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November 29, 2010

**VIA HAND DELIVERY**

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

RE: *Petition for approval of demand-side management plan of Progress Energy Florida, Inc;*  
Docket No. 100160-EG

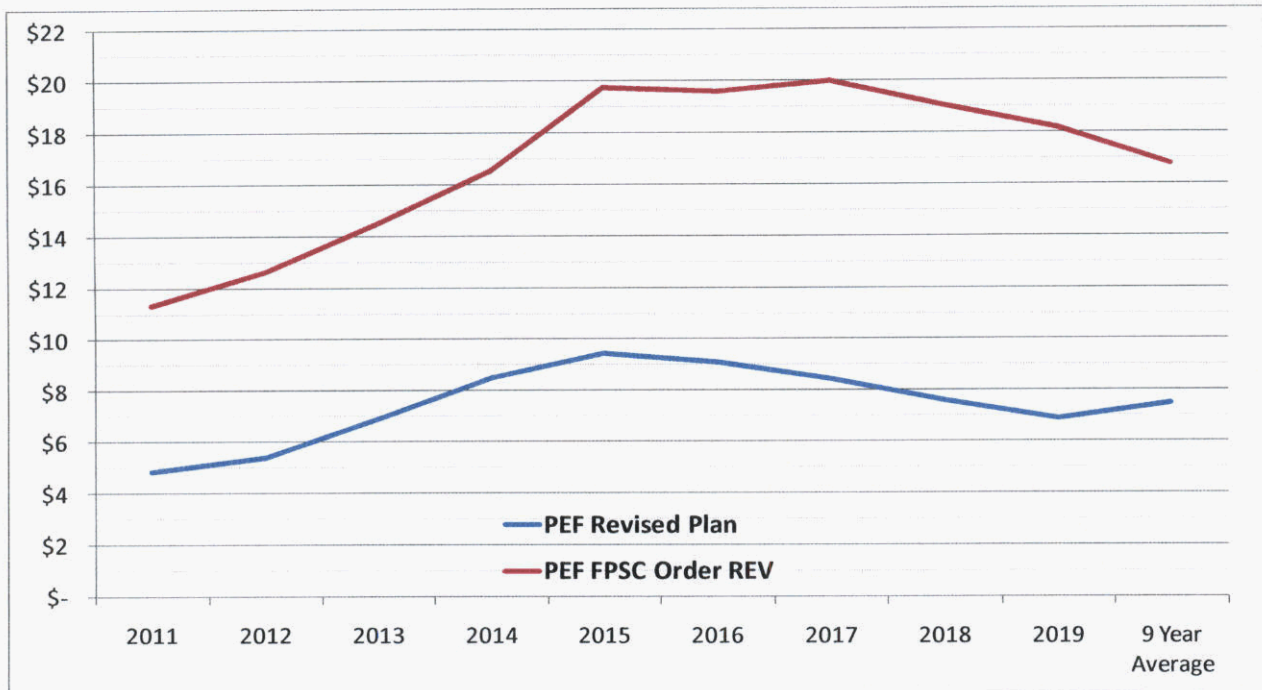
Dear Ms. Cole:

Pursuant to Order PSC-10-0605-PAA-EG, as well as the Commission's request made during the September 14, 2010 Agenda Conference, Progress Energy Florida, Inc. ("PEF") encloses the original and fifteen (15) copies of the following two Demand Side Management ("DSM") plans: (1) the Revised Goal Plan; and (2) the Original Goal Scenario. PEF respectfully requests that the Commission approve and implement the Revised Goal Plan, because it represents the best balance between energy savings and rate impacts to PEF's customers. PEF developed the Revised Goal Plan by screening measures to ensure cost-effectiveness and then using historic experience, market research, and industry review to choose only those programs and measures, at the appropriate participation levels, that were most cost-effective and logical to implement. By using this process, PEF developed a plan that will result in 1,540 GWH of energy savings from 2011-2019, a seven times increase to PEF's historic goals. The Revised Goal Plan is approximately fifty percent of the energy savings found in the Original Goal Scenario, which is 3,205 GWH, but the resulting reduction in rate impact to PEF's customers is far greater than fifty percent.

Specifically, as shown in the following chart, under the Revised Goal Plan, customers will pay \$4.84 per 1,200 kWh/hour in year 2011, but for that same year under the Original Goal Scenario, customers would pay \$11.28. Overall, the average cost PEF's customers would pay under the Revised Goal Plan is \$7.49, but the rate impact is significantly lower than the \$16.79 average under the Original Goal Scenario.

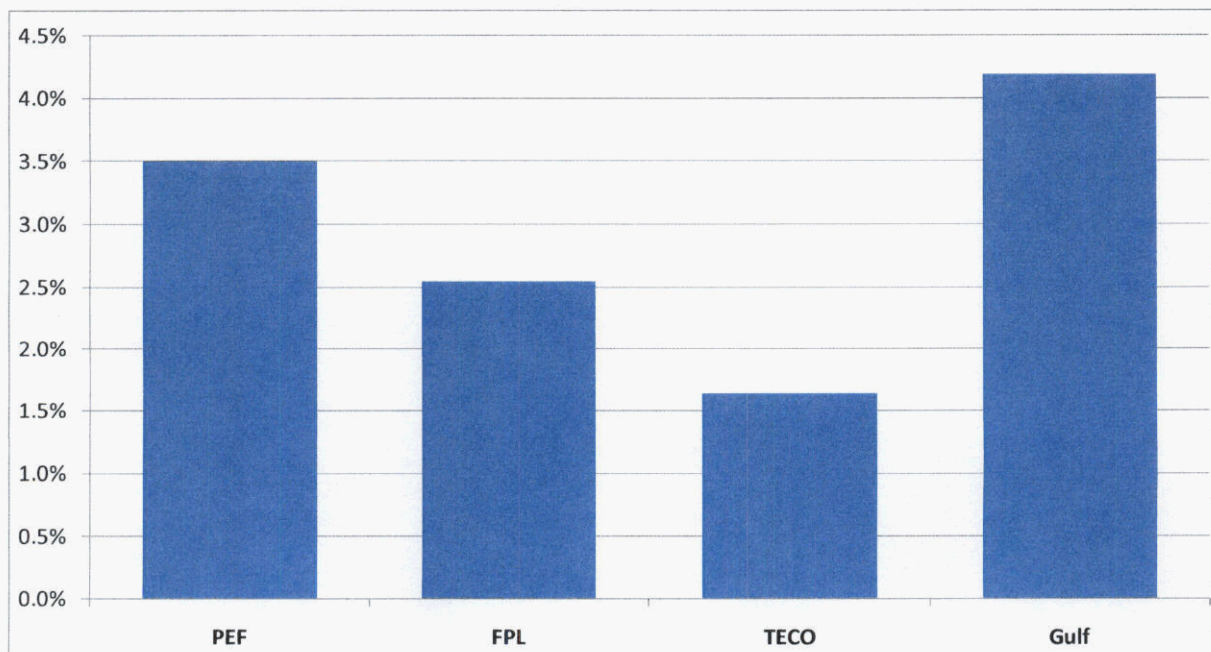
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In addition, the Revised Goal Plan, with its goal of 1,540 GWH, will put PEF more in parity with its peer utilities. The Revised Goal Plan was requested by the Commission at the Agenda Conference, because PEF's goal as set originally by the Commission was 200-400 percent higher than its peers. As shown by the chart below, the revised goal brings PEF closer to the goals set for its peer utilities, when compared as a percentage of retail sales.

***DSM Energy Reduction Goals as percentage of Average Retail Sales***





Despite the reduction of the energy savings goal presented in the Revised Goal Plan, under this plan PEF will still achieve substantially higher energy savings than the Company achieved in previous DSM plans. PEF will be achieving more than seven times the energy savings achieved in the previous goal-setting period. It will be doing so in a logical, cost-effective manner that is fair to all parties, including PEF's customers.

Further, because PEF had flexibility when crafting the measures and programs to include in the Revised Goal Plan, it could choose those programs that minimize cross-subsidization among its customers and benefit low-income customers. This flexibility was simply not available when developing the Original Goal Scenario, because the aggressive goals required PEF to maximize all available programs and measures.

Therefore, PEF requests the Commission to approve the Revised Goal Plan, along with the revised tariff sheets that implement the changes included in the plan. This revised plan leverages the best combination of measures and programs for providing significant energy savings impacts in the most cost-effective manner.

Sincerely,



Dianne M. Triplett  
Attorney for Progress Energy Florida, Inc.

**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished via electronic and US Mail this 29<sup>th</sup> day of November, 2010 to all parties of record as indicated below.

  
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**PROPOSED 2010**

**REVISED GOAL**

**DEMAND SIDE MANAGEMENT**

**PROGRAM PLAN**

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## **I. INTRODUCTION**

In accordance with Sections 25-17.001 through 25-17.003, Florida Administrative Code, the Florida Public Service Commission (the "Commission") requested numeric conservation goals, testimony and a Demand Side Management (DSM) Program Plan for Progress Energy Florida ("Progress Energy" or "PEF") in Docket No. 080408-EG. On March 30, 2010, Progress Energy submitted a DSM Plan to meet the 2019 cumulative goals in Order No. PSC-09-0855-FOF-EG issued on December 30, 2009, which was later reduced for a double counting error recognized and voted upon by the Commission on March 31, 2010 in Order No. PSC-10-0198-FOF-EG. On October 4, 2010 the Commission denied Progress Energy's DSM Plan in Order No. PSC-10-0605-PAA-EG, based on the assertion that the Plan submitted met the aggregate or cumulative goal, but not the annual goals as prescribed by the Commission. An Agenda Conference was conducted on September 14, 2010, where PEF demonstrated the need for parity, given that its goal was 200-400% higher than the other Florida utilities. As a result, the Commission ordered PEF to file specific program modifications or additions to meet the annual as well as aggregate, or cumulative goals stated in Order No. PSC-10-0198-FOF-EG issued on March 31, 2010. Additionally the Commission requested a revised goal scenario be filed, aiming at approximately 50% of the original Commission goal, a level that achieves closer parity with the other utilities. To meet this request, PEF has designed two distinct plans referred to as the "Original Goal Scenario", which is being separately filed, and the plan herein referred to as the Revised Goal Plan. PEF is filing both plans, but for the reasons set forth below and as included in its filing letter accompanying both plans, the Commission should approve the Revised Goal Plan. The Revised Goal Plan is the appropriate balance between rate impact and energy efficiency.

Given the current anticipated schedule for Commission consideration of these proposed plans, it will not be possible to realize savings impacts in 2010 associated with any new measures or programs included in the Revised Goal Plan. Additionally, the anticipated schedule for receiving Commission authority to implement new or modified measures and programs will likely impact PEF's ability to meet the 2011 savings set forth in this Revised Goal Plan as efforts to establish new programs, partnerships, infrastructure, etc. are further delayed.

The Revised Goal Plan more closely represents what PEF estimates to be the "achievable potential" based on E-TRC for all measures, including those with less than 2 year paybacks. The plan is designed to meet an achievable level of savings that is approximately 50% of the "Original Goal Scenario", consistent with the Commission request at the September 14, 2010 Agenda Conference and moves PEF toward closer parity with the other Florida utilities. This revised plan leverages the best combination of measures and programs for providing significant energy savings impacts in the most cost-effective manner. Additionally, it reflects PEF's solar pilot programs recently approved in Order No.PSC-10-0605-PAA-EG.

Relative to PEF's March 30, 2010 Plan the design of this new Revised Goal Plan incorporates the following changes for maintaining a least-cost approach to meeting a revised goal.

1. Reduced program costs – PEF significantly reduced program costs for most efficiency programs by lowering incentives and other program costs that were and are necessary for meeting the original 3,205 GWh goal. Most cost reductions outweigh the reduced number of projected participants and savings in the respective programs as the Company has in this plan

reversed the exponential cost increases required to meet the extremely high adoption rate that would be required under the 3,205 GWh scenarios

2. Maintained currently offered energy-efficiency programs – PEF is proposing to maintain all currently operating energy efficiency programs included in its March 30, 2010 DSM Plan filing, with the necessary modifications to best meet a revised goal (e.g., incentive levels and other program costs as referenced above)
3. Maintained capacity-based demand response programs – PEF will maintain its successful history of promoting capacity focused programs that cost effectively defers future generating units
4. Included selected new programs previously proposed – PEF has retained all or portions of three new programs originally proposed in its March 30, 2010 filing; Business Energy Saver, Commercial Green Building New Construction, and Business Energy Response Program; This plan also includes the Demand Side Renewable Portfolio approved by the Commission
5. Retained certain Technical Potential Program (TPP) measures – PEF has identified three TPP measures reflected in its March 30, 2010 plan that have been incorporated into existing programs; HVAC tune-up and high SEER HVAC with ECM technology measures were incorporated into the Home Energy Improvement program. HVAC tune-up and window film measures have been incorporated into the low-income and informational education initiatives
6. Included new stand-alone programs – PEF has incorporated three (3) new stand-alone programs, some of which were previously embedded as measures within its Technical



Potential Program, Residential Lighting Program, Residential Appliance Recycling Program, and Behavior Modification Program; PEF selected these elements of the original TPP program due to their projected cost effectiveness and potential savings impacts over the remaining 9 years of the plan period.

As stated in previous filings and agenda conferences, the Commission should not approve the separately filed "Original Goal Scenario". Rather the Commission should approve this Revised Goal Plan for several reasons. First, this scenario will result in significantly lower rates for PEF's customers while achieving a level of savings more than 7 times PEF's currently approved goal. To illustrate, the residential rate impact in 2011 under the Revised Goal Plan is \$4.84 at 1,200 kWh/hour or 57% lower than the rate impact for the same year in the "Original Goal Scenario" of \$11.28. Second, this scenario will result in relatively lower base rates for PEF's customers in future years and will mitigate cross-subsidization between PEF's customers. Further, approval of the Revised Goal Plan will have less impact on PEF's lower income customers who, under the "Original Goal Scenario", would have both higher rates and the burden of subsidizing higher income customers who can afford to participate in more expensive programs proposed under the "Original Goal Scenario". Finally, approval of this plan will bring PEF more in line with its peer Florida utilities both in terms of energy savings and cost to customers. In contrast to this plan, the "Original Goal Scenario" will result in immediate and significant increases in rate impacts for customers.

The Revised Goal Plan is designed to be achievable and cost effective. It will result in more than a 700% increase over PEF's currently approved goals and will minimize cross-subsidization and cost impacts to PEF's customers.

This document is organized into ten sections:

- **Section I** provides an introduction of the Revised Goal Plan Demand Side Management (DSM) Program Plan
- **Section II** presents an Executive Summary of Progress Energy's proposed Revised Goal Plan, summarizing the goals and cumulative impacts of the proposed plan and includes the impacts of PEF's solar pilot programs previously approved in Order No.. PSC-10-0605-PAA-EG
- **Section III** discusses general issues associated with demand-side management planning and implementation, including program operation, cost-effectiveness, program monitoring and evaluation, and cost-recovery
- **Section IV** presents Progress Energy's proposed Residential programs
- **Section V** presents Progress Energy's proposed Commercial/Industrial programs
- **Section VI** presents Progress Energy's Demand Side Renewables Portfolio
- **Section VII** presents Progress Energy's Technology Development program
- **Section VIII** presents Progress Energy's Qualifying Facilities program
- **Section IX** presents Staff-Requested Tables
- **Section X** presents Progress Energy's Tariff Revisions.

Section IX referenced above has been developed in response to a request made by Staff in a letter dated October 28, 2010.

## II. EXECUTIVE SUMMARY

The Revised Goal Plan consists of nine residential programs, ten commercial and industrial programs, and a demand side renewable portfolio consisting of six pilot programs approved on October 4, 2010 in Order No. PSC-10-0605-PAA-EG. Included in these programs and pilots are three focused on low-income families and one specifically focused on businesses located in low-income neighborhoods. Additionally, this plan includes a technology research and development program and a qualifying (small power production or cogeneration) facilities program.

| RESIDENTIAL PROGRAMS                         | COMMERCIAL/INDUSTRIAL PROGRAMS             |
|--|--|
| Home Energy Check                            | Business Energy Check                      |
| Home Energy Improvement                      | Better Business                            |
| Residential New Construction                 | Commercial/Industrial New Construction     |
| Neighborhood Energy Saver                    | Business Energy Saver                      |
| LowIncome Weatherization Assistance          | Commercial Green Building New Construction |
| Residential Energy Management                | Innovation Incentive                       |
| Residential Lighting                         | Standby Generation                         |
| Residential Behavior Modification            | Interruptible Service                      |
| Residential Appliance Recycling              | Curtailable Service                        |
|  | Business Energy Response                   |
| Demand Side Renewable Portfolio <sup>1</sup> |  |
| Technology Development                       |  |
| Qualifying Facilities                        |  |

<sup>1</sup> Previously approved in Order No. PSC-10-0605-PAA-EG



## **Summary of the Portfolio**

The Revised Goal Plan represents the Company's best attempt at designing a plan that is reasonably achievable and in closer parity with the DSM goals of other Florida utilities. Additionally, this plan has less of an impact on customer rates, as compared to the "Original Goal Scenario", and aligns with the Commission's aspirations of significantly increasing customer participation in energy efficiency and renewable programs within the State of Florida. This revised plan provides energy savings impacts that are greater than 7 times the current goals. While this plan outlines an approach to achieving significantly higher goals than what has historically been required, it acknowledges the uncertainty of various parameters in the marketplace during unprecedented adverse economic conditions.

The proposed DSM portfolio herein represents:

- Programs and measures derived from industry best practices and the Company's extensive experience in developing and delivering DSM Programs
- Market transformation attainment through a comprehensive and innovative portfolio of programs
- Persistent and sustainable savings that can be validated through cost effective monitoring and evaluation.

Tables II-1 and II-2 present the demand and energy impacts projected to be achieved by this Revised Goal Plan for each year during the planning period 2011-2019, for the Residential and Commercial/Industrial sectors, respectively.

**Table II-1**

| Proposed Residential Plan 2010 DSM Filing (Savings at the Generator) |                                      |            |                                      |            |                                       |            |
|--|--------------------------------------|------------|--------------------------------------|------------|---------------------------------------|------------|
| Year   | Projected Summer Demand Savings (MW) |            | Projected Winter Demand Savings (MW) |            | Projected Annual Energy Savings (GWh) |            |
|  | Incremental                          | Cumulative | Incremental                          | Cumulative | Incremental                           | Cumulative |
| 2011   | 42.31                                | 42.31      | 59.57                                | 59.57      | 98.86                                 | 98.86      |
| 2012   | 43.52                                | 85.83      | 61.30                                | 120.88     | 104.86                                | 203.72     |
| 2013   | 43.51                                | 129.33     | 61.87                                | 182.75     | 102.71                                | 306.43     |
| 2014   | 44.66                                | 174.00     | 63.89                                | 246.64     | 102.94                                | 409.37     |
| 2015   | 41.47                                | 215.47     | 56.37                                | 303.00     | 97.47                                 | 506.84     |
| 2016   | 49.13                                | 264.60     | 64.64                                | 367.64     | 99.20                                 | 606.05     |
| 2017   | 46.07                                | 310.66     | 60.48                                | 428.12     | 91.90                                 | 697.95     |
| 2018   | 45.19                                | 355.86     | 59.56                                | 487.68     | 90.95                                 | 788.89     |
| 2019   | 40.37                                | 396.23     | 51.15                                | 538.83     | 91.86                                 | 880.75     |

**Table II-2**

| Proposed Commercial Plan 2010 DSM Filing (Savings at the Generator) |                                      |            |                                      |            |                                       |            |
|---|--------------------------------------|------------|--------------------------------------|------------|---------------------------------------|------------|
| Year  | Projected Summer Demand Savings (MW) |            | Projected Winter Demand Savings (MW) |            | Projected Annual Energy Savings (GWh) |            |
|   | Incremental                          | Cumulative | Incremental                          | Cumulative | Incremental                           | Cumulative |
| 2011  | 28.30                                | 28.30      | 14.54                                | 14.54      | 67.83                                 | 67.83      |
| 2012  | 32.78                                | 61.09      | 13.39                                | 27.93      | 63.60                                 | 131.43     |
| 2013  | 32.58                                | 93.67      | 14.42                                | 42.35      | 64.43                                 | 195.86     |
| 2014  | 34.07                                | 127.73     | 15.49                                | 57.84      | 69.73                                 | 265.58     |
| 2015  | 33.37                                | 161.10     | 17.68                                | 75.52      | 68.29                                 | 333.87     |
| 2016  | 31.66                                | 192.76     | 17.17                                | 92.69      | 62.91                                 | 396.78     |
| 2017  | 28.58                                | 221.34     | 16.38                                | 109.07     | 52.76                                 | 449.53     |
| 2018  | 27.99                                | 249.33     | 16.18                                | 125.25     | 50.96                                 | 500.49     |
| 2019  | 24.29                                | 273.62     | 13.26                                | 138.52     | 40.42                                 | 540.92     |

Proposed Residential and Commercial/Industrial Segment Demand and Energy Data provided in Tables II-1 and II-2 include the Demand Side Renewable Demand and Energy Data provided in Table II-3

Table II-3, presents the cumulative demand and energy impacts projected for programs associated with the demand side renewable portfolio, which was previously approved by the Commission in Order No. PSC-10-0605-PAA-EG.

**Table II-3**

| Proposed Demand Side Renewable Plan 2010 DSM Filing |                                      |            |                                      |            |                                       |            |
|---|--------------------------------------|------------|--------------------------------------|------------|---------------------------------------|------------|
| Year  | Projected Summer Demand Savings (MW) |            | Projected Winter Demand Savings (MW) |            | Projected Annual Energy Savings (GWh) |            |
|   | Incremental                          | Cumulative | Incremental                          | Cumulative | Incremental                           | Cumulative |
| 2011  | 3.11                                 | 4.54       | 5.17                                 | 7.75       | 6.48                                  | 9.06       |
| 2012  | 3.11                                 | 7.64       | 5.17                                 | 12.91      | 6.48                                  | 15.54      |
| 2013  | 3.11                                 | 10.75      | 5.17                                 | 18.08      | 6.48                                  | 22.01      |
| 2014  | 3.11                                 | 13.85      | 5.17                                 | 23.24      | 6.48                                  | 28.49      |

Table II-4 following this page, summarizes the energy goals (GWh) over the life of the plan, the program costs broken out for DSM and renewables, the residential ECCR at 1,200 KWh/month and the base (non-fuel) revenue impacts for the 9 year (2011-2019) period of the plan.

Table II-4

## Progress Energy Florida DSM Cost Estimates - Revised Goal Plan

| DSM Plan Reductions<br>(GWh @ Generator) |                |                    | DSM Plan Cost<br>(2)                                   |                                 | Residential<br>ECCR Impacts<br>@ 1200 kWh<br>(3) | Lost Base<br>Revenue<br>(4) | DSM Plan Cost<br>+<br>Lost Base<br>Revenue<br>(5)<br>(2a + 2b + 4) |
|--|----------------|--------------------|--|---------------------------------|--|-----------------------------|--|
| Year                                     | Annual<br>(1a) | Cumulative<br>(1b) | Energy<br>Efficiency and<br>Demand<br>Response<br>(2a) | Renewables <sup>1</sup><br>(2b) |  |                             |  |
| <i>Current</i>                           | 118            |                    |  |                                 | \$3.24   |                             |  |
| 2011                                     | 167            | 285                | \$126,093,471  | \$4,802,365                     | \$4.84   | \$10,023,955                | \$140,919,792  |
| 2012                                     | 168            | 453                | \$142,594,594  | \$5,351,773                     | \$5.39   | \$16,201,843                | \$164,148,211  |
| 2013                                     | 167            | 620                | \$185,385,586  | \$5,856,400                     | \$6.90   | \$22,307,148                | \$213,549,133  |
| 2014                                     | 173            | 793                | \$228,016,240  | \$6,316,251                     | \$8.47   | \$28,577,881                | \$262,910,372  |
| 2015                                     | 166            | 959                | \$256,432,031  | \$1,967,282                     | \$9.43   | \$34,585,020                | \$292,984,333  |
| 2016                                     | 162            | 1,121              | \$250,618,390  | \$1,702,371                     | \$9.11   | \$40,502,574                | \$292,823,335  |
| 2017                                     | 145            | 1,265              | \$236,248,954  | \$1,280,014                     | \$8.45   | \$45,838,987                | \$283,367,954  |
| 2018                                     | 142            | 1,407              | \$218,185,911  | \$902,775                       | \$7.58   | \$51,060,015                | \$270,148,702  |
| 2019                                     | 132            | 1,540              | \$202,847,074  | \$570,656                       | \$6.86   | \$56,053,797                | \$259,471,527  |
| <b>TOTALS</b>                            | <b>1,540</b>   | <b>1,540</b>       | \$1,846,422,251  | \$28,749,889                    | \$7.49 <sup>4</sup>                              | \$305,151,220               | \$2,180,323,360  |

<sup>1</sup> Reflects revenue requirements associated with renewable expenditures of \$1.78 million in 2010 and \$6.47 million in each of the years 2011-2014.

<sup>2</sup> Residential Class ECCR impacts of the program costs in 2a and 2b based on PEF'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 1,200.

<sup>3</sup> Average residential and commercial base rates multiplied against respective residential and commercial lost GWh (at the meter).

<sup>4</sup> Average of 2011 - 2019.



### **III. PROGRAM INTRODUCTION**

#### **A. PROGRAM OBJECTIVES**

This Revised Goal Plan has been designed to meet the following objectives:

- Meet an achievable level of annual and cumulative conservation goals for 2011-2019, roughly equivalent to 50% of the goals established in Order no. PSC-10-0198-FOF-EG
- Limit the impacts on customer rates
- Fulfill the requirements of Section 366.82(3)(b), F.S.
- Reduce and control the growth rates of electric consumption and weather sensitive peak demand
- Provide enhanced efficiency measures in all end-use sectors across all customer segments
- Offer enhanced energy efficiency options for low-income customers
- Influence customer behaviors through energy efficiency education initiatives
- Promote measurable, sustainable achievements through cost effective monitoring and evaluation of program measures
- Offer demand side renewable pilot programs previously approved in Order No. PSC-10-0605-PAA-EG with consideration of the expenditure cap placed on the development of these technologies.

As the market transforms and early adopters have been exhausted, customer acquisition will become more difficult. Participant incentives will be a key market driver for influencing customer adoption throughout the implementation of this plan. Thus, PEF expects to analyze and re-file adjustments to its program incentives and participation estimates as needed.

## B. PORTFOLIO OVERVIEW

PEF recognizes that significant and sustained customer participation is critical to achieving the aggressive goals shared by the Company and its customers. Therefore, PEF has strived to design a comprehensive portfolio with a wide variety of energy efficiency, demand response, renewable, and educational opportunities for all of its customers. This portfolio design leverages and expands the successful program and marketplace infrastructure resulting from PEF's extensive experience, and incorporates new innovative programs that provide further energy saving opportunities for customers. PEF will continue to encourage customers to participate in its audit programs. The audit tools, specifically the on-line and phone assisted tools are being re-designed to encourage participation in no and low-cost energy savings measures and to promote program participation. The Business Energy Check is being enhanced to include an energy savings kit similar to the kit provided to residential customers.

### Residential Programs

| Residential EE & DR Programs         |                                    |
|--------------------------------------|------------------------------------|
| Home Energy Check                    | Residential Energy Management      |
| Home Energy Improvement              | Residential Lighting*              |
| Residential New Construction         | Residential Behavior Modification* |
| Neighborhood Energy Saver            | Residential Appliance Recycling*   |
| Low-Income Weatherization Assistance |                                    |

\* Denotes new program

*Residential Lighting* Provides incentives and marketing support through retailers to encourage greater PEF customer adoption of ENERGY STAR®

qualified or other high efficiency lighting products

*Residential Behavior Modification*

Reduces residential electrical consumption by applying behavioral science in which participants receive reports that compare their energy use with neighbors in similar homes

*Residential Appliance Recycling*

Reduces energy usage by removing less efficient refrigerators and freezers that are operating within residences.

**Commercial/Industrial Programs**

| Commercial/Industrial EE & DR Programs |   |
|--|---|
| Business Energy Check                  | Interruptible Service                       |
| Better Business                        | Curtable Service                            |
| Commercial/Industrial New Construction | Business Energy Saver*                      |
| Innovation Incentive                   | Commercial Green Building New Construction* |
| Standby Generation                     | Business Energy Response*                   |

\* Denotes new program

*Business Energy Saver*

Reduces the energy consumption of businesses located in low-income areas by means of educating business owners and installing energy conservation measures.

*Commercial Green Building New Construction*

Encourages energy efficient construction of new commercial facilities according to guidelines set forth by LEED-NC.

*Business Energy Response*

Reduces electric energy consumption and expands demand response opportunities of participating non-residential customers through enabling two-way communication technologies

### **Demand Side Renewable Programs**

An additional enhancement to PEF's program offerings is the Demand Side Renewable Portfolio, which was previously approved by the Commission in Order No. PSC-10-0605-PAA-EG. This subcomponent of the portfolio is a comprehensive group of pilot programs designed to emphasize the benefits of solar photovoltaic technology, encourage development of renewable programs, and place an added emphasis on low-income and education pilots.

| Renewable Programs<br>(Residential)        |  | Renewable Programs<br>(Commercial) |  |
|--|--|------------------------------------|--|
| Residential Solar Photovoltaic             |  | Commercial Solar Photovoltaic      |  |
| Solar Water Heating with Energy Management |  | Photovoltaic for Schools (Pilot)   |  |
| Solar Water Heating (Low-Income)           |  |                                    |  |
| Research and Demonstration                 |  |                                    |  |

### **Technology Development and Qualifying Facilities Programs**

*Technology Development* Pursues research, development, and demonstration projects of energy saving technologies and concepts to further the investigation and understanding for potential inclusion in future program offerings

*Qualifying Facilities* Administers, negotiates, enters into, amends, and restructures firm energy and capacity contracts entered into with qualifying cogeneration and small power production facilities.

### C. COST-EFFECTIVENESS TEST

Proposed programs have been analyzed for cost-effectiveness using the Commission-approved tests described in Rule 25-17.008, Florida Administrative Code, with the exception of the following programs:

| <b>Program</b>  | <b>Reason for Exception</b>   |
|---|---|
| Home Energy Check   | Mandated in 25-17.003(3)(b)   |
| Business Energy Check   | Mandated in 25-17.003(3)(d)   |
| Innovation Incentive  | Cost effectiveness tests will be conducted at project consideration |
| Research and Development of the Demand Side Renewable Portfolio | Mandated in 25-17.001(5)(f) <sup>2</sup>                            |
| Technology Development  | Mandated in 25-17.001(5)(f)   |
| Qualifying Facilities   | Mandated in 25-17.082(1)  |

Strategist, an energy planning and analytics software, was used to evaluate the applicable Demand Side Management programs against avoidable supply-side capacity. In contrast to static models, Strategist is a more sophisticated dynamic model which more closely simulates the operation of the power system. For example, Strategist is directly integrated with other supply-side planning models, thereby allowing variables such as marginal fuel costs, hourly production costs, and generation equivalency to be computed and applied.

A summary of the cost-effectiveness results for each of the applicable Demand Side Management programs included in this Demand Side Management Plan is shown in Table III-1.

<sup>2</sup> Previously approved in Order No. PSC-10-0605-PAA-EG

In addition, detailed program cost-effectiveness results are presented at the end of each applicable program discussion in Sections IV through VI of this document. These detailed results consist of one page each for the Rate Impact Measure (RIM), Participant, and Total Resource Cost (TRC) tests.



**Summary of Demand Side Management Programs Included in  
Revised Goal Plan  
Period 2011-2019**

**Table III-1**

| DSM Measure  | Rate Impact Measure Test |                     |           | Participant Test       |                     |           | Total Resource Cost Test |                     |           | Program Status |
|--|--------------------------|---------------------|-----------|------------------------|---------------------|-----------|--------------------------|---------------------|-----------|----------------|
|  | Total Benefits (\$000)   | Total Costs (\$000) | B/C Ratio | Total Benefits (\$000) | Total Costs (\$000) | B/C Ratio | Total Benefits (\$000)   | Total Costs (\$000) | B/C Ratio |                |
| Residential Conservation Programs                        |                          |                     |           |                        |                     |           |                          |                     |           |                |
| Home Energy Check  | N/A                      | N/A                 | N/A       | N/A                    | N/A                 | N/A       | N/A                      | N/A                 | N/A       | Modified       |
| Home Energy Improvement                                  | \$294,742                | \$274,142           | 1.08      | \$233,032              | \$120,156           | 1.94      | \$294,742                | \$161,265           | 1.83      | Modified       |
| Residential New Construction                             | \$50,681                 | \$47,138            | 1.08      | \$39,480               | \$22,201            | 1.78      | \$50,681                 | \$29,860            | 1.70      | Modified       |
| Neighborhood Energy Saver                                | \$41,487                 | \$52,133            | 0.80      | \$45,113               | \$14,928            | 3.02      | \$41,487                 | \$21,948            | 1.89      | Modified       |
| Low Income Weatherization Assistance                     | \$6,572                  | \$8,010             | 0.82      | \$6,732                | \$2,171             | 3.10      | \$6,572                  | \$3,448             | 1.91      | Modified       |
| Residential Energy Management                            | \$950,529                | \$810,825           | 1.17      | \$263,082              | \$0                 | 9999      | \$950,529                | \$531,381           | 1.79      | Existing       |
| Residential Lighting                                     | \$89,434                 | \$123,436           | 0.72      | \$119,782              | \$24,595            | 4.87      | \$89,434                 | \$28,249            | 3.17      | New            |
| Residential Appliance Recycling                          | \$49,395                 | \$72,751            | 0.68      | \$66,264               | \$3,009             | 22.02     | \$49,395                 | \$9,496             | 5.20      | New            |
| Residential Behavior Modification                        | \$11,186                 | \$17,656            | 0.63      | \$11,390               | \$0                 | 9999      | \$11,186                 | \$6,266             | 1.79      | New            |
| Commercial/Industrial Conservation Programs              |                          |                     |           |                        |                     |           |                          |                     |           |                |
| Business Energy Check                                    | N.A.                     | N.A                 | N.A       | N.A.                   | N.A.                | N.A       | N.A.                     | N.A.                | N.A.      | Modified       |
| Commercial Green Building                                | \$9,142                  | \$10,590            | 0.86      | \$9,357                | \$3,649             | 2.56      | \$9,142                  | \$4,882             | 1.87      | New            |
| Business Energy Saver                                    | \$1,841                  | \$1,816             | 1.01      | \$1,517                | \$445               | 3.41      | \$1,841                  | \$745               | 2.47      | New            |
| Commercial/Industrial New Construction                   | \$29,734                 | \$29,503            | 1.01      | \$25,935               | \$13,362            | 1.94      | \$29,734                 | \$16,930            | 1.76      | Modified       |
| Better Business  | \$299,260                | \$287,368           | 1.04      | \$255,252              | \$58,557            | 4.36      | \$299,260                | \$90,673            | 3.30      | Modified       |
| Innovation Incentive                                     | \$0                      | \$0                 | N/A       | \$0                    | \$0                 | N/A       | \$0                      | \$0                 | N/A       | Modified       |
| Business Energy Response                                 | \$338,403                | \$297,608           | 1.14      | \$6,944                | \$0                 | 9999      | \$338,403                | \$131,405           | 2.58      | New            |
| Standby Generation                                       | \$80,510                 | \$11,584            | 6.95      | \$10,235               | \$0                 | 9999      | \$80,510                 | \$1,349             | 59.68     | Modified       |
| Interruptible Service                                    | \$6,187                  | \$1,315             | 4.70      | \$1,127                | \$0                 | 9999      | \$6,187                  | \$187               | 33.09     | Modified       |
| Curtailable Service                                      | \$4,508                  | \$720               | 6.26      | \$663                  | \$0                 | 9999      | \$4,508                  | \$57                | 78.80     | Modified       |
| Demand Side Renewable Portfolio                          |                          |                     |           |                        |                     |           |                          |                     |           |                |
| Solar Water Heating for Low-income Residential Customers | \$359                    | \$906               | 0.40      | \$745                  | \$392               | 1.90      | \$359                    | \$553               | 0.65      | New            |
| Solar Water Heating with Energy management               | \$34,097                 | \$28,707            | 1.19      | \$33,388               | \$28,811            | 1.16      | \$41,138                 | \$31,171            | 1.32      | Modified       |
| Residential Solar Photovoltaic                           | \$4,469                  | \$8,761             | 0.51      | \$11,361               | \$13,958            | 0.81      | \$7,511                  | \$14,400            | 0.52      | New            |
| Commercial Solar Photovoltaic                            | \$5,119                  | \$8,809             | 0.58      | \$10,904               | \$12,714            | 0.86      | \$7,713                  | \$13,213            | 0.58      | New            |
| Photovoltaics for Schools                                | \$1,681                  | \$7,913             | 0.21      | \$4,550                | \$1,042             | 4.37      | \$5,100                  | \$7,824             | 0.65      | New            |
| Research & Development                                   | N/A                      | N/A                 | N/A       | N/A                    | N/A                 | N/A       | N/A                      | N/A                 | N/A       | New            |
| Technology Development                                   | N/A                      | N/A                 | N/A       | N/A                    | N/A                 | N/A       | N/A                      | N/A                 | N/A       | Modified       |
| Qualifying Facilities                                    | N/A                      | N/A                 | N/A       | N/A                    | N/A                 | N/A       | N/A                      | N/A                 | N/A       | Existing       |

**D. PROGRAM MONITORING AND EVALUATION**

Program monitoring and evaluation are important components of Demand Side Management implementation. Specifically, program monitoring includes tracking program accomplishments and ensuring quality control. Program evaluation documents the energy and demand impacts of the program and also recommends how the program can be improved through program modifications

The program monitoring and evaluation methodologies that Progress Energy intends to use will leverage a variety of data sources including but not limited to: customer-specific audits, billing usage, customer surveys, engineering and building simulation modeling, demographics, weather information, and end-use load research metering. Progress Energy will determine and employ evaluation methodologies specific to each program based on factors such as dollars invested (or program budget), participation levels, program impacts, and measure performance uncertainties.

**E. COST RECOVERY**

Progress Energy submits the programs herein described for approval and for inclusion as cost recoverable Conservation and Energy Efficiency programs under current Commission-approved procedures pursuant to Rule 25-17.015, Florida Administrative Code (“F.A.C.”), and will seek recovery of all prudent costs associated with the development, implementation, and administration of all program and pilots submitted with this Demand Side Management Plan.

Progress Energy seeks cost recovery for previously closed programs that have ongoing costs associated with grandfathered participants. These programs include Commercial Energy Management, Interruptible Service (IS-1) and (IST-1), and Curtailable Service (CS-1) and (CST-1).

Additionally, Progress Energy seeks cost recovery for the programs contained within the Demand Side Renewable Portfolio approved in Order No. PSC-10-0605-PAA-EG.

PEF’s September 17, 2010 ECCR Projection Filing (Docket No. 100002-EG), which proposes ECCR rates for 2011, was based on PEF’s currently approved programs and, thus, does not reflect the increased cost commensurate with this Revised Goal Plan. PEF may seek a mid-course correction of the ECCR rate during 2011 to mitigate rate impacts for any material difference (larger than ten percent) between the cost recovery charges approved in Docket No. 100002-EG and the cost needed to implement any new DSM Plan approved by the Commission.

#### **IV. RESIDENTIAL CONSERVATION PROGRAMS**

Progress Energy's Revised Goal Plan includes nine residential programs:

- Home Energy Check - program focused on residential energy audits
- Home Energy Improvement - program focused on retrofitting energy efficiency into existing homes (single family, multi-family and manufactured homes)
- Residential New Construction - program promoting energy efficiency for new construction, multi-family, and manufactured homes
- Neighborhood Energy Saver - program designed to assist low-income families with energy costs by making energy efficiency improvements
- Low-income Weatherization Assistance - program designed for the weatherization of the homes of low-income families
- Residential Energy Management - program focused on residential load control to reduce peak demands and defer generation needs
- Residential Lighting - program focused on encouragement of increased customer adoption of ENERGY STAR® qualified lighting products
- Residential Behavior Modification - program focused on the reduction of residential electrical consumption by applying behavioral science principles

- Residential Appliance Recycling - program focused on the reduction of energy use by removal of less efficient refrigerators and freezers from customer residences

Each program is described in detail in the following sections.

**A. HOME ENERGY CHECK PROGRAM**

**Program Start Date:** 1995

Modifications proposed in 2010

**Program Description**

The Home Energy Check is a residential energy audit program that provides residential customers with an analysis of their energy use as well as recommendations on how they can save on their electricity bill. The audit focuses on education and encouraging customers to implement minimal cost energy-saving practices and measures. The audit also provides Progress Energy the opportunity to promote cost effective measures in customers' homes. The Home Energy Check serves as the foundation for other residential Demand Side Management Programs. The Home Energy Check program offers the following types of energy audits:

The Home Energy Check program offers the following types of energy audits:

- Type 1: Free Walk-Through
- Type 2: Customer-completed Mail-In
- Type 3: Customer Online (Internet Option)
- Type 4: Customer Phone Assisted
- Type 5: Home Energy Check for Kids
- Type 6: Paid Walk-Through

- Type 7: Home Energy Rating (Class I, II)

Customers participating in all audit types will be provided with energy efficiency tips and examples of easily installed energy efficiency measures. The program promotes continued customer involvement by demonstrating sustainable and measurable energy reductions in energy usage through the implementation of low cost energy efficiency measures.

The customer will receive a residential Energy Efficiency Kit via the following methods:

- At the time of the onsite Home Energy Check
- Through the mail following completion of all other types of Home Energy Checks

The kit provides items that are easily implemented for energy efficiency. The contents of the kit will change as needed to achieve high savings impacts while recognizing changes in technology and customer habits. Items that may be included in the kit are energy efficient lighting, thermometers, weatherization items, low-flow devices, as well as education for the customer on the savings associated with the installation of the items in the kit.

The Free Walk Through audit has been enhanced to include a mobile delivery method that will help guide the company's improvements in its residential energy audits. This enhanced delivery of the Free Walk-Through provides the energy auditor with a more effective way to input information about the customer's home. The mobile device will address customer needs immediately through online information, and it may print a copy of the report while at the customer's home emphasizing the steps that the customer should focus on for improving energy efficiency. The mobile audit also allows the upload of the energy audit results to the company's

customer database. The company intends to build on the benefits of this platform to increase the value it provides as well as to ensure customer satisfaction with this energy audit.

### **Policies and Procedures**

All residential customers of Progress Energy are eligible to receive any of the above energy audits conducted on residentially metered buildings, located in Progress Energy's service territory. There is no charge for Type 1 through Type 5 home energy checks, while there is a \$15 customer charge for the Type 6 Home Energy Check. When a customer requests a Home Energy Check, they will be given the option of receiving a Type 2 Home Energy Check survey in the mail, a Type 4 Phone Assisted Home Energy Check or the option of scheduling a Type 1 or Type 6 Walk-through Home Energy Check. A Progress Energy auditor will usually conduct the Walk-through Home Energy Check, although Progress Energy reserves the option to work with other agencies and/or utilities as an extension of the Home Energy Check service. An approved energy auditor from another organization may conduct the Home Energy Check. The Home Energy Rating as outlined in Progress Energy's "Florida Energy Gauge Ratings" tariff is available to all eligible Progress Energy customers upon request.

### **Program Participation**

Annual participation estimates for the Home Energy Check program are shown in the following table:



| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| <b>2011</b> | 1,473,688                                       | 1,473,688  | 62,755  | 4.3%   |
| <b>2012</b> | 1,495,098                                       | 1,495,098  | 64,561  | 8.6%   |
| <b>2013</b> | 1,521,451                                       | 1,521,451  | 64,840  | 12.7%  |
| <b>2014</b> | 1,548,531                                       | 1,548,531  | 65,151  | 16.7%  |
| <b>2015</b> | 1,575,167                                       | 1,575,167  | 65,492  | 20.5%  |
| <b>2016</b> | 1,600,448                                       | 1,600,448  | 65,866  | 24.3%  |
| <b>2017</b> | 1,624,503                                       | 1,624,503  | 65,151  | 28.0%  |
| <b>2018</b> | 1,647,724                                       | 1,647,724  | 66,269  | 31.6%  |
| <b>2019</b> | 1,671,277                                       | 1,671,277  | 66,706  | 35.2%  |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. The entire residential class is eligible for participation.
3. Number of participants represents the customers that Progress Energy expects to reach through this program annually.
4. Cumulative penetration is the ratio of cumulative measure participating customers to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and, annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables:

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 387                        | 0.09                             | 0.14                             | 24,289,653                 | 5,583                            | 9,067                            |
| 2012 | 384                        | 0.09                             | 0.14                             | 24,803,440                 | 5,647                            | 9,230                            |
| 2013 | 383                        | 0.09                             | 0.14                             | 24,810,973                 | 5,620                            | 9,217                            |
| 2014 | 381                        | 0.09                             | 0.14                             | 24,831,105                 | 5,595                            | 9,209                            |
| 2015 | 380                        | 0.09                             | 0.14                             | 24,863,623                 | 5,574                            | 9,206                            |
| 2016 | 378                        | 0.08                             | 0.14                             | 24,908,976                 | 5,556                            | 9,207                            |
| 2017 | 383                        | 0.09                             | 0.14                             | 24,965,919                 | 5,540                            | 9,213                            |
| 2018 | 378                        | 0.08                             | 0.14                             | 25,036,237                 | 5,528                            | 9,224                            |
| 2019 | 377                        | 0.08                             | 0.14                             | 25,118,263                 | 5,518                            | 9,240                            |

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 412                        | 0.09                             | 0.15                             | 25,875,767                 | 5,947                            | 9,659                            |
| 2012 | 409                        | 0.09                             | 0.15                             | 26,423,105                 | 6,016                            | 9,832                            |
| 2013 | 408                        | 0.09                             | 0.15                             | 26,431,130                 | 5,987                            | 9,819                            |
| 2014 | 406                        | 0.09                             | 0.15                             | 26,452,576                 | 5,961                            | 9,810                            |
| 2015 | 404                        | 0.09                             | 0.15                             | 26,487,218                 | 5,938                            | 9,807                            |
| 2016 | 403                        | 0.09                             | 0.15                             | 26,535,532                 | 5,919                            | 9,809                            |
| 2017 | 408                        | 0.09                             | 0.15                             | 26,596,194                 | 5,902                            | 9,815                            |
| 2018 | 402                        | 0.09                             | 0.15                             | 26,671,103                 | 5,889                            | 9,827                            |
| 2019 | 401                        | 0.09                             | 0.15                             | 26,758,486                 | 5,879                            | 9,843                            |

**Impact Evaluation Plan**

The range of possible recommendations resulting from the audit and the inclusion of both technological and behavioral recommendations suggests the need to survey Home Energy Check participants to determine what specific conservation actions have been implemented within each market segment due to the completed audit. Survey results combined with the participant-specific data gathered during the audit will be used to determine the savings which can be attributed to the Home Energy Check program. The impact evaluation plan for this program may use engineering simulation and statistical billing analysis to estimate demand and energy impacts.

## **Home Energy Improvement Program**

**Program Start Date:** 1995

Program modified in 2000, 2006, 2007

Modifications proposed in 2010

### **Program Description**

The Home Energy Improvement program is designed for the existing single family, multi-family and manufactured home customers who want to retrofit with high energy efficiency improvements. All residential customers are eligible to participate in one or more measures included in this program. The program builds on customer awareness by utilizing various audit types, contractor participation and Progress Energy influence to educate customers on cost-effective measures relevant to their residence.

The program seeks to meet the following overall goals:

- Provide a cost-effective and comprehensive program portfolio of measures across all housing types
- Improve customer energy savings and demand reduction through the installation of energy efficient equipment and thermal envelope upgrades
- Obtain energy and demand impacts that are significant, accurate and measurable

- Educate the residential retrofit market about best practices, innovative technologies and opportunities to leverage participation in all applicable incentives for managing energy consumption.

### **Policies and Procedures**

Program participation must be influenced by one of Progress Energy's educational opportunities.

The program provides incentives for high efficiency HVAC equipment including installation and maintenance, duct repair, attic and wall insulation upgrades, reflective roofing, high performance windows, window film and heat pump water heaters to residential customers in Progress Energy's service territory.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions, such as baseline or code revisions, updated measure and verification analysis or technological advances.

Progress Energy is proposing to include the following measures with this program:

#### ***High Efficiency HVAC Systems***

The High Efficiency HVAC System measure will provide customers an incentive to install a high efficiency HVAC system when replacing their existing system. The incentive will be

awarded on a per unit basis according to efficiency rating and tonnage, regardless of the system type (*PTAC, Mini-Split, Multi-Split, Geothermal Heat Pumps, etc.*). Measure requirements will be outlined in the Program Participation Standards.

***Proper Sizing of High Efficiency HVAC Systems***

This portion of the program encourages the customer to have a new replacement air conditioning system properly sized by the HVAC contractor using industry accepted sizing protocol. The Proper Sizing of High Efficiency HVAC Systems measure is performed in conjunction with the installation of a new HVAC system.

***Supply and Return Plenum Seal***

This measure encourages the HVAC contractor to seal the supply and return portion of the plenum to a new air handler with mastic. The Supply and Return Plenum Seal measure is performed in conjunction with the installation of a new HVAC system.

***HVAC Commissioning***

An incentive will be provided for the Commissioning of HVAC system(s) in accordance with Progress Energy standards and requirements, eligible on all Florida Energy Code compliant HVAC systems. The requirements and incentives will be outlined in the Program Participation Standards. The HVAC Commissioning measure is performed in conjunction with the installation of a new HVAC system.

### ***Duct Repair***

This portion of the program is designed to promote energy efficiency through improved duct sealing. A customer must have electric heating and a centrally-ducted cooling system, either air conditioning or heat pump, to be eligible for this program. The requirements and incentives will be outlined in the Program Participation Standards.

### ***Attic Insulation Upgrade***

This program measure encourages customers to upgrade their attic insulation by paying a portion of the installed cost. Eligible residences must have whole house electric air conditioning and/or whole house electric heating. The residence must meet the requirements of the Program Participation Standards to qualify for this measure.

### ***Wall Insulation Upgrade***

This program measure encourages customers to upgrade the insulation value of the exterior walls of the home by paying a portion of the installed cost. The requirements and incentives will be outlined in the Program Participation Standards.

### ***Reflective Roof Coating***

This measure will provide incentives to install an ENERGY STAR® or Cool Roof Rating Council approved reflective roof coating product to a manufactured home's roof. The product must meet initial reflectance specifications as outlined in the Program Participation Standards.

### ***Reflective Roof***

This measure will provide incentives to install an ENERGY STAR® or Cool Roof Rating Council approved reflective roof. The product must meet initial reflectance specifications as outlined in the Program Participation Standards.

### ***Window Film***

The measure awards an incentive for installing high performance window film. Qualifying residences will install window film that meets the specifications as outlined in the Program Participation Standards.

### ***Replacement Windows***

This measure awards an incentive for installing high performance windows. Qualifying residences will install windows that meet the specifications as outlined in the Program Participation Standards.

### ***HVAC Tune-up***

An HVAC contractor performs a tune-up on the customers' existing HVAC system(s) to include: verifying proper refrigerant charge, proper air flow to the residence, and cleaning indoor/outdoor coils and fan blades. The contractor must adhere to all requirements as outlined in the Program Participation Standards.



***HVAC Quality Installation***

The HVAC Quality Installation measure includes a requirement for the proper selection of equipment that is designed to perform efficiently in Florida's hot, humid climate. The Quality Installation measure also includes right-sizing of the equipment, supply and return plenum sealing, air flow verification and correct refrigerant charging. The contractor must adhere to all requirements as outlined in the Program Participation Standards.

***Heat Pump Water Heater***

Progress Energy will offer an incentive to install a new heat pump water heater that meets the ENERGY STAR® electric water heater qualifications. This appliance must also meet the specifications as outlined in the Program Participation Standards.

***Financing***

Financing assistance is an alternative to the direct incentive payment. Progress Energy may explore opportunities to collaborate with 3<sup>rd</sup> party financing institutions to offer eligible program participants a financing option that focuses on achieving a low monthly payment. A potential financing option could be longer amortization schedules that would be utilized to create a monthly payment that corresponds with the monthly energy savings. Another potential feature of financing assistance would be to apply the customer's applicable incentive(s) for the measure(s) installed to the loan to buy-down the amount of the monthly payment.

## Program Participation

Annual participation estimates for the Home Energy Improvement program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 1,473,688   | 36,883   | 2.5%  |
| 2012 | 1,495,098                                | 1,495,098   | 40,137   | 5.2%  |
| 2013 | 1,521,451                                | 1,521,451   | 37,705   | 7.5%  |
| 2014 | 1,548,531                                | 1,548,531   | 40,674   | 10.0%   |
| 2015 | 1,575,167                                | 1,575,167   | 42,019   | 12.5%   |
| 2016 | 1,600,448                                | 1,600,448   | 42,842   | 15.0%   |
| 2017 | 1,624,503                                | 1,624,503   | 35,061   | 16.9%   |
| 2018 | 1,647,724                                | 1,647,724   | 34,308   | 18.8%   |
| 2019 | 1,671,277                                | 1,671,277   | 35,025   | 20.6%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. The entire residential class is eligible for participation in at least one measure.
3. Number of program participants represents the number of individual measure participants projected in a given year.
4. Cumulative penetration is the ratio of cumulative measure participants to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and, annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 419                        | 0.43                             | 0.26                             | 15,463,582                 | 15,775                           | 9,735                            |
| 2012 | 443                        | 0.43                             | 0.26                             | 17,791,155                 | 17,091                           | 10,579                           |
| 2013 | 486                        | 0.46                             | 0.28                             | 18,341,811                 | 17,440                           | 10,687                           |
| 2014 | 507                        | 0.47                             | 0.29                             | 20,632,476                 | 19,098                           | 11,692                           |
| 2015 | 518                        | 0.47                             | 0.29                             | 21,779,849                 | 19,567                           | 12,012                           |
| 2016 | 530                        | 0.46                             | 0.28                             | 22,699,916                 | 19,813                           | 12,105                           |
| 2017 | 548                        | 0.46                             | 0.28                             | 19,224,457                 | 16,032                           | 9,764                            |
| 2018 | 564                        | 0.45                             | 0.27                             | 19,341,590                 | 15,538                           | 9,399                            |
| 2019 | 575                        | 0.45                             | 0.27                             | 20,122,014                 | 15,752                           | 9,476                            |

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 447                        | 0.46                             | 0.28                             | 16,473,354                 | 16,805                           | 10,371                           |
| 2012 | 472                        | 0.45                             | 0.28                             | 18,952,917                 | 18,207                           | 11,270                           |
| 2013 | 518                        | 0.49                             | 0.30                             | 19,539,531                 | 18,579                           | 11,385                           |
| 2014 | 540                        | 0.50                             | 0.31                             | 21,979,776                 | 20,345                           | 12,456                           |
| 2015 | 552                        | 0.50                             | 0.30                             | 23,202,073                 | 20,844                           | 12,797                           |
| 2016 | 564                        | 0.49                             | 0.30                             | 24,182,220                 | 21,107                           | 12,896                           |
| 2017 | 584                        | 0.49                             | 0.30                             | 20,479,814                 | 17,078                           | 10,401                           |
| 2018 | 601                        | 0.48                             | 0.29                             | 20,604,596                 | 16,552                           | 10,013                           |
| 2019 | 612                        | 0.48                             | 0.29                             | 21,435,981                 | 16,781                           | 10,094                           |

## Impact Evaluation Plan

The Home Energy Improvement program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels. These analyses are supported by end-use metering data, where feasible.

## Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs \$<br>(000) | NPV Net Benefits<br>\$(000) | B/C Ratio |
|-------------------------|-------------------------|-----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$294,742               | \$274,142             | \$20,600                    | 1.08      |
| Participant             | \$233,032               | \$120,156             | \$112,877                   | 1.94      |
| Total Resource Cost     | \$294,742               | \$161,265             | \$133,476                   | 1.83      |

**PROGRAM: Home Energy Improvement - RIM**

| YEAR    | BENEFITS                                  |   |  |                             |                              | COSTS                                      |   |  |  |                                  |                              |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-----------------------------|------------------------------|--|---|--|--|----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                       | (8)  | (9)                                    | (10)                             | (11)                         | (12)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0   | 0                                       | 0  | 0                           | 0                            | 0  | 0   | 0  | 0                                      | 0                                | 0                            | 0                         | 0                          |
| 2011    | 1,917                                     | 214                                     | 0  | 0                           | 2,131                        | 0  | 0   | 0  | 4,826                                  | 5,766                            | 2,221                        | 12,813                    | -10,683                    |
| 2012    | 3,575                                     | 448                                     | 0  | 0                           | 4,023                        | 0  | 0   | 0  | 5,774                                  | 6,518                            | 4,670                        | 16,963                    | -12,940                    |
| 2013    | 7,438                                     | 683                                     | 3,164                                    | 0                           | 11,285                       | 0  | 0   | 0  | 5,926                                  | 8,361                            | 7,608                        | 21,896                    | -10,611                    |
| 2014    | 7,101                                     | 942                                     | 6,891                                    | 0                           | 14,934                       | 0  | 0   | 0  | 6,925                                  | 11,606                           | 11,036                       | 29,566                    | -14,632                    |
| 2015    | 9,955                                     | 1,210                                   | 9,009                                    | 0                           | 20,174                       | 0  | 0   | 0  | 7,720                                  | 12,486                           | 15,564                       | 35,771                    | -15,597                    |
| 2016    | 13,640                                    | 1,482                                   | 16,741                                   | 0                           | 31,863                       | 0  | 0   | 0  | 8,373                                  | 13,298                           | 19,068                       | 40,739                    | -8,876                     |
| 2017    | 19,849                                    | 1,704                                   | 24,909                                   | 0                           | 46,463                       | 0  | 0   | 0  | 7,266                                  | 11,317                           | 19,580                       | 38,163                    | 8,300                      |
| 2018    | 20,636                                    | 1,920                                   | 16,875                                   | 0                           | 39,431                       | 0  | 0   | 0  | 7,465                                  | 11,549                           | 21,504                       | 40,518                    | -1,087                     |
| 2019    | 23,025                                    | 2,140                                   | 19,210                                   | 0                           | 44,375                       | 0  | 0   | 0  | 7,971                                  | 12,138                           | 25,272                       | 45,381                    | -1,006                     |
| 2020    | 23,167                                    | 2,140                                   | 19,612                                   | 0                           | 44,919                       | 0  | 0   | 0  | 0                                      | 0                                | 25,885                       | 25,885                    | 19,035                     |
| 2021    | 22,921                                    | 2,140                                   | 20,026                                   | 0                           | 45,087                       | 0  | 0   | 0  | 0                                      | 0                                | 27,745                       | 27,745                    | 17,343                     |
| 2022    | 29,035                                    | 2,140                                   | 10,943                                   | 0                           | 42,119                       | 0  | 0   | 0  | 0                                      | 0                                | 27,943                       | 27,943                    | 14,176                     |
| 2023    | 30,941                                    | 2,138                                   | 18,248                                   | 0                           | 51,327                       | 0  | 0   | 0  | 0                                      | 0                                | 28,524                       | 28,524                    | 22,803                     |
| 2024    | 24,959                                    | 2,130                                   | 18,981                                   | 0                           | 46,071                       | 0  | 0   | 0  | 0                                      | 0                                | 28,824                       | 28,824                    | 17,246                     |
| 2025    | 24,633                                    | 2,120                                   | 19,203                                   | 0                           | 45,956                       | 0  | 0   | 0  | 0                                      | 0                                | 29,086                       | 29,086                    | 16,870                     |
| 2026    | 29,172                                    | 1,958                                   | 11,732                                   | 0                           | 42,862                       | 0  | 0   | 0  | 0                                      | 0                                | 27,302                       | 27,302                    | 15,559                     |
| 2027    | 22,480                                    | 1,784                                   | 19,393                                   | 0                           | 43,657                       | 0  | 0   | 0  | 0                                      | 0                                | 25,197                       | 25,197                    | 18,460                     |
| 2028    | 20,395                                    | 1,609                                   | 17,977                                   | 0                           | 39,981                       | 0  | 0   | 0  | 0                                      | 0                                | 22,815                       | 22,815                    | 17,166                     |
| 2029    | 22,311                                    | 1,420                                   | 10,651                                   | 0                           | 34,382                       | 0  | 0   | 0  | 0                                      | 0                                | 20,219                       | 20,219                    | 14,162                     |
| 2030    | 20,806                                    | 1,224                                   | 17,669                                   | 0                           | 39,699                       | 0  | 0   | 0  | 0                                      | 0                                | 17,247                       | 17,247                    | 22,452                     |
| 2031    | 16,810                                    | 976                                     | 15,496                                   | 0                           | 33,281                       | 0  | 0   | 0  | 0                                      | 0                                | 13,303                       | 13,303                    | 19,978                     |
| 2032    | 14,129                                    | 784                                     | 13,810                                   | 0                           | 28,723                       | 0  | 0   | 0  | 0                                      | 0                                | 10,917                       | 10,917                    | 17,806                     |
| 2033    | 11,132                                    | 597                                     | 11,128                                   | 0                           | 22,857                       | 0  | 0   | 0  | 0                                      | 0                                | 8,555                        | 8,555                     | 14,302                     |
| 2034    | 7,578                                     | 403                                     | 7,184                                    | 0                           | 15,164                       | 0  | 0   | 0  | 0                                      | 0                                | 5,913                        | 5,913                     | 9,251                      |
| 2035    | 6,636                                     | 340                                     | 6,224                                    | 0                           | 13,199                       | 0  | 0   | 0  | 0                                      | 0                                | 5,206                        | 5,206                     | 7,993                      |
| 2036    | 5,649                                     | 276                                     | 5,160                                    | 0                           | 11,084                       | 0  | 0   | 0  | 0                                      | 0                                | 4,443                        | 4,443                     | 6,641                      |
| 2037    | 4,807                                     | 224                                     | 4,270                                    | 0                           | 9,302                        | 0  | 0   | 0  | 0                                      | 0                                | 3,816                        | 3,816                     | 5,486                      |
| 2038    | 3,949                                     | 175                                     | 3,344                                    | 0                           | 7,468                        | 0  | 0   | 0  | 0                                      | 0                                | 3,167                        | 3,167                     | 4,301                      |
| NOMINAL | 448,642                                   | 35,322                                  | 347,852                                  | 0                           | 831,815                      | 0  | 0   | 0  | 62,247                                 | 93,039                           | 462,631                      | 617,917                   | 213,899                    |
| NPV     | 158,149                                   | 13,651                                  | 122,942                                  | 0                           | 294,742                      | 0  | 0   | 0  | 41,109                                 | 60,514                           | 172,519                      | 274,142                   | 20,600                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.075

**PROGRAM: Home Energy Improvement - Participant**

| YEAR    | BENEFITS  |   |  |                                     | COSTS                                   |   |                                  | (8)     |
|---------|---|---|--|-------------------------------------|---|---|----------------------------------|---------|
|         | (1)<br>SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | (2)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (3)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | (4)<br>TOTAL<br>BENEFITS<br>\$(000) | (5)<br>PARTICIPANT'S<br>COST<br>\$(000) | (6)<br>PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | (7)<br>TOTAL<br>COSTS<br>\$(000) |         |
| 2010    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0       |
| 2011    | 2,221   | 5,766                                   | 0  | 7,987                               | 15,332                                  | 0   | 15,332                           | -7,345  |
| 2012    | 4,670   | 6,518                                   | 0  | 11,188                              | 17,565                                  | 0   | 17,565                           | -6,376  |
| 2013    | 7,608   | 8,361                                   | 0  | 15,970                              | 18,123                                  | 0   | 18,123                           | -2,153  |
| 2014    | 11,036  | 11,606                                  | 0  | 22,641                              | 20,691                                  | 0   | 20,691                           | 1,950   |
| 2015    | 15,564  | 12,486                                  | 0  | 28,050                              | 22,358                                  | 0   | 22,358                           | 5,693   |
| 2016    | 19,068  | 13,298                                  | 0  | 32,366                              | 23,680                                  | 0   | 23,680                           | 8,686   |
| 2017    | 19,580  | 11,317                                  | 0  | 30,897                              | 20,224                                  | 0   | 20,224                           | 10,673  |
| 2018    | 21,504  | 11,549                                  | 0  | 33,053                              | 20,525                                  | 0   | 20,525                           | 12,528  |
| 2019    | 25,272  | 12,138                                  | 0  | 37,410                              | 21,641                                  | 0   | 21,641                           | 15,768  |
| 2020    | 25,885  | 0                                       | 0  | 25,885                              | 0                                       | 0   | 0                                | 25,885  |
| 2021    | 27,745  | 0                                       | 0  | 27,745                              | 0                                       | 0   | 0                                | 27,745  |
| 2022    | 27,943  | 0                                       | 0  | 27,943                              | 0                                       | 0   | 0                                | 27,943  |
| 2023    | 28,524  | 0                                       | 0  | 28,524                              | 0                                       | 0   | 0                                | 28,524  |
| 2024    | 28,824  | 0                                       | 0  | 28,824                              | 0                                       | 0   | 0                                | 28,824  |
| 2025    | 29,086  | 0                                       | 0  | 29,086                              | 0                                       | 0   | 0                                | 29,086  |
| 2026    | 27,302  | 0                                       | 0  | 27,302                              | 0                                       | 0   | 0                                | 27,302  |
| 2027    | 25,197  | 0                                       | 0  | 25,197                              | 0                                       | 0   | 0                                | 25,197  |
| 2028    | 22,815  | 0                                       | 0  | 22,815                              | 0                                       | 0   | 0                                | 22,815  |
| 2029    | 20,219  | 0                                       | 0  | 20,219                              | 0                                       | 0   | 0                                | 20,219  |
| 2030    | 17,247  | 0                                       | 0  | 17,247                              | 0                                       | 0   | 0                                | 17,247  |
| 2031    | 13,303  | 0                                       | 0  | 13,303                              | 0                                       | 0   | 0                                | 13,303  |
| 2032    | 10,917  | 0                                       | 0  | 10,917                              | 0                                       | 0   | 0                                | 10,917  |
| 2033    | 8,555   | 0                                       | 0  | 8,555                               | 0                                       | 0   | 0                                | 8,555   |
| 2034    | 5,913   | 0                                       | 0  | 5,913                               | 0                                       | 0   | 0                                | 5,913   |
| 2035    | 5,206   | 0                                       | 0  | 5,206                               | 0                                       | 0   | 0                                | 5,206   |
| 2036    | 4,443   | 0                                       | 0  | 4,443                               | 0                                       | 0   | 0                                | 4,443   |
| 2037    | 3,816   | 0                                       | 0  | 3,816                               | 0                                       | 0   | 0                                | 3,816   |
| 2038    | 3,167   | 0                                       | 0  | 3,167                               | 0                                       | 0   | 0                                | 3,167   |
| NOMINAL | 462,631   | 93,039                                  | 0  | 555,670                             | 180,140                                 | 0   | 180,140                          | 375,530 |
| NPV     | 172,519   | 60,514                                  | 0  | 233,032                             | 120,156                                 | 0   | 120,156                          | 112,877 |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.939

## PROGRAM: Home Energy Improvement - TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 1,917                                     | 214                                     | 0  | 0   | 2,131                        | 15,332                           | 0  | 0   | 0  | 4,826                                  | 20,158                    | -18,028                    |
| 2012    | 3,575                                     | 448                                     | 0  | 0   | 4,023                        | 17,565                           | 0  | 0   | 0  | 5,774                                  | 23,339                    | -19,316                    |
| 2013    | 7,438                                     | 683                                     | 3,164                                    | 0   | 11,285                       | 18,123                           | 0  | 0   | 0  | 5,926                                  | 24,049                    | -12,764                    |
| 2014    | 7,101                                     | 942                                     | 6,891                                    | 0   | 14,934                       | 20,691                           | 0  | 0   | 0  | 6,925                                  | 27,616                    | -12,682                    |
| 2015    | 9,955                                     | 1,210                                   | 9,009                                    | 0   | 20,174                       | 22,358                           | 0  | 0   | 0  | 7,720                                  | 30,078                    | -9,904                     |
| 2016    | 13,640                                    | 1,482                                   | 16,741                                   | 0   | 31,863                       | 23,680                           | 0  | 0   | 0  | 8,373                                  | 32,054                    | -191                       |
| 2017    | 19,849                                    | 1,704                                   | 24,909                                   | 0   | 46,463                       | 20,224                           | 0  | 0   | 0  | 7,266                                  | 27,490                    | 18,973                     |
| 2018    | 20,636                                    | 1,920                                   | 16,875                                   | 0   | 39,431                       | 20,525                           | 0  | 0   | 0  | 7,465                                  | 27,991                    | 11,441                     |
| 2019    | 23,025                                    | 2,140                                   | 19,210                                   | 0   | 44,375                       | 21,641                           | 0  | 0   | 0  | 7,971                                  | 29,612                    | 14,762                     |
| 2020    | 23,167                                    | 2,140                                   | 19,612                                   | 0   | 44,919                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 44,919                     |
| 2021    | 22,921                                    | 2,140                                   | 20,026                                   | 0   | 45,087                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 45,087                     |
| 2022    | 29,035                                    | 2,140                                   | 10,943                                   | 0   | 42,119                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 42,119                     |
| 2023    | 30,941                                    | 2,138                                   | 18,248                                   | 0   | 51,327                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 51,327                     |
| 2024    | 24,959                                    | 2,130                                   | 18,981                                   | 0   | 46,071                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 46,071                     |
| 2025    | 24,633                                    | 2,120                                   | 19,203                                   | 0   | 45,956                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 45,956                     |
| 2026    | 29,172                                    | 1,958                                   | 11,732                                   | 0   | 42,862                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 42,862                     |
| 2027    | 22,480                                    | 1,784                                   | 19,393                                   | 0   | 43,657                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 43,657                     |
| 2028    | 20,395                                    | 1,609                                   | 17,977                                   | 0   | 39,981                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 39,981                     |
| 2029    | 22,311                                    | 1,420                                   | 10,651                                   | 0   | 34,382                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 34,382                     |
| 2030    | 20,806                                    | 1,224                                   | 17,669                                   | 0   | 39,699                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 39,699                     |
| 2031    | 16,810                                    | 976                                     | 15,496                                   | 0   | 33,281                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 33,281                     |
| 2032    | 14,129                                    | 784                                     | 13,810                                   | 0   | 28,723                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 28,723                     |
| 2033    | 11,132                                    | 597                                     | 11,128                                   | 0   | 22,857                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 22,857                     |
| 2034    | 7,578                                     | 403                                     | 7,184                                    | 0   | 15,164                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 15,164                     |
| 2035    | 6,636                                     | 340                                     | 6,224                                    | 0   | 13,199                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 13,199                     |
| 2036    | 5,649                                     | 276                                     | 5,160                                    | 0   | 11,084                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 11,084                     |
| 2037    | 4,807                                     | 224                                     | 4,270                                    | 0   | 9,302                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 9,302                      |
| 2038    | 3,949                                     | 175                                     | 3,344                                    | 0   | 7,468                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,468                      |
| NOMINAL | 448,642                                   | 35,322                                  | 347,852                                  | 0   | 831,815                      | 180,140                          | 0  | 0   | 0  | 62,247                                 | 242,386                   | 589,429                    |
| NPV     | 158,149                                   | 13,651                                  | 122,942                                  | 0   | 294,742                      | 120,156                          | 0  | 0   | 0  | 41,109                                 | 161,265                   | 133,476                    |

Utility Discount Rate = 8.48  
Benefit Cost Ratio = 1.828

**B. RESIDENTIAL NEW CONSTRUCTION PROGRAM**

**Program Start Date:** 1995

Program modified in 2000, 2004, 2006, 2007

Modifications proposed in 2010

**Program Description**

The Residential New Construction (RNC) program is designed to improve the energy efficiency of newly constructed residences in the single family, multi-family and manufactured homes segments.

