948.967	(\$1,280.625)	(\$3,714.091)
2018	\$0.000	\$784.000	\$525.000	(\$1,160.164)	(\$226.422)	(\$74.948)	(\$887.741)	\$0.000	\$0.000	\$2,469.164	\$1,189.111	(\$1,280.053)	(\$4,331.580)
2019	\$0.000	\$784.000	\$525.000	(\$1,411.571)	(\$271.072)	(\$90.081)	(\$1,085.609)	\$0.000	\$0.000	\$2,720.571	\$1,446.762	(\$1,273.809)	(\$4,898.248)
2020	\$0.000	\$0.000	\$0.000	(\$1,471.891)	(\$274.614)	(\$91.612)	(\$1,076.701)	\$0.000	\$0.000	\$1,471.891	\$1,442.927	(\$28.965)	(\$4,910.131)
2021	\$0.000	\$0.000	\$0.000	(\$1,531.994)	(\$278.216)	(\$93.169)	(\$1,074.576)	\$0.000	\$0.000	\$1,531.994	\$1,445.962	(\$86.032)	(\$4,942.679)
2022	\$0.000	\$0.000	\$0.000	(\$1,591.080)	(\$281.879)	(\$94.753)	(\$1,108.006)	\$0.000	\$0.000	\$1,591.080	\$1,484.638	(\$106.442)	(\$4,979.816)
2023	\$0.000	\$0.000	\$0.000	(\$1,647.825)	(\$285.605)	(\$96.364)	(\$1,148.348)	\$0.000	\$0.000	\$1,647.825	\$1,530.317	(\$117.509)	(\$5,017.624)
2024	\$0.000	\$0.000	\$0.000	(\$1,710.726)	(\$289.393)	(\$98.002)	(\$1,191.619)	\$0.000	\$0.000	\$1,710.726	\$1,579.015	(\$131.711)	(\$5,056.704)
2025	\$0.000	\$0.000	\$0.000	(\$1,762.100)	(\$293.247)	(\$99.668)	(\$1,243.926)	\$0.000	\$0.000	\$1,762.100	\$1,636.841	(\$125.259)	(\$5,090.979)
2026	\$0.000	\$0.000	\$0.000	(\$1,813.056)	(\$297.165)	(\$101.363)	(\$1,296.806)	\$0.000	\$0.000	\$1,813.056	\$1,695.334	(\$117.722)	(\$5,120.684)
2027	\$0.000	\$0.000	\$0.000	(\$1,882.783)	(\$301.151)	(\$103.086)	(\$1,344.636)	\$0.000	\$0.000	\$1,882.783	\$1,743.873	(\$133.910)	(\$5,151.846)
2028	\$0.000	\$0.000	\$0.000	(\$1,945.800)	(\$305.204)	(\$104.838)	(\$1,399.872)	\$0.000	\$0.000	\$1,945.800	\$1,809.914	(\$135.886)	(\$5,181.006)
2029	\$0.000	\$0.000	\$0.000	(\$2,019.024)	(\$309.326)	(\$106.620)	(\$1,419.824)	\$0.000	\$0.000	\$2,019.024	\$1,835.770	(\$183.254)	(\$5,217.272)
Nominal		\$5,096.000	\$3,412.500	(\$22,748.543)	(\$3,908.314)	(\$1,342.665)	(\$16,433.928)			\$31,257.043	\$21,684.908	(\$9,572.135)	
NPV		\$2,962.691	\$1,983.945	(\$7,830.412)	(\$1,360.412)	(\$475.502)	(\$5,723.863)	\$0.000	\$0.000	\$12,777.049	\$7,559.776	(\$5,217.272)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.59											

Run Date:

25-Mar-10

05:13 PM

Filename:

Res CFL 1 Unit

## 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	0.00	kW/Cus
(2) Change in Peak kW per Customer at generator	0.00	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(60)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(55)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	0.00	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	10	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$28.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$2.50	\$/Cus
(5) Customer Equipment Cost Escalation Rate	0.00%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$2.50	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.56%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.86%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	12.27%

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)	\$0.0509 \$/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

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$14,054	\$17,348	\$14,054
NPV Costs (\$000s)	\$11,488	\$942	\$27,894
NPV Net Benefits (\$000s)	\$2,567	\$16,407	(\$13,840)
Benefit:Cost Ratio	1.223	18.424	0.504

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$2,800	\$250	\$0	\$0	\$0	\$0	(\$536)	\$3,050	\$536	(\$2,514)	(\$2,318)
2011	\$0	\$4,200	\$375	\$0	\$0	\$0	(\$37)	(\$1,372)	\$4,575	\$1,408	(\$3,167)	(\$5,012)
2012	\$0	\$5,600	\$500	\$0	\$0	\$0	(\$67)	(\$2,495)	\$6,100	\$2,562	(\$3,538)	(\$7,786)
2013	\$0	\$0	\$0	\$0	\$0	\$0	(\$68)	(\$2,664)	\$0	\$2,732	\$2,732	(\$5,810)
2014	\$0	\$0	\$0	\$0	\$0	(\$213)	(\$69)	(\$2,237)	\$0	\$2,519	\$2,519	(\$4,130)
2015	\$0	\$0	\$0	\$0	\$0	(\$216)	(\$70)	(\$2,650)	\$0	\$2,937	\$2,937	(\$2,324)
2016	\$0	\$0	\$0	\$0	\$0	(\$218)	(\$72)	(\$2,757)	\$0	\$3,047	\$3,047	(\$596)
2017	\$0	\$0	\$0	\$0	\$0	(\$221)	(\$73)	(\$2,810)	\$0	\$3,104	\$3,104	\$1,028
2018	\$0	\$0	\$0	\$0	\$0	(\$224)	(\$74)	(\$2,892)	\$0	\$3,190	\$3,190	\$2,567
<b>Nominal</b>		\$12,600	\$1,125			(\$1,092)	(\$530)	(\$20,412)	\$13,725	\$22,034	\$8,309	
<b>NPV</b>		\$10,546	\$942	\$0	\$0	(\$622)	(\$337)	(\$13,095)	\$11,488	\$14,054	\$2,567	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.22										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$250	\$0	\$0	\$0	(\$656)	\$0	\$250	\$250	\$906	\$656	\$605
2011	\$375	\$0	\$0	\$0	(\$1,616)	\$0	\$375	\$375	\$1,991	\$1,616	\$1,979
2012	\$500	\$0	\$0	\$0	(\$2,893)	\$0	\$500	\$500	\$3,393	\$2,893	\$4,248
2013	\$0	\$0	\$0	\$0	(\$2,938)	\$0	\$0	\$0	\$2,938	\$2,938	\$6,373
2014	\$0	\$0	\$0	\$0	(\$3,033)	\$0	\$0	\$0	\$3,033	\$3,033	\$8,396
2015	\$0	\$0	\$0	\$0	(\$3,552)	\$0	\$0	\$0	\$3,552	\$3,552	\$10,581
2016	\$0	\$0	\$0	\$0	(\$3,677)	\$0	\$0	\$0	\$3,677	\$3,677	\$12,667
2017	\$0	\$0	\$0	\$0	(\$3,665)	\$0	\$0	\$0	\$3,665	\$3,665	\$14,584
2018	\$0	\$0	\$0	\$0	(\$3,779)	\$0	\$0	\$0	\$3,779	\$3,779	\$16,407
<b>Nominal</b>	\$1,125				(\$25,809)		\$1,125	\$1,125	\$26,934	\$25,809	
<b>NPV</b>	\$868	\$0	\$0	\$0	(\$16,407)	\$0	\$942	\$942	\$17,348	\$16,407	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		18.42									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$2,800.000	\$250.000	(\$655.749)	\$0.000	\$0.000	(\$535.948)	\$0.000	\$0.000	\$3,705.749	\$535.948	(\$3,169.801)	(\$2,923.172)
2011	\$0.000	\$4,200.000	\$375.000	(\$1,616.414)	\$0.000	(\$36.609)	(\$1,371.590)	\$0.000	\$0.000	\$6,191.414	\$1,408.198	(\$4,783.216)	(\$6,991.021)
2012	\$0.000	\$5,600.000	\$500.000	(\$2,893.013)	\$0.000	(\$67.016)	(\$2,495.153)	\$0.000	\$0.000	\$8,993.013	\$2,562.169	(\$6,430.844)	(\$12,034.558)
2013	\$0.000	\$0.000	\$0.000	(\$2,937.850)	\$0.000	(\$68.155)	(\$2,663.671)	\$0.000	\$0.000	\$2,937.850	\$2,731.826	(\$206.024)	(\$12,183.565)
2014	\$0.000	\$0.000	\$0.000	(\$3,033.320)	(\$212.824)	(\$69.313)	(\$2,236.975)	\$0.000	\$0.000	\$3,033.320	\$2,519.113	(\$514.206)	(\$12,526.530)
2015	\$0.000	\$0.000	\$0.000	(\$3,551.716)	(\$215.550)	(\$70.492)	(\$2,650.479)	\$0.000	\$0.000	\$3,551.716	\$2,936.521	(\$615.195)	(\$12,904.926)
2016	\$0.000	\$0.000	\$0.000	(\$3,677.234)	(\$218.321)	(\$71.690)	(\$2,757.003)	\$0.000	\$0.000	\$3,677.234	\$3,047.015	(\$630.219)	(\$13,262.404)
2017	\$0.000	\$0.000	\$0.000	(\$3,665.010)	(\$221.140)	(\$72.909)	(\$2,809.842)	\$0.000	\$0.000	\$3,665.010	\$3,103.891	(\$561.119)	(\$13,555.921)
2018	\$0.000	\$0.000	\$0.000	(\$3,779.005)	(\$224.007)	(\$74.148)	(\$2,891.640)	\$0.000	\$0.000	\$3,779.005	\$3,189.795	(\$589.210)	(\$13,840.152)
<b>Nominal</b>		\$12,600.000	\$1,125.000	(\$25,809.310)	(\$1,091.842)	(\$530.332)	(\$20,412.302)			\$39,534.310	\$22,034.476	(\$17,499.834)	
<b>NPV</b>		\$10,545.930	\$941.601	(\$16,406.812)	(\$622.105)	(\$337.145)	(\$13,094.940)	\$0.000	\$0.000	\$27,894.343	\$14,054.190	(\$13,840.152)	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		0.50											

## 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	-0.08	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.11	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(805)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(738)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.08	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	16	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$335.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$0.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$35.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2010
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$137.53 \$/kW
(6) Base Year Incremental Distribution Cost	\$69.97 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.58%
(10) Transmission Fixed O & M Cost	\$1.72 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0801 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	3.59%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	8.49%

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)	\$0.0509 \$/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

	TRC	Participants	RIM
NPV Benefits(\$000s)	\$10,701	\$7,993	\$11,042
NPV Costs (\$000s)	\$5,121	\$341	\$13,114
NPV Net Benefits (\$000s)	\$5,580	\$7,652	(\$2,072)
Benefit:Cost Ratio	2.090	23.439	0.842

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$0	\$586.25	\$0	\$0	\$0	\$0	(\$5)	(\$123)	\$586	\$129	(\$458)	(\$389)
2012	\$0	\$1,172.50	\$0	\$0	\$0	\$0	(\$16)	(\$372)	\$1,173	\$388	(\$785)	(\$1,005)
2013	\$0	\$1,172.50	\$0	\$0	\$0	\$0	(\$27)	(\$658)	\$1,173	\$685	(\$488)	(\$1,358)
2014	\$0	\$1,172.50	\$0	\$0	\$0	(\$196)	(\$38)	(\$892)	\$1,173	\$1,126	(\$46)	(\$1,389)
2015	\$0	\$1,172.50	\$0	\$0	\$0	(\$255)	(\$50)	(\$1,368)	\$1,173	\$1,673	\$500	(\$1,081)
2016	\$0	\$670.00	\$0	\$0	\$0	(\$291)	(\$57)	(\$1,604)	\$670	\$1,952	\$1,282	(\$353)
2017	\$0	\$670.00	\$0	\$0	\$0	(\$328)	(\$65)	(\$1,821)	\$670	\$2,214	\$1,544	\$454
2018	\$0	\$670.00	\$0	\$0	\$0	(\$365)	(\$73)	(\$2,079)	\$670	\$2,518	\$1,848	\$1,345
2019	\$0	\$670.00	\$0	\$0	\$0	(\$404)	(\$81)	(\$2,367)	\$670	\$2,852	\$2,182	\$2,316
2020	\$0	(\$7,956)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,956	\$7,956	\$5,580
2021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,580
2022	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,580
2023	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,580
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,580
Nominal						(\$1,838)	(\$412)	(\$11,285)	\$7,956	\$21,492	\$13,536	
NPV						(\$979)	(\$230)	(\$6,228)	\$5,121	\$10,701	\$5,580	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		2.09										



### Participants' Cost-Effectiveness Measure

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

[illegible]

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2011	\$0.000	\$586.250	\$61.250	(\$152.102)	\$0.000	(\$5.202)	(\$123.309)	\$0.000	\$0.000	\$799.602	\$128.511	(\$671.091)	(\$570.724)
2012	\$0.000	\$1,172.500	\$122.500	(\$453.713)	\$0.000	(\$15.870)	(\$371.638)	\$0.000	\$0.000	\$1,748.713	\$387.508	(\$1,361.205)	(\$1,638.280)
2013	\$0.000	\$1,172.500	\$122.500	(\$767.908)	\$0.000	(\$26.900)	(\$657.720)	\$0.000	\$0.000	\$2,062.908	\$684.620	(\$1,378.288)	(\$2,635.129)
2014	\$0.000	\$1,172.500	\$122.500	(\$1,110.007)	(\$195.563)	(\$38.301)	(\$892.495)	\$0.000	\$0.000	\$2,405.007	\$1,126.359	(\$1,278.648)	(\$3,487.961)
2015	\$0.000	\$1,172.500	\$122.500	(\$1,671.053)	(\$254.658)	(\$50.081)	(\$1,368.230)	\$0.000	\$0.000	\$2,966.053	\$1,672.968	(\$1,293.085)	(\$4,283.316)
2016	\$0.000	\$670.000	\$70.000	(\$1,949.805)	(\$290.686)	(\$57.400)	(\$1,604.311)	\$0.000	\$0.000	\$2,689.805	\$1,952.396	(\$737.408)	(\$4,701.594)
2017	\$0.000	\$670.000	\$70.000	(\$2,162.289)	(\$327.615)	(\$64.953)	(\$1,821.058)	\$0.000	\$0.000	\$2,902.289	\$2,213.626	(\$688.663)	(\$5,061.829)
2018	\$0.000	\$670.000	\$70.000	(\$2,455.321)	(\$365.468)	(\$72.747)	(\$2,079.395)	\$0.000	\$0.000	\$3,195.321	\$2,517.610	(\$677.711)	(\$5,388.753)
2019	\$0.000	\$670.000	\$70.000	(\$2,760.230)	(\$404.268)	(\$80.787)	(\$2,367.181)	\$0.000	\$0.000	\$3,500.230	\$2,852.235	(\$647.994)	(\$5,677.020)
2020	\$0.000	(\$7,956.250)	(\$831.250)	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$8,787.500	\$8,787.500	(\$2,071.966)
2021	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	(\$2,071.966)
2022	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	(\$2,071.966)
2023	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	(\$2,071.966)
2024	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	(\$2,071.966)
<b>Nominal</b>				(\$13,482.427)	(\$1,838.257)	(\$412.241)	(\$11,285.337)			\$22,269.927	\$22,323.335	\$53.407	
<b>NPV</b>				\$0.000	\$0.000	(\$7,458.179)	(\$979.472)	(\$230.243)	(\$6,227.626)	\$0.000	\$0.000	\$13,114.362	\$11,042.396
<b>Discount Rate =</b>				8.44%									
<b>Benefit/Cost Ratio =</b>				0.84									

Run Date:

25-Mar-10

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Filename:

Retrocommissioning

## 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	-1.30	kW/Cus
(2) Change in Peak kW per Customer at generator	-1.71	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(4,276)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(3,921)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.32	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	16	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$847.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$300.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$200.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014	**
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.58%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.57%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	8.49%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	-1.3	kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$31,898	\$24,614	\$31,898
NPV Costs (\$000s)	\$6,655	\$1,877	\$29,392
NPV Net Benefits (\$000s)	\$25,243	\$22,737	\$2,506
Benefit:Cost Ratio	4.793	13.115	1.085

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

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

[illegible]

Run Date:

25-Mar-10

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Filename: Retrocommissioning

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$124	\$0	\$0	\$0	(\$1,761)	\$0	\$80	\$124	\$256	\$132	\$112
2012	\$189	\$0	\$0	\$0	(\$438)	\$0	\$120	\$189	\$558	\$369	\$402
2013	\$321	\$0	\$0	\$0	(\$889)	\$0	\$200	\$321	\$1,089	\$768	\$958
2014	\$392	\$0	\$0	\$0	(\$1,470)	\$0	\$240	\$392	\$1,710	\$1,318	\$1,837
2015	\$465	\$0	\$0	\$0	(\$2,489)	\$0	\$280	\$465	\$2,769	\$2,304	\$3,254
2016	\$473	\$0	\$0	\$0	(\$3,367)	\$0	\$280	\$473	\$3,647	\$3,175	\$5,055
2017	\$412	\$0	\$0	\$0	(\$4,027)	\$0	\$240	\$412	\$4,267	\$3,855	\$7,072
2018	\$419	\$0	\$0	\$0	(\$4,845)	\$0	\$240	\$419	\$5,085	\$4,666	\$9,323
2019	\$355	\$0	\$0	\$0	(\$5,583)	\$0	\$200	\$355	\$5,783	\$5,428	\$11,737
2020	\$0	\$0	\$0	\$0	(\$5,826)	\$0	\$0	\$0	\$5,826	\$5,826	\$14,127
2021	\$0	\$0	\$0	\$0	(\$6,067)	\$0	\$0	\$0	\$6,067	\$6,067	\$16,423
2022	\$0	\$0	\$0	\$0	(\$6,305)	\$0	\$0	\$0	\$6,305	\$6,305	\$18,623
2023	\$0	\$0	\$0	\$0	(\$6,532)	\$0	\$0	\$0	\$6,532	\$6,532	\$20,724
2024	\$0	\$0	\$0	\$0	(\$6,785)	\$0	\$0	\$0	\$6,785	\$6,785	\$22,737
Nominal	\$3,149				(\$54,801)		\$1,880	\$3,149	\$56,681	\$53,531	
NPV	\$1,731		\$0	\$0	(\$23,486)	\$0	\$1,128	\$1,877	\$24,614	\$22,737	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		13.11									

## 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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2011	\$0.000	\$338,800	\$80,000	(\$176,430)	\$0.000	(\$32,129)	(\$156,736)	\$0.000	\$0.000	\$595,230	\$188,865	(\$406,365)	(\$345,590)
2012	\$0.000	\$508,200	\$120,000	(\$438,300)	\$0.000	(\$81,688)	(\$396,013)	\$0.000	\$0.000	\$1,066,500	\$477,701	(\$588,800)	(\$807,370)
2013	\$0.000	\$847,000	\$200,000	(\$889,197)	\$0.000	(\$166,153)	(\$845,517)	\$0.000	\$0.000	\$1,936,197	\$1,011,671	(\$924,527)	(\$1,476,035)
2014	\$0.000	\$1,016,400	\$240,000	(\$1,470,110)	(\$830,145)	(\$270,365)	(\$1,136,117)	\$0.000	\$0.000	\$2,726,510	\$2,236,627	(\$489,882)	(\$1,802,776)
2015	\$0.000	\$1,185,800	\$280,000	(\$2,489,166)	(\$1,208,614)	(\$395,256)	(\$1,935,059)	\$0.000	\$0.000	\$3,954,966	\$3,538,930	(\$416,036)	(\$2,058,673)
2016	\$0.000	\$1,185,800	\$280,000	(\$3,367,457)	(\$1,596,724)	(\$524,316)	(\$2,625,430)	\$0.000	\$0.000	\$4,833,257	\$4,746,470	(\$86,786)	(\$2,107,901)
2017	\$0.000	\$1,016,400	\$240,000	(\$4,026,794)	(\$1,940,806)	(\$639,875)	(\$3,210,897)	\$0.000	\$0.000	\$5,283,194	\$5,791,579	\$508,385	(\$1,841,968)
2018	\$0.000	\$1,016,400	\$240,000	(\$4,845,279)	(\$2,293,626)	(\$759,212)	(\$3,855,099)	\$0.000	\$0.000	\$6,101,679	\$6,907,937	\$806,258	(\$1,453,034)
2019	\$0.000	\$847,000	\$200,000	(\$5,583,198)	(\$2,600,081)	(\$864,038)	(\$4,463,964)	\$0.000	\$0.000	\$6,630,198	\$7,928,082	\$1,297,884	(\$875,657)
2020	\$0.000	\$0.000	\$0.000	(\$5,825,798)	(\$2,634,053)	(\$878,726)	(\$4,427,332)	\$0.000	\$0.000	\$5,825,798	\$7,940,111	\$2,114,313	(\$8,264)
2021	\$0.000	\$0.000	\$0.000	(\$6,067,371)	(\$2,668,602)	(\$893,665)	(\$4,418,597)	\$0.000	\$0.000	\$6,067,371	\$7,980,863	\$1,913,492	\$715,664
2022	\$0.000	\$0.000	\$0.000	(\$6,304,626)	(\$2,703,739)	(\$908,857)	(\$4,556,056)	\$0.000	\$0.000	\$6,304,626	\$8,168,652	\$1,864,026	\$1,366,008
2023	\$0.000	\$0.000	\$0.000	(\$6,532,119)	(\$2,739,473)	(\$924,308)	(\$4,721,942)	\$0.000	\$0.000	\$6,532,119	\$8,385,723	\$1,853,604	\$1,962,399
2024	\$0.000	\$0.000	\$0.000	(\$6,784,775)	(\$2,775,815)	(\$940,021)	(\$4,899,870)	\$0.000	\$0.000	\$6,784,775	\$8,615,706	\$1,830,930	\$2,505,659
Nominal		\$7,961,800	\$1,880,000	(\$54,800,621)	(\$23,991,677)	(\$8,278,610)	(\$41,648,630)			\$64,642,421	\$73,918,917	\$9,276,496	
NPV		\$4,777,967	\$1,128,210	(\$23,485,991)	(\$10,219,692)	(\$3,609,737)	(\$18,068,399)	\$0.000	\$0.000	\$29,392,168	\$31,897,827	\$2,505,659	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		1.09											

Run Date:

25-Mar-10

05:29 PM

Filename:

Comm. HVAC

## 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	-0.15	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.20	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(711)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(652)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	0.00	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	29	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$152.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$300.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$225.00	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.70%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.93%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
(5) Average Annual Change in Monthly Billing kW	-0.15	kW/Mo.

## Summary Results for This Analysis

	TRC	Participants	RIM
NPV Benefits (\$000s)	\$4,217	\$4,230	\$4,217
NPV Costs (\$000s)	\$1,460	\$1,001	\$4,688
NPV Net Benefits (\$000s)	\$2,758	\$3,229	(\$471)
Benefit:Cost Ratio	2.889	4.225	0.899

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$23	\$46	\$0	\$0	\$0	\$0	(\$10)	\$69	\$10	(\$59)	(\$54)
2011	\$0	\$46	\$93	\$0	\$0	\$0	(\$4)	(\$29)	\$129	\$33	(\$105)	(\$144)
2012	\$0	\$53	\$110	\$0	\$0	\$0	(\$8)	(\$53)	\$164	\$60	(\$103)	(\$225)
2013	\$0	\$61	\$128	\$0	\$0	\$0	(\$12)	(\$84)	\$189	\$96	(\$93)	(\$292)
2014	\$0	\$76	\$163	\$0	\$0	(\$51)	(\$17)	(\$100)	\$239	\$168	(\$71)	(\$340)
2015	\$0	\$91	\$199	\$0	\$0	(\$70)	(\$23)	(\$161)	\$290	\$253	(\$37)	(\$363)
2016	\$0	\$91	\$203	\$0	\$0	(\$89)	(\$29)	(\$211)	\$294	\$329	\$36	(\$343)
2017	\$0	\$106	\$240	\$0	\$0	(\$112)	(\$37)	(\$267)	\$347	\$416	\$69	(\$306)
2018	\$0	\$106	\$244	\$0	\$0	(\$135)	(\$45)	(\$328)	\$351	\$508	\$158	(\$230)
2019	\$0	\$106	\$249	\$0	\$0	(\$160)	(\$53)	(\$395)	\$355	\$607	\$252	(\$118)
2020	\$0	\$0	\$0	\$0	\$0	(\$162)	(\$54)	(\$392)	\$0	\$607	\$607	\$131
2021	\$0	\$0	\$0	\$0	\$0	(\$164)	(\$55)	(\$391)	\$0	\$609	\$609	\$362
2022	\$0	\$0	\$0	\$0	\$0	(\$166)	(\$56)	(\$403)	\$0	\$625	\$625	\$580
2023	\$0	\$0	\$0	\$0	\$0	(\$168)	(\$57)	(\$418)	\$0	\$643	\$643	\$786
2024	\$0	\$0	\$0	\$0	\$0	(\$170)	(\$58)	(\$433)	\$0	\$661	\$661	\$983
2025	\$0	\$0	\$0	\$0	\$0	(\$173)	(\$59)	(\$452)	\$0	\$684	\$684	\$1,170
2026	\$0	\$0	\$0	\$0	\$0	(\$175)	(\$60)	(\$472)	\$0	\$706	\$706	\$1,348
2027	\$0	\$0	\$0	\$0	\$0	(\$177)	(\$61)	(\$489)	\$0	\$727	\$727	\$1,517
2028	\$0	\$0	\$0	\$0	\$0	(\$180)	(\$62)	(\$509)	\$0	\$751	\$751	\$1,678
2029	\$0	\$0	\$0	\$0	\$0	(\$182)	(\$63)	(\$516)	\$0	\$761	\$761	\$1,829
2030	\$0	\$0	\$0	\$0	\$0	(\$185)	(\$64)	(\$529)	\$0	\$777	\$777	\$1,971
2031	\$0	\$0	\$0	\$0	\$0	(\$187)	(\$65)	(\$541)	\$0	\$793	\$793	\$2,104
2032	\$0	\$0	\$0	\$0	\$0	(\$190)	(\$66)	(\$555)	\$0	\$811	\$811	\$2,230
2033	\$0	\$0	\$0	\$0	\$0	(\$192)	(\$67)	(\$569)	\$0	\$829	\$829	\$2,348
2034	\$0	\$0	\$0	\$0	\$0	(\$195)	(\$68)	(\$583)	\$0	\$847	\$847	\$2,460
2035	\$0	\$0	\$0	\$0	\$0	(\$198)	(\$69)	(\$597)	\$0	\$864	\$864	\$2,565
2036	\$0	\$0	\$0	\$0	\$0	(\$200)	(\$71)	(\$611)	\$0	\$882	\$882	\$2,664
2037	\$0	\$0	\$0	\$0	\$0	(\$203)	(\$72)	(\$625)	\$0	\$900	\$900	\$2,758
Nominal		\$760	\$1,676			(\$3,882)	(\$1,351)	(\$10,724)	\$2,436	\$15,957	\$13,522	
NPV		\$458	\$1,001	\$0	\$0	(\$1,036)	(\$368)	(\$2,814)	\$1,460	\$4,217	\$2,758	
Discount Rate =	8.44%											
Benefit/Cost Ratio =	2.89											



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$46	\$0	\$0	\$0	(\$10)	\$0	\$34	\$46	\$44	(\$2)	(\$1)
2011	\$93	\$0	\$0	\$0	(\$31)	\$0	\$68	\$93	\$98	\$5	\$3
2012	\$110	\$0	\$0	\$0	(\$54)	\$0	\$79	\$110	\$133	\$23	\$21
2013	\$128	\$0	\$0	\$0	(\$83)	\$0	\$90	\$128	\$173	\$44	\$53
2014	\$163	\$0	\$0	\$0	(\$121)	\$0	\$113	\$163	\$234	\$70	\$100
2015	\$199	\$0	\$0	\$0	(\$195)	\$0	\$135	\$199	\$330	\$131	\$180
2016	\$203	\$0	\$0	\$0	(\$256)	\$0	\$135	\$203	\$391	\$188	\$287
2017	\$240	\$0	\$0	\$0	(\$316)	\$0	\$158	\$240	\$473	\$233	\$409
2018	\$244	\$0	\$0	\$0	(\$389)	\$0	\$158	\$244	\$547	\$303	\$555
2019	\$249	\$0	\$0	\$0	(\$466)	\$0	\$158	\$249	\$624	\$375	\$722
2020	\$0	\$0	\$0	\$0	(\$487)	\$0	\$0	\$0	\$487	\$487	\$922
2021	\$0	\$0	\$0	\$0	(\$508)	\$0	\$0	\$0	\$508	\$508	\$1,114
2022	\$0	\$0	\$0	\$0	(\$528)	\$0	\$0	\$0	\$528	\$528	\$1,298
2023	\$0	\$0	\$0	\$0	(\$548)	\$0	\$0	\$0	\$548	\$548	\$1,474
2024	\$0	\$0	\$0	\$0	(\$569)	\$0	\$0	\$0	\$569	\$569	\$1,643
2025	\$0	\$0	\$0	\$0	(\$587)	\$0	\$0	\$0	\$587	\$587	\$1,803
2026	\$0	\$0	\$0	\$0	(\$604)	\$0	\$0	\$0	\$604	\$604	\$1,956
2027	\$0	\$0	\$0	\$0	(\$628)	\$0	\$0	\$0	\$628	\$628	\$2,102
2028	\$0	\$0	\$0	\$0	(\$649)	\$0	\$0	\$0	\$649	\$649	\$2,241
2029	\$0	\$0	\$0	\$0	(\$674)	\$0	\$0	\$0	\$674	\$674	\$2,375
2030	\$0	\$0	\$0	\$0	(\$698)	\$0	\$0	\$0	\$698	\$698	\$2,502
2031	\$0	\$0	\$0	\$0	(\$719)	\$0	\$0	\$0	\$719	\$719	\$2,623
2032	\$0	\$0	\$0	\$0	(\$740)	\$0	\$0	\$0	\$740	\$740	\$2,738
2033	\$0	\$0	\$0	\$0	(\$761)	\$0	\$0	\$0	\$761	\$761	\$2,847
2034	\$0	\$0	\$0	\$0	(\$783)	\$0	\$0	\$0	\$783	\$783	\$2,950
2035	\$0	\$0	\$0	\$0	(\$805)	\$0	\$0	\$0	\$805	\$805	\$3,048
2036	\$0	\$0	\$0	\$0	(\$827)	\$0	\$0	\$0	\$827	\$827	\$3,141
2037	\$0	\$0	\$0	\$0	(\$849)	\$0	\$0	\$0	\$849	\$849	\$3,229
Nominal	\$1,676				(\$13,884)		\$1,125	\$1,676	\$15,009	\$13,333	
NPV	\$923	\$0	\$0	\$0	(\$3,552)	\$0	\$678	\$1,001	\$4,230	\$3,229	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		4.22									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$22.800	\$33.750	(\$10.431)	\$0.000	\$0.000	(\$9.547)	\$0.000	\$0.000	\$66.981	\$9.547	(\$57.433)	(\$52.965)
2011	\$0.000	\$45.600	\$67.500	(\$30.831)	\$0.000	(\$4.171)	(\$29.321)	\$0.000	\$0.000	\$143.031	\$33.491	(\$110.440)	(\$146.888)
2012	\$0.000	\$53.200	\$78.750	(\$54.414)	\$0.000	(\$7.540)	(\$52.681)	\$0.000	\$0.000	\$186.364	\$60.221	(\$126.143)	(\$245.819)
2013	\$0.000	\$60.800	\$90.000	(\$82.649)	\$0.000	(\$11.503)	(\$84.358)	\$0.000	\$0.000	\$233.449	\$95.861	(\$137.589)	(\$345.330)
2014	\$0.000	\$76.000	\$112.500	(\$121.138)	(\$50.886)	(\$16.573)	(\$100.363)	\$0.000	\$0.000	\$309.638	\$167.822	(\$141.816)	(\$439.918)
2015	\$0.000	\$91.200	\$135.000	(\$194.842)	(\$69.728)	(\$22.803)	(\$160.885)	\$0.000	\$0.000	\$421.042	\$253.416	(\$167.626)	(\$543.022)
2016	\$0.000	\$91.200	\$135.000	(\$255.507)	(\$89.048)	(\$29.241)	(\$211.008)	\$0.000	\$0.000	\$481.707	\$329.296	(\$152.411)	(\$629.473)
2017	\$0.000	\$106.400	\$157.500	(\$315.983)	(\$111.970)	(\$36.916)	(\$266.961)	\$0.000	\$0.000	\$579.883	\$415.846	(\$164.037)	(\$715.280)
2018	\$0.000	\$106.400	\$157.500	(\$389.414)	(\$135.475)	(\$44.844)	(\$328.152)	\$0.000	\$0.000	\$653.314	\$508.471	(\$144.843)	(\$785.151)
2019	\$0.000	\$106.400	\$157.500	(\$466.399)	(\$159.579)	(\$53.030)	(\$394.833)	\$0.000	\$0.000	\$730.299	\$607.443	(\$122.856)	(\$839.805)
2020	\$0.000	\$0.000	\$0.000	(\$487.183)	(\$161.664)	(\$53.932)	(\$391.593)	\$0.000	\$0.000	\$487.183	\$607.189	\$120.006	(\$790.573)
2021	\$0.000	\$0.000	\$0.000	(\$507.859)	(\$163.785)	(\$54.848)	(\$390.820)	\$0.000	\$0.000	\$507.859	\$609.454	\$101.595	(\$752.137)
2022	\$0.000	\$0.000	\$0.000	(\$528.137)	(\$165.941)	(\$55.781)	(\$402.979)	\$0.000	\$0.000	\$528.137	\$624.701	\$96.564	(\$718.446)
2023	\$0.000	\$0.000	\$0.000	(\$547.534)	(\$168.135)	(\$56.729)	(\$417.651)	\$0.000	\$0.000	\$547.534	\$642.515	\$94.981	(\$687.887)
2024	\$0.000	\$0.000	\$0.000	(\$569.138)	(\$170.365)	(\$57.694)	(\$433.389)	\$0.000	\$0.000	\$569.138	\$661.447	\$92.309	(\$660.497)
2025	\$0.000	\$0.000	\$0.000	(\$586.519)	(\$172.633)	(\$58.674)	(\$452.412)	\$0.000	\$0.000	\$586.519	\$683.720	\$97.201	(\$633.901)
2026	\$0.000	\$0.000	\$0.000	(\$603.717)	(\$174.940)	(\$59.672)	(\$471.645)	\$0.000	\$0.000	\$603.717	\$706.257	\$102.540	(\$608.026)
2027	\$0.000	\$0.000	\$0.000	(\$627.708)	(\$177.287)	(\$60.686)	(\$489.041)	\$0.000	\$0.000	\$627.708	\$727.013	\$99.305	(\$584.917)
2028	\$0.000	\$0.000	\$0.000	(\$649.225)	(\$179.673)	(\$61.718)	(\$509.129)	\$0.000	\$0.000	\$649.225	\$750.520	\$101.294	(\$563.180)
2029	\$0.000	\$0.000	\$0.000	(\$674.421)	(\$182.099)	(\$62.767)	(\$516.386)	\$0.000	\$0.000	\$674.421	\$761.252	\$86.832	(\$545.996)
2030	\$0.000	\$0.000	\$0.000	(\$698.188)	(\$184.567)	(\$63.834)	(\$528.710)	\$0.000	\$0.000	\$698.188	\$777.111	\$78.923	(\$531.592)
2031	\$0.000	\$0.000	\$0.000	(\$718.963)	(\$187.077)	(\$64.919)	(\$541.104)	\$0.000	\$0.000	\$718.963	\$793.101	\$74.138	(\$519.114)
2032	\$0.000	\$0.000	\$0.000	(\$739.979)	(\$189.629)	(\$66.023)	(\$555.015)	\$0.000	\$0.000	\$739.979	\$810.667	\$70.689	(\$508.143)
2033	\$0.000	\$0.000	\$0.000	(\$761.243)	(\$192.225)	(\$67.145)	(\$569.346)	\$0.000	\$0.000	\$761.243	\$828.717	\$67.473	(\$498.485)
2034	\$0.000	\$0.000	\$0.000	(\$782.766)	(\$194.865)	(\$68.287)	(\$583.448)	\$0.000	\$0.000	\$782.766	\$846.600	\$63.835	(\$490.059)
2035	\$0.000	\$0.000	\$0.000	(\$804.554)	(\$197.550)	(\$69.448)	(\$597.063)	\$0.000	\$0.000	\$804.554	\$864.061	\$59.507	(\$482.816)
2036	\$0.000	\$0.000	\$0.000	(\$826.617)	(\$200.281)	(\$70.628)	(\$610.931)	\$0.000	\$0.000	\$826.617	\$881.840	\$55.223	(\$476.617)
2037	\$0.000	\$0.000	\$0.000	(\$848.964)	(\$203.058)	(\$71.829)	(\$624.960)	\$0.000	\$0.000	\$848.964	\$899.847	\$50.883	(\$471.349)
<b>Nominal</b>		\$760.000	\$1,125.000	(\$13,884.323)	(\$3,882.461)	(\$1,351.236)	(\$10,723.730)			\$15,769.323	\$15,957.426	\$188.103	
<b>NPV</b>		\$458.337	\$678.460	(\$3,551.645)	(\$1,035.700)	(\$367.854)	(\$2,813.540)	\$0.000	\$0.000	\$4,688.443	\$4,217.093	(\$471.349)	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		0.90											

Run Date:

25-Mar-10

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Filename:

Comm. Geothermal

## 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	-0.29	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.38	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(747)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(685)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.27	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	29	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$159.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$1,500.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	(\$65.00)	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$500.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.70%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.93%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
* (5) Average Annual Change in Monthly Billing kW	-0.29 kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$3,430	\$3,905	\$2,646
NPV Costs (\$000s)	\$2,075	\$2,330	\$2,867
NPV Net Benefits (\$000s)	\$1,354	\$1,576	(\$221)
Benefit:Cost Ratio	1.653	1.676	0.923

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$24	\$219	\$0	\$0	\$0	\$0	(\$10)	\$243	\$10	(\$233)	(\$215)
2011	\$0	\$28	\$250	\$0	\$0	\$0	(\$6)	(\$22)	\$277	\$28	(\$249)	(\$427)
2012	\$0	\$32	\$280	\$0	\$0	\$0	(\$10)	(\$36)	\$311	\$46	(\$266)	(\$635)
2013	\$0	\$40	\$347	\$0	\$0	\$0	(\$14)	(\$57)	\$387	\$72	(\$315)	(\$963)
2014	\$0	\$40	\$335	\$0	\$0	(\$59)	(\$19)	(\$64)	\$375	\$142	(\$233)	(\$1,019)
2015	\$0	\$40	\$323	\$0	\$0	(\$75)	(\$24)	(\$94)	\$363	\$193	(\$170)	(\$1,123)
2016	\$0	\$40	\$310	\$0	\$0	(\$91)	(\$30)	(\$117)	\$350	\$237	(\$113)	(\$1,187)
2017	\$0	\$40	\$297	\$0	\$0	(\$107)	(\$35)	(\$138)	\$337	\$280	(\$57)	(\$1,217)
2018	\$0	\$35	\$233	\$0	\$0	(\$122)	(\$40)	(\$160)	\$268	\$322	\$54	(\$1,191)
2019	\$0	\$35	\$220	\$0	\$0	(\$137)	(\$45)	(\$184)	\$255	\$366	\$111	(\$1,142)
2020	\$0	\$0	(\$173)	\$0	\$0	(\$138)	(\$46)	(\$182)	\$0	\$540	\$540	(\$920)
2021	\$0	\$0	(\$176)	\$0	\$0	(\$140)	(\$47)	(\$182)	\$0	\$545	\$545	(\$714)
2022	\$0	\$0	(\$179)	\$0	\$0	(\$142)	(\$48)	(\$188)	\$0	\$557	\$557	(\$520)
2023	\$0	\$0	(\$182)	\$0	\$0	(\$144)	(\$49)	(\$194)	\$0	\$569	\$569	(\$337)
2024	\$0	\$0	(\$185)	\$0	\$0	(\$146)	(\$49)	(\$202)	\$0	\$582	\$582	(\$164)
2025	\$0	\$0	(\$189)	\$0	\$0	(\$148)	(\$50)	(\$211)	\$0	\$597	\$597	(\$0)
2026	\$0	\$0	(\$192)	\$0	\$0	(\$150)	(\$51)	(\$220)	\$0	\$612	\$612	\$154
2027	\$0	\$0	(\$195)	\$0	\$0	(\$152)	(\$52)	(\$228)	\$0	\$626	\$626	\$300
2028	\$0	\$0	(\$198)	\$0	\$0	(\$154)	(\$53)	(\$237)	\$0	\$642	\$642	\$438
2029	\$0	\$0	(\$202)	\$0	\$0	(\$156)	(\$54)	(\$240)	\$0	\$652	\$652	\$567
2030	\$0	\$0	(\$205)	\$0	\$0	(\$158)	(\$55)	(\$246)	\$0	\$664	\$664	\$688
2031	\$0	\$0	(\$209)	\$0	\$0	(\$160)	(\$56)	(\$252)	\$0	\$676	\$676	\$802
2032	\$0	\$0	(\$212)	\$0	\$0	(\$162)	(\$57)	(\$258)	\$0	\$689	\$689	\$909
2033	\$0	\$0	(\$216)	\$0	\$0	(\$165)	(\$58)	(\$265)	\$0	\$703	\$703	\$1,009
2034	\$0	\$0	(\$219)	\$0	\$0	(\$167)	(\$58)	(\$272)	\$0	\$716	\$716	\$1,104
2035	\$0	\$0	(\$223)	\$0	\$0	(\$169)	(\$59)	(\$278)	\$0	\$730	\$730	\$1,193
2036	\$0	\$0	(\$227)	\$0	\$0	(\$172)	(\$60)	(\$284)	\$0	\$743	\$743	\$1,276
2037	\$0	\$0	(\$231)	\$0	\$0	(\$174)	(\$62)	(\$291)	\$0	\$757	\$757	\$1,354
<b>Nominal</b>		\$352	(\$799)			(\$3,387)	(\$1,187)	(\$5,110)	\$3,167	\$13,298	\$10,131	
<b>NPV</b>		\$226	\$1,065	\$0	\$0	(\$923)	(\$335)	(\$1,388)	\$2,075	\$3,430	\$1,354	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.65										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$229	(\$10)	\$0	\$0	(\$12)	\$0	\$75	\$229	\$97	(\$131)	(\$121)
2011	\$272	(\$22)	\$0	\$0	(\$27)	\$0	\$88	\$272	\$136	(\$136)	(\$237)
2012	\$316	(\$36)	\$0	\$0	(\$43)	\$0	\$100	\$316	\$179	(\$137)	(\$344)
2013	\$401	(\$54)	\$0	\$0	(\$64)	\$0	\$125	\$401	\$243	(\$158)	(\$459)
2014	\$408	(\$72)	\$0	\$0	(\$87)	\$0	\$125	\$408	\$285	(\$123)	(\$541)
2015	\$415	(\$92)	\$0	\$0	(\$127)	\$0	\$125	\$415	\$344	(\$71)	(\$585)
2016	\$422	(\$112)	\$0	\$0	(\$157)	\$0	\$125	\$422	\$394	(\$28)	(\$601)
2017	\$429	(\$132)	\$0	\$0	(\$182)	\$0	\$125	\$429	\$439	\$10	(\$595)
2018	\$384	(\$151)	\$0	\$0	(\$211)	\$0	\$110	\$384	\$472	\$88	(\$553)
2019	\$391	(\$170)	\$0	\$0	(\$241)	\$0	\$110	\$391	\$522	\$131	(\$495)
2020	\$0	(\$173)	\$0	\$0	(\$252)	\$0	\$0	\$0	\$425	\$425	(\$320)
2021	\$0	(\$176)	\$0	\$0	(\$262)	\$0	\$0	\$0	\$438	\$438	(\$154)
2022	\$0	(\$179)	\$0	\$0	(\$272)	\$0	\$0	\$0	\$451	\$451	\$3
2023	\$0	(\$182)	\$0	\$0	(\$282)	\$0	\$0	\$0	\$464	\$464	\$152
2024	\$0	(\$185)	\$0	\$0	(\$292)	\$0	\$0	\$0	\$478	\$478	\$294
2025	\$0	(\$189)	\$0	\$0	(\$301)	\$0	\$0	\$0	\$490	\$490	\$428
2026	\$0	(\$192)	\$0	\$0	(\$310)	\$0	\$0	\$0	\$502	\$502	\$555
2027	\$0	(\$195)	\$0	\$0	(\$322)	\$0	\$0	\$0	\$517	\$517	\$675
2028	\$0	(\$198)	\$0	\$0	(\$332)	\$0	\$0	\$0	\$531	\$531	\$789
2029	\$0	(\$202)	\$0	\$0	(\$345)	\$0	\$0	\$0	\$547	\$547	\$897
2030	\$0	(\$205)	\$0	\$0	(\$357)	\$0	\$0	\$0	\$562	\$562	\$999
2031	\$0	(\$209)	\$0	\$0	(\$367)	\$0	\$0	\$0	\$576	\$576	\$1,096
2032	\$0	(\$212)	\$0	\$0	(\$378)	\$0	\$0	\$0	\$590	\$590	\$1,188
2033	\$0	(\$216)	\$0	\$0	(\$389)	\$0	\$0	\$0	\$605	\$605	\$1,275
2034	\$0	(\$219)	\$0	\$0	(\$401)	\$0	\$0	\$0	\$620	\$620	\$1,356
2035	\$0	(\$223)	\$0	\$0	(\$412)	\$0	\$0	\$0	\$635	\$635	\$1,434
2036	\$0	(\$227)	\$0	\$0	(\$423)	\$0	\$0	\$0	\$650	\$650	\$1,507
2037	\$0	(\$231)	\$0	\$0	(\$435)	\$0	\$0	\$0	\$666	\$666	\$1,576
<b>Nominal</b>	\$3,666	(\$4,465)			(\$7,284)		\$1,108	\$3,666	\$12,856	\$9,190	
<b>NPV</b>	\$2,148	(\$1,264)	\$0	\$0	(\$1,930)	\$0	\$711	\$2,330	\$3,905	\$1,576	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		1.68									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$23.850	\$75.000	(\$12.420)	\$0.000	\$0.000	(\$10.031)	\$0.000	\$0.000	\$111.270	\$10.031	(\$101.239)	(\$93.362)
2011	\$0.000	\$27.825	\$87.500	(\$26.535)	\$0.000	(\$5.823)	(\$22.243)	\$0.000	\$0.000	\$141.860	\$28.071	(\$113.789)	(\$190.133)
2012	\$0.000	\$31.800	\$100.000	(\$42.627)	\$0.000	(\$9.567)	(\$36.321)	\$0.000	\$0.000	\$174.427	\$45.888	(\$128.539)	(\$290.943)
2013	\$0.000	\$39.750	\$125.000	(\$63.919)	\$0.000	(\$14.363)	(\$57.238)	\$0.000	\$0.000	\$228.669	\$71.601	(\$157.068)	(\$404.542)
2014	\$0.000	\$39.750	\$125.000	(\$87.268)	(\$59.317)	(\$19.319)	(\$63.576)	\$0.000	\$0.000	\$252.018	\$142.212	(\$109.806)	(\$477.781)
2015	\$0.000	\$39.750	\$125.000	(\$126.913)	(\$74.730)	(\$24.439)	(\$93.700)	\$0.000	\$0.000	\$291.663	\$192.869	(\$98.794)	(\$538.547)
2016	\$0.000	\$39.750	\$125.000	(\$157.091)	(\$90.532)	(\$29.728)	(\$116.577)	\$0.000	\$0.000	\$321.841	\$236.837	(\$85.004)	(\$586.764)
2017	\$0.000	\$39.750	\$125.000	(\$182.244)	(\$106.734)	(\$35.190)	(\$138.288)	\$0.000	\$0.000	\$346.994	\$280.212	(\$66.782)	(\$621.697)
2018	\$0.000	\$34.980	\$110.000	(\$211.189)	(\$121.518)	(\$40.224)	(\$159.953)	\$0.000	\$0.000	\$356.169	\$321.695	(\$34.475)	(\$638.327)
2019	\$0.000	\$34.980	\$110.000	(\$241.387)	(\$136.674)	(\$45.419)	(\$183.764)	\$0.000	\$0.000	\$386.367	\$365.857	(\$20.510)	(\$647.451)
2020	\$0.000	\$0.000	\$0.000	(\$251.658)	(\$138.460)	(\$46.191)	(\$182.256)	\$0.000	\$0.000	\$251.658	\$366.907	\$115.249	(\$600.171)
2021	\$0.000	\$0.000	\$0.000	(\$261.893)	(\$140.276)	(\$46.976)	(\$181.896)	\$0.000	\$0.000	\$261.893	\$369.149	\$107.255	(\$559.593)
2022	\$0.000	\$0.000	\$0.000	(\$271.958)	(\$142.123)	(\$47.774)	(\$187.555)	\$0.000	\$0.000	\$271.958	\$377.453	\$105.495	(\$522.787)
2023	\$0.000	\$0.000	\$0.000	(\$281.628)	(\$144.002)	(\$48.587)	(\$194.384)	\$0.000	\$0.000	\$281.628	\$386.972	\$105.344	(\$488.893)
2024	\$0.000	\$0.000	\$0.000	(\$292.342)	(\$145.912)	(\$49.413)	(\$201.708)	\$0.000	\$0.000	\$292.342	\$397.033	\$104.691	(\$457.829)
2025	\$0.000	\$0.000	\$0.000	(\$301.106)	(\$147.855)	(\$50.253)	(\$210.563)	\$0.000	\$0.000	\$301.106	\$408.670	\$107.564	(\$428.397)
2026	\$0.000	\$0.000	\$0.000	(\$309.801)	(\$149.831)	(\$51.107)	(\$219.514)	\$0.000	\$0.000	\$309.801	\$420.451	\$110.650	(\$400.476)
2027	\$0.000	\$0.000	\$0.000	(\$321.675)	(\$151.840)	(\$51.976)	(\$227.610)	\$0.000	\$0.000	\$321.675	\$431.426	\$109.751	(\$374.936)
2028	\$0.000	\$0.000	\$0.000	(\$332.415)	(\$153.884)	(\$52.859)	(\$236.960)	\$0.000	\$0.000	\$332.415	\$443.703	\$111.288	(\$351.054)
2029	\$0.000	\$0.000	\$0.000	(\$344.885)	(\$155.962)	(\$53.758)	(\$240.337)	\$0.000	\$0.000	\$344.885	\$450.057	\$105.173	(\$330.240)
2030	\$0.000	\$0.000	\$0.000	(\$356.708)	(\$158.076)	(\$54.672)	(\$246.073)	\$0.000	\$0.000	\$356.708	\$458.820	\$102.113	(\$311.604)
2031	\$0.000	\$0.000	\$0.000	(\$367.441)	(\$160.225)	(\$55.601)	(\$251.842)	\$0.000	\$0.000	\$367.441	\$467.668	\$100.227	(\$294.736)
2032	\$0.000	\$0.000	\$0.000	(\$378.322)	(\$162.411)	(\$56.546)	(\$258.316)	\$0.000	\$0.000	\$378.322	\$477.274	\$98.952	(\$279.378)
2033	\$0.000	\$0.000	\$0.000	(\$389.356)	(\$164.634)	(\$57.508)	(\$264.986)	\$0.000	\$0.000	\$389.356	\$487.128	\$97.773	(\$265.383)
2034	\$0.000	\$0.000	\$0.000	(\$400.547)	(\$166.896)	(\$58.485)	(\$271.549)	\$0.000	\$0.000	\$400.547	\$496.930	\$96.383	(\$252.661)
2035	\$0.000	\$0.000	\$0.000	(\$411.902)	(\$169.195)	(\$59.480)	(\$277.886)	\$0.000	\$0.000	\$411.902	\$506.561	\$94.659	(\$241.139)
2036	\$0.000	\$0.000	\$0.000	(\$423.425)	(\$171.534)	(\$60.491)	(\$284.341)	\$0.000	\$0.000	\$423.425	\$516.365	\$92.940	(\$230.706)
2037	\$0.000	\$0.000	\$0.000	(\$435.123)	(\$173.912)	(\$61.519)	(\$290.870)	\$0.000	\$0.000	\$435.123	\$526.301	\$91.178	(\$221.267)
<hr/>													
<b>Nominal</b>		\$352.185	\$1,107.500	(\$7,283.778)	(\$3,386.533)	(\$1,187.266)	(\$5,110.343)			\$8,743.463	\$9,684.143	\$940.680	
<b>NPV</b>		\$226.085	\$710.958	(\$1,930.192)	(\$923.177)	(\$334.510)	(\$1,388.281)	\$0.000	\$0.000	\$2,867.235	\$2,645.968	(\$221.267)	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		0.92											

Run Date:

25-Mar-10

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Comm. HPWH

## 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	-10.00	kW/Cus
(2) Change in Peak kW per Customer at generator	-13.13	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(44,974)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(41,241)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-11.80	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	26	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$9,586.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$15,000.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$7,500.00	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.61%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.75%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	6.28%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
(5) Average Annual Change in Monthly Billing kW	-10	kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$889	\$817	\$889
NPV Costs (\$000s)	\$280	\$178	\$919
NPV Net Benefits (\$000s)	\$610	\$639	(\$30)
Benefit:Cost Ratio	3.179	4.599	0.968

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$10	\$15	\$0	\$0	\$0	\$0	(\$4)	\$25	\$4	(\$21)	(\$19)
2011	\$0	\$10	\$16	\$0	\$0	\$0	(\$1)	(\$8)	\$25	\$9	(\$16)	(\$32)
2012	\$0	\$10	\$16	\$0	\$0	\$0	(\$2)	(\$12)	\$25	\$14	(\$11)	(\$41)
2013	\$0	\$10	\$16	\$0	\$0	\$0	(\$3)	(\$18)	\$26	\$20	(\$5)	(\$45)
2014	\$0	\$10	\$16	\$0	\$0	(\$10)	(\$3)	(\$19)	\$26	\$32	\$6	(\$41)
2015	\$0	\$19	\$33	\$0	\$0	(\$14)	(\$5)	(\$31)	\$52	\$50	(\$3)	(\$43)
2016	\$0	\$19	\$34	\$0	\$0	(\$18)	(\$6)	(\$41)	\$53	\$66	\$13	(\$35)
2017	\$0	\$29	\$51	\$0	\$0	(\$25)	(\$8)	(\$56)	\$80	\$89	\$9	(\$30)
2018	\$0	\$29	\$52	\$0	\$0	(\$32)	(\$10)	(\$72)	\$81	\$114	\$33	(\$14)
2019	\$0	\$29	\$53	\$0	\$0	(\$38)	(\$13)	(\$90)	\$82	\$141	\$59	\$12
2020	\$0	\$0	\$0	\$0	\$0	(\$39)	(\$13)	(\$89)	\$0	\$141	\$141	\$70
2021	\$0	\$0	\$0	\$0	\$0	(\$39)	(\$13)	(\$89)	\$0	\$141	\$141	\$123
2022	\$0	\$0	\$0	\$0	\$0	(\$40)	(\$13)	(\$92)	\$0	\$145	\$145	\$174
2023	\$0	\$0	\$0	\$0	\$0	(\$40)	(\$14)	(\$95)	\$0	\$149	\$149	\$222
2024	\$0	\$0	\$0	\$0	\$0	(\$41)	(\$14)	(\$99)	\$0	\$153	\$153	\$267
2025	\$0	\$0	\$0	\$0	\$0	(\$41)	(\$14)	(\$103)	\$0	\$159	\$159	\$311
2026	\$0	\$0	\$0	\$0	\$0	(\$42)	(\$14)	(\$107)	\$0	\$164	\$164	\$352
2027	\$0	\$0	\$0	\$0	\$0	(\$43)	(\$15)	(\$111)	\$0	\$168	\$168	\$391
2028	\$0	\$0	\$0	\$0	\$0	(\$43)	(\$15)	(\$116)	\$0	\$174	\$174	\$428
2029	\$0	\$0	\$0	\$0	\$0	(\$44)	(\$15)	(\$118)	\$0	\$176	\$176	\$463
2030	\$0	\$0	\$0	\$0	\$0	(\$44)	(\$15)	(\$120)	\$0	\$180	\$180	\$496
2031	\$0	\$0	\$0	\$0	\$0	(\$45)	(\$16)	(\$123)	\$0	\$184	\$184	\$527
2032	\$0	\$0	\$0	\$0	\$0	(\$46)	(\$16)	(\$126)	\$0	\$188	\$188	\$556
2033	\$0	\$0	\$0	\$0	\$0	(\$46)	(\$16)	(\$130)	\$0	\$192	\$192	\$584
2034	\$0	\$0	\$0	\$0	\$0	(\$47)	(\$16)	(\$133)	\$0	\$196	\$196	\$610
<b>Nominal</b>		\$173	\$303			(\$777)	(\$270)	(\$2,004)	\$476	\$3,051	\$2,575	
<b>NPV</b>		\$102	\$178	\$0	\$0	(\$226)	(\$91)	(\$583)	\$280	\$889	\$610	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		3.18										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$15	\$0	\$0	\$0	(\$4)	\$0	\$8	\$15	\$12	(\$3)	(\$3)
2011	\$16	\$0	\$0	\$0	(\$9)	\$0	\$8	\$16	\$16	\$1	(\$2)
2012	\$16	\$0	\$0	\$0	(\$13)	\$0	\$8	\$16	\$21	\$5	\$1
2013	\$16	\$0	\$0	\$0	(\$18)	\$0	\$8	\$16	\$25	\$9	\$8
2014	\$16	\$0	\$0	\$0	(\$23)	\$0	\$8	\$16	\$30	\$14	\$17
2015	\$33	\$0	\$0	\$0	(\$38)	\$0	\$15	\$33	\$53	\$20	\$29
2016	\$34	\$0	\$0	\$0	(\$51)	\$0	\$15	\$34	\$66	\$32	\$47
2017	\$51	\$0	\$0	\$0	(\$67)	\$0	\$23	\$51	\$90	\$38	\$67
2018	\$52	\$0	\$0	\$0	(\$87)	\$0	\$23	\$52	\$109	\$57	\$94
2019	\$53	\$0	\$0	\$0	(\$107)	\$0	\$23	\$53	\$129	\$76	\$128
2020	\$0	\$0	\$0	\$0	(\$112)	\$0	\$0	\$0	\$112	\$112	\$174
2021	\$0	\$0	\$0	\$0	(\$116)	\$0	\$0	\$0	\$116	\$116	\$218
2022	\$0	\$0	\$0	\$0	(\$121)	\$0	\$0	\$0	\$121	\$121	\$260
2023	\$0	\$0	\$0	\$0	(\$126)	\$0	\$0	\$0	\$126	\$126	\$301
2024	\$0	\$0	\$0	\$0	(\$130)	\$0	\$0	\$0	\$130	\$130	\$340
2025	\$0	\$0	\$0	\$0	(\$134)	\$0	\$0	\$0	\$134	\$134	\$376
2026	\$0	\$0	\$0	\$0	(\$138)	\$0	\$0	\$0	\$138	\$138	\$411
2027	\$0	\$0	\$0	\$0	(\$144)	\$0	\$0	\$0	\$144	\$144	\$445
2028	\$0	\$0	\$0	\$0	(\$149)	\$0	\$0	\$0	\$149	\$149	\$477
2029	\$0	\$0	\$0	\$0	(\$155)	\$0	\$0	\$0	\$155	\$155	\$507
2030	\$0	\$0	\$0	\$0	(\$160)	\$0	\$0	\$0	\$160	\$160	\$536
2031	\$0	\$0	\$0	\$0	(\$165)	\$0	\$0	\$0	\$165	\$165	\$564
2032	\$0	\$0	\$0	\$0	(\$170)	\$0	\$0	\$0	\$170	\$170	\$591
2033	\$0	\$0	\$0	\$0	(\$174)	\$0	\$0	\$0	\$174	\$174	\$615
2034	\$0	\$0	\$0	\$0	(\$179)	\$0	\$0	\$0	\$179	\$179	\$639
Nominal	\$303				(\$2,589)		\$135	\$303	\$2,724	\$2,421	
NPV	\$164	\$0	\$0	\$0	(\$737)	\$0	\$80	\$178	\$917	\$639	
Discount Rate =	8.44%										
Benefit/Cost Ratio =	4.60										