The program seeks to meet the following overall goals:

- Provide a cost-effective comprehensive program portfolio of measures across all housing types
- Educate and promote energy efficient building design in the residential new construction industry
- Obtain energy and demand impacts that are significant, measurable and accurate
- Evaluate and recommend energy efficient building envelope and equipment measures for the new construction market.



## **Policies and Procedures**

Program participation must be influenced by one of Progress Energy's educational opportunities.

The Residential New Construction program will provide financial incentives and education to builders and developers for incorporating energy efficient measures into the construction process. To qualify for the program, the residence must be a new metered residence in Progress Energy territory.

Renovations and additions will be governed by the current Florida building code for eligibility as new construction. Additions do not qualify for the residential manufactured and the multi-family home segment. Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions, such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

### ***High Efficiency HVAC Systems***

High efficiency heat pumps will be expanded to 3 tiers of classification; 15 to 19+ SEER (*or equivalent EER*). Systems will qualify based on efficiency rating and tonnage regardless of the system type (*PTAC, Mini-Splits, Multi-Splits, Geothermal Heat Pumps, etc.*).

***High Performance Windows***

An incentive will be provided for the installation of high performance windows. The product must meet the specifications as outlined in the Program Participation Standards.

***High Performance Exterior Wall Insulation***

An incentive will be provided for the installation of high performance exterior wall insulation that exceeds the current Florida Energy Code by a factor of two. The product must meet the specifications as outlined in the Program Participation Standards.

***HVAC Commissioning***

An incentive will be provided for the commissioning of HVAC system(s) in accordance with Progress Energy standards and requirements, eligible on all Florida Energy Code compliant HVAC systems. The requirements and incentives will be outlined in the Program Participation Standards.

***ENERGY STAR® Certification***

Progress Energy will offer the builder an incentive to help offset the cost to have a residence rated to meet the ENERGY STAR® certification. The incentive is paid if the residence achieves ENERGY STAR®'s qualifications and at least two Residential New Construction measures are installed. The builder who qualifies for this incentive is not eligible for any other RNC program incentives. The requirements and incentives will be outlined in the Program Participation Standards.

***Code Plus 20 Construction***

Progress Energy will offer an incentive to builders that construct a residence exceeding the current Florida Energy Code by at least 20% provided they install at least three Residential New Construction program measures. The builder who qualifies for this incentive is not eligible for any other RNC program incentives. The requirements and incentives will be outlined in the Program Participation Standards.

***Multi-Family Complexes with Heat Pumps***

Multi-family builders and developers that can verify a change in design from A/C systems with electric resistance heat to heat pumps will qualify for a per heat pump system incentive to offset the costs associated with the design change. The requirements and incentives will be outlined in the Program Participation Standards.

***HVAC Quality Installation***

The Quality Installation measure requires the proper selection of equipment and includes the right-sizing of the equipment, supply and return plenum sealing, air flow verification, and correct refrigerant charging. The contractor must adhere to all requirements as outlined in the Program Participation Standards.

### ***Heat Pump Water Heaters***

Progress Energy will offer builders an incentive to install new heat pump water heaters that meet the ENERGY STAR® electric water heater qualifications. This appliance must also meet the specifications as outlined in the Program Participation Standards.

### **Program Participation**

Annual participation estimates for the Residential New Construction program are shown in the following table.

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| <b>2011</b> | 1,473,688                                       | 16,273   | 2,727   | 16.8%  |
| <b>2012</b> | 1,495,098                                       | 21,410   | 2,707   | 14.4%  |
| <b>2013</b> | 1,521,451                                       | 26,353   | 2,757   | 12.8%  |
| <b>2014</b> | 1,548,531                                       | 27,080   | 3,174   | 12.5%  |
| <b>2015</b> | 1,575,167                                       | 26,636   | 3,173   | 12.3%  |
| <b>2016</b> | 1,600,448                                       | 25,281   | 2,940   | 12.2%  |
| <b>2017</b> | 1,624,503                                       | 24,055   | 2,707   | 12.1%  |
| <b>2018</b> | 1,647,724                                       | 23,221   | 2,427   | 11.9%  |
| <b>2019</b> | 1,671,277                                       | 23,553   | 2,289   | 11.6%  |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. Eligible Customers is the number of qualifying new homes built in Progress Energy's territory in the given year.
3. Number of program participants represents the number of individual participants projected in a given year.
4. Cumulative penetration is the ratio of cumulative participants to the accumulated eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 972                        | 0.60                             | 0.52                             | 2,650,599                  | 1,624                            | 1,422                            |
| 2012 | 800                        | 0.53                             | 0.39                             | 2,164,549                  | 1,446                            | 1,066                            |
| 2013 | 883                        | 0.57                             | 0.41                             | 2,433,746                  | 1,558                            | 1,141                            |
| 2014 | 981                        | 0.54                             | 0.45                             | 3,114,093                  | 1,729                            | 1,424                            |
| 2015 | 1086                       | 0.60                             | 0.48                             | 3,446,048                  | 1,905                            | 1,531                            |
| 2016 | 1485                       | 0.81                             | 0.64                             | 4,365,562                  | 2,367                            | 1,883                            |
| 2017 | 1543                       | 0.87                             | 0.68                             | 4,178,140                  | 2,363                            | 1,848                            |
| 2018 | 1477                       | 0.84                             | 0.64                             | 3,583,214                  | 2,042                            | 1,563                            |
| 2019 | 1552                       | 0.87                             | 0.67                             | 3,551,589                  | 1,994                            | 1,529                            |

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1036                       | 0.63                             | 0.56                             | 2,823,683                  | 1,730                            | 1,515                            |
| 2012 | 852                        | 0.57                             | 0.42                             | 2,305,894                  | 1,540                            | 1,136                            |
| 2013 | 940                        | 0.60                             | 0.44                             | 2,592,670                  | 1,660                            | 1,216                            |
| 2014 | 1045                       | 0.58                             | 0.48                             | 3,317,443                  | 1,842                            | 1,517                            |
| 2015 | 1157                       | 0.64                             | 0.51                             | 3,671,075                  | 2,029                            | 1,630                            |
| 2016 | 1582                       | 0.86                             | 0.68                             | 4,650,633                  | 2,522                            | 2,006                            |
| 2017 | 1644                       | 0.93                             | 0.73                             | 4,450,972                  | 2,517                            | 1,969                            |
| 2018 | 1573                       | 0.90                             | 0.69                             | 3,817,198                  | 2,176                            | 1,665                            |
| 2019 | 1653                       | 0.93                             | 0.71                             | 3,783,507                  | 2,124                            | 1,629                            |

**Impact Evaluation Plan**

The Residential New Construction program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels.

**Cost Effectiveness**

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs \$ (000) | NPV Net Benefits<br>\$(000) | B/C Ratio |
|-------------------------|-------------------------|--------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$50,681                | \$47,138           | \$3,542                     | 1.08      |
| Participant             | \$39,480                | \$22,201           | \$17,279                    | 1.78      |
| Total Resource Cost     | \$50,681                | \$29,860           | \$20,821                    | 1.70      |

## PROGRAM: Residential New Construction - RIM

| YEAR    | BENEFITS                                  |   |  |                             |                              | COSTS                                      |   |  |  |                                  |                              |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-----------------------------|------------------------------|--|---|--|--|----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                       | (8)  | (9)                                    | (10)                             | (11)                         | (12)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0   | 0                                       | 0  | 0                           | 0                            | 0  | 0   | 0  | 0                                      | 0                                | 0                            | 0                         | 0                          |
| 2011    | 331                                       | 35                                      | 0  | 0                           | 365                          | 0  | 0   | 0  | 1,110                                  | 1,033                            | 379                          | 2,522                     | -2,157                     |
| 2012    | 523                                       | 64                                      | 0  | 0                           | 587                          | 0  | 0   | 0  | 951                                    | 1,002                            | 672                          | 2,626                     | -2,038                     |
| 2013    | 1,025                                     | 97                                      | 393                                      | 0                           | 1,514                        | 0  | 0   | 0  | 1,023                                  | 1,545                            | 1,063                        | 3,631                     | -2,116                     |
| 2014    | 1,034                                     | 139                                     | 876                                      | 0                           | 2,049                        | 0  | 0   | 0  | 1,305                                  | 2,223                            | 1,575                        | 5,104                     | -3,055                     |
| 2015    | 1,491                                     | 182                                     | 1,172                                    | 0                           | 2,845                        | 0  | 0   | 0  | 1,392                                  | 2,307                            | 2,275                        | 5,974                     | -3,129                     |
| 2016    | 2,142                                     | 231                                     | 4,042                                    | 0                           | 6,415                        | 0  | 0   | 0  | 1,563                                  | 2,494                            | 2,960                        | 7,017                     | -602                       |
| 2017    | 3,491                                     | 278                                     | 4,959                                    | 0                           | 8,727                        | 0  | 0   | 0  | 1,515                                  | 2,240                            | 3,208                        | 6,963                     | 1,764                      |
| 2018    | 3,392                                     | 317                                     | 2,502                                    | 0                           | 6,210                        | 0  | 0   | 0  | 1,343                                  | 1,953                            | 3,578                        | 6,874                     | -664                       |
| 2019    | 3,840                                     | 355                                     | 2,885                                    | 0                           | 7,080                        | 0  | 0   | 0  | 1,334                                  | 1,969                            | 4,233                        | 7,535                     | -455                       |
| 2020    | 3,875                                     | 355                                     | 2,945                                    | 0                           | 7,176                        | 0  | 0   | 0  | 0                                      | 0                                | 4,335                        | 4,335                     | 2,840                      |
| 2021    | 3,860                                     | 355                                     | 3,008                                    | 0                           | 7,222                        | 0  | 0   | 0  | 0                                      | 0                                | 4,646                        | 4,646                     | 2,576                      |
| 2022    | 4,783                                     | 355                                     | 1,643                                    | 0                           | 6,781                        | 0  | 0   | 0  | 0                                      | 0                                | 4,680                        | 4,680                     | 2,102                      |
| 2023    | 5,086                                     | 355                                     | 2,739                                    | 0                           | 8,180                        | 0  | 0   | 0  | 0                                      | 0                                | 4,773                        | 4,773                     | 3,407                      |
| 2024    | 4,195                                     | 354                                     | 2,853                                    | 0                           | 7,402                        | 0  | 0   | 0  | 0                                      | 0                                | 4,845                        | 4,845                     | 2,557                      |
| 2025    | 4,183                                     | 353                                     | 2,889                                    | 0                           | 7,425                        | 0  | 0   | 0  | 0                                      | 0                                | 4,909                        | 4,909                     | 2,516                      |
| 2026    | 4,843                                     | 328                                     | 1,758                                    | 0                           | 6,928                        | 0  | 0   | 0  | 0                                      | 0                                | 4,628                        | 4,628                     | 2,300                      |
| 2027    | 3,875                                     | 307                                     | 2,981                                    | 0                           | 7,162                        | 0  | 0   | 0  | 0                                      | 0                                | 4,403                        | 4,403                     | 2,760                      |
| 2028    | 3,604                                     | 283                                     | 2,822                                    | 0                           | 6,709                        | 0  | 0   | 0  | 0                                      | 0                                | 4,069                        | 4,069                     | 2,640                      |
| 2029    | 4,278                                     | 250                                     | 2,479                                    | 0                           | 7,007                        | 0  | 0   | 0  | 0                                      | 0                                | 3,649                        | 3,649                     | 3,358                      |
| 2030    | 4,321                                     | 217                                     | 4,843                                    | 0                           | 9,381                        | 0  | 0   | 0  | 0                                      | 0                                | 3,197                        | 3,197                     | 6,184                      |
| 2031    | 3,506                                     | 174                                     | 4,049                                    | 0                           | 7,728                        | 0  | 0   | 0  | 0                                      | 0                                | 2,532                        | 2,532                     | 5,197                      |
| 2032    | 2,822                                     | 136                                     | 3,329                                    | 0                           | 6,286                        | 0  | 0   | 0  | 0                                      | 0                                | 2,029                        | 2,029                     | 4,257                      |
| 2033    | 2,206                                     | 103                                     | 2,664                                    | 0                           | 4,972                        | 0  | 0   | 0  | 0                                      | 0                                | 1,601                        | 1,601                     | 3,372                      |
| 2034    | 1,583                                     | 70                                      | 1,934                                    | 0                           | 3,587                        | 0  | 0   | 0  | 0                                      | 0                                | 1,137                        | 1,137                     | 2,450                      |
| 2035    | 1,484                                     | 64                                      | 1,791                                    | 0                           | 3,338                        | 0  | 0   | 0  | 0                                      | 0                                | 1,092                        | 1,092                     | 2,245                      |
| 2036    | 1,400                                     | 58                                      | 1,652                                    | 0                           | 3,109                        | 0  | 0   | 0  | 0                                      | 0                                | 1,049                        | 1,049                     | 2,061                      |
| 2037    | 1,328                                     | 52                                      | 1,513                                    | 0                           | 2,893                        | 0  | 0   | 0  | 0                                      | 0                                | 1,004                        | 1,004                     | 1,888                      |
| 2038    | 1,255                                     | 47                                      | 1,379                                    | 0                           | 2,681                        | 0  | 0   | 0  | 0                                      | 0                                | 959                          | 959                       | 1,722                      |
| NOMINAL | 79,750                                    | 5,913                                   | 66,098                                   | 0                           | 151,760                      | 0  | 0   | 0  | 11,535                                 | 16,767                           | 79,480                       | 107,781                   | 43,979                     |
| NPV     | 26,817                                    | 2,228                                   | 21,635                                   | 0                           | 50,681                       | 0  | 0   | 0  | 7,658                                  | 10,918                           | 28,562                       | 47,138                    | 3,542                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.075

**PROGRAM: Residential New Construction - Participant**

| YEAR    | BENEFITS  |   |  |                                     | COSTS                                   |   |                                  | (8)    |
|---------|---|---|--|-------------------------------------|---|---|----------------------------------|--------|
|         | (1)<br>SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | (2)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (3)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | (4)<br>TOTAL<br>BENEFITS<br>\$(000) | (5)<br>PARTICIPANT'S<br>COST<br>\$(000) | (6)<br>PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | (7)<br>TOTAL<br>COSTS<br>\$(000) |        |
| 2010    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0      |
| 2011    | 379   | 1,033                                   | 0  | 1,412                               | 2,952                                   | 0   | 2,952                            | -1,540 |
| 2012    | 672   | 1,002                                   | 0  | 1,675                               | 2,934                                   | 0   | 2,934                            | -1,259 |
| 2013    | 1,063   | 1,545                                   | 0  | 2,607                               | 3,446                                   | 0   | 3,446                            | -839   |
| 2014    | 1,575   | 2,223                                   | 0  | 3,799                               | 4,028                                   | 0   | 4,028                            | -229   |
| 2015    | 2,275   | 2,307                                   | 0  | 4,582                               | 4,172                                   | 0   | 4,172                            | 411    |
| 2016    | 2,960   | 2,494                                   | 0  | 5,454                               | 4,504                                   | 0   | 4,504                            | 950    |
| 2017    | 3,208   | 2,240                                   | 0  | 5,448                               | 4,046                                   | 0   | 4,046                            | 1,402  |
| 2018    | 3,578   | 1,953                                   | 0  | 5,532                               | 3,527                                   | 0   | 3,527                            | 2,005  |
| 2019    | 4,233   | 1,969                                   | 0  | 6,202                               | 3,559                                   | 0   | 3,559                            | 2,643  |
| 2020    | 4,335   | 0                                       | 0  | 4,335                               | 0                                       | 0   | 0                                | 4,335  |
| 2021    | 4,646   | 0                                       | 0  | 4,646                               | 0                                       | 0   | 0                                | 4,646  |
| 2022    | 4,680   | 0                                       | 0  | 4,680                               | 0                                       | 0   | 0                                | 4,680  |
| 2023    | 4,773   | 0                                       | 0  | 4,773                               | 0                                       | 0   | 0                                | 4,773  |
| 2024    | 4,845   | 0                                       | 0  | 4,845                               | 0                                       | 0   | 0                                | 4,845  |
| 2025    | 4,909   | 0                                       | 0  | 4,909                               | 0                                       | 0   | 0                                | 4,909  |
| 2026    | 4,628   | 0                                       | 0  | 4,628                               | 0                                       | 0   | 0                                | 4,628  |
| 2027    | 4,403   | 0                                       | 0  | 4,403                               | 0                                       | 0   | 0                                | 4,403  |
| 2028    | 4,069   | 0                                       | 0  | 4,069                               | 0                                       | 0   | 0                                | 4,069  |
| 2029    | 3,649   | 0                                       | 0  | 3,649                               | 0                                       | 0   | 0                                | 3,649  |
| 2030    | 3,197   | 0                                       | 0  | 3,197                               | 0                                       | 0   | 0                                | 3,197  |
| 2031    | 2,532   | 0                                       | 0  | 2,532                               | 0                                       | 0   | 0                                | 2,532  |
| 2032    | 2,029   | 0                                       | 0  | 2,029                               | 0                                       | 0   | 0                                | 2,029  |
| 2033    | 1,601   | 0                                       | 0  | 1,601                               | 0                                       | 0   | 0                                | 1,601  |
| 2034    | 1,137   | 0                                       | 0  | 1,137                               | 0                                       | 0   | 0                                | 1,137  |
| 2035    | 1,092   | 0                                       | 0  | 1,092                               | 0                                       | 0   | 0                                | 1,092  |
| 2036    | 1,049   | 0                                       | 0  | 1,049                               | 0                                       | 0   | 0                                | 1,049  |
| 2037    | 1,004   | 0                                       | 0  | 1,004                               | 0                                       | 0   | 0                                | 1,004  |
| 2038    | 959   | 0                                       | 0  | 959                                 | 0                                       | 0   | 0                                | 959    |
| NOMINAL | 79,480  | 16,767                                  | 0  | 96,247                              | 33,167                                  | 0   | 33,167                           | 63,079 |
| NPV     | 28,562  | 10,918                                  | 0  | 39,480                              | 22,201                                  | 0   | 22,201                           | 17,279 |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.778



**PROGRAM: Residential New Construction - TRC**

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 331                                       | 35                                      | 0  | 0   | 365                          | 2,952                            | 0  | 0   | 0  | 1,110                                  | 4,062                     | -3,697                     |
| 2012    | 523                                       | 64                                      | 0  | 0   | 587                          | 2,934                            | 0  | 0   | 0  | 951                                    | 3,885                     | -3,297                     |
| 2013    | 1,025                                     | 97                                      | 393                                      | 0   | 1,514                        | 3,446                            | 0  | 0   | 0  | 1,023                                  | 4,469                     | -2,955                     |
| 2014    | 1,034                                     | 139                                     | 876                                      | 0   | 2,049                        | 4,028                            | 0  | 0   | 0  | 1,305                                  | 5,333                     | -3,284                     |
| 2015    | 1,491                                     | 182                                     | 1,172                                    | 0   | 2,845                        | 4,172                            | 0  | 0   | 0  | 1,392                                  | 5,563                     | -2,718                     |
| 2016    | 2,142                                     | 231                                     | 4,042                                    | 0   | 6,415                        | 4,504                            | 0  | 0   | 0  | 1,563                                  | 6,067                     | 348                        |
| 2017    | 3,491                                     | 278                                     | 4,959                                    | 0   | 8,727                        | 4,046                            | 0  | 0   | 0  | 1,515                                  | 5,561                     | 3,166                      |
| 2018    | 3,392                                     | 317                                     | 2,502                                    | 0   | 6,210                        | 3,527                            | 0  | 0   | 0  | 1,343                                  | 4,869                     | 1,341                      |
| 2019    | 3,840                                     | 355                                     | 2,885                                    | 0   | 7,080                        | 3,559                            | 0  | 0   | 0  | 1,334                                  | 4,893                     | 2,187                      |
| 2020    | 3,875                                     | 355                                     | 2,945                                    | 0   | 7,176                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,176                      |
| 2021    | 3,860                                     | 355                                     | 3,008                                    | 0   | 7,222                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,222                      |
| 2022    | 4,783                                     | 355                                     | 1,643                                    | 0   | 6,781                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 6,781                      |
| 2023    | 5,086                                     | 355                                     | 2,739                                    | 0   | 8,180                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 8,180                      |
| 2024    | 4,195                                     | 354                                     | 2,853                                    | 0   | 7,402                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,402                      |
| 2025    | 4,183                                     | 353                                     | 2,889                                    | 0   | 7,425                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,425                      |
| 2026    | 4,843                                     | 328                                     | 1,758                                    | 0   | 6,928                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 6,928                      |
| 2027    | 3,875                                     | 307                                     | 2,981                                    | 0   | 7,162                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,162                      |
| 2028    | 3,604                                     | 283                                     | 2,822                                    | 0   | 6,709                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 6,709                      |
| 2029    | 4,278                                     | 250                                     | 2,479                                    | 0   | 7,007                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,007                      |
| 2030    | 4,321                                     | 217                                     | 4,843                                    | 0   | 9,381                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 9,381                      |
| 2031    | 3,506                                     | 174                                     | 4,049                                    | 0   | 7,728                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,728                      |
| 2032    | 2,822                                     | 136                                     | 3,329                                    | 0   | 6,286                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 6,286                      |
| 2033    | 2,206                                     | 103                                     | 2,664                                    | 0   | 4,972                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,972                      |
| 2034    | 1,583                                     | 70                                      | 1,934                                    | 0   | 3,587                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 3,587                      |
| 2035    | 1,484                                     | 64                                      | 1,791                                    | 0   | 3,338                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 3,338                      |
| 2036    | 1,400                                     | 58                                      | 1,652                                    | 0   | 3,109                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 3,109                      |
| 2037    | 1,328                                     | 52                                      | 1,513                                    | 0   | 2,893                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 2,893                      |
| 2038    | 1,255                                     | 47                                      | 1,379                                    | 0   | 2,681                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 2,681                      |
| NOMINAL | 79,750                                    | 5,913                                   | 66,098                                   | 0   | 151,760                      | 33,167                           | 0  | 0   | 0  | 11,535                                 | 44,702                    | 107,058                    |
| NPV     | 26,817                                    | 2,228                                   | 21,635                                   | 0   | 50,681                       | 22,201                           | 0  | 0   | 0  | 7,658                                  | 29,860                    | 20,821                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.697

**C. NEIGHBORHOOD ENERGY SAVER PROGRAM**

**Program Start Date:** 2007

Modifications proposed in 2010

**Program Description**

Progress Energy's Neighborhood Energy Saver program is a custom energy conservation program designed to assist low-income families with escalating energy costs by making energy efficiency improvements at their residence. Trained professional surveyors and installers representing Progress Energy will offer low-income families in targeted neighborhoods a home energy assessment followed by the installation of specified electric energy conservation measures. While in the home, residents will be provided energy saving tips for improving and sustaining household energy efficiency. The energy conservation measures installed and energy efficiency education provided will be at no cost to the participants.

The Neighborhood Energy Saver program seeks to achieve the following goals:

- Conduct a home energy assessment to identify energy efficiency opportunities within the customer's home
- Implement a comprehensive package of electric conservation measures to increase the efficiency in the resident's home
- Provide one-on-one customer education on energy efficiency techniques and energy conservation measures

- Promote behavioral changes to assist customers in controlling their energy usage.

**Policies and Procedures:**

Progress Energy's Neighborhood Energy Saver program participation is based on the median income guidelines and minimum percentage of households within the Census Block Group meeting those guidelines as calculated from the 2000 and 2010 U.S. Census reports. In the absence of Census data that meets the afore mentioned guidelines, Progress Energy will utilize local municipality defined low-income neighborhood data. Additional requirements are as follows:

- The residence must be a residentially-metered customer in Progress Energy territory
- Customer must reside in a selected Progress Energy qualifying Census Block Group that meets the definition of a Low-income neighborhood as stated above
- Multi-family dwellings that meet the above definition, are located in the Neighborhood Energy Saver city, but not within the census block may also be eligible to participate in the Neighborhood Energy Saver program if they meet guidelines as presented in program participation standards.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

***Compact Fluorescent Bulbs***

This portion of the program will provide for the installation of a maximum of five (5) compact fluorescent lamps (CFLs) which are in use for an average of at least four (4) hours per day

***Refrigerator Coil Brush***

This portion of the program will provide the customer with a coil brush to remove dust and debris from condenser coils to improve the refrigerator efficiency

***Refrigerator Thermometer***

This measure will provide for the installation of one thermometer in the food compartment and one thermometer in the freezer of the refrigerator

***Change Filter Calendar***

This portion of the program will provide each homeowner a Progress Energy magnetic calendar to help remind them to clean or change HVAC filter monthly

***Weatherization Measures***

This portion of the program will provide weather stripping, door sweeps, caulk, foam sealant, and clear patch tape which will be used to reduce or stop air infiltration around doors, windows, and where pipes enter the home; Air infiltration reduction is significant to saving energy and customer comfort

***Water heater insulation wrap and insulation for water pipes***

This portion of the program will furnish and install a hot water heater wrap and pipe insulation as identified by the Neighborhood Energy Saver program Home Energy Evaluation

***Water conservation shower head and faucet aerators***

This portion of the program will provide a maximum of three (3) aerators and two (2) low flow showerheads per household

***Water heater temperature check and adjustment***

This portion of the program will provide a temperature check of the hot water heater and perform the turn down adjustment if the customer elects to do so

***HVAC filters***

This portion of the program will allow each customer to receive a one year supply of filters (12); One filter may be installed at time of evaluation if needed

***Indoor wall thermometer***

This portion of the program will provide the installation of one wall plate thermometer per home.

***HVAC winterization kit***

This measure will provide for the installation of a winterization HVAC kit for wall/window AC units, if seasonably applicable; The resident will receive or have installed a maximum of three

(3) kits. The customer will be educated on the proper use and value of the weatherization kit as a method of stopping air infiltration in the home

#### ***Attic Insulation Upgrade***

This portion of the program will upgrade the customer's insulation from R-0/4 to R-19 if required

#### ***HVAC Maintenance***

This portion of the program requires performing basic maintenance on the indoor and outdoor components of the central air and heating unit

#### ***Window Film/Solar Screen***

This portion of the program provides installing window film or solar screen on east, west and south oriented windows.

## Program Participation

Annual participation estimates for the Neighborhood Energy Saver program are shown in the following table:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 45,718  | 3,251  | 7.1%  |
| 2012 | 1,495,098                                | 43,382  | 3,401  | 14.3%   |
| 2013 | 1,521,451                                | 40,848  | 3,601  | 21.6%   |
| 2014 | 1,548,531                                | 38,064  | 3,750  | 29.0%   |
| 2015 | 1,575,167                                | 35,076  | 2,750  | 34.1%   |
| 2016 | 1,600,448                                | 33,027  | 2,750  | 39.2%   |
| 2017 | 1,624,503                                | 30,938  | 2,750  | 44.1%   |
| 2018 | 1,647,724                                | 28,807  | 2,750  | 49.0%   |
| 2019 | 1,671,277                                | 26,633  | 2,750  | 53.7%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. Eligible customers represents the count of homes in Progress Energy service territory that are at or below program qualifying income levels based on current US Census block data with a 2% growth rate per year.
3. Number of participants represents the customers that Progress Energy expects to reach through direct offerings in each year.
4. Cumulative penetration is the ratio of cumulative participants to the remaining eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and annual projected participation. The total projected program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1715                       | 0.56                             | 0.75                             | 5,576,891                  | 1,831                            | 2,428                            |
| 2012 | 1715                       | 0.56                             | 0.75                             | 5,833,874                  | 1,915                            | 2,540                            |
| 2013 | 1715                       | 0.56                             | 0.75                             | 6,176,652                  | 2,028                            | 2,689                            |
| 2014 | 1715                       | 0.56                             | 0.75                             | 6,431,999                  | 2,112                            | 2,800                            |
| 2015 | 1715                       | 0.56                             | 0.75                             | 4,716,745                  | 1,549                            | 2,054                            |
| 2016 | 1703                       | 0.56                             | 0.74                             | 4,684,217                  | 1,536                            | 2,033                            |
| 2017 | 1577                       | 0.51                             | 0.66                             | 4,335,432                  | 1,405                            | 1,811                            |
| 2018 | 1485                       | 0.48                             | 0.60                             | 4,084,407                  | 1,310                            | 1,651                            |
| 2019 | 1437                       | 0.46                             | 0.57                             | 3,953,109                  | 1,261                            | 1,568                            |

| 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1827                       | 0.60                             | 0.80                             | 5,941,062                  | 1,951                            | 2,587                            |
| 2012 | 1827                       | 0.60                             | 0.80                             | 6,214,826                  | 2,040                            | 2,706                            |
| 2013 | 1827                       | 0.60                             | 0.80                             | 6,579,987                  | 2,160                            | 2,865                            |
| 2014 | 1827                       | 0.60                             | 0.80                             | 6,852,009                  | 2,249                            | 2,983                            |
| 2015 | 1827                       | 0.60                             | 0.80                             | 5,024,748                  | 1,650                            | 2,188                            |
| 2016 | 1815                       | 0.60                             | 0.79                             | 4,990,096                  | 1,637                            | 2,166                            |
| 2017 | 1679                       | 0.54                             | 0.70                             | 4,618,536                  | 1,497                            | 1,929                            |
| 2018 | 1582                       | 0.51                             | 0.64                             | 4,351,118                  | 1,395                            | 1,759                            |
| 2019 | 1531                       | 0.49                             | 0.61                             | 4,211,247                  | 1,343                            | 1,670                            |

## Impact Evaluation Plan

The Neighborhood Energy Saver program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis



will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels.

### Cost Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs \$ (000) | NPV Net Benefits<br>\$(000) | B/C Ratio |
|-------------------------|-------------------------|--------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$41,487                | \$52,133           | -\$10,645                   | 0.80      |
| Participant             | \$45,113                | \$14,928           | \$30,185                    | 3.02      |
| Total Resource Cost     | \$41,487                | \$21,948           | \$19,539                    | 1.89      |

**PROGRAM: Neighborhood Energy Saver - RIM**

| YEAR    | BENEFITS   |  |   |                                    |                                     | COSTS   |  |   |   |  |                                      |                                   | NET<br>BENEFITS<br>\$(000) |
|---------|--|--|---|------------------------------------|-------------------------------------|---|--|---|---|--|--------------------------------------|-----------------------------------|----------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>REVENUE<br>GAINS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (7)<br>INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | (8)<br>INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | (9)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (10)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (11)<br>REVENUE<br>LOSSES<br>\$(000) | (12)<br>TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0  | 0  | 0   | 0                                  | 0                                   | 0   | 0  | 0   | 0   | 0  | 0                                    | 0                                 | 0                          |
| 2011    | 649  | 52   | 0   | 0                                  | 701                                 | 0   | 0  | 0   | 1,076   | 2,460                                    | 802                                  | 4,338                             | -3,636                     |
| 2012    | 1,151  | 105  | 0   | 0                                  | 1,256                               | 0   | 0  | 0   | 1,160   | 2,629                                    | 1,581                                | 5,370                             | -4,115                     |
| 2013    | 2,306  | 160  | 845   | 0                                  | 3,311                               | 0   | 0  | 0   | 1,264   | 2,843                                    | 2,546                                | 6,653                             | -3,342                     |
| 2014    | 2,171  | 207  | 1,735   | 0                                  | 4,113                               | 0   | 0  | 0   | 1,354   | 3,023                                    | 3,500                                | 7,876                             | -3,763                     |
| 2015    | 2,772  | 237  | 2,035   | 0                                  | 5,044                               | 0   | 0  | 0   | 1,023   | 2,262                                    | 4,436                                | 7,721                             | -2,677                     |
| 2016    | 3,437  | 267  | 2,553   | 0                                  | 6,258                               | 0   | 0  | 0   | 1,053   | 2,288                                    | 5,006                                | 8,347                             | -2,089                     |
| 2017    | 4,133  | 292  | 2,879   | 0                                  | 7,304                               | 0   | 0  | 0   | 1,084   | 2,088                                    | 4,916                                | 8,087                             | -783                       |
| 2018    | 4,385  | 303  | 3,070   | 0                                  | 7,757                               | 0   | 0  | 0   | 1,117   | 1,949                                    | 4,924                                | 7,989                             | -232                       |
| 2019    | 4,521  | 311  | 3,211   | 0                                  | 8,042                               | 0   | 0  | 0   | 1,150   | 1,891                                    | 5,286                                | 8,327                             | -285                       |
| 2020    | 4,201  | 286  | 3,021   | 0                                  | 7,508                               | 0   | 0  | 0   | 0   | 0  | 4,995                                | 4,995                             | 2,513                      |
| 2021    | 3,606  | 247  | 2,646   | 0                                  | 6,499                               | 0   | 0  | 0   | 0   | 0  | 4,579                                | 4,579                             | 1,920                      |
| 2022    | 3,758  | 212  | 1,232   | 0                                  | 5,202                               | 0   | 0  | 0   | 0   | 0  | 3,921                                | 3,921                             | 1,281                      |
| 2023    | 3,359  | 182  | 1,734   | 0                                  | 5,275                               | 0   | 0  | 0   | 0   | 0  | 3,340                                | 3,340                             | 1,935                      |
| 2024    | 2,251  | 151  | 1,464   | 0                                  | 3,867                               | 0   | 0  | 0   | 0   | 0  | 2,704                                | 2,704                             | 1,163                      |
| 2025    | 1,780  | 125  | 1,196   | 0                                  | 3,102                               | 0   | 0  | 0   | 0   | 0  | 2,159                                | 2,159                             | 943                        |
| 2026    | 1,617  | 99   | 594   | 0                                  | 2,310                               | 0   | 0  | 0   | 0   | 0  | 1,562                                | 1,562                             | 747                        |
| 2027    | 1,124  | 85   | 909   | 0                                  | 2,119                               | 0   | 0  | 0   | 0   | 0  | 1,275                                | 1,275                             | 844                        |
| 2028    | 906  | 74   | 787   | 0                                  | 1,767                               | 0   | 0  | 0   | 0   | 0  | 1,004                                | 1,004                             | 763                        |
| 2029    | 916  | 55   | 706   | 0                                  | 1,677                               | 0   | 0  | 0   | 0   | 0  | 654                                  | 654                               | 1,023                      |
| 2030    | 823  | 46   | 992   | 0                                  | 1,861                               | 0   | 0  | 0   | 0   | 0  | 562                                  | 562                               | 1,299                      |
| 2031    | 677  | 37   | 824   | 0                                  | 1,538                               | 0   | 0  | 0   | 0   | 0  | 457                                  | 457                               | 1,081                      |
| 2032    | 511  | 28   | 633   | 0                                  | 1,172                               | 0   | 0  | 0   | 0   | 0  | 343                                  | 343                               | 829                        |
| 2033    | 376  | 20   | 480   | 0                                  | 877                                 | 0   | 0  | 0   | 0   | 0  | 253                                  | 253                               | 624                        |
| 2034    | 242  | 13   | 316   | 0                                  | 572                                 | 0   | 0  | 0   | 0   | 0  | 158                                  | 158                               | 414                        |
| 2035    | 151  | 8  | 201   | 0                                  | 359                                 | 0   | 0  | 0   | 0   | 0  | 99                                   | 99                                | 260                        |
| 2036    | 74   | 4  | 98  | 0                                  | 175                                 | 0   | 0  | 0   | 0   | 0  | 48                                   | 48                                | 127                        |
| 2037    | 0  | 0  | 0   | 0                                  | 0                                   | 0   | 0  | 0   | 0   | 0  | 0                                    | 0                                 | 0                          |
| 2038    | 0  | 0  | 0   | 0                                  | 0                                   | 0   | 0  | 0   | 0   | 0  | 0                                    | 0                                 | 0                          |
| NOMINAL | 51,894   | 3,609  | 34,162  | 0                                  | 89,664                              | 0   | 0  | 0   | 10,279  | 21,433                                   | 61,109                               | 92,822                            | -3,157                     |
| NPV     | 24,477   | 1,767  | 15,243  | 0                                  | 41,487                              | 0   | 0  | 0   | 7,020   | 14,928                                   | 30,185                               | 52,133                            | -10,645                    |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.796

**PROGRAM: Neighborhood Energy Saver - Participant**

| YEAR    | BENEFITS  |   |  |                                     | COSTS                                   |   |                                  | (8)<br>NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-------------------------------------|---|---|----------------------------------|-----------------------------------|
|         | (1)<br>SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | (2)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (3)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | (4)<br>TOTAL<br>BENEFITS<br>\$(000) | (5)<br>PARTICIPANT'S<br>COST<br>\$(000) | (6)<br>PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | (7)<br>TOTAL<br>COSTS<br>\$(000) |                                   |
|         |   |   |  |                                     |   |   |                                  |                                   |
| 2010    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0                                 |
| 2011    | 802   | 2,460                                   | 0  | 3,262                               | 2,460                                   | 0   | 2,460                            | 802                               |
| 2012    | 1,581   | 2,629                                   | 0  | 4,211                               | 2,629                                   | 0   | 2,629                            | 1,581                             |
| 2013    | 2,546   | 2,843                                   | 0  | 5,389                               | 2,843                                   | 0   | 2,843                            | 2,546                             |
| 2014    | 3,500   | 3,023                                   | 0  | 6,522                               | 3,023                                   | 0   | 3,023                            | 3,500                             |
| 2015    | 4,436   | 2,262                                   | 0  | 6,698                               | 2,262                                   | 0   | 2,262                            | 4,436                             |
| 2016    | 5,006   | 2,288                                   | 0  | 7,294                               | 2,288                                   | 0   | 2,288                            | 5,006                             |
| 2017    | 4,916   | 2,088                                   | 0  | 7,004                               | 2,088                                   | 0   | 2,088                            | 4,916                             |
| 2018    | 4,924   | 1,949                                   | 0  | 6,872                               | 1,949                                   | 0   | 1,949                            | 4,924                             |
| 2019    | 5,286   | 1,891                                   | 0  | 7,178                               | 1,891                                   | 0   | 1,891                            | 5,286                             |
| 2020    | 4,995   | 0                                       | 0  | 4,995                               | 0                                       | 0   | 0                                | 4,995                             |
| 2021    | 4,579   | 0                                       | 0  | 4,579                               | 0                                       | 0   | 0                                | 4,579                             |
| 2022    | 3,921   | 0                                       | 0  | 3,921                               | 0                                       | 0   | 0                                | 3,921                             |
| 2023    | 3,340   | 0                                       | 0  | 3,340                               | 0                                       | 0   | 0                                | 3,340                             |
| 2024    | 2,704   | 0                                       | 0  | 2,704                               | 0                                       | 0   | 0                                | 2,704                             |
| 2025    | 2,159   | 0                                       | 0  | 2,159                               | 0                                       | 0   | 0                                | 2,159                             |
| 2026    | 1,562   | 0                                       | 0  | 1,562                               | 0                                       | 0   | 0                                | 1,562                             |
| 2027    | 1,275   | 0                                       | 0  | 1,275                               | 0                                       | 0   | 0                                | 1,275                             |
| 2028    | 1,004   | 0                                       | 0  | 1,004                               | 0                                       | 0   | 0                                | 1,004                             |
| 2029    | 654   | 0                                       | 0  | 654                                 | 0                                       | 0   | 0                                | 654                               |
| 2030    | 562   | 0                                       | 0  | 562                                 | 0                                       | 0   | 0                                | 562                               |
| 2031    | 457   | 0                                       | 0  | 457                                 | 0                                       | 0   | 0                                | 457                               |
| 2032    | 343   | 0                                       | 0  | 343                                 | 0                                       | 0   | 0                                | 343                               |
| 2033    | 253   | 0                                       | 0  | 253                                 | 0                                       | 0   | 0                                | 253                               |
| 2034    | 158   | 0                                       | 0  | 158                                 | 0                                       | 0   | 0                                | 158                               |
| 2035    | 99  | 0                                       | 0  | 99                                  | 0                                       | 0   | 0                                | 99                                |
| 2036    | 48  | 0                                       | 0  | 48                                  | 0                                       | 0   | 0                                | 48                                |
| 2037    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0                                 |
| 2038    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0                                 |
| NOMINAL | 61,109  | 21,433                                  | 0  | 82,542                              | 21,433                                  | 0   | 21,433                           | 61,109                            |
| NPV     | 30,185  | 14,928                                  | 0  | 45,113                              | 14,928                                  | 0   | 14,928                           | 30,185                            |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 3.022

## PROGRAM: Neighborhood Energy Saver - TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 649                                       | 52                                      | 0  | 0   | 701                          | 2,460                            | 0  | 0   | 0  | 1,076                                  | 3,536                     | -2,835                     |
| 2012    | 1,151                                     | 105                                     | 0  | 0   | 1,256                        | 2,629                            | 0  | 0   | 0  | 1,160                                  | 3,789                     | -2,533                     |
| 2013    | 2,306                                     | 160                                     | 845                                      | 0   | 3,311                        | 2,843                            | 0  | 0   | 0  | 1,264                                  | 4,107                     | -796                       |
| 2014    | 2,171                                     | 207                                     | 1,735                                    | 0   | 4,113                        | 3,023                            | 0  | 0   | 0  | 1,354                                  | 4,376                     | -264                       |
| 2015    | 2,772                                     | 237                                     | 2,035                                    | 0   | 5,044                        | 2,262                            | 0  | 0   | 0  | 1,023                                  | 3,285                     | 1,759                      |
| 2016    | 3,437                                     | 267                                     | 2,553                                    | 0   | 6,258                        | 2,288                            | 0  | 0   | 0  | 1,053                                  | 3,341                     | 2,916                      |
| 2017    | 4,133                                     | 292                                     | 2,879                                    | 0   | 7,304                        | 2,088                            | 0  | 0   | 0  | 1,084                                  | 3,171                     | 4,132                      |
| 2018    | 4,385                                     | 303                                     | 3,070                                    | 0   | 7,757                        | 1,949                            | 0  | 0   | 0  | 1,117                                  | 3,065                     | 4,692                      |
| 2019    | 4,521                                     | 311                                     | 3,211                                    | 0   | 8,042                        | 1,891                            | 0  | 0   | 0  | 1,150                                  | 3,041                     | 5,001                      |
| 2020    | 4,201                                     | 286                                     | 3,021                                    | 0   | 7,508                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,508                      |
| 2021    | 3,606                                     | 247                                     | 2,646                                    | 0   | 6,499                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 6,499                      |
| 2022    | 3,758                                     | 212                                     | 1,232                                    | 0   | 5,202                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 5,202                      |
| 2023    | 3,359                                     | 182                                     | 1,734                                    | 0   | 5,275                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 5,275                      |
| 2024    | 2,251                                     | 151                                     | 1,464                                    | 0   | 3,867                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 3,867                      |
| 2025    | 1,780                                     | 125                                     | 1,196                                    | 0   | 3,102                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 3,102                      |
| 2026    | 1,617                                     | 99                                      | 594                                      | 0   | 2,310                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 2,310                      |
| 2027    | 1,124                                     | 85                                      | 909                                      | 0   | 2,119                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 2,119                      |
| 2028    | 906                                       | 74                                      | 787                                      | 0   | 1,767                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,767                      |
| 2029    | 916                                       | 55                                      | 706                                      | 0   | 1,677                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,677                      |
| 2030    | 823                                       | 46                                      | 992                                      | 0   | 1,861                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,861                      |
| 2031    | 677                                       | 37                                      | 824                                      | 0   | 1,538                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,538                      |
| 2032    | 511                                       | 28                                      | 633                                      | 0   | 1,172                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,172                      |
| 2033    | 376                                       | 20                                      | 480                                      | 0   | 877                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 877                        |
| 2034    | 242                                       | 13                                      | 316                                      | 0   | 572                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 572                        |
| 2035    | 151                                       | 8                                       | 201                                      | 0   | 359                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 359                        |
| 2036    | 74  | 4                                       | 98                                       | 0   | 175                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 175                        |
| 2037    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2038    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| NOMINAL | 51,894                                    | 3,609                                   | 34,162                                   | 0   | 89,664                       | 21,433                           | 0  | 0   | 0  | 10,279                                 | 31,713                    | 57,952                     |
| NPV     | 24,477                                    | 1,767                                   | 15,243                                   | 0   | 41,487                       | 14,928                           | 0  | 0   | 0  | 7,020                                  | 21,948                    | 19,539                     |

Utility Discount Rate = 8.48  
Benefit Cost Ratio = 1.890

**D. LOW INCOME WEATHERIZATION ASSISTANCE PROGRAM**

**Program Start Date:** 2000

Program modified in 2006

Modifications proposed in 2010

**Program Description**

The Low-Income Weatherization Assistance program is designed to leverage working relationships with providers to integrate Demand Side Management measures and offer energy efficiency with an education component. The Low-Income Weatherization Assistance program combines weatherization provider partnerships with energy education and energy efficiency improvements to benefit low-income families. The program seeks to meet the following goals:

- Integrate Progress Energy's Low-Income Weatherization Assistance program procedures with the Department of Community Affairs and local home improvement providers to deliver energy efficiency measures to low-income families
- Identify and educate contractors and low-income customers regarding energy saving opportunities to improve home energy efficiency
- Increase low-income families' participation in Progress Energy's Demand Side Management programs

- Educate low-income families on achievable, sustainable strategies to reduce individual energy bills.

### **Policies and Procedures**

The program provides incentives for attic insulation upgrades, duct testing and repair, reduced air infiltration, water heater wrap, HVAC maintenance, high efficiency heat pumps, high efficiency electric water heater, low flow showerheads, compact fluorescent light bulbs, faucet aerators, refrigerator coil brush, dedicated heat pump water heaters, window screen/film, reflective roof coating, window air conditioning replacement with window unit winterization kit, and a community energy education component.

The program eligibility requirements to qualify for participation are as follows:

- The residence must be a residentially-metered customer in Progress Energy territory
- Must meet Florida's weatherization and local home improvement provider low-income criteria, in addition to income requirements determined by the Department of Community Affairs (DCA)
- Homes must be greater than two years old
- A DCA-approved provider or local provider's approved contractors must perform all work.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on

changes in market conditions, such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

***Attic Insulation Upgrade***

This portion of the program encourages customers to add insulation to the ceiling area by paying a portion of the installed cost. The customer must have either whole house electric cooling or electric heating to be eligible for this program.

***Duct Test and Repair***

This portion of the program is designed to encourage eligible customers to improve their central duct system by reducing the air leakage rate. This is accomplished by performing a duct leakage test, then offering to repair the leakage that is discovered by the duct test. The home must have central ducted electric cooling and electric heat to participate in this measure.

***Reduced Air Infiltration***

The provider must demonstrate a minimum reduction of air infiltration into the home of 1500 cfm at 50 pascal's to receive an incentive. The home must not exceed ASHRAE Standard 62 for acceptable indoor air quality.

### ***Water Heater Wrap***

This portion of the program will provide and install a water heater wrap as identified in the Program Participation Standards.

### ***High-Efficiency Electric Heat Pumps***

For high-efficiency electric heat pumps, Progress Energy will provide an incentive per unit. The specific incentive available is dependent upon the efficiency level of the unit installed and the type of electric heat the new equipment is replacing. In order to qualify for an incentive, both the air handler and the outdoor condensing unit shall be replaced, and both units shall be new.

### ***High-Efficiency Electric Water Heating***

The high-efficiency water heating portion of this program promotes technologies that heat water more efficiently than a standard electric water heater and save energy. The incentive depends on the type of technology being installed.

### ***Heating and Air Conditioning Maintenance***

To maximize efficiency an incentive will be provided for a heating & air conditioning contractor to perform service/tune-up maintenance on existing electric central heating and air conditioning systems.



***Low Flow Showerhead – Aerators***

This measure will improve energy efficiency for low-income customers in existing homes. Progress Energy will pay an incentive per showerhead for a maximum of two (2) per home, and an additional incentive per aerator for a maximum of three (3) per home.

***Compact Fluorescent Light***

This measure will help low-income customers reduce their energy costs by installing up to three (3) compact fluorescent lamps (CFLs) per home.

***Refrigerator Coil Brush***

This portion of the program will encourage low-income customers to clean the coils on their refrigerator. The local provider will demonstrate coil cleaning techniques and leave one brush with the customer for future use.

***Window Film/Screen***

The local provider will be responsible for meeting manufacturer's instructions and specifications, and installing this measure on west, southwest and northwest oriented windows only. Jalousie, double/triple pane, frosted/plastic windows and skylights are not eligible.

### ***Roof Coating for Manufactured Homes***

This portion of the program can lower cooling cost and extend roof life for manufactured homes by providing an incentive to install an ENERGY STAR® or Cool Roof Rating Council approved reflective roof coating product.

### ***Window AC Replacement with Window Unit Winterization Kit***

This measure will provide an incentive for replacement/recycle of one window A/C unit per home. Customers will receive a window unit winterization kit. The window A/C unit to be replaced must be in operating condition and the provider must be sure the window A/C unit is removed from the premise and recycled appropriately.

### ***Community Energy Connection***

This part of the program will provide low-income residents with energy education training and interactive workstations that focus on assisting low-income families with developing achievable, sustainable strategies to reduce individual energy bills. Each attendee will receive an Energy Conservation Kit. The energy education training will provide a series of Community Energy Connection workshops in low-income communities, designed to partner with low-income providers. These educational workshops will include three stations: Energy Education Presentation, Social Service Agency Presentation, and Expo/Interactive Workstation. The interactive display station will consist of the following: A/C Thermostat, Lighting, Attic Insulation, Air Handler, and Refrigerator Coil Cleaning.

## Program Participation

Annual participation estimates for the Low Income Weatherization Assistance program are shown in the following table:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Eligible Customers <sup>(2)</sup> | Annual Number of Program Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 1,011   | 337  | 33.3%   |
| 2012 | 1,495,098                                | 1,026   | 342  | 33.3%   |
| 2013 | 1,521,451                                | 1,044   | 348  | 33.3%   |
| 2014 | 1,548,531                                | 1,062   | 354  | 33.3%   |
| 2015 | 1,575,167                                | 1,081   | 360  | 33.3%   |
| 2016 | 1,600,448                                | 1,098   | 366  | 33.3%   |
| 2017 | 1,624,503                                | 1,115   | 372  | 33.3%   |
| 2018 | 1,647,724                                | 1,131   | 377  | 33.3%   |
| 2019 | 1,671,277                                | 1,147   | 382  | 33.3%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. Eligible customers is the count that State agencies expects to participate in low-income programs in PEF Area.
3. Number of participants represents the eligible customers that Progress Energy expects to reach via partnership with State agencies.
4. Cumulative penetration is the ratio of cumulative participants to the accumulated eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables:

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1841                       | 0.97                             | 0.83                             | 620,413                    | 327                              | 280                              |
| 2012 | 2032                       | 0.89                             | 0.90                             | 695,078                    | 306                              | 309                              |
| 2013 | 2028                       | 0.80                             | 0.85                             | 705,829                    | 280                              | 296                              |
| 2014 | 2041                       | 0.78                             | 0.83                             | 722,835                    | 274                              | 293                              |
| 2015 | 2097                       | 0.93                             | 0.86                             | 755,537                    | 335                              | 309                              |
| 2016 | 2119                       | 1.18                             | 0.93                             | 775,733                    | 433                              | 342                              |
| 2017 | 2128                       | 1.21                             | 0.93                             | 790,669                    | 449                              | 347                              |
| 2018 | 2224                       | 1.30                             | 0.94                             | 838,171                    | 489                              | 353                              |
| 2019 | 2293                       | 1.46                             | 0.97                             | 876,521                    | 557                              | 372                              |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1961                       | 1.03                             | 0.88                             | 660,925                    | 348                              | 298                              |
| 2012 | 2165                       | 0.95                             | 0.96                             | 740,466                    | 326                              | 329                              |
| 2013 | 2161                       | 0.86                             | 0.91                             | 751,919                    | 298                              | 315                              |
| 2014 | 2175                       | 0.83                             | 0.88                             | 770,036                    | 292                              | 312                              |
| 2015 | 2234                       | 0.99                             | 0.91                             | 804,874                    | 357                              | 329                              |
| 2016 | 2258                       | 1.26                             | 0.99                             | 826,389                    | 462                              | 364                              |
| 2017 | 2267                       | 1.29                             | 0.99                             | 842,300                    | 478                              | 370                              |
| 2018 | 2369                       | 1.38                             | 1.00                             | 892,904                    | 521                              | 376                              |
| 2019 | 2443                       | 1.55                             | 1.04                             | 933,758                    | 593                              | 397                              |

### Impact Evaluation Plan

The Low Income Weatherization program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels.

### Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs \$ (000) | NPV Net Benefits<br>\$(000) | B/C Ratio |
|-------------------------|-------------------------|--------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$6,572                 | \$8,010            | -\$1,437                    | 0.82      |
| Participant             | \$6,732                 | \$2,171            | \$4,561                     | 3.10      |
| Total Resource Cost     | \$6,572                 | \$3,448            | \$3,124                     | 1.91      |

**PROGRAM: Low Income Weatherization Assistance - RIM**

| YEAR    | BENEFITS                                  |   |  |                             |                              | COSTS                                      |   |  |  |                                  |                              |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-----------------------------|------------------------------|--|---|--|--|----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                       | (8)  | (9)                                    | (10)                             | (11)                         | (12)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0   | 0                                       | 0  | 0                           | 0                            | 0  | 0   | 0  | 0                                      | 0                                | 0                            | 0                         | 0                          |
| 2011    | 73  | 6                                       | 0  | 0                           | 79                           | 0  | 0   | 0  | 248                                    | 346                              | 89                           | 682                       | -603                       |
| 2012    | 136                                       | 12                                      | 0  | 0                           | 147                          | 0  | 0   | 0  | 211                                    | 342                              | 185                          | 738                       | -590                       |
| 2013    | 264                                       | 17                                      | 90                                       | 0                           | 371                          | 0  | 0   | 0  | 160                                    | 307                              | 298                          | 765                       | -394                       |
| 2014    | 261                                       | 23                                      | 187                                      | 0                           | 470                          | 0  | 0   | 0  | 174                                    | 309                              | 419                          | 903                       | -432                       |
| 2015    | 365                                       | 29                                      | 240                                      | 0                           | 634                          | 0  | 0   | 0  | 188                                    | 343                              | 580                          | 1,111                     | -477                       |
| 2016    | 480                                       | 35                                      | 387                                      | 0                           | 903                          | 0  | 0   | 0  | 203                                    | 354                              | 698                          | 1,255                     | -352                       |
| 2017    | 630                                       | 42                                      | 487                                      | 0                           | 1,159                        | 0  | 0   | 0  | 219                                    | 382                              | 729                          | 1,330                     | -171                       |
| 2018    | 674                                       | 46                                      | 439                                      | 0                           | 1,159                        | 0  | 0   | 0  | 236                                    | 413                              | 762                          | 1,411                     | -253                       |
| 2019    | 720                                       | 50                                      | 481                                      | 0                           | 1,251                        | 0  | 0   | 0  | 254                                    | 459                              | 843                          | 1,556                     | -306                       |
| 2020    | 661                                       | 47                                      | 451                                      | 0                           | 1,158                        | 0  | 0   | 0  | 0                                      | 0                                | 779                          | 779                       | 379                        |
| 2021    | 592                                       | 43                                      | 418                                      | 0                           | 1,053                        | 0  | 0   | 0  | 0                                      | 0                                | 740                          | 740                       | 313                        |
| 2022    | 637                                       | 39                                      | 207                                      | 0                           | 883                          | 0  | 0   | 0  | 0                                      | 0                                | 651                          | 651                       | 232                        |
| 2023    | 592                                       | 35                                      | 308                                      | 0                           | 935                          | 0  | 0   | 0  | 0                                      | 0                                | 572                          | 572                       | 363                        |
| 2024    | 418                                       | 32                                      | 282                                      | 0                           | 732                          | 0  | 0   | 0  | 0                                      | 0                                | 487                          | 487                       | 245                        |
| 2025    | 343                                       | 28                                      | 249                                      | 0                           | 619                          | 0  | 0   | 0  | 0                                      | 0                                | 400                          | 400                       | 219                        |
| 2026    | 327                                       | 23                                      | 132                                      | 0                           | 482                          | 0  | 0   | 0  | 0                                      | 0                                | 292                          | 292                       | 189                        |
| 2027    | 259                                       | 22                                      | 227                                      | 0                           | 509                          | 0  | 0   | 0  | 0                                      | 0                                | 283                          | 283                       | 226                        |
| 2028    | 251                                       | 21                                      | 222                                      | 0                           | 494                          | 0  | 0   | 0  | 0                                      | 0                                | 272                          | 272                       | 222                        |
| 2029    | 321                                       | 18                                      | 231                                      | 0                           | 570                          | 0  | 0   | 0  | 0                                      | 0                                | 243                          | 243                       | 328                        |
| 2030    | 293                                       | 16                                      | 331                                      | 0                           | 639                          | 0  | 0   | 0  | 0                                      | 0                                | 213                          | 213                       | 426                        |
| 2031    | 252                                       | 13                                      | 289                                      | 0                           | 554                          | 0  | 0   | 0  | 0                                      | 0                                | 181                          | 181                       | 372                        |
| 2032    | 207                                       | 11                                      | 241                                      | 0                           | 458                          | 0  | 0   | 0  | 0                                      | 0                                | 147                          | 147                       | 311                        |
| 2033    | 142                                       | 7                                       | 170                                      | 0                           | 319                          | 0  | 0   | 0  | 0                                      | 0                                | 100                          | 100                       | 219                        |
| 2034    | 67  | 4                                       | 88                                       | 0                           | 159                          | 0  | 0   | 0  | 0                                      | 0                                | 44                           | 44                        | 115                        |
| 2035    | 47  | 3                                       | 64                                       | 0                           | 113                          | 0  | 0   | 0  | 0                                      | 0                                | 32                           | 32                        | 82                         |
| 2036    | 29  | 2                                       | 38                                       | 0                           | 68                           | 0  | 0   | 0  | 0                                      | 0                                | 19                           | 19                        | 49                         |
| 2037    | 0   | 0                                       | 0  | 0                           | 0                            | 0  | 0   | 0  | 0                                      | 0                                | 0                            | 0                         | 0                          |
| 2038    | 0   | 0                                       | 0  | 0                           | 0                            | 0  | 0   | 0  | 0                                      | 0                                | 0                            | 0                         | 0                          |
| NOMINAL | 9,035                                     | 624                                     | 6,258                                    | 0                           | 15,916                       | 0  | 0   | 0  | 1,892                                  | 3,256                            | 10,057                       | 15,205                    | 711                        |
| NPV     | 3,841                                     | 272                                     | 2,459                                    | 0                           | 6,572                        | 0  | 0   | 0  | 1,277                                  | 2,171                            | 4,561                        | 8,010                     | -1,437                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.821

**PROGRAM: Low Income Weatherization Assistance - Participant**

| YEAR    | BENEFITS  |   |  |                                     | COSTS                                   |   |                                  | (8)    |
|---------|---|---|--|-------------------------------------|---|---|----------------------------------|--------|
|         | (1)<br>SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | (2)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (3)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | (4)<br>TOTAL<br>BENEFITS<br>\$(000) | (5)<br>PARTICIPANT'S<br>COST<br>\$(000) | (6)<br>PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | (7)<br>TOTAL<br>COSTS<br>\$(000) |        |
| 2010    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0      |
| 2011    | 89  | 346                                     | 0  | 435                                 | 346                                     | 0   | 346                              | 89     |
| 2012    | 185   | 342                                     | 0  | 527                                 | 342                                     | 0   | 342                              | 185    |
| 2013    | 298   | 307                                     | 0  | 605                                 | 307                                     | 0   | 307                              | 298    |
| 2014    | 419   | 309                                     | 0  | 729                                 | 309                                     | 0   | 309                              | 419    |
| 2015    | 580   | 343                                     | 0  | 923                                 | 343                                     | 0   | 343                              | 580    |
| 2016    | 698   | 354                                     | 0  | 1,052                               | 354                                     | 0   | 354                              | 698    |
| 2017    | 729   | 382                                     | 0  | 1,112                               | 382                                     | 0   | 382                              | 729    |
| 2018    | 762   | 413                                     | 0  | 1,176                               | 413                                     | 0   | 413                              | 762    |
| 2019    | 843   | 459                                     | 0  | 1,302                               | 459                                     | 0   | 459                              | 843    |
| 2020    | 779   | 0                                       | 0  | 779                                 | 0                                       | 0   | 0                                | 779    |
| 2021    | 740   | 0                                       | 0  | 740                                 | 0                                       | 0   | 0                                | 740    |
| 2022    | 651   | 0                                       | 0  | 651                                 | 0                                       | 0   | 0                                | 651    |
| 2023    | 572   | 0                                       | 0  | 572                                 | 0                                       | 0   | 0                                | 572    |
| 2024    | 487   | 0                                       | 0  | 487                                 | 0                                       | 0   | 0                                | 487    |
| 2025    | 400   | 0                                       | 0  | 400                                 | 0                                       | 0   | 0                                | 400    |
| 2026    | 292   | 0                                       | 0  | 292                                 | 0                                       | 0   | 0                                | 292    |
| 2027    | 283   | 0                                       | 0  | 283                                 | 0                                       | 0   | 0                                | 283    |
| 2028    | 272   | 0                                       | 0  | 272                                 | 0                                       | 0   | 0                                | 272    |
| 2029    | 243   | 0                                       | 0  | 243                                 | 0                                       | 0   | 0                                | 243    |
| 2030    | 213   | 0                                       | 0  | 213                                 | 0                                       | 0   | 0                                | 213    |
| 2031    | 181   | 0                                       | 0  | 181                                 | 0                                       | 0   | 0                                | 181    |
| 2032    | 147   | 0                                       | 0  | 147                                 | 0                                       | 0   | 0                                | 147    |
| 2033    | 100   | 0                                       | 0  | 100                                 | 0                                       | 0   | 0                                | 100    |
| 2034    | 44  | 0                                       | 0  | 44                                  | 0                                       | 0   | 0                                | 44     |
| 2035    | 32  | 0                                       | 0  | 32                                  | 0                                       | 0   | 0                                | 32     |
| 2036    | 19  | 0                                       | 0  | 19                                  | 0                                       | 0   | 0                                | 19     |
| 2037    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0      |
| 2038    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0      |
| NOMINAL | 10,057  | 3,256                                   | 0  | 13,313                              | 3,256                                   | 0   | 3,256                            | 10,057 |
| NPV     | 4,561   | 2,171                                   | 0  | 6,732                               | 2,171                                   | 0   | 2,171                            | 4,561  |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 3.101

**PROGRAM: Low Income Weatherization Assistance - TRC**

| YEAR    | BENEFITS   |  |   |  |                                     | COSTS                                   |   |  |   |  |                                   | (12)<br>NET<br>BENEFITS<br>\$(000) |
|---------|--|--|---|--|-------------------------------------|---|---|--|---|--|-----------------------------------|------------------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>PARTICIPANT'S<br>COST<br>\$(000) | (7)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (8)<br>INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | (9)<br>INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | (10)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (11)<br>TOTAL<br>COSTS<br>\$(000) |                                    |
| 2010    | 0  | 0  | 0   | 0  | 0                                   | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 0                                  |
| 2011    | 73   | 6  | 0   | 0  | 79                                  | 346                                     | 0   | 0  | 0   | 248  | 593                               | -514                               |
| 2012    | 136  | 12   | 0   | 0  | 147                                 | 342                                     | 0   | 0  | 0   | 211  | 553                               | -405                               |
| 2013    | 264  | 17   | 90  | 0  | 371                                 | 307                                     | 0   | 0  | 0   | 160  | 467                               | -96                                |
| 2014    | 261  | 23   | 187   | 0  | 470                                 | 309                                     | 0   | 0  | 0   | 174  | 483                               | -13                                |
| 2015    | 365  | 29   | 240   | 0  | 634                                 | 343                                     | 0   | 0  | 0   | 188  | 531                               | 103                                |
| 2016    | 480  | 35   | 387   | 0  | 903                                 | 354                                     | 0   | 0  | 0   | 203  | 557                               | 346                                |
| 2017    | 630  | 42   | 487   | 0  | 1,159                               | 382                                     | 0   | 0  | 0   | 219  | 601                               | 558                                |
| 2018    | 674  | 46   | 439   | 0  | 1,159                               | 413                                     | 0   | 0  | 0   | 236  | 649                               | 510                                |
| 2019    | 720  | 50   | 481   | 0  | 1,251                               | 459                                     | 0   | 0  | 0   | 254  | 714                               | 537                                |
| 2020    | 661  | 47   | 451   | 0  | 1,158                               | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 1,158                              |
| 2021    | 592  | 43   | 418   | 0  | 1,053                               | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 1,053                              |
| 2022    | 637  | 39   | 207   | 0  | 883                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 883                                |
| 2023    | 592  | 35   | 308   | 0  | 935                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 935                                |
| 2024    | 418  | 32   | 282   | 0  | 732                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 732                                |
| 2025    | 343  | 28   | 249   | 0  | 619                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 619                                |
| 2026    | 327  | 23   | 132   | 0  | 482                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 482                                |
| 2027    | 259  | 22   | 227   | 0  | 509                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 509                                |
| 2028    | 251  | 21   | 222   | 0  | 494                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 494                                |
| 2029    | 321  | 18   | 231   | 0  | 570                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 570                                |
| 2030    | 293  | 16   | 331   | 0  | 639                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 639                                |
| 2031    | 252  | 13   | 289   | 0  | 554                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 554                                |
| 2032    | 207  | 11   | 241   | 0  | 458                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 458                                |
| 2033    | 142  | 7  | 170   | 0  | 319                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 319                                |
| 2034    | 67   | 4  | 88  | 0  | 159                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 159                                |
| 2035    | 47   | 3  | 64  | 0  | 113                                 | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 113                                |
| 2036    | 29   | 2  | 38  | 0  | 68                                  | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 68                                 |
| 2037    | 0  | 0  | 0   | 0  | 0                                   | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 0                                  |
| 2038    | 0  | 0  | 0   | 0  | 0                                   | 0                                       | 0   | 0  | 0   | 0  | 0                                 | 0                                  |
| NOMINAL | 9,035  | 624  | 6,258   | 0  | 15,916                              | 3,256                                   | 0   | 0  | 0   | 1,892  | 5,148                             | 10,768                             |
| NPV     | 3,841  | 272  | 2,459   | 0  | 6,572                               | 2,171                                   | 0   | 0  | 0   | 1,277  | 3,448                             | 3,124                              |

Utility Discount Rate = 8.48  
Benefit Cost Ratio = 1.906



**E. RESIDENTIAL ENERGY MANAGEMENT PROGRAM**

**Program Start Date:** 1981

Program Modified in 1995, 2000, 2007

Modifications proposed in 2010

**Program Description**

Residential Energy Management is a voluntary customer program that allows Progress Energy to reduce peak demand and defer generation construction. Peak demand is reduced by interrupting service to selected electrical equipment with radio controlled switches installed on the customers' premises. These controlled interruptions are at Progress Energy's option during specified time periods and coincident with hours of peak demand.