## 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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$9,586	\$7,500	(\$4,436)	\$0.000	\$0.000	(\$4,026)	\$0.000	\$0.000	\$21,522	\$4,026	(\$17,496)	(\$16,135)
2011	\$0.000	\$9,586	\$7,500	(\$8,742)	\$0.000	(\$1,236)	(\$8,243)	\$0.000	\$0.000	\$25,828	\$9,478	(\$16,350)	(\$30,039)
2012	\$0.000	\$9,586	\$7,500	(\$13,020)	\$0.000	(\$1,885)	(\$12,496)	\$0.000	\$0.000	\$30,106	\$14,381	(\$15,725)	(\$42,372)
2013	\$0.000	\$9,586	\$7,500	(\$17,583)	\$0.000	(\$2,556)	(\$17,786)	\$0.000	\$0.000	\$34,669	\$20,342	(\$14,326)	(\$52,733)
2014	\$0.000	\$9,586	\$7,500	(\$22,735)	(\$9,978)	(\$3,250)	(\$18,671)	\$0.000	\$0.000	\$39,821	\$31,899	(\$7,922)	(\$58,017)
2015	\$0.000	\$19,172	\$15,000	(\$37,794)	(\$14,148)	(\$4,627)	(\$30,972)	\$0.000	\$0.000	\$71,966	\$49,746	(\$22,220)	(\$71,685)
2016	\$0.000	\$19,172	\$15,000	(\$50,520)	(\$18,424)	(\$6,050)	(\$41,421)	\$0.000	\$0.000	\$84,692	\$65,895	(\$18,797)	(\$82,347)
2017	\$0.000	\$28,758	\$22,500	(\$67,108)	(\$24,882)	(\$8,204)	(\$56,287)	\$0.000	\$0.000	\$118,366	\$89,373	(\$28,994)	(\$97,513)
2018	\$0.000	\$28,758	\$22,500	(\$86,546)	(\$31,506)	(\$10,429)	(\$72,407)	\$0.000	\$0.000	\$137,804	\$114,341	(\$23,462)	(\$108,831)
2019	\$0.000	\$28,758	\$22,500	(\$106,968)	(\$38,299)	(\$12,727)	(\$89,908)	\$0.000	\$0.000	\$158,226	\$140,934	(\$17,292)	(\$116,524)
2020	\$0.000	\$0.000	\$0.000	(\$111,720)	(\$38,799)	(\$12,944)	(\$89,170)	\$0.000	\$0.000	\$111,720	\$140,913	\$29,193	(\$104,548)
2021	\$0.000	\$0.000	\$0.000	(\$116,447)	(\$39,308)	(\$13,164)	(\$88,994)	\$0.000	\$0.000	\$116,447	\$141,466	\$25,019	(\$95,082)
2022	\$0.000	\$0.000	\$0.000	(\$121,084)	(\$39,826)	(\$13,387)	(\$91,763)	\$0.000	\$0.000	\$121,084	\$144,976	\$23,892	(\$86,747)
2023	\$0.000	\$0.000	\$0.000	(\$125,521)	(\$40,352)	(\$13,615)	(\$95,104)	\$0.000	\$0.000	\$125,521	\$149,071	\$23,550	(\$79,170)
2024	\$0.000	\$0.000	\$0.000	(\$130,462)	(\$40,888)	(\$13,846)	(\$98,687)	\$0.000	\$0.000	\$130,462	\$153,421	\$22,960	(\$72,357)
2025	\$0.000	\$0.000	\$0.000	(\$134,441)	(\$41,432)	(\$14,082)	(\$103,019)	\$0.000	\$0.000	\$134,441	\$158,533	\$24,092	(\$65,765)
2026	\$0.000	\$0.000	\$0.000	(\$138,379)	(\$41,986)	(\$14,321)	(\$107,399)	\$0.000	\$0.000	\$138,379	\$163,705	\$25,327	(\$59,374)
2027	\$0.000	\$0.000	\$0.000	(\$143,864)	(\$42,549)	(\$14,565)	(\$111,360)	\$0.000	\$0.000	\$143,864	\$168,473	\$24,609	(\$53,647)
2028	\$0.000	\$0.000	\$0.000	(\$148,786)	(\$43,121)	(\$14,812)	(\$115,934)	\$0.000	\$0.000	\$148,786	\$173,868	\$25,082	(\$48,265)
2029	\$0.000	\$0.000	\$0.000	(\$154,547)	(\$43,704)	(\$15,064)	(\$117,587)	\$0.000	\$0.000	\$154,547	\$176,355	\$21,808	(\$43,949)
2030	\$0.000	\$0.000	\$0.000	(\$159,983)	(\$44,296)	(\$15,320)	(\$120,393)	\$0.000	\$0.000	\$159,983	\$180,009	\$20,026	(\$40,294)
2031	\$0.000	\$0.000	\$0.000	(\$164,747)	(\$44,898)	(\$15,581)	(\$123,215)	\$0.000	\$0.000	\$164,747	\$183,695	\$18,947	(\$37,105)
2032	\$0.000	\$0.000	\$0.000	(\$169,567)	(\$45,511)	(\$15,846)	(\$126,383)	\$0.000	\$0.000	\$169,567	\$187,740	\$18,172	(\$34,285)
2033	\$0.000	\$0.000	\$0.000	(\$174,445)	(\$46,134)	(\$16,115)	(\$129,646)	\$0.000	\$0.000	\$174,445	\$191,895	\$17,450	(\$31,787)
2034	\$0.000	\$0.000	\$0.000	(\$179,383)	(\$46,768)	(\$16,389)	(\$132,858)	\$0.000	\$0.000	\$179,383	\$196,014	\$16,631	(\$29,592)
Nominal		\$172,548	\$135,000	(\$2,588,830)	(\$776,809)	(\$270,013)	(\$2,003,730)			\$2,896,378	\$3,050,552	\$154,173	
NPV		\$102,214	\$79,971	(\$736,775)	(\$226,074)	(\$80,620)	(\$582,673)	\$0.000	\$0.000	\$918,960	\$889,368	(\$29,592)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.97											

Run Date:

25-Mar-10

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Filename:

Ceiling Insulation

## 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	0.00	kW/Cus
(2) Change in Peak kW per Customer at generator	0.00	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(1)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	0.00	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	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$0.20	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$0.40	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$0.15	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.62%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.69%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.83%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
* (5) Average Annual Change in Monthly Billing kW	-0.00052 kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$1,669	\$1,186	\$1,669
NPV Costs (\$000s)	\$367	\$254	\$1,300
NPV Net Benefits (\$000s)	\$1,302	\$933	\$369
Benefit:Cost Ratio	4.544	4.674	1.284

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$0	\$6	\$12	\$0	\$0	\$0	(\$1)	(\$3)	\$18	\$4	(\$15)	(\$13)
2012	\$0	\$11	\$23	\$0	\$0	\$0	(\$3)	(\$7)	\$34	\$10	(\$24)	(\$31)
2013	\$0	\$16	\$34	\$0	\$0	\$0	(\$6)	(\$15)	\$51	\$21	(\$30)	(\$53)
2014	\$0	\$20	\$44	\$0	\$0	(\$28)	(\$9)	(\$21)	\$65	\$58	(\$7)	(\$58)
2015	\$0	\$24	\$53	\$0	\$0	(\$41)	(\$13)	(\$36)	\$77	\$90	\$13	(\$50)
2016	\$0	\$27	\$60	\$0	\$0	(\$56)	(\$18)	(\$50)	\$87	\$124	\$37	(\$29)
2017	\$0	\$29	\$67	\$0	\$0	(\$72)	(\$24)	(\$66)	\$96	\$161	\$65	\$5
2018	\$0	\$31	\$72	\$0	\$0	(\$90)	(\$30)	(\$83)	\$103	\$203	\$100	\$53
2019	\$0	\$32	\$76	\$0	\$0	(\$109)	(\$36)	(\$103)	\$109	\$248	\$139	\$115
2020	\$0	\$0	\$0	\$0	\$0	(\$110)	(\$37)	(\$102)	\$0	\$249	\$249	\$217
2021	\$0	\$0	\$0	\$0	\$0	(\$112)	(\$37)	(\$102)	\$0	\$251	\$251	\$312
2022	\$0	\$0	\$0	\$0	\$0	(\$113)	(\$38)	(\$105)	\$0	\$256	\$256	\$402
2023	\$0	\$0	\$0	\$0	\$0	(\$115)	(\$39)	(\$109)	\$0	\$262	\$262	\$486
2024	\$0	\$0	\$0	\$0	\$0	(\$116)	(\$39)	(\$113)	\$0	\$268	\$268	\$566
2025	\$0	\$0	\$0	\$0	\$0	(\$118)	(\$40)	(\$118)	\$0	\$276	\$276	\$641
2026	\$0	\$0	\$0	\$0	\$0	(\$119)	(\$41)	(\$123)	\$0	\$283	\$283	\$712
2027	\$0	\$0	\$0	\$0	\$0	(\$121)	(\$41)	(\$127)	\$0	\$290	\$290	\$790
2028	\$0	\$0	\$0	\$0	\$0	(\$123)	(\$42)	(\$133)	\$0	\$297	\$297	\$844
2029	\$0	\$0	\$0	\$0	\$0	(\$124)	(\$43)	(\$134)	\$0	\$301	\$301	\$903
2030	\$0	\$0	\$0	\$0	\$0	(\$126)	(\$44)	(\$138)	\$0	\$307	\$307	\$959
2031	\$0	\$0	\$0	\$0	\$0	(\$128)	(\$44)	(\$141)	\$0	\$313	\$313	\$1,012
2032	\$0	\$0	\$0	\$0	\$0	(\$129)	(\$45)	(\$145)	\$0	\$319	\$319	\$1,061
2033	\$0	\$0	\$0	\$0	\$0	(\$131)	(\$46)	(\$148)	\$0	\$325	\$325	\$1,108
2034	\$0	\$0	\$0	\$0	\$0	(\$133)	(\$47)	(\$152)	\$0	\$331	\$331	\$1,152
2035	\$0	\$0	\$0	\$0	\$0	(\$135)	(\$47)	(\$155)	\$0	\$338	\$338	\$1,193
2036	\$0	\$0	\$0	\$0	\$0	(\$137)	(\$48)	(\$159)	\$0	\$344	\$344	\$1,231
2037	\$0	\$0	\$0	\$0	\$0	(\$138)	(\$49)	(\$163)	\$0	\$350	\$350	\$1,268
2038	\$0	\$0	\$0	\$0	\$0	(\$140)	(\$50)	(\$166)	\$0	\$357	\$357	\$1,302
<b>Nominal</b>		\$197	\$443			(\$2,762)	(\$956)	(\$2,916)	\$640	\$6,634	\$5,994	
<b>NPV</b>		\$114	\$254	\$0	\$0	(\$704)	(\$245)	(\$719)	\$367	\$1,669	\$1,302	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		4.54										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$12	\$0	\$0	\$0	(\$3)	\$0	\$4	\$12	\$9	(\$4)	(\$4)
2012	\$23	\$0	\$0	\$0	(\$10)	\$0	\$8	\$23	\$18	(\$5)	(\$9)
2013	\$34	\$0	\$0	\$0	(\$19)	\$0	\$12	\$34	\$31	(\$3)	(\$10)
2014	\$44	\$0	\$0	\$0	(\$32)	\$0	\$15	\$44	\$47	\$3	(\$8)
2015	\$53	\$0	\$0	\$0	(\$53)	\$0	\$18	\$53	\$71	\$18	\$3
2016	\$60	\$0	\$0	\$0	(\$74)	\$0	\$20	\$60	\$94	\$34	\$22
2017	\$67	\$0	\$0	\$0	(\$94)	\$0	\$22	\$67	\$116	\$50	\$48
2018	\$72	\$0	\$0	\$0	(\$120)	\$0	\$23	\$72	\$143	\$71	\$82
2019	\$76	\$0	\$0	\$0	(\$148)	\$0	\$24	\$76	\$172	\$95	\$125
2020	\$0	\$0	\$0	\$0	(\$154)	\$0	\$0	\$0	\$154	\$154	\$188
2021	\$0	\$0	\$0	\$0	(\$160)	\$0	\$0	\$0	\$160	\$160	\$248
2022	\$0	\$0	\$0	\$0	(\$166)	\$0	\$0	\$0	\$166	\$166	\$306
2023	\$0	\$0	\$0	\$0	(\$171)	\$0	\$0	\$0	\$171	\$171	\$361
2024	\$0	\$0	\$0	\$0	(\$178)	\$0	\$0	\$0	\$178	\$178	\$414
2025	\$0	\$0	\$0	\$0	(\$183)	\$0	\$0	\$0	\$183	\$183	\$464
2026	\$0	\$0	\$0	\$0	(\$188)	\$0	\$0	\$0	\$188	\$188	\$512
2027	\$0	\$0	\$0	\$0	(\$195)	\$0	\$0	\$0	\$195	\$195	\$557
2028	\$0	\$0	\$0	\$0	(\$202)	\$0	\$0	\$0	\$202	\$202	\$600
2029	\$0	\$0	\$0	\$0	(\$209)	\$0	\$0	\$0	\$209	\$209	\$642
2030	\$0	\$0	\$0	\$0	(\$216)	\$0	\$0	\$0	\$216	\$216	\$681
2031	\$0	\$0	\$0	\$0	(\$223)	\$0	\$0	\$0	\$223	\$223	\$719
2032	\$0	\$0	\$0	\$0	(\$229)	\$0	\$0	\$0	\$229	\$229	\$754
2033	\$0	\$0	\$0	\$0	(\$236)	\$0	\$0	\$0	\$236	\$236	\$788
2034	\$0	\$0	\$0	\$0	(\$243)	\$0	\$0	\$0	\$243	\$243	\$820
2035	\$0	\$0	\$0	\$0	(\$250)	\$0	\$0	\$0	\$250	\$250	\$850
2036	\$0	\$0	\$0	\$0	(\$257)	\$0	\$0	\$0	\$257	\$257	\$879
2037	\$0	\$0	\$0	\$0	(\$264)	\$0	\$0	\$0	\$264	\$264	\$907
2038	\$0	\$0	\$0	\$0	(\$272)	\$0	\$0	\$0	\$272	\$272	\$933
<b>Nominal</b>	\$443				(\$4,549)		\$148	\$443	\$4,696	\$4,253	
<b>NPV</b>	\$234	\$0	\$0	\$0	(\$1,101)	\$0	\$85	\$254	\$1,186	\$933	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		4.67									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2011	\$0.000	\$5,993	\$4,495	(\$3,420)	\$0.000	(\$0,963)	(\$2,584)	\$0.000	\$0.000	\$13,908	\$3,547	(\$10,361)	(\$8,812)
2012	\$0.000	\$11,026	\$8,270	(\$9,672)	\$0.000	(\$2,780)	(\$7,417)	\$0.000	\$0.000	\$28,968	\$10,197	(\$18,770)	(\$23,533)
2013	\$0.000	\$16,100	\$12,075	(\$19,163)	\$0.000	(\$5,503)	(\$15,408)	\$0.000	\$0.000	\$47,339	\$20,911	(\$26,427)	(\$42,646)
2014	\$0.000	\$20,392	\$15,294	(\$31,910)	(\$27,764)	(\$9,042)	(\$20,907)	\$0.000	\$0.000	\$67,595	\$57,713	(\$9,882)	(\$49,237)
2015	\$0.000	\$23,959	\$17,969	(\$53,343)	(\$40,709)	(\$13,313)	(\$35,864)	\$0.000	\$0.000	\$95,271	\$89,886	(\$5,385)	(\$52,549)
2016	\$0.000	\$26,864	\$20,148	(\$74,065)	(\$55,531)	(\$18,235)	(\$50,241)	\$0.000	\$0.000	\$121,077	\$124,006	\$2,929	(\$50,888)
2017	\$0.000	\$29,173	\$21,879	(\$94,500)	(\$71,975)	(\$23,730)	(\$65,521)	\$0.000	\$0.000	\$145,552	\$161,226	\$15,674	(\$42,689)
2018	\$0.000	\$30,950	\$23,213	(\$119,955)	(\$89,810)	(\$29,728)	(\$83,060)	\$0.000	\$0.000	\$174,119	\$202,598	\$28,479	(\$28,951)
2019	\$0.000	\$32,261	\$24,196	(\$147,654)	(\$108,826)	(\$36,164)	(\$102,806)	\$0.000	\$0.000	\$204,110	\$247,796	\$43,686	(\$9,517)
2020	\$0.000	\$0.000	\$0.000	(\$153,710)	(\$110,248)	(\$36,779)	(\$101,963)	\$0.000	\$0.000	\$153,710	\$248,989	\$95,280	\$29,572
2021	\$0.000	\$0.000	\$0.000	(\$159,753)	(\$111,694)	(\$37,404)	(\$101,762)	\$0.000	\$0.000	\$159,753	\$250,860	\$91,106	\$64,040
2022	\$0.000	\$0.000	\$0.000	(\$165,709)	(\$113,164)	(\$38,040)	(\$104,927)	\$0.000	\$0.000	\$165,709	\$256,132	\$90,423	\$95,587
2023	\$0.000	\$0.000	\$0.000	(\$171,452)	(\$114,660)	(\$38,687)	(\$108,748)	\$0.000	\$0.000	\$171,452	\$262,095	\$90,642	\$124,751
2024	\$0.000	\$0.000	\$0.000	(\$177,787)	(\$116,181)	(\$39,344)	(\$112,845)	\$0.000	\$0.000	\$177,787	\$268,371	\$90,584	\$151,628
2025	\$0.000	\$0.000	\$0.000	(\$183,040)	(\$117,728)	(\$40,013)	(\$117,799)	\$0.000	\$0.000	\$183,040	\$275,540	\$92,500	\$176,939
2026	\$0.000	\$0.000	\$0.000	(\$188,263)	(\$119,301)	(\$40,693)	(\$122,806)	\$0.000	\$0.000	\$188,263	\$282,801	\$94,538	\$200,794
2027	\$0.000	\$0.000	\$0.000	(\$195,273)	(\$120,901)	(\$41,385)	(\$127,336)	\$0.000	\$0.000	\$195,273	\$289,623	\$94,349	\$222,750
2028	\$0.000	\$0.000	\$0.000	(\$201,658)	(\$122,529)	(\$42,089)	(\$132,567)	\$0.000	\$0.000	\$201,658	\$297,184	\$95,526	\$243,250
2029	\$0.000	\$0.000	\$0.000	(\$209,019)	(\$124,183)	(\$42,804)	(\$134,456)	\$0.000	\$0.000	\$209,019	\$301,444	\$92,424	\$261,540
2030	\$0.000	\$0.000	\$0.000	(\$216,029)	(\$125,866)	(\$43,532)	(\$137,665)	\$0.000	\$0.000	\$216,029	\$307,063	\$91,034	\$278,155
2031	\$0.000	\$0.000	\$0.000	(\$222,585)	(\$127,578)	(\$44,272)	(\$140,892)	\$0.000	\$0.000	\$222,585	\$312,742	\$90,157	\$293,328
2032	\$0.000	\$0.000	\$0.000	(\$229,243)	(\$129,319)	(\$45,025)	(\$144,514)	\$0.000	\$0.000	\$229,243	\$318,858	\$89,615	\$307,237
2033	\$0.000	\$0.000	\$0.000	(\$236,005)	(\$131,089)	(\$45,790)	(\$148,246)	\$0.000	\$0.000	\$236,005	\$325,125	\$89,120	\$319,993
2034	\$0.000	\$0.000	\$0.000	(\$242,876)	(\$132,889)	(\$46,569)	(\$151,918)	\$0.000	\$0.000	\$242,876	\$331,376	\$88,500	\$331,675
2035	\$0.000	\$0.000	\$0.000	(\$249,858)	(\$134,720)	(\$47,360)	(\$155,463)	\$0.000	\$0.000	\$249,858	\$337,543	\$87,685	\$342,348
2036	\$0.000	\$0.000	\$0.000	(\$256,955)	(\$136,582)	(\$48,165)	(\$159,074)	\$0.000	\$0.000	\$256,955	\$343,821	\$86,866	\$352,099
2037	\$0.000	\$0.000	\$0.000	(\$264,172)	(\$138,476)	(\$48,984)	(\$162,727)	\$0.000	\$0.000	\$264,172	\$350,187	\$86,015	\$361,004
2038	\$0.000	\$0.000	\$0.000	(\$271,512)	(\$140,402)	(\$49,817)	(\$166,309)	\$0.000	\$0.000	\$271,512	\$356,528	\$85,016	\$369,120
<hr/>													
Nominal		\$196,718	\$147,538	(\$4,548,584)	(\$2,762,126)	(\$956,211)	(\$2,915,826)			\$4,892,840	\$6,634,163	\$1,741,323	
NPV		\$113,506	\$85,129	(\$1,101,177)	(\$704,384)	(\$245,451)	(\$719,098)	\$0.000	\$0.000	\$1,299,812	\$1,668,932	\$369,120	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	1.28												

Run Date:

25-Mar-10

05:56 PM

Filename:

Com. Window Film

## 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	0.00	kW/Cus
(2) Change in Peak kW per Customer at generator	0.00	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(12)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(11)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	0.00	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$3.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$5.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$2.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.82%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
* (5) Average Annual Change in Monthly Billing kW	-0.0033 kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$4,105	\$3,580	\$4,105
NPV Costs (\$000s)	\$1,715	\$1,112	\$4,183
NPV Net Benefits (\$000s)	\$2,390	\$2,468	(\$78)
Benefit:Cost Ratio	2.394	3.219	0.981

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$26	\$44	\$0	\$0	\$0	\$0	(\$9)	\$70	\$9	(\$60)	(\$56)
2011	\$0	\$49	\$85	\$0	\$0	\$0	(\$5)	(\$28)	\$134	\$33	(\$101)	(\$141)
2012	\$0	\$73	\$128	\$0	\$0	\$0	(\$10)	(\$55)	\$201	\$65	(\$135)	(\$247)
2013	\$0	\$92	\$165	\$0	\$0	\$0	(\$17)	(\$96)	\$257	\$113	(\$144)	(\$352)
2014	\$0	\$108	\$195	\$0	\$0	(\$76)	(\$25)	(\$116)	\$303	\$218	(\$85)	(\$408)
2015	\$0	\$119	\$220	\$0	\$0	(\$104)	(\$34)	(\$185)	\$339	\$323	(\$16)	(\$418)
2016	\$0	\$128	\$239	\$0	\$0	(\$134)	(\$44)	(\$245)	\$367	\$423	\$57	(\$386)
2017	\$0	\$133	\$253	\$0	\$0	(\$166)	(\$55)	(\$306)	\$386	\$527	\$140	(\$313)
2018	\$0	\$136	\$263	\$0	\$0	(\$199)	(\$66)	(\$374)	\$399	\$639	\$240	(\$197)
2019	\$0	\$137	\$270	\$0	\$0	(\$234)	(\$78)	(\$448)	\$406	\$760	\$354	(\$40)
2020	\$0	\$0	\$0	\$0	\$0	(\$237)	(\$79)	(\$444)	\$0	\$760	\$760	\$272
2021	\$0	\$0	\$0	\$0	\$0	(\$240)	(\$80)	(\$443)	\$0	\$764	\$764	\$561
2022	\$0	\$0	\$0	\$0	\$0	(\$243)	(\$82)	(\$457)	\$0	\$782	\$782	\$834
2023	\$0	\$0	\$0	\$0	\$0	(\$247)	(\$83)	(\$474)	\$0	\$804	\$804	\$1,093
2024	\$0	\$0	\$0	\$0	\$0	(\$250)	(\$85)	(\$492)	\$0	\$826	\$826	\$1,338
2025	\$0	\$0	\$0	\$0	\$0	(\$253)	(\$86)	(\$513)	\$0	\$853	\$853	\$1,571
2026	\$0	\$0	\$0	\$0	\$0	(\$257)	(\$87)	(\$535)	\$0	\$879	\$879	\$1,793
2027	\$0	\$0	\$0	\$0	\$0	(\$260)	(\$89)	(\$555)	\$0	\$904	\$904	\$2,003
2028	\$0	\$0	\$0	\$0	\$0	(\$263)	(\$90)	(\$578)	\$0	\$932	\$932	\$2,203
2029	\$0	\$0	\$0	\$0	\$0	(\$267)	(\$92)	(\$596)	\$0	\$945	\$945	\$2,390
Nominal		\$1,000	\$1,861			(\$3,430)	(\$1,188)	(\$6,941)	\$2,861	\$11,559	\$8,698	
NPV		\$603	\$1,112	\$0	\$0	(\$1,208)	(\$429)	(\$2,468)	\$1,715	\$4,105	\$2,390	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		2.39										



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

[illegible]

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$25.860	\$17.240	(\$10.678)	\$0.000	\$0.000	(\$9.341)	\$0.000	\$0.000	\$53.778	\$9.341	(\$44.437)	(\$40.980)
2011	\$0.000	\$49.059	\$32.706	(\$30.489)	\$0.000	(\$5.092)	(\$27.702)	\$0.000	\$0.000	\$112.254	\$32.794	(\$79.461)	(\$108.557)
2012	\$0.000	\$72.831	\$48.554	(\$59.732)	\$0.000	(\$10.213)	(\$55.213)	\$0.000	\$0.000	\$181.117	\$65.426	(\$115.692)	(\$199.291)
2013	\$0.000	\$92.295	\$61.530	(\$98.384)	\$0.000	(\$16.874)	(\$95.761)	\$0.000	\$0.000	\$252.209	\$112.635	(\$139.574)	(\$300.238)
2014	\$0.000	\$107.655	\$71.770	(\$147.314)	(\$76.323)	(\$24.857)	(\$116.488)	\$0.000	\$0.000	\$326.739	\$217.669	(\$109.070)	(\$372.985)
2015	\$0.000	\$119.256	\$79.504	(\$233.729)	(\$103.814)	(\$33.951)	(\$185.361)	\$0.000	\$0.000	\$432.489	\$323.125	(\$109.364)	(\$440.253)
2016	\$0.000	\$127.509	\$85.006	(\$308.891)	(\$133.861)	(\$43.956)	(\$245.460)	\$0.000	\$0.000	\$521.406	\$423.277	(\$98.129)	(\$495.915)
2017	\$0.000	\$132.867	\$88.578	(\$376.573)	(\$165.894)	(\$54.695)	(\$306.078)	\$0.000	\$0.000	\$598.018	\$526.667	(\$71.351)	(\$533.238)
2018	\$0.000	\$135.777	\$90.518	(\$460.946)	(\$199.415)	(\$66.008)	(\$373.789)	\$0.000	\$0.000	\$687.241	\$639.213	(\$48.028)	(\$556.407)
2019	\$0.000	\$136.665	\$91.110	(\$549.849)	(\$233.997)	(\$77.760)	(\$448.022)	\$0.000	\$0.000	\$777.624	\$759.779	(\$17.845)	(\$564.345)
2020	\$0.000	\$0.000	\$0.000	(\$573.939)	(\$237.054)	(\$79.082)	(\$444.346)	\$0.000	\$0.000	\$573.939	\$760.482	\$186.542	(\$487.817)
2021	\$0.000	\$0.000	\$0.000	(\$597.920)	(\$240.164)	(\$80.426)	(\$443.469)	\$0.000	\$0.000	\$597.920	\$764.059	\$166.139	(\$424.962)
2022	\$0.000	\$0.000	\$0.000	(\$621.461)	(\$243.326)	(\$81.794)	(\$457.265)	\$0.000	\$0.000	\$621.461	\$782.384	\$160.923	(\$368.817)
2023	\$0.000	\$0.000	\$0.000	(\$644.016)	(\$246.542)	(\$83.184)	(\$473.914)	\$0.000	\$0.000	\$644.016	\$803.640	\$159.624	(\$317.458)
2024	\$0.000	\$0.000	\$0.000	(\$669.089)	(\$249.812)	(\$84.598)	(\$491.772)	\$0.000	\$0.000	\$669.089	\$826.182	\$157.093	(\$270.847)
2025	\$0.000	\$0.000	\$0.000	(\$689.384)	(\$253.138)	(\$86.036)	(\$513.358)	\$0.000	\$0.000	\$689.384	\$852.533	\$163.149	(\$226.205)
2026	\$0.000	\$0.000	\$0.000	(\$709.484)	(\$256.521)	(\$87.499)	(\$535.181)	\$0.000	\$0.000	\$709.484	\$879.201	\$169.717	(\$183.379)
2027	\$0.000	\$0.000	\$0.000	(\$737.308)	(\$259.961)	(\$88.986)	(\$554.921)	\$0.000	\$0.000	\$737.308	\$903.868	\$166.561	(\$144.620)
2028	\$0.000	\$0.000	\$0.000	(\$762.339)	(\$263.460)	(\$90.499)	(\$577.716)	\$0.000	\$0.000	\$762.339	\$931.675	\$169.336	(\$108.281)
2029	\$0.000	\$0.000	\$0.000	(\$791.559)	(\$267.018)	(\$92.038)	(\$585.950)	\$0.000	\$0.000	\$791.559	\$945.006	\$153.447	(\$77.913)
<hr/>													
Nominal		\$999.774	\$666.516	(\$9,073.085)	(\$3,430.302)	(\$1,187.548)	(\$6,941.105)			\$10,739.375	\$11,558.955	\$819.580	
NPV		\$602.721	\$401.814	(\$3,178.667)	(\$1,208.084)	(\$429.221)	(\$2,467.985)	\$0.000	\$0.000	\$4,183.203	\$4,105.289	(\$77.913)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.98											

Run Date:

25-Mar-10

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Filename:

Interior Lighting

## 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	-1.00	kW/Cus
(2) Change in Peak kW per Customer at generator	-1.31	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(4,777)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(4,380)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-1.00	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$1,018.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$1,000.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$150.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.82%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	-1	kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$4,984	\$4,186	\$4,984
NPV Costs (\$000s)	\$1,425	\$738	\$4,874
NPV Net Benefits (\$000s)	\$3,559	\$3,449	\$110
Benefit:Cost Ratio	3.497	5.674	1.023

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$51	\$51	\$0	\$0	\$0	\$0	(\$21)	\$102	\$21	(\$80)	(\$74)
2011	\$0	\$76	\$78	\$0	\$0	\$0	(\$8)	(\$55)	\$154	\$62	(\$91)	(\$152)
2012	\$0	\$102	\$105	\$0	\$0	\$0	(\$14)	(\$100)	\$207	\$114	(\$93)	(\$225)
2013	\$0	\$153	\$160	\$0	\$0	\$0	(\$24)	(\$177)	\$313	\$201	(\$112)	(\$306)
2014	\$0	\$153	\$163	\$0	\$0	(\$105)	(\$34)	(\$208)	\$316	\$347	\$31	(\$285)
2015	\$0	\$127	\$138	\$0	\$0	(\$131)	(\$43)	(\$305)	\$266	\$480	\$214	(\$154)
2016	\$0	\$102	\$113	\$0	\$0	(\$154)	(\$50)	(\$367)	\$214	\$571	\$356	\$48
2017	\$0	\$102	\$114	\$0	\$0	(\$176)	(\$58)	(\$423)	\$216	\$658	\$442	\$279
2018	\$0	\$102	\$116	\$0	\$0	(\$200)	(\$66)	(\$487)	\$218	\$753	\$534	\$537
2019	\$0	\$102	\$118	\$0	\$0	(\$223)	(\$74)	(\$557)	\$220	\$855	\$634	\$819
2020	\$0	\$0	\$0	\$0	\$0	(\$226)	(\$76)	(\$552)	\$0	\$854	\$854	\$1,170
2021	\$0	\$0	\$0	\$0	\$0	(\$229)	(\$77)	(\$551)	\$0	\$857	\$857	\$1,494
2022	\$0	\$0	\$0	\$0	\$0	(\$232)	(\$78)	(\$568)	\$0	\$879	\$879	\$1,801
2023	\$0	\$0	\$0	\$0	\$0	(\$235)	(\$79)	(\$589)	\$0	\$904	\$904	\$2,092
2024	\$0	\$0	\$0	\$0	\$0	(\$239)	(\$81)	(\$611)	\$0	\$931	\$931	\$2,368
2025	\$0	\$0	\$0	\$0	\$0	(\$242)	(\$82)	(\$638)	\$0	\$962	\$962	\$2,631
2026	\$0	\$0	\$0	\$0	\$0	(\$245)	(\$84)	(\$665)	\$0	\$994	\$994	\$2,882
2027	\$0	\$0	\$0	\$0	\$0	(\$248)	(\$85)	(\$690)	\$0	\$1,023	\$1,023	\$3,120
2028	\$0	\$0	\$0	\$0	\$0	(\$252)	(\$86)	(\$718)	\$0	\$1,056	\$1,056	\$3,347
2029	\$0	\$0	\$0	\$0	\$0	(\$255)	(\$88)	(\$728)	\$0	\$1,071	\$1,071	\$3,559
<b>Nominal</b>		\$1,069	\$1,157			(\$3,392)	(\$1,187)	(\$9,014)	\$2,226	\$13,593	\$11,367	
<b>NPV</b>		\$688	\$738	\$0	\$0	(\$1,223)	(\$444)	(\$3,317)	\$1,425	\$4,984	\$3,559	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		3.50										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$51	\$0	\$0	\$0	(\$23)	\$0	\$8	\$51	\$31	(\$20)	(\$18)
2011	\$78	\$0	\$0	\$0	(\$57)	\$0	\$11	\$78	\$69	(\$9)	(\$26)
2012	\$105	\$0	\$0	\$0	(\$103)	\$0	\$15	\$105	\$118	\$12	(\$16)
2013	\$160	\$0	\$0	\$0	(\$173)	\$0	\$23	\$160	\$196	\$35	\$9
2014	\$163	\$0	\$0	\$0	(\$251)	\$0	\$23	\$163	\$274	\$110	\$83
2015	\$138	\$0	\$0	\$0	(\$370)	\$0	\$19	\$138	\$388	\$250	\$237
2016	\$113	\$0	\$0	\$0	(\$443)	\$0	\$15	\$113	\$458	\$346	\$433
2017	\$114	\$0	\$0	\$0	(\$501)	\$0	\$15	\$114	\$516	\$401	\$643
2018	\$116	\$0	\$0	\$0	(\$577)	\$0	\$15	\$116	\$592	\$476	\$872
2019	\$118	\$0	\$0	\$0	(\$657)	\$0	\$15	\$118	\$672	\$554	\$1,119
2020	\$0	\$0	\$0	\$0	(\$687)	\$0	\$0	\$0	\$687	\$687	\$1,400
2021	\$0	\$0	\$0	\$0	(\$716)	\$0	\$0	\$0	\$716	\$716	\$1,671
2022	\$0	\$0	\$0	\$0	(\$744)	\$0	\$0	\$0	\$744	\$744	\$1,931
2023	\$0	\$0	\$0	\$0	(\$772)	\$0	\$0	\$0	\$772	\$772	\$2,179
2024	\$0	\$0	\$0	\$0	(\$802)	\$0	\$0	\$0	\$802	\$802	\$2,417
2025	\$0	\$0	\$0	\$0	(\$827)	\$0	\$0	\$0	\$827	\$827	\$2,643
2026	\$0	\$0	\$0	\$0	(\$851)	\$0	\$0	\$0	\$851	\$851	\$2,858
2027	\$0	\$0	\$0	\$0	(\$885)	\$0	\$0	\$0	\$885	\$885	\$3,064
2028	\$0	\$0	\$0	\$0	(\$915)	\$0	\$0	\$0	\$915	\$915	\$3,260
2029	\$0	\$0	\$0	\$0	(\$951)	\$0	\$0	\$0	\$951	\$951	\$3,449
<b>Nominal</b>	\$1,157				(\$11,305)		\$158	\$1,157	\$11,462	\$10,305	
<b>NPV</b>	\$680	\$0	\$0	\$0	(\$4,085)	\$0	\$101	\$738	\$4,186	\$3,449	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		5.67									

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Filename: Interior Lighting

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$50.900	\$7.500	(\$23.329)	\$0.000	\$0.000	(\$21.379)	\$0.000	\$0.000	\$81.729	\$21.379	(\$60.350)	(\$55.654)
2011	\$0.000	\$76.350	\$11.250	(\$57.463)	\$0.000	(\$7.723)	(\$54.714)	\$0.000	\$0.000	\$145.063	\$62.437	(\$82.626)	(\$125.923)
2012	\$0.000	\$101.800	\$15.000	(\$102.682)	\$0.000	(\$14.138)	(\$99.533)	\$0.000	\$0.000	\$219.482	\$113.672	(\$105.810)	(\$208.907)
2013	\$0.000	\$152.700	\$22.500	(\$173.287)	\$0.000	(\$23.964)	(\$177.093)	\$0.000	\$0.000	\$348.487	\$201.057	(\$147.429)	(\$315.536)
2014	\$0.000	\$152.700	\$22.500	(\$251.001)	(\$104.766)	(\$34.121)	(\$208.214)	\$0.000	\$0.000	\$426.201	\$347.100	(\$79.101)	(\$368.294)
2015	\$0.000	\$127.250	\$18.750	(\$369.512)	(\$131.371)	(\$42.963)	(\$305.441)	\$0.000	\$0.000	\$515.512	\$479.775	(\$35.738)	(\$390.276)
2016	\$0.000	\$101.800	\$15.000	(\$443.454)	(\$153.531)	(\$50.415)	(\$366.596)	\$0.000	\$0.000	\$560.254	\$570.542	\$10.288	(\$384.440)
2017	\$0.000	\$101.800	\$15.000	(\$500.680)	(\$176.248)	(\$58.108)	(\$423.438)	\$0.000	\$0.000	\$617.480	\$657.795	\$40.316	(\$363.351)
2018	\$0.000	\$101.800	\$15.000	(\$577.365)	(\$199.537)	(\$66.049)	(\$487.032)	\$0.000	\$0.000	\$694.165	\$752.617	\$58.452	(\$335.154)
2019	\$0.000	\$101.800	\$15.000	(\$657.298)	(\$223.411)	(\$74.242)	(\$557.005)	\$0.000	\$0.000	\$774.098	\$854.659	\$80.560	(\$299.316)
2020	\$0.000	\$0.000	\$0.000	(\$686.602)	(\$226.330)	(\$75.504)	(\$552.434)	\$0.000	\$0.000	\$686.602	\$854.269	\$167.667	(\$230.531)
2021	\$0.000	\$0.000	\$0.000	(\$715.755)	(\$229.299)	(\$76.788)	(\$551.345)	\$0.000	\$0.000	\$715.755	\$857.431	\$141.677	(\$176.931)
2022	\$0.000	\$0.000	\$0.000	(\$744.344)	(\$232.318)	(\$78.093)	(\$568.496)	\$0.000	\$0.000	\$744.344	\$878.908	\$134.564	(\$129.982)
2023	\$0.000	\$0.000	\$0.000	(\$771.690)	(\$235.388)	(\$79.421)	(\$589.195)	\$0.000	\$0.000	\$771.690	\$904.005	\$132.315	(\$87.411)
2024	\$0.000	\$0.000	\$0.000	(\$802.150)	(\$238.511)	(\$80.771)	(\$611.397)	\$0.000	\$0.000	\$802.150	\$930.679	\$128.529	(\$49.274)
2025	\$0.000	\$0.000	\$0.000	(\$826.652)	(\$241.687)	(\$82.144)	(\$638.235)	\$0.000	\$0.000	\$826.652	\$962.066	\$135.414	(\$12.222)
2026	\$0.000	\$0.000	\$0.000	(\$850.894)	(\$244.917)	(\$83.541)	(\$665.366)	\$0.000	\$0.000	\$850.894	\$993.823	\$142.929	\$23.845
2027	\$0.000	\$0.000	\$0.000	(\$884.720)	(\$248.201)	(\$84.961)	(\$689.907)	\$0.000	\$0.000	\$884.720	\$1,023.069	\$138.349	\$56.039
2028	\$0.000	\$0.000	\$0.000	(\$915.055)	(\$251.542)	(\$86.405)	(\$718.247)	\$0.000	\$0.000	\$915.055	\$1,056.194	\$141.139	\$86.327
2029	\$0.000	\$0.000	\$0.000	(\$950.579)	(\$254.939)	(\$87.874)	(\$728.485)	\$0.000	\$0.000	\$950.579	\$1,071.297	\$120.718	\$110.217
Nominal		\$1,068.900	\$157.500	(\$11,304.512)	(\$3,391.996)	(\$1,187.225)	(\$9,013.553)			\$12,530.912	\$13,592.775	\$1,061.863	
NPV		\$687.657	\$101.325	(\$4,085.035)	(\$1,222.889)	(\$444.106)	(\$3,317.239)	\$0.000	\$0.000	\$4,874.016	\$4,984.234	\$110.217	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	1.02												

Run Date:

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Filename: Interior Lighting - LED

## 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	-1.00	kW/Cus
(2) Change in Peak kW per Customer at generator	-1.31	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(4,777)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(4,380)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-1.00	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$1,018.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$1,750.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$300.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0833	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.82%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	-1	kW/Mo.

## Summary Results for This Analysis

	TRC	Participants	RIM
NPV Benefits(\$000s)	\$2,271	\$1,957	\$2,271
NPV Costs (\$000s)	\$911	\$596	\$2,272
NPV Net Benefits (\$000s)	\$1,360	\$1,361	(\$1)
Benefit:Cost Ratio	2.492	3.282	1.000

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

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

[illegible]



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$36	\$0	\$0	\$0	(\$9)	\$0	\$6	\$36	\$15	(\$20)	(\$19)
2011	\$54	\$0	\$0	\$0	(\$23)	\$0	\$9	\$54	\$32	(\$22)	(\$38)
2012	\$74	\$0	\$0	\$0	(\$41)	\$0	\$12	\$74	\$53	(\$21)	(\$59)
2013	\$94	\$0	\$0	\$0	(\$65)	\$0	\$15	\$94	\$80	(\$14)	(\$73)
2014	\$114	\$0	\$0	\$0	(\$96)	\$0	\$18	\$114	\$114	(\$1)	(\$74)
2015	\$116	\$0	\$0	\$0	(\$148)	\$0	\$18	\$116	\$166	\$50	(\$24)
2016	\$118	\$0	\$0	\$0	(\$189)	\$0	\$18	\$118	\$207	\$89	\$17
2017	\$120	\$0	\$0	\$0	(\$224)	\$0	\$18	\$120	\$242	\$122	\$80
2018	\$122	\$0	\$0	\$0	(\$267)	\$0	\$18	\$122	\$285	\$163	\$159
2019	\$124	\$0	\$0	\$0	(\$313)	\$0	\$18	\$124	\$331	\$207	\$251
2020	\$0	\$0	\$0	\$0	(\$327)	\$0	\$0	\$0	\$327	\$327	\$385
2021	\$0	\$0	\$0	\$0	(\$341)	\$0	\$0	\$0	\$341	\$341	\$514
2022	\$0	\$0	\$0	\$0	(\$354)	\$0	\$0	\$0	\$354	\$354	\$638
2023	\$0	\$0	\$0	\$0	(\$367)	\$0	\$0	\$0	\$367	\$367	\$756
2024	\$0	\$0	\$0	\$0	(\$382)	\$0	\$0	\$0	\$382	\$382	\$869
2025	\$0	\$0	\$0	\$0	(\$394)	\$0	\$0	\$0	\$394	\$394	\$977
2026	\$0	\$0	\$0	\$0	(\$405)	\$0	\$0	\$0	\$405	\$405	\$1,079
2027	\$0	\$0	\$0	\$0	(\$421)	\$0	\$0	\$0	\$421	\$421	\$1,177
2028	\$0	\$0	\$0	\$0	(\$436)	\$0	\$0	\$0	\$436	\$436	\$1,271
2029	\$0	\$0	\$0	\$0	(\$453)	\$0	\$0	\$0	\$453	\$453	\$1,361
<b>Nominal NPV</b>	\$972	\$0	\$0	\$0	(\$5,255)	\$0	\$150	\$972	\$5,405	\$4,433	
<b>Discount Rate =</b>	8.44%										
<b>Benefit/Cost Ratio =</b>	3.28										

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$20.360	\$6.000	(\$9.332)	\$0.000	\$0.000	(\$8.552)	\$0.000	\$0.000	\$35.692	\$8.552	(\$27.140)	(\$25.028)
2011	\$0.000	\$30.540	\$9.000	(\$22.985)	\$0.000	(\$3.089)	(\$21.885)	\$0.000	\$0.000	\$62.525	\$24.975	(\$37.550)	(\$56.963)
2012	\$0.000	\$40.720	\$12.000	(\$41.073)	\$0.000	(\$5.655)	(\$39.813)	\$0.000	\$0.000	\$93.793	\$45.469	(\$48.324)	(\$94.862)
2013	\$0.000	\$50.900	\$15.000	(\$64.694)	\$0.000	(\$8.947)	(\$66.115)	\$0.000	\$0.000	\$130.594	\$75.061	(\$55.532)	(\$135.026)
2014	\$0.000	\$61.080	\$18.000	(\$95.619)	(\$39.911)	(\$12.998)	(\$79.320)	\$0.000	\$0.000	\$174.699	\$132.229	(\$42.471)	(\$163.353)
2015	\$0.000	\$61.080	\$18.000	(\$147.805)	(\$52.548)	(\$17.185)	(\$122.176)	\$0.000	\$0.000	\$226.885	\$191.910	(\$34.975)	(\$184.866)
2016	\$0.000	\$61.080	\$18.000	(\$189.207)	(\$65.507)	(\$21.510)	(\$156.414)	\$0.000	\$0.000	\$268.287	\$243.431	(\$24.856)	(\$198.964)
2017	\$0.000	\$61.080	\$18.000	(\$223.833)	(\$78.793)	(\$25.978)	(\$189.302)	\$0.000	\$0.000	\$302.913	\$294.073	(\$8.840)	(\$203.589)
2018	\$0.000	\$61.080	\$18.000	(\$267.411)	(\$92.417)	(\$30.591)	(\$225.573)	\$0.000	\$0.000	\$346.491	\$348.581	\$2.089	(\$202.581)
2019	\$0.000	\$61.080	\$18.000	(\$312.999)	(\$106.386)	(\$35.353)	(\$265.241)	\$0.000	\$0.000	\$392.079	\$406.980	\$14.901	(\$195.952)
2020	\$0.000	\$0.000	\$0.000	(\$326.954)	(\$107.776)	(\$35.954)	(\$263.064)	\$0.000	\$0.000	\$326.954	\$406.795	\$79.841	(\$163.197)
2021	\$0.000	\$0.000	\$0.000	(\$340.836)	(\$109.190)	(\$36.566)	(\$262.545)	\$0.000	\$0.000	\$340.836	\$408.301	\$67.465	(\$137.673)
2022	\$0.000	\$0.000	\$0.000	(\$354.449)	(\$110.628)	(\$37.187)	(\$270.713)	\$0.000	\$0.000	\$354.449	\$418.527	\$64.078	(\$115.317)
2023	\$0.000	\$0.000	\$0.000	(\$367.471)	(\$112.090)	(\$37.819)	(\$280.569)	\$0.000	\$0.000	\$367.471	\$430.478	\$63.007	(\$95.044)
2024	\$0.000	\$0.000	\$0.000	(\$381.976)	(\$113.577)	(\$38.462)	(\$291.141)	\$0.000	\$0.000	\$381.976	\$443.181	\$61.204	(\$76.884)
2025	\$0.000	\$0.000	\$0.000	(\$393.644)	(\$115.089)	(\$39.116)	(\$303.921)	\$0.000	\$0.000	\$393.644	\$458.126	\$64.483	(\$59.240)
2026	\$0.000	\$0.000	\$0.000	(\$405.188)	(\$116.627)	(\$39.781)	(\$316.841)	\$0.000	\$0.000	\$405.188	\$473.249	\$68.062	(\$42.066)
2027	\$0.000	\$0.000	\$0.000	(\$421.295)	(\$118.191)	(\$40.458)	(\$328.527)	\$0.000	\$0.000	\$421.295	\$487.176	\$65.881	(\$26.735)
2028	\$0.000	\$0.000	\$0.000	(\$435.741)	(\$119.782)	(\$41.145)	(\$342.023)	\$0.000	\$0.000	\$435.741	\$502.950	\$67.209	(\$12.312)
2029	\$0.000	\$0.000	\$0.000	(\$452.657)	(\$121.399)	(\$41.845)	(\$346.897)	\$0.000	\$0.000	\$452.657	\$510.142	\$57.485	(\$0.936)
<hr/>													
Nominal		\$509.000	\$150.000	(\$5,255.168)	(\$1,579.911)	(\$549.642)	(\$4,180.632)			\$5,914.168	\$6,310.185	\$396.017	
NPV		\$315.039	\$92.841	(\$1,863.888)	(\$561.263)	(\$201.453)	(\$1,508.115)	\$0.000	\$0.000	\$2,271.768	\$2,270.832	(\$0.936)	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	1.00												

Run Date:

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Filename: **Occupancy Sensor - IL****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	-0.20	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.26	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(872)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(800)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.20	kW/Cus

**II. Economic Life and K-Factors**

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

**III. Utility & Customer Costs**

(1) Utility Nonrecurring Cost Per Customer	\$186.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$50.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$25.00	\$/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	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.82%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
* (5) Average Annual Change in Monthly Billing kW	-0.2 kW/Mo.

**Summary Results for This Analysis**

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$5,633	\$4,637	\$5,633
NPV Costs (\$000s)	\$978	\$222	\$5,392
NPV Net Benefits (\$000s)	\$4,655	\$4,414	\$240
Benefit:Cost Ratio	5.759	20.845	1.045

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$56	\$15	\$0	\$0	\$0	\$0	(\$23)	\$71	\$23	(\$48)	(\$44)
2011	\$0	\$93	\$26	\$0	\$0	\$0	(\$10)	(\$64)	\$119	\$74	(\$45)	(\$82)
2012	\$0	\$112	\$32	\$0	\$0	\$0	(\$18)	(\$113)	\$143	\$131	(\$12)	(\$92)
2013	\$0	\$130	\$37	\$0	\$0	\$0	(\$27)	(\$181)	\$168	\$208	\$40	(\$63)
2014	\$0	\$140	\$41	\$0	\$0	(\$114)	(\$37)	(\$206)	\$180	\$357	\$177	\$55
2015	\$0	\$140	\$41	\$0	\$0	(\$146)	(\$48)	(\$309)	\$181	\$502	\$321	\$253
2016	\$0	\$140	\$42	\$0	\$0	(\$178)	(\$58)	(\$388)	\$182	\$625	\$443	\$504
2017	\$0	\$140	\$43	\$0	\$0	(\$211)	(\$70)	(\$464)	\$182	\$745	\$563	\$799
2018	\$0	\$130	\$41	\$0	\$0	(\$244)	(\$81)	(\$543)	\$171	\$867	\$696	\$1,135
2019	\$0	\$112	\$36	\$0	\$0	(\$272)	(\$91)	(\$620)	\$147	\$983	\$836	\$1,506
2020	\$0	\$0	\$0	\$0	\$0	(\$276)	(\$92)	(\$615)	\$0	\$983	\$983	\$1,910
2021	\$0	\$0	\$0	\$0	\$0	(\$280)	(\$94)	(\$614)	\$0	\$987	\$987	\$2,283
2022	\$0	\$0	\$0	\$0	\$0	(\$283)	(\$95)	(\$633)	\$0	\$1,011	\$1,011	\$2,636
2023	\$0	\$0	\$0	\$0	\$0	(\$287)	(\$97)	(\$656)	\$0	\$1,040	\$1,040	\$2,970
2024	\$0	\$0	\$0	\$0	\$0	(\$291)	(\$98)	(\$681)	\$0	\$1,070	\$1,070	\$3,288
2025	\$0	\$0	\$0	\$0	\$0	(\$295)	(\$100)	(\$711)	\$0	\$1,105	\$1,105	\$3,590
2026	\$0	\$0	\$0	\$0	\$0	(\$299)	(\$102)	(\$741)	\$0	\$1,141	\$1,141	\$3,878
2027	\$0	\$0	\$0	\$0	\$0	(\$303)	(\$104)	(\$768)	\$0	\$1,174	\$1,174	\$4,151
2028	\$0	\$0	\$0	\$0	\$0	(\$307)	(\$105)	(\$800)	\$0	\$1,212	\$1,212	\$4,411
2029	\$0	\$0	\$0	\$0	\$0	(\$311)	(\$107)	(\$811)	\$0	\$1,229	\$1,229	\$4,655
Nominal		\$1,190	\$354			(\$4,094)	(\$1,432)	(\$9,941)	\$1,544	\$15,468	\$13,924	
NPV		\$756	\$222	\$0	\$0	(\$1,466)	(\$532)	(\$3,635)	\$978	\$5,633	\$4,655	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		5.76										

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$15	\$0	\$0	\$0	(\$26)	\$0	\$8	\$15	\$33	\$18	\$17
2011	\$26	\$0	\$0	\$0	(\$68)	\$0	\$13	\$26	\$81	\$55	\$63
2012	\$32	\$0	\$0	\$0	(\$118)	\$0	\$15	\$32	\$133	\$102	\$143
2013	\$37	\$0	\$0	\$0	(\$180)	\$0	\$18	\$37	\$198	\$160	\$259
2014	\$41	\$0	\$0	\$0	(\$253)	\$0	\$19	\$41	\$271	\$231	\$413
2015	\$41	\$0	\$0	\$0	(\$379)	\$0	\$19	\$41	\$398	\$356	\$632
2016	\$42	\$0	\$0	\$0	(\$476)	\$0	\$19	\$42	\$494	\$452	\$889
2017	\$43	\$0	\$0	\$0	(\$556)	\$0	\$19	\$43	\$574	\$532	\$1,167
2018	\$41	\$0	\$0	\$0	(\$652)	\$0	\$18	\$41	\$669	\$629	\$1,470
2019	\$36	\$0	\$0	\$0	(\$741)	\$0	\$15	\$36	\$756	\$720	\$1,790
2020	\$0	\$0	\$0	\$0	(\$774)	\$0	\$0	\$0	\$774	\$774	\$2,108
2021	\$0	\$0	\$0	\$0	(\$807)	\$0	\$0	\$0	\$807	\$807	\$2,413
2022	\$0	\$0	\$0	\$0	(\$839)	\$0	\$0	\$0	\$839	\$839	\$2,705
2023	\$0	\$0	\$0	\$0	(\$869)	\$0	\$0	\$0	\$869	\$869	\$2,985
2024	\$0	\$0	\$0	\$0	(\$903)	\$0	\$0	\$0	\$903	\$903	\$3,253
2025	\$0	\$0	\$0	\$0	(\$931)	\$0	\$0	\$0	\$931	\$931	\$3,598
2026	\$0	\$0	\$0	\$0	(\$958)	\$0	\$0	\$0	\$958	\$958	\$3,730
2027	\$0	\$0	\$0	\$0	(\$996)	\$0	\$0	\$0	\$996	\$996	\$3,982
2028	\$0	\$0	\$0	\$0	(\$1,030)	\$0	\$0	\$0	\$1,030	\$1,030	\$4,203
2029	\$0	\$0	\$0	\$0	(\$1,070)	\$0	\$0	\$0	\$1,070	\$1,070	\$4,414
<b>Nominal</b>	\$354				(\$12,625)		\$160	\$354	\$12,785	\$12,432	
<b>NPV</b>	\$205		\$0	\$0	(\$4,535)	\$0	\$102	\$222	\$4,637	\$4,414	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		20.84									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$55.800	\$7.500	(\$25.949)	\$0.000	\$0.000	(\$23.429)	\$0.000	\$0.000	\$89.249	\$23.429	(\$65.820)	(\$60.699)
2011	\$0.000	\$93.000	\$12.600	(\$68.185)	\$0.000	(\$9.886)	(\$63.958)	\$0.000	\$0.000	\$173.685	\$73.843	(\$99.841)	(\$145.608)
2012	\$0.000	\$111.600	\$15.000	(\$118.482)	\$0.000	(\$17.594)	(\$113.118)	\$0.000	\$0.000	\$245.082	\$130.712	(\$114.370)	(\$235.305)
2013	\$0.000	\$130.200	\$17.500	(\$180.027)	\$0.000	(\$26.840)	(\$181.136)	\$0.000	\$0.000	\$327.727	\$207.976	(\$119.750)	(\$321.915)
2014	\$0.000	\$139.500	\$18.750	(\$252.710)	(\$113.746)	(\$37.045)	(\$206.448)	\$0.000	\$0.000	\$410.960	\$357.239	(\$53.721)	(\$357.746)
2015	\$0.000	\$139.500	\$18.750	(\$378.767)	(\$145.519)	(\$47.589)	(\$308.981)	\$0.000	\$0.000	\$537.017	\$502.089	(\$34.927)	(\$379.229)
2016	\$0.000	\$139.500	\$18.750	(\$475.732)	(\$178.096)	(\$58.481)	(\$388.357)	\$0.000	\$0.000	\$633.982	\$624.935	(\$9.047)	(\$384.361)
2017	\$0.000	\$139.500	\$18.750	(\$555.679)	(\$211.498)	(\$69.730)	(\$464.042)	\$0.000	\$0.000	\$713.929	\$745.270	\$31.341	(\$367.966)
2018	\$0.000	\$130.200	\$17.500	(\$651.973)	(\$243.645)	(\$80.649)	(\$543.097)	\$0.000	\$0.000	\$799.673	\$867.391	\$67.718	(\$335.299)
2019	\$0.000	\$111.600	\$15.000	(\$740.967)	(\$272.349)	(\$90.505)	(\$620.106)	\$0.000	\$0.000	\$867.567	\$982.960	\$115.392	(\$283.966)
2020	\$0.000	\$0.000	\$0.000	(\$773.817)	(\$275.907)	(\$92.043)	(\$615.017)	\$0.000	\$0.000	\$773.817	\$982.968	\$209.150	(\$198.162)
2021	\$0.000	\$0.000	\$0.000	(\$806.504)	(\$279.526)	(\$93.608)	(\$613.804)	\$0.000	\$0.000	\$806.504	\$986.938	\$180.434	(\$129.899)
2022	\$0.000	\$0.000	\$0.000	(\$838.569)	(\$283.207)	(\$95.199)	(\$632.899)	\$0.000	\$0.000	\$838.569	\$1,011.305	\$172.736	(\$69.633)
2023	\$0.000	\$0.000	\$0.000	(\$869.256)	(\$286.950)	(\$96.818)	(\$655.943)	\$0.000	\$0.000	\$869.256	\$1,039.710	\$170.454	(\$14.790)
2024	\$0.000	\$0.000	\$0.000	(\$903.417)	(\$290.756)	(\$98.464)	(\$680.659)	\$0.000	\$0.000	\$903.417	\$1,069.880	\$166.463	\$34.602
2025	\$0.000	\$0.000	\$0.000	(\$930.950)	(\$294.628)	(\$100.138)	(\$710.537)	\$0.000	\$0.000	\$930.950	\$1,105.303	\$174.353	\$82.309
2026	\$0.000	\$0.000	\$0.000	(\$958.200)	(\$298.565)	(\$101.840)	(\$740.742)	\$0.000	\$0.000	\$958.200	\$1,141.147	\$182.948	\$128.474
2027	\$0.000	\$0.000	\$0.000	(\$996.126)	(\$302.569)	(\$103.571)	(\$768.064)	\$0.000	\$0.000	\$996.126	\$1,174.204	\$178.078	\$169.913
2028	\$0.000	\$0.000	\$0.000	(\$1,030.172)	(\$306.641)	(\$105.332)	(\$799.614)	\$0.000	\$0.000	\$1,030.172	\$1,211.587	\$181.415	\$208.845
2029	\$0.000	\$0.000	\$0.000	(\$1,070.002)	(\$310.783)	(\$107.123)	(\$811.011)	\$0.000	\$0.000	\$1,070.002	\$1,228.917	\$158.915	\$240.294
<hr/>													
Nominal		\$1,190.400	\$160.000	(\$12,625.484)	(\$4,094.385)	(\$1,432.456)	(\$9,940.964)			\$13,975.884	\$15,467.804	\$1,491.921	
NPV		\$755.643	\$101.565	(\$4,535.262)	(\$1,465.739)	(\$532.171)	(\$3,634.854)	\$0.000	\$0.000	\$5,392.471	\$5,632.765	\$240.294	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		1.04											

Run Date:

25-Mar-10

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Filename:

Comm. Reflective Roof

## 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	0.00	kW/Cus
(2) Change in Peak kW per Customer at generator	0.00	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(3)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(2)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	0.00	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	31	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$0.60	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$1.80	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$0.90	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.63%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0815 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.65%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	5.73%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
* (5) Average Annual Change in Monthly Billing kW	-0.00091 kW/Mo.