**Policies and Procedures**

It continues to be cost-effective to add new participants to the Residential Year Round Energy Management (RSL-1) and Winter Only (RSL-2) Rate Schedules. Continuing the Residential Energy Management program will increase the summer and winter load control capabilities. In addition to increasing the program's winter effectiveness, the 100% strip control will continue to be offered to any new participants and existing participants requesting a change with heat pump equipment.

This program has grown to be one of the largest direct load control programs in the nation today. Progress Energy will continue to offer this program to residential customers, but major

infrastructure maintenance procedures are required to maintain a reliable program. The current direct load control one-way communications and home appliance switching infrastructure that allows Progress Energy to load shed over 700 MW of winter peak demand is becoming obsolete due to the end-of-life of major components in the near future. Major infrastructure maintenance and system upgrades are necessary to continue to ensure the availability of the existing 700 MW of direct load control capacity and support additional capacity in the future.

### Program Participation

Annual program participation estimates beginning in the year 2010 are shown in the table below. The estimates reflect continuing the year round program, maintaining a winter only option, 100% strip control, and adding new participants.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 941,530   | 7,700  | 0.8%  |
| 2012 | 1,495,098                                | 955,209   | 7,700  | 1.6%  |
| 2013 | 1,521,451                                | 972,046   | 7,700  | 2.4%  |
| 2014 | 1,548,531                                | 989,347   | 7,700  | 3.1%  |
| 2015 | 1,575,167                                | 1,006,365   | 7,700  | 3.8%  |
| 2016 | 1,600,448                                | 1,022,517   | 13,950   | 5.1%  |
| 2017 | 1,624,503                                | 1,037,885   | 13,950   | 6.4%  |
| 2018 | 1,647,724                                | 1,052,721   | 13,950   | 7.6%  |
| 2019 | 1,671,277                                | 1,067,769   | 9,750  | 8.4%  |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. Estimate of the eligible customers are based on customers that are not presently on Energy Management and have electric heat.
3. New participants of winter only or year round Energy Management Schedule.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

The total program savings shown in the following tables reflect the demand and energy savings associated with the new program participants projected for the Residential Energy Management 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2012 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2013 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2014 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2015 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2016 | -                          | 2.14                             | 1.11                             | -                          | 29,853                           | 15,485                           |
| 2017 | -                          | 2.14                             | 1.11                             | -                          | 29,853                           | 15,485                           |
| 2018 | -                          | 2.14                             | 1.11                             | -                          | 29,853                           | 15,485                           |
| 2019 | -                          | 2.14                             | 1.11                             | -                          | 20,865                           | 10,823                           |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2012 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2013 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2014 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2015 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2016 | -                          | 2.28                             | 1.18                             | -                          | 31,802                           | 16,496                           |
| 2017 | -                          | 2.28                             | 1.18                             | -                          | 31,802                           | 16,496                           |
| 2018 | -                          | 2.28                             | 1.18                             | -                          | 31,802                           | 16,496                           |
| 2019 | -                          | 2.28                             | 1.18                             | -                          | 22,227                           | 11,529                           |

### Impact Evaluation Plan

Progress Energy is conducting a residential end-use metering study that will be used to estimate the appliance level and duty-cycle impacts of residential load control. This end-use metering data will be used to perform engineering and statistical analysis to calculate the impacts of the program.

### Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs \$<br/>(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|-------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$950,529                       | \$810,825                     | \$139,704                           | 1.17             |
| Participant                    | \$263,082                       | \$0                           | \$263,082                           | 9999             |
| Total Resource Cost            | \$950,529                       | \$531,381                     | \$419,148                           | 1.79             |

## PROGRAM: Residential Energy Management - RIM

| YEAR    | BENEFITS                        |                               |                                |                  |                   | COSTS                           |                                |                                 |                             |                       |                   |                |           | NET<br>BENEFITS<br>\$(000) |
|---------|---------------------------------|-------------------------------|--------------------------------|------------------|-------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|-----------------------|-------------------|----------------|-----------|----------------------------|
|         | (1)                             | (2)                           | (3)                            | (4)              | (5)               | (6)                             | (7)                            | (8)                             | (9)                         | (10)                  | (11)              | (12)           |           |                            |
|         | TOTAL<br>FUEL & O&M<br>SA VINGS | A VOIDED<br>T&D CAP.<br>COSTS | A VOIDED<br>GEN. CAP.<br>COSTS | REVENUE<br>GAINS | TOTAL<br>BENEFITS | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | INCENTIVE<br>PAYMENTS | REVENUE<br>LOSSES | TOTAL<br>COSTS |           |                            |
|         | \$(000)                         | \$(000)                       | \$(000)                        | \$(000)          | \$(000)           | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)               | \$(000)           | \$(000)        |           |                            |
| 2010    | 18,068                          | 0                             | 24,095                         | 0                | 42,163            | 0                               | 0                              | 0                               | 14,663                      | 20,385                | 783               | 35,830         | 6,333     |                            |
| 2011    | 16,995                          | 0                             | 24,864                         | 0                | 41,859            | 0                               | 0                              | 0                               | 15,594                      | 20,770                | 888               | 37,252         | 4,607     |                            |
| 2012    | 20,049                          | 0                             | 25,849                         | 0                | 45,898            | 0                               | 0                              | 0                               | 20,678                      | 21,155                | 956               | 42,789         | 3,109     |                            |
| 2013    | 20,247                          | 0                             | 37,713                         | 0                | 57,961            | 0                               | 0                              | 0                               | 51,400                      | 21,540                | 1,270             | 74,210         | (16,249)  |                            |
| 2014    | 10,580                          | 0                             | 38,662                         | 0                | 49,242            | 748                             | 0                              | 0                               | 86,236                      | 20,996                | 829               | 108,808        | (59,566)  |                            |
| 2015    | 0                               | 0                             | 64,114                         | 0                | 64,114            | 14,256                          | 0                              | 0                               | 116,400                     | 21,975                | 1,492             | 154,123        | (90,009)  |                            |
| 2016    | 0                               | 0                             | 74,989                         | 0                | 74,989            | 3,262                           | 0                              | 0                               | 109,266                     | 22,672                | 1,601             | 136,800        | (61,811)  |                            |
| 2017    | 41,029                          | 0                             | 138,858                        | 0                | 179,887           | 0                               | 0                              | 0                               | 103,536                     | 23,370                | 1,495             | 128,400        | 51,486    |                            |
| 2018    | 18,217                          | 0                             | 83,569                         | 0                | 101,786           | 0                               | 0                              | 0                               | 87,234                      | 24,067                | 1,302             | 112,602        | (10,816)  |                            |
| 2019    | 12,907                          | 0                             | 87,782                         | 0                | 100,689           | 0                               | 0                              | 0                               | 71,723                      | 24,765                | 1,391             | 97,878         | 2,811     |                            |
| 2020    | 11,535                          | 0                             | 90,312                         | 0                | 101,848           | 0                               | 0                              | 0                               | 44,303                      | 24,765                | 1,458             | 70,525         | 31,322    |                            |
| 2021    | 1,999                           | 0                             | 92,926                         | 0                | 94,925            | 0                               | 0                              | 0                               | 41,690                      | 24,765                | 1,884             | 68,338         | 26,587    |                            |
| 2022    | 27,501                          | 0                             | 64,346                         | 0                | 91,847            | 0                               | 0                              | 0                               | 40,952                      | 24,765                | 1,555             | 67,271         | 24,576    |                            |
| 2023    | 36,212                          | 0                             | 65,153                         | 0                | 101,365           | 0                               | 0                              | 0                               | 37,514                      | 24,765                | 1,725             | 64,004         | 37,361    |                            |
| 2024    | 7,724                           | 0                             | 90,921                         | 0                | 98,644            | 0                               | 0                              | 0                               | 32,173                      | 24,765                | 1,843             | 58,780         | 39,864    |                            |
| 2025    | 1,994                           | 0                             | 93,165                         | 0                | 95,159            | 0                               | 0                              | 0                               | 25,873                      | 24,765                | 1,819             | 52,457         | 42,702    |                            |
| 2026    | 26,493                          | 0                             | 73,667                         | 0                | 100,160           | 0                               | 0                              | 0                               | 18,648                      | 24,765                | 1,866             | 45,278         | 54,882    |                            |
| 2027    | 10,415                          | 0                             | 112,704                        | 0                | 123,119           | 0                               | 0                              | 0                               | 15,418                      | 24,765                | 1,888             | 42,070         | 81,049    |                            |
| 2028    | 8,654                           | 0                             | 116,169                        | 0                | 124,822           | 0                               | 0                              | 0                               | 13,784                      | 24,765                | 1,934             | 40,483         | 84,339    |                            |
| 2029    | 16,099                          | 0                             | 104,848                        | 0                | 120,947           | 0                               | 0                              | 0                               | 11,632                      | 24,765                | 2,069             | 38,466         | 82,481    |                            |
| 2030    | 25,618                          | 0                             | 107,591                        | 0                | 133,209           | 0                               | 0                              | 0                               | 12,569                      | 24,765                | 2,576             | 39,910         | 93,299    |                            |
| 2031    | 25,406                          | 0                             | 111,895                        | 0                | 137,300           | 0                               | 0                              | 0                               | 14,355                      | 24,765                | 2,361             | 41,481         | 95,820    |                            |
| 2032    | 24,979                          | 0                             | 116,370                        | 0                | 141,349           | 0                               | 0                              | 0                               | 18,485                      | 24,765                | 2,365             | 45,614         | 95,735    |                            |
| 2033    | 23,109                          | 0                             | 121,026                        | 0                | 144,135           | 0                               | 0                              | 0                               | 17,853                      | 24,765                | 2,770             | 45,388         | 98,747    |                            |
| 2034    | 25,401                          | 0                             | 125,866                        | 0                | 151,267           | 0                               | 0                              | 0                               | 18,327                      | 24,765                | 2,357             | 45,448         | 105,819   |                            |
| 2035    | 21,525                          | 0                             | 130,901                        | 0                | 152,425           | 0                               | 0                              | 0                               | 18,906                      | 24,765                | 2,675             | 46,346         | 106,079   |                            |
| 2036    | 19,424                          | 0                             | 136,137                        | 0                | 155,560           | 0                               | 0                              | 0                               | 18,082                      | 24,765                | 2,990             | 45,837         | 109,723   |                            |
| 2037    | 20,426                          | 0                             | 141,582                        | 0                | 162,008           | 0                               | 0                              | 0                               | 40,207                      | 24,765                | 2,683             | 67,655         | 94,353    |                            |
| NOMINAL | 504,317                         | 0                             | 2,519,066                      | 0                | 3,023,383         | 18,265                          | 0                              | 0                               | 1,128,540                   | 687,455               | 51,640            | 1,885,900      | 1,137,484 |                            |
| NPV     | 185,672                         | 0                             | 764,857                        | 0                | 950,529           | 11,090                          | 0                              | 0                               | 520,291                     | 263,082               | 16,362            | 810,825        | 139,704   |                            |

Utility Discount Rate = 8.48  
Benefit Cost Ratio = 1.172

**PROGRAM: Residential Energy Management - Participant**

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |  |                           | NET BENEFITS<br>TO<br>PARTICIPANTS<br>\$(000) |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|--|---------------------------|---|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)  | (7)                       |   |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |   |
| 2010    | 0  | \$20,385                         | 0   | 20,385                       | 0                                | 0  | 0                         | 20,385  |
| 2011    | 0  | \$20,770                         | 0   | 20,770                       | 0                                | 0  | 0                         | 20,770  |
| 2012    | 0  | \$21,155                         | 0   | 21,155                       | 0                                | 0  | 0                         | 21,155  |
| 2013    | 0  | \$21,540                         | 0   | 21,540                       | 0                                | 0  | 0                         | 21,540  |
| 2014    | 0  | \$20,996                         | 0   | 20,996                       | 0                                | 0  | 0                         | 20,996  |
| 2015    | 0  | \$21,975                         | 0   | 21,975                       | 0                                | 0  | 0                         | 21,975  |
| 2016    | 0  | \$22,672                         | 0   | 22,672                       | 0                                | 0  | 0                         | 22,672  |
| 2017    | 0  | \$23,370                         | 0   | 23,370                       | 0                                | 0  | 0                         | 23,370  |
| 2018    | 0  | \$24,067                         | 0   | 24,067                       | 0                                | 0  | 0                         | 24,067  |
| 2019    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2020    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2021    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2022    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2023    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2024    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2025    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2026    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2027    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2028    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2029    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2030    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2031    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2032    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2033    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2034    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2035    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2036    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2037    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| NOMINAL | 0  | 687,455                          | 0   | 687,455                      | 0                                | 0  | 0                         | 687,455                                       |
| NPV     | 0  | 263,082                          | 0   | 263,082                      | 0                                | 0  | 0                         | 263,082                                       |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

**PROGRAM: Residential Energy Management - TRC**

| YEAR    | BENEFITS                       |                               |                                |                  |                   | COSTS                           |                                |                                 |                             |                       |                   |                |           | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|-------------------------------|--------------------------------|------------------|-------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|-----------------------|-------------------|----------------|-----------|----------------------------|
|         | (1)                            | (2)                           | (3)                            | (4)              | (5)               | (6)                             | (7)                            | (8)                             | (9)                         | (10)                  | (11)              | (12)           |           |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | A VOIDED<br>T&D CAP.<br>COSTS | A VOIDED<br>GEN. CAP.<br>COSTS | REVENUE<br>GAINS | TOTAL<br>BENEFITS | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | INCENTIVE<br>PAYMENTS | REVENUE<br>LOSSES | TOTAL<br>COSTS |           |                            |
|         | \$(000)                        | \$(000)                       | \$(000)                        | \$(000)          | \$(000)           | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)               | \$(000)           | \$(000)        |           |                            |
| 2010    | 18,068                         | 0                             | 24,095                         | 0                | 42,163            | 0                               | 0                              | 0                               | 14,663                      | 0                     | 0                 | 14,663         | 27,500    |                            |
| 2011    | 16,995                         | 0                             | 24,864                         | 0                | 41,859            | 0                               | 0                              | 0                               | 15,594                      | 0                     | 0                 | 15,594         | 26,265    |                            |
| 2012    | 20,049                         | 0                             | 25,849                         | 0                | 45,898            | 0                               | 0                              | 0                               | 20,678                      | 0                     | 0                 | 20,678         | 25,220    |                            |
| 2013    | 20,247                         | 0                             | 37,713                         | 0                | 57,961            | 0                               | 0                              | 0                               | 51,400                      | 0                     | 0                 | 51,400         | 6,561     |                            |
| 2014    | 10,580                         | 0                             | 38,662                         | 0                | 49,242            | 748                             | 0                              | 0                               | 86,236                      | 0                     | 0                 | 86,984         | (37,742)  |                            |
| 2015    | 0                              | 0                             | 64,114                         | 0                | 64,114            | 14,256                          | 0                              | 0                               | 116,400                     | 0                     | 0                 | 130,656        | (66,542)  |                            |
| 2016    | 0                              | 0                             | 74,989                         | 0                | 74,989            | 3,262                           | 0                              | 0                               | 109,266                     | 0                     | 0                 | 112,528        | (37,539)  |                            |
| 2017    | 41,029                         | 0                             | 138,858                        | 0                | 179,887           | 0                               | 0                              | 0                               | 103,536                     | 0                     | 0                 | 103,536        | 76,351    |                            |
| 2018    | 18,217                         | 0                             | 83,569                         | 0                | 101,786           | 0                               | 0                              | 0                               | 87,234                      | 0                     | 0                 | 87,234         | 14,553    |                            |
| 2019    | 12,907                         | 0                             | 87,782                         | 0                | 100,689           | 0                               | 0                              | 0                               | 71,723                      | 0                     | 0                 | 71,723         | 28,966    |                            |
| 2020    | 11,535                         | 0                             | 90,312                         | 0                | 101,848           | 0                               | 0                              | 0                               | 44,303                      | 0                     | 0                 | 44,303         | 57,545    |                            |
| 2021    | 1,999                          | 0                             | 92,926                         | 0                | 94,925            | 0                               | 0                              | 0                               | 41,690                      | 0                     | 0                 | 41,690         | 53,235    |                            |
| 2022    | 27,501                         | 0                             | 64,346                         | 0                | 91,847            | 0                               | 0                              | 0                               | 40,952                      | 0                     | 0                 | 40,952         | 50,895    |                            |
| 2023    | 36,212                         | 0                             | 65,153                         | 0                | 101,365           | 0                               | 0                              | 0                               | 37,514                      | 0                     | 0                 | 37,514         | 63,851    |                            |
| 2024    | 7,724                          | 0                             | 90,921                         | 0                | 98,644            | 0                               | 0                              | 0                               | 32,173                      | 0                     | 0                 | 32,173         | 66,471    |                            |
| 2025    | 1,994                          | 0                             | 93,165                         | 0                | 95,159            | 0                               | 0                              | 0                               | 25,873                      | 0                     | 0                 | 25,873         | 69,285    |                            |
| 2026    | 26,493                         | 0                             | 73,667                         | 0                | 100,160           | 0                               | 0                              | 0                               | 18,648                      | 0                     | 0                 | 18,648         | 81,512    |                            |
| 2027    | 10,415                         | 0                             | 112,704                        | 0                | 123,119           | 0                               | 0                              | 0                               | 15,418                      | 0                     | 0                 | 15,418         | 107,702   |                            |
| 2028    | 8,654                          | 0                             | 116,169                        | 0                | 124,822           | 0                               | 0                              | 0                               | 13,784                      | 0                     | 0                 | 13,784         | 111,038   |                            |
| 2029    | 16,099                         | 0                             | 104,848                        | 0                | 120,947           | 0                               | 0                              | 0                               | 11,632                      | 0                     | 0                 | 11,632         | 109,315   |                            |
| 2030    | 25,618                         | 0                             | 107,591                        | 0                | 133,209           | 0                               | 0                              | 0                               | 12,569                      | 0                     | 0                 | 12,569         | 120,639   |                            |
| 2031    | 25,406                         | 0                             | 111,895                        | 0                | 137,300           | 0                               | 0                              | 0                               | 14,355                      | 0                     | 0                 | 14,355         | 122,945   |                            |
| 2032    | 24,979                         | 0                             | 116,370                        | 0                | 141,349           | 0                               | 0                              | 0                               | 18,485                      | 0                     | 0                 | 18,485         | 122,864   |                            |
| 2033    | 23,109                         | 0                             | 121,026                        | 0                | 144,135           | 0                               | 0                              | 0                               | 17,853                      | 0                     | 0                 | 17,853         | 126,281   |                            |
| 2034    | 25,401                         | 0                             | 125,866                        | 0                | 151,267           | 0                               | 0                              | 0                               | 18,327                      | 0                     | 0                 | 18,327         | 132,940   |                            |
| 2035    | 21,525                         | 0                             | 130,901                        | 0                | 152,425           | 0                               | 0                              | 0                               | 18,906                      | 0                     | 0                 | 18,906         | 133,519   |                            |
| 2036    | 19,424                         | 0                             | 136,137                        | 0                | 155,560           | 0                               | 0                              | 0                               | 18,082                      | 0                     | 0                 | 18,082         | 137,478   |                            |
| 2037    | 20,426                         | 0                             | 141,582                        | 0                | 162,008           | 0                               | 0                              | 0                               | 40,207                      | 0                     | 0                 | 40,207         | 121,801   |                            |
| NOMINAL | 504,317                        |                               | 2,519,066                      |                  | 3,023,383         | 18,265                          |                                |                                 | 1,128,540                   |                       |                   | 1,146,805      | 1,876,578 |                            |
| NPV     | 185,672                        |                               | 764,857                        |                  | 950,529           | 11,090                          |                                |                                 | 520,291                     |                       |                   | 531,381        | 419,148   |                            |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.789

**F. RESIDENTIAL LIGHTING PROGRAM**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The Residential Lighting Program will provide incentives and marketing support through retailers to encourage greater PEF customer adoption of ENERGY STAR<sup>®</sup> qualified or other high efficiency lighting products. The program utilizes a retailer-based approach to simplify consumer participation and provide customers with an instant rebate at the cash register of participating retail outlets. The program targets the purchase of high efficiency lighting products through in-store and on-line promotions, while promoting greater awareness through special retail and community events. The first few years of the program focus on compact fluorescent light bulbs (CFLs), with the intent to add newer lighting technologies as they mature. PEF will partner with various manufacturers and retailers across its entire service territory to offer a wide selection of products to customers.

The program seeks to meet the following overall goals:

- Reduce participating customers' electricity usage, and their resulting electric bills, through the use of energy efficient lighting products
- Reduce PEF's system energy requirements and peak demand
- Reduce the use of fossil fuels to generate electricity
- Defer the need for new generation capacity.



## **Policies and Procedures**

The program provides incentives for high efficiency lighting to customers in Progress Energy's territory. Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions, such as baseline or code revisions, update measure and verification analysis or technological advances.

Progress Energy is proposing to include the following measures with this program:

### ***Compact Fluorescent Light bulbs (CFLs)***

Initially, the program will provide customers with a discount per bulb for select ENERGY STAR<sup>®</sup> qualified CFLs. PEF intends to offer a wide selection of bulbs including the standard twist, in addition to specialty bulbs such as A-lines, globes, reflectors, pars, vanity-bulbs, 3-ways, and dimmable.

### ***Other Lighting Technologies***

As technology advances and other lighting products with higher efficiencies become available, PEF will seek Commission approval to add other relevant measures leveraging the resources and market channels of this program. Future offerings could include energy efficient light fixtures, LEDs, or other high efficiency lighting products.

## Program Participation

Annual participation estimates for the Residential Lighting program are shown in the following table.

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| <b>2011</b> | 1,473,688                                       | 1,473,688  | 147,350   | 10.0%  |
| <b>2012</b> | 1,495,098                                       | 1,495,098  | 149,450   | 19.9%  |
| <b>2013</b> | 1,521,451                                       | 1,521,451  | 132,000   | 28.2%  |
| <b>2014</b> | 1,548,531                                       | 1,548,531  | 112,500   | 35.0%  |
| <b>2015</b> | 1,575,167                                       | 1,575,167  | 115,000   | 41.7%  |
| <b>2016</b> | 1,600,448                                       | 1,600,448  | 112,500   | 48.0%  |
| <b>2017</b> | 1,624,503                                       | 1,624,503  | 88,000  | 52.7%  |
| <b>2018</b> | 1,647,724                                       | 1,647,724  | 85,000  | 57.2%  |
| <b>2019</b> | 1,671,277                                       | 1,671,277  | 85,000  | 61.4%  |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. The entire residential class is eligible for participation, less previous participation.
3. Number of participants represents the customers that Progress Energy expects to reach through direct offerings in each year.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 143                        | -                                | 0.01                             | 21,082,740                 | -                                | 2,108                            |
| 2012 | 141                        | -                                | 0.01                             | 21,003,360                 | -                                | 2,100                            |
| 2013 | 134                        | -                                | 0.01                             | 17,682,000                 | -                                | 1,768                            |
| 2014 | 130                        | -                                | 0.01                             | 14,570,500                 | -                                | 1,457                            |
| 2015 | 124                        | -                                | 0.01                             | 14,217,000                 | -                                | 1,422                            |
| 2016 | 123                        | -                                | 0.01                             | 13,793,500                 | -                                | 1,379                            |
| 2017 | 122                        | -                                | 0.01                             | 10,696,000                 | -                                | 1,070                            |
| 2018 | 121                        | -                                | 0.01                             | 10,290,000                 | -                                | 1,029                            |
| 2019 | 121                        | -                                | 0.01                             | 10,290,000                 | -                                | 1,029                            |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 152                        | -                                | 0.02                             | 22,459,443                 | -                                | 2,246                            |
| 2012 | 150                        | -                                | 0.01                             | 22,374,879                 | -                                | 2,237                            |
| 2013 | 143                        | -                                | 0.01                             | 18,836,635                 | -                                | 1,884                            |
| 2014 | 138                        | -                                | 0.01                             | 15,521,954                 | -                                | 1,552                            |
| 2015 | 132                        | -                                | 0.01                             | 15,145,370                 | -                                | 1,515                            |
| 2016 | 131                        | -                                | 0.01                             | 14,694,216                 | -                                | 1,469                            |
| 2017 | 129                        | -                                | 0.01                             | 11,394,449                 | -                                | 1,139                            |
| 2018 | 129                        | -                                | 0.01                             | 10,961,937                 | -                                | 1,096                            |
| 2019 | 129                        | -                                | 0.01                             | 10,961,937                 | -                                | 1,096                            |

### Impact Evaluation Plan

Actual sales data for lighting products specifically discounted under PEF's Residential Lighting program will be used to determine the number, type, and wattage for each bulb. Participant surveys will represent a primary source of data, and may be combined with pertinent secondary sources to estimate annual energy savings.

### Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs \$<br/>(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|-------------------------------|-------------------------------------|------------------|
| <b>Rate Impact Measure</b>     | \$89,434                        | \$123,436                     | -\$34,002                           | 0.72             |
| <b>Participant</b>             | \$119,782                       | \$24,595                      | \$95,187                            | 4.87             |
| <b>Total Resource Cost</b>     | \$89,434                        | \$28,249                      | \$61,184                            | 3.17             |

# Revised Goal Plan

PROGRAM: Residential Lighting - RIM

| YEAR    | BENEFITS                                  |  |   |                             |                              | COSTS                                      |   |  |  |                                  |                              |                           |                            |
|---------|---|--|---|-----------------------------|------------------------------|--|---|--|--|----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                      | (3)                                       | (4)                         | (5)                          | (6)  | (7)                                       | (8)  | (9)                                    | (10)                             | (11)                         | (12)                      | (13)                       |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | A VOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | A VOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 0   | 0  | 0   | 0                           | 0                            | 0  | 0   | 0  | 0                                      | 0                                | 0                            | 0                         | 0                          |
| 2011    | 2,204                                     | 44                                       | 0   | 0                           | 2,247                        | 0  | 0   | 0  | 560                                    | 1,204                            | 3,033                        | 4,797                     | -2,550                     |
| 2012    | 3,953                                     | 87                                       | 0   | 0                           | 4,040                        | 0  | 0   | 0  | 630                                    | 1,313                            | 5,919                        | 7,862                     | -3,822                     |
| 2013    | 6,351                                     | 124                                      | 685                                       | 0                           | 7,160                        | 0  | 0   | 0  | 600                                    | 1,845                            | 8,810                        | 11,255                    | -4,095                     |
| 2014    | 6,611                                     | 154                                      | 1,342                                     | 0                           | 8,107                        | 0  | 0   | 0  | 550                                    | 1,738                            | 11,359                       | 13,646                    | -5,539                     |
| 2015    | 8,964                                     | 184                                      | 1,625                                     | 0                           | 10,773                       | 0  | 0   | 0  | 600                                    | 2,125                            | 14,663                       | 17,388                    | -6,615                     |
| 2016    | 10,392                                    | 212                                      | 1,849                                     | 0                           | 12,453                       | 0  | 0   | 0  | 650                                    | 2,513                            | 16,712                       | 19,875                    | -7,421                     |
| 2017    | 11,196                                    | 235                                      | 2,140                                     | 0                           | 13,571                       | 0  | 0   | 0  | 560                                    | 2,320                            | 16,278                       | 19,158                    | -5,587                     |
| 2018    | 10,134                                    | 213                                      | 2,215                                     | 0                           | 12,561                       | 0  | 0   | 0  | 600                                    | 2,750                            | 14,208                       | 17,558                    | -4,997                     |
| 2019    | 9,509                                     | 193                                      | 2,043                                     | 0                           | 11,744                       | 0  | 0   | 0  | 640                                    | 2,750                            | 13,363                       | 16,753                    | -5,009                     |
| 2020    | 8,090                                     | 162                                      | 1,757                                     | 0                           | 10,009                       | 0  | 0   | 0  | 0                                      | 0                                | 11,534                       | 11,534                    | -1,525                     |
| 2021    | 7,465                                     | 142                                      | 1,566                                     | 0                           | 9,172                        | 0  | 0   | 0  | 0                                      | 0                                | 10,788                       | 10,788                    | -1,616                     |
| 2022    | 7,148                                     | 126                                      | 759                                       | 0                           | 8,032                        | 0  | 0   | 0  | 0                                      | 0                                | 9,639                        | 9,639                     | -1,606                     |
| 2023    | 6,897                                     | 114                                      | 1,155                                     | 0                           | 8,166                        | 0  | 0   | 0  | 0                                      | 0                                | 8,995                        | 8,995                     | -829                       |
| 2024    | 6,306                                     | 109                                      | 1,152                                     | 0                           | 7,567                        | 0  | 0   | 0  | 0                                      | 0                                | 8,781                        | 8,781                     | -1,214                     |
| 2025    | 6,571                                     | 109                                      | 1,172                                     | 0                           | 7,852                        | 0  | 0   | 0  | 0                                      | 0                                | 8,997                        | 8,997                     | -1,145                     |
| 2026    | 7,204                                     | 109                                      | 772                                       | 0                           | 8,085                        | 0  | 0   | 0  | 0                                      | 0                                | 9,193                        | 9,193                     | -1,108                     |
| 2027    | 7,002                                     | 109                                      | 1,395                                     | 0                           | 8,506                        | 0  | 0   | 0  | 0                                      | 0                                | 9,413                        | 9,413                     | -907                       |
| 2028    | 7,256                                     | 109                                      | 1,428                                     | 0                           | 8,793                        | 0  | 0   | 0  | 0                                      | 0                                | 9,624                        | 9,624                     | -831                       |
| 2029    | 7,818                                     | 109                                      | 775                                       | 0                           | 8,702                        | 0  | 0   | 0  | 0                                      | 0                                | 9,872                        | 9,872                     | -1,170                     |
| 2030    | 8,181                                     | 109                                      | 1,297                                     | 0                           | 9,587                        | 0  | 0   | 0  | 0                                      | 0                                | 10,103                       | 10,103                    | -516                       |
| 2031    | 8,450                                     | 109                                      | 1,341                                     | 0                           | 9,899                        | 0  | 0   | 0  | 0                                      | 0                                | 10,264                       | 10,264                    | -365                       |
| 2032    | 8,599                                     | 107                                      | 1,371                                     | 0                           | 10,077                       | 0  | 0   | 0  | 0                                      | 0                                | 10,295                       | 10,295                    | -218                       |
| 2033    | 8,376                                     | 100                                      | 1,340                                     | 0                           | 9,816                        | 0  | 0   | 0  | 0                                      | 0                                | 9,914                        | 9,914                     | -98                        |
| 2034    | 7,772                                     | 91                                       | 1,261                                     | 0                           | 9,123                        | 0  | 0   | 0  | 0                                      | 0                                | 9,131                        | 9,131                     | -9                         |
| 2035    | 6,897                                     | 77                                       | 1,115                                     | 0                           | 8,089                        | 0  | 0   | 0  | 0                                      | 0                                | 7,960                        | 7,960                     | 128                        |
| 2036    | 5,556                                     | 60                                       | 898                                       | 0                           | 6,513                        | 0  | 0   | 0  | 0                                      | 0                                | 6,304                        | 6,304                     | 209                        |
| 2037    | 4,100                                     | 43                                       | 666                                       | 0                           | 4,809                        | 0  | 0   | 0  | 0                                      | 0                                | 4,608                        | 4,608                     | 201                        |
| 2038    | 2,117                                     | 21                                       | 346                                       | 0                           | 2,484                        | 0  | 0   | 0  | 0                                      | 0                                | 2,342                        | 2,342                     | 142                        |
| NOMINAL | 201,111                                   | 3,363                                    | 33,464                                    | 0                           | 237,938                      | 0  | 0   | 0  | 5,390                                  | 18,557                           | 272,103                      | 296,049                   | -58,111                    |
| NPV     | 75,603                                    | 1,413                                    | 12,418                                    | 0                           | 89,434                       | 0  | 0   | 0  | 3,654                                  | 11,950                           | 107,832.17                   | 123,436                   | -34,002                    |

Utility Discount Rate = 8.48  
Benefit Cost Ratio = 0.725

**PROGRAM: Residential Lighting - Participant**

| YEAR    | BENEFITS                         |                     |                                      |                     | COSTS                            |                             |                  | NET<br>BENEFITS<br>\$(000) |
|---------|----------------------------------|---------------------|--------------------------------------|---------------------|----------------------------------|-----------------------------|------------------|----------------------------|
|         | (1)                              | (2)                 | (3)                                  | (4)                 | (5)                              | (6)                         | (7)              |                            |
|         | SAVINGS IN                       | INCENTIVE           | OTHER                                | TOTAL               | PARTICIPANT'S                    | PARTICIPANT'S               | TOTAL            |                            |
|         | PARTICIPANT'S<br>BILL<br>\$(000) | PAYMENTS<br>\$(000) | PARTICIPANT'S<br>BENEFITS<br>\$(000) | BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | BILL<br>INCREASE<br>\$(000) | COSTS<br>\$(000) |                            |
| 2010    | 0                                | 0                   | 0                                    | 0                   | 0                                | 0                           | 0                | 0                          |
| 2011    | 3,033                            | 1,204               | 0                                    | 4,237               | 1,663                            | 0                           | 1,663            | 2,574                      |
| 2012    | 5,919                            | 1,313               | 0                                    | 7,232               | 2,078                            | 0                           | 2,078            | 5,154                      |
| 2013    | 8,810                            | 1,845               | 0                                    | 10,655              | 3,321                            | 0                           | 3,321            | 7,335                      |
| 2014    | 11,359                           | 1,738               | 0                                    | 13,096              | 4,037                            | 0                           | 4,037            | 9,059                      |
| 2015    | 14,663                           | 2,125               | 0                                    | 16,788              | 5,072                            | 0                           | 5,072            | 11,716                     |
| 2016    | 16,712                           | 2,513               | 0                                    | 19,225              | 5,835                            | 0                           | 5,835            | 13,390                     |
| 2017    | 16,278                           | 2,320               | 0                                    | 18,598              | 5,219                            | 0                           | 5,219            | 13,380                     |
| 2018    | 14,208                           | 2,750               | 0                                    | 16,958              | 5,944                            | 0                           | 5,944            | 11,015                     |
| 2019    | 13,363                           | 2,750               | 0                                    | 16,113              | 5,767                            | 0                           | 5,767            | 10,346                     |
| 2020    | 11,534                           | 0                   | 0                                    | 11,534              | 0                                | 0                           | 0                | 11,534                     |
| 2021    | 10,788                           | 0                   | 0                                    | 10,788              | 0                                | 0                           | 0                | 10,788                     |
| 2022    | 9,639                            | 0                   | 0                                    | 9,639               | 0                                | 0                           | 0                | 9,639                      |
| 2023    | 8,995                            | 0                   | 0                                    | 8,995               | 0                                | 0                           | 0                | 8,995                      |
| 2024    | 8,781                            | 0                   | 0                                    | 8,781               | 0                                | 0                           | 0                | 8,781                      |
| 2025    | 8,997                            | 0                   | 0                                    | 8,997               | 0                                | 0                           | 0                | 8,997                      |
| 2026    | 9,193                            | 0                   | 0                                    | 9,193               | 0                                | 0                           | 0                | 9,193                      |
| 2027    | 9,413                            | 0                   | 0                                    | 9,413               | 0                                | 0                           | 0                | 9,413                      |
| 2028    | 9,624                            | 0                   | 0                                    | 9,624               | 0                                | 0                           | 0                | 9,624                      |
| 2029    | 9,872                            | 0                   | 0                                    | 9,872               | 0                                | 0                           | 0                | 9,872                      |
| 2030    | 10,103                           | 0                   | 0                                    | 10,103              | 0                                | 0                           | 0                | 10,103                     |
| 2031    | 10,264                           | 0                   | 0                                    | 10,264              | 0                                | 0                           | 0                | 10,264                     |
| 2032    | 10,295                           | 0                   | 0                                    | 10,295              | 0                                | 0                           | 0                | 10,295                     |
| 2033    | 9,914                            | 0                   | 0                                    | 9,914               | 0                                | 0                           | 0                | 9,914                      |
| 2034    | 9,131                            | 0                   | 0                                    | 9,131               | 0                                | 0                           | 0                | 9,131                      |
| 2035    | 7,960                            | 0                   | 0                                    | 7,960               | 0                                | 0                           | 0                | 7,960                      |
| 2036    | 6,304                            | 0                   | 0                                    | 6,304               | 0                                | 0                           | 0                | 6,304                      |
| 2037    | 4,608                            | 0                   | 0                                    | 4,608               | 0                                | 0                           | 0                | 4,608                      |
| 2038    | 2,342                            | 0                   | 0                                    | 2,342               | 0                                | 0                           | 0                | 2,342                      |
| NOMINAL | 272,103                          | 18,557              | 0                                    | 290,659             | 38,935                           | 0                           | 38,935           | 251,724                    |
| NPV     | 107,832                          | 11,950              | 0                                    | 119,782             | 24,595                           | 0                           | 24,595           | 95,187                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 4.870

## PROGRAM: Residential Lighting - TRC

| YEAR    | BENEFITS                       |                              |                               |                                    |                   | COSTS                 |                                 |                                |                                 |                             |                | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|------------------------------|-------------------------------|------------------------------------|-------------------|-----------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|----------------|----------------------------|
|         | (1)                            | (2)                          | (3)                           | (4)                                | (5)               | (6)                   | (7)                             | (8)                            | (9)                             | (10)                        | (11)           |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP.<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | OTHER<br>PARTICIPANT'S<br>BENEFITS | TOTAL<br>BENEFITS | PARTICIPANT'S<br>COST | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | TOTAL<br>COSTS |                            |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)                            | \$(000)           | \$(000)               | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)        |                            |
| 2010    | 0                              | 0                            | 0                             | 0                                  | 0                 | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 0                          |
| 2011    | 2,204                          | 44                           | 0                             | 0                                  | 2,247             | 1,663                 | 0                               | 0                              | 0                               | 560                         | 2,223          | 25                         |
| 2012    | 3,953                          | 87                           | 0                             | 0                                  | 4,040             | 2,078                 | 0                               | 0                              | 0                               | 630                         | 2,708          | 1,333                      |
| 2013    | 6,351                          | 124                          | 685                           | 0                                  | 7,160             | 3,321                 | 0                               | 0                              | 0                               | 600                         | 3,921          | 3,239                      |
| 2014    | 6,611                          | 154                          | 1,342                         | 0                                  | 8,107             | 4,037                 | 0                               | 0                              | 0                               | 550                         | 4,587          | 3,520                      |
| 2015    | 8,964                          | 184                          | 1,625                         | 0                                  | 10,773            | 5,072                 | 0                               | 0                              | 0                               | 600                         | 5,672          | 5,101                      |
| 2016    | 10,392                         | 212                          | 1,849                         | 0                                  | 12,453            | 5,835                 | 0                               | 0                              | 0                               | 650                         | 6,485          | 5,968                      |
| 2017    | 11,196                         | 235                          | 2,140                         | 0                                  | 13,571            | 5,219                 | 0                               | 0                              | 0                               | 560                         | 5,779          | 7,792                      |
| 2018    | 10,134                         | 213                          | 2,215                         | 0                                  | 12,561            | 5,944                 | 0                               | 0                              | 0                               | 600                         | 6,544          | 6,018                      |
| 2019    | 9,509                          | 193                          | 2,043                         | 0                                  | 11,744            | 5,767                 | 0                               | 0                              | 0                               | 640                         | 6,407          | 5,337                      |
| 2020    | 8,090                          | 162                          | 1,757                         | 0                                  | 10,009            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 10,009                     |
| 2021    | 7,465                          | 142                          | 1,566                         | 0                                  | 9,172             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 9,172                      |
| 2022    | 7,148                          | 126                          | 759                           | 0                                  | 8,032             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 8,032                      |
| 2023    | 6,897                          | 114                          | 1,155                         | 0                                  | 8,166             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 8,166                      |
| 2024    | 6,306                          | 109                          | 1,152                         | 0                                  | 7,567             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 7,567                      |
| 2025    | 6,571                          | 109                          | 1,172                         | 0                                  | 7,852             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 7,852                      |
| 2026    | 7,204                          | 109                          | 772                           | 0                                  | 8,085             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 8,085                      |
| 2027    | 7,002                          | 109                          | 1,395                         | 0                                  | 8,506             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 8,506                      |
| 2028    | 7,256                          | 109                          | 1,428                         | 0                                  | 8,793             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 8,793                      |
| 2029    | 7,818                          | 109                          | 775                           | 0                                  | 8,702             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 8,702                      |
| 2030    | 8,181                          | 109                          | 1,297                         | 0                                  | 9,587             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 9,587                      |
| 2031    | 8,450                          | 109                          | 1,341                         | 0                                  | 9,899             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 9,899                      |
| 2032    | 8,599                          | 107                          | 1,371                         | 0                                  | 10,077            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 10,077                     |
| 2033    | 8,376                          | 100                          | 1,340                         | 0                                  | 9,816             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 9,816                      |
| 2034    | 7,772                          | 91                           | 1,261                         | 0                                  | 9,123             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 9,123                      |
| 2035    | 6,897                          | 77                           | 1,115                         | 0                                  | 8,089             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 8,089                      |
| 2036    | 5,556                          | 60                           | 898                           | 0                                  | 6,513             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 6,513                      |
| 2037    | 4,100                          | 43                           | 666                           | 0                                  | 4,809             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 4,809                      |
| 2038    | 2,117                          | 21                           | 346                           | 0                                  | 2,484             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 2,484                      |
| NOMINAL | 201,111                        | 3,363                        | 33,464                        | 0                                  | 237,938           | 38,935                | 0                               | 0                              | 0                               | 5,390                       | 44,325         | 193,613                    |
| NPV     | 75,603                         | 1,413                        | 12,418                        | 0                                  | 89,434            | 24,595                | 0                               | 0                              | 0                               | 3,654                       | 28,249         | 61,184                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 3.166

**G. RESIDENTIAL BEHAVIOR MODIFICATION PROGRAM**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The Residential Behavior Modification Program is designed to reduce residential electrical consumption by applying behavioral science principles in which eligible customers receive reports which compare their energy use with neighbors in similar homes.

**Policies and Procedures**

Participants will be periodically mailed the individualized reports and can elect to switch to on-line reports at any time during the duration of the program. In addition to the household comparative analysis the reports will provide specific recommendations to motivate participants to reduce their energy consumption.

PEF will also deploy an interactive web portal that gives customers greater insight into their energy consumption and actions they can take to become more energy efficient. The web portal will include monthly customer billing data, goal setting and tracking, as well as personalized and community recommended energy efficiency tips.

Customers with a minimum of twelve months billing history will be eligible to participate in the program. Participants will be determined using statistical methods and represent a cross-section of PEF's high energy usage residential customers.



## Program Participation

Annual participation estimates for the Residential Behavior Modification Program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 1,473,688   | 50,000   | 3.4%  |
| 2012 | 1,495,098                                | 1,495,098   | 50,000   | 6.7%  |
| 2013 | 1,521,451                                | 1,521,451   | 50,000   | 9.9%  |
| 2014 | 1,548,531                                | 1,548,531   | 50,000   | 12.9%   |
| 2015 | 1,575,167                                | 1,575,167   | 50,000   | 15.9%   |
| 2016 | 1,600,448                                | 1,600,448   | 50,000   | 18.7%   |
| 2017 | 1,624,503                                | 1,624,503   | 50,000   | 21.5%   |
| 2018 | 1,647,724                                | 1,647,724   | 50,000   | 24.3%   |
| 2019 | 1,671,277                                | 1,671,277   | 50,000   | 26.9%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. The entire residential class is eligible for participation, less previous participation.
3. Number of participants represents the customers that Progress Energy expects to reach through direct offerings in each year.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total program savings is based on the application of behavioral science principles in which eligible customers receive reports which compare their energy use with neighbors in similar homes and are shown in the following tables:

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 250                        | 0.06                             | 0.06                             | 12,500,000                 | 3,000                            | 3,000                            |
| 2012 | 250                        | 0.06                             | 0.06                             | 12,500,000                 | 3,000                            | 3,000                            |
| 2013 | 250                        | 0.06                             | 0.06                             | 12,500,000                 | 3,000                            | 3,000                            |
| 2014 | 250                        | 0.06                             | 0.06                             | 12,500,000                 | 3,000                            | 3,000                            |
| 2015 | 250                        | 0.06                             | 0.06                             | 12,500,000                 | 3,000                            | 3,000                            |
| 2016 | 250                        | 0.06                             | 0.06                             | 12,500,000                 | 3,000                            | 3,000                            |
| 2017 | 250                        | 0.06                             | 0.06                             | 12,500,000                 | 3,000                            | 3,000                            |
| 2018 | 250                        | 0.06                             | 0.06                             | 12,500,000                 | 3,000                            | 3,000                            |
| 2019 | 250                        | 0.06                             | 0.06                             | 12,500,000                 | 3,000                            | 3,000                            |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 266                        | 0.06                             | 0.06                             | 13,316,250                 | 3,196                            | 3,196                            |
| 2012 | 266                        | 0.06                             | 0.06                             | 13,316,250                 | 3,196                            | 3,196                            |
| 2013 | 266                        | 0.06                             | 0.06                             | 13,316,250                 | 3,196                            | 3,196                            |
| 2014 | 266                        | 0.06                             | 0.06                             | 13,316,250                 | 3,196                            | 3,196                            |
| 2015 | 266                        | 0.06                             | 0.06                             | 13,316,250                 | 3,196                            | 3,196                            |
| 2016 | 266                        | 0.06                             | 0.06                             | 13,316,250                 | 3,196                            | 3,196                            |
| 2017 | 266                        | 0.06                             | 0.06                             | 13,316,250                 | 3,196                            | 3,196                            |
| 2018 | 266                        | 0.06                             | 0.06                             | 13,316,250                 | 3,196                            | 3,196                            |
| 2019 | 266                        | 0.06                             | 0.06                             | 13,316,250                 | 3,196                            | 3,196                            |

### Impact Evaluation Plan

Participating customers' electrical usage will be reduced by modifying habits and behaviors to be more energy efficient. A statistical billing analysis will be conducted following program implementation, and will represent the primary method used to estimate energy impacts.

### Cost-Effectiveness

The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs \$<br/>(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|-------------------------------|-------------------------------------|------------------|
| <b>Rate Impact Measure</b>     | \$11,186                        | \$17,656                      | -\$6,470                            | 0.63             |
| <b>Participant</b>             | \$11,390                        | \$0                           | \$11,390                            | 9999             |
| <b>Total Resource Cost</b>     | \$11,186                        | \$6,266                       | \$4,920                             | 1.79             |

## PROGRAM: Behavior Modification - RIM

| YEAR    | BENEFITS   |          |           |         |          | COSTS      |           |           |           |           |         |         |          |
|---------|------------|----------|-----------|---------|----------|------------|-----------|-----------|-----------|-----------|---------|---------|----------|
|         | (1)        | (2)      | (3)       | (4)     | (5)      | (6)        | (7)       | (8)       | (9)       | (10)      | (11)    | (12)    | (13)     |
|         | TOTAL      | AVOIDED  | AVOIDED   | REVENUE | TOTAL    | TOTAL      | INCREASED | INCREASED | UTILITY   | INCENTIVE | REVENUE | TOTAL   | NET      |
|         | FUEL & O&M | T&D CAP. | GEN. CAP. | SAVINGS | BENEFITS | FUEL & O&M | T&D CAP.  | GEN. CAP. | PROGRAM   | PAYMENTS  | LOSSES  | COSTS   | BENEFITS |
|         | \$(000)    | \$(000)  | \$(000)   | \$(000) | \$(000)  | \$(000)    | \$(000)   | \$(000)   | \$(000)   | \$(000)   | \$(000) | \$(000) | \$(000)  |
| 2010    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2011    | 1,369      | 69       | 0         | 0       | 1,438    | 0          | 0         | 0         | 850       | 0         | 1,797   | 2,647   | -1,210   |
| 2012    | 1,215      | 69       | 0         | 0       | 1,283    | 0          | 0         | 0         | 900       | 0         | 1,757   | 2,657   | -1,374   |
| 2013    | 1,469      | 69       | 354       | 0       | 1,891    | 0          | 0         | 0         | 950       | 0         | 1,843   | 2,793   | -902     |
| 2014    | 1,142      | 69       | 557       | 0       | 1,768    | 0          | 0         | 0         | 1,000     | 0         | 1,910   | 2,910   | -1,142   |
| 2015    | 1,277      | 69       | 566       | 0       | 1,912    | 0          | 0         | 0         | 1,050     | 0         | 2,070   | 3,120   | -1,208   |
| 2016    | 1,332      | 69       | 752       | 0       | 2,152    | 0          | 0         | 0         | 1,100     | 0         | 2,042   | 3,142   | -989     |
| 2017    | 1,402      | 69       | 788       | 0       | 2,259    | 0          | 0         | 0         | 1,150     | 0         | 1,800   | 2,950   | -691     |
| 2018    | 1,383      | 69       | 666       | 0       | 2,118    | 0          | 0         | 0         | 1,200     | 0         | 1,731   | 2,931   | -813     |
| 2019    | 1,407      | 69       | 680       | 0       | 2,156    | 0          | 0         | 0         | 1,250     | 0         | 1,801   | 3,051   | -896     |
| 2020    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2021    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2022    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2023    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2024    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2025    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2026    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2027    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2028    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2029    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2030    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2031    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2032    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2033    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2034    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2035    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2036    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2037    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| 2038    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0         | 0         | 0       | 0       | 0        |
| NOMINAL | 11,996     | 618      | 4,363     | 0       | 16,977   | 0          | 0         | 0         | 9,450,000 | 0         | 16,752  | 26,202  | -9,224   |
| NPV     | 8,128      | 420      | 2,638     | 0       | 11,186   | 0          | 0         | 0         | 6,266     | 0         | 11,390  | 17,656  | -6,470   |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.634

**PROGRAM: Behavior Modification - Participant**

| YEAR    | BENEFITS                         |                     |                                      |                     | COSTS           |                             |                  | NET<br>BENEFITS<br>\$(000) |
|---------|----------------------------------|---------------------|--------------------------------------|---------------------|-----------------|-----------------------------|------------------|----------------------------|
|         | (1)                              | (2)                 | (3)                                  | (4)                 | (5)             | (6)                         | (7)              |                            |
|         | SAVINGS IN                       | INCENTIVE           | OTHER                                | TOTAL               | PARTICIPANT'S   | PARTICIPANT'S               | TOTAL            |                            |
|         | PARTICIPANT'S<br>BILL<br>\$(000) | PAYMENTS<br>\$(000) | PARTICIPANT'S<br>BENEFITS<br>\$(000) | BENEFITS<br>\$(000) | COST<br>\$(000) | BILL<br>INCREASE<br>\$(000) | COSTS<br>\$(000) |                            |
| 2010    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2011    | 1,797                            | 0                   | 0                                    | 1,797               | 0               | 0                           | 0                | 1,797                      |
| 2012    | 1,757                            | 0                   | 0                                    | 1,757               | 0               | 0                           | 0                | 1,757                      |
| 2013    | 1,843                            | 0                   | 0                                    | 1,843               | 0               | 0                           | 0                | 1,843                      |
| 2014    | 1,910                            | 0                   | 0                                    | 1,910               | 0               | 0                           | 0                | 1,910                      |
| 2015    | 2,070                            | 0                   | 0                                    | 2,070               | 0               | 0                           | 0                | 2,070                      |
| 2016    | 2,042                            | 0                   | 0                                    | 2,042               | 0               | 0                           | 0                | 2,042                      |
| 2017    | 1,800                            | 0                   | 0                                    | 1,800               | 0               | 0                           | 0                | 1,800                      |
| 2018    | 1,731                            | 0                   | 0                                    | 1,731               | 0               | 0                           | 0                | 1,731                      |
| 2019    | 1,801                            | 0                   | 0                                    | 1,801               | 0               | 0                           | 0                | 1,801                      |
| 2020    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2021    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2022    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2023    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2024    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2025    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2026    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2027    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2028    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2029    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2030    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2031    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2032    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2033    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2034    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2035    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2036    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2037    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| 2038    | 0                                | 0                   | 0                                    | 0                   | 0               | 0                           | 0                | 0                          |
| NOMINAL | 16,752                           | 0                   | 0                                    | 16,752              | 0               | 0                           | 0                | 16,752                     |
| NPV     | 11,390                           | 0                   | 0                                    | 11,390              | 0               | 0                           | 0                | 11,390                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

PROGRAM: Behavior Modification - TRC

| YEAR    | BENEFITS                       |                              |                               |                                    |                              | COSTS                            |  |   |  |  |                           | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|------------------------------|-------------------------------|------------------------------------|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                            | (2)                          | (3)                           | (4)                                | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP.<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | OTHER<br>PARTICIPANT'S<br>BENEFITS | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)                            | \$(000)                      | \$(000)                          | \$(000)                                    | \$(000)                                   | \$(000)                                    | \$(000)                                | \$(000)                   |                            |
| 2010    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 1,369                          | 69                           | 0                             | 0                                  | 1,438                        | 0                                | 0  | 0   | 0  | 850                                    | 850                       | 588                        |
| 2012    | 1,215                          | 69                           | 0                             | 0                                  | 1,283                        | 0                                | 0  | 0   | 0  | 900                                    | 900                       | 383                        |
| 2013    | 1,469                          | 69                           | 354                           | 0                                  | 1,891                        | 0                                | 0  | 0   | 0  | 950                                    | 950                       | 941                        |
| 2014    | 1,142                          | 69                           | 557                           | 0                                  | 1,768                        | 0                                | 0  | 0   | 0  | 1,000                                  | 1,000                     | 768                        |
| 2015    | 1,277                          | 69                           | 566                           | 0                                  | 1,912                        | 0                                | 0  | 0   | 0  | 1,050                                  | 1,050                     | 862                        |
| 2016    | 1,332                          | 69                           | 752                           | 0                                  | 2,152                        | 0                                | 0  | 0   | 0  | 1,100                                  | 1,100                     | 1,052                      |
| 2017    | 1,402                          | 69                           | 788                           | 0                                  | 2,259                        | 0                                | 0  | 0   | 0  | 1,150                                  | 1,150                     | 1,109                      |
| 2018    | 1,383                          | 69                           | 666                           | 0                                  | 2,118                        | 0                                | 0  | 0   | 0  | 1,200                                  | 1,200                     | 918                        |
| 2019    | 1,407                          | 69                           | 680                           | 0                                  | 2,156                        | 0                                | 0  | 0   | 0  | 1,250                                  | 1,250                     | 906                        |
| 2020    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2021    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2022    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2023    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2024    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2025    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2026    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2027    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2028    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2029    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2030    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2031    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2032    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2033    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2034    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2035    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2036    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2037    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2038    | 0                              | 0                            | 0                             | 0                                  | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| NOMINAL | 11,996                         | 618                          | 4,363                         | 0                                  | 16,977                       | 0                                | 0  | 0   | 0  | 9,450                                  | 9,450                     | 7,527                      |
| NPV     | 8,128                          | 420                          | 2,638                         | 0                                  | 11,186                       | 0                                | 0  | 0   | 0  | 6,266                                  | 6,266                     | 4,920                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.785

0

## **H. RESIDENTIAL APPLIANCE RECYCLING PROGRAM**

**Program Start Date:** Proposed to start in 2011

### **Program Description**

The Appliance Recycling Program is designed to reduce energy usage by removing less efficient refrigerators and freezers that are operating within residences across the PEF service territory. The program will include scheduling and free appliance pick-up at the customer's location, transportation to a recycling facility, and recovery and recycling of appliance materials.

### **Policies and Procedures**

The program provides residential customers free pick-up and an incentive for allowing PEF to collect and recycle their less efficient refrigerator or freezer; permanently removing the unit from service. All PEF residential customers will be eligible to participate in this program. Customers will receive free removal and recycling of their appliance, as well as a \$50 incentive per appliance for participation, with a limit of two units recycled per year per account. Customers must own the appliance and each must be between 10-30 cubic feet, accessible, plugged-in, cooling, and empty to qualify for the program.

## Program Participation

Annual participation estimates for the Appliance Recycling Program are shown in the following table.

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| <b>2011</b> | 1,473,688                                       | 1,473,688  | 7,251   | 0.5%   |
| <b>2012</b> | 1,495,098                                       | 1,495,098  | 11,025  | 1.2%   |
| <b>2013</b> | 1,521,451                                       | 1,521,451  | 11,175  | 1.9%   |
| <b>2014</b> | 1,548,531                                       | 1,548,531  | 11,251  | 2.6%   |
| <b>2015</b> | 1,575,167                                       | 1,575,167  | 11,475  | 3.3%   |
| <b>2016</b> | 1,600,448                                       | 1,600,448  | 11,700  | 4.0%   |
| <b>2017</b> | 1,624,503                                       | 1,624,503  | 11,925  | 4.7%   |
| <b>2018</b> | 1,647,724                                       | 1,647,724  | 12,075  | 5.3%   |
| <b>2019</b> | 1,671,277                                       | 1,671,277  | 12,225  | 6.0%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. The entire residential class is eligible for participation
3. Number of participants represents the customers that Progress Energy expects to reach through direct offerings in each year.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.



## Savings Estimates

Total program savings based on the removal of the older, less efficient unit from the home and are shown in the following tables.

At the Meter

| Year | Per Customer<br>KWh Reduction | Per Customer<br>Winter KW<br>Reduction | Per Customer<br>Summer KW<br>Reduction | Total Annual<br>KWh Reduction | Total Annual<br>Winter KW<br>Reduction | Total Annual<br>Summer KW<br>Reduction |
|------|-------------------------------|--|--|-------------------------------|--|--|
| 2011 | 803                           | 0.09                                   | 0.09                                   | 5,823,087                     | 685                                    | 685                                    |
| 2012 | 803                           | 0.09                                   | 0.09                                   | 8,853,912                     | 1,042                                  | 1,042                                  |
| 2013 | 803                           | 0.09                                   | 0.09                                   | 8,974,353                     | 1,056                                  | 1,056                                  |
| 2014 | 803                           | 0.09                                   | 0.09                                   | 9,035,387                     | 1,063                                  | 1,063                                  |
| 2015 | 803                           | 0.09                                   | 0.09                                   | 9,215,275                     | 1,084                                  | 1,084                                  |
| 2016 | 803                           | 0.09                                   | 0.09                                   | 9,395,978                     | 1,106                                  | 1,106                                  |
| 2017 | 803                           | 0.09                                   | 0.09                                   | 9,576,680                     | 1,127                                  | 1,127                                  |
| 2018 | 803                           | 0.09                                   | 0.09                                   | 9,697,120                     | 1,141                                  | 1,141                                  |
| 2019 | 803                           | 0.09                                   | 0.09                                   | 9,817,602                     | 1,155                                  | 1,155                                  |

At the Generator

| Year | Per Customer<br>KWh Reduction | Per Customer<br>Winter KW<br>Reduction | Per Customer<br>Summer KW<br>Reduction | Total Annual<br>KWh Reduction | Total Annual<br>Winter KW<br>Reduction | Total Annual<br>Summer KW<br>Reduction |
|------|-------------------------------|--|--|-------------------------------|--|--|
| 2011 | 856                           | 0.10                                   | 0.10                                   | 6,203,334                     | 730                                    | 730                                    |
| 2012 | 856                           | 0.10                                   | 0.10                                   | 9,432,073                     | 1,110                                  | 1,110                                  |
| 2013 | 856                           | 0.10                                   | 0.10                                   | 9,560,378                     | 1,125                                  | 1,125                                  |
| 2014 | 856                           | 0.10                                   | 0.10                                   | 9,625,397                     | 1,133                                  | 1,133                                  |
| 2015 | 856                           | 0.10                                   | 0.10                                   | 9,817,033                     | 1,155                                  | 1,155                                  |
| 2016 | 856                           | 0.10                                   | 0.10                                   | 10,009,535                    | 1,178                                  | 1,178                                  |
| 2017 | 856                           | 0.10                                   | 0.10                                   | 10,202,037                    | 1,201                                  | 1,201                                  |
| 2018 | 856                           | 0.10                                   | 0.10                                   | 10,330,342                    | 1,216                                  | 1,216                                  |
| 2019 | 856                           | 0.10                                   | 0.10                                   | 10,458,692                    | 1,231                                  | 1,231                                  |

**Impact Evaluation Plan**

The impact evaluation plan for this program will use engineering simulation and statistical billing analysis as the primary method to estimate demand and energy impacts.