## Summary Results for This Analysis

	TRC	Participants	RIM
NPV Benefits (\$000s)	\$15,245	\$13,786	\$14,584
NPV Costs (\$000s)	\$5,747	\$4,697	\$14,175
NPV Net Benefits (\$000s)	\$9,498	\$9,089	\$409
Benefit:Cost Ratio	2.653	2.935	1.029

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$60	\$183	\$0	\$0	\$0	\$0	(\$23)	\$243	\$23	(\$220)	(\$203)
2011	\$0	\$120	\$372	\$0	\$0	\$0	(\$17)	(\$71)	\$492	\$88	(\$404)	(\$546)
2012	\$0	\$180	\$568	\$0	\$0	\$0	(\$34)	(\$144)	\$748	\$178	(\$570)	(\$993)
2013	\$0	\$240	\$770	\$0	\$0	\$0	(\$58)	(\$254)	\$1,010	\$313	(\$698)	(\$1,498)
2014	\$0	\$240	\$783	\$0	\$0	(\$254)	(\$83)	(\$297)	\$1,023	\$634	(\$389)	(\$1,757)
2015	\$0	\$300	\$996	\$0	\$0	(\$349)	(\$114)	(\$483)	\$1,296	\$947	(\$349)	(\$1,972)
2016	\$0	\$300	\$1,013	\$0	\$0	(\$447)	(\$147)	(\$635)	\$1,313	\$1,229	(\$84)	(\$2,019)
2017	\$0	\$240	\$824	\$0	\$0	(\$528)	(\$174)	(\$755)	\$1,064	\$1,458	\$394	(\$1,813)
2018	\$0	\$240	\$838	\$0	\$0	(\$612)	(\$202)	(\$887)	\$1,078	\$1,702	\$624	(\$1,513)
2019	\$0	\$240	\$852	\$0	\$0	(\$697)	(\$232)	(\$1,033)	\$1,092	\$1,961	\$869	(\$1,126)
2020	\$0	\$0	\$0	\$0	\$0	(\$706)	(\$236)	(\$1,027)	\$0	\$1,969	\$1,969	(\$318)
2021	\$0	\$0	\$0	\$0	\$0	(\$715)	(\$240)	(\$1,026)	\$0	\$1,981	\$1,981	\$431
2022	\$0	\$0	\$0	\$0	\$0	(\$725)	(\$244)	(\$1,058)	\$0	\$2,027	\$2,027	\$1,138
2023	\$0	\$0	\$0	\$0	\$0	(\$734)	(\$248)	(\$1,097)	\$0	\$2,079	\$2,079	\$1,807
2024	\$0	\$0	\$0	\$0	\$0	(\$744)	(\$252)	(\$1,137)	\$0	\$2,134	\$2,134	\$2,440
2025	\$0	\$0	\$0	\$0	\$0	(\$754)	(\$256)	(\$1,186)	\$0	\$2,196	\$2,196	\$3,041
2026	\$0	\$0	\$0	\$0	\$0	(\$764)	(\$261)	(\$1,236)	\$0	\$2,260	\$2,260	\$3,611
2027	\$0	\$0	\$0	\$0	\$0	(\$774)	(\$265)	(\$1,282)	\$0	\$2,322	\$2,322	\$4,151
2028	\$0	\$0	\$0	\$0	\$0	(\$785)	(\$270)	(\$1,335)	\$0	\$2,389	\$2,389	\$4,664
2029	\$0	\$0	\$0	\$0	\$0	(\$795)	(\$274)	(\$1,351)	\$0	\$2,421	\$2,421	\$5,143
2030	\$0	\$0	\$0	\$0	\$0	(\$806)	(\$279)	(\$1,385)	\$0	\$2,470	\$2,470	\$5,594
2031	\$0	\$0	\$0	\$0	\$0	(\$817)	(\$284)	(\$1,419)	\$0	\$2,519	\$2,519	\$6,018
2032	\$0	\$0	\$0	\$0	\$0	(\$828)	(\$288)	(\$1,455)	\$0	\$2,572	\$2,572	\$6,417
2033	\$0	\$0	\$0	\$0	\$0	(\$840)	(\$293)	(\$1,493)	\$0	\$2,625	\$2,625	\$6,793
2034	\$0	\$0	\$0	\$0	\$0	(\$851)	(\$298)	(\$1,530)	\$0	\$2,679	\$2,679	\$7,147
2035	\$0	\$0	\$0	\$0	\$0	(\$863)	(\$303)	(\$1,565)	\$0	\$2,731	\$2,731	\$7,479
2036	\$0	\$0	\$0	\$0	\$0	(\$875)	(\$309)	(\$1,601)	\$0	\$2,785	\$2,785	\$7,792
2037	\$0	\$0	\$0	\$0	\$0	(\$887)	(\$314)	(\$1,638)	\$0	\$2,839	\$2,839	\$8,086
2038	\$0	\$0	\$0	\$0	\$0	(\$899)	(\$319)	(\$1,674)	\$0	\$2,892	\$2,892	\$8,362
2039	\$0	(\$2,160)	(\$10,745)	\$0	\$0	\$0	\$0	\$0	\$0	\$12,905	\$12,905	\$9,498
Nominal			(\$3,545)			(\$18,052)	(\$6,293)	(\$30,077)	\$9,360	\$67,327	\$57,968	
NPV		\$0	\$3,466	\$0	\$0	(\$4,722)	(\$1,680)	(\$7,707)	\$5,747	\$15,245	\$9,498	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		2.65										



Run Date:

25-Mar-10

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Filename: Comm. Reflective Roof

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$183	\$0	\$0	\$0	(\$29)	\$0	\$90	\$183	\$119	(\$64)	(\$59)
2011	\$372	\$0	\$0	\$0	(\$85)	\$0	\$180	\$372	\$265	(\$109)	(\$151)
2012	\$568	\$0	\$0	\$0	(\$169)	\$0	\$270	\$568	\$439	(\$129)	(\$252)
2013	\$770	\$0	\$0	\$0	(\$285)	\$0	\$360	\$770	\$645	(\$125)	(\$343)
2014	\$783	\$0	\$0	\$0	(\$412)	\$0	\$360	\$783	\$772	(\$11)	(\$350)
2015	\$996	\$0	\$0	\$0	(\$657)	\$0	\$450	\$996	\$1,107	\$111	(\$281)
2016	\$1,013	\$0	\$0	\$0	(\$860)	\$0	\$450	\$1,013	\$1,310	\$297	(\$113)
2017	\$824	\$0	\$0	\$0	(\$1,000)	\$0	\$360	\$824	\$1,360	\$536	\$168
2018	\$838	\$0	\$0	\$0	(\$1,179)	\$0	\$360	\$838	\$1,539	\$701	\$506
2019	\$852	\$0	\$0	\$0	(\$1,365)	\$0	\$360	\$852	\$1,725	\$873	\$894
2020	\$0	\$0	\$0	\$0	(\$1,424)	\$0	\$0	\$0	\$1,424	\$1,424	\$1,478
2021	\$0	\$0	\$0	\$0	(\$1,483)	\$0	\$0	\$0	\$1,483	\$1,483	\$2,039
2022	\$0	\$0	\$0	\$0	(\$1,540)	\$0	\$0	\$0	\$1,540	\$1,540	\$2,577
2023	\$0	\$0	\$0	\$0	(\$1,595)	\$0	\$0	\$0	\$1,595	\$1,595	\$3,090
2024	\$0	\$0	\$0	\$0	(\$1,657)	\$0	\$0	\$0	\$1,657	\$1,657	\$3,581
2025	\$0	\$0	\$0	\$0	(\$1,706)	\$0	\$0	\$0	\$1,706	\$1,706	\$4,048
2026	\$0	\$0	\$0	\$0	(\$1,756)	\$0	\$0	\$0	\$1,756	\$1,756	\$4,491
2027	\$0	\$0	\$0	\$0	(\$1,824)	\$0	\$0	\$0	\$1,824	\$1,824	\$4,916
2028	\$0	\$0	\$0	\$0	(\$1,885)	\$0	\$0	\$0	\$1,885	\$1,885	\$5,320
2029	\$0	\$0	\$0	\$0	(\$1,956)	\$0	\$0	\$0	\$1,956	\$1,956	\$5,707
2030	\$0	\$0	\$0	\$0	(\$2,024)	\$0	\$0	\$0	\$2,024	\$2,024	\$6,077
2031	\$0	\$0	\$0	\$0	(\$2,085)	\$0	\$0	\$0	\$2,085	\$2,085	\$6,428
2032	\$0	\$0	\$0	\$0	(\$2,146)	\$0	\$0	\$0	\$2,146	\$2,146	\$6,761
2033	\$0	\$0	\$0	\$0	(\$2,209)	\$0	\$0	\$0	\$2,209	\$2,209	\$7,077
2034	\$0	\$0	\$0	\$0	(\$2,272)	\$0	\$0	\$0	\$2,272	\$2,272	\$7,377
2035	\$0	\$0	\$0	\$0	(\$2,336)	\$0	\$0	\$0	\$2,336	\$2,336	\$7,661
2036	\$0	\$0	\$0	\$0	(\$2,401)	\$0	\$0	\$0	\$2,401	\$2,401	\$7,931
2037	\$0	\$0	\$0	\$0	(\$2,467)	\$0	\$0	\$0	\$2,467	\$2,467	\$8,186
2038	\$0	\$0	\$0	\$0	(\$2,534)	\$0	\$0	\$0	\$2,534	\$2,534	\$8,428
2039	(\$10,745)	\$0	\$0	\$0	\$0	\$0	(\$3,240)	\$3,240	\$10,745	\$7,505	\$9,099
Nominal	(\$3,545)				(\$43,340)			\$10,440	\$57,325	\$46,886	
NPV	\$3,196		\$0	\$0	(\$10,837)	\$0	\$0	\$4,697	\$13,786	\$9,089	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		2.94									

**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
	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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$60.000	\$90.000	(\$28.678)	\$0.000	\$0.000	(\$23.389)	\$0.000	\$0.000	\$178.678	\$23.389	(\$155.289)	(\$143.207)
2011	\$0.000	\$120.000	\$180.000	(\$84.820)	\$0.000	(\$16.868)	(\$71.361)	\$0.000	\$0.000	\$384.820	\$88.229	(\$296.591)	(\$395.441)
2012	\$0.000	\$180.000	\$270.000	(\$168.631)	\$0.000	(\$34.309)	(\$143.578)	\$0.000	\$0.000	\$618.631	\$177.887	(\$440.744)	(\$741.104)
2013	\$0.000	\$240.000	\$360.000	(\$285.268)	\$0.000	(\$58.154)	(\$254.479)	\$0.000	\$0.000	\$885.268	\$312.633	(\$572.635)	(\$1,155.264)
2014	\$0.000	\$240.000	\$360.000	(\$412.496)	(\$254.232)	(\$82.799)	(\$297.349)	\$0.000	\$0.000	\$1,012.496	\$634.380	(\$378.116)	(\$1,407.460)
2015	\$0.000	\$300.000	\$450.000	(\$657.194)	(\$349.447)	(\$114.281)	(\$483.306)	\$0.000	\$0.000	\$1,407.194	\$947.034	(\$460.161)	(\$1,690.497)
2016	\$0.000	\$300.000	\$450.000	(\$860.148)	(\$447.083)	(\$146.809)	(\$634.930)	\$0.000	\$0.000	\$1,610.148	\$1,228.821	(\$381.327)	(\$1,906.796)
2017	\$0.000	\$240.000	\$360.000	(\$1,000.092)	(\$528.331)	(\$174.188)	(\$755.319)	\$0.000	\$0.000	\$1,600.092	\$1,457.838	(\$142.254)	(\$1,981.209)
2018	\$0.000	\$240.000	\$360.000	(\$1,178.644)	(\$611.634)	(\$202.457)	(\$887.482)	\$0.000	\$0.000	\$1,778.644	\$1,701.572	(\$77.072)	(\$2,018.387)
2019	\$0.000	\$240.000	\$360.000	(\$1,365.225)	(\$697.043)	(\$231.636)	(\$1,032.574)	\$0.000	\$0.000	\$1,965.225	\$1,961.253	(\$3.972)	(\$2,020.154)
2020	\$0.000	\$0.000	\$0.000	(\$1,423.996)	(\$706.150)	(\$235.573)	(\$1,026.827)	\$0.000	\$0.000	\$1,423.996	\$1,968.551	\$544.555	(\$1,796.752)
2021	\$0.000	\$0.000	\$0.000	(\$1,482.538)	(\$715.412)	(\$239.578)	(\$1,025.548)	\$0.000	\$0.000	\$1,482.538	\$1,980.539	\$498.000	(\$1,608.344)
2022	\$0.000	\$0.000	\$0.000	(\$1,540.066)	(\$724.832)	(\$243.651)	(\$1,058.046)	\$0.000	\$0.000	\$1,540.066	\$2,026.529	\$486.463	(\$1,438.621)
2023	\$0.000	\$0.000	\$0.000	(\$1,595.276)	(\$734.412)	(\$247.793)	(\$1,096.677)	\$0.000	\$0.000	\$1,595.276	\$2,078.882	\$483.606	(\$1,283.022)
2024	\$0.000	\$0.000	\$0.000	(\$1,656.526)	(\$744.155)	(\$252.006)	(\$1,137.350)	\$0.000	\$0.000	\$1,656.526	\$2,133.510	\$476.985	(\$1,141.495)
2025	\$0.000	\$0.000	\$0.000	(\$1,706.419)	(\$754.063)	(\$256.290)	(\$1,185.668)	\$0.000	\$0.000	\$1,706.419	\$2,196.020	\$489.602	(\$1,007.527)
2026	\$0.000	\$0.000	\$0.000	(\$1,755.884)	(\$764.140)	(\$260.647)	(\$1,235.654)	\$0.000	\$0.000	\$1,755.884	\$2,260.441	\$504.556	(\$880.208)
2027	\$0.000	\$0.000	\$0.000	(\$1,823.803)	(\$774.388)	(\$265.078)	(\$1,282.327)	\$0.000	\$0.000	\$1,823.803	\$2,321.792	\$497.989	(\$764.325)
2028	\$0.000	\$0.000	\$0.000	(\$1,885.103)	(\$784.810)	(\$269.584)	(\$1,335.041)	\$0.000	\$0.000	\$1,885.103	\$2,389.435	\$504.332	(\$656.096)
2029	\$0.000	\$0.000	\$0.000	(\$1,956.429)	(\$795.409)	(\$274.167)	(\$1,351.469)	\$0.000	\$0.000	\$1,956.429	\$2,421.045	\$464.616	(\$564.148)
2030	\$0.000	\$0.000	\$0.000	(\$2,023.969)	(\$806.189)	(\$278.828)	(\$1,385.249)	\$0.000	\$0.000	\$2,023.969	\$2,470.265	\$446.296	(\$482.697)
2031	\$0.000	\$0.000	\$0.000	(\$2,084.700)	(\$817.152)	(\$283.568)	(\$1,418.527)	\$0.000	\$0.000	\$2,084.700	\$2,519.247	\$434.547	(\$409.562)
2032	\$0.000	\$0.000	\$0.000	(\$2,146.234)	(\$828.301)	(\$288.388)	(\$1,454.915)	\$0.000	\$0.000	\$2,146.234	\$2,571.605	\$425.371	(\$343.540)
2033	\$0.000	\$0.000	\$0.000	(\$2,208.598)	(\$839.640)	(\$293.291)	(\$1,492.554)	\$0.000	\$0.000	\$2,208.598	\$2,625.484	\$416.886	(\$283.870)
2034	\$0.000	\$0.000	\$0.000	(\$2,271.821)	(\$851.171)	(\$298.277)	(\$1,529.516)	\$0.000	\$0.000	\$2,271.821	\$2,678.964	\$407.143	(\$230.129)
2035	\$0.000	\$0.000	\$0.000	(\$2,335.931)	(\$862.899)	(\$303.348)	(\$1,564.812)	\$0.000	\$0.000	\$2,335.931	\$2,731.059	\$395.128	(\$182.032)
2036	\$0.000	\$0.000	\$0.000	(\$2,400.957)	(\$874.826)	(\$308.505)	(\$1,601.259)	\$0.000	\$0.000	\$2,400.957	\$2,784.590	\$383.633	(\$138.967)
2037	\$0.000	\$0.000	\$0.000	(\$2,466.931)	(\$886.955)	(\$313.749)	(\$1,638.300)	\$0.000	\$0.000	\$2,466.931	\$2,839.005	\$372.074	(\$100.450)
2038	\$0.000	\$0.000	\$0.000	(\$2,533.884)	(\$899.291)	(\$319.083)	(\$1,673.810)	\$0.000	\$0.000	\$2,533.884	\$2,892.184	\$358.300	(\$66.244)
2039	\$0	(\$2,160)	(\$3,240)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,400	\$5,400	\$409
Nominal NPV		\$0.000	\$0.000	(\$43,340.260) (\$10,837.248)	(\$18,051.963) (\$4,721.794)	(\$6,292.902) (\$1,679.634)	(\$30,077.316) (\$7,707.040)	\$0.000	\$0.000	\$48,740.260 \$14,174.713	\$59,822.181 \$14,583.876	\$11,081.922 \$409.163	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	1.03												

Run Date:

25-Mar-10

06:17 PM

Filename: Occupancy Sensor - HVAC

## 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	-0.03	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.03	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(558)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(512)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	0.00	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$119.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$150.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$75.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0833 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.82%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
* (5) Average Annual Change in Monthly Billing kW	-0.026 kW/Mo.

## Summary Results for This Analysis

	TRC	Participants	RIM
NPV Benefits(\$000s)	\$801	\$892	\$801
NPV Costs (\$000s)	\$356	\$207	\$1,042
NPV Net Benefits (\$000s)	\$445	\$685	(\$240)
Benefit:Cost Ratio	2.249	4.318	0.769

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$11	\$0	\$0	\$0	(\$4)	\$0	\$6	\$11	\$9	(\$2)	(\$2)
2011	\$23	\$0	\$0	\$0	(\$11)	\$0	\$11	\$23	\$22	(\$1)	(\$3)
2012	\$32	\$0	\$0	\$0	(\$20)	\$0	\$15	\$32	\$35	\$3	(\$1)
2013	\$40	\$0	\$0	\$0	(\$32)	\$0	\$19	\$40	\$51	\$10	\$7
2014	\$41	\$0	\$0	\$0	(\$45)	\$0	\$19	\$41	\$64	\$23	\$22
2015	\$41	\$0	\$0	\$0	(\$70)	\$0	\$19	\$41	\$88	\$47	\$51
2016	\$34	\$0	\$0	\$0	(\$85)	\$0	\$15	\$34	\$100	\$66	\$89
2017	\$34	\$0	\$0	\$0	(\$97)	\$0	\$15	\$34	\$112	\$78	\$129
2018	\$35	\$0	\$0	\$0	(\$113)	\$0	\$15	\$35	\$128	\$93	\$174
2019	\$36	\$0	\$0	\$0	(\$130)	\$0	\$15	\$36	\$145	\$109	\$223
2020	\$0	\$0	\$0	\$0	(\$136)	\$0	\$0	\$0	\$136	\$136	\$278
2021	\$0	\$0	\$0	\$0	(\$142)	\$0	\$0	\$0	\$142	\$142	\$332
2022	\$0	\$0	\$0	\$0	(\$148)	\$0	\$0	\$0	\$148	\$148	\$383
2023	\$0	\$0	\$0	\$0	(\$153)	\$0	\$0	\$0	\$153	\$153	\$433
2024	\$0	\$0	\$0	\$0	(\$159)	\$0	\$0	\$0	\$159	\$159	\$480
2025	\$0	\$0	\$0	\$0	(\$164)	\$0	\$0	\$0	\$164	\$164	\$525
2026	\$0	\$0	\$0	\$0	(\$169)	\$0	\$0	\$0	\$169	\$169	\$568
2027	\$0	\$0	\$0	\$0	(\$176)	\$0	\$0	\$0	\$176	\$176	\$609
2028	\$0	\$0	\$0	\$0	(\$183)	\$0	\$0	\$0	\$183	\$183	\$648
2029	\$0	\$0	\$0	\$0	(\$190)	\$0	\$0	\$0	\$190	\$190	\$685
Nominal NPV	\$327	\$0	\$0	\$0	(\$2,225)	\$0	\$148	\$327	\$2,373	\$2,046	
	\$191				(\$798)		\$94	\$207	\$892	\$685	
Discount Rate =	8.44%										
Benefit/Cost Ratio =	4.32										

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$8.925	\$5.625	(\$3.566)	\$0.000	\$0.000	(\$3.746)	\$0.000	\$0.000	\$18.136	\$3.746	(\$14.391)	(\$13.271)
2011	\$0.000	\$17.850	\$11.250	(\$10.590)	\$0.000	(\$0.361)	(\$11.503)	\$0.000	\$0.000	\$39.690	\$11.865	(\$27.825)	(\$36.935)
2012	\$0.000	\$23.800	\$15.000	(\$19.818)	\$0.000	(\$0.694)	(\$21.960)	\$0.000	\$0.000	\$58.618	\$22.654	(\$35.963)	(\$65.140)
2013	\$0.000	\$29.750	\$18.750	(\$31.750)	\$0.000	(\$1.122)	(\$37.233)	\$0.000	\$0.000	\$80.250	\$38.355	(\$41.895)	(\$95.441)
2014	\$0.000	\$29.750	\$18.750	(\$45.137)	(\$4.799)	(\$1.563)	(\$42.850)	\$0.000	\$0.000	\$93.637	\$49.212	(\$44.425)	(\$125.071)
2015	\$0.000	\$29.750	\$18.750	(\$69.529)	(\$6.174)	(\$2.019)	(\$64.492)	\$0.000	\$0.000	\$118.029	\$72.686	(\$45.343)	(\$152.961)
2016	\$0.000	\$23.800	\$15.000	(\$85.112)	(\$7.318)	(\$2.403)	(\$78.503)	\$0.000	\$0.000	\$123.912	\$88.224	(\$35.687)	(\$173.204)
2017	\$0.000	\$23.800	\$15.000	(\$97.067)	(\$8.491)	(\$2.799)	(\$91.645)	\$0.000	\$0.000	\$135.867	\$102.935	(\$32.932)	(\$190.430)
2018	\$0.000	\$23.800	\$15.000	(\$112.961)	(\$9.693)	(\$3.209)	(\$106.289)	\$0.000	\$0.000	\$151.761	\$119.191	(\$32.570)	(\$206.142)
2019	\$0.000	\$23.800	\$15.000	(\$129.542)	(\$10.926)	(\$3.631)	(\$122.375)	\$0.000	\$0.000	\$168.342	\$136.932	(\$31.410)	(\$220.115)
2020	\$0.000	\$0.000	\$0.000	(\$135.615)	(\$11.069)	(\$3.693)	(\$121.371)	\$0.000	\$0.000	\$135.615	\$136.132	\$0.518	(\$219.903)
2021	\$0.000	\$0.000	\$0.000	(\$141.645)	(\$11.214)	(\$3.755)	(\$121.132)	\$0.000	\$0.000	\$141.645	\$136.101	(\$5.544)	(\$222.000)
2022	\$0.000	\$0.000	\$0.000	(\$147.543)	(\$11.361)	(\$3.819)	(\$124.900)	\$0.000	\$0.000	\$147.543	\$140.080	(\$7.462)	(\$224.604)
2023	\$0.000	\$0.000	\$0.000	(\$153.158)	(\$11.512)	(\$3.884)	(\$129.447)	\$0.000	\$0.000	\$153.158	\$144.843	(\$8.315)	(\$227.279)
2024	\$0.000	\$0.000	\$0.000	(\$159.447)	(\$11.664)	(\$3.950)	(\$134.325)	\$0.000	\$0.000	\$159.447	\$149.940	(\$9.508)	(\$230.100)
2025	\$0.000	\$0.000	\$0.000	(\$164.418)	(\$11.820)	(\$4.017)	(\$140.221)	\$0.000	\$0.000	\$164.418	\$156.058	(\$8.360)	(\$232.387)
2026	\$0.000	\$0.000	\$0.000	(\$169.322)	(\$11.978)	(\$4.086)	(\$146.182)	\$0.000	\$0.000	\$169.322	\$162.245	(\$7.076)	(\$234.173)
2027	\$0.000	\$0.000	\$0.000	(\$176.320)	(\$12.138)	(\$4.155)	(\$151.574)	\$0.000	\$0.000	\$176.320	\$167.867	(\$8.453)	(\$236.140)
2028	\$0.000	\$0.000	\$0.000	(\$182.542)	(\$12.302)	(\$4.226)	(\$157.800)	\$0.000	\$0.000	\$182.542	\$174.328	(\$8.214)	(\$237.903)
2029	\$0.000	\$0.000	\$0.000	(\$189.892)	(\$12.468)	(\$4.297)	(\$160.050)	\$0.000	\$0.000	\$189.892	\$176.815	(\$13.077)	(\$240.491)
Nominal		\$235.025	\$148.125	(\$2,224.993)	(\$164.927)	(\$57.683)	(\$1,967.599)			\$2,608.143	\$2,190.210	(\$417.933)	
NPV		\$149.753	\$94.382	(\$797.651)	(\$59.229)	(\$21.482)	(\$720.584)	\$0.000	\$0.000	\$1,041.786	\$801.295	(\$240.491)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.77											

Run Date:

25-Mar-10

06:46 PM

Filename:

EE Motor 1-5 HP

## 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	-0.03	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.04	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(173)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(159)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-0.03	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$15.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$83.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$41.50	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0815	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.76%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
(5) Average Annual Change in Monthly Billing kW	-0.03	kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$75	\$78	\$75
NPV Costs (\$000s)	\$32	\$28	\$83
NPV Net Benefits (\$000s)	\$43	\$50	(\$8)
Benefit:Cost Ratio	2.327	2.822	0.908