**Cost-Effectiveness**

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs \$<br/>(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|-------------------------------|-------------------------------------|------------------|
| <b>Rate Impact Measure</b>     | \$49,395                        | \$72,751                      | -\$23,356                           | 0.68             |
| <b>Participant</b>             | \$66,264                        | \$3,009                       | \$63,255                            | 22.02            |
| <b>Total Resource Cost</b>     | \$49,395                        | \$9,496                       | \$39,899                            | 5.2              |

PROGRAM: Appliance Recycling - RIM

| YEAR    | BENEFITS   |          |           |         |          | COSTS      |           |           |         |           |         |         |          |
|---------|------------|----------|-----------|---------|----------|------------|-----------|-----------|---------|-----------|---------|---------|----------|
|         | (1)        | (2)      | (3)       | (4)     | (5)      | (6)        | (7)       | (8)       | (9)     | (10)      | (11)    | (12)    | (13)     |
|         | TOTAL      | AVOIDED  | AVOIDED   | REVENUE | TOTAL    | TOTAL      | INCREASED | INCREASED | UTILITY | INCENTIVE | REVENUE | TOTAL   | NET      |
|         | FUEL & O&M | T&D CAP. | GEN. CAP. | GAINS   | BENEFITS | FUEL & O&M | T&D CAP.  | GEN. CAP. | PROGRAM | PAYMENTS  | LOSSES  | COSTS   | BENEFITS |
|         | \$(000)    | \$(000)  | \$(000)   | \$(000) | \$(000)  | \$(000)    | \$(000)   | \$(000)   | \$(000) | \$(000)   | \$(000) | \$(000) | \$(000)  |
| 2010    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2011    | 591        | 15       | 0         | 0       | 605      | 0          | 0         | 0         | 624     | 776       | 838     | 2,237   | -1,632   |
| 2012    | 1,324      | 37       | 0         | 0       | 1,360    | 0          | 0         | 0         | 981     | 1,202     | 2,064   | 4,247   | -2,887   |
| 2013    | 2,457      | 60       | 338       | 0       | 2,854    | 0          | 0         | 0         | 1,028   | 1,240     | 3,486   | 5,755   | -2,901   |
| 2014    | 2,807      | 82       | 735       | 0       | 3,624    | 0          | 0         | 0         | 1,069   | 1,271     | 4,995   | 7,335   | -3,711   |
| 2015    | 4,123      | 106      | 958       | 0       | 5,186    | 0          | 0         | 0         | 1,125   | 1,320     | 6,938   | 9,383   | -4,197   |
| 2016    | 5,111      | 129      | 1,007     | 0       | 6,247    | 0          | 0         | 0         | 1,182   | 1,369     | 8,376   | 10,927  | -4,680   |
| 2017    | 5,903      | 153      | 1,253     | 0       | 7,309    | 0          | 0         | 0         | 1,240   | 1,419     | 8,766   | 11,425  | -4,116   |
| 2018    | 6,838      | 178      | 1,898     | 0       | 8,913    | 0          | 0         | 0         | 1,292   | 1,461     | 9,774   | 12,527  | -3,614   |
| 2019    | 8,062      | 202      | 2,206     | 0       | 10,470   | 0          | 0         | 0         | 1,357   | 1,504     | 11,584  | 14,445  | -3,974   |
| 2020    | 8,196      | 202      | 2,252     | 0       | 10,651   | 0          | 0         | 0         | 0       | 0         | 11,865  | 11,865  | -1,215   |
| 2021    | 7,986      | 188      | 2,133     | 0       | 10,307   | 0          | 0         | 0         | 0       | 0         | 11,794  | 11,794  | -1,488   |
| 2022    | 7,674      | 165      | 1,027     | 0       | 8,866    | 0          | 0         | 0         | 0       | 0         | 10,469  | 10,469  | -1,602   |
| 2023    | 7,022      | 143      | 1,481     | 0       | 8,646    | 0          | 0         | 0         | 0       | 0         | 9,260   | 9,260   | -615     |
| 2024    | 5,651      | 120      | 1,300     | 0       | 7,071    | 0          | 0         | 0         | 0       | 0         | 7,955   | 7,955   | -885     |
| 2025    | 4,719      | 97       | 1,067     | 0       | 5,883    | 0          | 0         | 0         | 0       | 0         | 6,577   | 6,577   | -694     |
| 2026    | 3,972      | 73       | 531       | 0       | 4,577    | 0          | 0         | 0         | 0       | 0         | 5,080   | 5,080   | -503     |
| 2027    | 2,592      | 49       | 644       | 0       | 3,285    | 0          | 0         | 0         | 0       | 0         | 3,489   | 3,489   | -204     |
| 2028    | 1,347      | 25       | 332       | 0       | 1,703    | 0          | 0         | 0         | 0       | 0         | 1,794   | 1,794   | -92      |
| 2029    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2030    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2031    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2032    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2033    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2034    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2035    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2036    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2037    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| 2038    | 0          | 0        | 0         | 0       | 0        | 0          | 0         | 0         | 0       | 0         | 0       | 0       | 0        |
| NOMINAL | 86,369     | 2,025    | 19,164    | 0       | 107,558  | 0          | 0         | 0         | 9,897   | 11,562    | 125,104 | 146,563 | -39,006  |
| NPV     | 39,740     | 961      | 8,694     | 0       | 49,395   | 0          | 0         | 0         | 6,487   | 7,632     | 58,632  | 72,751  | -23,356  |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.679

**PROGRAM: Appliance Recycling - Participant**

| YEAR    | BENEFITS      |           |               |          | COSTS         |               |         | NET BENEFITS |
|---------|---------------|-----------|---------------|----------|---------------|---------------|---------|--------------|
|         | (1)           | (2)       | (3)           | (4)      | (5)           | (6)           | (7)     |              |
|         | SAVINGS IN    | INCENTIVE | OTHER         | TOTAL    | PARTICIPANT'S | PARTICIPANT'S | TOTAL   |              |
|         | PARTICIPANT'S | PAYMENTS  | PARTICIPANT'S | BENEFITS | COST          | BILL          | COSTS   |              |
|         | BILL          |           | BENEFITS      |          |               | INCREASE      |         |              |
|         | \$(000)       | \$(000)   | \$(000)       | \$(000)  | \$(000)       | \$(000)       | \$(000) | \$(000)      |
| 2010    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2011    | 838           | 776       | 0             | 1,614    | 289           | 0             | 289     | 1,324        |
| 2012    | 2,064         | 1,202     | 0             | 3,266    | 455           | 0             | 455     | 2,811        |
| 2013    | 3,486         | 1,240     | 0             | 4,727    | 477           | 0             | 477     | 4,250        |
| 2014    | 4,995         | 1,271     | 0             | 6,266    | 496           | 0             | 496     | 5,770        |
| 2015    | 6,938         | 1,320     | 0             | 8,258    | 522           | 0             | 522     | 7,736        |
| 2016    | 8,376         | 1,369     | 0             | 9,745    | 549           | 0             | 549     | 9,196        |
| 2017    | 8,766         | 1,419     | 0             | 10,185   | 576           | 0             | 576     | 9,609        |
| 2018    | 9,774         | 1,461     | 0             | 11,235   | 600           | 0             | 600     | 10,635       |
| 2019    | 11,584        | 1,504     | 0             | 13,088   | 625           | 0             | 625     | 12,463       |
| 2020    | 11,865        | 0         | 0             | 11,865   | 0             | 0             | 0       | 11,865       |
| 2021    | 11,794        | 0         | 0             | 11,794   | 0             | 0             | 0       | 11,794       |
| 2022    | 10,469        | 0         | 0             | 10,469   | 0             | 0             | 0       | 10,469       |
| 2023    | 9,260         | 0         | 0             | 9,260    | 0             | 0             | 0       | 9,260        |
| 2024    | 7,955         | 0         | 0             | 7,955    | 0             | 0             | 0       | 7,955        |
| 2025    | 6,577         | 0         | 0             | 6,577    | 0             | 0             | 0       | 6,577        |
| 2026    | 5,080         | 0         | 0             | 5,080    | 0             | 0             | 0       | 5,080        |
| 2027    | 3,489         | 0         | 0             | 3,489    | 0             | 0             | 0       | 3,489        |
| 2028    | 1,794         | 0         | 0             | 1,794    | 0             | 0             | 0       | 1,794        |
| 2029    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2030    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2031    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2032    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2033    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2034    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2035    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2036    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2037    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| 2038    | 0             | 0         | 0             | 0        | 0             | 0             | 0       | 0            |
| NOMINAL | 125,104       | 11,562    | 0             | 136,666  | 4,590         | 0             | 4,590   | 132,076      |
| NPV     | 58,632        | 7,632     | 0             | 66,264   | 3,009         | 0             | 3,009   | 63,255       |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 22.022

## PROGRAM: Appliance Recycling - TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 591                                       | 15                                      | 0  | 0   | 605                          | 289                              | 0  | 0   | 0  | 624                                    | 913                       | -308                       |
| 2012    | 1,324                                     | 37                                      | 0  | 0   | 1,360                        | 455                              | 0  | 0   | 0  | 981                                    | 1,437                     | -76                        |
| 2013    | 2,457                                     | 60                                      | 338                                      | 0   | 2,854                        | 477                              | 0  | 0   | 0  | 1,028                                  | 1,505                     | 1,349                      |
| 2014    | 2,807                                     | 82                                      | 735                                      | 0   | 3,624                        | 496                              | 0  | 0   | 0  | 1,069                                  | 1,565                     | 2,059                      |
| 2015    | 4,123                                     | 106                                     | 958                                      | 0   | 5,186                        | 522                              | 0  | 0   | 0  | 1,125                                  | 1,647                     | 3,539                      |
| 2016    | 5,111                                     | 129                                     | 1,007                                    | 0   | 6,247                        | 549                              | 0  | 0   | 0  | 1,182                                  | 1,730                     | 4,516                      |
| 2017    | 5,903                                     | 153                                     | 1,253                                    | 0   | 7,309                        | 576                              | 0  | 0   | 0  | 1,240                                  | 1,816                     | 5,493                      |
| 2018    | 6,838                                     | 178                                     | 1,898                                    | 0   | 8,913                        | 600                              | 0  | 0   | 0  | 1,292                                  | 1,892                     | 7,021                      |
| 2019    | 8,062                                     | 202                                     | 2,206                                    | 0   | 10,470                       | 625                              | 0  | 0   | 0  | 1,357                                  | 1,982                     | 8,489                      |
| 2020    | 8,196                                     | 202                                     | 2,252                                    | 0   | 10,651                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 10,651                     |
| 2021    | 7,986                                     | 188                                     | 2,133                                    | 0   | 10,307                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 10,307                     |
| 2022    | 7,674                                     | 165                                     | 1,027                                    | 0   | 8,866                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 8,866                      |
| 2023    | 7,022                                     | 143                                     | 1,481                                    | 0   | 8,646                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 8,646                      |
| 2024    | 5,651                                     | 120                                     | 1,300                                    | 0   | 7,071                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,071                      |
| 2025    | 4,719                                     | 97                                      | 1,067                                    | 0   | 5,883                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 5,883                      |
| 2026    | 3,972                                     | 73                                      | 531                                      | 0   | 4,577                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,577                      |
| 2027    | 2,592                                     | 49                                      | 644                                      | 0   | 3,285                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 3,285                      |
| 2028    | 1,347                                     | 25                                      | 332                                      | 0   | 1,703                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,703                      |
| 2029    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2030    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2031    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2032    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2033    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2034    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2035    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2036    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2037    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2038    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| NOMINAL | 86,369                                    | 2,025                                   | 19,164                                   | 0   | 107,558                      | 4,590                            | 0  | 0   | 0  | 9,897                                  | 14,487                    | 93,071                     |
| NPV     | 39,740                                    | 961                                     | 8,694                                    | 0   | 49,395                       | 3,009                            | 0  | 0   | 0  | 6,487                                  | 9,496                     | 39,899                     |

Utility Discount Rate = 8.48  
Benefit Cost Ratio = 5.202

**V. COMMERCIAL/INDUSTRIAL CONSERVATION PROGRAMS**

Progress Energy's Demand Side Management Plan includes ten (10) Commercial/Industrial programs:

- Business Energy Check - Commercial/Industrial energy audits
- Better Business - program for existing facilities
- Commercial/Industrial New Construction - program for new construction facilities
- Business Energy Saver – low-income energy conservation program
- Commercial Green Building New Construction - new facilities program to achieve optimal energy efficiency
- Innovation Incentive - program of custom measures
- Standby Generation - Rate Tariff GSLM-2
- Interruptible Service - Rate Tariff IS-2
- Curtailable Service - Rate Tariff CS-2
- Business Energy Response - program designed to reduce system peak demand and increase renewable energy generation on the Progress Energy grid.

**A. BUSINESS ENERGY CHECK PROGRAM**

**Program Start Date:** 1995

Modifications proposed in 2010

**Program Description**

The Business Energy Check is a commercial energy audit program that provides commercial customers with an analysis of their energy use as well as recommendations on how they can save on their electricity bill. The audit focuses on education and encouraging customers to implement minimal cost energy-saving practices and measures. The audit also provides Progress Energy the opportunity to promote cost effective measures in customers' facilities. The Business Energy Check program serves as the foundation for other commercial, industrial and governmental Demand Side Management programs.

The Business Energy Check program offers the following types of energy audits:

Type 1: Free Walk-Through

Type 2: Paid Walk-Through

Type 3: Customer Online (Internet Option)

Type 4: Customer Phone-Assisted.

## **Policies and Procedures**

All commercial, industrial, and governmental customers of Progress Energy are eligible to receive any of the above mentioned audit types conducted on commercial metered buildings located in Progress Energy's service territory. There is no charge for Type 1, Type 3 and Type 4 audits, while there is a nominal customer charge for the Type 2 energy analysis. When a customer requests a Business Energy Check, they will be given the option of any of the above offered audit types. Progress Energy reserves the option to work with other agencies and/or companies as an extension of the Business Energy Check service. The specific details on the procedures for each type of audit will be presented in the Program Participation Standards.

Customers participating in all audit types will be provided with sustainable educational and behavioral energy saving examples of easily installed energy conservation measures to reduce energy consumption. The program promotes continued customer involvement by demonstrating sustainable and measureable energy reduction in the business' energy consumption by the implementation of low-cost energy conservation measures.

The customer will receive a Commercial Energy Efficiency Kit via the following methods:

- At the time of the onsite Business Energy Check
- Through the mail following completion of the online or phone assisted audit.

Progress Energy is proposing to include the following measures with this program:



***Lighting***

This measure will provide customers with up to three (3) compact fluorescent light bulbs to upgrade an existing incandescent fixture located in their lighting systems. This demonstration will encourage additional lighting energy conservation measures changes within the facility.

***Indoor Room Thermometer***

This measure will provide one room thermometer per business. This measure will establish a reference point for customers to select an energy savings setting for the HVAC system thermostat.

***Refrigerator Thermometer***

This measure will provide one thermometer in the food or freezer compartment of the refrigerator. This measure will establish a reference point for customers to select an energy savings setting for the refrigeration system thermostat.

***Power Conservation Strip***

This measure will provide a power conservation strip to reduce idle energy use when appliances are not in operation. The ease of installation and the demonstration of immediate energy reduction will encourage additional customer participation.

### ***Change Filter Calendar***

This portion of the program will provide each business a Progress Energy magnetic calendar to help remind them to clean or change the HVAC filter monthly to facilitate optimal HVAC performance.

### ***Additional Kit Components***

The energy conservation measure kit will also include educational tools that will assist the business owner in making decisions about their energy use. Examples of these educational tools include, but are not limited to the following:

### ***Energy Use Data Sheet***

A common appliance and equipment energy use data sheet will be provided to the customer. This will demonstrate to the customer examples where energy is being utilized within their facility, encouraging the customer to make behavior changes to reduce energy consumption.

### ***Facility Setback Procedure***

This measure will provide a suggested setback process for relative facilities. The process can be used as behavior modification training for employees or as a poster located at entrances and exits of the facility. It will provide a point of reference to remind employees to choose the best energy saving setting for the facility when shutting down.

## Program Participation

Annual participation estimates for the Business Energy Check program are shown in the following table:

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| <b>2011</b> | 170,886   | 170,886  | 3,000   | 1.8%   |
| <b>2012</b> | 175,147   | 175,147  | 3,090   | 3.5%   |
| <b>2013</b> | 178,542   | 178,542  | 3,214   | 5.2%   |
| <b>2014</b> | 182,030   | 182,030  | 3,375   | 7.0%   |
| <b>2015</b> | 185,461   | 185,461  | 3,611   | 8.8%   |
| <b>2016</b> | 188,717   | 188,717  | 3,792   | 10.6%  |
| <b>2017</b> | 191,817   | 191,817  | 3,906   | 12.5%  |
| <b>2018</b> | 194,809   | 194,809  | 4,023   | 14.4%  |
| <b>2019</b> | 197,848   | 197,848  | 4,063   | 16.2%  |

1. The total number of customers is the forecast of commercial/industrial (C/I) customers in Progress Energy's 2009 Ten Year Site Plan.
2. All commercial, industrial and governmental rate classes are eligible to participate.
3. Number of program participants represents the participants projected.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and, annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables:

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 434                        | 0.11                             | 0.26                             | 1,300,500                  | 321                              | 773                              |
| 2012 | 442                        | 0.11                             | 0.26                             | 1,365,525                  | 337                              | 812                              |
| 2013 | 445                        | 0.11                             | 0.26                             | 1,430,550                  | 353                              | 850                              |
| 2014 | 439                        | 0.11                             | 0.26                             | 1,482,570                  | 366                              | 881                              |
| 2015 | 265                        | 0.06                             | 0.11                             | 958,230                    | 211                              | 386                              |
| 2016 | 248                        | 0.05                             | 0.10                             | 941,850                    | 207                              | 380                              |
| 2017 | 235                        | 0.05                             | 0.09                             | 917,280                    | 202                              | 370                              |
| 2018 | 224                        | 0.05                             | 0.09                             | 900,900                    | 198                              | 363                              |
| 2019 | 222                        | 0.05                             | 0.09                             | 900,900                    | 198                              | 363                              |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 457                        | 0.11                             | 0.27                             | 1,371,637                  | 338                              | 815                              |
| 2012 | 466                        | 0.11                             | 0.28                             | 1,440,219                  | 355                              | 856                              |
| 2013 | 469                        | 0.12                             | 0.28                             | 1,508,801                  | 372                              | 897                              |
| 2014 | 463                        | 0.11                             | 0.28                             | 1,563,667                  | 386                              | 929                              |
| 2015 | 280                        | 0.06                             | 0.11                             | 1,010,645                  | 222                              | 407                              |
| 2016 | 262                        | 0.06                             | 0.11                             | 993,369                    | 218                              | 400                              |
| 2017 | 248                        | 0.05                             | 0.10                             | 967,455                    | 213                              | 390                              |
| 2018 | 236                        | 0.05                             | 0.10                             | 950,179                    | 209                              | 383                              |
| 2019 | 234                        | 0.05                             | 0.09                             | 950,179                    | 209                              | 383                              |

### Impact Evaluation Plan

The range of possible recommendations resulting from the audit, and the inclusion of both technological and behavioral recommendations suggests the need to carefully survey participants to determine what specific actions have been undertaken due to the completed audit. Initially, the use of site-specific engineering estimates is likely to be the most cost-effective method of estimating program impacts, although the use of statistical analysis technique may also be considered, depending on the participation levels actually achieved.

**B. BETTER BUSINESS PROGRAM**

**Program Start Date:** 1995

Program modified 2000, 2005, 2006 and 2007

Modifications proposed in 2010

**Program Description**

The Better Business program is designed for existing Commercial, Industrial, and Governmental customers who want to retrofit with high efficiency improvements. All business customers are eligible for this program. The Better Business program builds on customer awareness, utilizing the various audit types, contractor participation, and Progress Energy promotion to educate customers on cost effective measures relevant to their businesses.

The program seeks to meet the following overall goals:

- Provide the market place with a cost-effective comprehensive program portfolio of measures across all building types
- Improve customer energy savings and demand reduction through the installation of energy efficient equipment and thermal envelope upgrades
- Obtain energy and demand reductions that are significant, accurate and measurable

- Educate the commercial retrofit market about best practices, innovative technologies and opportunities to participate in other non-Progress Energy incentives for managing energy consumption.

### **Policies and Procedures**

The general eligibility requirements are as follows:

- Must have been influenced by one of Progress Energy's educational opportunities
- The facility must be a commercially metered customer in Progress Energy service territory.

Commercial multi-family is defined as commercially metered accounts of multi-family residential apartments or condominiums, or assisted living residential apartment units. Any multi-family residential dwellings that are metered (referred to as "Domestic/Commercial") shall be eligible to participate in this program.

Progress Energy reserves the right to inspect the installation of measures and equipment prior to issuing any incentive payments.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

***HVAC Equipment & Heat Pump Water Heaters***

The HVAC equipment component of Better Business provides customers with information on high efficiency HVAC equipment and financial incentives for the purchase of high efficiency unitary heat pumps and air conditioners including heat pump water heaters, hybrid desiccant and geothermal units, thermal energy storage systems, package terminal heat pumps and package terminal air conditioners, water-cooled chillers, air-cooled chillers, EMS Chiller Optimization, and high efficiency straight cool air conditioners 14 to 19+ SEER. The Better Business HVAC measures also provide PEF customers with a one-time incentive to maintain/recommission and/or repair their current rooftop package DX units. The incentives will be based on a per unit basis. PTAC/PTHP coil cleaning is also a one-time incentive to stimulate the annual maintenance of customer's equipment. Hotel AC sensors for controlling HVAC systems during unoccupied periods in hotel rooms will be offered as a per room incentive. Variable Speed Drive controls and Variable Speed Drives for Chiller and Cooling Tower Pump incentives will also be offered under this program.

***Energy Recovery Ventilation / Demand Control Ventilation / Heat Pipes / Exhaust Hood Optimization***

The program promotes the installation of high efficiency energy recovery ventilation units in the conditioned air stream for customers using electric cooling and heating. These units are capable of removing over 70% of the sensible heat and over 60% of the latent heat when properly sized and installed. To qualify for Progress Energy's incentive, the energy recovery ventilation must



meet qualifications outlined in the Program Participation Standards. Demand Control Ventilation will provide incentives for the installation of Demand Control Ventilation using CO<sub>2</sub> sensors. Demand Control Ventilation saves energy by automatically adjusting building ventilation rates in real time based on occupancy. Heat Pipe technology for pre-conditioning fresh air will also be incented and must meet the Program Participation Standards. Exhaust hood controls for varying ventilation will be included as an incentive.

#### ***Duct Leakage Test and Repair***

This portion of the program is designed to promote energy efficiency through improved duct system sealing. This program component applies to HVAC equipment and systems that are no larger than 65,000 Btu/h. A customer must have electric heating and a centrally-ducted cooling system, either air conditioning or heat pump, to be eligible for this program.

#### ***Efficient Indoor lighting***

This measure will provide customers with an incentive to upgrade their lighting systems to an approved lighting technology. The following technologies will be included: Premium T-8's and T-5's, occupancy sensors, ceramic metal halides, LED display lighting, Induction/Cold cathode, CFL lamps with integral ballast, and CFL hardwire fixtures. The Program Participation Standards will outline the incentive adjustments due to code changes.

### ***Ceiling Insulation Upgrade***

This portion of the program encourages customers to add insulation to the conditioned ceiling area by paying for a portion of the installed cost. The facility must meet the Program Participation Standard requirements in order to qualify for this measure.

### ***Cool Roof / Green Roof/ Roof Insulation***

The cool roof measure will provide customers with an incentive to install an approved “cool roof” providing the facility has electric cooling. Customers must meet the specifications for solar reflectance and reliability, having initial reflectance as outlined in the Program Participation Standards. The green roof measure will provide an incentive for customers to install an approved green roof on their facility. The roof insulation measure encourages customers to add insulation to the conditioned roof area.

### ***Efficient Compressed Air System***

This measure will provide an incentive to encourage business customers to utilize a proactive approach to increase the efficiency of compressed air systems. The customer must provide a pre- and post-analysis of the system in order to be eligible for incentives.

### ***Efficient Motors***

This measure promotes the installation of certain high efficiency polyphase motors through a simple incentive structure based on the motor size and a specified \$/hp. The specific incentive amount will be a function of the motor size and efficiency.

***Window Film / Solar Screen***

This measure provides an incentive to install window film or solar screen on windows having east, west, and south exposures. The qualifying facilities and requirements are outlined in the Program Participation Standards.

***Refrigeration***

This measure provides an incentive to install energy efficient devices to reduce energy consumption of refrigeration equipment. The eligible devices include vending machine controls, and high efficiency ice makers.

***Building Commissioning***

This measure provides an incentive to customers for conducting whole building commissioning. The requirement and incentives will be outlined in the Program Participation Standards.

Incentive Levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in the market conditions, such as baseline or code revisions, updated measures and valuation analysis or technological advances.

## Program Participation

Annual participation estimates for the Better Business program are shown in the following table.

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| <b>2011</b> | 170,886   | 170,886  | 10,074  | 5.9%   |
| <b>2012</b> | 175,147   | 175,147  | 9,003   | 10.9%  |
| <b>2013</b> | 178,542   | 178,542  | 6,610   | 14.4%  |
| <b>2014</b> | 182,030   | 182,030  | 5,993   | 17.4%  |
| <b>2015</b> | 185,461   | 185,461  | 4,683   | 19.6%  |
| <b>2016</b> | 188,717   | 188,717  | 4,019   | 21.4%  |
| <b>2017</b> | 191,817   | 191,817  | 2,678   | 22.4%  |
| <b>2018</b> | 194,809   | 194,809  | 2,474   | 23.4%  |
| <b>2019</b> | 197,848   | 197,848  | 2,276   | 24.2%  |

1. The total number of customers is the forecast of Commercial/Industrial customers in Progress Energy's 2009 Ten Year Site Plan.
2. All Commercial, Industrial and Governmental rate classes are eligible to participate.
3. Number of program measure participants represents the participants projected.
4. Cumulative penetration is the ratio of cumulative measure participants to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and, annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 5,656                      | 0.80                             | 1.84                             | 56,979,019                 | 8,071                            | 18,514                           |
| 2012 | 5,876                      | 0.77                             | 1.90                             | 52,907,262                 | 6,928                            | 17,078                           |
| 2013 | 6,447                      | 0.64                             | 2.01                             | 42,619,503                 | 4,263                            | 13,308                           |
| 2014 | 7,026                      | 0.59                             | 2.16                             | 42,109,357                 | 3,564                            | 12,942                           |
| 2015 | 7,081                      | 0.60                             | 2.17                             | 33,164,836                 | 2,788                            | 10,183                           |
| 2016 | 7,082                      | 0.60                             | 2.17                             | 28,460,945                 | 2,393                            | 8,739                            |
| 2017 | 7,084                      | 0.60                             | 2.18                             | 18,968,322                 | 1,596                            | 5,825                            |
| 2018 | 7,082                      | 0.60                             | 2.17                             | 17,522,466                 | 1,474                            | 5,380                            |
| 2019 | 7,083                      | 0.60                             | 2.17                             | 16,123,225                 | 1,357                            | 4,949                            |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 5,965                      | 0.85                             | 1.94                             | 60,095,771                 | 8,513                            | 19,527                           |
| 2012 | 6,198                      | 0.81                             | 2.00                             | 55,801,289                 | 7,307                            | 18,012                           |
| 2013 | 6,800                      | 0.68                             | 2.12                             | 44,950,790                 | 4,496                            | 14,036                           |
| 2014 | 7,410                      | 0.63                             | 2.28                             | 44,412,739                 | 3,759                            | 13,650                           |
| 2015 | 7,469                      | 0.63                             | 2.29                             | 34,978,953                 | 2,940                            | 10,740                           |
| 2016 | 7,470                      | 0.63                             | 2.29                             | 30,017,758                 | 2,524                            | 9,217                            |
| 2017 | 7,471                      | 0.63                             | 2.29                             | 20,005,890                 | 1,683                            | 6,144                            |
| 2018 | 7,470                      | 0.63                             | 2.29                             | 18,480,945                 | 1,555                            | 5,674                            |
| 2019 | 7,470                      | 0.63                             | 2.29                             | 17,005,166                 | 1,431                            | 5,220                            |

**Impact Evaluation Plan**

The Better Business program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels. These analyses are supported by end-use metering data where feasible.

**Cost Effectiveness**

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| <b>Rate Impact Measure</b>     | \$299,260                       | \$287,368                    | \$11,892                            | 1.04             |
| <b>Participant</b>             | \$255,252                       | \$58,557                     | \$196,695                           | 4.36             |
| <b>Total Resource Cost</b>     | \$299,260                       | \$90,673                     | \$208,587                           | 3.30             |

| PROGRAM: Better Business |                          | RIM                    |                         |               |                |                           |                         |                          |                       |                    |                |             |              |
|--------------------------|--------------------------|------------------------|-------------------------|---------------|----------------|---------------------------|-------------------------|--------------------------|-----------------------|--------------------|----------------|-------------|--------------|
| BENEFITS                 |                          |                        |                         |               |                | COSTS                     |                         |                          |                       |                    |                |             |              |
|                          | (1)                      | (2)                    | (3)                     | (4)           | (5)            | (6)                       | (7)                     | (8)                      | (9)                   | (10)               | (11)           | (12)        | (13)         |
|                          | TOTAL FUEL & O&M SAVINGS | AVOIDED T&D CAP. COSTS | AVOIDED GEN. CAP. COSTS | REVENUE GAINS | TOTAL BENEFITS | TOTAL FUEL & O&M INCREASE | INCREASE T&D CAP. COSTS | INCREASE GEN. CAP. COSTS | UTILITY PROGRAM COSTS | INCENTIVE PAYMENTS | REVENUE LOSSES | TOTAL COSTS | NET BENEFITS |
| YEAR                     | \$(000)                  | \$(000)                | \$(000)                 | \$(000)       | \$(000)        | \$(000)                   | \$(000)                 | \$(000)                  | \$(000)               | \$(000)            | \$(000)        | \$(000)     | \$(000)      |
| 2010                     | 0                        | 0                      | 0                       | 0             | 0              | 0                         | 0                       | 0                        | 0                     | 0                  | 0              | 0           | 0            |
| 2011                     | 6,424                    | 335                    | 0                       | 0             | 6,759          | 0                         | 0                       | 0                        | 6,746                 | 5,616              | 7,117          | 19,479      | -12,719      |
| 2012                     | 10,929                   | 645                    | 0                       | 0             | 11,574         | 0                         | 0                       | 0                        | 6,713                 | 5,335              | 13,373         | 25,421      | -13,847      |
| 2013                     | 19,022                   | 882                    | 5,799                   | 0             | 25,704         | 0                         | 0                       | 0                        | 7,505                 | 6,893              | 19,567         | 33,965      | -8,262       |
| 2014                     | 17,791                   | 1,113                  | 11,490                  | 0             | 30,394         | 0                         | 0                       | 0                        | 8,169                 | 9,057              | 26,021         | 43,246      | -12,852      |
| 2015                     | 22,720                   | 1,292                  | 13,540                  | 0             | 37,551         | 0                         | 0                       | 0                        | 6,645                 | 7,311              | 33,323         | 47,279      | -9,727       |
| 2016                     | 26,443                   | 1,399                  | 15,317                  | 0             | 43,159         | 0                         | 0                       | 0                        | 5,884                 | 6,416              | 36,005         | 48,305      | -5,146       |
| 2017                     | 33,818                   | 1,467                  | 11,507                  | 0             | 46,791         | 0                         | 0                       | 0                        | 4,047                 | 4,378              | 33,002         | 41,427      | 5,364        |
| 2018                     | 31,957                   | 1,546                  | 19,110                  | 0             | 52,613         | 0                         | 0                       | 0                        | 3,854                 | 4,129              | 33,355         | 41,338      | 11,275       |
| 2019                     | 33,855                   | 1,620                  | 20,425                  | 0             | 55,901         | 0                         | 0                       | 0                        | 3,663                 | 3,893              | 36,671         | 44,226      | 11,675       |
| 2020                     | 33,553                   | 1,600                  | 20,576                  | 0             | 55,728         | 0                         | 0                       | 0                        | 0                     | 0                  | 37,246         | 37,246      | 18,482       |
| 2021                     | 33,239                   | 1,560                  | 20,480                  | 0             | 55,279         | 0                         | 0                       | 0                        | 0                     | 0                  | 39,393         | 39,393      | 15,887       |
| 2022                     | 39,083                   | 1,532                  | 10,978                  | 0             | 51,593         | 0                         | 0                       | 0                        | 0                     | 0                  | 38,984         | 38,984      | 12,610       |
| 2023                     | 40,675                   | 1,494                  | 17,874                  | 0             | 60,043         | 0                         | 0                       | 0                        | 0                     | 0                  | 38,989         | 38,989      | 21,055       |
| 2024                     | 34,357                   | 1,455                  | 18,178                  | 0             | 53,990         | 0                         | 0                       | 0                        | 0                     | 0                  | 38,838         | 38,838      | 15,152       |
| 2025                     | 34,055                   | 1,418                  | 18,022                  | 0             | 53,495         | 0                         | 0                       | 0                        | 0                     | 0                  | 38,853         | 38,853      | 14,642       |
| 2026                     | 32,606                   | 1,126                  | 9,367                   | 0             | 43,099         | 0                         | 0                       | 0                        | 0                     | 0                  | 31,746         | 31,746      | 11,354       |
| 2027                     | 22,710                   | 864                    | 12,892                  | 0             | 36,466         | 0                         | 0                       | 0                        | 0                     | 0                  | 25,180         | 25,180      | 11,286       |
| 2028                     | 18,352                   | 674                    | 10,266                  | 0             | 29,291         | 0                         | 0                       | 0                        | 0                     | 0                  | 20,209         | 20,209      | 9,082        |
| 2029                     | 15,759                   | 498                    | 4,607                   | 0             | 20,864         | 0                         | 0                       | 0                        | 0                     | 0                  | 15,408         | 15,408      | 5,456        |
| 2030                     | 12,287                   | 365                    | 5,653                   | 0             | 18,305         | 0                         | 0                       | 0                        | 0                     | 0                  | 11,650         | 11,650      | 6,654        |
| 2031                     | 8,670                    | 245                    | 3,955                   | 0             | 12,871         | 0                         | 0                       | 0                        | 0                     | 0                  | 8,140          | 8,140       | 4,730        |
| 2032                     | 6,211                    | 168                    | 2,817                   | 0             | 9,195          | 0                         | 0                       | 0                        | 0                     | 0                  | 5,785          | 5,785       | 3,410        |
| 2033                     | 3,719                    | 94                     | 1,640                   | 0             | 5,453          | 0                         | 0                       | 0                        | 0                     | 0                  | 3,469          | 3,469       | 1,984        |
| 2034                     | 1,232                    | 26                     | 455                     | 0             | 1,712          | 0                         | 0                       | 0                        | 0                     | 0                  | 1,185          | 1,185       | 527          |
| 2035                     | 1,073                    | 21                     | 374                     | 0             | 1,467          | 0                         | 0                       | 0                        | 0                     | 0                  | 1,031          | 1,031       | 436          |
| 2036                     | 931                      | 16                     | 300                     | 0             | 1,247          | 0                         | 0                       | 0                        | 0                     | 0                  | 894            | 894         | 353          |
| 2037                     | 837                      | 13                     | 252                     | 0             | 1,102          | 0                         | 0                       | 0                        | 0                     | 0                  | 806            | 806         | 295          |
| 2039                     | 743                      | 11                     | 204                     | 0             | 958            | 0                         | 0                       | 0                        | 0                     | 0                  | 717            | 717         | 240          |
| NOMINAL                  | 543,047                  | 23,480                 | 256,078                 | 0             | 822,605        | 0                         | 0                       | 0                        | 53,225.106            | 53,027.978         | 596,956        | 703,210     | 119,396      |
| NPV                      | 198,020                  | 9,148                  | 92,092                  | 0             | 299,260        | 0                         | 0                       | 0                        | 32,116                | 31,403             | 223,849        | 287,368     | 11,892       |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 1.041

## PROGRAM: Better Business Participant

| YEAR    | BENEFITS                            |                       |                   |                   | COSTS                 |                                   |                | (8)<br>NET BENEFIT<br>TO<br>PARTICIPANT<br>\$(000) |
|---------|-------------------------------------|-----------------------|-------------------|-------------------|-----------------------|-----------------------------------|----------------|--|
|         | (1)                                 | (2)                   | (3)               | (4)               | (5)                   | (6)                               | (7)            |  |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL | INCENTIVE<br>PAYMENTS | OTHER<br>BENEFITS | TOTAL<br>BENEFITS | PARTICIPANT'S<br>COST | PARTICIPANT'S<br>BILL<br>INCREASE | TOTAL<br>COSTS |  |
|         | \$(000)                             | \$(000)               | \$(000)           | \$(000)           | \$(000)               | \$(000)                           | \$(000)        |  |
| 2010    | 0                                   | 0                     | 0                 | 0                 | 0                     | 0                                 | 0              | 0  |
| 2011    | 7,117                               | 5,616                 | 0                 | 12,733            | 13,500                | 0                                 | 13,500         | -767   |
| 2012    | 13,373                              | 5,335                 | 0                 | 18,708            | 12,921                | 0                                 | 12,921         | 5,786  |
| 2013    | 19,567                              | 6,893                 | 0                 | 26,461            | 13,486                | 0                                 | 13,486         | 12,974   |
| 2014    | 26,021                              | 9,057                 | 0                 | 35,077            | 14,479                | 0                                 | 14,479         | 20,598   |
| 2015    | 33,323                              | 7,311                 | 0                 | 40,634            | 11,691                | 0                                 | 11,691         | 28,943   |
| 2016    | 36,005                              | 6,416                 | 0                 | 42,421            | 10,262                | 0                                 | 10,262         | 32,159   |
| 2017    | 33,002                              | 4,378                 | 0                 | 37,380            | 6,990                 | 0                                 | 6,990          | 30,390   |
| 2018    | 33,355                              | 4,129                 | 0                 | 37,484            | 6,604                 | 0                                 | 6,604          | 30,880   |
| 2019    | 36,671                              | 3,893                 | 0                 | 40,564            | 6,216                 | 0                                 | 6,216          | 34,348   |
| 2020    | 37,246                              | 0                     | 0                 | 37,246            | 0                     | 0                                 | 0              | 37,246   |
| 2021    | 39,393                              | 0                     | 0                 | 39,393            | 0                     | 0                                 | 0              | 39,393   |
| 2022    | 38,984                              | 0                     | 0                 | 38,984            | 0                     | 0                                 | 0              | 38,984   |
| 2023    | 38,989                              | 0                     | 0                 | 38,989            | 0                     | 0                                 | 0              | 38,989   |
| 2024    | 38,838                              | 0                     | 0                 | 38,838            | 0                     | 0                                 | 0              | 38,838   |
| 2025    | 38,853                              | 0                     | 0                 | 38,853            | 0                     | 0                                 | 0              | 38,853   |
| 2026    | 31,746                              | 0                     | 0                 | 31,746            | 0                     | 0                                 | 0              | 31,746   |
| 2027    | 25,180                              | 0                     | 0                 | 25,180            | 0                     | 0                                 | 0              | 25,180   |
| 2028    | 20,209                              | 0                     | 0                 | 20,209            | 0                     | 0                                 | 0              | 20,209   |
| 2029    | 15,408                              | 0                     | 0                 | 15,408            | 0                     | 0                                 | 0              | 15,408   |
| 2030    | 11,650                              | 0                     | 0                 | 11,650            | 0                     | 0                                 | 0              | 11,650   |
| 2031    | 8,140                               | 0                     | 0                 | 8,140             | 0                     | 0                                 | 0              | 8,140  |
| 2032    | 5,785                               | 0                     | 0                 | 5,785             | 0                     | 0                                 | 0              | 5,785  |
| 2033    | 3,469                               | 0                     | 0                 | 3,469             | 0                     | 0                                 | 0              | 3,469  |
| 2034    | 1,185                               | 0                     | 0                 | 1,185             | 0                     | 0                                 | 0              | 1,185  |
| 2035    | 1,031                               | 0                     | 0                 | 1,031             | 0                     | 0                                 | 0              | 1,031  |
| 2036    | 894                                 | 0                     | 0                 | 894               | 0                     | 0                                 | 0              | 894  |
| 2037    | 806                                 | 0                     | 0                 | 806               | 0                     | 0                                 | 0              | 806  |
| 2039    | 717                                 | 0                     | 0                 | 717               | 0                     | 0                                 | 0              | 717  |
| NOMINAL | 596,956                             | 53,028                | 0                 | 649,984           | 96,149                | 0                                 | 96,149         | 0 553,835  |
| NPV     | 223,849                             | 31,403                | 0                 | 255,252           | 58,557                | 0                                 | 58,557         | 0 196,695  |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 4.359



PROGRAM: Better Business TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS  |  |   |  |  |                           |                            |
|---------|---|---|--|---|------------------------------|--|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)  | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      | (12)                       |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT<br>FUEL & O&M<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0  | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 6,424                                     | 335                                     | 0  | 0   | 6,759                        | 13,500                                       | 0  | 0   | 0  | 6,746                                  | 20,246                    | -13,487                    |
| 2012    | 10,929                                    | 645                                     | 0  | 0   | 11,574                       | 12,921                                       | 0  | 0   | 0  | 6,713                                  | 19,634                    | -8,061                     |
| 2013    | 19,022                                    | 882                                     | 5,799                                    | 0   | 25,704                       | 13,486                                       | 0  | 0   | 0  | 7,505                                  | 20,991                    | 4,713                      |
| 2014    | 17,791                                    | 1,113                                   | 11,490                                   | 0   | 30,394                       | 14,479                                       | 0  | 0   | 0  | 8,169                                  | 22,648                    | 7,746                      |
| 2015    | 22,720                                    | 1,292                                   | 13,540                                   | 0   | 37,551                       | 11,691                                       | 0  | 0   | 0  | 6,645                                  | 18,336                    | 19,216                     |
| 2016    | 26,443                                    | 1,399                                   | 15,317                                   | 0   | 43,159                       | 10,262                                       | 0  | 0   | 0  | 5,884                                  | 16,146                    | 27,013                     |
| 2017    | 33,818                                    | 1,467                                   | 11,507                                   | 0   | 46,791                       | 6,990  | 0  | 0   | 0  | 4,047                                  | 11,037                    | 35,754                     |
| 2018    | 31,957                                    | 1,546                                   | 19,110                                   | 0   | 52,613                       | 6,604  | 0  | 0   | 0  | 3,854                                  | 10,458                    | 42,155                     |
| 2019    | 33,855                                    | 1,620                                   | 20,425                                   | 0   | 55,901                       | 6,216  | 0  | 0   | 0  | 3,663                                  | 9,879                     | 46,022                     |
| 2020    | 33,553                                    | 1,600                                   | 20,576                                   | 0   | 55,728                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 55,728                     |
| 2021    | 33,239                                    | 1,560                                   | 20,480                                   | 0   | 55,279                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 55,279                     |
| 2022    | 39,083                                    | 1,532                                   | 10,978                                   | 0   | 51,593                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 51,593                     |
| 2023    | 40,675                                    | 1,494                                   | 17,874                                   | 0   | 60,043                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 60,043                     |
| 2024    | 34,357                                    | 1,455                                   | 18,178                                   | 0   | 53,990                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 53,990                     |
| 2025    | 34,055                                    | 1,418                                   | 18,022                                   | 0   | 53,495                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 53,495                     |
| 2026    | 32,606                                    | 1,126                                   | 9,367                                    | 0   | 43,099                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 43,099                     |
| 2027    | 22,710                                    | 864                                     | 12,892                                   | 0   | 36,466                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 36,466                     |
| 2028    | 18,352                                    | 674                                     | 10,266                                   | 0   | 29,291                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 29,291                     |
| 2029    | 15,759                                    | 498                                     | 4,607                                    | 0   | 20,864                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 20,864                     |
| 2030    | 12,287                                    | 365                                     | 5,653                                    | 0   | 18,305                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 18,305                     |
| 2031    | 8,670                                     | 245                                     | 3,955                                    | 0   | 12,871                       | 0  | 0  | 0   | 0  | 0                                      | 0                         | 12,871                     |
| 2032    | 6,211                                     | 168                                     | 2,817                                    | 0   | 9,195                        | 0  | 0  | 0   | 0  | 0                                      | 0                         | 9,195                      |
| 2033    | 3,719                                     | 94                                      | 1,640                                    | 0   | 5,453                        | 0  | 0  | 0   | 0  | 0                                      | 0                         | 5,453                      |
| 2034    | 1,232                                     | 26                                      | 455                                      | 0   | 1,712                        | 0  | 0  | 0   | 0  | 0                                      | 0                         | 1,712                      |
| 2035    | 1,073                                     | 21                                      | 374                                      | 0   | 1,467                        | 0  | 0  | 0   | 0  | 0                                      | 0                         | 1,467                      |
| 2036    | 931                                       | 16                                      | 300                                      | 0   | 1,247                        | 0  | 0  | 0   | 0  | 0                                      | 0                         | 1,247                      |
| 2037    | 837                                       | 13                                      | 252                                      | 0   | 1,102                        | 0  | 0  | 0   | 0  | 0                                      | 0                         | 1,102                      |
| 2039    | 743                                       | 11                                      | 204                                      | 0   | 958                          | 0  | 0  | 0   | 0  | 0                                      | 0                         | 958                        |
| NOMINAL | 543,047                                   | 23,480                                  | 256,078                                  | 0   | 822,605                      | 96,149                                       | 0  | 0   | 0  | 53,225                                 | 149,375                   | 673,231                    |
| NPV     | 198,020                                   | 9,148                                   | 92,092                                   | 0   | 299,260                      | 58,557                                       | 0  | 0   | 0  | 32,116                                 | 90,673                    | 208,587                    |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 3.300

**C. COMMERCIAL/INDUSTRIAL NEW CONSTRUCTION PROGRAM**

**Program Start Date:** 1995

Program modified in 2000, 2005, 2006 and 2007

Modifications proposed in 2010

**Program Description**

The Commercial/Industrial New Construction program is designed to improve the energy efficient construction of commercial buildings.

The program seeks to meet the following overall goals:

- Provide a cost-effective, comprehensive program portfolio of measures across all building types
- Educate the commercial new construction industry about energy efficient commercial building design
- Evaluate and recommend the most cost-effective energy efficient building envelope and equipment measures for the new construction market
- Obtain energy and demand impacts that are significant, accurate, and measurable
- Provide customers with current information of innovative technologies for managing energy consumption to maximize participation.

## **Policies and Procedures**

The general eligibility requirements are as follows:

- Must have been influenced by one of Progress Energy's educational opportunities
- Equipment and measures must be installed in facilities that are commercially metered in Progress Energy service territory
- Progress Energy reserves the right to inspect the installation of measures and equipment prior to issuing any incentive payments
- The owner/builder or manufacturer must meet the requirements listed in the Program Participation Standards and comply with all state, local and federal codes.

Incentive Levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions such as baseline or code revisions, updated measures, and valuation analysis or technological advances.

Progress Energy is proposing to include the following measures with this program:

***HVAC Equipment***

The HVAC equipment component of Commercial/Industrial New Construction provides customers with information on high efficiency HVAC equipment and financial incentives for the purchase of high efficiency unitary heat pumps and air conditioners, hybrid desiccant and geothermal units, high efficient straight cool air conditioners, thermal energy storage, package terminal heat pumps, and water-cooled and air-cooled chillers. The incentive is calculated for each unit based on the KW difference between the high efficiency unit and the program-specified baseline efficiency. Variable Speed Drive controls and Variable Speed Drives for Chiller and Cooling Tower Pumps incentives will also be offered under this program.

***Energy Recovery Ventilation / Demand Control Ventilation / Heat Pipes***

The program promotes the installation of high efficiency energy recovery ventilation units in the conditioned air stream for customers using electric cooling and heating. These units are capable of removing over 70% of the sensible heat and over 60% of the latent heat when properly sized and installed. To qualify for Progress Energy's incentive, the energy recovery ventilation must meet Program Participation Standards qualifications. Demand Control Ventilation will provide incentives for the installation of Demand Control Ventilation using CO<sub>2</sub> sensors. Demand Control Ventilation saves energy by automatically adjusting building ventilation rates in real time based on occupancy. An incentive will be offered for Heat Pipe technology for pre-conditioning fresh air and must meet the Program Participation Standards. Exhaust hood controls for varying ventilation will be included as an incentive.

### ***Cool Roof / Green Roof/ Roof Insulation***

The cool roof measure will provide customers with an incentive to install an approved “cool roof” providing the facility has electric cooling. Customers must meet the specifications for solar reflectance and reliability, having initial reflectance as outlined in the Program Participation Standards. The green roof measure will provide an incentive for customers to install an approved green roof on their facility. The roof insulation measure encourages customers to add insulation to the conditioned roof area.

### ***Efficient Indoor lighting***

This measure will provide customers with an incentive to install lighting systems which are above code. The following technologies will be included: Premium T-8's and T-5's, occupancy sensors, ceramic metal halides, LED display lighting, and Induction/Cold cathode. The Program Participation Standards will outline the incentive adjustments due to code changes.

### ***Window Film / Solar Screen***

This measure promotes the purchase of windows that meet Progress Energy requirements for window film or solar screen on windows having east, west, and south exposures. The qualifying facilities and requirements are outlined in the Program Participation Standards.

### ***Refrigeration***

This measure provides an incentive to install energy efficient devices to reduce energy consumption of refrigeration equipment. These devices include vending machine controls and high efficiency ice makers.

### ***Building Commissioning***

This measure provides an incentive to customers for conducting whole building commissioning. The requirement and incentives will be outlined in the Participation Standards.

### ***Efficient Motors***

This measure promotes the installation of certain high efficiency polyphase motors through a simple incentive structure based on the motor size and a specified \$/hp. The specific incentive amount will be a function of the motor size and efficiency.

## Program Participation

Annual participation estimates for the Commercial/Industrial New Construction program are shown in the following table.

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| <b>2011</b> | 170,886   | 3,653  | 398   | 10.9%  |
| <b>2012</b> | 175,147   | 4,261  | 402   | 10.1%  |
| <b>2013</b> | 178,542   | 3,395  | 406   | 10.7%  |
| <b>2014</b> | 182,030   | 3,488  | 410   | 10.9%  |
| <b>2015</b> | 185,461   | 3,431  | 414   | 11.1%  |
| <b>2016</b> | 188,717   | 3,256  | 418   | 11.4%  |
| <b>2017</b> | 191,817   | 3,100  | 422   | 11.7%  |
| <b>2018</b> | 194,809   | 2,992  | 426   | 11.9%  |
| <b>2019</b> | 197,848   | 3,039  | 431   | 12.2%  |

1. The total number of customers is the forecast of commercial/industrial (C/I) customers in Progress Energy's 2009 Ten Year Site Plan.
2. All commercial, industrial and governmental rate class customers who build new metered facilities in a given year are eligible to participate.
3. Number of program participants represents the measure participants projected.
4. Cumulative penetration is the ratio of cumulative measure participants to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 10,102                     | 1.48                             | 3.97                             | 4,017,177                  | 590                              | 1,577                            |
| 2012 | 9,139                      | 1.34                             | 3.59                             | 3,670,721                  | 539                              | 1,441                            |
| 2013 | 10,073                     | 2.23                             | 4.15                             | 4,086,195                  | 906                              | 1,683                            |
| 2014 | 10,354                     | 2.34                             | 4.31                             | 4,242,151                  | 960                              | 1,768                            |
| 2015 | 7,812                      | 1.83                             | 3.35                             | 3,232,620                  | 758                              | 1,387                            |
| 2016 | 7,080                      | 1.68                             | 3.02                             | 2,959,279                  | 704                              | 1,262                            |
| 2017 | 6,625                      | 1.74                             | 2.95                             | 2,796,474                  | 733                              | 1,243                            |
| 2018 | 6,104                      | 1.61                             | 2.70                             | 2,602,544                  | 687                              | 1,152                            |
| 2019 | 5,930                      | 1.58                             | 2.61                             | 2,553,471                  | 681                              | 1,125                            |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 10,654                     | 1.56                             | 4.18                             | 4,236,917                  | 622                              | 1,663                            |
| 2012 | 9,639                      | 1.42                             | 3.78                             | 3,871,509                  | 568                              | 1,520                            |
| 2013 | 10,624                     | 2.36                             | 4.38                             | 4,309,710                  | 956                              | 1,775                            |
| 2014 | 10,920                     | 2.47                             | 4.55                             | 4,474,197                  | 1,012                            | 1,865                            |
| 2015 | 8,239                      | 1.93                             | 3.53                             | 3,409,445                  | 800                              | 1,462                            |
| 2016 | 7,468                      | 1.78                             | 3.19                             | 3,121,151                  | 742                              | 1,332                            |
| 2017 | 6,987                      | 1.83                             | 3.11                             | 2,949,442                  | 773                              | 1,311                            |
| 2018 | 6,438                      | 1.70                             | 2.85                             | 2,744,903                  | 724                              | 1,215                            |
| 2019 | 6,254                      | 1.67                             | 2.75                             | 2,693,146                  | 719                              | 1,186                            |



## Impact Evaluation Plan

The Commercial/Industrial New Construction program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels. These analyses are supported by end-use metering data where feasible.

## Cost Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| <b>Rate Impact Measure</b>     | \$29,734                        | \$29,503                     | \$231                               | 1.01             |
| <b>Participant</b>             | \$25,935                        | \$13,362                     | \$12,573                            | 1.94             |
| <b>Total Resource Cost</b>     | \$29,734                        | \$16,930                     | \$12,804                            | 1.76             |

**PROGRAM: Commercial/Industrial New Construction****RIM**

| YEAR    | BENEFITS                         |                              |                               |                             |                              | COSTS                             |                              |                               |                             |                                  |                              |                           |      | NET<br>BENEFITS<br>\$(000) |
|---------|----------------------------------|------------------------------|-------------------------------|-----------------------------|------------------------------|-----------------------------------|------------------------------|-------------------------------|-----------------------------|----------------------------------|------------------------------|---------------------------|------|----------------------------|
|         | (1)                              | (2)                          | (3)                           | (4)                         | (5)                          | (6)                               | (7)                          | (8)                           | (9)                         | (10)                             | (11)                         | (12)                      | (13) |                            |
|         | TOTAL                            | AVOIDED                      | AVOIDED                       |                             |                              | TOTAL                             | INCREASE                     | INCREASE                      | UTILITY                     |                                  |                              |                           |      |                            |
|         | FUEL & O&M<br>SAVINGS<br>\$(000) | T&D CAP.<br>COSTS<br>\$(000) | GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | FUEL & O&M<br>INCREASE<br>\$(000) | T&D CAP.<br>COSTS<br>\$(000) | GEN. CAP.<br>COSTS<br>\$(000) | PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |      |                            |
| 2010    | 0                                | 0                            | 0                             | 0                           | 0                            | 0                                 | 0                            | 0                             | 0                           | 0                                | 0                            | 0                         |      | 0                          |
| 2011    | 464                              | 26                           | 0                             | 0                           | 490                          | 0                                 | 0                            | 0                             | 636                         | 763                              | 502                          | 1,900                     |      | -1,410                     |
| 2012    | 782                              | 50                           | 0                             | 0                           | 831                          | 0                                 | 0                            | 0                             | 602                         | 718                              | 936                          | 2,255                     |      | -1,424                     |
| 2013    | 1,522                            | 76                           | 489                           | 0                           | 2,087                        | 0                                 | 0                            | 0                             | 761                         | 1,115                            | 1,513                        | 3,389                     |      | -1,302                     |
| 2014    | 1,507                            | 104                          | 1,051                         | 0                           | 2,662                        | 0                                 | 0                            | 0                             | 836                         | 1,492                            | 2,146                        | 4,474                     |      | -1,812                     |
| 2015    | 1,981                            | 126                          | 1,287                         | 0                           | 3,394                        | 0                                 | 0                            | 0                             | 696                         | 1,244                            | 2,826                        | 4,766                     |      | -1,371                     |
| 2016    | 2,429                            | 146                          | 1,553                         | 0                           | 4,128                        | 0                                 | 0                            | 0                             | 652                         | 1,172                            | 3,205                        | 5,029                     |      | -901                       |
| 2017    | 3,369                            | 165                          | 1,260                         | 0                           | 4,795                        | 0                                 | 0                            | 0                             | 681                         | 1,263                            | 3,125                        | 5,068                     |      | -274                       |
| 2018    | 3,285                            | 182                          | 2,186                         | 0                           | 5,654                        | 0                                 | 0                            | 0                             | 650                         | 1,209                            | 3,264                        | 5,123                     |      | 531                        |
| 2019    | 3,588                            | 199                          | 2,436                         | 0                           | 6,223                        | 0                                 | 0                            | 0                             | 653                         | 1,223                            | 3,706                        | 5,582                     |      | 641                        |
| 2020    | 3,574                            | 198                          | 2,467                         | 0                           | 6,238                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 3,768                        | 3,768                     |      | 2,471                      |
| 2021    | 3,327                            | 183                          | 2,325                         | 0                           | 5,836                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 3,786                        | 3,786                     |      | 2,050                      |
| 2022    | 3,789                            | 171                          | 1,184                         | 0                           | 5,143                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 3,581                        | 3,581                     |      | 1,562                      |
| 2023    | 3,738                            | 157                          | 1,816                         | 0                           | 5,711                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 3,397                        | 3,397                     |      | 2,314                      |
| 2024    | 2,899                            | 143                          | 1,719                         | 0                           | 4,761                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 3,177                        | 3,177                     |      | 1,584                      |
| 2025    | 2,703                            | 131                          | 1,598                         | 0                           | 4,432                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 3,003                        | 3,003                     |      | 1,429                      |
| 2026    | 2,861                            | 114                          | 913                           | 0                           | 3,887                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 2,663                        | 2,663                     |      | 1,223                      |
| 2027    | 2,142                            | 96                           | 1,393                         | 0                           | 3,631                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 2,308                        | 2,308                     |      | 1,323                      |
| 2028    | 1,796                            | 79                           | 1,166                         | 0                           | 3,040                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 1,928                        | 1,928                     |      | 1,112                      |
| 2029    | 1,637                            | 62                           | 551                           | 0                           | 2,250                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 1,537                        | 1,537                     |      | 713                        |
| 2030    | 1,556                            | 56                           | 837                           | 0                           | 2,449                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 1,399                        | 1,399                     |      | 1,050                      |
| 2031    | 1,299                            | 46                           | 720                           | 0                           | 2,065                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 1,144                        | 1,144                     |      | 921                        |
| 2032    | 1,107                            | 39                           | 635                           | 0                           | 1,781                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 958                          | 958                       |      | 823                        |
| 2033    | 883                              | 31                           | 521                           | 0                           | 1,434                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 758                          | 758                       |      | 676                        |
| 2034    | 635                              | 22                           | 390                           | 0                           | 1,047                        | 0                                 | 0                            | 0                             | 0                           | 0                                | 533                          | 533                       |      | 514                        |
| 2035    | 507                              | 18                           | 319                           | 0                           | 844                          | 0                                 | 0                            | 0                             | 0                           | 0                                | 423                          | 423                       |      | 421                        |
| 2036    | 394                              | 13                           | 251                           | 0                           | 658                          | 0                                 | 0                            | 0                             | 0                           | 0                                | 322                          | 322                       |      | 335                        |
| 2037    | 267                              | 9                            | 174                           | 0                           | 450                          | 0                                 | 0                            | 0                             | 0                           | 0                                | 218                          | 218                       |      | 233                        |
| 2039    | 149                              | 5                            | 98                            | 0                           | 252                          | 0                                 | 0                            | 0                             | 0                           | 0                                | 118                          | 118                       |      | 134                        |
| NOMINAL | 54,185                           | 2,648                        | 29,339                        | 0                           | 86,173                       | 0                                 | 0                            | 0                             | 6,166                       | 10,199                           | 56,244                       | 72,609                    |      | 13,563                     |
| NPV     | 18,783                           | 977                          | 9,974                         | 0                           | 29,734                       | 0                                 | 0                            | 0                             | 3,568                       | 5,731                            | 20,204                       | 29,503                    |      | 231                        |

Utility Discount Rate: 8.48

Benefit Cost Ratio: 1.008

## PROGRAM: Commercial/Industrial New Construction

## Participant

| YEAR    | BENEFITS                      |                    |                              |                | COSTS              |               |             | NET BENEFIT TO PARTICIPANT \$(000) |
|---------|-------------------------------|--------------------|------------------------------|----------------|--------------------|---------------|-------------|------------------------------------|
|         | (1)                           | (2)                | (3)                          | (4)            | (5)                | (6)           | (7)         |                                    |
|         | SAVINGS IN PARTICIPANT'S BILL | INCENTIVE PAYMENTS | OTHER PARTICIPANT'S BENEFITS | TOTAL BENEFITS | PARTICIPANT'S COST | BILL INCREASE | TOTAL COSTS |                                    |
|         | \$(000)                       | \$(000)            | \$(000)                      | \$(000)        | \$(000)            | \$(000)       | \$(000)     |                                    |
| 2010    | 0                             | 0                  | 0                            | 0              | 0                  | 0             | 0           | 0                                  |
| 2011    | 502                           | 763                | 0                            | 1,265          | 2,534              | 0             | 2,534       | -1,269                             |
| 2012    | 936                           | 718                | 0                            | 1,653          | 2,367              | 0             | 2,367       | -714                               |
| 2013    | 1,513                         | 1,115              | 0                            | 2,628          | 2,862              | 0             | 2,862       | -234                               |
| 2014    | 2,146                         | 1,492              | 0                            | 3,638          | 3,102              | 0             | 3,102       | 536                                |
| 2015    | 2,826                         | 1,244              | 0                            | 4,070          | 2,533              | 0             | 2,533       | 1,537                              |
| 2016    | 3,205                         | 1,172              | 0                            | 4,377          | 2,368              | 0             | 2,368       | 2,008                              |
| 2017    | 3,125                         | 1,263              | 0                            | 4,388          | 2,473              | 0             | 2,473       | 1,915                              |
| 2018    | 3,264                         | 1,209              | 0                            | 4,473          | 2,350              | 0             | 2,350       | 2,123                              |
| 2019    | 3,706                         | 1,223              | 0                            | 4,929          | 2,356              | 0             | 2,356       | 2,573                              |
| 2020    | 3,768                         | 0                  | 0                            | 3,768          | 0                  | 0             | 0           | 3,768                              |
| 2021    | 3,786                         | 0                  | 0                            | 3,786          | 0                  | 0             | 0           | 3,786                              |
| 2022    | 3,581                         | 0                  | 0                            | 3,581          | 0                  | 0             | 0           | 3,581                              |
| 2023    | 3,397                         | 0                  | 0                            | 3,397          | 0                  | 0             | 0           | 3,397                              |
| 2024    | 3,177                         | 0                  | 0                            | 3,177          | 0                  | 0             | 0           | 3,177                              |
| 2025    | 3,003                         | 0                  | 0                            | 3,003          | 0                  | 0             | 0           | 3,003                              |
| 2026    | 2,663                         | 0                  | 0                            | 2,663          | 0                  | 0             | 0           | 2,663                              |
| 2027    | 2,308                         | 0                  | 0                            | 2,308          | 0                  | 0             | 0           | 2,308                              |
| 2028    | 1,928                         | 0                  | 0                            | 1,928          | 0                  | 0             | 0           | 1,928                              |
| 2029    | 1,537                         | 0                  | 0                            | 1,537          | 0                  | 0             | 0           | 1,537                              |
| 2030    | 1,399                         | 0                  | 0                            | 1,399          | 0                  | 0             | 0           | 1,399                              |
| 2031    | 1,144                         | 0                  | 0                            | 1,144          | 0                  | 0             | 0           | 1,144                              |
| 2032    | 958                           | 0                  | 0                            | 958            | 0                  | 0             | 0           | 958                                |
| 2033    | 758                           | 0                  | 0                            | 758            | 0                  | 0             | 0           | 758                                |
| 2034    | 533                           | 0                  | 0                            | 533            | 0                  | 0             | 0           | 533                                |
| 2035    | 423                           | 0                  | 0                            | 423            | 0                  | 0             | 0           | 423                                |
| 2036    | 322                           | 0                  | 0                            | 322            | 0                  | 0             | 0           | 322                                |
| 2037    | 218                           | 0                  | 0                            | 218            | 0                  | 0             | 0           | 218                                |
| 2039    | 118                           | 0                  | 0                            | 118            | 0                  | 0             | 0           | 118                                |
| NOMINAL | 56,244                        | 10,199             | 0                            | 66,443         | 22,945             | 0             | 22,945      | 43,498                             |
| NPV     | 20,204                        | 5,731              | 0                            | 25,935         | 13,362             | 0             | 13,362      | 12,573                             |

Utility Discount Rate: 8.48

Benefit Cost Ratio: 1.941

PROGRAM: Commercial/Industrial New Construction TRC

| YEAR    | BENEFITS                       |                              |                               |                                  |                   | COSTS                        |                        |                   |                    |                             |                | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|------------------------------|-------------------------------|----------------------------------|-------------------|------------------------------|------------------------|-------------------|--------------------|-----------------------------|----------------|----------------------------|
|         | (1)                            | (2)                          | (3)                           | (4)                              | (5)               | (6)                          | (7)                    | (8)               | (9)                | (10)                        | (11)           |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP.<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | OTHER<br>PARTICIPANT<br>BENEFITS | TOTAL<br>BENEFITS | TOTAL<br>PARTICIPANT<br>COST | FUEL & O&M<br>INCREASE | T&D CAP.<br>COSTS | GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | TOTAL<br>COSTS |                            |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)                          | \$(000)           | \$(000)                      | \$(000)                | \$(000)           | \$(000)            | \$(000)                     | \$(000)        |                            |
| 2010    | 0                              | 0                            | 0                             | 0                                | 0                 | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 0                          |
| 2011    | 464                            | 26                           | 0                             | 0                                | 490               | 2,534                        | 0                      | 0                 | 0                  | 636                         | 3,169          | -2,680                     |
| 2012    | 782                            | 50                           | 0                             | 0                                | 831               | 2,367                        | 0                      | 0                 | 0                  | 602                         | 2,969          | -2,138                     |
| 2013    | 1,522                          | 76                           | 489                           | 0                                | 2,087             | 2,862                        | 0                      | 0                 | 0                  | 761                         | 3,622          | -1,535                     |
| 2014    | 1,507                          | 104                          | 1,051                         | 0                                | 2,662             | 3,102                        | 0                      | 0                 | 0                  | 836                         | 3,938          | -1,276                     |
| 2015    | 1,981                          | 126                          | 1,287                         | 0                                | 3,394             | 2,533                        | 0                      | 0                 | 0                  | 696                         | 3,229          | 165                        |
| 2016    | 2,429                          | 146                          | 1,553                         | 0                                | 4,128             | 2,368                        | 0                      | 0                 | 0                  | 652                         | 3,021          | 1,107                      |
| 2017    | 3,369                          | 165                          | 1,260                         | 0                                | 4,795             | 2,473                        | 0                      | 0                 | 0                  | 681                         | 3,153          | 1,641                      |
| 2018    | 3,285                          | 182                          | 2,186                         | 0                                | 5,654             | 2,350                        | 0                      | 0                 | 0                  | 650                         | 3,000          | 2,654                      |
| 2019    | 3,588                          | 199                          | 2,436                         | 0                                | 6,223             | 2,356                        | 0                      | 0                 | 0                  | 653                         | 3,009          | 3,214                      |
| 2020    | 3,574                          | 198                          | 2,467                         | 0                                | 6,238             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 6,238                      |
| 2021    | 3,327                          | 183                          | 2,325                         | 0                                | 5,836             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 5,836                      |
| 2022    | 3,789                          | 171                          | 1,184                         | 0                                | 5,143             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 5,143                      |
| 2023    | 3,738                          | 157                          | 1,816                         | 0                                | 5,711             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 5,711                      |
| 2024    | 2,899                          | 143                          | 1,719                         | 0                                | 4,761             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 4,761                      |
| 2025    | 2,703                          | 131                          | 1,598                         | 0                                | 4,432             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 4,432                      |
| 2026    | 2,861                          | 114                          | 913                           | 0                                | 3,887             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 3,887                      |
| 2027    | 2,142                          | 96                           | 1,393                         | 0                                | 3,631             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 3,631                      |
| 2028    | 1,796                          | 79                           | 1,166                         | 0                                | 3,040             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 3,040                      |
| 2029    | 1,637                          | 62                           | 551                           | 0                                | 2,250             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 2,250                      |
| 2030    | 1,556                          | 56                           | 837                           | 0                                | 2,449             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 2,449                      |
| 2031    | 1,299                          | 46                           | 720                           | 0                                | 2,065             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 2,065                      |
| 2032    | 1,107                          | 39                           | 635                           | 0                                | 1,781             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 1,781                      |
| 2033    | 883                            | 31                           | 521                           | 0                                | 1,434             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 1,434                      |
| 2034    | 635                            | 22                           | 390                           | 0                                | 1,047             | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 1,047                      |
| 2035    | 507                            | 18                           | 319                           | 0                                | 844               | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 844                        |
| 2036    | 394                            | 13                           | 251                           | 0                                | 658               | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 658                        |
| 2037    | 267                            | 9                            | 174                           | 0                                | 450               | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 450                        |
| 2039    | 149                            | 5                            | 98                            | 0                                | 252               | 0                            | 0                      | 0                 | 0                  | 0                           | 0              | 252                        |
| NOMINAL | 54,185                         | 2,648                        | 29,339                        | 0                                | 86,173            | 22,945                       | 0                      | 0                 | 0                  | 6,166                       | 29,111         | 57,062                     |
| NPV     | 18,783                         | 977                          | 9,974                         | 0                                | 29,734            | 13,362                       | 0                      | 0                 | 0                  | 3,568                       | 16,930         | 12,804                     |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 1.756

**D. BUSINESS ENERGY SAVER PROGRAM**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The Business Energy Saver program is designed to encourage and educate business customers located in low-income areas by demonstration and installation of sustainable energy conservation measures to help control and reduce energy consumption within their business. The business must be located within the surrounding area of the Progress Energy qualifying Census Block Group that meets the definition of a low-income neighborhood. Trained professional surveyors and installers representing Progress Energy will offer businesses an energy assessment followed by the installation of specified electric energy conservation measures. While in the business, the owner will be provided energy saving tips for improving and sustaining energy efficiency. The energy conservation measures installed and energy efficiency education provided will be at no cost to the participants.