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$2	\$0	\$0	\$0	\$0	(\$0)	\$2	\$0	(\$2)	(\$2)
2011	\$0	\$1	\$4	\$0	\$0	\$0	(\$0)	(\$1)	\$5	\$1	(\$4)	(\$5)
2012	\$0	\$1	\$4	\$0	\$0	\$0	(\$0)	(\$2)	\$5	\$2	(\$3)	(\$7)
2013	\$0	\$1	\$4	\$0	\$0	\$0	(\$0)	(\$3)	\$5	\$3	(\$2)	(\$9)
2014	\$0	\$1	\$5	\$0	\$0	(\$1)	(\$0)	(\$3)	\$5	\$5	(\$0)	(\$9)
2015	\$0	\$1	\$5	\$0	\$0	(\$2)	(\$1)	(\$5)	\$5	\$7	\$1	(\$8)
2016	\$0	\$1	\$5	\$0	\$0	(\$2)	(\$1)	(\$6)	\$5	\$8	\$3	(\$7)
2017	\$0	\$1	\$5	\$0	\$0	(\$2)	(\$1)	(\$7)	\$5	\$10	\$4	(\$4)
2018	\$0	\$1	\$5	\$0	\$0	(\$3)	(\$1)	(\$8)	\$6	\$11	\$6	(\$2)
2019	\$0	\$1	\$5	\$0	\$0	(\$3)	(\$1)	(\$9)	\$6	\$13	\$7	\$1
2020	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$9)	\$0	\$13	\$13	\$7
2021	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$9)	\$0	\$13	\$13	\$12
2022	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$9)	\$0	\$13	\$13	\$16
2023	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$9)	\$0	\$14	\$14	\$21
2024	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$10)	\$0	\$14	\$14	\$25
2025	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$10)	\$0	\$15	\$15	\$29
2026	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$11)	\$0	\$15	\$15	\$33
2027	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$11)	\$0	\$16	\$16	\$36
2028	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$11)	\$0	\$16	\$16	\$40
2029	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$12)	\$0	\$16	\$16	\$43
Nominal		\$7	\$43			(\$46)	(\$16)	(\$143)	\$51	\$205	\$154	
NPV		\$5	\$28	\$0	\$0	(\$16)	(\$6)	(\$53)	\$32	\$75	\$43	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		2.33										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$2	\$0	\$0	\$0	(\$0)	\$0	\$1	\$2	\$1	(\$1)	(\$1)
2011	\$4	\$0	\$0	\$0	(\$1)	\$0	\$2	\$4	\$3	(\$1)	(\$1)
2012	\$4	\$0	\$0	\$0	(\$2)	\$0	\$2	\$4	\$4	(\$0)	(\$2)
2013	\$4	\$0	\$0	\$0	(\$3)	\$0	\$2	\$4	\$5	\$0	(\$1)
2014	\$5	\$0	\$0	\$0	(\$4)	\$0	\$2	\$5	\$6	\$1	(\$0)
2015	\$5	\$0	\$0	\$0	(\$6)	\$0	\$2	\$5	\$8	\$3	\$1
2016	\$5	\$0	\$0	\$0	(\$7)	\$0	\$2	\$5	\$9	\$4	\$4
2017	\$5	\$0	\$0	\$0	(\$8)	\$0	\$2	\$5	\$10	\$5	\$7
2018	\$5	\$0	\$0	\$0	(\$9)	\$0	\$2	\$5	\$11	\$6	\$10
2019	\$5	\$0	\$0	\$0	(\$11)	\$0	\$2	\$5	\$13	\$8	\$13
2020	\$0	\$0	\$0	\$0	(\$11)	\$0	\$0	\$0	\$11	\$11	\$18
2021	\$0	\$0	\$0	\$0	(\$11)	\$0	\$0	\$0	\$11	\$11	\$22
2022	\$0	\$0	\$0	\$0	(\$12)	\$0	\$0	\$0	\$12	\$12	\$26
2023	\$0	\$0	\$0	\$0	(\$12)	\$0	\$0	\$0	\$12	\$12	\$30
2024	\$0	\$0	\$0	\$0	(\$13)	\$0	\$0	\$0	\$13	\$13	\$34
2025	\$0	\$0	\$0	\$0	(\$13)	\$0	\$0	\$0	\$13	\$13	\$38
2026	\$0	\$0	\$0	\$0	(\$14)	\$0	\$0	\$0	\$14	\$14	\$41
2027	\$0	\$0	\$0	\$0	(\$14)	\$0	\$0	\$0	\$14	\$14	\$44
2028	\$0	\$0	\$0	\$0	(\$15)	\$0	\$0	\$0	\$15	\$15	\$47
2029	\$0	\$0	\$0	\$0	(\$15)	\$0	\$0	\$0	\$15	\$15	\$50
Nominal	\$43				(\$181)		\$20	\$43	\$201	\$157	
NPV	\$26	\$0	\$0	\$0	(\$66)	\$0	\$13	\$28	\$78	\$50	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		2.82									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$0.375	\$1.038	(\$0.412)	\$0.000	\$0.000	(\$0.379)	\$0.000	\$0.000	\$1.824	\$0.379	(\$1.445)	(\$1.332)
2011	\$0.000	\$0.750	\$2.075	(\$1.217)	\$0.000	(\$0.139)	(\$1.158)	\$0.000	\$0.000	\$4.042	\$1.297	(\$2.745)	(\$3.667)
2012	\$0.000	\$0.750	\$2.075	(\$2.013)	\$0.000	(\$0.236)	(\$1.941)	\$0.000	\$0.000	\$4.838	\$2.177	(\$2.661)	(\$5.754)
2013	\$0.000	\$0.750	\$2.075	(\$2.851)	\$0.000	(\$0.336)	(\$2.890)	\$0.000	\$0.000	\$5.676	\$3.226	(\$2.451)	(\$7.527)
2014	\$0.000	\$0.750	\$2.075	(\$3.795)	(\$1.347)	(\$0.439)	(\$3.101)	\$0.000	\$0.000	\$6.620	\$4.887	(\$1.733)	(\$8.682)
2015	\$0.000	\$0.750	\$2.075	(\$5.537)	(\$1.667)	(\$0.545)	(\$4.540)	\$0.000	\$0.000	\$8.362	\$6.752	(\$1.610)	(\$9.673)
2016	\$0.000	\$0.750	\$2.075	(\$6.814)	(\$1.996)	(\$0.655)	(\$5.580)	\$0.000	\$0.000	\$9.639	\$8.231	(\$1.408)	(\$10.471)
2017	\$0.000	\$0.750	\$2.075	(\$7.832)	(\$2.333)	(\$0.769)	(\$6.565)	\$0.000	\$0.000	\$10.657	\$9.667	(\$0.990)	(\$10.989)
2018	\$0.000	\$0.750	\$2.075	(\$9.160)	(\$2.678)	(\$0.886)	(\$7.649)	\$0.000	\$0.000	\$11.985	\$11.214	(\$0.771)	(\$11.361)
2019	\$0.000	\$0.750	\$2.075	(\$10.546)	(\$3.032)	(\$1.008)	(\$8.842)	\$0.000	\$0.000	\$13.371	\$12.881	(\$0.490)	(\$11.579)
2020	\$0.000	\$0.000	\$0.000	(\$11.021)	(\$3.072)	(\$1.025)	(\$8.793)	\$0.000	\$0.000	\$11.021	\$12.889	\$1.868	(\$10.813)
2021	\$0.000	\$0.000	\$0.000	(\$11.494)	(\$3.112)	(\$1.042)	(\$8.782)	\$0.000	\$0.000	\$11.494	\$12.936	\$1.442	(\$10.267)
2022	\$0.000	\$0.000	\$0.000	(\$11.957)	(\$3.153)	(\$1.060)	(\$9.060)	\$0.000	\$0.000	\$11.957	\$13.273	\$1.316	(\$9.808)
2023	\$0.000	\$0.000	\$0.000	(\$12.399)	(\$3.195)	(\$1.078)	(\$9.391)	\$0.000	\$0.000	\$12.399	\$13.663	\$1.264	(\$9.401)
2024	\$0.000	\$0.000	\$0.000	(\$12.893)	(\$3.237)	(\$1.096)	(\$9.739)	\$0.000	\$0.000	\$12.893	\$14.072	\$1.179	(\$9.051)
2025	\$0.000	\$0.000	\$0.000	(\$13.288)	(\$3.280)	(\$1.115)	(\$10.153)	\$0.000	\$0.000	\$13.288	\$14.548	\$1.259	(\$8.707)
2026	\$0.000	\$0.000	\$0.000	(\$13.679)	(\$3.324)	(\$1.134)	(\$10.581)	\$0.000	\$0.000	\$13.679	\$15.038	\$1.359	(\$8.364)
2027	\$0.000	\$0.000	\$0.000	(\$14.228)	(\$3.368)	(\$1.153)	(\$10.980)	\$0.000	\$0.000	\$14.228	\$15.502	\$1.274	(\$8.067)
2028	\$0.000	\$0.000	\$0.000	(\$14.718)	(\$3.414)	(\$1.173)	(\$11.432)	\$0.000	\$0.000	\$14.718	\$16.018	\$1.300	(\$7.788)
2029	\$0.000	\$0.000	\$0.000	(\$15.294)	(\$3.460)	(\$1.193)	(\$11.573)	\$0.000	\$0.000	\$15.294	\$16.225	\$0.931	(\$7.604)
Nominal		\$7.125	\$19.713	(\$181.149)	(\$45.667)	(\$16.080)	(\$143.129)			\$207.986	\$204.876	(\$3.110)	
NPV		\$4.589	\$12.696	(\$65.505)	(\$16.380)	(\$6.027)	(\$52.779)	\$0.000	\$0.000	\$82.790	\$75.186	(\$7.604)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.91											

## 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	-0.02	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.02	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(103)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(94)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.02	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$15.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$26.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$13.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0815 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.76%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
* (5) Average Annual Change in Monthly Billing kW	-0.016 kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$1,626	\$1,594	\$1,626
NPV Costs (\$000s)	\$500	\$327	\$1,767
NPV Net Benefits (\$000s)	\$1,126	\$1,267	(\$140)
Benefit:Cost Ratio	3.252	4.872	0.921

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$15	\$26	\$0	\$0	\$0	\$0	(\$9)	\$41	\$9	(\$32)	(\$30)
2011	\$0	\$28	\$50	\$0	\$0	\$0	(\$3)	(\$26)	\$79	\$29	(\$49)	(\$72)
2012	\$0	\$28	\$51	\$0	\$0	\$0	(\$5)	(\$44)	\$79	\$48	(\$31)	(\$96)
2013	\$0	\$28	\$52	\$0	\$0	\$0	(\$7)	(\$65)	\$80	\$71	(\$9)	(\$103)
2014	\$0	\$28	\$53	\$0	\$0	(\$27)	(\$9)	(\$69)	\$81	\$105	\$24	(\$87)
2015	\$0	\$28	\$54	\$0	\$0	(\$34)	(\$11)	(\$101)	\$82	\$146	\$64	(\$47)
2016	\$0	\$28	\$55	\$0	\$0	(\$40)	(\$13)	(\$124)	\$83	\$178	\$95	\$6
2017	\$0	\$28	\$56	\$0	\$0	(\$47)	(\$15)	(\$146)	\$84	\$209	\$125	\$71
2018	\$0	\$28	\$57	\$0	\$0	(\$54)	(\$18)	(\$170)	\$85	\$242	\$157	\$147
2019	\$0	\$28	\$58	\$0	\$0	(\$61)	(\$20)	(\$197)	\$86	\$278	\$192	\$233
2020	\$0	\$0	\$0	\$0	\$0	(\$62)	(\$21)	(\$196)	\$0	\$278	\$278	\$346
2021	\$0	\$0	\$0	\$0	\$0	(\$62)	(\$21)	(\$195)	\$0	\$279	\$279	\$452
2022	\$0	\$0	\$0	\$0	\$0	(\$63)	(\$21)	(\$202)	\$0	\$286	\$286	\$552
2023	\$0	\$0	\$0	\$0	\$0	(\$64)	(\$22)	(\$209)	\$0	\$295	\$295	\$647
2024	\$0	\$0	\$0	\$0	\$0	(\$65)	(\$22)	(\$217)	\$0	\$304	\$304	\$737
2025	\$0	\$0	\$0	\$0	\$0	(\$66)	(\$22)	(\$226)	\$0	\$314	\$314	\$823
2026	\$0	\$0	\$0	\$0	\$0	(\$67)	(\$23)	(\$235)	\$0	\$325	\$325	\$905
2027	\$0	\$0	\$0	\$0	\$0	(\$68)	(\$23)	(\$244)	\$0	\$335	\$335	\$983
2028	\$0	\$0	\$0	\$0	\$0	(\$69)	(\$24)	(\$254)	\$0	\$346	\$346	\$1,057
2029	\$0	\$0	\$0	\$0	\$0	(\$69)	(\$24)	(\$257)	\$0	\$351	\$351	\$1,126

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$26	\$0	\$0	\$0	(\$10)	\$0	\$13	\$26	\$23	(\$4)	(\$4)
2011	\$50	\$0	\$0	\$0	(\$27)	\$0	\$24	\$50	\$52	\$1	(\$3)
2012	\$51	\$0	\$0	\$0	(\$45)	\$0	\$24	\$51	\$69	\$18	\$11
2013	\$52	\$0	\$0	\$0	(\$63)	\$0	\$24	\$52	\$87	\$35	\$37
2014	\$53	\$0	\$0	\$0	(\$84)	\$0	\$24	\$53	\$108	\$55	\$73
2015	\$54	\$0	\$0	\$0	(\$122)	\$0	\$24	\$54	\$146	\$93	\$130
2016	\$55	\$0	\$0	\$0	(\$150)	\$0	\$24	\$55	\$175	\$120	\$198
2017	\$56	\$0	\$0	\$0	(\$172)	\$0	\$24	\$56	\$197	\$141	\$272
2018	\$57	\$0	\$0	\$0	(\$202)	\$0	\$24	\$57	\$226	\$169	\$354
2019	\$58	\$0	\$0	\$0	(\$232)	\$0	\$24	\$58	\$256	\$199	\$442
2020	\$0	\$0	\$0	\$0	(\$243)	\$0	\$0	\$0	\$243	\$243	\$542
2021	\$0	\$0	\$0	\$0	(\$253)	\$0	\$0	\$0	\$253	\$253	\$637
2022	\$0	\$0	\$0	\$0	(\$263)	\$0	\$0	\$0	\$263	\$263	\$729
2023	\$0	\$0	\$0	\$0	(\$273)	\$0	\$0	\$0	\$273	\$273	\$817
2024	\$0	\$0	\$0	\$0	(\$284)	\$0	\$0	\$0	\$284	\$284	\$901
2025	\$0	\$0	\$0	\$0	(\$293)	\$0	\$0	\$0	\$293	\$293	\$981
2026	\$0	\$0	\$0	\$0	(\$301)	\$0	\$0	\$0	\$301	\$301	\$1,057
2027	\$0	\$0	\$0	\$0	(\$313)	\$0	\$0	\$0	\$313	\$313	\$1,130
2028	\$0	\$0	\$0	\$0	(\$324)	\$0	\$0	\$0	\$324	\$324	\$1,200
2029	\$0	\$0	\$0	\$0	(\$337)	\$0	\$0	\$0	\$337	\$337	\$1,267
<b>Nominal</b>	\$512				(\$3,991)		\$232	\$512	\$4,223	\$3,711	
<b>NPV</b>	\$302		\$0	\$0	(\$1,444)	\$0	\$150	\$327	\$1,594	\$1,267	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		4.87									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$15.000	\$13.000	(\$9.612)	\$0.000	\$0.000	(\$8.974)	\$0.000	\$0.000	\$37.612	\$8.974	(\$28.638)	(\$26.410)
2011	\$0.000	\$28.125	\$24.375	(\$27.218)	\$0.000	(\$2.842)	(\$26.238)	\$0.000	\$0.000	\$79.718	\$29.081	(\$50.638)	(\$69.474)
2012	\$0.000	\$28.125	\$24.375	(\$44.615)	\$0.000	(\$4.776)	(\$43.610)	\$0.000	\$0.000	\$97.115	\$48.386	(\$48.729)	(\$107.691)
2013	\$0.000	\$28.125	\$24.375	(\$62.937)	\$0.000	(\$6.774)	(\$64.684)	\$0.000	\$0.000	\$115.437	\$71.458	(\$43.979)	(\$139.499)
2014	\$0.000	\$28.125	\$24.375	(\$83.612)	(\$27.139)	(\$8.839)	(\$69.266)	\$0.000	\$0.000	\$136.112	\$105.244	(\$30.868)	(\$160.087)
2015	\$0.000	\$28.125	\$24.375	(\$122.068)	(\$33.550)	(\$10.972)	(\$101.255)	\$0.000	\$0.000	\$174.568	\$145.778	(\$28.791)	(\$177.796)
2016	\$0.000	\$28.125	\$24.375	(\$150.168)	(\$40.123)	(\$13.175)	(\$124.340)	\$0.000	\$0.000	\$202.668	\$177.638	(\$25.029)	(\$191.993)
2017	\$0.000	\$28.125	\$24.375	(\$172.467)	(\$46.861)	(\$15.450)	(\$146.192)	\$0.000	\$0.000	\$224.967	\$208.503	(\$16.464)	(\$200.605)
2018	\$0.000	\$28.125	\$24.375	(\$201.619)	(\$53.770)	(\$17.798)	(\$170.252)	\$0.000	\$0.000	\$254.119	\$241.820	(\$12.299)	(\$206.538)
2019	\$0.000	\$28.125	\$24.375	(\$232.051)	(\$60.853)	(\$20.222)	(\$196.710)	\$0.000	\$0.000	\$284.551	\$277.785	(\$6.766)	(\$209.548)
2020	\$0.000	\$0.000	\$0.000	(\$242.559)	(\$61.648)	(\$20.566)	(\$195.615)	\$0.000	\$0.000	\$242.559	\$277.829	\$35.270	(\$195.079)
2021	\$0.000	\$0.000	\$0.000	(\$253.006)	(\$62.457)	(\$20.916)	(\$195.372)	\$0.000	\$0.000	\$253.006	\$278.744	\$25.738	(\$185.341)
2022	\$0.000	\$0.000	\$0.000	(\$263.242)	(\$63.279)	(\$21.271)	(\$201.563)	\$0.000	\$0.000	\$263.242	\$286.113	\$22.870	(\$177.362)
2023	\$0.000	\$0.000	\$0.000	(\$273.019)	(\$64.115)	(\$21.633)	(\$208.922)	\$0.000	\$0.000	\$273.019	\$294.670	\$21.651	(\$170.395)
2024	\$0.000	\$0.000	\$0.000	(\$283.929)	(\$64.966)	(\$22.000)	(\$216.670)	\$0.000	\$0.000	\$283.929	\$303.637	\$19.708	(\$164.548)
2025	\$0.000	\$0.000	\$0.000	(\$292.656)	(\$65.831)	(\$22.374)	(\$225.875)	\$0.000	\$0.000	\$292.656	\$314.080	\$21.424	(\$158.686)
2026	\$0.000	\$0.000	\$0.000	(\$301.283)	(\$66.711)	(\$22.755)	(\$235.398)	\$0.000	\$0.000	\$301.283	\$324.863	\$23.580	(\$152.736)
2027	\$0.000	\$0.000	\$0.000	(\$313.406)	(\$67.605)	(\$23.142)	(\$244.289)	\$0.000	\$0.000	\$313.406	\$335.036	\$21.630	(\$147.703)
2028	\$0.000	\$0.000	\$0.000	(\$324.247)	(\$68.515)	(\$23.535)	(\$254.331)	\$0.000	\$0.000	\$324.247	\$346.382	\$22.134	(\$142.953)
2029	\$0.000	\$0.000	\$0.000	(\$336.979)	(\$69.440)	(\$23.935)	(\$257.461)	\$0.000	\$0.000	\$336.979	\$350.837	\$13.858	(\$140.210)
Nominal		\$268.125	\$232.375	(\$3,990.695)	(\$916.864)	(\$322.975)	(\$3,187.018)			\$4,491.195	\$4,426.857	(\$64.338)	
NPV		\$172.953	\$149.893	(\$1,443.722)	(\$328.945)	(\$121.139)	(\$1,176.273)	\$0.000	\$0.000	\$1,766.568	\$1,626.358	(\$140.210)	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	0.92												

Run Date:

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EE Motor 51+ HP

## 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	-0.01	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.01	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(39)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(36)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.01	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$15.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$10.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$5.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0815 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.76%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
* (5) Average Annual Change in Monthly Billing kW	-0.006 kW/Mo

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$789	\$776	\$789
NPV Costs (\$000s)	\$381	\$160	\$996
NPV Net Benefits (\$000s)	\$408	\$616	(\$208)
Benefit:Cost Ratio	2.073	4.842	0.792

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

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

[illegible]



Run Date:

25-Mar-10

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Filename:

EE Motor 51+ HP

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$12	\$0	\$0	\$0	(\$4)	\$0	\$6	\$12	\$10	(\$2)	(\$2)
2011	\$25	\$0	\$0	\$0	(\$13)	\$0	\$12	\$25	\$25	\$0	(\$1)
2012	\$25	\$0	\$0	\$0	(\$22)	\$0	\$12	\$25	\$34	\$8	\$5
2013	\$26	\$0	\$0	\$0	(\$30)	\$0	\$12	\$26	\$42	\$17	\$17
2014	\$26	\$0	\$0	\$0	(\$41)	\$0	\$12	\$26	\$53	\$26	\$35
2015	\$27	\$0	\$0	\$0	(\$59)	\$0	\$12	\$27	\$71	\$45	\$62
2016	\$27	\$0	\$0	\$0	(\$73)	\$0	\$12	\$27	\$85	\$58	\$95
2017	\$27	\$0	\$0	\$0	(\$84)	\$0	\$12	\$27	\$96	\$69	\$131
2018	\$28	\$0	\$0	\$0	(\$98)	\$0	\$12	\$28	\$110	\$82	\$171
2019	\$28	\$0	\$0	\$0	(\$113)	\$0	\$12	\$28	\$125	\$97	\$214
2020	\$0	\$0	\$0	\$0	(\$118)	\$0	\$0	\$0	\$118	\$118	\$262
2021	\$0	\$0	\$0	\$0	(\$123)	\$0	\$0	\$0	\$123	\$123	\$309
2022	\$0	\$0	\$0	\$0	(\$128)	\$0	\$0	\$0	\$128	\$128	\$354
2023	\$0	\$0	\$0	\$0	(\$133)	\$0	\$0	\$0	\$133	\$133	\$397
2024	\$0	\$0	\$0	\$0	(\$138)	\$0	\$0	\$0	\$138	\$138	\$438
2025	\$0	\$0	\$0	\$0	(\$143)	\$0	\$0	\$0	\$143	\$143	\$477
2026	\$0	\$0	\$0	\$0	(\$147)	\$0	\$0	\$0	\$147	\$147	\$514
2027	\$0	\$0	\$0	\$0	(\$153)	\$0	\$0	\$0	\$153	\$153	\$549
2028	\$0	\$0	\$0	\$0	(\$158)	\$0	\$0	\$0	\$158	\$158	\$583
2029	\$0	\$0	\$0	\$0	(\$164)	\$0	\$0	\$0	\$164	\$164	\$616
<b>Nominal</b>	\$251				(\$1,944)		\$114	\$251	\$2,058	\$1,807	
<b>NPV</b>	\$148	\$0	\$0	\$0	(\$703)	\$0	\$73	\$160	\$776	\$616	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		4.84									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$18.000	\$6.000	(\$4.406)	\$0.000	\$0.000	(\$4.124)	\$0.000	\$0.000	\$28.406	\$4.124	(\$24.282)	(\$22.393)
2011	\$0.000	\$36.000	\$12.000	(\$13.019)	\$0.000	(\$1.395)	(\$12.583)	\$0.000	\$0.000	\$61.019	\$13.917	(\$47.102)	(\$62.450)
2012	\$0.000	\$36.000	\$12.000	(\$21.527)	\$0.000	(\$2.262)	(\$21.097)	\$0.000	\$0.000	\$69.527	\$23.359	(\$46.168)	(\$98.658)
2013	\$0.000	\$36.000	\$12.000	(\$30.480)	\$0.000	(\$3.221)	(\$31.410)	\$0.000	\$0.000	\$78.480	\$34.631	(\$43.849)	(\$130.372)
2014	\$0.000	\$36.000	\$12.000	(\$40.579)	(\$12.931)	(\$4.211)	(\$33.705)	\$0.000	\$0.000	\$88.579	\$50.848	(\$37.731)	(\$155.538)
2015	\$0.000	\$36.000	\$12.000	(\$59.345)	(\$16.007)	(\$5.235)	(\$49.338)	\$0.000	\$0.000	\$107.345	\$70.580	(\$36.765)	(\$178.151)
2016	\$0.000	\$36.000	\$12.000	(\$73.081)	(\$19.161)	(\$6.292)	(\$60.642)	\$0.000	\$0.000	\$121.081	\$86.095	(\$34.987)	(\$197.997)
2017	\$0.000	\$36.000	\$12.000	(\$83.990)	(\$22.394)	(\$7.383)	(\$71.348)	\$0.000	\$0.000	\$131.990	\$101.125	(\$30.865)	(\$214.142)
2018	\$0.000	\$36.000	\$12.000	(\$98.239)	(\$25.709)	(\$8.510)	(\$83.134)	\$0.000	\$0.000	\$146.239	\$117.352	(\$28.887)	(\$228.077)
2019	\$0.000	\$36.000	\$12.000	(\$113.116)	(\$29.107)	(\$9.673)	(\$96.093)	\$0.000	\$0.000	\$161.116	\$134.873	(\$26.243)	(\$239.752)
2020	\$0.000	\$0.000	\$0.000	(\$118.242)	(\$29.488)	(\$9.837)	(\$95.558)	\$0.000	\$0.000	\$118.242	\$134.883	\$16.640	(\$232.925)
2021	\$0.000	\$0.000	\$0.000	(\$123.340)	(\$29.874)	(\$10.004)	(\$95.439)	\$0.000	\$0.000	\$123.340	\$135.318	\$11.978	(\$228.393)
2022	\$0.000	\$0.000	\$0.000	(\$128.334)	(\$30.268)	(\$10.174)	(\$98.463)	\$0.000	\$0.000	\$128.334	\$138.905	\$10.571	(\$224.705)
2023	\$0.000	\$0.000	\$0.000	(\$133.104)	(\$30.668)	(\$10.347)	(\$102.058)	\$0.000	\$0.000	\$133.104	\$143.073	\$9.970	(\$221.498)
2024	\$0.000	\$0.000	\$0.000	(\$138.427)	(\$31.075)	(\$10.523)	(\$105.843)	\$0.000	\$0.000	\$138.427	\$147.441	\$9.015	(\$218.823)
2025	\$0.000	\$0.000	\$0.000	(\$142.683)	(\$31.488)	(\$10.702)	(\$110.340)	\$0.000	\$0.000	\$142.683	\$152.530	\$9.847	(\$216.128)
2026	\$0.000	\$0.000	\$0.000	(\$146.890)	(\$31.909)	(\$10.884)	(\$114.992)	\$0.000	\$0.000	\$146.890	\$157.785	\$10.894	(\$213.379)
2027	\$0.000	\$0.000	\$0.000	(\$152.805)	(\$32.337)	(\$11.069)	(\$119.335)	\$0.000	\$0.000	\$152.805	\$162.741	\$9.936	(\$211.067)
2028	\$0.000	\$0.000	\$0.000	(\$158.094)	(\$32.772)	(\$11.257)	(\$124.241)	\$0.000	\$0.000	\$158.094	\$168.270	\$10.176	(\$208.884)
2029	\$0.000	\$0.000	\$0.000	(\$164.306)	(\$33.215)	(\$11.449)	(\$125.769)	\$0.000	\$0.000	\$164.306	\$170.433	\$6.127	(\$207.671)
<hr/>													
Nominal		\$342.000	\$114.000	(\$1,944.008)	(\$438.403)	(\$154.370)	(\$1,555.510)			\$2,400.008	\$2,148.282	(\$251.725)	
NPV		\$220.273	\$73.424	(\$702.683)	(\$157.250)	(\$57.861)	(\$573.600)	\$0.000	\$0.000	\$996.381	\$788.710	(\$207.671)	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	0.79												

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25-Mar-10

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Convection Oven

## 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	-0.40	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.53	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(2,038)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,869)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.40	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$921.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$1,000.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$500.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014	**
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0815	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.76%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	-0.4	kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$72	\$73	\$72
NPV Costs (\$000s)	\$49	\$27	\$96
NPV Net Benefits (\$000s)	\$23	\$47	(\$24)
Benefit:Cost Ratio	1.471	2.746	0.753

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$1	\$1	\$0	\$0	\$0	\$0	(\$0)	\$2	\$0	(\$2)	(\$2)
2011	\$0	\$3	\$3	\$0	\$0	\$0	(\$0)	(\$1)	\$6	\$1	(\$5)	(\$6)
2012	\$0	\$3	\$3	\$0	\$0	\$0	(\$0)	(\$1)	\$6	\$1	(\$4)	(\$9)
2013	\$0	\$3	\$3	\$0	\$0	\$0	(\$0)	(\$2)	\$6	\$2	(\$4)	(\$12)
2014	\$0	\$4	\$4	\$0	\$0	(\$1)	(\$0)	(\$2)	\$8	\$4	(\$4)	(\$15)
2015	\$0	\$4	\$4	\$0	\$0	(\$1)	(\$0)	(\$3)	\$8	\$5	(\$3)	(\$17)
2016	\$0	\$5	\$6	\$0	\$0	(\$2)	(\$1)	(\$5)	\$10	\$7	(\$3)	(\$18)
2017	\$0	\$5	\$6	\$0	\$0	(\$2)	(\$1)	(\$6)	\$10	\$9	(\$1)	(\$19)
2018	\$0	\$6	\$7	\$0	\$0	(\$3)	(\$1)	(\$7)	\$13	\$11	(\$2)	(\$20)
2019	\$0	\$6	\$7	\$0	\$0	(\$3)	(\$1)	(\$9)	\$13	\$13	\$1	(\$20)
2020	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$9)	\$0	\$13	\$13	(\$14)
2021	\$0	\$0	\$0	\$0	\$0	(\$3)	(\$1)	(\$9)	\$0	\$13	\$13	(\$9)
2022	\$0	\$0	\$0	\$0	\$0	(\$4)	(\$1)	(\$9)	\$0	\$14	\$14	(\$4)
2023	\$0	\$0	\$0	\$0	\$0	(\$4)	(\$1)	(\$9)	\$0	\$14	\$14	\$0
2024	\$0	\$0	\$0	\$0	\$0	(\$4)	(\$1)	(\$10)	\$0	\$15	\$15	\$5
2025	\$0	\$0	\$0	\$0	\$0	(\$4)	(\$1)	(\$10)	\$0	\$15	\$15	\$9
2026	\$0	\$0	\$0	\$0	\$0	(\$4)	(\$1)	(\$10)	\$0	\$15	\$15	\$13
2027	\$0	\$0	\$0	\$0	\$0	(\$4)	(\$1)	(\$11)	\$0	\$16	\$16	\$16
2028	\$0	\$0	\$0	\$0	\$0	(\$4)	(\$1)	(\$11)	\$0	\$16	\$16	\$20
2029	\$0	\$0	\$0	\$0	\$0	(\$4)	(\$1)	(\$11)	\$0	\$17	\$17	\$23
<b>Nominal</b>		\$37	\$45			(\$50)	(\$17)	(\$136)	\$82	\$203	\$121	
<b>NPV</b>		\$22	\$27	\$0	\$0	(\$17)	(\$6)	(\$48)	\$49	\$72	\$23	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		1.47										

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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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$0.921	\$0.500	(\$0.197)	\$0.000	\$0.000	(\$0.178)	\$0.000	\$0.000	\$1.618	\$0.178	(\$1.440)	(\$1.328)
2011	\$0.000	\$2.763	\$1.500	(\$0.777)	\$0.000	(\$0.099)	(\$0.726)	\$0.000	\$0.000	\$5.040	\$0.825	(\$4.215)	(\$4.912)
2012	\$0.000	\$2.763	\$1.500	(\$1.349)	\$0.000	(\$0.176)	(\$1.278)	\$0.000	\$0.000	\$5.612	\$1.454	(\$4.159)	(\$8.174)
2013	\$0.000	\$2.763	\$1.500	(\$1.951)	\$0.000	(\$0.256)	(\$1.941)	\$0.000	\$0.000	\$6.214	\$2.197	(\$4.017)	(\$11.090)
2014	\$0.000	\$3.684	\$2.000	(\$2.827)	(\$1.118)	(\$0.364)	(\$2.268)	\$0.000	\$0.000	\$8.511	\$3.750	(\$4.761)	(\$14.255)
2015	\$0.000	\$3.684	\$2.000	(\$4.328)	(\$1.455)	(\$0.476)	(\$3.493)	\$0.000	\$0.000	\$10.012	\$5.424	(\$4.588)	(\$17.077)
2016	\$0.000	\$4.605	\$2.500	(\$5.755)	(\$1.883)	(\$0.618)	(\$4.642)	\$0.000	\$0.000	\$12.860	\$7.144	(\$5.716)	(\$20.320)
2017	\$0.000	\$4.605	\$2.500	(\$6.979)	(\$2.322)	(\$0.766)	(\$5.762)	\$0.000	\$0.000	\$14.084	\$8.850	(\$5.234)	(\$23.057)
2018	\$0.000	\$5.526	\$3.000	(\$8.744)	(\$2.857)	(\$0.946)	(\$7.193)	\$0.000	\$0.000	\$17.270	\$10.995	(\$6.274)	(\$26.084)
2019	\$0.000	\$5.526	\$3.000	(\$10.596)	(\$3.404)	(\$1.131)	(\$8.752)	\$0.000	\$0.000	\$19.122	\$13.288	(\$5.834)	(\$28.680)
2020	\$0.000	\$0.000	\$0.000	(\$11.070)	(\$3.449)	(\$1.151)	(\$8.704)	\$0.000	\$0.000	\$11.070	\$13.303	\$2.233	(\$27.764)
2021	\$0.000	\$0.000	\$0.000	(\$11.542)	(\$3.494)	(\$1.170)	(\$8.693)	\$0.000	\$0.000	\$11.542	\$13.357	\$1.815	(\$27.077)
2022	\$0.000	\$0.000	\$0.000	(\$12.005)	(\$3.540)	(\$1.190)	(\$8.968)	\$0.000	\$0.000	\$12.005	\$13.698	\$1.694	(\$26.486)
2023	\$0.000	\$0.000	\$0.000	(\$12.447)	(\$3.587)	(\$1.210)	(\$9.296)	\$0.000	\$0.000	\$12.447	\$14.093	\$1.646	(\$25.957)
2024	\$0.000	\$0.000	\$0.000	(\$12.940)	(\$3.634)	(\$1.231)	(\$9.640)	\$0.000	\$0.000	\$12.940	\$14.506	\$1.566	(\$25.492)
2025	\$0.000	\$0.000	\$0.000	(\$13.335)	(\$3.683)	(\$1.252)	(\$10.050)	\$0.000	\$0.000	\$13.335	\$14.985	\$1.649	(\$25.041)
2026	\$0.000	\$0.000	\$0.000	(\$13.727)	(\$3.732)	(\$1.273)	(\$10.474)	\$0.000	\$0.000	\$13.727	\$15.479	\$1.752	(\$24.599)
2027	\$0.000	\$0.000	\$0.000	(\$14.274)	(\$3.782)	(\$1.295)	(\$10.869)	\$0.000	\$0.000	\$14.274	\$15.946	\$1.672	(\$24.210)
2028	\$0.000	\$0.000	\$0.000	(\$14.765)	(\$3.833)	(\$1.317)	(\$11.316)	\$0.000	\$0.000	\$14.765	\$16.466	\$1.701	(\$23.844)
2029	\$0.000	\$0.000	\$0.000	(\$15.339)	(\$3.885)	(\$1.339)	(\$11.455)	\$0.000	\$0.000	\$15.339	\$16.679	\$1.340	(\$23.579)
Nominal		\$36.840	\$20.000	(\$174.947)	(\$49.658)	(\$17.258)	(\$135.699)			\$231.787	\$202.615	(\$29.172)	
NPV		\$22.232	\$12.070	(\$61.286)	(\$17.441)	(\$6.250)	(\$48.317)	\$0.000	\$0.000	\$95.588	\$72.008	(\$23.579)	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	0.75												

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## 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	-0.20	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.26	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in kWh per Customer at generator	(1.265)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,160)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.20	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$700.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$800.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$400.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0815 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.76%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
* (5) Average Annual Change in Monthly Billing kW	-0.2 kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$54	\$60	\$54
NPV Costs (\$000s)	\$49	\$27	\$82
NPV Net Benefits (\$000s)	\$5	\$33	(\$28)
Benefit:Cost Ratio	1.102	2.208	0.659

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.





**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$2	\$0	\$0	\$0	(\$0)	\$0	\$1	\$2	\$1	(\$1)	(\$1)
2011	\$2	\$0	\$0	\$0	(\$1)	\$0	\$1	\$2	\$2	(\$1)	(\$1)
2012	\$3	\$0	\$0	\$0	(\$1)	\$0	\$2	\$3	\$3	(\$1)	(\$2)
2013	\$4	\$0	\$0	\$0	(\$2)	\$0	\$2	\$4	\$4	(\$1)	(\$2)
2014	\$5	\$0	\$0	\$0	(\$2)	\$0	\$2	\$5	\$5	(\$0)	(\$2)
2015	\$5	\$0	\$0	\$0	(\$4)	\$0	\$2	\$5	\$6	\$1	(\$2)
2016	\$5	\$0	\$0	\$0	(\$5)	\$0	\$2	\$5	\$7	\$2	(\$1)
2017	\$5	\$0	\$0	\$0	(\$6)	\$0	\$2	\$5	\$8	\$3	\$1
2018	\$6	\$0	\$0	\$0	(\$7)	\$0	\$2	\$6	\$9	\$4	\$2
2019	\$6	\$0	\$0	\$0	(\$8)	\$0	\$2	\$6	\$10	\$5	\$4
2020	\$0	\$0	\$0	\$0	(\$8)	\$0	\$0	\$0	\$8	\$8	\$8
2021	\$0	\$0	\$0	\$0	(\$9)	\$0	\$0	\$0	\$9	\$9	\$11
2022	\$0	\$0	\$0	\$0	(\$9)	\$0	\$0	\$0	\$9	\$9	\$14
2023	\$0	\$0	\$0	\$0	(\$9)	\$0	\$0	\$0	\$9	\$9	\$17
2024	\$0	\$0	\$0	\$0	(\$10)	\$0	\$0	\$0	\$10	\$10	\$20
2025	\$0	\$0	\$0	\$0	(\$10)	\$0	\$0	\$0	\$10	\$10	\$23
2026	\$0	\$0	\$0	\$0	(\$10)	\$0	\$0	\$0	\$10	\$10	\$26
2027	\$0	\$0	\$0	\$0	(\$11)	\$0	\$0	\$0	\$11	\$11	\$28
2028	\$0	\$0	\$0	\$0	(\$11)	\$0	\$0	\$0	\$11	\$11	\$31
2029	\$0	\$0	\$0	\$0	(\$12)	\$0	\$0	\$0	\$12	\$12	\$33
Nominal	\$44				(\$135)		\$20	\$44	\$155	\$110	
NPV	\$25	\$0	\$0	\$0	(\$48)	\$0	\$12	\$27	\$60	\$33	
Discount Rate =	8.44%										
Benefit/Cost Ratio =	2.21										

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$1.400	\$0.800	(\$0.238)	\$0.000	\$0.000	(\$0.221)	\$0.000	\$0.000	\$2.438	\$0.221	(\$2.216)	(\$2.044)
2011	\$0.000	\$2.100	\$1.200	(\$0.585)	\$0.000	(\$0.062)	(\$0.563)	\$0.000	\$0.000	\$3.885	\$0.625	(\$3.260)	(\$4.816)
2012	\$0.000	\$2.800	\$1.600	(\$1.045)	\$0.000	(\$0.113)	(\$1.020)	\$0.000	\$0.000	\$5.445	\$1.133	(\$4.312)	(\$8.196)
2013	\$0.000	\$3.500	\$2.000	(\$1.644)	\$0.000	(\$0.179)	(\$1.687)	\$0.000	\$0.000	\$7.144	\$1.866	(\$5.278)	(\$12.016)
2014	\$0.000	\$4.200	\$2.400	(\$2.432)	(\$0.798)	(\$0.260)	(\$2.011)	\$0.000	\$0.000	\$9.032	\$3.069	(\$5.962)	(\$15.992)
2015	\$0.000	\$4.200	\$2.400	(\$3.780)	(\$1.051)	(\$0.344)	(\$3.131)	\$0.000	\$0.000	\$10.380	\$4.526	(\$5.854)	(\$19.593)
2016	\$0.000	\$4.200	\$2.400	(\$4.847)	(\$1.310)	(\$0.430)	(\$4.008)	\$0.000	\$0.000	\$11.447	\$5.749	(\$5.699)	(\$22.826)
2017	\$0.000	\$4.200	\$2.400	(\$5.733)	(\$1.576)	(\$0.520)	(\$4.853)	\$0.000	\$0.000	\$12.333	\$6.949	(\$5.385)	(\$25.642)
2018	\$0.000	\$4.200	\$2.400	(\$6.851)	(\$1.848)	(\$0.612)	(\$5.778)	\$0.000	\$0.000	\$13.451	\$8.238	(\$5.213)	(\$28.157)
2019	\$0.000	\$4.200	\$2.400	(\$8.021)	(\$2.128)	(\$0.707)	(\$6.790)	\$0.000	\$0.000	\$14.621	\$9.625	(\$4.996)	(\$30.380)
2020	\$0.000	\$0.000	\$0.000	(\$8.384)	(\$2.156)	(\$0.719)	(\$6.752)	\$0.000	\$0.000	\$8.384	\$9.627	\$1.243	(\$29.870)
2021	\$0.000	\$0.000	\$0.000	(\$8.745)	(\$2.184)	(\$0.731)	(\$6.744)	\$0.000	\$0.000	\$8.745	\$9.659	\$0.915	(\$29.524)
2022	\$0.000	\$0.000	\$0.000	(\$9.098)	(\$2.213)	(\$0.744)	(\$6.958)	\$0.000	\$0.000	\$9.098	\$9.914	\$0.816	(\$29.239)
2023	\$0.000	\$0.000	\$0.000	(\$9.436)	(\$2.242)	(\$0.756)	(\$7.212)	\$0.000	\$0.000	\$9.436	\$10.210	\$0.774	(\$28.990)
2024	\$0.000	\$0.000	\$0.000	(\$9.813)	(\$2.272)	(\$0.769)	(\$7.479)	\$0.000	\$0.000	\$9.813	\$10.520	\$0.707	(\$28.780)
2025	\$0.000	\$0.000	\$0.000	(\$10.114)	(\$2.302)	(\$0.782)	(\$7.797)	\$0.000	\$0.000	\$10.114	\$10.881	\$0.767	(\$28.570)
2026	\$0.000	\$0.000	\$0.000	(\$10.412)	(\$2.333)	(\$0.796)	(\$8.126)	\$0.000	\$0.000	\$10.412	\$11.254	\$0.841	(\$28.358)
2027	\$0.000	\$0.000	\$0.000	(\$10.831)	(\$2.364)	(\$0.809)	(\$8.433)	\$0.000	\$0.000	\$10.831	\$11.606	\$0.774	(\$28.178)
2028	\$0.000	\$0.000	\$0.000	(\$11.206)	(\$2.396)	(\$0.823)	(\$8.779)	\$0.000	\$0.000	\$11.206	\$11.998	\$0.792	(\$28.008)
2029	\$0.000	\$0.000	\$0.000	(\$11.646)	(\$2.428)	(\$0.837)	(\$8.887)	\$0.000	\$0.000	\$11.646	\$12.152	\$0.507	(\$27.908)
<hr/>													
Nominal		\$35.000	\$20.000	(\$134.861)	(\$31.598)	(\$10.993)	(\$107.230)			\$189.861	\$149.821	(\$40.040)	
NPV		\$21.663	\$12.379	(\$47.788)	(\$11.225)	(\$4.029)	(\$38.668)	\$0.000	\$0.000	\$81.830	\$53.922	(\$27.908)	
Discount Rate =	8.44%												
Benefit/Cost Ratio =	0.66												

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## 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	-0.66	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(2,751)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(2,523)	kWh/Cus/Yr
(8) Change in Winter kW per Cust at meter	-0.50	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
(6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$1,658.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$1,150.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
(8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
(9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
(11) Supply Costs Escalation Rate	1.70%	
(12) Utility Discount Rate	8.44%	
(13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$575.00	\$/Cus
(15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
(16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009
(2) In-Service Year For Incremental Generation	2014 **
(3) In-Service Year For Incremental T & D	2011
(4) Base Year Incremental Generation Cost	\$819.89 \$/kW
(5) Base Year Incremental Transmission Cost	\$249.00 \$/kW
(6) Base Year Incremental Distribution Cost	\$110.75 \$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%
(8) Generator Fixed O & M Cost	\$54.55 \$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%
(10) Transmission Fixed O & M Cost	\$3.11 \$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77 \$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%
(13) Incremental Gen Variable O & M Costs	\$0.000 \$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%
(15) Incremental Gen Capacity Factor	40.80%
(16) Incremental Generating Unit Fuel Cost	\$0.0815 \$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.76%
(18) Incremental Purchased Capacity Cost	\$30.56 \$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%

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)	\$0.0246 \$/kWh
(2) Non-Fuel Escalation Rate	Per Table
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200 \$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table
(5) Average Annual Change in Monthly Billing kW	-0.5 kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$36	\$37	\$36
NPV Costs (\$000s)	\$27	\$12	\$52
NPV Net Benefits (\$000s)	\$9	\$25	(\$16)
Benefit:Cost Ratio	1.343	3.137	0.698

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$2	\$1	\$0	\$0	\$0	\$0	(\$0)	\$3	\$0	(\$3)	(\$2)
2011	\$0	\$2	\$1	\$0	\$0	\$0	(\$0)	(\$0)	\$3	\$1	(\$2)	(\$4)
2012	\$0	\$2	\$1	\$0	\$0	\$0	(\$0)	(\$1)	\$3	\$1	(\$2)	(\$6)
2013	\$0	\$2	\$1	\$0	\$0	\$0	(\$0)	(\$1)	\$3	\$1	(\$2)	(\$7)
2014	\$0	\$2	\$1	\$0	\$0	(\$0)	(\$0)	(\$1)	\$3	\$2	(\$1)	(\$8)
2015	\$0	\$3	\$3	\$0	\$0	(\$1)	(\$0)	(\$2)	\$6	\$3	(\$3)	(\$10)
2016	\$0	\$3	\$3	\$0	\$0	(\$1)	(\$0)	(\$2)	\$6	\$4	(\$2)	(\$11)
2017	\$0	\$3	\$3	\$0	\$0	(\$1)	(\$0)	(\$3)	\$6	\$5	(\$1)	(\$12)
2018	\$0	\$3	\$3	\$0	\$0	(\$1)	(\$0)	(\$4)	\$6	\$6	(\$0)	(\$12)
2019	\$0	\$3	\$3	\$0	\$0	(\$2)	(\$1)	(\$4)	\$6	\$7	\$1	(\$12)
2020	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$4)	\$0	\$7	\$7	(\$9)
2021	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$4)	\$0	\$7	\$7	(\$7)
2022	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$5)	\$0	\$7	\$7	(\$4)
2023	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$5)	\$0	\$7	\$7	(\$2)
2024	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$5)	\$0	\$7	\$7	\$0
2025	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$5)	\$0	\$7	\$7	\$2
2026	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$5)	\$0	\$8	\$8	\$4
2027	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$6)	\$0	\$8	\$8	\$6
2028	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$6)	\$0	\$8	\$8	\$8
2029	\$0	\$0	\$0	\$0	\$0	(\$2)	(\$1)	(\$6)	\$0	\$8	\$8	\$9

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$1	\$0	\$0	\$0	(\$0)	\$0	\$1	\$1	\$1	(\$0)	(\$0)
2011	\$1	\$0	\$0	\$0	(\$1)	\$0	\$1	\$1	\$1	(\$0)	(\$0)
2012	\$1	\$0	\$0	\$0	(\$1)	\$0	\$1	\$1	\$1	\$0	(\$0)
2013	\$1	\$0	\$0	\$0	(\$1)	\$0	\$1	\$1	\$2	\$0	(\$0)
2014	\$1	\$0	\$0	\$0	(\$1)	\$0	\$1	\$1	\$2	\$1	\$0
2015	\$3	\$0	\$0	\$0	(\$2)	\$0	\$1	\$3	\$3	\$1	\$1
2016	\$3	\$0	\$0	\$0	(\$3)	\$0	\$1	\$3	\$4	\$2	\$2
2017	\$3	\$0	\$0	\$0	(\$4)	\$0	\$1	\$3	\$5	\$2	\$3
2018	\$3	\$0	\$0	\$0	(\$4)	\$0	\$1	\$3	\$6	\$3	\$4
2019	\$3	\$0	\$0	\$0	(\$5)	\$0	\$1	\$3	\$6	\$4	\$6
2020	\$0	\$0	\$0	\$0	(\$6)	\$0	\$0	\$0	\$6	\$6	\$8
2021	\$0	\$0	\$0	\$0	(\$6)	\$0	\$0	\$0	\$6	\$6	\$11
2022	\$0	\$0	\$0	\$0	(\$6)	\$0	\$0	\$0	\$6	\$6	\$13
2023	\$0	\$0	\$0	\$0	(\$6)	\$0	\$0	\$0	\$6	\$6	\$15
2024	\$0	\$0	\$0	\$0	(\$6)	\$0	\$0	\$0	\$6	\$6	\$17
2025	\$0	\$0	\$0	\$0	(\$7)	\$0	\$0	\$0	\$7	\$7	\$18
2026	\$0	\$0	\$0	\$0	(\$7)	\$0	\$0	\$0	\$7	\$7	\$20
2027	\$0	\$0	\$0	\$0	(\$7)	\$0	\$0	\$0	\$7	\$7	\$22
2028	\$0	\$0	\$0	\$0	(\$7)	\$0	\$0	\$0	\$7	\$7	\$23
2029	\$0	\$0	\$0	\$0	(\$8)	\$0	\$0	\$0	\$8	\$8	\$25
<b>Nominal</b>	\$19				(\$89)		\$9	\$19	\$97	\$78	
<b>NPV</b>	\$11	\$0	\$0	\$0	(\$31)	\$0	\$5	\$12	\$37	\$25	
<b>Discount Rate =</b>		8.44%									
<b>Benefit/Cost Ratio =</b>		3.14									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$1.658	\$0.575	(\$0.263)	\$0.000	\$0.000	(\$0.241)	\$0.000	\$0.000	\$2.496	\$0.241	(\$2.255)	(\$2.080)
2011	\$0.000	\$1.658	\$0.575	(\$0.519)	\$0.000	(\$0.062)	(\$0.490)	\$0.000	\$0.000	\$2.752	\$0.552	(\$2.200)	(\$3.951)
2012	\$0.000	\$1.658	\$0.575	(\$0.772)	\$0.000	(\$0.094)	(\$0.739)	\$0.000	\$0.000	\$3.005	\$0.834	(\$2.171)	(\$5.654)
2013	\$0.000	\$1.658	\$0.575	(\$1.041)	\$0.000	(\$0.128)	(\$1.048)	\$0.000	\$0.000	\$3.274	\$1.176	(\$2.098)	(\$7.171)
2014	\$0.000	\$1.658	\$0.575	(\$1.347)	(\$0.499)	(\$0.162)	(\$1.094)	\$0.000	\$0.000	\$3.580	\$1.755	(\$1.826)	(\$8.389)
2015	\$0.000	\$3.316	\$1.150	(\$2.250)	(\$0.707)	(\$0.231)	(\$1.834)	\$0.000	\$0.000	\$6.716	\$2.772	(\$3.943)	(\$10.814)
2016	\$0.000	\$3.316	\$1.150	(\$3.011)	(\$0.921)	(\$0.302)	(\$2.452)	\$0.000	\$0.000	\$7.477	\$3.676	(\$3.802)	(\$12.971)
2017	\$0.000	\$3.316	\$1.150	(\$3.666)	(\$1.140)	(\$0.376)	(\$3.056)	\$0.000	\$0.000	\$8.132	\$4.572	(\$3.560)	(\$14.833)
2018	\$0.000	\$3.316	\$1.150	(\$4.471)	(\$1.365)	(\$0.452)	(\$3.713)	\$0.000	\$0.000	\$8.937	\$5.530	(\$3.407)	(\$16.477)
2019	\$0.000	\$3.316	\$1.150	(\$5.314)	(\$1.596)	(\$0.530)	(\$4.431)	\$0.000	\$0.000	\$9.780	\$6.557	(\$3.224)	(\$17.911)
2020	\$0.000	\$0.000	\$0.000	(\$5.553)	(\$1.617)	(\$0.539)	(\$4.406)	\$0.000	\$0.000	\$5.553	\$6.562	\$1.009	(\$17.497)
2021	\$0.000	\$0.000	\$0.000	(\$5.791)	(\$1.638)	(\$0.548)	(\$4.400)	\$0.000	\$0.000	\$5.791	\$6.587	\$0.796	(\$17.196)
2022	\$0.000	\$0.000	\$0.000	(\$6.023)	(\$1.659)	(\$0.558)	(\$4.540)	\$0.000	\$0.000	\$6.023	\$6.757	\$0.734	(\$16.940)
2023	\$0.000	\$0.000	\$0.000	(\$6.246)	(\$1.681)	(\$0.567)	(\$4.706)	\$0.000	\$0.000	\$6.246	\$6.954	\$0.708	(\$16.712)
2024	\$0.000	\$0.000	\$0.000	(\$6.494)	(\$1.704)	(\$0.577)	(\$4.880)	\$0.000	\$0.000	\$6.494	\$7.161	\$0.667	(\$16.514)
2025	\$0.000	\$0.000	\$0.000	(\$6.693)	(\$1.726)	(\$0.587)	(\$5.087)	\$0.000	\$0.000	\$6.693	\$7.401	\$0.707	(\$16.321)
2026	\$0.000	\$0.000	\$0.000	(\$6.890)	(\$1.749)	(\$0.597)	(\$5.302)	\$0.000	\$0.000	\$6.890	\$7.648	\$0.758	(\$16.129)
2027	\$0.000	\$0.000	\$0.000	(\$7.166)	(\$1.773)	(\$0.607)	(\$5.502)	\$0.000	\$0.000	\$7.166	\$7.882	\$0.716	(\$15.962)
2028	\$0.000	\$0.000	\$0.000	(\$7.412)	(\$1.797)	(\$0.617)	(\$5.728)	\$0.000	\$0.000	\$7.412	\$8.142	\$0.730	(\$15.806)
2029	\$0.000	\$0.000	\$0.000	(\$7.702)	(\$1.821)	(\$0.628)	(\$5.799)	\$0.000	\$0.000	\$7.702	\$8.248	\$0.546	(\$15.698)
Nominal		\$24.870	\$8.625	(\$88.625)	(\$23.394)	(\$8.163)	(\$69.448)			\$122.120	\$101.005	(\$21.115)	
NPV		\$15.274	\$5.297	(\$31.331)	(\$8.236)	(\$2.978)	(\$24.991)	\$0.000	\$0.000	\$51.902	\$36.205	(\$15.698)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.70											

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Steamer

## 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	-13.79	kW/Cus
(2) Change in Peak kW per Customer at generator	-18.11	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(65,520)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(60,081)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-13.79	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$921.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$2,200.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$1,100.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0815	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.76%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	-13.8	kW/Mo

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits(\$000s)	\$295	\$249	\$295
NPV Costs (\$000s)	\$10	\$7	\$252
NPV Net Benefits (\$000s)	\$285	\$242	\$43
Benefit:Cost Ratio	29.478	34.280	1.171

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

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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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2012	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2013	\$0	\$1	\$2	\$0	\$0	\$0	(\$1)	(\$6)	\$3	\$7	\$4	\$3
2014	\$0	\$1	\$2	\$0	\$0	(\$6)	(\$2)	(\$10)	\$3	\$18	\$14	\$12
2015	\$0	\$1	\$2	\$0	\$0	(\$8)	(\$3)	(\$19)	\$3	\$30	\$26	\$29
2016	\$0	\$0	\$0	\$0	\$0	(\$8)	(\$3)	(\$19)	\$0	\$31	\$31	\$46
2017	\$0	\$1	\$3	\$0	\$0	(\$11)	(\$4)	(\$26)	\$3	\$42	\$38	\$66
2018	\$0	\$0	\$0	\$0	\$0	(\$12)	(\$4)	(\$27)	\$0	\$43	\$43	\$87
2019	\$0	\$1	\$3	\$0	\$0	(\$15)	(\$5)	(\$35)	\$4	\$55	\$51	\$109
2020	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$5)	(\$35)	\$0	\$55	\$55	\$132
2021	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$5)	(\$35)	\$0	\$55	\$55	\$153
2022	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$5)	(\$36)	\$0	\$56	\$56	\$172
2023	\$0	\$0	\$0	\$0	\$0	(\$15)	(\$5)	(\$37)	\$0	\$58	\$58	\$191
2024	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$5)	(\$39)	\$0	\$60	\$60	\$209
2025	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$5)	(\$40)	\$0	\$62	\$62	\$226
2026	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$5)	(\$42)	\$0	\$64	\$64	\$242
2027	\$0	\$0	\$0	\$0	\$0	(\$16)	(\$6)	(\$44)	\$0	\$66	\$66	\$257
2028	\$0	\$0	\$0	\$0	\$0	(\$17)	(\$6)	(\$45)	\$0	\$68	\$68	\$271
2029	\$0	\$0	\$0	\$0	\$0	(\$17)	(\$6)	(\$46)	\$0	\$69	\$69	\$285
Nominal		\$5	\$12			(\$218)	(\$74)	(\$543)	\$17	\$835	\$818	
NPV		\$3	\$7	\$0	\$0	(\$78)	(\$27)	(\$191)	\$10	\$295	\$285	
Discount Rate =		8.44%										
Benefit/Cost Ratio =		29.48										