The Business Energy Saver program seeks to achieve the following goals:

- Conduct an energy assessment to identify energy efficiency opportunities in the business
- Implement a comprehensive package of electric energy conservation measures to increase the business' energy efficiency and lower energy consumption

- Provide one-on-one customer education on energy efficiency techniques and the installation of energy conservation measures to create an immediate measurable and sustainable energy reduction in their business
- Promote behavioral changes that will help businesses in targeted areas to more effectively control their energy consumption over time.

### **Policies and Procedures**

The program eligibility requirements to qualify for participation are as follows:

- The business must be a Progress Energy metered customer within Progress Energy service territory
- Business must be in a selected Progress Energy qualifying Census Block Group which meets the definition of a low-income neighborhood and surrounding area
- National and Chain Accounts are not eligible for participation in the Business Energy Saver program
- All installations must be accessible for verification by a Progress Energy representative
- A State of Florida General Licensed Contractor selected and approved by Progress Energy must be used to implement the Business Energy Saver program measures
- The business energy consumption shall be within Progress Energy defined standards

- The business will have been in operation for at least one year within Progress Energy service territory
- The business must meet the licensing requirement as established by the local municipality and state regulatory agencies.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

***Compact Fluorescent Bulbs***

This measure will install in the business up to five (5) compact fluorescent bulbs to replace incandescent bulbs with comparable lumens output.

***Refrigerator Coil Brush***

This portion of the program will provide the customer with a coil brush and demonstration how to remove dust and debris from condenser coils to improve the refrigerator efficiency.

***Refrigerator Thermometer***

This measure will install one thermometer in the food or freezer compartment of the refrigerator to provide a reference temperature for efficient operation of the appliance.

### ***Change Filter Calendar***

This portion of the program will provide each business with a Progress Energy magnetic calendar to help remind them to clean or change the HVAC filter monthly.

### ***Weatherization Measures***

This portion of the program will install weather stripping, door sweeps, caulk, foam sealant, and clear patch tape where needed to reduce air infiltration around doors, windows, and where pipes enter the business.

### ***Water Heater Insulation Wrap and Insulation for Water Pipes***

This portion of the program will install a water heater wrap and pipe insulation as identified to improve the efficiency of the water heating system. Foam insulated water heaters will be excluded from this measure.

### ***Water Conservation Faucet Aerators***

This portion of the program will install a maximum of two (2) aerators per business. This measure will reduce energy consumption related to the water heater system.

### ***Water Heater Temperature Check and Adjustment***

This portion of the program will provide a temperature check of the water heater and inform the customer of the possibility for reducing temperatures within manufacturer's recommendation and code requirements.



### ***HVAC Filters***

This portion of the program will provide each customer with a one-year supply of filters (12) for the main HVAC system. One filter may be installed at time of evaluation if needed.

### ***Indoor Wall Thermometer***

This portion of the program will install one wall plate thermometer per business to encourage the business owner to be aware of thermostat setting.

### ***HVAC Window Unit Winterization Kit***

This measure will install a winterization HVAC kit on wall/window AC units if seasonably applicable. The business will receive or have installed a maximum of three (3) kits. The customer will be educated on the proper use and value of the winterization kit as a method of stopping air infiltration in the business.

### ***HVAC Maintenance***

This measure will provide basic maintenance on the condensing and air handling units to increase energy efficiency through proper operational maintenance of mechanical equipment.

### ***Attic Insulation Upgrade***

This portion of the program will upgrade the customer's ceiling insulation up to R-30 as building code will allow. This measure will improve the efficiency of the business' building envelope.

**Window Film/Solar Screen**

This portion of the program will install window film or solar screen on south, east, or west oriented windows to reduce solar heat gain within the building.

**Program Participation**

Annual participation estimates for the Business Energy Saver program are shown in the following table.

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| <b>2011</b> | 170,886   | 1,225  | 100   | 8.2%   |
| <b>2012</b> | 175,147   | 1,150  | 120   | 17.6%  |
| <b>2013</b> | 178,542   | 1,154  | 120   | 24.7%  |
| <b>2014</b> | 182,030   | 1,180  | 120   | 30.3%  |
| <b>2015</b> | 185,461   | 1,206  | 120   | 34.8%  |
| <b>2016</b> | 188,717   | 1,232  | 120   | 38.6%  |
| <b>2017</b> | 191,817   | 1,260  | 120   | 41.8%  |
| <b>2018</b> | 194,809   | 1,287  | 120   | 44.6%  |
| <b>2019</b> | 197,848   | 1,315  | 120   | 47.0%  |

1. The total number of customers is the forecast of commercial/industrial (C/I) customers in Progress Energy's 2009 Ten Year Site Plan.
2. Eligible customers represent the estimate of non-fortune 500 businesses that are serving NES low-income areas, escalated 2% per year.
3. Number of program participants represents the participants projected.
4. Cumulative penetration is the ratio of cumulative participants to the remaining eligible customer pool.

### Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and annual projected participation. The total projected program savings were then computed as the sum of the individual measure savings, as shown in the following tables.

#### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 2,308                      | 0.41                             | 1.64                             | 230,790                    | 41                               | 164                              |
| 2012 | 2,308                      | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2013 | 2,308                      | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2014 | 2,308                      | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2015 | 2,308                      | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2016 | 2,308                      | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2017 | 2,308                      | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2018 | 2,308                      | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2019 | 2,308                      | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |

#### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 2,434                      | 0.44                             | 1.73                             | 243,414                    | 44                               | 173                              |
| 2012 | 2,434                      | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2013 | 2,434                      | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2014 | 2,434                      | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2015 | 2,434                      | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2016 | 2,434                      | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2017 | 2,434                      | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2018 | 2,434                      | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2019 | 2,434                      | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |

### Impact Evaluation Plan

The Business Energy Saver program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels.

### **Cost-Effectiveness**

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| <b>Rate Impact Measure</b>     | \$1,841                         | \$1,816                      | \$25                                | 1.01             |
| <b>Participant</b>             | \$1,517                         | \$445                        | \$1,072                             | 3.41             |
| <b>Total Resource Cost</b>     | \$1,841                         | \$745                        | \$1,096                             | 2.47             |

PROGRAM: Business Energy Saver Program

RIM

| YEAR    | BENEFITS      |            |         |          |          | COSTS    |            |         |          |         |         |         |         | NET<br>BENEFITS<br>\$(000) |
|---------|---------------|------------|---------|----------|----------|----------|------------|---------|----------|---------|---------|---------|---------|----------------------------|
|         | (1)           | (2)        | (3)     | (4)      | (5)      | (6)      | (7)        | (8)     | (9)      | (10)    | (11)    | (12)    | (13)    |                            |
|         | TOTAL AVOIDED | FUEL & O&F | D&D CAP | JEN. CAP | REVENUE  | TOTAL    | FUEL & O&F | D&D CAP | JEN. CAP | PROGRAM | CENTIV  | REVENUE | TOTAL   |                            |
|         | SAVINGS       | COSTS      | COSTS   | GAINS    | BENEFITS | INCREASE | COSTS      | COSTS   | COSTS    | AYMENT  | LOSSES  | COSTS   | NET     |                            |
|         | \$(000)       | \$(000)    | \$(000) | \$(000)  | \$(000)  | \$(000)  | \$(000)    | \$(000) | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) |                            |
| 2010    | 0             | 0          | 0       | 0        | 0        | 0        | 0          | 0       | 0        | 0       | 0       | 0       | 0       | 0                          |
| 2011    | 28            | 2          | 0       | 0        | 30       | 0        | 0          | 0       | 43       | 64      | 29      | 137     | -107    |                            |
| 2012    | 53            | 5          | 0       | 0        | 59       | 0        | 0          | 0       | 54       | 80      | 62      | 196     | -138    |                            |
| 2013    | 108           | 8          | 48      | 0        | 164      | 0        | 0          | 0       | 56       | 83      | 98      | 237     | -73     |                            |
| 2014    | 96            | 10         | 98      | 0        | 205      | 0        | 0          | 0       | 58       | 86      | 136     | 280     | -75     |                            |
| 2015    | 127           | 13         | 122     | 0        | 262      | 0        | 0          | 0       | 60       | 89      | 185     | 334     | -72     |                            |
| 2016    | 164           | 15         | 148     | 0        | 326      | 0        | 0          | 0       | 62       | 92      | 211     | 365     | -39     |                            |
| 2017    | 250           | 17         | 119     | 0        | 386      | 0        | 0          | 0       | 64       | 95      | 207     | 366     | 20      |                            |
| 2018    | 242           | 19         | 209     | 0        | 470      | 0        | 0          | 0       | 66       | 98      | 221     | 385     | 85      |                            |
| 2019    | 248           | 19         | 221     | 0        | 488      | 0        | 0          | 0       | 68       | 101     | 241     | 410     | 78      |                            |
| 2020    | 219           | 17         | 194     | 0        | 430      | 0        | 0          | 0       | 0        | 0       | 219     | 219     | 211     |                            |
| 2021    | 184           | 14         | 164     | 0        | 362      | 0        | 0          | 0       | 0        | 0       | 202     | 202     | 160     |                            |
| 2022    | 197           | 12         | 75      | 0        | 284      | 0        | 0          | 0       | 0        | 0       | 173     | 173     | 111     |                            |
| 2023    | 171           | 9          | 102     | 0        | 283      | 0        | 0          | 0       | 0        | 0       | 144     | 144     | 139     |                            |
| 2024    | 106           | 7          | 81      | 0        | 194      | 0        | 0          | 0       | 0        | 0       | 112     | 112     | 82      |                            |
| 2025    | 81            | 5          | 62      | 0        | 149      | 0        | 0          | 0       | 0        | 0       | 88      | 88      | 61      |                            |
| 2026    | 72            | 3          | 28      | 0        | 103      | 0        | 0          | 0       | 0        | 0       | 62      | 62      | 41      |                            |
| 2027    | 34            | 2          | 26      | 0        | 61       | 0        | 0          | 0       | 0        | 0       | 36      | 36      | 26      |                            |
| 2028    | 28            | 1          | 23      | 0        | 52       | 0        | 0          | 0       | 0        | 0       | 30      | 30      | 22      |                            |
| 2029    | 25            | 1          | 11      | 0        | 37       | 0        | 0          | 0       | 0        | 0       | 22      | 22      | 15      |                            |
| 2030    | 24            | 1          | 16      | 0        | 40       | 0        | 0          | 0       | 0        | 0       | 18      | 18      | 23      |                            |
| 2031    | 19            | 1          | 14      | 0        | 33       | 0        | 0          | 0       | 0        | 0       | 13      | 13      | 20      |                            |
| 2032    | 17            | 1          | 12      | 0        | 29       | 0        | 0          | 0       | 0        | 0       | 11      | 11      | 18      |                            |
| 2033    | 13            | 1          | 10      | 0        | 23       | 0        | 0          | 0       | 0        | 0       | 9       | 9       | 13      |                            |
| 2034    | 9             | 0          | 8       | 0        | 17       | 0        | 0          | 0       | 0        | 0       | 7       | 7       | 9       |                            |
| 2035    | 5             | 0          | 5       | 0        | 11       | 0        | 0          | 0       | 0        | 0       | 5       | 5       | 6       |                            |
| 2036    | 3             | 0          | 3       | 0        | 6        | 0        | 0          | 0       | 0        | 0       | 2       | 2       | 3       |                            |
| 2037    | 0             | 0          | 0       | 0        | 0        | 0        | 0          | 0       | 0        | 0       | 0       | 0       | 0       |                            |
| 2039    | 0             | 0          | 0       | 0        | 0        | 0        | 0          | 0       | 0        | 0       | 0       | 0       | 0       |                            |
| NOMINAL | 2520          | 184        | 1800    | 0        | 4504     | 0        | 0          | 0       | 532      | 788     | 2545    | 3865    | 639     |                            |
| NPV     | 1,032         | 80         | 729     | 0        | 1,841    | 0        | 0          | 0       | 300      | 445     | 1,072   | 1,816   | 25      |                            |

Utility Discount Rate: 8.48

Benefit Cost Ratio: 1.014

| PROGRAM: | Business Energy Saver Program |          |                |          | Participant   |          |         |   |
|----------|-------------------------------|----------|----------------|----------|---------------|----------|---------|---|
|          | BENEFITS                      |          |                |          | COSTS         |          |         | NET BENEFIT<br>TO<br>PARTICIPANT<br>\$(000) |
|          | (1)                           | (2)      | (3)            | (4)      | (5)           | (6)      | (7)     |   |
|          | SAVINGS IN                    | PAYMENTS | OTHER BENEFITS | TOTAL    | PARTICIPANT'S | BILL     | TOTAL   |   |
|          | BILL                          |          |                | BENEFITS | COST          | INCREASE | COSTS   |   |
| YEAR     | \$(000)                       | \$(000)  | \$(000)        | \$(000)  | \$(000)       | \$(000)  | \$(000) |   |
| 2010     | 0                             | 0        | 0              | 0        | 0             | 0        | 0       | 0   |
| 2011     | 29                            | 64       | 0              | 94       | 64            | 0        | 64      | 29  |
| 2012     | 62                            | 80       | 0              | 143      | 80            | 0        | 80      | 62  |
| 2013     | 98                            | 83       | 0              | 181      | 83            | 0        | 83      | 98  |
| 2014     | 136                           | 86       | 0              | 222      | 86            | 0        | 86      | 136   |
| 2015     | 185                           | 89       | 0              | 274      | 89            | 0        | 89      | 185   |
| 2016     | 211                           | 92       | 0              | 303      | 92            | 0        | 92      | 211   |
| 2017     | 207                           | 95       | 0              | 302      | 95            | 0        | 95      | 207   |
| 2018     | 221                           | 98       | 0              | 319      | 98            | 0        | 98      | 221   |
| 2019     | 241                           | 101      | 0              | 342      | 101           | 0        | 101     | 241   |
| 2020     | 219                           | 0        | 0              | 219      | 0             | 0        | 0       | 219   |
| 2021     | 202                           | 0        | 0              | 202      | 0             | 0        | 0       | 202   |
| 2022     | 173                           | 0        | 0              | 173      | 0             | 0        | 0       | 173   |
| 2023     | 144                           | 0        | 0              | 144      | 0             | 0        | 0       | 144   |
| 2024     | 112                           | 0        | 0              | 112      | 0             | 0        | 0       | 112   |
| 2025     | 88                            | 0        | 0              | 88       | 0             | 0        | 0       | 88  |
| 2026     | 62                            | 0        | 0              | 62       | 0             | 0        | 0       | 62  |
| 2027     | 36                            | 0        | 0              | 36       | 0             | 0        | 0       | 36  |
| 2028     | 30                            | 0        | 0              | 30       | 0             | 0        | 0       | 30  |
| 2029     | 22                            | 0        | 0              | 22       | 0             | 0        | 0       | 22  |
| 2030     | 18                            | 0        | 0              | 18       | 0             | 0        | 0       | 18  |
| 2031     | 13                            | 0        | 0              | 13       | 0             | 0        | 0       | 13  |
| 2032     | 11                            | 0        | 0              | 11       | 0             | 0        | 0       | 11  |
| 2033     | 9                             | 0        | 0              | 9        | 0             | 0        | 0       | 9   |
| 2034     | 7                             | 0        | 0              | 7        | 0             | 0        | 0       | 7   |
| 2035     | 5                             | 0        | 0              | 5        | 0             | 0        | 0       | 5   |
| 2036     | 2                             | 0        | 0              | 2        | 0             | 0        | 0       | 2   |
| 2037     | 0                             | 0        | 0              | 0        | 0             | 0        | 0       | 0   |
| 2039     | 0                             | 0        | 0              | 0        | 0             | 0        | 0       | 0   |
| NOMINAL  | 2,545                         | 788      | 0              | 3,333    | 788           | 0        | 788     | 2,545                                       |
| NPV      | 1,072                         | 445      | 0              | 1,517    | 445           | 0        | 445     | 1,072                                       |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 3.408

PROGRAM: Business Energy Saver Program

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| YEAR    | BENEFITS   |  |   |  |                                     | COSTS                                 |   |  |   |  |                                   |                                    |
|---------|--|--|---|--|-------------------------------------|---------------------------------------|---|--|---|--|-----------------------------------|------------------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>PARTICIPANT<br>COST<br>\$(000) | (7)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (8)<br>INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | (9)<br>INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | (10)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (11)<br>TOTAL<br>COSTS<br>\$(000) | (12)<br>NET<br>BENEFITS<br>\$(000) |
| 2010    | 0  | 0  | 0   | 0  | 0                                   | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 0                                  |
| 2011    | 28   | 2  | 0   | 0  | 30                                  | 64                                    | 0   | 0  | 0   | 43   | 108                               | -78                                |
| 2012    | 53   | 5  | 0   | 0  | 59                                  | 80                                    | 0   | 0  | 0   | 54   | 134                               | -75                                |
| 2013    | 108  | 8  | 48  | 0  | 164                                 | 83                                    | 0   | 0  | 0   | 56   | 139                               | 25                                 |
| 2014    | 96   | 10   | 98  | 0  | 205                                 | 86                                    | 0   | 0  | 0   | 58   | 144                               | 61                                 |
| 2015    | 127  | 13   | 122   | 0  | 262                                 | 89                                    | 0   | 0  | 0   | 60   | 149                               | 113                                |
| 2016    | 164  | 15   | 148   | 0  | 326                                 | 92                                    | 0   | 0  | 0   | 62   | 154                               | 172                                |
| 2017    | 250  | 17   | 119   | 0  | 386                                 | 95                                    | 0   | 0  | 0   | 64   | 159                               | 227                                |
| 2018    | 242  | 19   | 209   | 0  | 470                                 | 98                                    | 0   | 0  | 0   | 66   | 164                               | 306                                |
| 2019    | 248  | 19   | 221   | 0  | 488                                 | 101                                   | 0   | 0  | 0   | 68   | 169                               | 319                                |
| 2020    | 219  | 17   | 194   | 0  | 430                                 | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 430                                |
| 2021    | 184  | 14   | 164   | 0  | 362                                 | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 362                                |
| 2022    | 197  | 12   | 75  | 0  | 284                                 | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 284                                |
| 2023    | 171  | 9  | 102   | 0  | 283                                 | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 283                                |
| 2024    | 106  | 7  | 81  | 0  | 194                                 | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 194                                |
| 2025    | 81   | 5  | 62  | 0  | 149                                 | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 149                                |
| 2026    | 72   | 3  | 28  | 0  | 103                                 | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 103                                |
| 2027    | 34   | 2  | 26  | 0  | 61                                  | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 61                                 |
| 2028    | 28   | 1  | 23  | 0  | 52                                  | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 52                                 |
| 2029    | 25   | 1  | 11  | 0  | 37                                  | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 37                                 |
| 2030    | 24   | 1  | 16  | 0  | 40                                  | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 40                                 |
| 2031    | 19   | 1  | 14  | 0  | 33                                  | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 33                                 |
| 2032    | 17   | 1  | 12  | 0  | 29                                  | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 29                                 |
| 2033    | 13   | 1  | 10  | 0  | 23                                  | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 23                                 |
| 2034    | 9  | 0  | 8   | 0  | 17                                  | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 17                                 |
| 2035    | 5  | 0  | 5   | 0  | 11                                  | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 11                                 |
| 2036    | 3  | 0  | 3   | 0  | 6                                   | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 6                                  |
| 2037    | 0  | 0  | 0   | 0  | 0                                   | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 0                                  |
| 2039    | 0  | 0  | 0   | 0  | 0                                   | 0                                     | 0   | 0  | 0   | 0  | 0                                 | 0                                  |
| NOMINAL | 2,520  | 184  | 1,800   | 0  | 4,504                               | 788                                   | 0   | 0  | 0   | 532  | 1,320                             | 3,184                              |
| NPV     | 1,032  | 80   | 729   | 0  | 1,841                               | 445                                   | 0   | 0  | 0   | 300  | 745                               | 1,096                              |

Utility Discount Rate: 8.48

Benefit Cost Ratio: 2.472

**E. COMMERCIAL GREEN BUILDING NEW CONSTRUCTION**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The Commercial Green Building New Construction program is designed for commercial, industrial, and governmental customers who are building new facilities to achieve optimal energy efficiency. The Commercial Green Building New Construction program is designed to encourage the energy efficient construction of new commercial facilities according to guidelines set forth by LEED-NC. The LEED-NC rating system for commercial buildings focuses on improving energy efficiency, reducing carbon emissions, and addressing other environmental and human-health outcomes.

The program seeks to achieve the following goals:

- Promote use and increased quantity of Progress Energy approved energy efficient measures during certification process
- Motivate new construction builders to obtain LEED-NC certification
- Demonstrate green building design costs are offset by sustainable energy reductions through installation of energy efficient measures.



**Policies and Procedures**

The general eligibility requirements are as follows:

- Qualification is limited to LEED-NC certified buildings only
- Incentive based on LEED-NC registration and certification fees
- Building must have installed a minimum number of Progress Energy Commercial New Construction program measures as outlined in the Program Participation Standards
- Commercial Green Building New Construction program incentive will be paid in addition to Commercial New Construction program incentives
- This program will offer a capped incentive in the amount of 50% of the registration and certification fees for obtaining a LEED-NC certificate for a New Construction building.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions, such as baseline or code revisions, updated measurement and valuation analysis, technological advances, or changes to the structure in the LEED-NC registration and certification fees.

## Program Participation

Annual participation estimates for the Commercial Green Building New Construction program are shown in the following table:

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| <b>2011</b> | 170,886   | 3,653  | 140   | 3.8%   |
| <b>2012</b> | 175,147   | 4,261  | 224   | 8.3%   |
| <b>2013</b> | 178,542   | 3,395  | 280   | 17.1%  |
| <b>2014</b> | 182,030   | 3,488  | 318   | 23.3%  |
| <b>2015</b> | 185,461   | 3,431  | 322   | 29.2%  |
| <b>2016</b> | 188,717   | 3,256  | 291   | 34.7%  |
| <b>2017</b> | 191,817   | 3,100  | 308   | 40.3%  |
| <b>2018</b> | 194,809   | 2,992  | 294   | 44.7%  |
| <b>2019</b> | 197,848   | 3,039  | 329   | 48.0%  |

1. The total number of customers is the forecast of Commercial/Industrial customers in Progress Energy's 2009 Ten Year Site Plan.
2. All commercial, industrial and governmental rate class customers who build new facilities in a given year are eligible to participate.
3. Number of program participants represents the participants projected.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

The total program savings were developed by analyzing new construction facilities compared to LEED-NC certified buildings. The total program savings are shown in the following table:

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 3,464                      | 0.92                             | 1.50                             | 484,890                    | 129                              | 211                              |
| 2012 | 3,464                      | 0.92                             | 1.50                             | 775,824                    | 206                              | 337                              |
| 2013 | 3,464                      | 0.92                             | 1.50                             | 969,780                    | 258                              | 421                              |
| 2014 | 3,464                      | 0.92                             | 1.50                             | 1,101,393                  | 293                              | 479                              |
| 2015 | 3,464                      | 0.92                             | 1.50                             | 1,115,247                  | 296                              | 485                              |
| 2016 | 3,464                      | 0.92                             | 1.50                             | 1,007,879                  | 268                              | 438                              |
| 2017 | 3,464                      | 0.92                             | 1.50                             | 1,066,758                  | 283                              | 463                              |
| 2018 | 3,464                      | 0.92                             | 1.50                             | 1,018,269                  | 270                              | 442                              |
| 2019 | 3,464                      | 0.92                             | 1.50                             | 1,139,492                  | 303                              | 495                              |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 3,653                      | 0.97                             | 1.59                             | 511,413                    | 136                              | 222                              |
| 2012 | 3,653                      | 0.97                             | 1.59                             | 818,262                    | 217                              | 356                              |
| 2013 | 3,653                      | 0.97                             | 1.59                             | 1,022,827                  | 272                              | 444                              |
| 2014 | 3,653                      | 0.97                             | 1.59                             | 1,161,639                  | 309                              | 505                              |
| 2015 | 3,653                      | 0.97                             | 1.59                             | 1,176,251                  | 312                              | 511                              |
| 2016 | 3,653                      | 0.97                             | 1.59                             | 1,063,009                  | 282                              | 462                              |
| 2017 | 3,653                      | 0.97                             | 1.59                             | 1,125,110                  | 299                              | 489                              |
| 2018 | 3,653                      | 0.97                             | 1.59                             | 1,073,968                  | 285                              | 467                              |
| 2019 | 3,653                      | 0.97                             | 1.59                             | 1,201,822                  | 319                              | 522                              |

## Impact Evaluation Plan

The Commercial Green Building New Construction program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts.

## Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| <b>Rate Impact Measure</b>     | \$9,142                         | \$10,590                     | -\$1,449                            | 0.86             |
| <b>Participant</b>             | \$9,357                         | \$3,649                      | \$5,708                             | 2.56             |
| <b>Total Resource Cost</b>     | \$9,142                         | \$4,882                      | \$4,260                             | 1.87             |

PROGRAM: Green Building

RIM

| YEAR    | BENEFITS                       |                               |                                |                  |                   | COSTS                           |                                |                                 |                             |                       |                   |                |                 |
|---------|--------------------------------|-------------------------------|--------------------------------|------------------|-------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|-----------------------|-------------------|----------------|-----------------|
|         | (1)                            | (2)                           | (3)                            | (4)              | (5)               | (6)                             | (7)                            | (8)                             | (9)                         | (10)                  | (11)              | (12)           | (13)            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | A VOIDED<br>T&D CAP.<br>COSTS | A VOIDED<br>GEN. CAP.<br>COSTS | REVENUE<br>GAINS | TOTAL<br>BENEFITS | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | INCENTIVE<br>PAYMENTS | REVENUE<br>LOSSES | TOTAL<br>COSTS | NET<br>BENEFITS |
| 2010    | 0                              | 0                             | 0                              | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0               |
| 2011    | 56                             | 3                             | 0                              | 0                | 59                | 0                               | 0                              | 0                               | 110                         | 325                   | 61                | 496            | -437            |
| 2012    | 130                            | 8                             | 0                              | 0                | 138               | 0                               | 0                              | 0                               | 181                         | 520                   | 153               | 855            | -717            |
| 2013    | 289                            | 14                            | 93                             | 0                | 396               | 0                               | 0                              | 0                               | 233                         | 650                   | 287               | 1,169          | -773            |
| 2014    | 316                            | 21                            | 219                            | 0                | 556               | 0                               | 0                              | 0                               | 273                         | 738                   | 446               | 1,457          | -901            |
| 2015    | 457                            | 28                            | 297                            | 0                | 782               | 0                               | 0                              | 0                               | 284                         | 747                   | 653               | 1,684          | -901            |
| 2016    | 601                            | 35                            | 380                            | 0                | 1,015             | 0                               | 0                              | 0                               | 264                         | 675                   | 788               | 1,726          | -711            |
| 2017    | 885                            | 42                            | 325                            | 0                | 1,252             | 0                               | 0                              | 0                               | 287                         | 715                   | 816               | 1,818          | -566            |
| 2018    | 904                            | 48                            | 592                            | 0                | 1,544             | 0                               | 0                              | 0                               | 282                         | 682                   | 902               | 1,866          | -321            |
| 2019    | 1,047                          | 55                            | 696                            | 0                | 1,798             | 0                               | 0                              | 0                               | 324                         | 763                   | 1,088             | 2,175          | -377            |
| 2020    | 1,055                          | 55                            | 710                            | 0                | 1,821             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,118             | 1,118          | 703             |
| 2021    | 1,059                          | 55                            | 725                            | 0                | 1,840             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,211             | 1,211          | 629             |
| 2022    | 1,288                          | 55                            | 396                            | 0                | 1,739             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,220             | 1,220          | 519             |
| 2023    | 1,376                          | 55                            | 662                            | 0                | 2,093             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,251             | 1,251          | 843             |
| 2024    | 1,169                          | 55                            | 691                            | 0                | 1,915             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,278             | 1,278          | 636             |
| 2025    | 1,185                          | 55                            | 703                            | 0                | 1,943             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,311             | 1,311          | 633             |
| 2026    | 1,368                          | 52                            | 437                            | 0                | 1,857             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,265             | 1,265          | 592             |
| 2027    | 1,093                          | 47                            | 716                            | 0                | 1,855             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,172             | 1,172          | 683             |
| 2028    | 978                            | 41                            | 637                            | 0                | 1,656             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,042             | 1,042          | 613             |
| 2029    | 957                            | 34                            | 321                            | 0                | 1,311             | 0                               | 0                              | 0                               | 0                           | 0                     | 888               | 888            | 424             |
| 2030    | 801                            | 27                            | 425                            | 0                | 1,252             | 0                               | 0                              | 0                               | 0                           | 0                     | 719               | 719            | 533             |
| 2031    | 634                            | 21                            | 337                            | 0                | 991               | 0                               | 0                              | 0                               | 0                           | 0                     | 560               | 560            | 430             |
| 2032    | 436                            | 14                            | 234                            | 0                | 684               | 0                               | 0                              | 0                               | 0                           | 0                     | 382               | 382            | 302             |
| 2033    | 235                            | 7                             | 129                            | 0                | 371               | 0                               | 0                              | 0                               | 0                           | 0                     | 207               | 207            | 164             |
| 2034    | 0                              | 0                             | 0                              | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0               |
| 2035    | 0                              | 0                             | 0                              | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0               |
| 2036    | 0                              | 0                             | 0                              | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0               |
| 2037    | 0                              | 0                             | 0                              | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0               |
| 2039    | 0                              | 0                             | 0                              | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0               |
| NOMINAL | 18,314                         | 829                           | 9,725                          | 0                | 28,868            | 0                               | 0                              | 0                               | 2,238                       | 5,814                 | 18,818            | 26,870         | 1,999           |
| NPV     | 5,783                          | 279                           | 3,080                          | 0                | 9,142             | 0                               | 0                              | 0                               | 1,233                       | 3,247                 | 6,110             | 10,590         | -1,449          |

Utility Discount Rate: 8.48

Benefit Cost Ratio: 0.86

| PROGRAM: | Green Bldg | Participant                                    |                                  |   |                              |                                  |  |                           | (8)<br>NET BENEFITS<br>TO<br>PARTICIPANTS<br>\$(000) |
|----------|------------|--|----------------------------------|---|------------------------------|----------------------------------|--|---------------------------|--|
|          |            | BENEFITS                                       |                                  |   |                              | COSTS                            |  |                           |  |
|          |            | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)  | (7)                       |  |
|          |            | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |  |
| YEAR     |            |  |                                  |   |                              |                                  |  |                           |  |
| 2010     | 0          | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         |  |
| 2011     | 61         | 325  | 0                                | 385   | 337                          | 0                                | 337  | 48                        |  |
| 2012     | 153        | 520  | 0                                | 673   | 551                          | 0                                | 551  | 123                       |  |
| 2013     | 287        | 650  | 0                                | 936   | 702                          | 0                                | 702  | 234                       |  |
| 2014     | 446        | 738  | 0                                | 1184  | 813                          | 0                                | 813  | 371                       |  |
| 2015     | 653        | 747  | 0                                | 1400  | 840                          | 0                                | 840  | 560                       |  |
| 2016     | 788        | 675  | 0                                | 1463  | 774                          | 0                                | 774  | 688                       |  |
| 2017     | 816        | 715  | 0                                | 1530  | 836                          | 0                                | 836  | 694                       |  |
| 2018     | 902        | 682  | 0                                | 1584  | 814                          | 0                                | 814  | 770                       |  |
| 2019     | 1088       | 763  | 0                                | 1851  | 929                          | 0                                | 929  | 922                       |  |
| 2020     | 1118       | 0  | 0                                | 1118  | 0                            | 0                                | 0  | 1118                      |  |
| 2021     | 1211       | 0  | 0                                | 1211  | 0                            | 0                                | 0  | 1211                      |  |
| 2022     | 1220       | 0  | 0                                | 1220  | 0                            | 0                                | 0  | 1220                      |  |
| 2023     | 1251       | 0  | 0                                | 1251  | 0                            | 0                                | 0  | 1251                      |  |
| 2024     | 1278       | 0  | 0                                | 1278  | 0                            | 0                                | 0  | 1278                      |  |
| 2025     | 1311       | 0  | 0                                | 1311  | 0                            | 0                                | 0  | 1311                      |  |
| 2026     | 1265       | 0  | 0                                | 1265  | 0                            | 0                                | 0  | 1265                      |  |
| 2027     | 1172       | 0  | 0                                | 1172  | 0                            | 0                                | 0  | 1172                      |  |
| 2028     | 1042       | 0  | 0                                | 1042  | 0                            | 0                                | 0  | 1042                      |  |
| 2029     | 888        | 0  | 0                                | 888   | 0                            | 0                                | 0  | 888                       |  |
| 2030     | 719        | 0  | 0                                | 719   | 0                            | 0                                | 0  | 719                       |  |
| 2031     | 560        | 0  | 0                                | 560   | 0                            | 0                                | 0  | 560                       |  |
| 2032     | 382        | 0  | 0                                | 382   | 0                            | 0                                | 0  | 382                       |  |
| 2033     | 207        | 0  | 0                                | 207   | 0                            | 0                                | 0  | 207                       |  |
| 2034     | 0          | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         |  |
| 2035     | 0          | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         |  |
| 2036     | 0          | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         |  |
| 2037     | 0          | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         |  |
| 2039     | 0          | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         |  |
| NOMINAL  | 18818      | 5814   | 0                                | 24632   | 6596                         | 0                                | 6596   | 18036                     |  |
| NPV      | 6110       | 3247   | 0                                | 9357  | 3649                         | 0                                | 3649   | 5708                      |  |

Utility Discount Rate: 8.48

Benefit Cost Ratio: 2.56

PROGRAM: Green Building

TRC

| YEAR    | BENEFITS                              |                                      |                                       |   |                          | COSTS                        |  |                                       |  |                                     |                        |                         |
|---------|---------------------------------------|--------------------------------------|---------------------------------------|---|--------------------------|------------------------------|--|---------------------------------------|--|-------------------------------------|------------------------|-------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS | (2)<br>A VOIDED<br>T&D CAP.<br>COSTS | (3)<br>A VOIDED<br>GEN. CAP.<br>COSTS | (4)<br>OTHER<br>PARTICIPANT<br>BENEFITS | (5)<br>TOTAL<br>BENEFITS | (6)<br>PARTICIPANT'S<br>COST | (7)<br>TOTAL<br>FUEL & O&M<br>INCREASE | (8)<br>INCREASED<br>T&D CAP.<br>COSTS | (9)<br>INCREASED<br>GEN. CAP.<br>COSTS | (10)<br>UTILITY<br>PROGRAM<br>COSTS | (11)<br>TOTAL<br>COSTS | (12)<br>NET<br>BENEFITS |
| 2010    | 0                                     | 0                                    | 0                                     | 0                                       | 0                        | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 0                       |
| 2011    | 56                                    | 3                                    | 0                                     | 0                                       | 59                       | 337                          | 0                                      | 0                                     | 0                                      | 110                                 | 448                    | -389                    |
| 2012    | 130                                   | 8                                    | 0                                     | 0                                       | 138                      | 551                          | 0                                      | 0                                     | 0                                      | 181                                 | 732                    | -594                    |
| 2013    | 289                                   | 14                                   | 93                                    | 0                                       | 396                      | 702                          | 0                                      | 0                                     | 0                                      | 233                                 | 935                    | -539                    |
| 2014    | 316                                   | 21                                   | 219                                   | 0                                       | 556                      | 813                          | 0                                      | 0                                     | 0                                      | 273                                 | 1086                   | -530                    |
| 2015    | 457                                   | 28                                   | 297                                   | 0                                       | 782                      | 840                          | 0                                      | 0                                     | 0                                      | 284                                 | 1124                   | -341                    |
| 2016    | 601                                   | 35                                   | 380                                   | 0                                       | 1015                     | 774                          | 0                                      | 0                                     | 0                                      | 264                                 | 1038                   | -23                     |
| 2017    | 885                                   | 42                                   | 325                                   | 0                                       | 1252                     | 836                          | 0                                      | 0                                     | 0                                      | 287                                 | 1123                   | 128                     |
| 2018    | 904                                   | 48                                   | 592                                   | 0                                       | 1544                     | 814                          | 0                                      | 0                                     | 0                                      | 282                                 | 1096                   | 449                     |
| 2019    | 1047                                  | 55                                   | 696                                   | 0                                       | 1798                     | 929                          | 0                                      | 0                                     | 0                                      | 324                                 | 1253                   | 545                     |
| 2020    | 1055                                  | 55                                   | 710                                   | 0                                       | 1821                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1821                    |
| 2021    | 1059                                  | 55                                   | 725                                   | 0                                       | 1840                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1840                    |
| 2022    | 1288                                  | 55                                   | 396                                   | 0                                       | 1739                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1739                    |
| 2023    | 1376                                  | 55                                   | 662                                   | 0                                       | 2093                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 2093                    |
| 2024    | 1169                                  | 55                                   | 691                                   | 0                                       | 1915                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1915                    |
| 2025    | 1185                                  | 55                                   | 703                                   | 0                                       | 1943                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1943                    |
| 2026    | 1368                                  | 52                                   | 437                                   | 0                                       | 1857                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1857                    |
| 2027    | 1093                                  | 47                                   | 716                                   | 0                                       | 1855                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1855                    |
| 2028    | 978                                   | 41                                   | 637                                   | 0                                       | 1656                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1656                    |
| 2029    | 957                                   | 34                                   | 321                                   | 0                                       | 1311                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1311                    |
| 2030    | 801                                   | 27                                   | 425                                   | 0                                       | 1252                     | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 1252                    |
| 2031    | 634                                   | 21                                   | 337                                   | 0                                       | 991                      | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 991                     |
| 2032    | 436                                   | 14                                   | 234                                   | 0                                       | 684                      | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 684                     |
| 2033    | 235                                   | 7                                    | 129                                   | 0                                       | 371                      | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 371                     |
| 2034    | 0                                     | 0                                    | 0                                     | 0                                       | 0                        | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 0                       |
| 2035    | 0                                     | 0                                    | 0                                     | 0                                       | 0                        | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 0                       |
| 2036    | 0                                     | 0                                    | 0                                     | 0                                       | 0                        | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 0                       |
| 2037    | 0                                     | 0                                    | 0                                     | 0                                       | 0                        | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 0                       |
| 2039    | 0                                     | 0                                    | 0                                     | 0                                       | 0                        | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 0                       |
| NOMINAL | 18314                                 | 829                                  | 9725                                  | 0                                       | 28868                    | 6596                         | 0                                      | 0                                     | 0                                      | 2238                                | 8834                   | 20034                   |
| NPV     | 5,783                                 | 279                                  | 3,080                                 | 0                                       | 9,142                    | 3,649                        | 0                                      | 0                                     | 0                                      | 1,233                               | 4,882                  | 4,260                   |

Utility Discount Rate: 8.48

Benefit Cost Ratio: 1.87

**F. INNOVATION INCENTIVE PROGRAM**

**Program Start Date:** 1992

Program modified in 1995

Modifications proposed in 2010

**Program Description**

The objective of the Innovation Incentive program is to encourage customers to make capital investments for the installation of energy efficiency measures which reduce peak KW and energy on the Progress Energy system. This program offers customized incentives specifically designed for individual innovative projects which are not otherwise addressed by Progress Energy Demand Side Management programs.

Representative examples of energy efficient technologies that would be considered under this program include, but are not limited to, refrigeration equipment replacement and new lighting technologies.

**Policies and Procedures**

The timeline of the Innovation Incentive program can range from six months to one year depending on the project. The steps included are application, monitoring, data collection, analysis of data, inspection, and processing incentive to the customer.

Program eligibility requirements to qualify for participation are as follows:



- Participant must be located in the Progress Energy service territory and be a commercially metered customer
- Participant must be willing to allow Progress Energy to inspect the installations of all measures and equipment.

Specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards.

Progress Energy will perform a customer-specific cost-effectiveness analysis for each project being considered under the Innovation Incentive program, using the Commission-approved cost-effectiveness tests described in Rule 25-17.008, Florida Administrative Code. The customer's incentive shall be based on the energy saved and/or demand reduction achieved, but shall not exceed 50% of the project cost or reduce the payback to less than two years. The maximum incentive for the project is \$500,000 per year. For complex engineering projects, Progress Energy reserves the right to stage the total incentive amount when necessary to confirm energy efficiency of the project.

After Progress Energy has reviewed and approved the project, an application will be executed between Progress Energy and the customer.

## Program Participation

Annual participation estimates for the Innovation Incentive program are shown in the following table.

| <b>Year</b> | <b>Total Number of Customers<br/>(1)</b> | <b>Total Number of Measure Eligible Customers (2)</b> | <b>Annual Number of Program Measure Participants (3)</b> | <b>Cumulative Penetration Level (%) (4)</b> |
|-------------|--|---|--|---|
| 2011        | 170,886                                  | 170,886   | 2  | 0.0%  |
| 2012        | 175,147                                  | 175,147   | 2  | 0.0%  |
| 2013        | 178,542                                  | 178,542   | 2  | 0.0%  |
| 2014        | 182,030                                  | 182,030   | 2  | 0.0%  |
| 2015        | 185,461                                  | 185,461   | 2  | 0.0%  |
| 2016        | 188,717                                  | 188,717   | 2  | 0.0%  |
| 2017        | 191,817                                  | 191,817   | 2  | 0.0%  |
| 2018        | 194,809                                  | 194,809   | 2  | 0.0%  |
| 2019        | 197,848                                  | 197,848   | 2  | 0.0%  |

1. The total number of customers is the forecast of Commercial/Industrial customers in Progress Energy's 2009 Ten Year Site Plan.
2. All commercial, industrial and governmental rate classes are eligible to participate.
3. The number of program participants represents the participants projected.
4. Cumulative penetration is the ratio of cumulative measure participating customers to the eligible customer pool.

### **Savings Estimates**

Program savings were not estimated during the planning stage and are not included in the Demand Side Management plan total. Any impacts obtained by this program will be calculated for each individual project and will be reported to the Commission to be counted toward achieving Progress Energy's conservation goals.

### **Impact Evaluation Plan**

To verify the estimated savings for each project, an engineering/billing analysis based on customer-specific site and usage data will be performed. Monitoring will continue until Progress Energy has reasonable assurance that the project will remain in place and produce cost-effective energy savings for its estimated life. An incentive will not be issued to the customer until Progress Energy is reasonably sure of the projected savings.

### **Cost Effectiveness**

Each individual project will be analyzed for cost-effectiveness at the time of project submittal to Progress Energy, using the Commission-approved tests of cost-effectiveness. Therefore, total program cost-effectiveness results are not shown.

**G. STANDBY GENERATION PROGRAM**

**Program Start Date:** 1993

Program modified in 1995, 2007

Modifications proposed in 2010

**Program Description**

The Standby Generation program is a demand control program that will reduce Progress Energy's demand based upon the control of customer equipment. The program is a voluntary program available to all commercial and industrial customers who have on-site generation capability and are willing to reduce their Progress Energy demand when deemed necessary. The program is offered through the General Service Load Management-2 (GSLM-2) rate schedule.

Progress Energy may have direct control of the customer equipment or will rely upon the customer to initiate the generation upon being notified by Progress Energy and continue running it until Progress Energy notifies the customer that the generation is no longer needed. Progress Energy does not restrict other use of the equipment by the customer.

Standby Generation program participants receive a monthly credit on their energy bill according to the demonstrated ability of the customer to reduce demand at Progress Energy's request. An additional credit will be based on the KWh the customer provides. The credits are based upon the load served by the customer's generator, which would have been served by Progress Energy if the Standby Generation program were not in operation. By compensating the customer for the

use of their on-site generation, Progress Energy can impact the commercial and industrial market while minimizing rate impacts. The incentive will be based on a per KW credit per month plus an additional compensation per KWh to support customer O&M associated with run time requested by the company.

### **Policies and Procedures**

The general program eligibility requirements to qualify for participation are as follows:

- Customer must be eligible for service under the GS-1, GST-1, GSD-1 or GSDDT-1 Rate Schedules
- Customer must have standby generation that will allow facility demand reduction at the request of Progress Energy
- Customer's Standby Generation Capacity calculation must be at least 50 KW
- Customer must be within the range of Progress Energy's load management system.

## Program Participation

Annual participation estimates for the Standby Generation program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 547   | 10   | 1.8%  |
| 2012 | 175,147                                  | 560   | 10   | 3.6%  |
| 2013 | 178,542                                  | 571   | 10   | 5.3%  |
| 2014 | 182,030                                  | 582   | 10   | 6.9%  |
| 2015 | 185,461                                  | 593   | 10   | 8.4%  |
| 2016 | 188,717                                  | 604   | 10   | 9.9%  |
| 2017 | 191,817                                  | 614   | 10   | 11.4%   |
| 2018 | 194,809                                  | 623   | 10   | 12.8%   |
| 2019 | 197,848                                  | 633   | 10   | 14.2%   |

1. Total Number of Customers is the forecast of Commercial/Industrial customers in the Progress Energy 2009 Ten Year Site Plan.
2. Eligible Customers is based upon tariff GSLM-2 Rate Schedule.
3. Annual number of program participants represents the projected number of customers.
4. Cumulative penetration is the ratio of cumulative measure participants to the eligible customer pool.

## Savings Estimates

The KW and KWh savings estimates for this program were determined from historical data and are presented below.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2012 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2013 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2014 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2015 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2016 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2017 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2018 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2019 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2012 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2013 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2014 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2015 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2016 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2017 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2018 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2019 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |

### Impact Evaluation Plan

Progress Energy uses on-site metering to measure the generation capability of each Standby Generation program participant to reduce load at the time they join the program. The customer and a Progress Energy representative will observe the metering tests to determine the load that the standby generator carries. This system testing will also determine the initial readings that will be recorded in order to determine the incentive that the customer will receive on their bill each month.

### Cost Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs<br>\$(000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$80,510                | \$11,584             | \$68,926                    | 6.95      |
| Participant             | \$10,235                | \$0                  | \$10,235                    | 9999      |
| Total Resource Cost     | \$80,510                | \$1,349              | \$79,161                    | 59.68     |



**PROGRAM: Standby Generation - RIM**

| YEAR    | BENEFITS                                  |   |  |                             |                              | COSTS                                      |  |                                  |                              |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-----------------------------|------------------------------|--|--|----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                    | (8)                              | (9)                          | (10)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 15  | 0                                       | 0  | 0                           | 15                           | 0  | 63                                     | 117                              | 8                            | 189                       | -174                       |
| 2011    | 37  | 0                                       | 0  | 0                           | 37                           | 0  | 68                                     | 235                              | 22                           | 325                       | -288                       |
| 2012    | 42  | 0                                       | 0  | 0                           | 42                           | 0  | 73                                     | 352                              | 26                           | 451                       | -409                       |
| 2013    | 975                                       | 0                                       | 1,949                                    | 0                           | 2,924                        | 0  | 78                                     | 470                              | 27                           | 575                       | 2,349                      |
| 2014    | 0   | 0                                       | 3,839                                    | 0                           | 3,839                        | 87   | 83                                     | 587                              | 36                           | 793                       | 3,047                      |
| 2015    | 0   | 0                                       | 4,682                                    | 0                           | 4,682                        | 716  | 88                                     | 704                              | 47                           | 1,556                     | 3,127                      |
| 2016    | 140                                       | 0                                       | 5,203                                    | 0                           | 5,343                        | 0  | 93                                     | 822                              | 90                           | 1,005                     | 4,338                      |
| 2017    | 1,498                                     | 0                                       | 6,233                                    | 0                           | 7,731                        | 0  | 98                                     | 939                              | 89                           | 1,126                     | 6,605                      |
| 2018    | 2,040                                     | 0                                       | 8,261                                    | 0                           | 10,301                       | 0  | 103                                    | 1,057                            | 95                           | 1,255                     | 9,046                      |
| 2019    | 1,708                                     | 0                                       | 9,368                                    | 0                           | 11,076                       | 0  | 108                                    | 1,174                            | 111                          | 1,393                     | 9,683                      |
| 2020    | 1,557                                     | 0                                       | 9,565                                    | 0                           | 11,122                       | 0  | 50                                     | 1,174                            | 114                          | 1,338                     | 9,784                      |
| 2021    | 632                                       | 0                                       | 9,767                                    | 0                           | 10,398                       | 0  | 50                                     | 1,174                            | 124                          | 1,348                     | 9,051                      |
| 2022    | 3,629                                     | 0                                       | 5,337                                    | 0                           | 8,965                        | 0  | 50                                     | 1,174                            | 125                          | 1,349                     | 7,617                      |
| 2023    | 3,999                                     | 0                                       | 8,911                                    | 0                           | 12,910                       | 0  | 50                                     | 1,174                            | 128                          | 1,352                     | 11,558                     |
| 2024    | 1,139                                     | 0                                       | 9,305                                    | 0                           | 10,444                       | 0  | 50                                     | 1,174                            | 131                          | 1,355                     | 9,090                      |
| 2025    | 584                                       | 0                                       | 9,464                                    | 0                           | 10,048                       | 0  | 50                                     | 1,174                            | 134                          | 1,358                     | 8,690                      |
| 2026    | 3,639                                     | 0                                       | 6,234                                    | 0                           | 9,872                        | 0  | 50                                     | 1,174                            | 137                          | 1,361                     | 8,512                      |
| 2027    | 1,315                                     | 0                                       | 11,267                                   | 0                           | 12,582                       | 0  | 50                                     | 1,174                            | 112                          | 1,336                     | 11,246                     |
| 2028    | 1,169                                     | 0                                       | 11,535                                   | 0                           | 12,704                       | 0  | 50                                     | 1,174                            | 143                          | 1,367                     | 11,337                     |
| 2029    | 3,138                                     | 0                                       | 6,061                                    | 0                           | 9,199                        | 0  | 50                                     | 1,174                            | 147                          | 1,371                     | 7,828                      |
| 2030    | 3,434                                     | 0                                       | 10,141                                   | 0                           | 13,574                       | 0  | 50                                     | 1,174                            | 151                          | 1,375                     | 12,199                     |
| 2031    | 3,517                                     | 0                                       | 10,546                                   | 0                           | 14,063                       | 0  | 50                                     | 1,174                            | 154                          | 1,378                     | 12,685                     |
| 2032    | 3,532                                     | 0                                       | 10,968                                   | 0                           | 14,500                       | 0  | 50                                     | 1,174                            | 157                          | 1,381                     | 13,119                     |
| 2033    | 3,460                                     | 0                                       | 11,407                                   | 0                           | 14,867                       | 0  | 50                                     | 1,174                            | 161                          | 1,385                     | 13,482                     |
| 2034    | 3,634                                     | 0                                       | 11,863                                   | 0                           | 15,497                       | 0  | 50                                     | 1,174                            | 164                          | 1,388                     | 14,109                     |
| 2035    | 3,528                                     | 0                                       | 12,338                                   | 0                           | 15,866                       | 0  | 50                                     | 1,174                            | 168                          | 1,392                     | 14,473                     |
| 2036    | 3,469                                     | 0                                       | 12,831                                   | 0                           | 16,300                       | 0  | 50                                     | 1,174                            | 172                          | 1,396                     | 14,904                     |
| 2037    | 3,586                                     | 0                                       | 13,344                                   | 0                           | 16,930                       | 0  | 50                                     | 1,174                            | 176                          | 1,400                     | 15,530                     |
| 2038    | 3,681                                     | 0                                       | 13,878                                   | 0                           | 17,559                       | 0  | 50                                     | 1,174                            | 179                          | 1,403                     | 16,156                     |
| NOMINAL | 59,093                                    | 0                                       | 234,299                                  | 0                           | 293,391                      | 803  | 1,807                                  | 28,763                           | 3,327                        | 34,700                    | 258,692                    |
| NPV     | 14,764                                    | 0                                       | 65,746                                   | 0                           | 80,510                       | 539  | 810                                    | 9,282                            | 953                          | 11,584                    | 68,926                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 6.950

**PROGRAM: Standby Generation - Participant**

| YEAR    | BENEFITS  |   |  |                                     | COSTS                                   |                                  | NET<br>BENEFITS |
|---------|---|---|--|-------------------------------------|---|----------------------------------|-----------------|
|         | (1)<br>SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | (2)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (3)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | (4)<br>TOTAL<br>BENEFITS<br>\$(000) | (5)<br>PARTICIPANT'S<br>COST<br>\$(000) | (6)<br>TOTAL<br>COSTS<br>\$(000) |                 |
| 2010    | 8   | 117                                     | 0  | 126                                 | 0                                       | 0                                | 126             |
| 2011    | 22  | 235                                     | 0  | 257                                 | 0                                       | 0                                | 257             |
| 2012    | 26  | 352                                     | 0  | 378                                 | 0                                       | 0                                | 378             |
| 2013    | 27  | 470                                     | 0  | 497                                 | 0                                       | 0                                | 497             |
| 2014    | 36  | 587                                     | 0  | 623                                 | 0                                       | 0                                | 623             |
| 2015    | 47  | 704                                     | 0  | 751                                 | 0                                       | 0                                | 751             |
| 2016    | 90  | 822                                     | 0  | 911                                 | 0                                       | 0                                | 911             |
| 2017    | 89  | 939                                     | 0  | 1,028                               | 0                                       | 0                                | 1,028           |
| 2018    | 95  | 1,057                                   | 0  | 1,152                               | 0                                       | 0                                | 1,152           |
| 2019    | 111   | 1,174                                   | 0  | 1,285                               | 0                                       | 0                                | 1,285           |
| 2020    | 114   | 1,174                                   | 0  | 1,288                               | 0                                       | 0                                | 1,288           |
| 2021    | 124   | 1,174                                   | 0  | 1,298                               | 0                                       | 0                                | 1,298           |
| 2022    | 125   | 1,174                                   | 0  | 1,299                               | 0                                       | 0                                | 1,299           |
| 2023    | 128   | 1,174                                   | 0  | 1,302                               | 0                                       | 0                                | 1,302           |
| 2024    | 131   | 1,174                                   | 0  | 1,305                               | 0                                       | 0                                | 1,305           |
| 2025    | 134   | 1,174                                   | 0  | 1,308                               | 0                                       | 0                                | 1,308           |
| 2026    | 137   | 1,174                                   | 0  | 1,311                               | 0                                       | 0                                | 1,311           |
| 2027    | 112   | 1,174                                   | 0  | 1,286                               | 0                                       | 0                                | 1,286           |
| 2028    | 143   | 1,174                                   | 0  | 1,317                               | 0                                       | 0                                | 1,317           |
| 2029    | 147   | 1,174                                   | 0  | 1,321                               | 0                                       | 0                                | 1,321           |
| 2030    | 151   | 1,174                                   | 0  | 1,325                               | 0                                       | 0                                | 1,325           |
| 2031    | 154   | 1,174                                   | 0  | 1,328                               | 0                                       | 0                                | 1,328           |
| 2032    | 157   | 1,174                                   | 0  | 1,331                               | 0                                       | 0                                | 1,331           |
| 2033    | 161   | 1,174                                   | 0  | 1,335                               | 0                                       | 0                                | 1,335           |
| 2034    | 164   | 1,174                                   | 0  | 1,338                               | 0                                       | 0                                | 1,338           |
| 2035    | 168   | 1,174                                   | 0  | 1,342                               | 0                                       | 0                                | 1,342           |
| 2036    | 172   | 1,174                                   | 0  | 1,346                               | 0                                       | 0                                | 1,346           |
| 2037    | 176   | 1,174                                   | 0  | 1,350                               | 0                                       | 0                                | 1,350           |
| 2038    | 179   | 1,174                                   | 0  | 1,353                               | 0                                       | 0                                | 1,353           |
| NOMINAL | 3,327   | 28,763                                  | 0  | 32,090                              | 0                                       | 0                                | 32,090          |
| NPV     | 953   | 9,282                                   | 0  | 10,235                              | 0                                       | 0                                | 10,235          |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

**PROGRAM: Standby Generation - TRC**

| YEAR    | BENEFITS   |   |  |  |                                     | COSTS   |   |   |                                  | NET<br>BENEFITS<br>\$(000) |
|---------|--|---|--|--|-------------------------------------|---|---|---|----------------------------------|----------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>A VOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>A VOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (7)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (8)<br>PARTICIPANT'S<br>COST<br>\$(000) | (9)<br>TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 15   | 0   | 0  | 0  | 15                                  | 0   | 63  | 0                                       | 63                               | -48                        |
| 2011    | 37   | 0   | 0  | 0  | 37                                  | 0   | 68  | 0                                       | 68                               | -31                        |
| 2012    | 42   | 0   | 0  | 0  | 42                                  | 0   | 73  | 0                                       | 73                               | -31                        |
| 2013    | 975  | 0   | 1,949  | 0  | 2,924                               | 0   | 78  | 0                                       | 78                               | 2,846                      |
| 2014    | 0  | 0   | 3,839  | 0  | 3,839                               | 87  | 83  | 0                                       | 170                              | 3,669                      |
| 2015    | 0  | 0   | 4,682  | 0  | 4,682                               | 716   | 88  | 0                                       | 804                              | 3,878                      |
| 2016    | 140  | 0   | 5,203  | 0  | 5,343                               | 0   | 93  | 0                                       | 93                               | 5,250                      |
| 2017    | 1,498  | 0   | 6,233  | 0  | 7,731                               | 0   | 98  | 0                                       | 98                               | 7,633                      |
| 2018    | 2,040  | 0   | 8,261  | 0  | 10,301                              | 0   | 103   | 0                                       | 103                              | 10,198                     |
| 2019    | 1,708  | 0   | 9,368  | 0  | 11,076                              | 0   | 108   | 0                                       | 108                              | 10,968                     |
| 2020    | 1,557  | 0   | 9,565  | 0  | 11,122                              | 0   | 50  | 0                                       | 50                               | 11,072                     |
| 2021    | 632  | 0   | 9,767  | 0  | 10,398                              | 0   | 50  | 0                                       | 50                               | 10,348                     |
| 2022    | 3,629  | 0   | 5,337  | 0  | 8,965                               | 0   | 50  | 0                                       | 50                               | 8,915                      |
| 2023    | 3,999  | 0   | 8,911  | 0  | 12,910                              | 0   | 50  | 0                                       | 50                               | 12,860                     |
| 2024    | 1,139  | 0   | 9,305  | 0  | 10,444                              | 0   | 50  | 0                                       | 50                               | 10,394                     |
| 2025    | 584  | 0   | 9,464  | 0  | 10,048                              | 0   | 50  | 0                                       | 50                               | 9,998                      |
| 2026    | 3,639  | 0   | 6,234  | 0  | 9,872                               | 0   | 50  | 0                                       | 50                               | 9,822                      |
| 2027    | 1,315  | 0   | 11,267   | 0  | 12,582                              | 0   | 50  | 0                                       | 50                               | 12,532                     |
| 2028    | 1,169  | 0   | 11,535   | 0  | 12,704                              | 0   | 50  | 0                                       | 50                               | 12,654                     |
| 2029    | 3,138  | 0   | 6,061  | 0  | 9,199                               | 0   | 50  | 0                                       | 50                               | 9,149                      |
| 2030    | 3,434  | 0   | 10,141   | 0  | 13,574                              | 0   | 50  | 0                                       | 50                               | 13,524                     |
| 2031    | 3,517  | 0   | 10,546   | 0  | 14,063                              | 0   | 50  | 0                                       | 50                               | 14,013                     |
| 2032    | 3,532  | 0   | 10,968   | 0  | 14,500                              | 0   | 50  | 0                                       | 50                               | 14,450                     |
| 2033    | 3,460  | 0   | 11,407   | 0  | 14,867                              | 0   | 50  | 0                                       | 50                               | 14,817                     |
| 2034    | 3,634  | 0   | 11,863   | 0  | 15,497                              | 0   | 50  | 0                                       | 50                               | 15,447                     |
| 2035    | 3,528  | 0   | 12,338   | 0  | 15,866                              | 0   | 50  | 0                                       | 50                               | 15,816                     |
| 2036    | 3,469  | 0   | 12,831   | 0  | 16,300                              | 0   | 50  | 0                                       | 50                               | 16,250                     |
| 2037    | 3,586  | 0   | 13,344   | 0  | 16,930                              | 0   | 50  | 0                                       | 50                               | 16,880                     |
| 2038    | 3,681  | 0   | 13,878   | 0  | 17,559                              | 0   | 50  | 0                                       | 50                               | 17,509                     |
| NOMINAL | 59,093   | 0   | 234,299  | 0  | 293,391                             | 803   | 1,807   | 0                                       | 2,609                            | 290,782                    |
| NPV     | 14,764   | 0   | 65,746   | 0  | 80,510                              | 539   | 810   | 0                                       | 1,349                            | 79,161                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 59.683

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## **H. INTERRUPTIBLE SERVICE PROGRAM**

**Program Start Date:** 1996 for the IS-2 and IST-2 rate schedules.

Modifications proposed in 2010

### **Program Description**

The Interruptible Service program is a direct load control program that reduces Progress Energy's demand at times of capacity shortage during peak or emergency conditions.

### **Policies and Procedures**

The program is available throughout the entire territory served by Progress Energy to any non-residential customer who is willing to have their power interrupted. The program is currently offered through the Interruptible General Service (IS-2) and Interruptible General Service Time of Use (IST-2) rate schedules. The IS-1 and IST-1 rate schedules were closed to new customers in 1996, but remain active for those customers that were grand-fathered onto the rate.

Progress Energy will have remote control of the circuit breaker or disconnect switch supplying the customer's equipment. If purchased power is available at the time of potential interruption, customers who choose not to have their load interrupted will be assessed at the price of that purchased power supplied. Customers participating in the Interruptible Service program will receive a monthly interruptible demand credit based on their billing demand and billing load factor.

The general program eligibility requirements to qualify for participation are as follows:

- Customer must be eligible for service under the IS-2 or IST-2 Rate Schedules.
- Minimum billing demand must be 500 KW or more.
- Available at primary, transmission and secondary service voltages.

## Program Participation

Annual participation estimates for the Interruptible Service program are shown in the following table.

| Year | Total Number of Customers<br>(1) | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|----------------------------------|---|--|---|
| 2011 | 170,886                          | 459   | 1  | 0.2%  |
| 2012 | 175,147                          | 470   | 1  | 0.4%  |
| 2013 | 178,542                          | 479   | 1  | 0.6%  |
| 2014 | 182,030                          | 489   | 1  | 0.8%  |
| 2015 | 185,461                          | 498   | 1  | 1.0%  |
| 2016 | 188,717                          | 507   | 1  | 1.2%  |
| 2017 | 191,817                          | 515   | 1  | 1.4%  |
| 2018 | 194,809                          | 523   | 1  | 1.5%  |
| 2019 | 197,848                          | 531   | 1  | 1.7%  |

1. Total Number of Customers is the forecast of Commercial/Industrial customers in the Progress Energy 2009 Ten Year Site Plan.
2. Eligible Customers is based upon tariff IS-2 Rate Schedule.
3. Annual number of program participants represents the projected number of customers.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Savings estimate for the Interruptible Service program are shown in the following tables.

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2012 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2013 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2014 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2015 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2016 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2017 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2018 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2019 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2012 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2013 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2014 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2015 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2016 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2017 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2018 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2019 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |

## Impact Evaluation Plan

Program impacts are evaluated through on-site interval metering data of all Interruptible Service customers.

## Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits<br/>\$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|---|------------------|
| Rate Impact Measure            | \$6,187                         | \$1,315                      | \$4,872                                 | 4.7              |
| Participant                    | \$1,127                         | \$0                          | \$1,127                                 | 9999             |
| Total Resource Cost            | \$6,187                         | \$187                        | \$6,000                                 | 33.09            |



**PROGRAM: Interruptible Service - RIM**

| YEAR    | BENEFITS                                  |   |  |                             |                              | COSTS                                      |  |                                  |                              |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-----------------------------|------------------------------|--|--|----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                    | (8)                              | (9)                          | (10)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 1   | 0                                       | 0  | 0                           | 1                            | 0  | 16                                     | 13                               | 1                            | 30                        | -29                        |
| 2011    | 3   | 0                                       | 0  | 0                           | 3                            | 0  | 17                                     | 27                               | 1                            | 45                        | -42                        |
| 2012    | 3   | 0                                       | 0  | 0                           | 3                            | 0  | 17                                     | 40                               | 2                            | 59                        | -56                        |
| 2013    | 76  | 0                                       | 147                                      | 0                           | 223                          | 0  | 18                                     | 54                               | 3                            | 74                        | 149                        |
| 2014    | 0   | 0                                       | 290                                      | 0                           | 290                          | 4  | 18                                     | 67                               | 3                            | 93                        | 197                        |
| 2015    | 0   | 0                                       | 353                                      | 0                           | 353                          | 51   | 19                                     | 81                               | 5                            | 155                       | 198                        |
| 2016    | 12  | 0                                       | 412                                      | 0                           | 424                          | 0  | 19                                     | 94                               | 5                            | 119                       | 305                        |
| 2017    | 119                                       | 0                                       | 493                                      | 0                           | 612                          | 0  | 20                                     | 108                              | 5                            | 133                       | 479                        |
| 2018    | 155                                       | 0                                       | 623                                      | 0                           | 779                          | 0  | 20                                     | 121                              | 5                            | 147                       | 632                        |
| 2019    | 130                                       | 0                                       | 707                                      | 0                           | 837                          | 0  | 21                                     | 135                              | 6                            | 162                       | 675                        |
| 2020    | 120                                       | 0                                       | 722                                      | 0                           | 841                          | 0  | 5                                      | 135                              | 7                            | 146                       | 695                        |
| 2021    | 50  | 0                                       | 737                                      | 0                           | 787                          | 0  | 5                                      | 135                              | 8                            | 148                       | 639                        |
| 2022    | 274                                       | 0                                       | 403                                      | 0                           | 677                          | 0  | 5                                      | 135                              | 7                            | 147                       | 530                        |
| 2023    | 301                                       | 0                                       | 672                                      | 0                           | 974                          | 0  | 5                                      | 135                              | 8                            | 147                       | 826                        |
| 2024    | 88  | 0                                       | 702                                      | 0                           | 790                          | 0  | 5                                      | 135                              | 8                            | 148                       | 643                        |
| 2025    | 45  | 0                                       | 714                                      | 0                           | 759                          | 0  | 5                                      | 135                              | 8                            | 148                       | 611                        |
| 2026    | 273                                       | 0                                       | 470                                      | 0                           | 743                          | 0  | 5                                      | 135                              | 8                            | 148                       | 595                        |
| 2027    | 103                                       | 0                                       | 850                                      | 0                           | 953                          | 0  | 5                                      | 135                              | 8                            | 148                       | 805                        |
| 2028    | 91  | 0                                       | 871                                      | 0                           | 962                          | 0  | 5                                      | 135                              | 9                            | 148                       | 813                        |
| 2029    | 247                                       | 0                                       | 479                                      | 0                           | 726                          | 0  | 5                                      | 135                              | 9                            | 149                       | 577                        |
| 2030    | 270                                       | 0                                       | 802                                      | 0                           | 1,071                        | 0  | 5                                      | 135                              | 10                           | 150                       | 922                        |
| 2031    | 277                                       | 0                                       | 834                                      | 0                           | 1,110                        | 0  | 5                                      | 135                              | 10                           | 149                       | 961                        |
| 2032    | 280                                       | 0                                       | 867                                      | 0                           | 1,147                        | 0  | 5                                      | 135                              | 10                           | 150                       | 998                        |
| 2033    | 272                                       | 0                                       | 902                                      | 0                           | 1,174                        | 0  | 5                                      | 135                              | 11                           | 150                       | 1,024                      |
| 2034    | 286                                       | 0                                       | 938                                      | 0                           | 1,224                        | 0  | 5                                      | 135                              | 10                           | 150                       | 1,074                      |
| 2035    | 277                                       | 0                                       | 976                                      | 0                           | 1,253                        | 0  | 5                                      | 135                              | 11                           | 150                       | 1,102                      |
| 2036    | 273                                       | 0                                       | 1,015                                    | 0                           | 1,287                        | 0  | 5                                      | 135                              | 11                           | 151                       | 1,136                      |
| 2037    | 280                                       | 0                                       | 1,055                                    | 0                           | 1,335                        | 0  | 5                                      | 135                              | 11                           | 151                       | 1,185                      |
| 2038    | 289                                       | 0                                       | 1,098                                    | 0                           | 1,386                        | 0  | 5                                      | 135                              | 11                           | 151                       | 1,235                      |
| NOMINAL | 4,590                                     | 0                                       | 18,133                                   | 0                           | 22,724                       | 56   | 278                                    | 3,304                            | 209                          | 3,846                     | 18,877                     |
| NPV     | 1,141                                     | 0                                       | 5,046                                    | 0                           | 6,187                        | 37   | 150                                    | 1,066                            | 61                           | 1,315                     | 4,872                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 4.706

**PROGRAM: Interruptible Service - Participant**

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |                           | NET<br>BENEFITS<br>\$(000) |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|---------------------------|----------------------------|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)                       |                            |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 1  | 13                               | 0   | 14                           | 0                                | 0                         | 14                         |
| 2011    | 1  | 27                               | 0   | 28                           | 0                                | 0                         | 28                         |
| 2012    | 2  | 40                               | 0   | 42                           | 0                                | 0                         | 42                         |
| 2013    | 3  | 54                               | 0   | 57                           | 0                                | 0                         | 57                         |
| 2014    | 3  | 67                               | 0   | 71                           | 0                                | 0                         | 71                         |
| 2015    | 5  | 81                               | 0   | 86                           | 0                                | 0                         | 86                         |
| 2016    | 5  | 94                               | 0   | 100                          | 0                                | 0                         | 100                        |
| 2017    | 5  | 108                              | 0   | 113                          | 0                                | 0                         | 113                        |
| 2018    | 5  | 121                              | 0   | 127                          | 0                                | 0                         | 127                        |
| 2019    | 6  | 135                              | 0   | 141                          | 0                                | 0                         | 141                        |
| 2020    | 7  | 135                              | 0   | 141                          | 0                                | 0                         | 141                        |
| 2021    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2022    | 7  | 135                              | 0   | 142                          | 0                                | 0                         | 142                        |
| 2023    | 8  | 135                              | 0   | 142                          | 0                                | 0                         | 142                        |
| 2024    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2025    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2026    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2027    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2028    | 9  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2029    | 9  | 135                              | 0   | 144                          | 0                                | 0                         | 144                        |
| 2030    | 10   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2031    | 10   | 135                              | 0   | 144                          | 0                                | 0                         | 144                        |
| 2032    | 10   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2033    | 11   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2034    | 10   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2035    | 11   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2036    | 11   | 135                              | 0   | 146                          | 0                                | 0                         | 146                        |
| 2037    | 11   | 135                              | 0   | 146                          | 0                                | 0                         | 146                        |
| 2038    | 11   | 135                              | 0   | 146                          | 0                                | 0                         | 146                        |
| NOMINAL | 209  | 3,304                            | 0   | 3,513                        | 0                                | 0                         | 3,513                      |
| NPV     | 61   | 1,066                            | 0   | 1,127                        | 0                                | 0                         | 1,127                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

**PROGRAM: Interruptible Service - TRC**

| YEAR    | BENEFITS   |  |   |  |                                     | COSTS   |   |   |                                  | NET<br>BENEFITS<br>\$(000) |
|---------|--|--|---|--|-------------------------------------|---|---|---|----------------------------------|----------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (7)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (8)<br>PARTICIPANT'S<br>COST<br>\$(000) | (9)<br>TOTAL<br>COSTS<br>\$(000) |                            |
|         |  |  |   |  |                                     |   |   |   |                                  |                            |
| 2010    | 1  | 0  | 0   | 0  | 1                                   | 0   | 16  | 0                                       | 16                               | -15                        |
| 2011    | 3  | 0  | 0   | 0  | 3                                   | 0   | 17  | 0                                       | 17                               | -14                        |
| 2012    | 3  | 0  | 0   | 0  | 3                                   | 0   | 17  | 0                                       | 17                               | -14                        |
| 2013    | 76   | 0  | 147   | 0  | 223                                 | 0   | 18  | 0                                       | 18                               | 205                        |
| 2014    | 0  | 0  | 290   | 0  | 290                                 | 4   | 18  | 0                                       | 22                               | 267                        |
| 2015    | 0  | 0  | 353   | 0  | 353                                 | 51  | 19  | 0                                       | 70                               | 284                        |
| 2016    | 12   | 0  | 412   | 0  | 424                                 | 0   | 19  | 0                                       | 19                               | 405                        |
| 2017    | 119  | 0  | 493   | 0  | 612                                 | 0   | 20  | 0                                       | 20                               | 592                        |
| 2018    | 155  | 0  | 623   | 0  | 779                                 | 0   | 20  | 0                                       | 20                               | 759                        |
| 2019    | 130  | 0  | 707   | 0  | 837                                 | 0   | 21  | 0                                       | 21                               | 816                        |
| 2020    | 120  | 0  | 722   | 0  | 841                                 | 0   | 5   | 0                                       | 5                                | 836                        |
| 2021    | 50   | 0  | 737   | 0  | 787                                 | 0   | 5   | 0                                       | 5                                | 782                        |
| 2022    | 274  | 0  | 403   | 0  | 677                                 | 0   | 5   | 0                                       | 5                                | 672                        |
| 2023    | 301  | 0  | 672   | 0  | 974                                 | 0   | 5   | 0                                       | 5                                | 969                        |
| 2024    | 88   | 0  | 702   | 0  | 790                                 | 0   | 5   | 0                                       | 5                                | 785                        |
| 2025    | 45   | 0  | 714   | 0  | 759                                 | 0   | 5   | 0                                       | 5                                | 754                        |
| 2026    | 273  | 0  | 470   | 0  | 743                                 | 0   | 5   | 0                                       | 5                                | 738                        |
| 2027    | 103  | 0  | 850   | 0  | 953                                 | 0   | 5   | 0                                       | 5                                | 948                        |
| 2028    | 91   | 0  | 871   | 0  | 962                                 | 0   | 5   | 0                                       | 5                                | 957                        |
| 2029    | 247  | 0  | 479   | 0  | 726                                 | 0   | 5   | 0                                       | 5                                | 721                        |
| 2030    | 270  | 0  | 802   | 0  | 1,071                               | 0   | 5   | 0                                       | 5                                | 1,066                      |
| 2031    | 277  | 0  | 834   | 0  | 1,110                               | 0   | 5   | 0                                       | 5                                | 1,105                      |
| 2032    | 280  | 0  | 867   | 0  | 1,147                               | 0   | 5   | 0                                       | 5                                | 1,142                      |
| 2033    | 272  | 0  | 902   | 0  | 1,174                               | 0   | 5   | 0                                       | 5                                | 1,169                      |
| 2034    | 286  | 0  | 938   | 0  | 1,224                               | 0   | 5   | 0                                       | 5                                | 1,219                      |
| 2035    | 277  | 0  | 976   | 0  | 1,253                               | 0   | 5   | 0                                       | 5                                | 1,248                      |
| 2036    | 273  | 0  | 1,015   | 0  | 1,287                               | 0   | 5   | 0                                       | 5                                | 1,282                      |
| 2037    | 280  | 0  | 1,055   | 0  | 1,335                               | 0   | 5   | 0                                       | 5                                | 1,330                      |
| 2038    | 289  | 0  | 1,098   | 0  | 1,386                               | 0   | 5   | 0                                       | 5                                | 1,381                      |
| NOMINAL | 4,590  | 0  | 18,133  | 0  | 22,724                              | 56  | 278   | 0                                       | 333                              | 22,391                     |
| NPV     | 1,141  | 0  | 5,046   | 0  | 6,187                               | 37  | 150   | 0                                       | 187                              | 6,000                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 33.061

## **I. CURTAILABLE SERVICE PROGRAM**

**Program Start Date:** 1996 for the CS-2 and CST-2 rate schedules

2004 for the CS-3 and CST-3 rate schedules.

Modifications proposed in 2010

### **Program Description**

The Curtailable Service program is an indirect load control program that will reduce Progress Energy's demand at times of capacity shortage during peak or emergency conditions.

### **Policies and Procedures**

The program is available throughout the entire territory served by Progress Energy to any non-residential customer who agrees to curtail 25% of their average monthly billing demand for CS-2 and CST-2 and a minimum of 2000 KW for CS-3 and CST-3. The program is currently offered through the Curtailable General Service (CS-2) and Curtailable General Service Time of Use (CST-2) rate schedules. The CS-1 and CST-1 rate schedules were closed to new customers in 1996, but remain active for those customers that were grand-fathered onto the rate.

Progress Energy will notify customers when off-system power purchases may begin in support of their service. If purchased power is available at the time of notification, customers who choose not to reduce their load will be assessed charges as set forth in the applicable tariff. Additionally, Progress Energy will provide notification of curtailment request. Upon curtailment request, customers choosing not to comply with their curtailment responsibility will be assessed

penalties as described in the applicable tariff. Customers participating in the Curtailable Service program receive a monthly curtailable demand credit based on their curtailable demand and billing load factor. The general program eligibility requirements to qualify for participation are as follows:

- Customer must be eligible for service under the CS-2 or CST-2 Rate Schedules.
- Minimum billing demand must be 500 KW or more for CS-2 and CST-2.
- Available at primary, transmission and secondary service voltages.

## Program Participation

Annual participation estimates for the Curtailable Service program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 906   | 1  | 0.1%  |
| 2012 | 175,147                                  | 928   | 1  | 0.2%  |
| 2013 | 178,542                                  | 946   | 1  | 0.3%  |
| 2014 | 182,030                                  | 965   | 1  | 0.4%  |
| 2015 | 185,461                                  | 983   | 1  | 0.5%  |
| 2016 | 188,717                                  | 1,000   | 1  | 0.6%  |
| 2017 | 191,817                                  | 1,017   | 1  | 0.7%  |
| 2018 | 194,809                                  | 1,032   | 1  | 0.8%  |
| 2019 | 197,848                                  | 1,049   | 1  | 0.9%  |

1. Total Number of Customers is the forecast of Commercial/Industrial customers in the Progress Energy 2009 Ten Year Site Plan.
2. Eligible Customers is based upon tariff CS-2 and CS-3 Rate Schedule.
3. Annual number of program participants represents the projected number of customers.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Savings estimate for the Curtailable Service program are shown in the following tables.

**At the Meter**

| Year | Per Customer<br>KWh Reduction | Per Customer<br>Winter KW<br>Reduction | Per Customer<br>Summer KW<br>Reduction | Total Annual<br>KWh Reduction | Total Annual<br>Winter KW<br>Reduction | Total Annual<br>Summer KW<br>Reduction |
|------|-------------------------------|--|--|-------------------------------|--|--|
| 2011 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2012 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2013 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2014 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2015 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2016 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2017 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2018 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2019 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |

**At the Generator**

| Year | Per Customer<br>KWh Reduction | Per Customer<br>Winter KW<br>Reduction | Per Customer<br>Summer KW<br>Reduction | Total Annual<br>KWh Reduction | Total Annual<br>Winter KW<br>Reduction | Total Annual<br>Summer KW<br>Reduction |
|------|-------------------------------|--|--|-------------------------------|--|--|
| 2011 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2012 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2013 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2014 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2015 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2016 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2017 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2018 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2019 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |

**Impact Evaluation Plan**

Program impacts are evaluated through on-site interval metering data of all Curtailable Service customers.

**Cost-Effectiveness**

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$4,508                         | \$720                        | \$3,788                             | 6.26             |
| Participant                    | \$663                           | \$0                          | \$663                               | 9999             |
| Total Resource Cost            | \$4,508                         | \$57                         | \$4,450                             | 78.8             |



**PROGRAM: Curtailable Service - RIM**

| YEAR    | BENEFITS   |  |   |                                    |                                     | COSTS   |   |   |                                     |                                   | (11)   |
|---------|--|--|---|------------------------------------|-------------------------------------|---|---|---|-------------------------------------|-----------------------------------|--------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>REVENUE<br>GAINS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (7)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (8)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (9)<br>REVENUE<br>LOSSES<br>\$(000) | (10)<br>TOTAL<br>COSTS<br>\$(000) |        |
| 2010    | 1  | 0  | 0   | 0                                  | 1                                   | 0   | 0   | 8                                       | 1                                   | 8                                 | -8     |
| 2011    | 3  | 0  | 0   | 0                                  | 3                                   | 0   | 1   | 15                                      | 1                                   | 17                                | -15    |
| 2012    | 3  | 0  | 0   | 0                                  | 3                                   | 0   | 1   | 23                                      | 2                                   | 26                                | -23    |
| 2013    | 48   | 0  | 92  | 0                                  | 140                                 | 0   | 2   | 31                                      | 2                                   | 35                                | 106    |
| 2014    | 0  | 0  | 182   | 0                                  | 182                                 | 2   | 2   | 39                                      | 3                                   | 45                                | 137    |
| 2015    | 0  | 0  | 222   | 0                                  | 222                                 | 30  | 3   | 46                                      | 4                                   | 83                                | 139    |
| 2016    | 10   | 0  | 367   | 0                                  | 377                                 | 0   | 3   | 54                                      | 5                                   | 62                                | 315    |
| 2017    | 106  | 0  | 440   | 0                                  | 546                                 | 0   | 4   | 62                                      | 5                                   | 70                                | 476    |
| 2018    | 99   | 0  | 391   | 0                                  | 491                                 | 0   | 4   | 70                                      | 5                                   | 78                                | 412    |
| 2019    | 83   | 0  | 444   | 0                                  | 527                                 | 0   | 5   | 77                                      | 6                                   | 87                                | 439    |
| 2020    | 77   | 0  | 453   | 0                                  | 530                                 | 0   | 5   | 77                                      | 6                                   | 88                                | 441    |
| 2021    | 35   | 0  | 463   | 0                                  | 497                                 | 0   | 5   | 77                                      | 6                                   | 89                                | 409    |
| 2022    | 174  | 0  | 253   | 0                                  | 427                                 | 0   | 5   | 77                                      | 6                                   | 89                                | 338    |
| 2023    | 192  | 0  | 422   | 0                                  | 614                                 | 0   | 5   | 77                                      | 7                                   | 89                                | 525    |
| 2024    | 58   | 0  | 441   | 0                                  | 499                                 | 0   | 5   | 77                                      | 7                                   | 89                                | 410    |
| 2025    | 31   | 0  | 448   | 0                                  | 479                                 | 0   | 5   | 77                                      | 7                                   | 89                                | 390    |
| 2026    | 174  | 0  | 295   | 0                                  | 469                                 | 0   | 5   | 77                                      | 7                                   | 89                                | 380    |
| 2027    | 66   | 0  | 534   | 0                                  | 600                                 | 0   | 5   | 77                                      | 7                                   | 89                                | 510    |
| 2028    | 59   | 0  | 547   | 0                                  | 606                                 | 0   | 5   | 77                                      | 7                                   | 90                                | 516    |
| 2029    | 220  | 0  | 428   | 0                                  | 647                                 | 0   | 5   | 77                                      | 8                                   | 90                                | 557    |
| 2030    | 242  | 0  | 715   | 0                                  | 956                                 | 0   | 5   | 77                                      | 8                                   | 90                                | 866    |
| 2031    | 247  | 0  | 744   | 0                                  | 990                                 | 0   | 5   | 77                                      | 8                                   | 90                                | 900    |
| 2032    | 249  | 0  | 773   | 0                                  | 1,022                               | 0   | 5   | 77                                      | 8                                   | 90                                | 931    |
| 2033    | 243  | 0  | 804   | 0                                  | 1,047                               | 0   | 5   | 77                                      | 8                                   | 91                                | 957    |
| 2034    | 255  | 0  | 836   | 0                                  | 1,091                               | 0   | 5   | 77                                      | 8                                   | 91                                | 1,001  |
| 2035    | 247  | 0  | 870   | 0                                  | 1,117                               | 0   | 5   | 77                                      | 9                                   | 91                                | 1,026  |
| 2036    | 242  | 0  | 905   | 0                                  | 1,147                               | 0   | 5   | 77                                      | 9                                   | 91                                | 1,055  |
| 2037    | 250  | 0  | 941   | 0                                  | 1,191                               | 0   | 5   | 77                                      | 9                                   | 91                                | 1,099  |
| 2038    | 258  | 0  | 978   | 0                                  | 1,236                               | 0   | 5   | 77                                      | 9                                   | 91                                | 1,145  |
| NOMINAL | 3,668  | 0  | 13,987  | 0                                  | 17,654                              | 32  | 118   | 1,892                                   | 177                                 | 2,218                             | 15,436 |
| NPV     | 855  | 0  | 3,652   | 0                                  | 4,508                               | 21  | 36  | 611                                     | 52                                  | 720                               | 3,787  |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 6.259

**PROGRAM: Curtailable Service - Participant**

| YEAR    | BENEFITS  |   |  |                                     | COSTS                                   |                                  | NET<br>BENEFITS |
|---------|---|---|--|-------------------------------------|---|----------------------------------|-----------------|
|         | (1)<br>SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | (2)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (3)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | (4)<br>TOTAL<br>BENEFITS<br>\$(000) | (5)<br>PARTICIPANT'S<br>COST<br>\$(000) | (6)<br>TOTAL<br>COSTS<br>\$(000) |                 |
| 2010    | 1   | 8                                       | 0  | 8                                   | 0                                       | 0                                | 8               |
| 2011    | 1   | 15                                      | 0  | 17                                  | 0                                       | 0                                | 17              |
| 2012    | 2   | 23                                      | 0  | 25                                  | 0                                       | 0                                | 25              |
| 2013    | 2   | 31                                      | 0  | 33                                  | 0                                       | 0                                | 33              |
| 2014    | 3   | 39                                      | 0  | 41                                  | 0                                       | 0                                | 41              |
| 2015    | 4   | 46                                      | 0  | 50                                  | 0                                       | 0                                | 50              |
| 2016    | 5   | 54                                      | 0  | 59                                  | 0                                       | 0                                | 59              |
| 2017    | 5   | 62                                      | 0  | 66                                  | 0                                       | 0                                | 66              |
| 2018    | 5   | 70                                      | 0  | 74                                  | 0                                       | 0                                | 74              |
| 2019    | 6   | 77                                      | 0  | 83                                  | 0                                       | 0                                | 83              |
| 2020    | 6   | 77                                      | 0  | 83                                  | 0                                       | 0                                | 83              |
| 2021    | 6   | 77                                      | 0  | 84                                  | 0                                       | 0                                | 84              |
| 2022    | 6   | 77                                      | 0  | 84                                  | 0                                       | 0                                | 84              |
| 2023    | 7   | 77                                      | 0  | 84                                  | 0                                       | 0                                | 84              |
| 2024    | 7   | 77                                      | 0  | 84                                  | 0                                       | 0                                | 84              |
| 2025    | 7   | 77                                      | 0  | 84                                  | 0                                       | 0                                | 84              |
| 2026    | 7   | 77                                      | 0  | 84                                  | 0                                       | 0                                | 84              |
| 2027    | 7   | 77                                      | 0  | 84                                  | 0                                       | 0                                | 84              |
| 2028    | 7   | 77                                      | 0  | 85                                  | 0                                       | 0                                | 85              |
| 2029    | 8   | 77                                      | 0  | 85                                  | 0                                       | 0                                | 85              |
| 2030    | 8   | 77                                      | 0  | 85                                  | 0                                       | 0                                | 85              |
| 2031    | 8   | 77                                      | 0  | 85                                  | 0                                       | 0                                | 85              |
| 2032    | 8   | 77                                      | 0  | 85                                  | 0                                       | 0                                | 85              |
| 2033    | 8   | 77                                      | 0  | 86                                  | 0                                       | 0                                | 86              |
| 2034    | 8   | 77                                      | 0  | 86                                  | 0                                       | 0                                | 86              |
| 2035    | 9   | 77                                      | 0  | 86                                  | 0                                       | 0                                | 86              |
| 2036    | 9   | 77                                      | 0  | 86                                  | 0                                       | 0                                | 86              |
| 2037    | 9   | 77                                      | 0  | 86                                  | 0                                       | 0                                | 86              |
| 2038    | 9   | 77                                      | 0  | 86                                  | 0                                       | 0                                | 86              |
| NOMINAL | 177   | 1,892                                   | 0  | 2,069                               | 0                                       | 0                                | 2,069           |
| NPV     | 52  | 611                                     | 0  | 663                                 | 0                                       | 0                                | 663             |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

**PROGRAM: Curtailable Service - TRC**

| YEAR    | BENEFITS   |  |   |  |                                     | COSTS   |   |   |                                  | (10)<br>NET<br>BENEFITS<br>\$(000) |
|---------|--|--|---|--|-------------------------------------|---|---|---|----------------------------------|------------------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (7)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (8)<br>PARTICIPANT'S<br>COST<br>\$(000) | (9)<br>TOTAL<br>COSTS<br>\$(000) |                                    |
|         |  |  |   |  |                                     |   |   |   |                                  |                                    |
| 2010    | 1  | 0  | 0   | 0  | 1                                   | 0   | 0   | 0                                       | 0                                | 1                                  |
| 2011    | 3  | 0  | 0   | 0  | 3                                   | 0   | 1   | 0                                       | 1                                | 2                                  |
| 2012    | 3  | 0  | 0   | 0  | 3                                   | 0   | 1   | 0                                       | 1                                | 2                                  |
| 2013    | 48   | 0  | 92  | 0  | 140                                 | 0   | 2   | 0                                       | 2                                | 139                                |
| 2014    | 0  | 0  | 182   | 0  | 182                                 | 2   | 2   | 0                                       | 4                                | 178                                |
| 2015    | 0  | 0  | 222   | 0  | 222                                 | 30  | 3   | 0                                       | 33                               | 189                                |
| 2016    | 10   | 0  | 367   | 0  | 377                                 | 0   | 3   | 0                                       | 3                                | 374                                |
| 2017    | 106  | 0  | 440   | 0  | 546                                 | 0   | 4   | 0                                       | 4                                | 542                                |
| 2018    | 99   | 0  | 391   | 0  | 491                                 | 0   | 4   | 0                                       | 4                                | 487                                |
| 2019    | 83   | 0  | 444   | 0  | 527                                 | 0   | 5   | 0                                       | 5                                | 522                                |
| 2020    | 77   | 0  | 453   | 0  | 530                                 | 0   | 5   | 0                                       | 5                                | 525                                |
| 2021    | 35   | 0  | 463   | 0  | 497                                 | 0   | 5   | 0                                       | 5                                | 492                                |
| 2022    | 174  | 0  | 253   | 0  | 427                                 | 0   | 5   | 0                                       | 5                                | 422                                |
| 2023    | 192  | 0  | 422   | 0  | 614                                 | 0   | 5   | 0                                       | 5                                | 609                                |
| 2024    | 58   | 0  | 441   | 0  | 499                                 | 0   | 5   | 0                                       | 5                                | 494                                |
| 2025    | 31   | 0  | 448   | 0  | 479                                 | 0   | 5   | 0                                       | 5                                | 474                                |
| 2026    | 174  | 0  | 295   | 0  | 469                                 | 0   | 5   | 0                                       | 5                                | 464                                |
| 2027    | 66   | 0  | 534   | 0  | 600                                 | 0   | 5   | 0                                       | 5                                | 595                                |
| 2028    | 59   | 0  | 547   | 0  | 606                                 | 0   | 5   | 0                                       | 5                                | 601                                |
| 2029    | 220  | 0  | 428   | 0  | 647                                 | 0   | 5   | 0                                       | 5                                | 642                                |
| 2030    | 242  | 0  | 715   | 0  | 956                                 | 0   | 5   | 0                                       | 5                                | 951                                |
| 2031    | 247  | 0  | 744   | 0  | 990                                 | 0   | 5   | 0                                       | 5                                | 985                                |
| 2032    | 249  | 0  | 773   | 0  | 1,022                               | 0   | 5   | 0                                       | 5                                | 1,017                              |
| 2033    | 243  | 0  | 804   | 0  | 1,047                               | 0   | 5   | 0                                       | 5                                | 1,042                              |
| 2034    | 255  | 0  | 836   | 0  | 1,091                               | 0   | 5   | 0                                       | 5                                | 1,086                              |
| 2035    | 247  | 0  | 870   | 0  | 1,117                               | 0   | 5   | 0                                       | 5                                | 1,112                              |
| 2036    | 242  | 0  | 905   | 0  | 1,147                               | 0   | 5   | 0                                       | 5                                | 1,142                              |
| 2037    | 250  | 0  | 941   | 0  | 1,191                               | 0   | 5   | 0                                       | 5                                | 1,186                              |
| 2038    | 258  | 0  | 978   | 0  | 1,236                               | 0   | 5   | 0                                       | 5                                | 1,231                              |
| NOMINAL | 3,668  | 0  | 13,987  | 0  | 17,654                              | 32  | 118   | 0                                       | 149                              | 17,505                             |
| NPV     | 855  | 0  | 3,652   | 0  | 4,508                               | 21  | 36  | 0                                       | 57                               | 4,450                              |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 78.800

**J. BUSINESS ENERGY RESPONSE PROGRAM**

**Program Start Date:** Proposed to start in 2011

**Program Description**

This program will provide participating non-residential customers with prompt time-of-use energy information, enabling the customer to utilize current energy usage data to identify opportunities to reduce electric consumption during high peak/rate periods. Additionally, these customers will have the opportunity to take advantage of the critical peak rebate incentive that will be offered upon approval of this demand response program and associated tariff sheet (GSDR). This critical peak rebate will be provided to the qualifying non-residential customers during critical peak times to encourage the customer to reduce load during these peak events by allowing direct load control of their air-conditioning systems and/or interfacing with their energy management systems.

There will be a phased infrastructure enhancement plan and implementation that will enable advanced remote metering, direct load control & energy management system demand response interfaces, provide customers with more frequent interval meter data including the addition of a two-way communications network, and a Meter Data Management System with a customer-accessible energy usage and reporting web portal.

Goals of the program are:

- Provide non-residential customers alternative methods/technologies to reduce their electricity cost and contribute to Progress Energy's overall energy and demand reduction goals
- Reduce on-peak demand and energy usage
- Provide low-cost added-value data services (i.e. detailed energy usage reports) in lieu of monthly incentives to lower overall program cost
- Incent participants for only energy/demand benefits actually provided and measured
- Implement the necessary metering & communications technology to support this program and create the opportunity for other energy efficiency programs to be added in the future. This infrastructure will allow Progress Energy to match the American Recovery and Reinvestment Act stimulus grant funds awarded by the Department of Energy.
- Total participation goal is approximately 85,000 AMI web portal (access) non-residential customers by 2019 with many participants upgrading to other energy efficiency programs by the end of 2019 resulting in additional demand and energy reductions

### **Policies and Procedures**

Incentives will be based on measured demand reduction compared to a benchmark average demand established over a period just prior to the critical peak event day.

The program eligibility requirements to qualify for participation are as follows:

General Requirements:

- Meet program specific requirements to ensure needed technology is compatible and expected load reduction is feasible as will be indicated in the GSDR tariff sheet
- The building/facility must be a Progress Energy non-residential tariff type with a time of use or demand rate or have an existing time of use or demand meter
- The building/facility must have an approved Progress Energy “smart meter” that is connected to the Progress Energy Advanced Metering Infrastructure/Demand Response network with two-way communications active (provided by Progress Energy)
- The metering and DR equipment/installation must be considered cost effective by Progress Energy
- The non-residential participant must agree to participate for a minimum number of control events if demand response equipment is installed
- Exceptions to the non-residential tariff type requirement may be made in the event the commercial customer is out of our AMI range, resulting in the need to install meters/gateways to complete the two-way communications network to the customer or if interval data is needed on that residential customer for research purposes.

- Participant must allow Progress Energy and/or its contractor access to all equipment on this program when required by Progress Energy
- Incentive Levels and specific eligibility requirements for each feature promoted in this program will be presented in the Program Participation Standards.

## Program Participation

Annual participation estimates for the Business Energy Response program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 170,886   | 7  | 0.0%  |
| 2012 | 175,147                                  | 175,147   | 904  | 0.5%  |
| 2013 | 178,542                                  | 178,542   | 6,905  | 4.4%  |
| 2014 | 182,030                                  | 182,030   | 9,904  | 9.7%  |
| 2015 | 185,461                                  | 185,461   | 15,904   | 18.1%   |
| 2016 | 188,717                                  | 188,717   | 15,905   | 26.2%   |
| 2017 | 191,817                                  | 191,817   | 15,904   | 34.1%   |
| 2018 | 194,809                                  | 194,809   | 15,904   | 41.8%   |
| 2019 | 197,848                                  | 197,848   | 10,814   | 46.6%   |

1. Total Number of Customers is the forecast of commercial/industrial (C/I) customers in the Progress Energy 2009 Ten Year Site Plan.
2. All commercial, industrial and governmental rate classes are eligible to participate. Note: There are three levels of participation and customers may participant in more than one.
3. Number of program participants represents the participants projected.
4. Cumulative penetration is the ratio of projected measure participating customers to the eligible customer pool.



## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and, annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 0.00                             | 118.16                           | -                          | -                                | 827                              |
| 2012 | -                          | 0.00                             | 7.13                             | -                          | -                                | 6,445                            |
| 2013 | 1,716                      | 0.47                             | 1.40                             | 10,398,501                 | 3,212                            | 9,662                            |
| 2014 | 1,716                      | 0.49                             | 1.14                             | 15,597,752                 | 4,817                            | 11,263                           |
| 2015 | 1,716                      | 0.50                             | 0.91                             | 25,996,253                 | 8,029                            | 14,474                           |
| 2016 | 1,716                      | 0.50                             | 0.91                             | 25,996,253                 | 8,029                            | 14,479                           |
| 2017 | 1,716                      | 0.50                             | 0.91                             | 25,996,253                 | 8,029                            | 14,474                           |
| 2018 | 1,716                      | 0.50                             | 0.91                             | 25,996,253                 | 8,029                            | 14,474                           |
| 2019 | 1,716                      | 0.49                             | 1.05                             | 17,330,835                 | 5,353                            | 11,379                           |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 0.00                             | 124.63                           | -                          | -                                | 872                              |
| 2012 | -                          | 0.00                             | 7.52                             | -                          | -                                | 6,798                            |
| 2013 | 1,810                      | 0.49                             | 1.48                             | 10,967,299                 | 3,387                            | 10,190                           |
| 2014 | 1,810                      | 0.51                             | 1.20                             | 16,450,949                 | 5,081                            | 11,879                           |
| 2015 | 1,810                      | 0.53                             | 0.96                             | 27,418,248                 | 8,468                            | 15,266                           |
| 2016 | 1,810                      | 0.53                             | 0.96                             | 27,418,248                 | 8,468                            | 15,271                           |
| 2017 | 1,810                      | 0.53                             | 0.96                             | 27,418,248                 | 8,468                            | 15,266                           |
| 2018 | 1,810                      | 0.53                             | 0.96                             | 27,418,248                 | 8,468                            | 15,266                           |
| 2019 | 1,810                      | 0.52                             | 1.11                             | 18,278,832                 | 5,646                            | 12,002                           |

2011 and 2012 contain demand values for summer participants only.

The measure that affects energy is available in years 2013 thru 2019.

### Impact Evaluation Plan

Baseline energy and demand usage will be collected from participants to create a statistically valid baseline for winter and summer peak impact evaluation. This baseline will be compared to participants' energy and demand actual data to determine program impacts. In addition, the program requires actual demand comparison before incentives are paid out.

### Cost-Effectiveness

The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs \$<br>(000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|-----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$338,403               | \$297,608             | \$40,795                    | 1.14      |
| Participant             | \$166,203               | \$0                   | \$166,203                   | 9999      |
| Total Resource Cost     | \$338,403               | \$131,405             | \$206,998                   | 2.58      |

## PROGRAM: Business Energy Response - RIM

| YEAR    | BENEFITS                                  |   |  |                             |                              | COSTS                                      |   |  |  |                                  |                              |                           |         | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-----------------------------|------------------------------|--|---|--|--|----------------------------------|------------------------------|---------------------------|---------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                       | (8)  | (9)                                    | (10)                             | (11)                         | (12)                      |         |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |         |                            |
| 2010    | 5   | 0                                       | 0  | 0                           | 5                            | 0  | 0   | 0  | 10,940                                 | 50                               | 3                            | 10,993                    | -10,988 |                            |
| 2011    | 7   | 0                                       | 0  | 0                           | 7                            | 0  | 0   | 0  | 13,780                                 | 66                               | 5                            | 13,851                    | -13,844 |                            |
| 2012    | 9,439                                     | 585                                     | 0  | 0                           | 10,024                       | 0  | 0   | 0  | 20,734                                 | 194                              | 9,339                        | 30,267                    | -20,243 |                            |
| 2013    | 20,588                                    | 995                                     | 6,833                                    | 0                           | 28,416                       | 0  | 0   | 0  | 24,301                                 | 322                              | 16,765                       | 41,388                    | -12,971 |                            |
| 2014    | 14,705                                    | 995                                     | 14,287                                   | 0                           | 29,987                       | 76   | 0   | 0  | 21,551                                 | 450                              | 17,498                       | 39,575                    | -9,587  |                            |
| 2015    | 15,799                                    | 995                                     | 17,343                                   | 0                           | 34,137                       | 755  | 0   | 0  | 21,108                                 | 578                              | 19,187                       | 41,627                    | -7,490  |                            |
| 2016    | 21,330                                    | 995                                     | 5,590                                    | 0                           | 27,916                       | 0  | 0   | 0  | 19,847                                 | 705                              | 18,889                       | 39,441                    | -11,526 |                            |
| 2017    | 18,064                                    | 995                                     | 11,468                                   | 0                           | 30,527                       | 0  | 0   | 0  | 16,634                                 | 833                              | 16,370                       | 33,837                    | -3,310  |                            |
| 2018    | 21,707                                    | 995                                     | 24,557                                   | 0                           | 47,259                       | 0  | 0   | 0  | 12,966                                 | 961                              | 15,674                       | 29,601                    | 17,659  |                            |
| 2019    | 21,301                                    | 995                                     | 26,546                                   | 0                           | 48,843                       | 0  | 0   | 0  | 10,218                                 | 1,010                            | 16,409                       | 27,638                    | 21,205  |                            |
| 2020    | 21,328                                    | 995                                     | 26,239                                   | 0                           | 48,562                       | 0  | 0   | 0  | 8,343                                  | 1,010                            | 16,892                       | 26,245                    | 22,317  |                            |
| 2021    | 20,062                                    | 995                                     | 27,736                                   | 0                           | 48,793                       | 0  | 0   | 0  | 7,446                                  | 1,010                            | 18,282                       | 26,739                    | 22,055  |                            |
| 2022    | 26,688                                    | 995                                     | 12,328                                   | 0                           | 40,011                       | 0  | 0   | 0  | 6,934                                  | 1,010                            | 18,439                       | 26,384                    | 13,627  |                            |
| 2023    | 28,736                                    | 995                                     | 20,599                                   | 0                           | 50,330                       | 0  | 0   | 0  | 5,241                                  | 1,010                            | 18,898                       | 25,150                    | 25,180  |                            |
| 2024    | 22,729                                    | 995                                     | 28,753                                   | 0                           | 52,477                       | 0  | 0   | 0  | 3,294                                  | 1,010                            | 19,277                       | 23,581                    | 28,896  |                            |
| 2025    | 22,101                                    | 995                                     | 29,640                                   | 0                           | 52,736                       | 0  | 0   | 0  | 2,709                                  | 1,010                            | 19,789                       | 23,509                    | 29,227  |                            |
| 2026    | 29,665                                    | 995                                     | 14,489                                   | 0                           | 45,149                       | 0  | 0   | 0  | 2,574                                  | 1,010                            | 20,246                       | 23,830                    | 21,319  |                            |
| 2027    | 24,986                                    | 995                                     | 35,271                                   | 0                           | 61,252                       | 0  | 0   | 0  | 2,371                                  | 1,010                            | 20,692                       | 24,073                    | 37,178  |                            |
| 2028    | 24,502                                    | 995                                     | 28,191                                   | 0                           | 53,688                       | 0  | 0   | 0  | 2,092                                  | 1,010                            | 21,163                       | 24,266                    | 29,422  |                            |
| 2029    | 26,767                                    | 995                                     | 7,254                                    | 0                           | 35,016                       | 0  | 0   | 0  | 1,687                                  | 1,010                            | 21,770                       | 24,467                    | 10,549  |                            |
| 2030    | 28,311                                    | 995                                     | 12,393                                   | 0                           | 41,699                       | 0  | 0   | 0  | 1,930                                  | 1,010                            | 22,266                       | 25,207                    | 16,492  |                            |
| 2031    | 29,254                                    | 995                                     | 12,787                                   | 0                           | 43,036                       | 0  | 0   | 0  | 2,175                                  | 1,010                            | 22,777                       | 25,963                    | 17,074  |                            |
| 2032    | 30,279                                    | 995                                     | 13,227                                   | 0                           | 44,501                       | 0  | 0   | 0  | 2,686                                  | 1,010                            | 23,239                       | 26,935                    | 17,565  |                            |
| 2033    | 31,193                                    | 995                                     | 13,940                                   | 0                           | 46,128                       | 0  | 0   | 0  | 2,643                                  | 1,010                            | 23,826                       | 27,479                    | 18,649  |                            |
| 2034    | 31,757                                    | 995                                     | 14,097                                   | 0                           | 46,849                       | 0  | 0   | 0  | 2,770                                  | 1,010                            | 24,258                       | 28,039                    | 18,810  |                            |
| 2035    | 33,317                                    | 995                                     | 14,967                                   | 0                           | 49,279                       | 0  | 0   | 0  | 2,912                                  | 1,010                            | 24,891                       | 28,814                    | 20,465  |                            |
| 2036    | 34,539                                    | 995                                     | 15,674                                   | 0                           | 51,207                       | 0  | 0   | 0  | 2,818                                  | 1,010                            | 25,469                       | 29,297                    | 21,910  |                            |
| 2037    | 35,549                                    | 995                                     | 16,113                                   | 0                           | 52,657                       | 0  | 0   | 0  | 8,298                                  | 1,010                            | 26,085                       | 35,393                    | 17,263  |                            |
| NOMINAL | 644,702                                   | 25,464                                  | 450,324                                  | 0                           | 1,120,490                    | 831  | 0   | 0  | 241,001                                | 23,357                           | 518,397                      | 783,587                   | 336,903 |                            |
| NPV     | 188,953                                   | 8,450                                   | 141,000                                  | 0                           | 338,403                      | 514  | 0   | 0  | 130,891                                | 6,944                            | 159,259                      | 297,608                   | 40,795  |                            |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.137

**PROGRAM: Business Energy Response - Participant**

| YEAR    | BENEFITS                                      |                                  |  |                              | COSTS                           |  |                           | NET BENEFIT:<br>TO<br>PARTICIPANT<br>\$(000) |
|---------|---|----------------------------------|--|------------------------------|---------------------------------|--|---------------------------|--|
|         | (1)   | (2)                              | (3)  | (4)                          | (5)                             | (6)  | (7)                       |  |
|         | SAVINGS IN<br>PARTICIPANT'<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>'ARTICIPANT'<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'<br>COST<br>\$(000) | PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |  |
| 2010    | 3   | 50                               | 0  | 53                           | 0                               | 0  | 0                         | 53   |
| 2011    | 5   | 66                               | 0  | 71                           | 0                               | 0  | 0                         | 71   |
| 2012    | 9,339   | 194                              | 0  | 9,533                        | 0                               | 0  | 0                         | 9,533  |
| 2013    | 16,765  | 322                              | 0  | 17,087                       | 0                               | 0  | 0                         | 17,087                                       |
| 2014    | 17,498  | 450                              | 0  | 17,947                       | 0                               | 0  | 0                         | 17,947                                       |
| 2015    | 19,187  | 578                              | 0  | 19,764                       | 0                               | 0  | 0                         | 19,764                                       |
| 2016    | 18,889  | 705                              | 0  | 19,594                       | 0                               | 0  | 0                         | 19,594                                       |
| 2017    | 16,370  | 833                              | 0  | 17,203                       | 0                               | 0  | 0                         | 17,203                                       |
| 2018    | 15,674  | 961                              | 0  | 16,635                       | 0                               | 0  | 0                         | 16,635                                       |
| 2019    | 16,409  | 1,010                            | 0  | 17,420                       | 0                               | 0  | 0                         | 17,420                                       |
| 2020    | 16,892  | 1,010                            | 0  | 17,902                       | 0                               | 0  | 0                         | 17,902                                       |
| 2021    | 18,282  | 1,010                            | 0  | 19,293                       | 0                               | 0  | 0                         | 19,293                                       |
| 2022    | 18,439  | 1,010                            | 0  | 19,450                       | 0                               | 0  | 0                         | 19,450                                       |
| 2023    | 18,898  | 1,010                            | 0  | 19,909                       | 0                               | 0  | 0                         | 19,909                                       |
| 2024    | 19,277  | 1,010                            | 0  | 20,287                       | 0                               | 0  | 0                         | 20,287                                       |
| 2025    | 19,789  | 1,010                            | 0  | 20,800                       | 0                               | 0  | 0                         | 20,800                                       |
| 2026    | 20,246  | 1,010                            | 0  | 21,256                       | 0                               | 0  | 0                         | 21,256                                       |
| 2027    | 20,692  | 1,010                            | 0  | 21,702                       | 0                               | 0  | 0                         | 21,702                                       |
| 2028    | 21,163  | 1,010                            | 0  | 22,174                       | 0                               | 0  | 0                         | 22,174                                       |
| 2029    | 21,770  | 1,010                            | 0  | 22,780                       | 0                               | 0  | 0                         | 22,780                                       |
| 2030    | 22,266  | 1,010                            | 0  | 23,277                       | 0                               | 0  | 0                         | 23,277                                       |
| 2031    | 22,777  | 1,010                            | 0  | 23,788                       | 0                               | 0  | 0                         | 23,788                                       |
| 2032    | 23,239  | 1,010                            | 0  | 24,249                       | 0                               | 0  | 0                         | 24,249                                       |
| 2033    | 23,826  | 1,010                            | 0  | 24,836                       | 0                               | 0  | 0                         | 24,836                                       |
| 2034    | 24,258  | 1,010                            | 0  | 25,269                       | 0                               | 0  | 0                         | 25,269                                       |
| 2035    | 24,891  | 1,010                            | 0  | 25,902                       | 0                               | 0  | 0                         | 25,902                                       |
| 2036    | 25,469  | 1,010                            | 0  | 26,479                       | 0                               | 0  | 0                         | 26,479                                       |
| 2037    | 26,085  | 1,010                            | 0  | 27,095                       | 0                               | 0  | 0                         | 27,095                                       |
| NOMINAL | 518,397                                       | 23,357                           | 0  | 541,754                      | 0                               | 0  | 0                         | 541,754                                      |
| NPV     | 159,259                                       | 6,944                            | 0  | 166,203                      | 0                               | 0  | 0                         | 166,203                                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

**PROGRAM: Business Energy Response - TRC**

| YEAR    | BENEFITS   |  |   |  |                                     | COSTS                                   |   |  |   |  |                                   |                                    |
|---------|--|--|---|--|-------------------------------------|---|---|--|---|--|-----------------------------------|------------------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>PARTICIPANT'S<br>COST<br>\$(000) | (7)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (8)<br>INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | (9)<br>INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | (10)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (11)<br>TOTAL<br>COSTS<br>\$(000) | (12)<br>NET<br>BENEFITS<br>\$(000) |
| 2010    | 5  | 0  | 0   | 0  | 5                                   | 0                                       | 0   | 0  | 0   | 10,940   | 10,940                            | -10,936                            |
| 2011    | 7  | 0  | 0   | 0  | 7                                   | 0                                       | 0   | 0  | 0   | 13,780   | 13,780                            | -13,772                            |
| 2012    | 9,439  | 585  | 0   | 0  | 10,024                              | 0                                       | 0   | 0  | 0   | 20,734   | 20,734                            | -10,709                            |
| 2013    | 20,588   | 995  | 6,833   | 0  | 28,416                              | 0                                       | 0   | 0  | 0   | 24,301   | 24,301                            | 4,115                              |
| 2014    | 14,705   | 995  | 14,287  | 0  | 29,987                              | 0                                       | 76  | 0  | 0   | 21,551   | 21,628                            | 8,360                              |
| 2015    | 15,799   | 995  | 17,343  | 0  | 34,137                              | 0                                       | 755   | 0  | 0   | 21,108   | 21,863                            | 12,275                             |
| 2016    | 21,330   | 995  | 5,590   | 0  | 27,916                              | 0                                       | 0   | 0  | 0   | 19,847   | 19,847                            | 8,068                              |
| 2017    | 18,064   | 995  | 11,468  | 0  | 30,527                              | 0                                       | 0   | 0  | 0   | 16,634   | 16,634                            | 13,893                             |
| 2018    | 21,707   | 995  | 24,557  | 0  | 47,259                              | 0                                       | 0   | 0  | 0   | 12,966   | 12,966                            | 34,293                             |
| 2019    | 21,301   | 995  | 26,546  | 0  | 48,843                              | 0                                       | 0   | 0  | 0   | 10,218   | 10,218                            | 38,625                             |
| 2020    | 21,328   | 995  | 26,239  | 0  | 48,562                              | 0                                       | 0   | 0  | 0   | 8,343  | 8,343                             | 40,219                             |
| 2021    | 20,062   | 995  | 27,736  | 0  | 48,793                              | 0                                       | 0   | 0  | 0   | 7,446  | 7,446                             | 41,348                             |
| 2022    | 26,688   | 995  | 12,328  | 0  | 40,011                              | 0                                       | 0   | 0  | 0   | 6,934  | 6,934                             | 33,077                             |
| 2023    | 28,736   | 995  | 20,599  | 0  | 50,330                              | 0                                       | 0   | 0  | 0   | 5,241  | 5,241                             | 45,089                             |
| 2024    | 22,729   | 995  | 28,753  | 0  | 52,477                              | 0                                       | 0   | 0  | 0   | 3,294  | 3,294                             | 49,184                             |
| 2025    | 22,101   | 995  | 29,640  | 0  | 52,736                              | 0                                       | 0   | 0  | 0   | 2,709  | 2,709                             | 50,027                             |
| 2026    | 29,665   | 995  | 14,489  | 0  | 45,149                              | 0                                       | 0   | 0  | 0   | 2,574  | 2,574                             | 42,576                             |
| 2027    | 24,986   | 995  | 35,271  | 0  | 61,252                              | 0                                       | 0   | 0  | 0   | 2,371  | 2,371                             | 58,881                             |
| 2028    | 24,502   | 995  | 28,191  | 0  | 53,688                              | 0                                       | 0   | 0  | 0   | 2,092  | 2,092                             | 51,596                             |
| 2029    | 26,767   | 995  | 7,254   | 0  | 35,016                              | 0                                       | 0   | 0  | 0   | 1,687  | 1,687                             | 33,329                             |
| 2030    | 28,311   | 995  | 12,393  | 0  | 41,699                              | 0                                       | 0   | 0  | 0   | 1,930  | 1,930                             | 39,769                             |
| 2031    | 29,254   | 995  | 12,787  | 0  | 43,036                              | 0                                       | 0   | 0  | 0   | 2,175  | 2,175                             | 40,861                             |
| 2032    | 30,279   | 995  | 13,227  | 0  | 44,501                              | 0                                       | 0   | 0  | 0   | 2,686  | 2,686                             | 41,815                             |
| 2033    | 31,193   | 995  | 13,940  | 0  | 46,128                              | 0                                       | 0   | 0  | 0   | 2,643  | 2,643                             | 43,485                             |
| 2034    | 31,757   | 995  | 14,097  | 0  | 46,849                              | 0                                       | 0   | 0  | 0   | 2,770  | 2,770                             | 44,078                             |
| 2035    | 33,317   | 995  | 14,967  | 0  | 49,279                              | 0                                       | 0   | 0  | 0   | 2,912  | 2,912                             | 46,367                             |
| 2036    | 34,539   | 995  | 15,674  | 0  | 51,207                              | 0                                       | 0   | 0  | 0   | 2,818  | 2,818                             | 48,389                             |
| 2037    | 35,549   | 995  | 16,113  | 0  | 52,657                              | 0                                       | 0   | 0  | 0   | 8,298  | 8,298                             | 44,358                             |
| NOMINAL | 644,702  | 25,464   | 450,324   | 0  | 1,120,490                           | 0                                       | 831   | 0  | 0   | 241,001  | 241,832                           | 878,658                            |
| NPV     | 188,953  | 8,450  | 141,000   | 0  | 338,403                             | 0                                       | 514   | 0  | 0   | 130,891  | 131,405                           | 206,998                            |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 2.575

## **VI. DEMAND-SIDE RENEWABLE PORTFOLIO**

The Demand Side Renewable Portfolio was designed to emphasize the benefits of solar photovoltaic technology and encourage the development of renewable programs, with an added focus placed on low-income and education pilots. Additionally, Progress Energy endeavored to collaborate with state initiatives and provide interested customers with the option to voluntarily support renewable efforts. This portfolio encourages education of energy efficiency by recommending an energy audit be performed on the home or business prior to participation.

The Demand-Side Renewable Energy Portfolio is comprised of the following pilot programs:

- Solar Water Heating for Low-income Residential
- Solar Water Heating with Energy Management
- Residential Solar Photovoltaic
- Commercial Solar Photovoltaic
- Photovoltaic for Schools
- Research & Demonstration

Incentive levels and specific eligibility requirements for the initial measures promoted in these pilot programs will be presented in the Program Participation Standards. Customer participation will be evaluated on an on-going basis; funds may be moved from one pilot program to another based upon actual participation. Progress Energy will implement these pilot programs over a five-year period to evaluate the system impacts.

**A. SOLAR WATER HEATING FOR LOW INCOME RESIDENTIAL CUSTOMERS PILOT**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The Solar Water Heating for the Low-income Residential Customers Pilot is a custom renewable energy measure designed to assist low-income families with energy costs by incorporating a solar thermal water heating system in their residence while it is under construction. Progress Energy will collaborate with non-profit builders to provide low-income families with a residential solar thermal water heater. The solar thermal system will be provided at no cost to the non-profit builders or the residential participants.

**Policies and Procedures**

The incentive for this program is the total cost of the solar thermal system plus the associated installation cost. The program will be limited to a targeted annual incentive cap of \$114,000. The incentive cap for this program has been revised from the value stated in PEF's DSM Program Plan as filed on March 30, 2010, due to a scrivener's error found in the development of this revised Plan, and the correction is being made with this filing.



## Program Participation

Annual participation estimates for the Solar Water Heating for Low Income Residential Customers Pilot program are shown in the table below:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 896   | 30   | 3.3%  |
| 2012 | 1,495,098                                | 864   | 30   | 6.9%  |
| 2013 | 1,521,451                                | 817   | 30   | 11.0%   |
| 2014 | 1,548,531                                | 753   | 30   | 15.9%   |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all residential customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customers based on U.S. Census block data for income qualifications.
3. Annual number of program participants represents the projected number of low-income homes to participate in this pilot annually. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total pilot savings were developed by first estimating per customer savings and, annual projected participation. The total pilot savings were then computed as the product of those two variables for each year, and are shown in the following tables.

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 2,314                      | 0.40                             | 0.37                             | 69,420                     | 12                               | 11                               |
| 2012 | 2,314                      | 0.40                             | 0.37                             | 69,420                     | 12                               | 11                               |
| 2013 | 2,314                      | 0.40                             | 0.37                             | 69,420                     | 12                               | 11                               |
| 2014 | 2,314                      | 0.40                             | 0.37                             | 69,420                     | 12                               | 11                               |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 2,466                      | 0.43                             | 0.39                             | 74,295                     | 13                               | 12                               |
| 2012 | 2,466                      | 0.43                             | 0.39                             | 74,295                     | 13                               | 12                               |
| 2013 | 2,466                      | 0.43                             | 0.39                             | 74,295                     | 13                               | 12                               |
| 2014 | 2,466                      | 0.43                             | 0.39                             | 74,295                     | 13                               | 12                               |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

## Impact Evaluation Plan

Maintain record of capacity of systems installed.

## Cost-Effectiveness

The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs<br>\$(000) | NPV Net Benefits<br>\$(000) | B/C Ratio |
|-------------------------|-------------------------|----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$359                   | \$906                | -\$547                      | 0.4       |
| Participant             | \$745                   | \$392                | \$353                       | 1.9       |
| Total Resource Cost     | \$359                   | \$553                | -\$194                      | 0.65      |

**B. SOLAR WATER HEATING WITH ENERGY MANAGEMENT PROGRAM**

**Program Start Date:** 2007

Proposed modification in 2011

**Program Description**

The Solar Water Heating with Energy Management Program encourages residential customers to install new solar thermal water heating systems on their residence. This program incorporates a long standing cost effective Demand Side Management program with the requirement for customers to participate in our residential demand response program.

**Policies and Procedures**

There are two incentives associated with this program. First, participants will receive a one-time \$550 rebate designed to reduce the upfront cost of the renewable energy system. Second, participants will receive a monthly bill credit associated with their participation in the residential demand response program.

This program was designed with the support and input of the solar industry. The program will record participant occupancy levels to capture the most accurate energy savings. The program will be limited to a targeted annual incentive cap of \$1,237,500.

## Program Participation

Annual participation estimates for the Solar Water Heating with Energy Management program are shown in the table below:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 1,223,161   | 2,250  | 0.2%  |
| 2012 | 1,495,098                                | 1,240,931   | 2,250  | 0.4%  |
| 2013 | 1,521,451                                | 1,262,804   | 2,250  | 0.5%  |
| 2014 | 1,548,531                                | 1,285,281   | 2,250  | 0.7%  |

1. Total Number of Customers is the forecast of all residential customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customers is the total number of customers less existing participation
3. Annual number of program participants represents the projected number of homes to be involved in this pilot by year. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating per customer savings and, annual projected participation, multiplied by measure. The total program savings were then computed as the sum of the individual customer savings, and are shown in the following tables.

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1,718                      | 2.14                             | 1.11                             | 3,865,725                  | 4,815                            | 2,491                            |
| 2012 | 1,718                      | 2.14                             | 1.11                             | 3,865,725                  | 4,815                            | 2,491                            |
| 2013 | 1,718                      | 2.14                             | 1.11                             | 3,865,725                  | 4,815                            | 2,491                            |
| 2014 | 1,718                      | 2.14                             | 1.11                             | 3,865,725                  | 4,815                            | 2,491                            |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1,831                      | 2.28                             | 1.18                             | 4,137,209                  | 5,153                            | 2,666                            |
| 2012 | 1,831                      | 2.28                             | 1.18                             | 4,137,209                  | 5,153                            | 2,666                            |
| 2013 | 1,831                      | 2.28                             | 1.18                             | 4,137,209                  | 5,153                            | 2,666                            |
| 2014 | 1,831                      | 2.28                             | 1.18                             | 4,137,209                  | 5,153                            | 2,666                            |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

### Impact Evaluation Plan

Maintain record of capacity of systems installed.

### Cost-Effectiveness

The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net Benefits<br/>\$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$34,097                        | \$28,707                     | \$5,390                             | 1.19             |
| Participant                    | \$33,388                        | \$28,811                     | \$4,577                             | 1.16             |
| Total Resource Cost            | \$41,138                        | \$31,171                     | \$9,967                             | 1.32             |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

**C. RESIDENTIAL SOLAR PHOTOVOLTAIC PILOT**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The Solar PV pilot encourages residential customers to install new solar photovoltaic (PV) systems on their home. This pilot promotes the installation of renewable energy on energy efficient homes by requiring customers to participate in at least one residential energy efficiency measure. The program design includes an annual reservation process for pre-approval to ensure the incentive expenditure cap is available for participation.

Goals of the program are:

- Provide residential customers with a higher return on investment in PV systems
- Increase renewable energy generation on Progress Energy's system
- Increase participation in existing residential Demand Side Management measures

**Policies and Procedures**

This program will provide participating residential customers a rebate of up to \$2.00 per Watt of the PV dc power rating up to a \$20,000 maximum for installing a new photovoltaic system. This rebate is designed to reduce the initial investment required to install a qualified renewable solar



energy system. The program will be limited to a targeted annual incentive cap of \$1,000,000 per year.

Participation with this program is intended to support and collaborate with state initiatives. As such, Progress Energy anticipates these rebates would be used with state funds to limit Florida residents to a maximum incentive of \$4.00 per Watt total when all state, local, and utility incentives are combined. Progress Energy will work with our customers to endeavor to not to exceed this incentive cap.

## Program Participation

Annual participation estimates for the Residential Solar Photovoltaic Pilot program are shown in the table below:

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| 2011        | 1,473,688                                       | 1,473,688  | 100   | 0.0%   |
| 2012        | 1,495,098                                       | 1,495,098  | 100   | 0.0%   |
| 2013        | 1,521,451                                       | 1,521,451  | 100   | 0.0%   |
| 2014        | 1,548,531                                       | 1,548,531  | 100   | 0.0%   |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all Residential customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customers represent all residential customers.
3. Annual number of program participants represents the projected number of homes to be involved in this pilot by year. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total pilot savings were developed by first estimating per customer savings and, annual projected participation, multiplied by measure. The total pilot savings were then computed as the sum of the individual customer savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 8,340                      | 0.00                             | 1.58                             | 833,960                    | -                                | 158                              |
| 2012 | 8,340                      | 0.00                             | 1.58                             | 833,960                    | -                                | 158                              |
| 2013 | 8,340                      | 0.00                             | 1.58                             | 833,960                    | -                                | 158                              |
| 2014 | 8,340                      | 0.00                             | 1.58                             | 833,960                    | -                                | 158                              |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 8,887                      | 0.00                             | 1.68                             | 892,528                    | -                                | 169                              |
| 2012 | 8,887                      | 0.00                             | 1.68                             | 892,528                    | -                                | 169                              |
| 2013 | 8,887                      | 0.00                             | 1.68                             | 892,528                    | -                                | 169                              |
| 2014 | 8,887                      | 0.00                             | 1.68                             | 892,528                    | -                                | 169                              |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

Annual incremental coincident winter KW reductions for this Pilot program are De Minimus and round to zero.

**Impact Evaluation Plan**

Maintain record of capacity of systems installed.

**Cost-Effectiveness**

The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$4,469                         | \$8,761                      | -\$4,292                            | 0.51             |
| Participant                    | \$11,361                        | \$13,958                     | -\$2,597                            | 0.81             |
| Total Resource Cost            | \$7,511                         | \$14,400                     | -\$6,889                            | 0.52             |

**D. COMMERCIAL SOLAR PHOTOVOLTAIC PILOT**

**Program Start Date:** Proposed to start in 2011

**Program Description**

Solar PV pilot encourages Commercial customers to install new solar photovoltaic (PV) systems on their facilities. This pilot promotes the installation of renewable on energy efficient businesses by requiring customers to participate in at least one commercial energy efficiency measure. The program design includes an annual reservation process for pre-approval to ensure the incentive expenditure cap is available for participation. The program design also provides commercial customers with a higher return on investment in PV systems designed to:

- Increase renewable energy generation on Progress Energy's system
- Increase participation in existing Commercial Demand Side Management measures

**Policies and Procedures**

This program will provide participating commercial customers who install a new photovoltaic system with a tiered rebate up to the following incentive levels, based on the PV dc power rating:

- \$2.00 per Watt for the first 10 KW
- \$1.50 per Watt for 11KW to 50 KW
- \$1.00 per Watt for 51KW to 100 KW

The rebate is designed to reduce the initial investment required to install a qualified renewable solar energy system. Total incentives per participant will be limited to \$130,000, based on a maximum installation of 100KW. Program design includes an annual reservation process for pre-approval to ensure the incentive expenditure cap is available for participation. The program will be limited to a targeted annual incentive cap of \$1,000,000 per year.

Participation with this program is intended to support and collaborate with state initiatives. As such, Progress Energy anticipates these rebates would be used with state funds to limit Florida business owners to a maximum incentive of \$4.00 per Watt total when all state, local, and utility incentives are combined. Progress Energy will work with our customers to endeavor to not to exceed this incentive cap.

## Program Participation

Participation estimates for the Commercial Solar Photovoltaic Pilot program are shown in the following table:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 7,524   | 23   | 0.3%  |
| 2012 | 175,147                                  | 7,562   | 23   | 0.6%  |
| 2013 | 178,542                                  | 7,600   | 23   | 0.9%  |
| 2014 | 182,030                                  | 7,638   | 23   | 1.2%  |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all Commercial/Industrial customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customers are the estimated number of customers with electric water heater that qualifies for the load management program.
3. Annual number of program participants represents the projected number of commercial participants in this pilot annually. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total pilot savings were developed by first estimating per customer savings and annual projected participation, multiplied by measure. The total pilot savings were then computed as the sum of the individual customer savings, and are shown in the following tables.

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 41,698                     | -                                | 7.87                             | 959,052                    | -                                | 181                              |
| 2012 | 41,698                     | -                                | 7.87                             | 959,052                    | -                                | 181                              |
| 2013 | 41,698                     | -                                | 7.87                             | 959,052                    | -                                | 181                              |
| 2014 | 41,698                     | -                                | 7.87                             | 959,052                    | -                                | 181                              |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 44,158                     | -                                | 8.33                             | 1,019,184                  | -                                | 192                              |
| 2012 | 44,158                     | -                                | 8.33                             | 1,019,184                  | -                                | 192                              |
| 2013 | 44,158                     | -                                | 8.33                             | 1,019,184                  | -                                | 192                              |
| 2014 | 44,158                     | -                                | 8.33                             | 1,019,184                  | -                                | 192                              |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

Annual incremental coincident winter kW reductions for this Pilot program are De Minimus and round to zero.



### Impact Evaluation Plan

Maintain record of capacity of systems installed.

### Cost-Effectiveness

The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs \$ (000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|--------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$5,119                 | \$8,809            | -\$3,690                    | 0.58      |
| Participant             | \$10,904                | \$12,714           | -\$1,810                    | 0.86      |
| Total Resource Cost     | \$7,713                 | \$13,213           | -\$5,500                    | 0.58      |

## **E. PHOTOVOLTAIC FOR SCHOOLS PILOT**

**Program Start Date:** Proposed to start in 2010

### **Program Description**

The Schools Pilot is designed to assist schools with energy costs while promoting energy education. This program will provide participating public schools with new photovoltaic systems at no cost to the school. These systems will be installed, owned, operated and maintained by Progress Energy for a period of 5 years, after which the school assumes ownership and system benefits.

Goals of the program are:

- Eliminate the initial investment required to install a renewable solar PV system
- Increase renewable energy generation on Progress Energy's system
- Increase participation in existing residential Demand Side Management measures through energy education
- Increase solar education and awareness in Progress Energy communities and schools

### **Policies and Procedures**

This program will fully fund the PV systems that are installed on the participating public schools. These schools will enter an agreement allowing Progress Energy to own and operate the system for an initial 5 year period. Progress Energy will record the total PV system and installation cost

as a regulatory asset to be amortized over five years. After the 5-year contract period, the school will assume ownership of the PV system. Customers will apply for participation in this program. The program will be limited to an annual target of one system with a rating up to 100 KW installed on a post secondary public school and (10) 10 KW systems with battery backup option installed on public schools, preferably serving as emergency shelters.

Post secondary school participation will be prioritized based on attendance and consumption associated with their main campus. Public schools will be selected using a competitive process that aligns with Florida's SunSmart E-Shelters Program Application with an emphasis placed on the schools commitment to energy efficiency and renewable energy education.

The incentive for this program is the total equipment cost of the solar PV system plus the associated installation, operation and maintenance cost for the first five years. The solar PV system and installation will be considered a rebate that will eliminate the cost to the customer for providing new renewable energy system on their facilities.

This program places an emphasis on energy education and promotes environmental stewardship. As such, customers participating in the Winter-Only Energy Management or Year Round Energy Management residential demand response programs can elect to contribute their monthly credit toward a fund design to support and promote energy education. The fund will accumulate associated participant credits for a period of two years, at which time the customer may elect to renew for an additional two years. All proceeds collected from participating customers and their associated monthly credits will be used to promote energy efficiency and renewable energy educational opportunities.

## Program Participation

Projected participation projections for K-12:

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| 2011        | 170,886   | 100  | 10  | 10.0%  |
| 2012        | 175,147   | 101  | 10  | 19.8%  |
| 2013        | 178,542   | 102  | 10  | 29.4%  |
| 2014        | 182,030   | 103  | 10  | 38.8%  |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all Commercial customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customer projections represent the projected number of K-12 schools in the Progress Energy service area that also serve as an emergency shelter.
3. Annual number of program participants represents the projected number of K-12 schools participants in this pilot by year. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

Projected participation projections for post secondary:

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| 2011        | 170,886   | 11   | 1   | 9.0%   |
| 2012        | 175,147   | 11   | 1   | 17.8%  |
| 2013        | 178,542   | 11   | 1   | 26.5%  |
| 2014        | 182,030   | 11   | 1   | 34.9%  |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all Commercial customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customer projections represent the projected number of post secondary schools in the Progress Energy service area that also serve as an emergency shelter.
3. Annual number of program participants represents the projected number of post secondary schools participants in this pilot by year. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total pilot savings were developed by first estimating per customer savings and, annual projected participation, multiplied by measure. The total pilot savings were then computed as the sum of the individual customer savings, and are shown in the following tables.

Projected savings estimates for K-12:

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 16679                      | -                                | 3.20                             | 166,792                    | -                                | 32                               |
| 2012 | 16679                      | -                                | 3.20                             | 166,792                    | -                                | 32                               |
| 2013 | 16679                      | -                                | 3.20                             | 166,792                    | -                                | 32                               |
| 2014 | 16679                      | -                                | 3.20                             | 166,792                    | -                                | 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 17663                      | -                                | 3.39                             | 177,250                    | -                                | 34                               |
| 2012 | 17663                      | -                                | 3.39                             | 177,250                    | -                                | 34                               |
| 2013 | 17663                      | -                                | 3.39                             | 177,250                    | -                                | 34                               |
| 2014 | 17663                      | -                                | 3.39                             | 177,250                    | -                                | 34                               |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

Annual incremental coincident winter kW reductions for this Pilot program are De Minimus and round to zero.

## Projected savings estimates for post secondary:

**At the Meter**

| <b>Year</b> | <b>Per Customer KWh Reduction</b> | <b>Per Customer Winter KW Reduction</b> | <b>Per Customer Summer KW Reduction</b> | <b>Total Annual KWh Reduction</b> | <b>Total Annual Winter KW Reduction</b> | <b>Total Annual Summer KW Reduction</b> |
|-------------|-----------------------------------|---|---|-----------------------------------|---|---|
| 2011        | 166,792                           | -                                       | 31.00                                   | 166,792                           | -                                       | 31                                      |
| 2012        | 166,792                           | -                                       | 31.00                                   | 166,792                           | -                                       | 31                                      |
| 2013        | 166,792                           | -                                       | 31.00                                   | 166,792                           | -                                       | 31                                      |
| 2014        | 166,792                           | -                                       | 31.00                                   | 166,792                           | -                                       | 31                                      |

**At the Generator**

| <b>Year</b> | <b>Per Customer KWh Reduction</b> | <b>Per Customer Winter KW Reduction</b> | <b>Per Customer Summer KW Reduction</b> | <b>Total Annual KWh Reduction</b> | <b>Total Annual Winter KW Reduction</b> | <b>Total Annual Summer KW Reduction</b> |
|-------------|-----------------------------------|---|---|-----------------------------------|---|---|
| 2011        | 176,633                           | -                                       | 33                                      | 177,250                           | -                                       | 33                                      |
| 2012        | 176,633                           | -                                       | 33                                      | 177,250                           | -                                       | 33                                      |
| 2013        | 176,633                           | -                                       | 33                                      | 177,250                           | -                                       | 33                                      |
| 2014        | 176,633                           | -                                       | 33                                      | 177,250                           | -                                       | 33                                      |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

Annual incremental coincident winter kW reductions for this Pilot program are De Minimus and round to zero.

**Impact Evaluation Plan**

Maintain record of capacity of systems installed.

**Cost-Effectiveness**

The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs \$ (000)</b> | <b>NPV Net Benefits<br/>\$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|---------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$1,681                         | \$7,913                   | -\$6,232                            | 0.21             |
| Participant                    | \$4,550                         | \$1,042                   | \$3,508                             | 4.37             |
| Total Resource Cost            | \$5,100                         | \$7,824                   | -\$2,724                            | 0.65             |



**F. RESEARCH AND DEMONSTRATION PILOT**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The purpose of this program component is to research technology and establish R&D initiatives to support the development of renewable energy pilot programs. Demonstration projects will provide real-world field testing to assist in the development of these initiatives. The program will be limited to a targeted annual expenditure cap of 5% of the total Demand-Side Renewable Portfolio annual expenditures.

**Policies and Procedures**

In general, each R&D project that is proposed and investigated will proceed as follows:

- Project concept or idea development
- Project research and design, including estimated costs and benefits
- Conduct field test, modeling, general research, and theoretical testing
- Each project will be designed to support the development of future solar and renewable energy pilot programs.

## **VII. TECHNOLOGY DEVELOPMENT PROGRAM**

**Program Start Date:** 1995

Modifications proposed in 2010

### **Program Description**

The purpose of this program is to establish a system for meeting the goals in Section 366.82(2), Florida Statutes, and Rule 25-17, Florida Administrative Code. Progress Energy will undertake certain research and demonstration projects which provide support for the development of cost-effective demand reduction, energy efficiency, and alternative energy programs. Technical and operational knowledge for the advances in the energy field may come from field demonstration projects, research partnerships, webinars, general education, etc. The Technology Development program is designed to allow Progress Energy to investigate technologies and support the development of new programs from initial concept through submittal to the Commission for consideration and approval. In general, each research and demonstration project that is proposed and investigated will proceed as follows:

- Project concept or idea development
- Project research and design, including estimated costs and benefits
- Conduct field testing, pilot program, modeling, general research, and theoretical testing
- Evaluation of collected data, including cost-effectiveness

- Acceptance or rejection of project for continuation as a program
- If accepted for continuation, application will be made to the Commission for approval to implement the program

### **Policies and Procedures**

Eligible customers will be dependent on the type of project proposed and investigated as determined during the project research and design phase. Each project that is proposed and investigated will have to meet one or more of the goals identified in Section 366.82(2), Florida Statutes, and Rule 25-17, Florida Administrative Code. If not, the project will not proceed beyond the project concept or idea phase.

### **Program Participation**

In many cases the demand reduction, energy efficiency, and alternative energy projects that are proposed and investigated under this program will require field testing with actual customers. After being defined in the project research and design phase, these projects will offer services or products to eligible customers on a voluntary basis.

Examples of potential projects that may be funded under this program include:

- Demand reduction, energy efficiency technologies, such as energy awareness devices
- Market transformation initiatives, such as smart charging for electric vehicles
- And other alternative energy and innovative technologies.

All costs will be included as part of the pre-approved project expenditures under this program.

Technology focused on energy efficiency, demand response, alternative energy, as well as innovations within the energy field in general have undergone significant development since 1995. With the current international focus in this arena, advances are even more rapid today. In addition, the way in which customers accept these products and the studies associated with how to offer products and services, further complicates the efficient and effective development of programs. In order to keep pace, an enhanced focus on research, demonstration, and development is needed.

At the discretion of Progress Energy, annual basis expenditures not to exceed \$2,000,000 annually, may be made and recovered through the Energy Conservation Cost Recovery clause for all research projects that are proposed and investigated. If any single project's expenditures exceed 25% of the pre-approved annual program budget, a status report will be filed as a component of the Energy Conservation Cost Recovery Clause Projection and True-Up filings.

The status report will identify each project under investigation with disbursements exceeding 25% of the pre-approved annual program budget, the scope and purpose of the project, its development schedule identifying accomplishments and projections, and the project's actual and proposed expenditures for Commission review. If total program expenditures are projected to exceed \$2,000,000 in a given year, Progress Energy will apply to the Commission staff for approval to proceed with the particular project which would cause Progress Energy to exceed the limit.

Finally, Progress Energy will account for and maintain records of all expenses for each project in accordance with Rule 25-17.015, Florida Administrative Code.

### **Savings Estimates**

The Technology Development program makes it possible to obtain and use actual data from field tests, as well as customer and market research studies instead of relying heavily on engineering assumptions, model results, and estimates. Benefit and cost figures derived from these projects will be more accurate and provide enhanced reliability to forecasts, allowing better assessment of potential future demand reduction, energy efficiency, alternative, and innovative programs submitted to the Commission for approval.

A second benefit resulting from this research program is that the field tests, customer research and market evaluations uncover benefits, costs, and disadvantages that may be overlooked by an engineering estimate or evaluation. Real world testing provides actual experience on a small scale to be obtained. This should facilitate the decision-making process and improve the success rate of approved programs.

Consequently, program savings were not estimated during the planning stage and are not included in the Demand Side Management Plan totals. Any impacts obtained by this program will be calculated for each individual project and will be reported to the Commission to be counted toward achieving Progress Energy's conservation goals.

### **Impact Evaluation Plan**

The methodology for monitoring and evaluating a project that is submitted to the Commission for approval as a program shall be determined during the project research and design phase and shall be refined during the field test or pilot program phase. Since projects will normally include a field test or pilot program, the data will be actual rather than estimated. In the event a project does not involve a field test or pilot program, the estimated or modeled savings will be documented with the methodology used.

### **Cost-Effectiveness**

The cost-effectiveness of each project submitted to the Commission for approval to be implemented as a program shall be analyzed and reported using the Commission-approved cost-effectiveness tests.

## **VIII. QUALIFYING FACILITIES PROGRAM**

### **Program Description**

The purpose of this program is to meet the objectives and obligations established by Section 366.051, Florida Statutes, and the Commission's rules contained within Part III of Chapter 25-17, Florida Administrative Code, regarding the purchase of as-available energy and firm energy and capacity from qualifying facilities pursuant to standard offer and negotiated contracts.

Under the Qualifying Facilities program, Progress Energy develops standard offer contracts, negotiates, enters into, amends and restructures firm energy and capacity contracts entered into with qualifying cogeneration and small power production facilities, and administers all such contracts.

**IX. STAFF-REQUESTED TABLES**

The associated tables 1-3 provide a summary of cost effectiveness tests, demand and energy savings, and penetration rates for only those programs proposed with this Revised Goal Plan. Tables 4 and 5 are a summarization of program costs and ECCR rate impacts for all programs proposed in this filing, including the previously approved Demand Side Renewable Portfolio.



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## **Staff-Requested Tables**

### **Table IX-1: Savings**

#### **Residential Programs**

The tables below indicate the total annual and cumulative saving impacts (Summer Demand MW, Winter Demand MW, and Annual Energy (GWh) for the Residential Programs included in the Revised Goal, for years 2011 – 2019.

- Home Energy Check
- Home Energy Improvement
- Residential New Construction
- Neighborhood Energy Saver
- Low Income Weatherization Assistance
- Residential Energy Management
- Residential Lighting
- Residential Behavior Modification
- Residential Appliance Recycling

| Home Energy Check |                       |  |                       |  |                        |  |  |                             |  |                             |  |                             |
|-------------------|-----------------------|--|-----------------------|--|------------------------|--|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                   | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011              | 9.66                  |  | 5.95                  |  | 25.88                  |  |  | 9.66                        |  | 5.95                        |  | 25.88                       |
| 2012              | 9.83                  |  | 6.02                  |  | 26.42                  |  |  | 19.49                       |  | 11.96                       |  | 52.30                       |
| 2013              | 9.82                  |  | 5.99                  |  | 26.43                  |  |  | 29.31                       |  | 17.95                       |  | 78.73                       |
| 2014              | 9.81                  |  | 5.96                  |  | 26.45                  |  |  | 39.12                       |  | 23.91                       |  | 105.18                      |
| 2015              | 9.81                  |  | 5.94                  |  | 26.49                  |  |  | 48.93                       |  | 29.85                       |  | 131.67                      |
| 2016              | 9.81                  |  | 5.92                  |  | 26.54                  |  |  | 58.74                       |  | 35.77                       |  | 158.21                      |
| 2017              | 9.82                  |  | 5.90                  |  | 26.60                  |  |  | 68.55                       |  | 41.67                       |  | 184.80                      |
| 2018              | 9.83                  |  | 5.89                  |  | 26.67                  |  |  | 78.38                       |  | 47.56                       |  | 211.47                      |
| 2019              | 9.84                  |  | 5.88                  |  | 26.76                  |  |  | 88.22                       |  | 53.44                       |  | 238.23                      |

| Home Energy Improvement |                       |                       |                        |  |                             |                             |                             |
|-------------------------|-----------------------|-----------------------|------------------------|--|-----------------------------|-----------------------------|-----------------------------|
|                         | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011                    | 10.37                 | 16.81                 | 16.47                  |  | 10.37                       | 16.81                       | 16.47                       |
| 2012                    | 11.27                 | 18.21                 | 18.95                  |  | 21.64                       | 35.01                       | 35.43                       |
| 2013                    | 11.39                 | 18.58                 | 19.54                  |  | 33.03                       | 53.59                       | 54.97                       |
| 2014                    | 12.46                 | 20.35                 | 21.98                  |  | 45.48                       | 73.94                       | 76.95                       |
| 2015                    | 12.80                 | 20.84                 | 23.20                  |  | 58.28                       | 94.78                       | 100.15                      |
| 2016                    | 12.90                 | 21.11                 | 24.18                  |  | 71.18                       | 115.89                      | 124.33                      |
| 2017                    | 10.40                 | 17.08                 | 20.48                  |  | 81.58                       | 132.97                      | 144.81                      |
| 2018                    | 10.01                 | 16.55                 | 20.60                  |  | 91.59                       | 149.52                      | 165.41                      |
| 2019                    | 10.09                 | 16.78                 | 21.44                  |  | 101.68                      | 166.30                      | 186.85                      |

| Residential New Construction |                       |                       |                        |                             |                             |                             |
|------------------------------|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|
|                              | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011                         | 1.52                  | 1.73                  | 2.82                   | 1.52                        | 1.73                        | 2.82                        |
| 2012                         | 1.14                  | 1.54                  | 2.31                   | 2.65                        | 3.27                        | 5.13                        |
| 2013                         | 1.22                  | 1.66                  | 2.59                   | 3.87                        | 4.93                        | 7.72                        |
| 2014                         | 1.52                  | 1.84                  | 3.32                   | 5.38                        | 6.77                        | 11.04                       |
| 2015                         | 1.63                  | 2.03                  | 3.67                   | 7.01                        | 8.80                        | 14.71                       |
| 2016                         | 2.01                  | 2.52                  | 4.65                   | 9.02                        | 11.32                       | 19.36                       |
| 2017                         | 1.97                  | 2.52                  | 4.45                   | 10.99                       | 13.84                       | 23.81                       |
| 2018                         | 1.67                  | 2.18                  | 3.82                   | 12.65                       | 16.02                       | 27.63                       |
| 2019                         | 1.63                  | 2.12                  | 3.78                   | 14.28                       | 18.14                       | 31.41                       |

| Neighborhood Energy Saver |                       |                       |                        |                             |                             |                             |
|---------------------------|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|
|                           | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011                      | 2.59                  | 1.95                  | 5.94                   | 2.59                        | 1.95                        | 5.94                        |
| 2012                      | 2.71                  | 2.04                  | 6.21                   | 5.29                        | 3.99                        | 12.16                       |
| 2013                      | 2.87                  | 2.16                  | 6.58                   | 8.16                        | 6.15                        | 18.74                       |
| 2014                      | 2.98                  | 2.25                  | 6.85                   | 11.14                       | 8.40                        | 25.59                       |
| 2015                      | 2.19                  | 1.65                  | 5.02                   | 13.33                       | 10.05                       | 30.61                       |
| 2016                      | 2.17                  | 1.64                  | 4.99                   | 15.50                       | 11.69                       | 35.60                       |
| 2017                      | 1.93                  | 1.50                  | 4.62                   | 17.42                       | 13.18                       | 40.22                       |
| 2018                      | 1.76                  | 1.40                  | 4.35                   | 19.18                       | 14.58                       | 44.57                       |
| 2019                      | 1.67                  | 1.34                  | 4.21                   | 20.85                       | 15.92                       | 48.78                       |

| Low Income Weatherization |                       |  |                       |  |                        |                             |                             |
|---------------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                           | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
|                           |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                           |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
| 2011                      | 0.30                  |  | 0.35                  |  | 0.66                   | 0.30                        | 0.35                        |
| 2012                      | 0.33                  |  | 0.33                  |  | 0.74                   | 0.63                        | 0.67                        |
| 2013                      | 0.32                  |  | 0.30                  |  | 0.75                   | 0.94                        | 0.97                        |
| 2014                      | 0.31                  |  | 0.29                  |  | 0.77                   | 1.25                        | 1.26                        |
| 2015                      | 0.33                  |  | 0.36                  |  | 0.80                   | 1.58                        | 1.62                        |
| 2016                      | 0.36                  |  | 0.46                  |  | 0.83                   | 1.95                        | 2.08                        |
| 2017                      | 0.37                  |  | 0.48                  |  | 0.84                   | 2.32                        | 2.56                        |
| 2018                      | 0.38                  |  | 0.52                  |  | 0.89                   | 2.69                        | 3.08                        |
| 2019                      | 0.40                  |  | 0.59                  |  | 0.93                   | 3.09                        | 3.68                        |

| Residential Energy Management |                       |  |                       |  |                        |                             |                             |
|-------------------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                               | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
|                               |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                               |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
| 2011                          | 9.11                  |  | 17.55                 |  | 0.00                   | 9.11                        | 17.55                       |
| 2012                          | 9.11                  |  | 17.55                 |  | 0.00                   | 18.21                       | 35.11                       |
| 2013                          | 9.11                  |  | 17.55                 |  | 0.00                   | 27.32                       | 52.66                       |
| 2014                          | 9.11                  |  | 17.55                 |  | 0.00                   | 36.42                       | 70.22                       |
| 2015                          | 9.11                  |  | 17.55                 |  | 0.00                   | 45.53                       | 87.77                       |
| 2016                          | 16.50                 |  | 31.80                 |  | 0.00                   | 62.02                       | 119.57                      |
| 2017                          | 16.50                 |  | 31.80                 |  | 0.00                   | 78.52                       | 151.37                      |
| 2018                          | 16.50                 |  | 31.80                 |  | 0.00                   | 95.01                       | 183.18                      |
| 2019                          | 11.53                 |  | 22.23                 |  | 0.00                   | 106.54                      | 205.40                      |

| Residential Lighting |                       |  |                       |  |                        |    |                             |  |                             |  |                             |
|----------------------|-----------------------|--|-----------------------|--|------------------------|----|-----------------------------|--|-----------------------------|--|-----------------------------|
|                      | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |    | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                 | 2.25                  |  | 0.00                  |  | 22.46                  |    | 2.25                        |  | 0.00                        |  | 22.46                       |
| 2012                 | 2.24                  |  | 0.00                  |  | 22.37                  |    | 4.48                        |  | 0.00                        |  | 44.83                       |
| 2013                 | 1.88                  |  | 0.00                  |  | 18.84                  |    | 6.37                        |  | 0.00                        |  | 63.67                       |
| 2014                 | 1.55                  |  | 0.00                  |  | 15.52                  |    | 7.92                        |  | 0.00                        |  | 79.19                       |
| 2015                 | 1.52                  |  | 0.00                  |  | 15.15                  |    | 9.43                        |  | 0.00                        |  | 94.34                       |
| 2016                 | 1.47                  |  | 0.00                  |  | 14.69                  |    | 10.90                       |  | 0.00                        |  | 109.03                      |
| 2017                 | 1.14                  |  | 0.00                  |  | 11.39                  | '' | 12.04                       |  | 0.00                        |  | 120.43                      |
| 2018                 | 1.10                  |  | 0.00                  |  | 10.96                  |    | 13.14                       |  | 0.00                        |  | 131.39                      |
| 2019                 | 1.10                  |  | 0.00                  |  | 10.96                  |    | 14.23                       |  | 0.00                        |  | 142.35                      |

| Residential Appliance Recycling |                       |  |                       |  |                        |    |                             |  |                             |  |                             |
|---------------------------------|-----------------------|--|-----------------------|--|------------------------|----|-----------------------------|--|-----------------------------|--|-----------------------------|
|                                 | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |    | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                            | 0.73                  |  | 0.73                  |  | 6.20                   |    | 0.73                        |  | 0.73                        |  | 6.20                        |
| 2012                            | 1.11                  |  | 1.11                  |  | 9.43                   |    | 1.84                        |  | 1.84                        |  | 15.64                       |
| 2013                            | 1.13                  |  | 1.13                  |  | 9.56                   |    | 2.97                        |  | 2.97                        |  | 25.20                       |
| 2014                            | 1.13                  |  | 1.13                  |  | 9.63                   |    | 4.10                        |  | 4.10                        |  | 34.82                       |
| 2015                            | 1.16                  |  | 1.16                  |  | 9.82                   |    | 5.25                        |  | 5.25                        |  | 44.64                       |
| 2016                            | 1.18                  |  | 1.18                  |  | 10.01                  |    | 6.43                        |  | 6.43                        |  | 54.65                       |
| 2017                            | 1.20                  |  | 1.20                  |  | 10.20                  | '' | 7.63                        |  | 7.63                        |  | 64.85                       |
| 2018                            | 1.22                  |  | 1.22                  |  | 10.33                  |    | 8.85                        |  | 8.85                        |  | 75.18                       |
| 2019                            | 1.23                  |  | 1.23                  |  | 10.46                  |    | 10.08                       |  | 10.08                       |  | 85.64                       |

| Residential Behavior Modification |                       |                       |                        |   |                             |                             |                             |
|-----------------------------------|-----------------------|-----------------------|------------------------|---|-----------------------------|-----------------------------|-----------------------------|
|                                   | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) |   | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011                              | 3.20                  | 3.20                  | 13.32                  |   | 3.20                        | 3.20                        | 13.32                       |
| 2012                              | 3.20                  | 3.20                  | 13.32                  |   | 6.39                        | 6.39                        | 26.63                       |
| 2013                              | 3.20                  | 3.20                  | 13.32                  |   | 9.59                        | 9.59                        | 39.95                       |
| 2014                              | 3.20                  | 3.20                  | 13.32                  |   | 12.78                       | 12.78                       | 53.27                       |
| 2015                              | 3.20                  | 3.20                  | 13.32                  |   | 15.98                       | 15.98                       | 66.58                       |
| 2016                              | 3.20                  | 3.20                  | 13.32                  |   | 19.18                       | 19.18                       | 79.90                       |
| 2017                              | 3.20                  | 3.20                  | 13.32                  | " | 22.37                       | 22.37                       | 93.21                       |
| 2018                              | 3.20                  | 3.20                  | 13.32                  |   | 25.57                       | 25.57                       | 106.53                      |
| 2019                              | 3.20                  | 3.20                  | 13.32                  |   | 28.76                       | 28.76                       | 119.85                      |

**Commercial Programs**

The tables below indicate the total annual and cumulative saving impacts (Summer Demand MW, Winter Demand MW, and Annual Energy (GWh) for the Commercial Programs included in the Revised Goal, for years 2011 – 2019.

- Business Energy Check
- Better Business
- Commercial/Industrial New Construction
- Business Energy Saver
- Commercial Green Building New Construction
- Innovation Incentive
- Standby Generation
- Interruptible Service
- Curtailable Service
- Business Energy Response



| Business Energy Check |                       |  |                       |  |                        |                             |                             |
|-----------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                       | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
| 2011                  | 0.82                  |  | 0.34                  |  | 1.37                   |                             |                             |
| 2012                  | 0.86                  |  | 0.36                  |  | 1.44                   |                             |                             |
| 2013                  | 0.90                  |  | 0.37                  |  | 1.51                   |                             |                             |
| 2014                  | 0.93                  |  | 0.39                  |  | 1.56                   |                             |                             |
| 2015                  | 0.41                  |  | 0.22                  |  | 1.01                   |                             |                             |
| 2016                  | 0.40                  |  | 0.22                  |  | 0.99                   |                             |                             |
| 2017                  | 0.39                  |  | 0.21                  |  | 0.97                   |                             |                             |
| 2018                  | 0.38                  |  | 0.21                  |  | 0.95                   |                             |                             |
| 2019                  | 0.38                  |  | 0.21                  |  | 0.95                   |                             |                             |
|                       |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                       |                       |  |                       |  |                        | 0.82                        | 0.34                        |
|                       |                       |  |                       |  |                        | 1.67                        | 0.69                        |
|                       |                       |  |                       |  |                        | 2.57                        | 1.07                        |
|                       |                       |  |                       |  |                        | 3.50                        | 1.45                        |
|                       |                       |  |                       |  |                        | 3.90                        | 1.67                        |
|                       |                       |  |                       |  |                        | 4.30                        | 1.89                        |
|                       |                       |  |                       |  |                        | 4.69                        | 2.10                        |
|                       |                       |  |                       |  |                        | 5.08                        | 2.31                        |
|                       |                       |  |                       |  |                        | 5.46                        | 2.52                        |
|                       |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
|                       |                       |  |                       |  |                        |                             | 1.37                        |
|                       |                       |  |                       |  |                        |                             | 2.81                        |
|                       |                       |  |                       |  |                        |                             | 4.32                        |
|                       |                       |  |                       |  |                        |                             | 5.88                        |
|                       |                       |  |                       |  |                        |                             | 6.89                        |
|                       |                       |  |                       |  |                        |                             | 7.89                        |
|                       |                       |  |                       |  |                        |                             | 8.86                        |
|                       |                       |  |                       |  |                        |                             | 9.81                        |
|                       |                       |  |                       |  |                        |                             | 10.76                       |

| Better Business |                       |  |                       |  |                        |                             |                             |
|-----------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                 | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
| 2011            | 19.53                 |  | 8.51                  |  | 60.10                  |                             |                             |
| 2012            | 18.01                 |  | 7.31                  |  | 55.80                  |                             |                             |
| 2013            | 14.04                 |  | 4.50                  |  | 44.95                  |                             |                             |
| 2014            | 13.65                 |  | 3.76                  |  | 44.41                  |                             |                             |
| 2015            | 10.74                 |  | 2.94                  |  | 34.98                  |                             |                             |
| 2016            | 9.22                  |  | 2.52                  |  | 30.02                  |                             |                             |
| 2017            | 6.14                  |  | 1.68                  |  | 20.01                  |                             |                             |
| 2018            | 5.67                  |  | 1.56                  |  | 18.48                  |                             |                             |
| 2019            | 5.22                  |  | 1.43                  |  | 17.01                  |                             |                             |
|                 |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                 |                       |  |                       |  |                        | 19.53                       | 8.51                        |
|                 |                       |  |                       |  |                        | 37.54                       | 15.82                       |
|                 |                       |  |                       |  |                        | 51.58                       | 20.32                       |
|                 |                       |  |                       |  |                        | 65.23                       | 24.08                       |
|                 |                       |  |                       |  |                        | 75.97                       | 27.02                       |
|                 |                       |  |                       |  |                        | 85.18                       | 29.54                       |
|                 |                       |  |                       |  |                        | 91.33                       | 31.22                       |
|                 |                       |  |                       |  |                        | 97.00                       | 32.78                       |
|                 |                       |  |                       |  |                        | 102.22                      | 34.21                       |
|                 |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
|                 |                       |  |                       |  |                        |                             | 60.10                       |
|                 |                       |  |                       |  |                        |                             | 115.90                      |
|                 |                       |  |                       |  |                        |                             | 160.85                      |
|                 |                       |  |                       |  |                        |                             | 205.26                      |
|                 |                       |  |                       |  |                        |                             | 240.24                      |
|                 |                       |  |                       |  |                        |                             | 270.26                      |
|                 |                       |  |                       |  |                        |                             | 290.26                      |
|                 |                       |  |                       |  |                        |                             | 308.74                      |
|                 |                       |  |                       |  |                        |                             | 325.75                      |

| Commercial/Industrial New Construction |                       |                       |                        |                             |                             |                             |
|--|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|
|  | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011                                   | 1.66                  | 0.62                  | 4.24                   | 1.66                        | 0.62                        | 4.24                        |
| 2012                                   | 1.52                  | 0.57                  | 3.87                   | 3.18                        | 1.19                        | 8.11                        |
| 2013                                   | 1.78                  | 0.96                  | 4.31                   | 4.96                        | 2.15                        | 12.42                       |
| 2014                                   | 1.87                  | 1.01                  | 4.47                   | 6.82                        | 3.16                        | 16.89                       |
| 2015                                   | 1.46                  | 0.80                  | 3.41                   | 8.29                        | 3.96                        | 20.30                       |
| 2016                                   | 1.33                  | 0.74                  | 3.12                   | 9.62                        | 4.70                        | 23.42                       |
| 2017                                   | 1.31                  | 0.77                  | 2.95                   | 10.93                       | 5.47                        | 26.37                       |
| 2018                                   | 1.22                  | 0.72                  | 2.74                   | 12.14                       | 6.20                        | 29.12                       |
| 2019                                   | 1.19                  | 0.72                  | 2.69                   | 13.33                       | 6.92                        | 31.81                       |

| Business Energy Saver |                       |                       |                        |                             |                             |                             |
|-----------------------|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|
|                       | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011                  | 0.17                  | 0.04                  | 0.24                   | 0.17                        | 0.04                        | 0.24                        |
| 2012                  | 0.21                  | 0.05                  | 0.29                   | 0.38                        | 0.10                        | 0.54                        |
| 2013                  | 0.21                  | 0.05                  | 0.29                   | 0.59                        | 0.15                        | 0.83                        |
| 2014                  | 0.21                  | 0.05                  | 0.29                   | 0.79                        | 0.20                        | 1.12                        |
| 2015                  | 0.21                  | 0.05                  | 0.29                   | 1.00                        | 0.25                        | 1.41                        |
| 2016                  | 0.21                  | 0.05                  | 0.29                   | 1.21                        | 0.30                        | 1.70                        |
| 2017                  | 0.21                  | 0.05                  | 0.29                   | 1.42                        | 0.36                        | 2.00                        |
| 2018                  | 0.21                  | 0.05                  | 0.29                   | 1.62                        | 0.41                        | 2.29                        |
| 2019                  | 0.21                  | 0.05                  | 0.29                   | 1.83                        | 0.46                        | 2.58                        |

| Commercial Green Building |                       |                       |                        |                             |                             |                             |
|---------------------------|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|
|                           | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011                      | 0.22                  | 0.14                  | 0.51                   | 0.22                        | 0.14                        | 0.51                        |
| 2012                      | 0.36                  | 0.22                  | 0.82                   | 0.58                        | 0.35                        | 1.33                        |
| 2013                      | 0.44                  | 0.27                  | 1.02                   | 1.02                        | 0.63                        | 2.35                        |
| 2014                      | 0.51                  | 0.31                  | 1.16                   | 1.53                        | 0.93                        | 3.51                        |
| 2015                      | 0.51                  | 0.31                  | 1.18                   | 2.04                        | 1.25                        | 4.69                        |
| 2016                      | 0.46                  | 0.28                  | 1.06                   | 2.50                        | 1.53                        | 5.75                        |
| 2017                      | 0.49                  | 0.30                  | 1.13                   | 2.99                        | 1.83                        | 6.88                        |
| 2018                      | 0.47                  | 0.29                  | 1.07                   | 3.46                        | 2.11                        | 7.95                        |
| 2019                      | 0.52                  | 0.32                  | 1.20                   | 3.98                        | 2.43                        | 9.15                        |

| Innovation Incentive |                       |                       |                        |                             |                             |                             |
|----------------------|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|
|                      | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011                 | 0.00                  | 0.00                  | 0.00                   | 0.00                        | 0.00                        | 0.00                        |
| 2012                 | 0.00                  | 0.00                  | 0.00                   | 0.00                        | 0.00                        | 0.00                        |
| 2013                 | 0.00                  | 0.00                  | 0.00                   | 0.00                        | 0.00                        | 0.00                        |
| 2014                 | 0.00                  | 0.00                  | 0.00                   | 0.00                        | 0.00                        | 0.00                        |
| 2015                 | 0.00                  | 0.00                  | 0.00                   | 0.00                        | 0.00                        | 0.00                        |
| 2016                 | 0.00                  | 0.00                  | 0.00                   | 0.00                        | 0.00                        | 0.00                        |
| 2017                 | 0.00                  | 0.00                  | 0.00                   | 0.00                        | 0.00                        | 0.00                        |
| 2018                 | 0.00                  | 0.00                  | 0.00                   | 0.00                        | 0.00                        | 0.00                        |
| 2019                 | 0.00                  | 0.00                  | 0.00                   | 0.00                        | 0.00                        | 0.00                        |

| Standby Generation |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|--------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                    | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 4.25                        |  | 4.25                        |  | 0.00                        |
| 2012               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 8.50                        |  | 8.50                        |  | 0.00                        |
| 2013               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 12.75                       |  | 12.75                       |  | 0.00                        |
| 2014               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 17.00                       |  | 17.00                       |  | 0.00                        |
| 2015               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 21.26                       |  | 21.26                       |  | 0.00                        |
| 2016               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 25.51                       |  | 25.51                       |  | 0.00                        |
| 2017               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 29.76                       |  | 29.76                       |  | 0.00                        |
| 2018               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 34.01                       |  | 34.01                       |  | 0.00                        |
| 2019               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 38.26                       |  | 38.26                       |  | 0.00                        |

| Interruptible Service |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|-----------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                       | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 0.32                        |  | 0.34                        |  | 0.00                        |
| 2012                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 0.64                        |  | 0.67                        |  | 0.00                        |
| 2013                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 0.96                        |  | 1.01                        |  | 0.00                        |
| 2014                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 1.28                        |  | 1.35                        |  | 0.00                        |
| 2015                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 1.61                        |  | 1.69                        |  | 0.00                        |
| 2016                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 1.93                        |  | 2.02                        |  | 0.00                        |
| 2017                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 2.25                        |  | 2.36                        |  | 0.00                        |
| 2018                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 2.57                        |  | 2.70                        |  | 0.00                        |
| 2019                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 2.89                        |  | 3.03                        |  | 0.00                        |

| Curtable Service |                       |                       |                        |                             |                             |                             |
|------------------|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|
|                  | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011             | 0.20                  | 0.30                  | 0.00                   | 0.20                        | 0.30                        | 0.00                        |
| 2012             | 0.20                  | 0.30                  | 0.00                   | 0.40                        | 0.60                        | 0.00                        |
| 2013             | 0.20                  | 0.30                  | 0.00                   | 0.60                        | 0.90                        | 0.00                        |
| 2014             | 0.20                  | 0.30                  | 0.00                   | 0.80                        | 1.20                        | 0.00                        |
| 2015             | 0.20                  | 0.30                  | 0.00                   | 1.01                        | 1.50                        | 0.00                        |
| 2016             | 0.20                  | 0.30                  | 0.00                   | 1.21                        | 1.80                        | 0.00                        |
| 2017             | 0.20                  | 0.30                  | 0.00                   | 1.41                        | 2.10                        | 0.00                        |
| 2018             | 0.20                  | 0.30                  | 0.00                   | 1.61                        | 2.40                        | 0.00                        |
| 2019             | 0.20                  | 0.30                  | 0.00                   | 1.81                        | 2.70                        | 0.00                        |

| Business Energy Response |                       |                       |                        |                             |                             |                             |
|--------------------------|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|
|                          | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |
| 2011                     | 0.87                  | 0.00                  | 0.00                   | 0.87                        | 0.00                        | 0.00                        |
| 2012                     | 6.80                  | 0.00                  | 0.00                   | 7.67                        | 0.00                        | 0.00                        |
| 2013                     | 10.19                 | 3.39                  | 10.97                  | 17.86                       | 3.39                        | 10.97                       |
| 2014                     | 11.88                 | 5.08                  | 16.45                  | 29.74                       | 8.47                        | 27.42                       |
| 2015                     | 15.27                 | 8.47                  | 27.42                  | 45.01                       | 16.94                       | 54.84                       |
| 2016                     | 15.27                 | 8.47                  | 27.42                  | 60.28                       | 25.40                       | 82.25                       |
| 2017                     | 15.27                 | 8.47                  | 27.42                  | 75.54                       | 33.87                       | 109.67                      |
| 2018                     | 15.27                 | 8.47                  | 27.42                  | 90.81                       | 42.34                       | 137.09                      |
| 2019                     | 12.00                 | 5.65                  | 18.28                  | 102.81                      | 47.99                       | 155.37                      |

**Other Programs**

The tables below indicate the total annual and cumulative saving impacts (Summer Demand MW, Winter Demand MW, and Annual Energy (GWh) for the Other Programs included in the Revised Goal, for years 2011 – 2019.

- Technology Development
- Qualifying Facilities
- Demand Side Renewable Portfolio<sup>1</sup>

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<sup>1</sup> Previously approved in Order No. PSC-10-0605-PAA-EG

| Technology Development |                       |  |                       |  |                        |                             |                             |
|------------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                        | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
|                        |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                        |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
| 2011                   | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2012                   | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2013                   | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2014                   | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2015                   | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2016                   | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2017                   | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2018                   | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2019                   | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |

| Qualifying Facilities |                       |  |                       |  |                        |                             |                             |
|-----------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                       | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
|                       |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                       |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
| 2011                  | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2012                  | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2013                  | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2014                  | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2015                  | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2016                  | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2017                  | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2018                  | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2019                  | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |

Demand Side Renewable Portfolio



**Table IX-2: Penetration Rates****Residential Programs**

The tables below indicate the penetration rates assumed for each program compared to historic rates for similar programs for the Residential Programs included in the Revised Goal, for years 2011 – 2019.

- Home Energy Check
- Home Energy Improvement
- Residential New Construction
- Neighborhood Energy Saver
- Low Income Weatherization Assistance
- Residential Energy Management
- Residential Lighting
- Residential Behavior Modification
- Residential Appliance Recycling

Historical penetration rates were based on the period 2007-2009.

| Home Energy Check        |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 1,473,688          |  | 62,755       | 4.3%            |
| 2012                     | 1,495,098          |  | 64,561       | 4.3%            |
| 2013                     | 1,521,451          |  | 64,840       | 4.3%            |
| 2014                     | 1,548,531          |  | 65,151       | 4.2%            |
| 2015                     | 1,575,167          |  | 65,492       | 4.2%            |
| 2016                     | 1,600,448          |  | 65,866       | 4.1%            |
| 2017                     | 1,624,503          |  | 65,151       | 4.0%            |
| 2018                     | 1,647,724          |  | 66,269       | 4.0%            |
| 2019                     | 1,671,277          |  | 66,706       | 4.0%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 3.8%               |  |              |                 |
| Low                      | 2.9%               |  |              |                 |

| Home Energy Improvement  |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 1,473,688          |  | 36,883       | 2.5%            |
| 2012                     | 1,495,098          |  | 40,137       | 2.7%            |
| 2013                     | 1,521,451          |  | 37,705       | 2.5%            |
| 2014                     | 1,548,531          |  | 40,674       | 2.6%            |
| 2015                     | 1,575,167          |  | 42,019       | 2.7%            |
| 2016                     | 1,600,448          |  | 42,842       | 2.7%            |
| 2017                     | 1,624,503          |  | 35,061       | 2.2%            |
| 2018                     | 1,647,724          |  | 34,308       | 2.1%            |
| 2019                     | 1,671,277          |  | 35,025       | 2.1%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 3.0%               |  |              |                 |
| Low                      | 1.5%               |  |              |                 |

| Residential New Construction |                    |  |              |                 |
|------------------------------|--------------------|--|--------------|-----------------|
|                              | Eligible Customers |  | Participants | % Participation |
| 2011                         | 16,273             |  | 3,301        | 16.8%           |
| 2012                         | 21,410             |  | 3,167        | 12.6%           |
| 2013                         | 26,353             |  | 3,580        | 10.5%           |
| 2014                         | 27,080             |  | 5,083        | 11.7%           |
| 2015                         | 26,636             |  | 4,880        | 11.9%           |
| 2016                         | 25,281             |  | 4,686        | 11.6%           |
| 2017                         | 24,055             |  | 3,981        | 11.3%           |
| 2018                         | 23,221             |  | 3,305        | 10.5%           |
| 2019                         | 23,553             |  | 3,206        | 9.7%            |
| % Historic Participation     |                    |  |              |                 |
| High                         | 62.1%              |  |              |                 |
| Low                          | 31.5%              |  |              |                 |

| Neighborhood Energy Saver |                    |  |              |                 |
|---------------------------|--------------------|--|--------------|-----------------|
|                           | Eligible Customers |  | Participants | % Participation |
| 2011                      | 45,718             |  | 3,251        | 7.1%            |
| 2012                      | 43,382             |  | 3,401        | 7.8%            |
| 2013                      | 40,848             |  | 3,601        | 8.8%            |
| 2014                      | 38,064             |  | 3,750        | 9.9%            |
| 2015                      | 35,076             |  | 2,750        | 7.8%            |
| 2016                      | 33,027             |  | 2,750        | 8.3%            |
| 2017                      | 30,938             |  | 2,750        | 8.9%            |
| 2018                      | 28,807             |  | 2,750        | 9.5%            |
| 2019                      | 26,633             |  | 2,750        | 10.3%           |
| % Historic Participation  |                    |  |              |                 |
| High                      | 9.4%               |  |              |                 |
| Low                       | 9.4%               |  |              |                 |

| Low Income Weatherization |                    |  |              |  |                 |
|---------------------------|--------------------|--|--------------|--|-----------------|
|                           | Eligible Customers |  | Participants |  | % Participation |
| 2011                      | 1,011              |  | 337          |  | 33.3%           |
| 2012                      | 1,026              |  | 342          |  | 33.3%           |
| 2013                      | 1,044              |  | 348          |  | 33.3%           |
| 2014                      | 1,062              |  | 354          |  | 33.3%           |
| 2015                      | 1,081              |  | 360          |  | 33.3%           |
| 2016                      | 1,098              |  | 366          |  | 33.3%           |
| 2017                      | 1,115              |  | 372          |  | 33.3%           |
| 2018                      | 1,131              |  | 377          |  | 33.3%           |
| 2019                      | 1,147              |  | 382          |  | 33.3%           |
| % Historic Participation  |                    |  |              |  |                 |
| High                      | 50.0%              |  |              |  |                 |
| Low                       | 50.0%              |  |              |  |                 |

| Residential Energy Management |                    |  |              |  |                 |
|-------------------------------|--------------------|--|--------------|--|-----------------|
|                               | Eligible Customers |  | Participants |  | % Participation |
| 2011                          | 941,530            |  | 7,700        |  | 0.8%            |
| 2012                          | 955,209            |  | 7,700        |  | 0.8%            |
| 2013                          | 972,046            |  | 7,700        |  | 0.8%            |
| 2014                          | 989,347            |  | 7,700        |  | 0.8%            |
| 2015                          | 1,006,365          |  | 7,700        |  | 0.8%            |
| 2016                          | 1,022,517          |  | 13,950       |  | 1.4%            |
| 2017                          | 1,037,885          |  | 13,950       |  | 1.3%            |
| 2018                          | 1,052,721          |  | 13,950       |  | 1.3%            |
| 2019                          | 1,067,769          |  | 9,750        |  | 0.9%            |
| % Historic Participation      |                    |  |              |  |                 |
| High                          | 0.9%               |  |              |  |                 |
| Low                           | 0.7%               |  |              |  |                 |

| Residential Lighting     |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 1,473,688          |  | 147,350      | 10.0%           |
| 2012                     | 1,495,098          |  | 149,450      | 10.0%           |
| 2013                     | 1,521,451          |  | 132,000      | 8.7%            |
| 2014                     | 1,548,531          |  | 112,500      | 7.3%            |
| 2015                     | 1,575,167          |  | 115,000      | 7.3%            |
| 2016                     | 1,600,448          |  | 112,500      | 7.0%            |
| 2017                     | 1,624,503          |  | 88,000       | 5.4%            |
| 2018                     | 1,647,724          |  | 85,000       | 5.2%            |
| 2019                     | 1,671,277          |  | 85,000       | 5.1%            |
| % Historic Participation |                    |  |              |                 |
| High                     | N/A                |  |              |                 |
| Low                      | N/A                |  |              |                 |

| Residential Appliance Recycling |                    |  |              |                 |
|---------------------------------|--------------------|--|--------------|-----------------|
|                                 | Eligible Customers |  | Participants | % Participation |
| 2011                            | 1,473,688          |  | 7,251        | 0.5%            |
| 2012                            | 1,495,098          |  | 11,025       | 0.7%            |
| 2013                            | 1,521,451          |  | 11,175       | 0.7%            |
| 2014                            | 1,548,531          |  | 11,251       | 0.7%            |
| 2015                            | 1,575,167          |  | 11,475       | 0.7%            |
| 2016                            | 1,600,448          |  | 11,700       | 0.7%            |
| 2017                            | 1,624,503          |  | 11,925       | 0.7%            |
| 2018                            | 1,647,724          |  | 12,075       | 0.7%            |
| 2019                            | 1,671,277          |  | 12,225       | 0.7%            |
| % Historic Participation        |                    |  |              |                 |
| High                            | N/A                |  |              |                 |
| Low                             | N/A                |  |              |                 |

| Residential Behavior Modification |                       |  |              |  |                 |
|-----------------------------------|-----------------------|--|--------------|--|-----------------|
|                                   | Eligible<br>Customers |  | Participants |  | % Participation |
| 2011                              | 1,473,688             |  | 50,000       |  | 3.4%            |
| 2012                              | 1,495,098             |  | 50,000       |  | 3.3%            |
| 2013                              | 1,521,451             |  | 50,000       |  | 3.3%            |
| 2014                              | 1,548,531             |  | 50,000       |  | 3.2%            |
| 2015                              | 1,575,167             |  | 50,000       |  | 3.2%            |
| 2016                              | 1,600,448             |  | 50,000       |  | 3.1%            |
| 2017                              | 1,624,503             |  | 50,000       |  | 3.1%            |
| 2018                              | 1,647,724             |  | 50,000       |  | 3.0%            |
| 2019                              | 1,671,277             |  | 50,000       |  | 3.0%            |
| % Historic Participation          |                       |  |              |  |                 |
| High                              | N/A                   |  |              |  |                 |
| Low                               | N/A                   |  |              |  |                 |

**Commercial Programs**

The tables below indicate the penetration rates assumed for each program compared to historic rates for similar programs for the Commercial Programs included in the Revised Goal, for years 2011 – 2019.

- Business Energy Check
- Better Business
- Commercial/Industrial New Construction
- Business Energy Saver
- Commercial Green Building New Construction
- Innovation Incentive
- Standby Generation
- Interruptible Service
- Curtailable Service
- Business Energy Response

| Business Energy Check    |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 170,886            |  | 3,000        | 1.8%            |
| 2012                     | 175,147            |  | 3,090        | 1.8%            |
| 2013                     | 178,542            |  | 3,214        | 1.8%            |
| 2014                     | 182,030            |  | 3,375        | 1.9%            |
| 2015                     | 185,461            |  | 3,611        | 1.9%            |
| 2016                     | 188,717            |  | 3,792        | 2.0%            |
| 2017                     | 191,817            |  | 3,906        | 2.0%            |
| 2018                     | 194,809            |  | 4,023        | 2.1%            |
| 2019                     | 197,848            |  | 4,063        | 2.1%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 1.7%               |  |              |                 |
| Low                      | 1.2%               |  |              |                 |

| Better Business          |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 170,886            |  | 10,074       | 5.9%            |
| 2012                     | 175,147            |  | 9,003        | 5.1%            |
| 2013                     | 178,542            |  | 6,610        | 3.7%            |
| 2014                     | 182,030            |  | 5,993        | 3.3%            |
| 2015                     | 185,461            |  | 4,683        | 2.5%            |
| 2016                     | 188,717            |  | 4,019        | 2.1%            |
| 2017                     | 191,817            |  | 2,678        | 1.4%            |
| 2018                     | 194,809            |  | 2,474        | 1.3%            |
| 2019                     | 197,848            |  | 2,276        | 1.2%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 1.0%               |  |              |                 |
| Low                      | 0.6%               |  |              |                 |

Historical participation is based on number of customers, projections are based on measures.



| Commercial/Industrial New Construction |                    |  |              |                 |
|--|--------------------|--|--------------|-----------------|
|  | Eligible Customers |  | Participants | % Participation |
| 2011                                   | 3,653              |  | 398          | 10.9%           |
| 2012                                   | 4,261              |  | 402          | 9.4%            |
| 2013                                   | 3,395              |  | 406          | 11.9%           |
| 2014                                   | 3,488              |  | 410          | 11.7%           |
| 2015                                   | 3,431              |  | 414          | 12.1%           |
| 2016                                   | 3,256              |  | 418          | 12.8%           |
| 2017                                   | 3,100              |  | 422          | 13.6%           |
| 2018                                   | 2,992              |  | 426          | 14.2%           |
| 2019                                   | 3,039              |  | 431          | 14.2%           |
| % Historic Participation               |                    |  |              |                 |
| High                                   | 1.5%               |  |              |                 |
| Low                                    | 1.1%               |  |              |                 |

Historical participation is based on number of customers, projections are based on measures.

| Business Energy Saver    |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 1,225              |  | 100          | 8.2%            |
| 2012                     | 1,150              |  | 120          | 10.4%           |
| 2013                     | 1,154              |  | 120          | 10.4%           |
| 2014                     | 1,180              |  | 120          | 10.2%           |
| 2015                     | 1,206              |  | 120          | 10.0%           |
| 2016                     | 1,232              |  | 120          | 9.7%            |
| 2017                     | 1,260              |  | 120          | 9.5%            |
| 2018                     | 1,287              |  | 120          | 9.3%            |
| 2019                     | 1,315              |  | 120          | 9.1%            |
| % Historic Participation |                    |  |              |                 |
| High                     | N/A                |  |              |                 |
| Low                      | N/A                |  |              |                 |

| Commercial Green Building |                    |  |              |  |                 |
|---------------------------|--------------------|--|--------------|--|-----------------|
|                           | Eligible Customers |  | Participants |  | % Participation |
| 2011                      | 3,653              |  | 140          |  | 3.8%            |
| 2012                      | 4,261              |  | 224          |  | 5.3%            |
| 2013                      | 3,395              |  | 280          |  | 8.2%            |
| 2014                      | 3,488              |  | 318          |  | 9.1%            |
| 2015                      | 3,431              |  | 322          |  | 9.4%            |
| 2016                      | 3,256              |  | 291          |  | 8.9%            |
| 2017                      | 3,100              |  | 308          |  | 9.9%            |
| 2018                      | 2,992              |  | 294          |  | 9.8%            |
| 2019                      | 3,039              |  | 329          |  | 10.8%           |
| % Historic Participation  |                    |  |              |  |                 |
| High                      | N/A                |  |              |  |                 |
| Low                       | N/A                |  |              |  |                 |

| Innovation Incentive     |                    |  |              |  |                 |
|--------------------------|--------------------|--|--------------|--|-----------------|
|                          | Eligible Customers |  | Participants |  | % Participation |
| 2011                     | 170,886            |  | 2            |  | 0.0%            |
| 2012                     | 175,147            |  | 2            |  | 0.0%            |
| 2013                     | 178,542            |  | 2            |  | 0.0%            |
| 2014                     | 182,030            |  | 2            |  | 0.0%            |
| 2015                     | 185,461            |  | 2            |  | 0.0%            |
| 2016                     | 188,717            |  | 2            |  | 0.0%            |
| 2017                     | 191,817            |  | 2            |  | 0.0%            |
| 2018                     | 194,809            |  | 2            |  | 0.0%            |
| 2019                     | 197,848            |  | 2            |  | 0.0%            |
| % Historic Participation |                    |  |              |  |                 |
| High                     | 0.0%               |  |              |  |                 |
| Low                      | 0.0%               |  |              |  |                 |

| Standby Generation       |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 547                |  | 10           | 1.8%            |
| 2012                     | 560                |  | 10           | 1.8%            |
| 2013                     | 571                |  | 10           | 1.8%            |
| 2014                     | 582                |  | 10           | 1.7%            |
| 2015                     | 593                |  | 10           | 1.7%            |
| 2016                     | 604                |  | 10           | 1.7%            |
| 2017                     | 614                |  | 10           | 1.6%            |
| 2018                     | 623                |  | 10           | 1.6%            |
| 2019                     | 633                |  | 10           | 1.6%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 14.2%              |  |              |                 |
| Low                      | 4.4%               |  |              |                 |

| Interruptible Service    |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 459                |  | 1            | 0.2%            |
| 2012                     | 470                |  | 1            | 0.2%            |
| 2013                     | 479                |  | 1            | 0.2%            |
| 2014                     | 489                |  | 1            | 0.2%            |
| 2015                     | 498                |  | 1            | 0.2%            |
| 2016                     | 507                |  | 1            | 0.2%            |
| 2017                     | 515                |  | 1            | 0.2%            |
| 2018                     | 523                |  | 1            | 0.2%            |
| 2019                     | 531                |  | 1            | 0.2%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 0.3%               |  |              |                 |
| Low                      | 0.0%               |  |              |                 |

| Curtable Service         |                    |  |              |  |                 |
|--------------------------|--------------------|--|--------------|--|-----------------|
|                          | Eligible Customers |  | Participants |  | % Participation |
| 2011                     | 906                |  | 1            |  | 0.1%            |
| 2012                     | 928                |  | 1            |  | 0.1%            |
| 2013                     | 946                |  | 1            |  | 0.1%            |
| 2014                     | 965                |  | 1            |  | 0.1%            |
| 2015                     | 983                |  | 1            |  | 0.1%            |
| 2016                     | 1,000              |  | 1            |  | 0.1%            |
| 2017                     | 1,017              |  | 1            |  | 0.1%            |
| 2018                     | 1,032              |  | 1            |  | 0.1%            |
| 2019                     | 1,049              |  | 1            |  | 0.1%            |
| % Historic Participation |                    |  |              |  |                 |
| High                     | 0.0%               |  |              |  |                 |
| Low                      | 0.0%               |  |              |  |                 |

| Business Energy Response |                    |  |              |  |                 |
|--------------------------|--------------------|--|--------------|--|-----------------|
|                          | Eligible Customers |  | Participants |  | % Participation |
| 2011                     | 170,886            |  | 7            |  | 0.0%            |
| 2012                     | 175,147            |  | 904          |  | 0.5%            |
| 2013                     | 178,542            |  | 6,905        |  | 3.9%            |
| 2014                     | 182,030            |  | 9,904        |  | 5.4%            |
| 2015                     | 185,461            |  | 15,904       |  | 8.6%            |
| 2016                     | 188,717            |  | 15,905       |  | 8.4%            |
| 2017                     | 191,817            |  | 15,904       |  | 8.3%            |
| 2018                     | 194,809            |  | 15,904       |  | 8.2%            |
| 2019                     | 197,848            |  | 10,814       |  | 5.5%            |
| % Historic Participation |                    |  |              |  |                 |
| High                     | N/A                |  |              |  |                 |
| Low                      | N/A                |  |              |  |                 |

## Other Programs

The tables below indicate the penetration rates assumed for each program compared to historic rates for similar programs for the Residential Programs included in the Revised Goal, for years 2011 – 2019.

- Technology Development
- Qualifying Facilities
- Demand Side Renewable Portfolio<sup>2</sup>

<sup>2</sup> Previously approved in Order No. PSC-10-0605-PAA-EG

| Technology Development   |                    |  |              |  |                 |
|--------------------------|--------------------|--|--------------|--|-----------------|
|                          | Eligible Customers |  | Participants |  | % Participation |
| 2011                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2012                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2013                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2014                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2015                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2016                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2017                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2018                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2019                     | 0.00               |  | 0.00         |  | 0.0%            |
| % Historic Participation |                    |  |              |  |                 |
| High                     | 0.0%               |  |              |  |                 |
| Low                      | 0.0%               |  |              |  |                 |

| Qualifying Facilities    |                    |  |              |  |                 |
|--------------------------|--------------------|--|--------------|--|-----------------|
|                          | Eligible Customers |  | Participants |  | % Participation |
| 2011                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2012                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2013                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2014                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2015                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2016                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2017                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2018                     | 0.00               |  | 0.00         |  | 0.0%            |
| 2019                     | 0.00               |  | 0.00         |  | 0.0%            |
| % Historic Participation |                    |  |              |  |                 |
| High                     | 0.0%               |  |              |  |                 |
| Low                      | 0.0%               |  |              |  |                 |

**Demand-Side Renewable Portfolio**

| Solar Water Heating for Low-Income Residential Customers |                    |  |              |                 |
|--|--------------------|--|--------------|-----------------|
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 896                |  | 30           | 3.3%            |
| 2012   | 864                |  | 30           | 3.5%            |
| 2013   | 817                |  | 30           | 3.7%            |
| 2014   | 753                |  | 30           | 4.0%            |
| Solar Water Heating with Energy Management               |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 1,223,161          |  | 2,250        | 0.2%            |
| 2012   | 1,240,931          |  | 2,250        | 0.2%            |
| 2013   | 1,262,804          |  | 2,250        | 0.2%            |
| 2014   | 1,285,281          |  | 2,250        | 0.2%            |
| Residential Solar Photovoltaic                           |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 1,473,688          |  | 100          | 0.0%            |
| 2012   | 1,495,098          |  | 100          | 0.0%            |
| 2013   | 1,521,451          |  | 100          | 0.0%            |
| 2014   | 1,548,531          |  | 100          | 0.0%            |
| Commercial Solar Photovoltaic                            |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 7,524              |  | 23           | 0.3%            |
| 2012   | 7,562              |  | 23           | 0.3%            |
| 2013   | 7,600              |  | 23           | 0.3%            |
| 2014   | 7,638              |  | 23           | 0.3%            |
| Photovoltaic for Schools Pilot                           |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 100                |  | 10           | 10.0%           |
| 2012   | 101                |  | 10           | 9.9%            |
| 2013   | 102                |  | 10           | 9.8%            |
| 2014   | 103                |  | 10           | 9.7%            |
| Photovoltaic for Schools Pilot Post Secondary            |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 11                 |  | 1            | 9.0%            |
| 2012   | 11                 |  | 1            | 8.9%            |
| 2013   | 11                 |  | 1            | 8.8%            |
| 2014   | 11                 |  | 1            | 8.7%            |

Note that Historic Participation does not exist as these are new programs

**Table IX-3: Total Cost****Residential Programs**

The tables below indicate the total cost (by program) for administrative, incentive and marketing costs for the Residential Programs included in the Revised Goal, for years 2011 – 2019.

- Home Energy Check
- Home Energy Improvement
- Residential New Construction
- Neighborhood Energy Saver
- Low Income Weatherization Assistance
- Residential Energy Management
- Residential Lighting
- Residential Behavior Modification
- Residential Appliance Recycling



| Home Energy Check |              |  |              |  |             |  |             |
|-------------------|--------------|--|--------------|--|-------------|--|-------------|
|                   | Total Cost   |  | Admin        |  | Incentives  |  | Marketing   |
| 2011              | \$13,802,290 |  | \$8,809,624  |  | \$846,960   |  | \$4,145,706 |
| 2012              | \$14,399,836 |  | \$9,154,319  |  | \$937,602   |  | \$4,307,915 |
| 2013              | \$14,841,383 |  | \$9,407,725  |  | \$1,006,494 |  | \$4,427,164 |
| 2014              | \$15,286,837 |  | \$9,663,101  |  | \$1,076,394 |  | \$4,547,342 |
| 2015              | \$15,762,607 |  | \$9,938,331  |  | \$1,147,414 |  | \$4,676,862 |
| 2016              | \$16,244,843 |  | \$10,217,124 |  | \$1,219,661 |  | \$4,808,058 |
| 2017              | \$16,754,468 |  | \$10,513,690 |  | \$1,293,159 |  | \$4,947,619 |
| 2018              | \$17,271,525 |  | \$10,814,321 |  | \$1,368,112 |  | \$5,089,092 |
| 2019              | \$17,796,315 |  | \$11,119,221 |  | \$1,444,519 |  | \$5,232,575 |

| Home Energy Improvement |              |  |             |  |              |  |             |
|-------------------------|--------------|--|-------------|--|--------------|--|-------------|
|                         | Total Cost   |  | Admin       |  | Incentives   |  | Marketing   |
| 2011                    | \$10,591,826 |  | \$3,281,644 |  | \$5,765,879  |  | \$1,544,303 |
| 2012                    | \$12,292,292 |  | \$3,926,419 |  | \$6,518,147  |  | \$1,847,726 |
| 2013                    | \$14,287,739 |  | \$4,030,004 |  | \$8,361,263  |  | \$1,896,473 |
| 2014                    | \$18,530,852 |  | \$4,708,958 |  | \$11,605,914 |  | \$2,215,980 |
| 2015                    | \$20,206,351 |  | \$5,249,663 |  | \$12,486,258 |  | \$2,470,430 |
| 2016                    | \$21,671,335 |  | \$5,693,933 |  | \$13,297,905 |  | \$2,679,498 |
| 2017                    | \$18,582,548 |  | \$4,940,788 |  | \$11,316,683 |  | \$2,325,077 |
| 2018                    | \$19,013,745 |  | \$5,076,308 |  | \$11,548,586 |  | \$2,388,851 |
| 2019                    | \$20,108,832 |  | \$5,420,052 |  | \$12,138,167 |  | \$2,550,613 |

| Residential New Construction |             |  |             |  |             |  |           |
|------------------------------|-------------|--|-------------|--|-------------|--|-----------|
|                              | Total Cost  |  | Admin       |  | Incentives  |  | Marketing |
| 2011                         | \$2,142,916 |  | \$1,020,877 |  | \$1,033,267 |  | \$88,772  |
| 2012                         | \$1,953,228 |  | \$874,901   |  | \$1,002,249 |  | \$76,078  |
| 2013                         | \$2,567,456 |  | \$941,166   |  | \$1,544,450 |  | \$81,840  |
| 2014                         | \$3,528,788 |  | \$1,200,874 |  | \$2,223,490 |  | \$104,424 |
| 2015                         | \$3,698,671 |  | \$1,280,193 |  | \$2,307,157 |  | \$111,321 |
| 2016                         | \$4,056,510 |  | \$1,437,571 |  | \$2,493,932 |  | \$125,006 |
| 2017                         | \$3,755,837 |  | \$1,394,349 |  | \$2,240,240 |  | \$121,248 |
| 2018                         | \$3,295,740 |  | \$1,235,176 |  | \$1,953,158 |  | \$107,407 |
| 2019                         | \$3,302,225 |  | \$1,226,836 |  | \$1,968,708 |  | \$106,681 |

| Neighborhood Energy Saver |             |  |             |  |             |  |           |
|---------------------------|-------------|--|-------------|--|-------------|--|-----------|
|                           | Total Cost  |  | Admin       |  | Incentives  |  | Marketing |
| 2011                      | \$3,536,330 |  | \$1,011,516 |  | \$2,460,249 |  | \$64,565  |
| 2012                      | \$3,789,062 |  | \$1,090,157 |  | \$2,629,321 |  | \$69,584  |
| 2013                      | \$4,106,923 |  | \$1,188,114 |  | \$2,842,972 |  | \$75,837  |
| 2014                      | \$4,376,269 |  | \$1,272,525 |  | \$3,022,519 |  | \$81,225  |
| 2015                      | \$3,285,361 |  | \$961,620   |  | \$2,262,361 |  | \$61,380  |
| 2016                      | \$3,341,350 |  | \$990,055   |  | \$2,288,100 |  | \$63,195  |
| 2017                      | \$3,171,416 |  | \$1,018,490 |  | \$2,087,916 |  | \$65,010  |
| 2018                      | \$3,065,221 |  | \$1,049,510 |  | \$1,948,721 |  | \$66,990  |
| 2019                      | \$3,040,805 |  | \$1,080,530 |  | \$1,891,305 |  | \$68,970  |

| Low Income Weatherization |            |  |           |  |            |  |           |
|---------------------------|------------|--|-----------|--|------------|--|-----------|
|                           | Total Cost |  | Admin     |  | Incentives |  | Marketing |
| 2011                      | \$594,316  |  | \$215,847 |  | \$346,216  |  | \$32,253  |
| 2012                      | \$551,555  |  | \$183,193 |  | \$340,988  |  | \$27,374  |
| 2013                      | \$467,751  |  | \$139,798 |  | \$307,064  |  | \$20,889  |
| 2014                      | \$483,652  |  | \$151,258 |  | \$309,791  |  | \$22,602  |
| 2015                      | \$530,533  |  | \$163,490 |  | \$342,613  |  | \$24,430  |
| 2016                      | \$557,935  |  | \$176,488 |  | \$355,076  |  | \$26,372  |
| 2017                      | \$600,689  |  | \$190,319 |  | \$381,932  |  | \$28,438  |
| 2018                      | \$648,404  |  | \$205,037 |  | \$412,730  |  | \$30,638  |
| 2019                      | \$712,439  |  | \$220,696 |  | \$458,765  |  | \$32,978  |

| Residential Energy Management |               |  |               |  |              |  |             |
|-------------------------------|---------------|--|---------------|--|--------------|--|-------------|
|                               | Total Cost    |  | Admin         |  | Incentives   |  | Marketing   |
| 2011                          | \$33,475,651  |  | \$11,839,545  |  | \$20,770,000 |  | \$866,105   |
| 2012                          | \$39,130,400  |  | \$17,087,316  |  | \$21,155,001 |  | \$888,083   |
| 2013                          | \$70,440,081  |  | \$47,976,761  |  | \$21,540,002 |  | \$923,318   |
| 2014                          | \$105,832,766 |  | \$82,946,707  |  | \$21,925,003 |  | \$961,056   |
| 2015                          | \$136,046,502 |  | \$113,085,327 |  | \$21,974,500 |  | \$986,675   |
| 2016                          | \$129,805,898 |  | \$106,120,903 |  | \$22,672,000 |  | \$1,012,995 |
| 2017                          | \$124,973,965 |  | \$100,564,987 |  | \$23,369,500 |  | \$1,039,479 |
| 2018                          | \$109,573,901 |  | \$84,451,121  |  | \$24,067,000 |  | \$1,055,779 |
| 2019                          | \$94,969,990  |  | \$69,135,391  |  | \$24,764,500 |  | \$1,070,100 |

| Residential Lighting |             |  |           |             |           |
|----------------------|-------------|--|-----------|-------------|-----------|
|                      | Total Cost  |  | Admin     | Incentives  | Marketing |
| 2011                 | \$1,764,000 |  | \$403,200 | \$1,204,000 | \$156,800 |
| 2012                 | \$1,942,500 |  | \$453,600 | \$1,312,500 | \$176,400 |
| 2013                 | \$2,445,000 |  | \$432,000 | \$1,845,000 | \$168,000 |
| 2014                 | \$2,287,500 |  | \$396,000 | \$1,737,500 | \$154,000 |
| 2015                 | \$2,725,000 |  | \$432,000 | \$2,125,000 | \$168,000 |
| 2016                 | \$3,162,500 |  | \$468,000 | \$2,512,500 | \$182,000 |
| 2017                 | \$2,880,000 |  | \$403,200 | \$2,320,000 | \$156,800 |
| 2018                 | \$3,350,000 |  | \$432,000 | \$2,750,000 | \$168,000 |
| 2019                 | \$3,390,000 |  | \$460,800 | \$2,750,000 | \$179,200 |

| Residential Appliance Recycling |             |  |             |             |           |
|---------------------------------|-------------|--|-------------|-------------|-----------|
|                                 | Total Cost  |  | Admin       | Incentives  | Marketing |
| 2011                            | \$1,399,443 |  | \$498,869   | \$775,857   | \$124,717 |
| 2012                            | \$2,182,950 |  | \$784,980   | \$1,201,725 | \$196,245 |
| 2013                            | \$2,268,525 |  | \$822,480   | \$1,240,425 | \$205,620 |
| 2014                            | \$2,340,208 |  | \$855,076   | \$1,271,363 | \$213,769 |
| 2015                            | \$2,444,175 |  | \$899,640   | \$1,319,625 | \$224,910 |
| 2016                            | \$2,550,600 |  | \$945,360   | \$1,368,900 | \$236,340 |
| 2017                            | \$2,659,275 |  | \$992,160   | \$1,419,075 | \$248,040 |
| 2018                            | \$2,753,100 |  | \$1,033,620 | \$1,461,075 | \$258,405 |
| 2019                            | \$2,860,650 |  | \$1,085,580 | \$1,503,675 | \$271,395 |

| Residential Behavior Modification |             |  |             |            |           |
|-----------------------------------|-------------|--|-------------|------------|-----------|
|                                   | Total Cost  |  | Admin       | Incentives | Marketing |
| 2011                              | \$850,000   |  | \$824,500   | \$0        | \$25,500  |
| 2012                              | \$900,000   |  | \$873,000   | \$0        | \$27,000  |
| 2013                              | \$950,000   |  | \$921,500   | \$0        | \$28,500  |
| 2014                              | \$1,000,000 |  | \$970,000   | \$0        | \$30,000  |
| 2015                              | \$1,050,000 |  | \$1,018,500 | \$0        | \$31,500  |
| 2016                              | \$1,100,000 |  | \$1,067,000 | \$0        | \$33,000  |
| 2017                              | \$1,150,000 |  | \$1,115,500 | \$0        | \$34,500  |
| 2018                              | \$1,200,000 |  | \$1,164,000 | \$0        | \$36,000  |
| 2019                              | \$1,250,000 |  | \$1,212,500 | \$0        | \$37,500  |

**Commercial Programs**

The tables below indicate the total cost (by program) for administrative, incentive and marketing costs for the Commercial Programs included in the Revised Goal, for years 2011 – 2019.