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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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2012	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2013	\$2	\$0	\$0	\$0	(\$6)	\$0	\$1	\$2	\$7	\$5	\$4
2014	\$2	\$0	\$0	\$0	(\$13)	\$0	\$1	\$2	\$14	\$12	\$12
2015	\$2	\$0	\$0	\$0	(\$23)	\$0	\$1	\$2	\$25	\$22	\$25
2016	\$0	\$0	\$0	\$0	(\$24)	\$0	\$0	\$0	\$24	\$24	\$39
2017	\$3	\$0	\$0	\$0	(\$32)	\$0	\$1	\$3	\$33	\$31	\$55
2018	\$0	\$0	\$0	\$0	(\$33)	\$0	\$0	\$0	\$33	\$33	\$71
2019	\$3	\$0	\$0	\$0	(\$43)	\$0	\$1	\$3	\$44	\$41	\$90
2020	\$0	\$0	\$0	\$0	(\$45)	\$0	\$0	\$0	\$45	\$45	\$108
2021	\$0	\$0	\$0	\$0	(\$47)	\$0	\$0	\$0	\$47	\$47	\$126
2022	\$0	\$0	\$0	\$0	(\$49)	\$0	\$0	\$0	\$49	\$49	\$143
2023	\$0	\$0	\$0	\$0	(\$50)	\$0	\$0	\$0	\$50	\$50	\$159
2024	\$0	\$0	\$0	\$0	(\$52)	\$0	\$0	\$0	\$52	\$52	\$175
2025	\$0	\$0	\$0	\$0	(\$54)	\$0	\$0	\$0	\$54	\$54	\$189
2026	\$0	\$0	\$0	\$0	(\$56)	\$0	\$0	\$0	\$56	\$56	\$203
2027	\$0	\$0	\$0	\$0	(\$58)	\$0	\$0	\$0	\$58	\$58	\$217
2028	\$0	\$0	\$0	\$0	(\$60)	\$0	\$0	\$0	\$60	\$60	\$230
2029	\$0	\$0	\$0	\$0	(\$62)	\$0	\$0	\$0	\$62	\$62	\$242
Nominal	\$12				(\$709)		\$6	\$12	\$714	\$702	
NPV	\$7	\$0	\$0	\$0	(\$246)	\$0	\$3	\$7	\$249	\$242	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		34.28									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2011	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2012	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2013	\$0.000	\$0.921	\$1.100	(\$6.345)	\$0.000	(\$0.881)	(\$6.241)	\$0.000	\$0.000	\$8.366	\$7.122	(\$1.244)	(\$0.900)
2014	\$0.000	\$0.921	\$1.100	(\$13.129)	(\$5.504)	(\$1.792)	(\$10.417)	\$0.000	\$0.000	\$15.150	\$17.713	\$2.563	\$0.810
2015	\$0.000	\$0.921	\$1.100	(\$23.414)	(\$8.361)	(\$2.734)	(\$18.714)	\$0.000	\$0.000	\$25.435	\$29.809	\$4.375	\$3.501
2016	\$0.000	\$0.000	\$0.000	(\$24.351)	(\$8.469)	(\$2.781)	(\$19.463)	\$0.000	\$0.000	\$24.351	\$30.713	\$6.361	\$7.109
2017	\$0.000	\$0.921	\$1.100	(\$32.346)	(\$11.437)	(\$3.771)	(\$26.461)	\$0.000	\$0.000	\$34.367	\$41.669	\$7.303	\$10.929
2018	\$0.000	\$0.000	\$0.000	(\$33.373)	(\$11.586)	(\$3.835)	(\$27.204)	\$0.000	\$0.000	\$33.373	\$42.625	\$9.252	\$15.392
2019	\$0.000	\$0.921	\$1.100	(\$42.969)	(\$14.671)	(\$4.875)	(\$35.169)	\$0.000	\$0.000	\$44.990	\$54.715	\$9.725	\$19.718
2020	\$0.000	\$0.000	\$0.000	(\$44.884)	(\$14.862)	(\$4.958)	(\$34.973)	\$0.000	\$0.000	\$44.884	\$54.794	\$9.910	\$23.784
2021	\$0.000	\$0.000	\$0.000	(\$46.789)	(\$15.057)	(\$5.042)	(\$34.930)	\$0.000	\$0.000	\$46.789	\$55.029	\$8.240	\$26.901
2022	\$0.000	\$0.000	\$0.000	(\$48.657)	(\$15.256)	(\$5.128)	(\$36.037)	\$0.000	\$0.000	\$48.657	\$56.420	\$7.763	\$29.610
2023	\$0.000	\$0.000	\$0.000	(\$50.444)	(\$15.457)	(\$5.215)	(\$37.352)	\$0.000	\$0.000	\$50.444	\$58.025	\$7.580	\$32.049
2024	\$0.000	\$0.000	\$0.000	(\$52.435)	(\$15.662)	(\$5.304)	(\$38.738)	\$0.000	\$0.000	\$52.435	\$59.704	\$7.269	\$34.205
2025	\$0.000	\$0.000	\$0.000	(\$54.036)	(\$15.871)	(\$5.394)	(\$40.383)	\$0.000	\$0.000	\$54.036	\$61.648	\$7.612	\$36.288
2026	\$0.000	\$0.000	\$0.000	(\$55.621)	(\$16.083)	(\$5.486)	(\$42.086)	\$0.000	\$0.000	\$55.621	\$63.654	\$8.034	\$38.315
2027	\$0.000	\$0.000	\$0.000	(\$57.831)	(\$16.299)	(\$5.579)	(\$43.675)	\$0.000	\$0.000	\$57.831	\$65.553	\$7.722	\$40.112
2028	\$0.000	\$0.000	\$0.000	(\$59.814)	(\$16.518)	(\$5.674)	(\$45.471)	\$0.000	\$0.000	\$59.814	\$67.663	\$7.849	\$41.797
2029	\$0.000	\$0.000	\$0.000	(\$62.135)	(\$16.741)	(\$5.770)	(\$46.030)	\$0.000	\$0.000	\$62.135	\$68.542	\$6.407	\$43.065
Nominal		\$4.605	\$5.500	(\$708.573)	(\$217.833)	(\$74.221)	(\$543.344)			\$718.678	\$835.998	\$116.720	
NPV		\$2.738	\$3.271	(\$245.985)	(\$77.504)	(\$26.584)	(\$190.970)	\$0.000	\$0.000	\$251.993	\$295.058	\$43.065	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		1.17											

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Holding Cabinet

## 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	-1.20	kW/Cus
(2) Change in Peak kW per Customer at generator	-1.58	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(7,126)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(6,534)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-1.20	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$921.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$700.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
* (14) Utility Nonrecurring Rebate/Incentive	\$350.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0815	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.76%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	-1.2	kW/Mo.

## Summary Results for This Analysis

	TRC	Participants'	RIM
NPV Benefits (\$000s)	\$608	\$555	\$608
NPV Costs (\$000s)	\$103	\$47	\$611
NPV Net Benefits (\$000s)	\$504	\$507	(\$3)
Benefit:Cost Ratio	5.874	11.753	0.995

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$5	\$4	\$0	\$0	\$0	\$0	(\$3)	\$8	\$3	(\$5)	(\$5)
2011	\$0	\$6	\$4	\$0	\$0	\$0	(\$1)	(\$7)	\$10	\$8	(\$2)	(\$6)
2012	\$0	\$7	\$6	\$0	\$0	\$0	(\$1)	(\$12)	\$13	\$14	\$0	(\$6)
2013	\$0	\$7	\$6	\$0	\$0	\$0	(\$2)	(\$18)	\$13	\$20	\$7	(\$1)
2014	\$0	\$9	\$8	\$0	\$0	(\$9)	(\$3)	(\$21)	\$17	\$33	\$16	\$9
2015	\$0	\$9	\$8	\$0	\$0	(\$11)	(\$4)	(\$32)	\$17	\$47	\$30	\$28
2016	\$0	\$11	\$9	\$0	\$0	(\$14)	(\$5)	(\$42)	\$21	\$61	\$40	\$51
2017	\$0	\$11	\$10	\$0	\$0	(\$18)	(\$6)	(\$51)	\$21	\$75	\$54	\$79
2018	\$0	\$13	\$11	\$0	\$0	(\$21)	(\$7)	(\$63)	\$24	\$91	\$67	\$111
2019	\$0	\$14	\$12	\$0	\$0	(\$26)	(\$8)	(\$76)	\$26	\$111	\$84	\$149
2020	\$0	\$0	\$0	\$0	\$0	(\$26)	(\$9)	(\$76)	\$0	\$111	\$111	\$194
2021	\$0	\$0	\$0	\$0	\$0	(\$26)	(\$9)	(\$76)	\$0	\$111	\$111	\$236
2022	\$0	\$0	\$0	\$0	\$0	(\$27)	(\$9)	(\$78)	\$0	\$114	\$114	\$276
2023	\$0	\$0	\$0	\$0	\$0	(\$27)	(\$9)	(\$81)	\$0	\$117	\$117	\$314
2024	\$0	\$0	\$0	\$0	\$0	(\$27)	(\$9)	(\$84)	\$0	\$121	\$121	\$350
2025	\$0	\$0	\$0	\$0	\$0	(\$28)	(\$9)	(\$89)	\$0	\$125	\$125	\$384
2026	\$0	\$0	\$0	\$0	\$0	(\$28)	(\$10)	(\$92)	\$0	\$129	\$129	\$416
2027	\$0	\$0	\$0	\$0	\$0	(\$28)	(\$10)	(\$95)	\$0	\$133	\$133	\$447
2028	\$0	\$0	\$0	\$0	\$0	(\$29)	(\$10)	(\$99)	\$0	\$138	\$138	\$477
2029	\$0	\$0	\$0	\$0	\$0	(\$29)	(\$10)	(\$100)	\$0	\$139	\$139	\$504

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$4	\$0	\$0	\$0	(\$3)	\$0	\$2	\$4	\$5	\$2	\$1
2011	\$4	\$0	\$0	\$0	(\$7)	\$0	\$2	\$7	\$9	\$5	\$6
2012	\$6	\$0	\$0	\$0	(\$13)	\$0	\$3	\$6	\$15	\$9	\$13
2013	\$6	\$0	\$0	\$0	(\$18)	\$0	\$3	\$6	\$21	\$15	\$24
2014	\$8	\$0	\$0	\$0	(\$26)	\$0	\$4	\$8	\$29	\$21	\$38
2015	\$8	\$0	\$0	\$0	(\$39)	\$0	\$4	\$8	\$42	\$35	\$59
2016	\$9	\$0	\$0	\$0	(\$51)	\$0	\$4	\$9	\$55	\$45	\$85
2017	\$10	\$0	\$0	\$0	(\$61)	\$0	\$4	\$10	\$65	\$55	\$114
2018	\$11	\$0	\$0	\$0	(\$75)	\$0	\$5	\$11	\$80	\$69	\$147
2019	\$12	\$0	\$0	\$0	(\$91)	\$0	\$5	\$12	\$96	\$84	\$184
2020	\$0	\$0	\$0	\$0	(\$95)	\$0	\$0	\$0	\$95	\$95	\$223
2021	\$0	\$0	\$0	\$0	(\$99)	\$0	\$0	\$0	\$99	\$99	\$261
2022	\$0	\$0	\$0	\$0	(\$103)	\$0	\$0	\$0	\$103	\$103	\$297
2023	\$0	\$0	\$0	\$0	(\$107)	\$0	\$0	\$0	\$107	\$107	\$331
2024	\$0	\$0	\$0	\$0	(\$111)	\$0	\$0	\$0	\$111	\$111	\$364
2025	\$0	\$0	\$0	\$0	(\$115)	\$0	\$0	\$0	\$115	\$115	\$396
2026	\$0	\$0	\$0	\$0	(\$118)	\$0	\$0	\$0	\$118	\$118	\$426
2027	\$0	\$0	\$0	\$0	(\$123)	\$0	\$0	\$0	\$123	\$123	\$454
2028	\$0	\$0	\$0	\$0	(\$127)	\$0	\$0	\$0	\$127	\$127	\$481
2029	\$0	\$0	\$0	\$0	(\$132)	\$0	\$0	\$0	\$132	\$132	\$507
Nominal	\$78				(\$1,513)		\$35	\$78	\$1,548	\$1,470	
NPV	\$44	\$0	\$0	\$0	(\$533)	\$0	\$21	\$47	\$555	\$507	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		11.75									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$4.605	\$1.750	(\$3.373)	\$0.000	\$0.000	(\$3.119)	\$0.000	\$0.000	\$9.728	\$3.119	(\$6.609)	(\$6.095)
2011	\$0.000	\$5.526	\$2.100	(\$7.309)	\$0.000	(\$0.816)	(\$6.978)	\$0.000	\$0.000	\$14.935	\$7.794	(\$7.142)	(\$12.168)
2012	\$0.000	\$7.368	\$2.800	(\$12.528)	\$0.000	(\$1.433)	(\$12.126)	\$0.000	\$0.000	\$22.696	\$13.558	(\$9.137)	(\$19.334)
2013	\$0.000	\$7.368	\$2.800	(\$18.011)	\$0.000	(\$2.071)	(\$18.324)	\$0.000	\$0.000	\$28.179	\$20.395	(\$7.784)	(\$24.964)
2014	\$0.000	\$9.210	\$3.500	(\$25.551)	(\$8.860)	(\$2.886)	(\$20.958)	\$0.000	\$0.000	\$38.261	\$32.704	(\$5.557)	(\$28.670)
2015	\$0.000	\$9.210	\$3.500	(\$38.767)	(\$11.399)	(\$3.728)	(\$31.884)	\$0.000	\$0.000	\$51.477	\$47.011	(\$4.466)	(\$31.417)
2016	\$0.000	\$11.052	\$4.200	(\$50.683)	(\$14.493)	(\$4.759)	(\$41.627)	\$0.000	\$0.000	\$65.935	\$60.880	(\$5.055)	(\$34.284)
2017	\$0.000	\$11.052	\$4.200	(\$60.752)	(\$17.666)	(\$5.825)	(\$51.079)	\$0.000	\$0.000	\$76.004	\$74.570	(\$1.434)	(\$35.035)
2018	\$0.000	\$12.894	\$4.900	(\$75.057)	(\$21.424)	(\$7.092)	(\$62.870)	\$0.000	\$0.000	\$92.851	\$91.385	(\$1.466)	(\$35.742)
2019	\$0.000	\$13.815	\$5.250	(\$90.966)	(\$25.533)	(\$8.485)	(\$76.495)	\$0.000	\$0.000	\$110.031	\$110.512	\$0.481	(\$35.528)
2020	\$0.000	\$0.000	\$0.000	(\$95.070)	(\$25.866)	(\$8.629)	(\$76.069)	\$0.000	\$0.000	\$95.070	\$110.564	\$15.494	(\$29.171)
2021	\$0.000	\$0.000	\$0.000	(\$99.151)	(\$26.206)	(\$8.776)	(\$75.974)	\$0.000	\$0.000	\$99.151	\$110.956	\$11.805	(\$24.705)
2022	\$0.000	\$0.000	\$0.000	(\$103.150)	(\$26.551)	(\$8.925)	(\$78.382)	\$0.000	\$0.000	\$103.150	\$113.857	\$10.707	(\$20.970)
2023	\$0.000	\$0.000	\$0.000	(\$106.972)	(\$26.902)	(\$9.077)	(\$81.244)	\$0.000	\$0.000	\$106.972	\$117.222	\$10.250	(\$17.672)
2024	\$0.000	\$0.000	\$0.000	(\$111.234)	(\$27.258)	(\$9.231)	(\$84.257)	\$0.000	\$0.000	\$111.234	\$120.746	\$9.512	(\$14.849)
2025	\$0.000	\$0.000	\$0.000	(\$114.648)	(\$27.621)	(\$9.388)	(\$87.836)	\$0.000	\$0.000	\$114.648	\$124.845	\$10.198	(\$12.059)
2026	\$0.000	\$0.000	\$0.000	(\$118.023)	(\$27.990)	(\$9.547)	(\$91.539)	\$0.000	\$0.000	\$118.023	\$129.077	\$11.054	(\$9.270)
2027	\$0.000	\$0.000	\$0.000	(\$122.759)	(\$28.366)	(\$9.710)	(\$94.997)	\$0.000	\$0.000	\$122.759	\$133.073	\$10.314	(\$6.869)
2028	\$0.000	\$0.000	\$0.000	(\$126.996)	(\$28.748)	(\$9.875)	(\$98.902)	\$0.000	\$0.000	\$126.996	\$137.524	\$10.528	(\$4.610)
2029	\$0.000	\$0.000	\$0.000	(\$131.969)	(\$29.136)	(\$10.043)	(\$100.119)	\$0.000	\$0.000	\$131.969	\$139.298	\$7.328	(\$3.160)
Nominal		\$92.100	\$35.000	(\$1,512.969)	(\$374.019)	(\$130.293)	(\$1,194.780)			\$1,640.069	\$1,699.091	\$59.023	
NPV		\$56.277	\$21.387	(\$533.280)	(\$131.766)	(\$47.452)	(\$428.567)	\$0.000	\$0.000	\$610.944	\$607.784	(\$3.160)	
Discount Rate =		8.44%											
Benefit/Cost Ratio =		0.99											

Run Date:

Filename:

Ice Machine

## 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	-0.20	kW/Cus
(2) Change in Peak kW per Customer at generator	-0.26	kW Gen/Cus
(3) kW Line Loss Percentage	14.21%	
(4) Change in KWh per Customer at generator	(1,960)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	9.05%	
(6) Group Line Loss Multiplier	1.0007	
(7) Annual Change in Customer kWh at Meter	(1,797)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	-0.20	kW/Cus

## II. Economic Life and K-Factors

(1) DSM Program Study Period	21	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	35	Years
(4) K-Factor for Generation	1.4640	
(5) K-Factor for T&D	1.4604	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	1	

## III. Utility &amp; Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$921.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	0.00%	
(4) Customer Equipment Cost	\$200.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	1.70%	
(6) Customer O&M Cost	\$0.00	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	1.70%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	1.70%	
(10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	1.70%	
* (12) Utility Discount Rate	8.44%	
* (13) Utility AFUDC Rate	7.48%	
(14) Utility Nonrecurring Rebate/Incentive	\$100.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

## IV. Incremental Generation, Transmission, &amp; Distribution Costs

(1) Base Year	2009	
(2) In-Service Year For Incremental Generation	2014 **	
(3) In-Service Year For Incremental T & D	2011	
(4) Base Year Incremental Generation Cost	\$819.89	\$/kW
(5) Base Year Incremental Transmission Cost	\$249.00	\$/kW
(6) Base Year Incremental Distribution Cost	\$110.75	\$/kW
(7) Gen, Tran. & Dist Cost Escalation Rate	1.70%	
(8) Generator Fixed O & M Cost	\$54.55	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	0.59%	
(10) Transmission Fixed O & M Cost	\$3.11	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$2.77	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	1.70%	
(13) Incremental Gen Variable O & M Costs	\$0.000	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	0.00%	
(15) Incremental Gen Capacity Factor	40.80%	
(16) Incremental Generating Unit Fuel Cost	\$0.0815	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	2.76%	
(18) Incremental Purchased Capacity Cost	\$30.56	\$/KW/YR
(19) Incremental Capacity Cost Esc Rate	7.10%	

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)	\$0.0246	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$5.4200	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	-0.2	kW/Mo.

## Summary Results for This Analysis

	TRC	Participants	RIM
NPV Benefits (\$000s)	\$179	\$177	\$179
NPV Costs (\$000s)	\$84	\$16	\$245
NPV Net Benefits (\$000s)	\$95	\$161	(\$66)
Benefit:Cost Ratio	2.140	11.039	0.732

\* Supplemental information.

\*\* The relevant avoidable generation unit is a combined cycle unit.

**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$0	\$6	\$1	\$0	\$0	\$0	\$0	(\$1)	\$7	\$1	(\$6)	(\$5)
2011	\$0	\$11	\$2	\$0	\$0	\$0	(\$0)	(\$3)	\$14	\$3	(\$10)	(\$14)
2012	\$0	\$11	\$3	\$0	\$0	\$0	(\$0)	(\$5)	\$14	\$6	(\$8)	(\$20)
2013	\$0	\$11	\$3	\$0	\$0	\$0	(\$1)	(\$8)	\$14	\$8	(\$5)	(\$24)
2014	\$0	\$11	\$3	\$0	\$0	(\$2)	(\$1)	(\$8)	\$14	\$11	(\$2)	(\$26)
2015	\$0	\$11	\$3	\$0	\$0	(\$3)	(\$1)	(\$12)	\$14	\$16	\$2	(\$24)
2016	\$0	\$11	\$3	\$0	\$0	(\$3)	(\$1)	(\$15)	\$14	\$19	\$6	(\$21)
2017	\$0	\$11	\$3	\$0	\$0	(\$4)	(\$1)	(\$18)	\$14	\$23	\$9	(\$16)
2018	\$0	\$11	\$3	\$0	\$0	(\$4)	(\$1)	(\$21)	\$14	\$26	\$13	(\$10)
2019	\$0	\$11	\$3	\$0	\$0	(\$5)	(\$2)	(\$24)	\$14	\$30	\$17	(\$3)
2020	\$0	\$0	\$0	\$0	\$0	(\$5)	(\$2)	(\$24)	\$0	\$30	\$30	\$10
2021	\$0	\$0	\$0	\$0	\$0	(\$5)	(\$2)	(\$24)	\$0	\$30	\$30	\$21
2022	\$0	\$0	\$0	\$0	\$0	(\$5)	(\$2)	(\$25)	\$0	\$31	\$31	\$32
2023	\$0	\$0	\$0	\$0	\$0	(\$5)	(\$2)	(\$25)	\$0	\$32	\$32	\$42
2024	\$0	\$0	\$0	\$0	\$0	(\$5)	(\$2)	(\$26)	\$0	\$33	\$33	\$52
2025	\$0	\$0	\$0	\$0	\$0	(\$5)	(\$2)	(\$28)	\$0	\$35	\$35	\$62
2026	\$0	\$0	\$0	\$0	\$0	(\$5)	(\$2)	(\$29)	\$0	\$36	\$36	\$71
2027	\$0	\$0	\$0	\$0	\$0	(\$5)	(\$2)	(\$30)	\$0	\$37	\$37	\$79
2028	\$0	\$0	\$0	\$0	\$0	(\$5)	(\$2)	(\$31)	\$0	\$38	\$38	\$88
2029	\$0	\$0	\$0	\$0	\$0	(\$6)	(\$2)	(\$31)	\$0	\$39	\$39	\$95
<b>Nominal</b>		\$105	\$25			(\$73)	(\$26)	(\$388)	\$130	\$487	\$357	
<b>NPV</b>		\$68	\$16	\$0	\$0	(\$26)	(\$10)	(\$143)	\$84	\$179	\$95	
<b>Discount Rate =</b>		8.44%										
<b>Benefit/Cost Ratio =</b>		2.14										



**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)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2010	\$1	\$0	\$0	\$0	(\$1)	\$0	\$1	\$1	\$2	\$0	\$0
2011	\$2	\$0	\$0	\$0	(\$3)	\$0	\$1	\$2	\$4	\$2	\$2
2012	\$3	\$0	\$0	\$0	(\$5)	\$0	\$1	\$3	\$6	\$4	\$5
2013	\$3	\$0	\$0	\$0	(\$7)	\$0	\$1	\$3	\$8	\$6	\$9
2014	\$3	\$0	\$0	\$0	(\$10)	\$0	\$1	\$3	\$11	\$8	\$15
2015	\$3	\$0	\$0	\$0	(\$14)	\$0	\$1	\$3	\$15	\$13	\$23
2016	\$3	\$0	\$0	\$0	(\$18)	\$0	\$1	\$3	\$19	\$16	\$32
2017	\$3	\$0	\$0	\$0	(\$20)	\$0	\$1	\$3	\$21	\$19	\$42
2018	\$3	\$0	\$0	\$0	(\$24)	\$0	\$1	\$3	\$25	\$22	\$52
2019	\$3	\$0	\$0	\$0	(\$27)	\$0	\$1	\$3	\$28	\$26	\$64
2020	\$0	\$0	\$0	\$0	(\$29)	\$0	\$0	\$0	\$29	\$29	\$75
2021	\$0	\$0	\$0	\$0	(\$30)	\$0	\$0	\$0	\$30	\$30	\$87
2022	\$0	\$0	\$0	\$0	(\$31)	\$0	\$0	\$0	\$31	\$31	\$97
2023	\$0	\$0	\$0	\$0	(\$32)	\$0	\$0	\$0	\$32	\$32	\$108
2024	\$0	\$0	\$0	\$0	(\$33)	\$0	\$0	\$0	\$33	\$33	\$118
2025	\$0	\$0	\$0	\$0	(\$35)	\$0	\$0	\$0	\$35	\$35	\$127
2026	\$0	\$0	\$0	\$0	(\$36)	\$0	\$0	\$0	\$36	\$36	\$136
2027	\$0	\$0	\$0	\$0	(\$37)	\$0	\$0	\$0	\$37	\$37	\$145
2028	\$0	\$0	\$0	\$0	(\$38)	\$0	\$0	\$0	\$38	\$38	\$153
2029	\$0	\$0	\$0	\$0	(\$40)	\$0	\$0	\$0	\$40	\$40	\$161
Nominal NPV	\$25	\$0	\$0	\$0	(\$470)	\$0	\$11	\$25	\$481	\$456	
	\$15				(\$170)		\$7	\$16	\$177	\$161	
Discount Rate =		8.44%									
Benefit/Cost Ratio =		11.04									

**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)
2009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
2010	\$0.000	\$5.526	\$0.600	(\$1.056)	\$0.000	\$0.000	(\$1.029)	\$0.000	\$0.000	\$7.182	\$1.029	(\$6.152)	(\$5.674)
2011	\$0.000	\$11.052	\$1.200	(\$3.119)	\$0.000	(\$0.222)	(\$3.140)	\$0.000	\$0.000	\$15.371	\$3.363	(\$12.008)	(\$15.886)
2012	\$0.000	\$11.052	\$1.200	(\$5.153)	\$0.000	(\$0.377)	(\$5.265)	\$0.000	\$0.000	\$17.405	\$5.643	(\$11.763)	(\$25.111)
2013	\$0.000	\$11.052	\$1.200	(\$7.288)	\$0.000	(\$0.537)	(\$7.839)	\$0.000	\$0.000	\$19.540	\$8.376	(\$11.164)	(\$33.185)
2014	\$0.000	\$11.052	\$1.200	(\$9.711)	(\$2.155)	(\$0.702)	(\$8.412)	\$0.000	\$0.000	\$21.963	\$11.269	(\$10.694)	(\$40.317)
2015	\$0.000	\$11.052	\$1.200	(\$14.289)	(\$2.668)	(\$0.872)	(\$12.314)	\$0.000	\$0.000	\$26.541	\$15.854	(\$10.687)	(\$46.891)
2016	\$0.000	\$11.052	\$1.200	(\$17.628)	(\$3.193)	(\$1.049)	(\$15.135)	\$0.000	\$0.000	\$29.880	\$19.377	(\$10.502)	(\$52.848)
2017	\$0.000	\$11.052	\$1.200	(\$20.255)	(\$3.732)	(\$1.231)	(\$17.807)	\$0.000	\$0.000	\$32.507	\$22.770	(\$9.737)	(\$57.941)
2018	\$0.000	\$11.052	\$1.200	(\$23.698)	(\$4.285)	(\$1.418)	(\$20.749)	\$0.000	\$0.000	\$35.950	\$26.452	(\$9.498)	(\$62.523)
2019	\$0.000	\$11.052	\$1.200	(\$27.291)	(\$4.851)	(\$1.612)	(\$23.983)	\$0.000	\$0.000	\$39.543	\$30.446	(\$9.097)	(\$66.570)
2020	\$0.000	\$0.000	\$0.000	(\$28.548)	(\$4.915)	(\$1.640)	(\$23.850)	\$0.000	\$0.000	\$28.548	\$30.404	\$1.856	(\$65.808)
2021	\$0.000	\$0.000	\$0.000	(\$29.796)	(\$4.979)	(\$1.667)	(\$23.820)	\$0.000	\$0.000	\$29.796	\$30.466	\$0.670	(\$65.555)
2022	\$0.000	\$0.000	\$0.000	(\$31.019)	(\$5.045)	(\$1.696)	(\$24.575)	\$0.000	\$0.000	\$31.019	\$31.315	\$0.296	(\$65.451)
2023	\$0.000	\$0.000	\$0.000	(\$32.184)	(\$5.111)	(\$1.725)	(\$25.472)	\$0.000	\$0.000	\$32.184	\$32.308	\$0.124	(\$65.412)
2024	\$0.000	\$0.000	\$0.000	(\$33.487)	(\$5.179)	(\$1.754)	(\$26.417)	\$0.000	\$0.000	\$33.487	\$33.350	(\$0.138)	(\$65.452)
2025	\$0.000	\$0.000	\$0.000	(\$34.523)	(\$5.248)	(\$1.784)	(\$27.539)	\$0.000	\$0.000	\$34.523	\$34.571	\$0.047	(\$65.440)
2026	\$0.000	\$0.000	\$0.000	(\$35.547)	(\$5.318)	(\$1.814)	(\$28.700)	\$0.000	\$0.000	\$35.547	\$35.832	\$0.285	(\$65.368)
2027	\$0.000	\$0.000	\$0.000	(\$36.996)	(\$5.390)	(\$1.845)	(\$29.784)	\$0.000	\$0.000	\$36.996	\$37.018	\$0.023	(\$65.362)
2028	\$0.000	\$0.000	\$0.000	(\$38.288)	(\$5.462)	(\$1.876)	(\$31.008)	\$0.000	\$0.000	\$38.288	\$38.347	\$0.059	(\$65.350)
2029	\$0.000	\$0.000	\$0.000	(\$39.809)	(\$5.536)	(\$1.908)	(\$31.390)	\$0.000	\$0.000	\$39.809	\$38.834	(\$0.975)	(\$65.543)
<b>Nominal</b>		\$104.994	\$11.400	(\$469.685)	(\$73.067)	(\$25.728)	(\$388.229)			\$586.079	\$487.025	(\$99.054)	
<b>NPV</b>		\$67.624	\$7.342	(\$169.589)	(\$26.208)	(\$9.643)	(\$143.161)	\$0.000	\$0.000	\$244.555	\$179.013	(\$65.543)	
<b>Discount Rate =</b>		8.44%											
<b>Benefit/Cost Ratio =</b>		0.73											