- Business Energy Check
- Better Business
- Commercial/Industrial New Construction
- Business Energy Saver
- Commercial Green Building New Construction
- Innovation Incentive
- Standby Generation
- Interruptible Service
- Curtailable Service
- Business Energy Response

| Business Energy Check |             |  |             |  |            |  |           |
|-----------------------|-------------|--|-------------|--|------------|--|-----------|
|                       | Total Cost  |  | Admin       |  | Incentives |  | Marketing |
| 2011                  | \$3,829,500 |  | \$3,388,500 |  | \$64,500   |  | \$376,500 |
| 2012                  | \$4,073,175 |  | \$3,604,905 |  | \$67,725   |  | \$400,545 |
| 2013                  | \$4,363,748 |  | \$3,863,518 |  | \$70,950   |  | \$429,280 |
| 2014                  | \$4,712,220 |  | \$4,168,665 |  | \$80,370   |  | \$463,185 |
| 2015                  | \$4,970,934 |  | \$4,418,558 |  | \$61,425   |  | \$490,951 |
| 2016                  | \$5,333,028 |  | \$4,743,835 |  | \$62,100   |  | \$527,093 |
| 2017                  | \$5,617,710 |  | \$5,001,507 |  | \$60,480   |  | \$555,723 |
| 2018                  | \$5,926,236 |  | \$5,277,182 |  | \$62,700   |  | \$586,354 |
| 2019                  | \$6,148,760 |  | \$5,477,454 |  | \$62,700   |  | \$608,606 |

| Better Business |              |  |             |  |             |  |           |
|-----------------|--------------|--|-------------|--|-------------|--|-----------|
|                 | Total Cost   |  | Admin       |  | Incentives  |  | Marketing |
| 2011            | \$12,362,207 |  | \$6,071,375 |  | \$5,616,235 |  | \$674,597 |
| 2012            | \$12,048,777 |  | \$6,042,124 |  | \$5,335,305 |  | \$671,347 |
| 2013            | \$14,395,751 |  | \$6,753,300 |  | \$6,892,084 |  | \$750,367 |
| 2014            | \$17,226,403 |  | \$7,352,257 |  | \$9,057,228 |  | \$816,917 |
| 2015            | \$13,956,666 |  | \$5,980,672 |  | \$7,311,476 |  | \$664,519 |
| 2016            | \$12,297,689 |  | \$5,294,866 |  | \$6,414,504 |  | \$588,318 |
| 2017            | \$8,426,128  |  | \$3,642,450 |  | \$4,378,961 |  | \$404,717 |
| 2018            | \$7,984,476  |  | \$3,469,195 |  | \$4,129,814 |  | \$385,466 |
| 2019            | \$7,556,488  |  | \$3,296,788 |  | \$3,893,391 |  | \$366,310 |

| Commercial/Industrial New Construction |             |  |           |  |             |  |           |
|--|-------------|--|-----------|--|-------------|--|-----------|
|  | Total Cost  |  | Admin     |  | Incentives  |  | Marketing |
| 2011                                   | \$1,398,474 |  | \$572,137 |  | \$762,766   |  | \$63,571  |
| 2012                                   | \$1,319,655 |  | \$541,854 |  | \$717,595   |  | \$60,206  |
| 2013                                   | \$1,875,861 |  | \$684,490 |  | \$1,115,317 |  | \$76,054  |
| 2014                                   | \$2,327,569 |  | \$752,434 |  | \$1,491,531 |  | \$83,604  |
| 2015                                   | \$1,939,907 |  | \$626,093 |  | \$1,244,248 |  | \$69,566  |
| 2016                                   | \$1,824,611 |  | \$587,201 |  | \$1,172,166 |  | \$65,245  |
| 2017                                   | \$1,943,909 |  | \$612,452 |  | \$1,263,407 |  | \$68,050  |
| 2018                                   | \$1,859,158 |  | \$585,098 |  | \$1,209,049 |  | \$65,011  |
| 2019                                   | \$1,876,529 |  | \$587,851 |  | \$1,223,361 |  | \$65,317  |

| Business Energy Saver |            |  |          |  |            |  |           |
|-----------------------|------------|--|----------|--|------------|--|-----------|
|                       | Total Cost |  | Admin    |  | Incentives |  | Marketing |
| 2011                  | \$107,600  |  | \$38,813 |  | \$64,475   |  | \$4,313   |
| 2012                  | \$134,076  |  | \$48,438 |  | \$80,256   |  | \$5,382   |
| 2013                  | \$139,032  |  | \$50,301 |  | \$83,142   |  | \$5,589   |
| 2014                  | \$144,012  |  | \$52,164 |  | \$86,052   |  | \$5,796   |
| 2015                  | \$148,992  |  | \$54,027 |  | \$88,962   |  | \$6,003   |
| 2016                  | \$153,972  |  | \$55,890 |  | \$91,872   |  | \$6,210   |
| 2017                  | \$158,952  |  | \$57,753 |  | \$94,782   |  | \$6,417   |
| 2018                  | \$164,052  |  | \$59,616 |  | \$97,812   |  | \$6,624   |
| 2019                  | \$169,272  |  | \$61,479 |  | \$100,962  |  | \$6,831   |

| Commercial Green Building |             |  |           |  |            |  |           |
|---------------------------|-------------|--|-----------|--|------------|--|-----------|
|                           | Total Cost  |  | Admin     |  | Incentives |  | Marketing |
| 2011                      | \$435,050   |  | \$99,225  |  | \$324,800  |  | \$11,025  |
| 2012                      | \$701,120   |  | \$163,296 |  | \$519,680  |  | \$18,144  |
| 2013                      | \$882,840   |  | \$209,916 |  | \$649,600  |  | \$23,324  |
| 2014                      | \$1,010,286 |  | \$245,273 |  | \$737,760  |  | \$27,253  |
| 2015                      | \$1,030,722 |  | \$255,314 |  | \$747,040  |  | \$28,368  |
| 2016                      | \$938,766   |  | \$237,281 |  | \$675,120  |  | \$26,365  |
| 2017                      | \$1,001,616 |  | \$258,350 |  | \$714,560  |  | \$28,706  |
| 2018                      | \$963,732   |  | \$253,487 |  | \$682,080  |  | \$28,165  |
| 2019                      | \$1,087,345 |  | \$291,659 |  | \$763,280  |  | \$32,407  |

| Innovation Incentive |            |  |           |  |            |  |           |
|----------------------|------------|--|-----------|--|------------|--|-----------|
|                      | Total Cost |  | Admin     |  | Incentives |  | Marketing |
| 2011                 | \$232,197  |  | \$227,553 |  | \$0        |  | \$4,644   |
| 2012                 | \$237,422  |  | \$232,674 |  | \$0        |  | \$4,748   |
| 2013                 | \$246,919  |  | \$241,981 |  | \$0        |  | \$4,938   |
| 2014                 | \$256,796  |  | \$251,660 |  | \$0        |  | \$5,136   |
| 2015                 | \$267,067  |  | \$261,726 |  | \$0        |  | \$5,341   |
| 2016                 | \$280,421  |  | \$274,813 |  | \$0        |  | \$5,608   |
| 2017                 | \$294,442  |  | \$288,553 |  | \$0        |  | \$5,889   |
| 2018                 | \$312,108  |  | \$305,866 |  | \$0        |  | \$6,242   |
| 2019                 | \$330,835  |  | \$324,218 |  | \$0        |  | \$6,617   |

| Standby Generation Service |             |  |           |             |           |
|----------------------------|-------------|--|-----------|-------------|-----------|
|                            | Total Cost  |  | Admin     | Incentives  | Marketing |
| 2011                       | \$2,988,000 |  | \$813,000 | \$2,170,000 | \$5,000   |
| 2012                       | \$3,006,405 |  | \$831,405 | \$2,170,000 | \$5,000   |
| 2013                       | \$3,025,224 |  | \$850,224 | \$2,170,000 | \$5,000   |
| 2014                       | \$3,044,466 |  | \$869,466 | \$2,170,000 | \$5,000   |
| 2015                       | \$3,044,467 |  | \$869,467 | \$2,170,000 | \$5,000   |
| 2016                       | \$3,064,142 |  | \$889,142 | \$2,170,000 | \$5,000   |
| 2017                       | \$3,084,260 |  | \$909,260 | \$2,170,000 | \$5,000   |
| 2018                       | \$3,104,831 |  | \$929,831 | \$2,170,000 | \$5,000   |
| 2019                       | \$3,125,865 |  | \$950,865 | \$2,170,000 | \$5,000   |

| Interruptible Service |              |  |             |              |           |
|-----------------------|--------------|--|-------------|--------------|-----------|
|                       | Total Cost   |  | Admin       | Incentives   | Marketing |
| 2011                  | \$19,239,525 |  | \$1,112,525 | \$18,125,000 | \$2,000   |
| 2012                  | \$19,264,602 |  | \$1,137,602 | \$18,125,000 | \$2,000   |
| 2013                  | \$19,290,243 |  | \$1,163,243 | \$18,125,000 | \$2,000   |
| 2014                  | \$19,316,460 |  | \$1,189,460 | \$18,125,000 | \$2,000   |
| 2015                  | \$19,316,461 |  | \$1,189,461 | \$18,125,000 | \$2,000   |
| 2016                  | \$19,343,269 |  | \$1,216,269 | \$18,125,000 | \$2,000   |
| 2017                  | \$19,370,680 |  | \$1,243,680 | \$18,125,000 | \$2,000   |
| 2018                  | \$19,398,708 |  | \$1,271,708 | \$18,125,000 | \$2,000   |
| 2019                  | \$19,427,366 |  | \$1,300,366 | \$18,125,000 | \$2,000   |

| Curtailable Service |            |  |           |            |           |
|---------------------|------------|--|-----------|------------|-----------|
|                     | Total Cost |  | Admin     | Incentives | Marketing |
| 2011                | \$842,025  |  | \$90,025  | \$750,000  | \$2,000   |
| 2012                | \$844,096  |  | \$92,096  | \$750,000  | \$2,000   |
| 2013                | \$846,213  |  | \$94,213  | \$750,000  | \$2,000   |
| 2014                | \$848,377  |  | \$96,377  | \$750,000  | \$2,000   |
| 2015                | \$848,377  |  | \$96,377  | \$750,000  | \$2,000   |
| 2016                | \$850,591  |  | \$98,591  | \$750,000  | \$2,000   |
| 2017                | \$852,854  |  | \$100,854 | \$750,000  | \$2,000   |
| 2018                | \$855,169  |  | \$103,169 | \$750,000  | \$2,000   |
| 2019                | \$857,535  |  | \$105,535 | \$750,000  | \$2,000   |

## **X.    TARIFF REVISION**

### **Exhibit A Legislative Copy Format Tariffs**

Eight Revised Tariff Sheet No. 2.0

Fourth Revised Tariff Sheet No. 2.6

Twenty-first Revised Tariff Sheet No. 6.100

Second Revised Tariff Sheet no. 6.226

Original Tariff Sheet No. 6.228

Original Tariff Sheet No. 6.229





**MISCELLANEOUS  
INDEX**

| <u>DESCRIPTION</u>                 | <u>SHEET NO.</u> |
|------------------------------------|------------------|
| Home Energy Check-up               | 2.3              |
| Non-Residential Energy Audit       | 2.4              |
| Florida Energy Gauge Ratings       | 2.6              |
| <u>Load</u> Energy Profiler Online | 2.7              |
| Remote Access                      | 2.8              |

**Florida Energy Gauge Ratings  
Energy Gauge****Availability:**

Available throughout the entire territory served by the Company.

**Applicable:**

To residential customers with single family homes (mobile, manufactured homes excluded). Upon request a state certified Home Energy Rating System (HERS) rater will perform an on-site energy inspection on an existing home and provide a rating certificate. New homes with completed Florida Energy Code Whole Building Performance Method A will requires a review of code calculations to be eligible for a rating certificate.

**Schedule of Fees:**

The following fees are based on a home equal to or less than 1,850 air conditioned square feet and one (1) air handler.

| <b>Rating</b>                     | <b>* New Home</b> | <b>* New Home (With Energy Code Compliance Form Provided)</b> | <b>* Existing Home</b> |
|-----------------------------------|-------------------|---|------------------------|
| Class I On-Site <sup>1</sup>      | \$550495          | N/A   | \$550495               |
| Class II On-Site <sup>2</sup>     | \$315445          | N/A   | \$315445               |
| Class III From Plans <sup>2</sup> | \$1240            | \$35  | N/A                    |

\* Includes electronic registration fees charged by the State of Florida.

<sup>1</sup> A \$35 fee will be added for each additional air handler.

<sup>2</sup> For homes with greater than 1,850 square feet of air conditioned space, an additional \$0.09 per square foot will be added.

**Definitions:**

Existing home: is a completed residential occupancy building for which a certificate of occupancy or equivalent approval for occupancy, has been issued.

Florida Energy Code Whole Building Performance Method A: Required by the State listing building components, dimensions and system efficiencies.

**Energy Gauge Ratings are Categorized in Three Classes:**

Class I: Energy rating requiring an on-site energy audit with specialized performance testing for air infiltration and duct leakage. Class I ratings have the highest level of confidence.

Class II: Energy rating requiring an on-site energy audit. Class II ratings have a good level of confidence.

Class III: Energy rating reserved for new buildings only and uses construction plans to generate data for ratings. Class III ratings have a fair level of confidence.

**Terms of Payment:**

The fee shall be payable at the time the rating is completed and delivered. The Company reserves the right to withhold the rating certificate until the fee is paid.



## INDEX OF RATE SCHEDULES

| FPSC UNIFORM<br>RATE SCHEDULE<br>DESIGNATION |  | BEGINS ON<br>SHEET NO. |
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| RS-1   | Residential Service  | 6.120                  |
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| RST-1  | Residential Service (Optional Time of Use)<br>(Closed to New Customers as of 02/10/10)           | 6.140                  |
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| GSDR-1                                       | General Service Demand Response  | 6.228                  |
| CS-1   | Curtailable General Service<br>(Closed to New Customers as of 04/16/96)                          | 6.230                  |
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| CST-1  | Curtailable General Service (Optional Time of Use)<br>(Closed to New Customers as of 04/16/96)   | 6.240                  |
| CST-2  | Curtailable General Service (Optional Time of Use)   | 6.245                  |
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| IS-2   | Interruptible General Service  | 6.255                  |
| IST-1  | Interruptible General Service (Optional Time of Use)<br>(Closed to New Customers as of 04/16/96) | 6.260                  |
| IST-2  | Interruptible General Service (Optional Time of Use)   | 6.265                  |
| LS-1   | Lighting Service   | 6.280                  |
| SS-1   | Firm Standby Service   | 6.310                  |
| SS-2   | Interruptible Standby Service  | 6.315                  |
| SS-3   | Curtailable Standby Service  | 6.320                  |
| TS-1   | Temporary Service  | 6.330                  |
| RSS-1  | Residential Seasonal Service Rider   | 6.350                  |
| CISR-1                                       | Commercial/Industrial Service Rider  | 6.360                  |
| PPS-1  | General Service - Premier Power Service Rider  | 6.370                  |

ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning - Florida

EFFECTIVE: February 10, 2010

**RATE SCHEDULE GSLM-2**  
**GENERAL SERVICE LOAD MANAGEMENT – STANDBY GENERATION**  
(Continued from Page No. 1)**Schedules:**

Requests by the Company for the customer to reduce facility demand by operation of the standby generation can occur at any time during the day. The GSLM-2 will not be operated more than twice each day with the total operation not exceeding twelve (12) hours. Under extreme emergency conditions, the Company may request the Customer to voluntarily operate their standby generation for longer than twelve (12) hours a day.

**Term of Service:**

Service under this rate schedule shall be for a minimum initial term of twelve (12) months from completion of Company acceptance testing of customer's equipment and shall continue thereafter until terminated by either party by written notice sixty (60) days prior to termination.

**Special Provisions:**

1. The Company shall be allowed reasonable access to the customer's premises to install, maintain, inspect, test and remove the equipment associated with this rate.
2. Prior to the installation of the equipment, the Company may inspect the customer's electrical equipment (including standby generator) to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment (including standby generator). The Company may, at its option, require a commercial energy audit as a prerequisite to receiving service under this rate. The audit may be used to establish or confirm equipment capacity, operating hours, or to determine the ability of the Company to control electric demand.
3. If the Company determines that the equipment installed as part of this rate by the Company has been tampered with, the Company may discontinue service under this rate and bill the customer for prior credits received under this rate for that fiscal year.
4. Customers taking service under this Standby Generation rate schedule who desire to transfer to a firm rate schedule after the initial term of service will be required to provide the Company with written notice at least 12 months prior to such transfer. Such notice shall be irrevocable unless the Company and the customer agree to void the notice.
5. The Company reserves the right, at its option, to remove Customers from this rate who, during any consecutive 12 month period, do not participate in at least 75% of Company requests to reduce their demand by operation of their standby generation equipment.



## RATE SCHEDULE GSDR-1 GENERAL SERVICE DEMAND RESPONSE

### Availability:

Available only within the range of the Company's two-way communications capability to the "smart" billing meter.

### Applicable:

To customers who are eligible for service under Rate Schedules GS, GST-1, GSD-1, or GSDT-1 who have qualified equipment that will allow for a demand reduction during a Company Control Event. The customer must have a Business Energy Check that pre-qualifies and identifies the tons of air-conditioning (A/C) eligible for Direct Load Control (DLC) or the subscribed demand reduction kW by customer's Energy Management System (EMS) under this rate schedule. Customers cannot be on this rate schedule and also the General Service Load Management (GSLM-1) or General Service Load Management – Standby Generation (GSLM-2) rate schedule.

### Limitation of Service:

Load control of the customer's equipment will occur at the Company's request or by the Company if the equipment is directly connected to the Company's two-way demand response system.

Standby or resale service not permitted hereunder. Service under this rate is subject to the Company's currently effective and filed "General Rules and Regulations for Electric Service."

### Rate Per Company Control Event:

The rates and all other terms and conditions of Company rate schedules GS, GST-1, GSD-1 or GSDT-1 (whichever shall otherwise be applicable) shall be applicable to service under this rate schedule, subject to the following:

### GSDR-1 CRITICAL PEAK REBATE AMOUNT

| <u>Rebate (Credit)</u>  | <u>Time Period Rate Effective</u> |
|---|-----------------------------------|
| \$1.20 per Ton of air conditioning load reduced per Control Event | April through October             |
| OR  |                                   |
| \$2.86 per kW reduced per Control Event (EMS customers only)      | April through October             |

The customer's Critical Peak Rebate (CPR) per Company Control Event will be a calculated value based upon the following formulas depending on the type of participation and will only be credited for actual participation in a Company Control Event:

### Direct Load Control Switch:

$$CPR = (\text{Tons of A/C load confirmed during Business Energy Check}) \times \$1.20$$

### Interconnection to Existing Energy Management System:

$$CPR = \text{Average demand reduction kW} \times \$2.86, \text{ where}$$

- Average demand reduction kW = control baseline kW – actual average kW demand during the Company Control Event period, where  
Control baseline kW = the average kW demand from the most recent prior three non-control days during hours corresponding to the Company Control Event period.
- Customer must submit a subscribed demand reduction kW. The subscribed demand reduction kW = the kW reduction that will be achieved by customer's EMS control during a Company Control Event period.
- The subscribed demand reduction kW must be at least 20 kW and at least 10% of the customer's average monthly peak demand.
- Actual average kW demand during Company Control Event period = average kW measured during the Company Control Event period. (minimum of 50% and maximum of 150% of the subscribed demand reduction kW).
- Upon Company notification, the customer will be given 15 minutes to initiate demand reduction of 50% to 150% of subscribed demand reduction kW to qualify for CPR.

\*Non-Control days exclude weekend days and observed holidays as defined in the otherwise applicable rate.

### Definitions:

CPR = Critical Peak Rebate (credit) amount provided to the customer each time they participate in a Company Control Event.

Tons of

A/C Load = Actual connected tons of air conditioning controlled by the DLC switch.

**ISSUED BY:** Lori J. Cross, Manager, Utility Regulatory Planning - Florida

**EFFECTIVE:**



**RATE SCHEDULE GSDR-1**  
**GENERAL SERVICE DEMAND RESPONSE**  
(Continued from Page No. 1)

DLC = Direct Load Control of the customer's air conditioning system using 50% duty cycle for a minimum of 2 consecutive hours during a load control event using a Company supplied control switch. Total operation not to exceed 12 hours per day.

EMS = Energy Management System owned by the customer that reduces a subscribed demand reduction kW during a 2-hour Company Control Event time frame. EMS notification of a Company Control Event can be manual or automatic.

Company

Control Event= Any request by the Company to reduce customer's kW usage as defined by this tariff whether notified electronically, manually, or otherwise.

**Schedules:**

Requests by the Company for the customer to reduce facility demand by operation of the DLC or EMS equipment can occur at any time during the day. The GSDR will not be operated more than twice each day. Under extreme emergency conditions, the Company may request DLC Customers to voluntarily participate for longer than twelve (12) hours a day.

**Special Provisions:**

1. The Company shall be allowed reasonable access to the customer's premises to install, maintain, inspect, test and remove the equipment associated with this rate.
2. Prior to the installation of the equipment, the Company may inspect the customer's electrical equipment to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment (including Air Conditioning System). The Company may, at its option, require a commercial energy audit as a prerequisite to receiving service under this rate. The audit may be used to establish or confirm equipment capacity, operating hours, or to determine the ability of the Company to control electric demand.
3. If the Company determines that the equipment installed as part of this rate by the Company has been tampered with, the Company may discontinue service under this rate and bill the customer for prior credits received under this rate for the previous twelve (12) months.
4. If the customer does not participate in three or more Company Control Event periods during the months of April through October during any year, the Company shall be allowed to remove the equipment and/or terminate service under this rate schedule.
5. The Company may initiate a minimum of three Company Control Event periods during the months of April through October of each year.

## **Exhibit B Clean Copy Format Tariffs**

Eight Revised Tariff Sheet No. 2.0

Fourth Revised Tariff Sheet No. 2.6

Twenty-First Revised Tariff Sheet No. 6.100

Second Revised Tariff Sheet No. 6.226

Original Tariff Sheet No. 6.228

Original Tariff Sheet No. 6.229

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**MISCELLANEOUS  
INDEX**

| <u>DESCRIPTION</u>           | <u>SHEET NO.</u> |
|------------------------------|------------------|
| Home Energy Check-up         | 2.3              |
| Non-Residential Energy Audit | 2.4              |
| Florida Energy Gauge Ratings | 2.6              |
| Load Profiler Online         | 2.7              |
| Remote Access                | 2.8              |





**Florida Energy Gauge Ratings  
Energy Gauge**

**Availability:**

Available throughout the entire territory served by the Company.

**Applicable:**

To residential customers with single family homes (mobile, manufactured homes excluded). Upon request a state certified Home Energy Rating System (HERS) rater will perform an on-site energy inspection on an existing home and provide a rating certificate. New homes with completed Florida Energy Code Whole Building Performance Method A will require a review of code calculations to be eligible for a rating certificate.

**Schedule of Fees:**

The following fees are based on a home equal to or less than 1,850 air conditioned square feet and one (1) air handler.

| <i>Rating</i>                     | <i>* New Home</i> | <i>* Existing Home</i> |
|-----------------------------------|-------------------|------------------------|
| Class I On-Site <sup>1</sup>      | \$550             | \$550                  |
| Class II On-Site <sup>2</sup>     | \$315             | \$315                  |
| Class III From Plans <sup>2</sup> | \$120             | N/A                    |

\* Includes electronic registration fees charged by the State of Florida.

<sup>1</sup> A \$35 fee will be added for each additional air handler.

<sup>2</sup> For homes with greater than 1,850 square feet of air conditioned space, an additional \$0.09 per square foot will be added.

**Definitions:**

Existing home: is a completed residential occupancy building for which a certificate of occupancy or equivalent approval for occupancy, has been issued.

Florida Energy Code Whole Building Performance Method A: Required by the State listing building components, dimensions and system efficiencies.

**Energy Gauge Ratings are Categorized in Three Classes:**

Class I: Energy rating requiring an on-site energy audit with specialized performance testing for air infiltration and duct leakage. Class I ratings have the highest level of confidence.

Class II: Energy rating requiring an on-site energy audit. Class II ratings have a good level of confidence.

Class III: Energy rating reserved for new buildings only and uses construction plans to generate data for ratings. Class III ratings have a fair level of confidence.

**Terms of Payment:**

The fee shall be payable at the time the rating is completed. The Company reserves the right to withhold the rating certificate until the fee is paid.

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| GST-1  | General Service - Non-Demand (Optional Time of Use)  | 6.160                  |
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| GSD-1  | General Service - Demand   | 6.170                  |
| GSDT-1                                       | General Service - Demand (Optional Time of Use)  | 6.180                  |
| GSLM-1                                       | General Service - Load Management (Optional)   | 6.220                  |
| GSLM-2                                       | General Service - Load Management - Standby Generation   | 6.225                  |
| GSDR-1                                       | General Service Demand Response  | 6.228                  |
| CS-1   | Curtable General Service<br>(Closed to New Customers as of 04/16/96)                             | 6.230                  |
| CS-2   | Curtable General Service   | 6.235                  |
| CS-3   | Curtable General Service<br>Fixed Curtable Demand  | 6.2390                 |
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| PPS-1  | General Service - Premier Power Service Rider  | 6.370                  |

ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning - Florida

EFFECTIVE:

**RATE SCHEDULE GSLM-2  
GENERAL SERVICE LOAD MANAGEMENT – STANDBY GENERATION  
(Continued from Page No. 1)**

**Schedules:**

Requests by the Company for the customer to reduce facility demand by operation of the standby generation can occur at any time during the day. The GSLM-2 will not be operated more than twice each day with the total operation not exceeding twelve (12) hours. Under extreme emergency conditions, the Company may request the Customer to voluntarily operate their standby generation for longer than twelve (12) hours a day.

**Term of Service:**

Service under this rate schedule shall be for a minimum initial term of twelve (12) months from completion of Company acceptance testing of customer's equipment and shall continue thereafter until terminated by either party by written notice sixty (60) days prior to termination.

**Special Provisions:**

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3. If the Company determines that the equipment installed as part of this rate by the Company has been tampered with, the Company may discontinue service under this rate and bill the customer for prior credits received under this rate for that fiscal year.
4. Customers taking service under this Standby Generation rate schedule who desire to transfer to a firm rate schedule after the initial term of service will be required to provide the Company with written notice at least 12 months prior to such transfer. Such notice shall be irrevocable unless the Company and the customer agree to void the notice.
5. The Company reserves the right, at its option, to remove Customers from this rate who, during any consecutive 12 month period, do not participate in at least 75% of Company requests to reduce their demand by operation of their standby generation equipment.

**ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning - Florida****EFFECTIVE:**

**RATE SCHEDULE GSDR-1  
GENERAL SERVICE DEMAND RESPONSE****Availability:**

Available only within the range of the Company's two-way communications capability to the "smart" billing meter.

**Applicable:**

To customers who are eligible for service under Rate Schedules GS, GST-1, GSD-1, or GSDT-1 who have qualified equipment that will allow for a demand reduction during a Company Control Event. The customer must have a Business Energy Check that pre-qualifies and identifies the tons of air-conditioning (A/C) eligible for Direct Load Control (DLC) or the subscribed demand reduction kW by customer's Energy Management System (EMS) under this rate schedule. Customers cannot be on this rate schedule and also the General Service Load Management (GSLM-1) or General Service Load Management – Standby Generation (GSLM-2) rate schedule.

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|---|-----------------------------------|
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| \$2.86 per kW reduced per Control Event (EMS customers only)            | April through October             |

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**Direct Load Control Switch:**

$$\text{CPR} = (\text{Tons of A/C load confirmed during Business Energy Check}) \times \$1.20$$

**Interconnection to Existing Energy Management System:**

$$\text{CPR} = \text{Average demand reduction kW} \times \$2.86, \text{ where}$$

- Average demand reduction kW = control baseline kW – actual average kW demand during the Company Control Event period, where  
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- Customer must submit a subscribed demand reduction kW. The subscribed demand reduction kW = the kW reduction that will be achieved by customer's EMS control during a Company Control Event period.
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**Definitions:**

CPR = Critical Peak Rebate (credit) amount provided to the customer each time they participate in a Company Control Event.

Tons of  
A/C Load = Actual connected tons of air conditioning controlled by the DLC switch.

**RATE SCHEDULE GSDR-1  
GENERAL SERVICE DEMAND RESPONSE**  
(Continued from Page No. 1)

**DLC =** Direct Load Control of the customer's air conditioning system using 50% duty cycle for a minimum of 2 consecutive hours during a load control event using a Company supplied control switch. Total operation not to exceed 12 hours per day.

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**Company Control Event=** Any request by the Company to reduce customer's kW usage as defined by this tariff whether notified electronically, manually, or otherwise.

**Schedules:**

Requests by the Company for the customer to reduce facility demand by operation of the DLC or EMS equipment can occur at any time during the day. The GSDR will not be operated more than twice each day. Under extreme emergency conditions, the Company may request DLC Customers to voluntarily participate for longer than twelve (12) hours a day.

**Special Provisions:**

1. The Company shall be allowed reasonable access to the customer's premises to install, maintain, inspect, test and remove the equipment associated with this rate.
2. Prior to the installation of the equipment, the Company may inspect the customer's electrical equipment to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment (including Air Conditioning System). The Company may, at its option, require a commercial energy audit as a prerequisite to receiving service under this rate. The audit may be used to establish or confirm equipment capacity, operating hours, or to determine the ability of the Company to control electric demand.
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**PROPOSED 2010**

**“ORIGINAL GOAL SCENARIO”**

**DEMAND SIDE MANAGEMENT**

**PROGRAM PLAN**

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DOCUMENT NUMBER-DATE  
09616 NOV 29 09  
FPSC-COMMISSION CLERK

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## **I. INTRODUCTION**

In accordance with Sections 25-17.001 through 25-17.003, Florida Administrative Code, the Florida Public Service Commission (the "Commission") requested numeric conservation goals, testimony and a Demand Side Management (DSM) Program Plan for Progress Energy Florida ("Progress Energy" or "PEF") in Docket No. 080408-EG. On March 30, 2010, Progress Energy submitted a DSM Plan to meet the 2019 cumulative goals in Order No. PSC-09-0855-FOF-EG issued on December 30, 2009, which was later reduced for a double counting error by the Commission on March 31, 2010 in Order No. PSC-10-0198-FOF-EG. On October 4, 2010 the Commission denied Progress Energy's DSM Plan in Order No. PSC-10-0605-PAA-EG, based on the assertion that the submitted Plan met the aggregate or cumulative goal, but not the annual goals as prescribed by the Commission. An Agenda Conference was conducted on September 14, 2010, where PEF demonstrated the need for parity with other Florida utilities, given that its goal was 200-400% higher. As a result, the Commission ordered PEF to file specific program modifications or additions that meet the annual as well as aggregate or cumulative goals stated in Order No. PSC-10-0198-FOF-EG issued on March 31, 2010. Additionally, the Commission requested a revised goal scenario be filed, aiming at approximately 50% of the original Commission goal, a level that achieves closer parity with the other utilities. To meet this request, PEF has designed two distinct plans referred to herein as the "Original Goal Scenario" and a plan being separately filed referred to as the Revised Goal Plan. PEF is filing both plans, but for the reasons set forth below and as included in its filing letter accompanying both plans, the Commission should approve and implement the Revised Goal Plan. The Revised Goal Plan is the appropriate balance between rate impact and energy efficiency.

Given the current anticipated schedule for Commission consideration of these proposed plans, it will not be possible to realize savings impacts in 2010 associated with any new measures or programs included in the “Original Goal Scenario”. Additionally, the anticipated schedule for receiving Commission authority to implement new or modified measures and programs will likely impact PEF’s ability to meet 2011 goals as efforts to establish new programs, partnerships, infrastructure, etc. are further delayed.

The “Original Goal Scenario” is designed with the assumption that PEF would begin attempting to meet the Commission’s annual distribution of goal achievement, beginning in year 2011. It also reflects PEF’s solar pilot programs approved in Order No. PSC-10-0605-PAA-EG. In order to meet the Commission’s directive with achieving both annual as well as cumulative goals, this “Original Goal Scenario” assumes that the difference between the 2010 goal stated in Order No. PSC-10-0198-FOF-EG and PEF’s 2010 demand and energy achievements anticipated to be realized under its currently approved plan will be achieved over the remaining 9 years (2011 – 2019). This new cumulative goal is 16 times PEF’s currently approved goal for 2011, and requires the maximization of incentive and participation levels in an attempt to meet the required impacts on both an annual and cumulative basis. Incentive levels have been capped at one hundred percent (100%) of the incremental measure cost pursuant to the Staff’s recommendation issued in this proceeding. Finally, this Plan includes the Technical Potential program which was designed to achieve the technical potential, not achievable potential, of certain residential measures that have less than a two-year payback period. As stated in previous filings and agendas, the Commission should not approve this “Original Goal Scenario” for several reasons. First, this scenario will result in significant increases in rates for PEF’s customers coupled with a

significant chance that PEF would not be able to achieve the extraordinarily aggressive goals under this scenario. To illustrate, the residential rate impact in 2011 under the “Original Goal Scenario” is \$11.28 at 1,200 kWh/hour or a 350% increase over the currently approved ECCR rate in 2010 of \$3.24. In contrast, the rate impact for the same year in the Revised Goal Plan would be \$4.84. Second, this scenario will result in increased base rates for PEF’s customers in future years and will provide for significant cross-subsidization between PEF’s customers. Further, approval of this plan will most acutely impact PEF’s lower income customers who will have both higher rates and the burden of subsidizing higher income customers who can afford to participate in more expensive programs under the plan. Finally, approval of this plan will continue to place PEF out of parity with its peer utilities by imposing a goal that is 200% to 400% higher than all other utilities in the state.

As a result, approval of this “Original Goal Scenario” will result in immediate and significant increases in rate impacts for customers.

In contrast, the Revised Goal Plan (being filed separately) is designed to be achievable, cost effective, and more in line with peer Florida utilities both in terms of energy savings and in cost to customers. While the Revised Goal Plan will result in a greater than 700% increase over PEF’s currently approved goals it will minimize cross-subsidization and cost impacts to PEF’s customers. This plan was designed to be consistent with the Achievable Potential for cost-effective measures under E-TRC, and incorporates certain measures from the previously mentioned Technical Potential program in a manner that is reasonable and cost effective.

This document is organized into ten sections:

- **Section I** provides an introduction of the “Original Goal Scenario” Demand Side Management (DSM) Program Plan
- **Section II** presents an Executive Summary of Progress Energy’s proposed “Original Goal Scenario” DSM Plan, summarizing the goals and cumulative impacts of the proposed plan and includes the impacts of PEF’s solar pilot programs previously approved in Order No. PSC-10-0605-PAA-EG
- **Section III** discusses general issues associated with demand-side management planning and implementation: including program operation, cost-effectiveness, program monitoring and evaluation, and cost-recovery
- **Section IV** presents Progress Energy’s proposed Residential programs
- **Section V** presents Progress Energy’s proposed Commercial/Industrial programs
- **Section VI** presents Progress Energy’s Demand Side Renewable Portfolio
- **Section VII** presents Progress Energy’s Technology Development program
- **Section VIII** presents Progress Energy’s Qualifying Facilities program
- **Section IX** presents Staff Requested Tables
- **Section X** presents Progress Energy’s Tariff Revisions.

Section IX referenced above has been developed in response to a request made by Staff in a letter dated October 28, 2010

## II. EXECUTIVE SUMMARY

The “Original Goal Scenario” plan consists of seven residential programs, ten commercial and industrial (C/I) programs, and a demand side renewable portfolio consisting of six pilot programs approved on October 4, 2010 in Order No. PSC-10-0605-PAA-EG. Included in these programs and pilots are three focused on low-income families and one specifically focused on businesses located in low-income neighborhoods. Additionally, the “Original Goal Scenario” includes a technology research and development program and a qualifying (small power production or cogeneration) facilities program.

| RESIDENTIAL PROGRAMS                         | COMMERCIAL/INDUSTRIAL PROGRAMS             |
|--|--|
| Home Energy Check                            | Business Energy Check                      |
| Home Energy Improvement                      | Better Business                            |
| Residential New Construction                 | Commercial/Industrial New Construction     |
| Neighborhood Energy Saver                    | Business Energy Saver                      |
| Low-Income Weatherization Assistance         | Commercial Green Building New Construction |
| Residential Energy Management                | Innovation Incentive                       |
| Technical Potential                          | Standby Generation                         |
|  | Interruptible Service                      |
|  | Curtailable Service                        |
|  | Business Energy Response                   |
| Demand Side Renewable Portfolio <sup>1</sup> |  |
| Technology Development                       |  |
| Qualifying Facilities                        |  |

<sup>1</sup> Previously approved in Order No. PSC-10-0605-PAA-EG

## Summary of the Portfolio

The “Original Goal Scenario” represents the Company’s best attempt at meeting the aggressive savings levels mandated by the PSC in its December 30, 2009 Order, reduced for a double counting error recognized and voted upon by the Commission on March 16, 2010. The implementation of these goals represents a greater than 16 times increase over the current approved goals and will have an immediate and significant customer rate impact.

Tables II-1 and II-2 present the demand and energy impacts assumed to be achieved by this “Original Goal Scenario” in order to meet the Commission-established goals for each year during the planning period 2011-2019, for the Residential and Commercial/Industrial sectors, respectively.

**Table II-1**

| <i>Proposed Residential Plan 2010 DSM Filing (Savings at the Generator)</i> |                                      |            |                                      |            |                                       |            |
|---|--------------------------------------|------------|--------------------------------------|------------|---------------------------------------|------------|
| Year  | Projected Summer Demand Savings (MW) |            | Projected Winter Demand Savings (MW) |            | Projected Annual Energy Savings (GWh) |            |
|   | Incremental                          | Cumulative | Incremental                          | Cumulative | Incremental                           | Cumulative |
| 2011  | 107.41                               | 107.41     | 103.83                               | 103.83     | 286.43                                | 286.43     |
| 2012  | 108.00                               | 215.41     | 107.49                               | 211.32     | 295.48                                | 581.91     |
| 2013  | 108.77                               | 324.18     | 111.45                               | 322.76     | 301.51                                | 883.42     |
| 2014  | 108.55                               | 432.73     | 113.10                               | 435.87     | 307.55                                | 1190.98    |
| 2015  | 117.50                               | 550.23     | 124.09                               | 559.96     | 328.69                                | 1519.67    |
| 2016  | 118.74                               | 668.98     | 123.64                               | 683.60     | 316.58                                | 1836.25    |
| 2017  | 118.40                               | 787.37     | 121.88                               | 805.47     | 310.55                                | 2146.80    |
| 2018  | 111.05                               | 898.43     | 112.85                               | 918.32     | 298.48                                | 2445.28    |
| 2019  | 100.58                               | 999.01     | 97.21                                | 1015.53    | 289.42                                | 2734.70    |

**Table II-2**

| Proposed Commercial Plan 2010 DSM Filing (Savings at the Generator) |                                      |            |                                      |            |                                       |            |
|---|--------------------------------------|------------|--------------------------------------|------------|---------------------------------------|------------|
| Year  | Projected Summer Demand Savings (MW) |            | Projected Winter Demand Savings (MW) |            | Projected Annual Energy Savings (GWh) |            |
|   | Incremental                          | Cumulative | Incremental                          | Cumulative | Incremental                           | Cumulative |
| 2011  | 17.66                                | 17.66      | 9.83                                 | 9.83       | 33.04                                 | 33.04      |
| 2012  | 24.60                                | 42.26      | 10.18                                | 20.00      | 35.92                                 | 68.96      |
| 2013  | 24.88                                | 67.14      | 12.44                                | 32.44      | 37.80                                 | 106.76     |
| 2014  | 25.30                                | 92.44      | 13.55                                | 45.99      | 39.69                                 | 146.45     |
| 2015  | 27.07                                | 119.51     | 16.42                                | 62.41      | 46.29                                 | 192.74     |
| 2016  | 25.76                                | 145.28     | 15.91                                | 78.32      | 42.52                                 | 235.26     |
| 2017  | 25.10                                | 170.37     | 15.65                                | 93.97      | 40.63                                 | 275.89     |
| 2018  | 25.53                                | 195.90     | 15.81                                | 109.77     | 41.87                                 | 317.77     |
| 2019  | 22.70                                | 218.61     | 13.15                                | 122.92     | 34.04                                 | 351.80     |

Proposed Residential and Commercial/Industrial Segment Demand and Energy Data provided in Tables II-1 and II-2 include the Demand Side Renewable Demand and Energy Data provided in Table II-3

Table II-3, presents the demand and energy impacts projected associated with the demand side renewable portfolio, which was previously approved by the Commission in Order No. PSC-10-0605-PAA-EG.

**Table II-3**

| Proposed Demand Side Renewable Plan 2010 DSM Filing (Savings at the Generator) |                                      |            |                                      |            |                                       |            |
|--|--------------------------------------|------------|--------------------------------------|------------|---------------------------------------|------------|
| Year   | Projected Summer Demand Savings (MW) |            | Projected Winter Demand Savings (MW) |            | Projected Annual Energy Savings (GWh) |            |
|  | Incremental                          | Cumulative | Incremental                          | Cumulative | Incremental                           | Cumulative |
| 2011   | 3.11                                 | 4.54       | 5.17                                 | 7.75       | 6.48                                  | 9.06       |
| 2012   | 3.11                                 | 7.64       | 5.17                                 | 12.91      | 6.48                                  | 15.54      |
| 2013   | 3.11                                 | 10.75      | 5.17                                 | 18.08      | 6.48                                  | 22.01      |
| 2014   | 3.11                                 | 13.85      | 5.17                                 | 23.24      | 6.48                                  | 28.49      |

Table II-4, summarizes the energy goals (GWh) over the life of the plan, the program costs broken out for DSM and renewable, the residential ECCR at 1,200 KWh/month and the base (non-fuel) revenue impacts for the 9 year (2011-2019) period of the plan.

Table II-4

Progress Energy Florida DSM Cost Estimates - "Original Goal Scenario"

| DSM Plan Reductions<br>(GWh @ Generator)<br>(1) |                |                    | DSM Plan Cost<br>(2)                                   |                                 | Residential <sup>2</sup><br>ECCR Impacts<br>@ 1200 kWh<br>(3) | Lost Base<br>Revenue <sup>3</sup><br>(4) | DSM Plan Cost<br>+<br>Lost Base<br>Revenue<br>(5)<br>(2a + 2b + 4) |
|---|----------------|--------------------|--|---------------------------------|---|--|--|
| Year  | Annual<br>(1a) | Cumulative<br>(1b) | Energy<br>Efficiency and<br>Demand<br>Response<br>(2a) | Renewables <sup>1</sup><br>(2b) |   |  |  |
| <i>Current</i>                                  | 118            |                    |  |                                 | \$3.24  |  |  |
| 2011  | 319            | 437                | \$314,316,565  | \$4,802,365                     | \$11.28   | \$17,279,219                             | \$336,398,149  |
| 2012  | 331            | 769                | \$353,686,582  | \$5,351,773                     | \$12.60   | \$31,016,675                             | \$390,055,031  |
| 2013  | 339            | 1,108              | \$405,004,367  | \$5,856,400                     | \$14.45   | \$45,056,170                             | \$455,916,937  |
| 2014  | 347            | 1,455              | \$456,661,457  | \$6,316,251                     | \$16.52   | \$59,452,525                             | \$522,430,234  |
| 2015  | 375            | 1,830              | \$543,325,287  | \$1,967,282                     | \$19.72   | \$74,965,534                             | \$620,258,103  |
| 2016  | 359            | 2,190              | \$538,987,267  | \$1,702,371                     | \$19.56   | \$89,815,120                             | \$630,504,758  |
| 2017  | 351            | 2,541              | \$557,452,701  | \$1,280,014                     | \$20.00   | \$104,316,612                            | \$663,049,327  |
| 2018  | 340            | 2,881              | \$539,963,853  | \$902,775                       | \$19.03   | \$118,268,171                            | \$659,134,800  |
| 2019  | 323            | 3,205              | \$525,329,895  | \$570,656                       | \$18.20   | \$131,622,475                            | \$657,523,027  |
| <b>TOTALS</b>                                   | <b>3,205</b>   | <b>3,205</b>       | <b>\$4,234,727,977</b>                                 | <b>\$28,749,889</b>             | <b>\$16.79<sup>4</sup></b>                                    | <b>\$671,792,501</b>                     | <b>\$4,935,270,366</b>   |

<sup>1</sup> Reflects revenue requirements associated with renewable expenditures of \$1.78 million in 2010 and \$6.47 million in each of the years 2011-2014.

<sup>2</sup> Residential Class ECCR impacts of the program costs in 2a and 2b based on PEF'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 1,200.

<sup>3</sup> Average residential and commercial base rates multiplied against respective residential and commercial lost GWh (at the meter).

<sup>4</sup> Average of 2011 - 2019.



Table II-5, below, is the estimated annual program costs and residential bill impact per 1,200 KWh, relative to PEF Revised Goal Plan (being filed separately). Included are the lost base revenues and average impacts over the 9-year (2011-2019) period of the plan. The costs and lost base revenue impacts associated with Revised Goal Plan, as indicated in Table II-5, would have a lesser impact on customers.

### Revised Goal Plan

**Table II-5**

| Revised Goal Plan |                 |  |                                  |
|-------------------|-----------------|--|----------------------------------|
| Year              | Program Costs   | Residential Bill Impacts<br>per<br>1,200 KWh | Cumulative Lost Base<br>Revenues |
| 2011              | \$130,895,837   | \$4.84                                       | \$10,023,955                     |
| 2012              | \$147,946,367   | \$5.39                                       | \$16,201,843                     |
| 2013              | \$191,241,985   | \$6.90                                       | \$22,307,148                     |
| 2014              | \$234,332,491   | \$8.47                                       | \$28,577,881                     |
| 2015              | \$258,399,313   | \$9.43                                       | \$34,585,020                     |
| 2016              | \$252,320,761   | \$9.11                                       | \$40,502,574                     |
| 2017              | \$237,528,968   | \$8.45                                       | \$45,838,987                     |
| 2018              | \$219,088,687   | \$7.58                                       | \$51,060,015                     |
| 2019              | \$203,417,730   | \$6.86                                       | \$56,053,797                     |
| Total             | \$1,875,172,140 | N.A.   | \$305,151,220                    |
| 9 year<br>Average | \$208,352,460   | \$7.49                                       | \$33,905,691                     |

### **III. PROGRAM INTRODUCTION**

#### **A. PROGRAM OBJECTIVES**

This “Original Goal Scenario” has been designed with the assumption of meeting the following objectives:

- Achieve, to the extent reasonably possible, the aggressive annual and cumulative conservation goals for 2011-2019 established in Order no. PSC-10-0198-FOF-EG
- Fulfill the requirements of Section 366.82(3)(b), F.S.
- Reduce and control the growth rates of electric consumption and weather sensitive peak demand
- Provide enhanced efficiency measures in all end-use sectors across all customer segments
- Offer enhanced energy efficiency options for low-income customers
- Offer demand side renewable pilot programs previously approved in Order No. PSC-10-0605-PAA-EG with consideration of the expenditure cap placed on the development of these technologies
- Attempt to achieve the technical potential of certain residential measures that have less than a two-year payback
- Influence customer behaviors through energy efficiency education initiatives

The “Original Goal Scenario” is designed with the assumption of attempting to meet the aggressive goals with the recognition that PEF will need to establish the infrastructure to incorporate new and emerging technologies that are necessary for meeting the aggressive Technical Potential portion of the goals. Additionally, as the market for a product matures and early adopters have been exhausted, customer adoption is expected to become more difficult to achieve through standard marketing practices such as advertising and promotion strategies. Customer incentives will be a key market driver that will impact the adoption of program offerings. Thus, PEF expects to analyze and re-file adjustments to its program incentives and participation estimates as needed.

**B. PORTFOLIO OVERVIEW**

PEF recognizes that significant and sustained customer participation is critical to achieving the aggressive goals shared by the Company and its customers. Therefore, PEF has strived to design a comprehensive portfolio with a wide variety of energy efficiency, demand response, renewable, and educational opportunities for all of its customers. This portfolio design leverages and expands the successful program and marketplace infrastructure resulting from PEF's extensive experience, and incorporates new innovative programs that provide further energy saving opportunities for customers. PEF will continue to encourage customers to participate in its audit programs. The audit tools, specifically the on-line and phone assisted tools are being re-designed to encourage participation in no and low-cost energy savings measures and to promote program participation. The Business Energy Check is being enhanced to include an energy savings kit similar to the kit provided to residential customers.

**Residential Program Programs**

| Residential EE & DR Programs         |                               |
|--------------------------------------|-------------------------------|
| Home Energy Check                    | Residential Energy Management |
| Home Energy Improvement              | Technical Potential*          |
| Residential New Construction         |                               |
| Neighborhood Energy Saver            |                               |
| Low-income Weatherization Assistance |                               |

*Technical Potential* Targets the residential customer segment, designed to promote measures that have a payback period of two years or less.

**Commercial/Industrial Programs**

| Commercial/Industrial EE & DR Programs         |                           |
|--|---------------------------|
| Business Energy Check                          | Innovation Incentive      |
| Better Business                                | Standby Generation        |
| Commercial/Industrial New Construction         | Interruptible Service     |
| Business Energy Saver*                         | Curtable Service          |
| Commercial Green Building<br>New Construction* | Business Energy Response* |

|   |  |
|---|--|
| <i>Business Energy Saver</i>                      | Reduces the energy consumption of businesses located in low-income areas by means of educating business owners and installing energy conservation measures.                  |
| <i>Commercial Green Building New Construction</i> | Encourages energy efficient construction of new commercial facilities according to guidelines set forth by LEED-NC.  |
| <i>Business Energy Response</i>                   | Reduces electric energy consumption and expands demand response opportunities of participating non-residential customers through enabling two-way communication technologies |

**Demand Side Renewable Program Portfolio**

An additional enhancement to PEF’s program offerings is the Demand Side Renewable Portfolio, which was previously approved by the Commission in Order No. PSC-10-0605-PAA-EG. This subcomponent of the portfolio is a comprehensive group of pilot programs designed to emphasize the benefits of solar photovoltaic technology, encourage development of renewable programs, and place an added emphasis on low-income and education pilots.

| Renewable Programs<br>(Residential)        | Renewable Programs<br>(Commercial) |
|--|------------------------------------|
| Residential Solar Photovoltaic             | Commercial Solar Photovoltaic      |
| Solar Water Heating with Energy Management | Photovoltaic for Schools (Pilot)   |
| Solar Water Heating (Low-Income)           |                                    |
| Research and Demonstration                 |                                    |

**Technology Development and Qualifying Facilities Programs**

*Technology Development* Pursues research, development, and demonstration projects of energy saving technologies and concepts to further the investigation and understanding for potential inclusion in future program offerings

*Qualifying facilities* Administers, negotiates, enters into, amends, and restructures firm energy and capacity contracts entered into with qualifying cogeneration and small power production facilities.

### C. COST-EFFECTIVENESS TESTS

Proposed programs have been analyzed for cost-effectiveness using the Commission-approved tests described in Rule 25-17.008, Florida Administrative Code, with the exception of the following programs:

| Program   | Reason for Exception  |
|---|---|
| Home Energy Check   | Mandated in 25-17.003(3)(b)   |
| Technical Potential   | Mandated in Order No. PSC-09-0855-FOF-EG                            |
| Business Energy Check   | Mandated in 25-17.003(3)(d)   |
| Innovation Incentive  | Cost effectiveness tests will be conducted at project consideration |
| Research and Development of the Demand Side Renewable Portfolio | Mandated in 25-17.001(5)(f) <sup>2</sup>                            |
| Technology Development  | Mandated in 25-17.001(5)(f)   |
| Qualifying Facilities   | Mandated in 25-17.082(1)  |

Strategist, an energy planning and analytics software, was used to evaluate the applicable Demand Side Management programs against avoidable supply-side capacity. In contrast to static models, Strategist is a more sophisticated dynamic model which more closely simulates the operation of the power system. For example, Strategist is directly integrated with other supply-side planning models, thereby allowing variables such as marginal fuel costs, hourly production costs, and generation equivalency to be computed and applied.

<sup>2</sup> Previously approved in Order No. PSC-10-0605-PAA-EG



A summary of the cost-effectiveness results for each of the applicable Demand Side Management programs included in this Demand Side Management Plan is shown in Table III-1. In addition, detailed program cost-effectiveness results are presented at the end of each applicable program discussion in Sections IV through VI of this document. These detailed results consist of one page each for the Rate Impact Measure (RIM), Participant and Total Resource Cost (TRC) tests.

**Summary of Demand Side Management Programs Included in  
“Original Goal Scenario”**

**Period 2011-2019**

**Table III-1**

| DSM Measure  | Rate Impact Measure Test   |                         |           | Participant Test           |                     |           | Total Resource Cost Test   |                     |           | Program Status |
|--|----------------------------|-------------------------|-----------|----------------------------|---------------------|-----------|----------------------------|---------------------|-----------|----------------|
|  | NPV Total Benefits (\$000) | NPV Total Costs (\$000) | B/C Ratio | NPV Total Benefits (\$000) | Total Costs (\$000) | B/C Ratio | NPV Total Benefits (\$000) | Total Costs (\$000) | B/C Ratio |                |
| Residential Conservation Programs                        |                            |                         |           |                            |                     |           |                            |                     |           |                |
| Home Energy Check  | N/A                        | N/A                     | N/A       | N/A                        | N/A                 | N/A       | N/A                        | N/A                 | N/A       | Modified       |
| Home Energy Improvement                                  | \$1,017,140                | \$1,350,508             | 0.75      | \$1,213,696                | \$487,514           | 2.49      | \$1,017,140                | \$624,326           | 1.63      | Modified       |
| Residential New Construction                             | \$105,668                  | \$137,298               | 0.77      | \$126,643                  | \$55,138            | 2.30      | \$105,668                  | \$65,793            | 1.61      | Modified       |
| Neighborhood Energy Saver                                | \$69,352                   | \$90,095                | 0.77      | \$77,508                   | \$28,350            | 2.73      | \$69,352                   | \$40,937            | 1.69      | Modified       |
| Low Income Weatherization                                | \$12,066                   | \$15,691                | 0.77      | \$12,599                   | \$4,906             | 2.57      | \$12,066                   | \$7,997             | 1.51      | Modified       |
| Residential Energy Mgmt                                  | \$950,529                  | \$810,825               | 1.17      | \$263,082                  | \$0                 | 9999      | \$950,529                  | \$531,381           | 1.79      | Existing       |
| Technical Potential                                      | N/A                        | N/A                     | N/A       | N/A                        | N/A                 | N/A       | N/A                        | N/A                 | N.A.      | New            |
| Commercial/Industrial Conservation Programs              |                            |                         |           |                            |                     |           |                            |                     |           |                |
| Business Energy Check                                    | N/A                        | N/A                     | N/A       | N/A                        | N/A                 | N/A       | N/A                        | N/A                 | N/A       | Modified       |
| Better Business  | \$135,407                  | \$158,076               | 0.86      | \$139,582                  | \$33,617            | 4.15      | \$135,407                  | \$52,111            | 2.60      | Modified       |
| Commercial/Industrial New                                | \$28,376                   | \$36,607                | 0.78      | \$32,117                   | \$13,738            | 2.34      | \$28,376                   | \$18,228            | 1.56      | Modified       |
| Business Energy Saver                                    | \$1,841                    | \$1,869                 | 0.99      | \$1,518                    | \$447               | 3.40      | \$1,841                    | \$797               | 2.31      | New            |
| Commercial Green Building                                | \$5,355                    | \$7,467                 | 0.72      | \$6,670                    | \$2,466             | 2.70      | \$5,355                    | \$3,264             | 1.64      | New            |
| Innovation Incentive                                     | N/A                        | N/A                     | N/A       | N/A                        | N/A                 | N/A       | N/A                        | N/A                 | N/A       | Modified       |
| Standby Generation                                       | \$80,510                   | \$11,584                | 6.95      | \$10,235                   | \$0                 | 9999      | \$80,510                   | \$1,349             | 59.68     | Modified       |
| Interruptible Service                                    | \$6,187                    | \$1,315                 | 4.70      | \$1,127                    | \$0                 | 9999      | \$6,187                    | \$187               | 33.09     | Modified       |
| Curtailable Service                                      | \$4,508                    | \$720                   | 6.26      | \$663                      | \$0                 | 9999      | \$4,508                    | \$57                | 78.80     | Modified       |
| Business Energy Response                                 | \$338,403                  | \$297,608               | 1.14      | \$6,944                    | \$0                 | 9999      | \$338,403                  | \$131,405           | 2.58      | New            |
| Demand Side Renewable Portfolio <sup>1</sup>             |                            |                         |           |                            |                     |           |                            |                     |           |                |
| Solar Water Heating for Low-income Residential Customers | \$359                      | \$906                   | 0.40      | \$745                      | \$392               | 1.90      | \$359                      | \$553               | 0.65      | New            |
| Solar Water Heating with Energy Management               | \$34,097                   | \$28,707                | 1.19      | \$33,388                   | \$28,811            | 1.16      | \$41,138                   | \$31,171            | 1.32      | Modified       |
| Residential Solar Photovoltaic                           | \$4,469                    | \$8,761                 | 0.51      | \$11,361                   | \$13,958            | 0.81      | \$7,511                    | \$14,400            | 0.52      | New            |
| Commercial Solar Photovoltaic                            | \$5,119                    | \$8,809                 | 0.58      | \$10,904                   | \$12,714            | 0.86      | \$7,713                    | \$13,213            | 0.58      | New            |
| Photovoltaics for Schools                                | \$1,681                    | \$7,913                 | 0.21      | \$4,550                    | \$1,042             | 4.37      | \$5,100                    | \$7,824             | 0.65      | New            |
| Research & Development                                   | N/A                        | N/A                     | N/A       | N/A                        | N/A                 | N/A       | N/A                        | N/A                 | N/A       | New            |
| Technology Development                                   | N/A                        | N/A                     | N/A       | N/A                        | N/A                 | N/A       | N/A                        | N/A                 | N/A       | Modified       |
| Qualifying Facilities                                    | N/A                        | N/A                     | N/A       | N/A                        | N/A                 | N/A       | N/A                        | N/A                 | N/A       | Existing       |

<sup>1</sup> Previously approved in Order No. PSC-10-0605-PAA-EG

**D. PROGRAM MONITORING AND EVALUATION**

Program monitoring and evaluation are important components of Demand Side Management implementation. Specifically, program monitoring includes tracking program accomplishments and ensuring quality control. Program evaluation documents the energy and demand impacts of the program and also recommends how the program can be improved through program modifications.

The program monitoring and evaluation methodologies that Progress Energy intends to use will leverage a variety of data sources including but not limited to: customer-specific audits, billing usage, customer surveys, engineering and building simulation modeling, demographics, weather information, and end-use load research metering. Progress Energy will determine and employ evaluation methodologies specific to each program based on factors such as dollars invested (or program budget), participation levels, program impacts, and measure performance uncertainties.

**E. COST-RECOVERY**

Progress Energy submits the programs herein described for approval and for inclusion as cost recoverable Conservation and Energy Efficiency programs under current Commission-approved procedures pursuant to Rule 25-17.015, Florida Administrative Code (“F.A.C.”), and will seek recovery of all prudent costs associated with the development, implementation, and administration of all programs and pilots submitted with this Demand Side Management Plan.

Progress Energy seeks cost recovery for previously closed programs that have ongoing costs associated with grandfathered participants. These programs include Commercial Energy Management, Interruptible Service (IS-1) and (IST-1), and Curtailable Service (CS-1) and (CST-1).

Additionally, Progress Energy seeks cost recovery for the programs contained within the Demand Side Renewable Portfolio approved in Order No. PSC-10-0605-PAA-EG.

PEF’s September 17, 2010 ECCR Projection Filing (Docket No. 100002-EG), which proposes ECCR rates for 2011, was based on PEF’s currently approved programs and, thus, does not reflect the increased cost commensurate with this “Original Goal Scenario”. PEF may seek a mid-course correction of the ECCR rate during 2011 to mitigate rate impacts for any material difference (larger than ten percent) between the cost recovery charges approved in Docket No. 100002-EG and the cost needed to implement any new DSM Plan approved by the Commission.

#### IV. RESIDENTIAL CONSERVATION PROGRAMS

The “Original Goal Scenario” includes seven residential programs:

- Home Energy Check - program focused on residential energy audits
- Home Energy Improvement - program focused on retrofitting energy efficiency into existing homes (single family, multi-family and manufactured homes)
- Residential New Construction - program promoting energy efficiency for new construction, multi-family, and manufactured homes
- Neighborhood Energy Saver - program designed to assist low-income families with energy costs by making energy efficiency improvements
- Low-Income Weatherization Assistance - program designed for the weatherization of the homes of low-income families
- Residential Energy Management - program focused on residential load control to reduce peak demands and defer generation needs
- Technical Potential – program designed to achieve the technical potential of certain residential measures that have a payback period of two years or less

Each program is described in detail in the following sections.

**A. HOME ENERGY CHECK PROGRAM**

**Program Start Date:** 1995

Modifications proposed in 2010

**Program Description**

The Home Energy Check is an energy audit program that provides residential customers with an analysis of their energy use as well as recommendations on how they can save on their electricity bill. The audit focuses on education and encouraging customers to implement minimal cost energy-saving practices and measures. The audit also provides Progress Energy the opportunity to promote cost effective measures in customers' homes. The Home Energy Check program serves as the foundation other residential Demand Side Management programs.

The Home Energy Check program offers the following types of energy audits:

- Type 1: Free Walk-Through
- Type 2: Customer-completed Mail-In
- Type 3: Customer Online (Internet Option)
- Type 4: Customer Phone Assisted
- Type 5: Home Energy Check for Kids
- Type 6: Paid Walk-Through
- Type 7: Home Energy Rating (Class I, II)

Customers participating in all audit types will be provided with energy efficiency tips and examples of easily installed energy efficiency measures. The program promotes continued customer involvement by demonstrating sustainable and measurable energy reductions in energy usage through the implementation of low cost energy efficiency measures.

The customer will receive a residential Energy Efficiency Kit via the following methods:

- At the time of the onsite Home Energy Check
- Through the mail following completion of all other types of Home Energy Checks

The kit provides items that are easily implemented for energy efficiency. The contents of the kit will change as needed to achieve high savings impacts while recognizing changes in technology and customer habits. Items that may be included in the kit are energy efficient lighting, thermometers, weatherization items, low-flow devices, as well as education for the customer on the savings associated with the installation of the items in the kit.

The Free Walk Through audit has been enhanced to include a mobile delivery method that will help guide the company’s improvements in its residential energy audits. This enhanced delivery of the Free Walk-Through provides the energy auditor with a more effective way to input information about the customer’s home. The mobile device will address customer needs immediately through online information, and it may print a copy of the report while at the customer’s home emphasizing the steps that the customer should focus on for improving energy efficiency. The mobile audit also allows the upload of the energy audit results to the company’s customer database. The company intends to build on the benefits of this platform to increase the value it provides as well as to ensure customer satisfaction with this energy audit.

## **Policies and Procedures**

All residential customers of Progress Energy are eligible to receive any of the above energy audits conducted on residentially metered buildings, located in Progress Energy's service territory. There is no charge for Type 1 through Type 5 home energy checks, while there is a \$15 customer charge for the Type 6 Home Energy Check. When a customer requests a Home Energy Check, they will be given the option of receiving a Type 2 Home Energy Check survey in the mail, a Type 4 Phone Assisted Home Energy Check or the option of scheduling a Type 1 or Type 6 Walk-through Home Energy Check. A Progress Energy auditor will usually conduct the Walk-through Home Energy Check, although Progress Energy reserves the option to work with other agencies and/or utilities as an extension of the Home Energy Check service. An approved energy auditor from another organization may conduct the Home Energy Check. The Home Energy Rating as outlined in Progress Energy's "Florida Energy Gauge Ratings" tariff is available to all eligible Progress Energy customers upon request.



## Program Participation

Annual participation estimates for the Home Energy Check program are shown in the following table:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 1,473,688   | 70,303   | 4.8%  |
| 2012 | 1,495,098                                | 1,495,098   | 71,521   | 9.5%  |
| 2013 | 1,521,451                                | 1,521,451   | 71,492   | 14.0%   |
| 2014 | 1,548,531                                | 1,548,531   | 71,585   | 18.4%   |
| 2015 | 1,575,167                                | 1,575,167   | 72,093   | 22.7%   |
| 2016 | 1,600,448                                | 1,600,448   | 70,715   | 26.7%   |
| 2017 | 1,624,503                                | 1,624,503   | 71,585   | 30.7%   |
| 2018 | 1,647,724                                | 1,647,724   | 70,936   | 34.6%   |
| 2019 | 1,671,277                                | 1,671,277   | 71,025   | 38.4%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. The entire residential class is eligible for participation.
3. Number of participants represents the customers that Progress Energy expects to reach through this program annually.
4. Cumulative penetration is the ratio of cumulative participating customers to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure’s per customer savings and, annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 386                        | 0.09                             | 0.15                             | 27,108,880                 | 6,296                            | 10,225                           |
| 2012 | 383                        | 0.09                             | 0.14                             | 27,418,540                 | 6,305                            | 10,305                           |
| 2013 | 382                        | 0.09                             | 0.14                             | 27,321,096                 | 6,249                            | 10,249                           |
| 2014 | 381                        | 0.09                             | 0.14                             | 27,271,386                 | 6,204                            | 10,211                           |
| 2015 | 380                        | 0.09                             | 0.14                             | 27,379,715                 | 6,196                            | 10,232                           |
| 2016 | 379                        | 0.09                             | 0.14                             | 26,774,740                 | 6,026                            | 9,987                            |
| 2017 | 374                        | 0.08                             | 0.14                             | 26,777,622                 | 5,995                            | 9,970                            |
| 2018 | 377                        | 0.08                             | 0.14                             | 26,732,232                 | 5,954                            | 9,934                            |
| 2019 | 376                        | 0.08                             | 0.14                             | 26,687,237                 | 5,913                            | 9,900                            |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 411                        | 0.10                             | 0.15                             | 28,879,090                 | 6,707                            | 10,893                           |
| 2012 | 408                        | 0.09                             | 0.15                             | 29,208,971                 | 6,716                            | 10,978                           |
| 2013 | 407                        | 0.09                             | 0.15                             | 29,105,164                 | 6,657                            | 10,918                           |
| 2014 | 406                        | 0.09                             | 0.15                             | 29,052,208                 | 6,609                            | 10,877                           |
| 2015 | 405                        | 0.09                             | 0.15                             | 29,167,610                 | 6,600                            | 10,900                           |
| 2016 | 403                        | 0.09                             | 0.15                             | 28,523,131                 | 6,420                            | 10,639                           |
| 2017 | 398                        | 0.09                             | 0.15                             | 28,526,200                 | 6,387                            | 10,621                           |
| 2018 | 401                        | 0.09                             | 0.15                             | 28,477,847                 | 6,342                            | 10,583                           |
| 2019 | 400                        | 0.09                             | 0.15                             | 28,429,913                 | 6,299                            | 10,546                           |

## Impact Evaluation Plan

The range of possible recommendations resulting from the audit and the inclusion of both technological and behavioral recommendations suggests the need to survey Home Energy Check participants to determine what specific conservation actions have been implemented within each

market segment due to the completed audit. Survey results combined with the participant-specific data gathered during the audit will be used to determine the savings which can be attributed to the Home Energy Check program. The impact evaluation plan for this program may use engineering simulation and statistical billing analysis to estimate demand and energy impacts.

**B. HOME ENERGY IMPROVEMENT PROGRAM**

**Program Start Date:** 1995

Program modified in 2000, 2006, 2007

Modifications proposed in 2010

**Program Description**

The Home Energy Improvement program is designed for the existing single family, multi-family and manufactured home customers who want to retrofit with high energy efficiency improvements. All residential customers are eligible to participate in one or more measures included in this program. The program builds on customer awareness by utilizing various audit types, contractor participation and Progress Energy influence to educate customers on cost-effective measures relevant to their residence.

The program seeks to meet the following overall goals:

- Provide a cost-effective and comprehensive program portfolio of measures across all housing types
- Improve customer energy savings and demand reduction through the installation of energy efficient equipment and thermal envelope upgrades
- Obtain energy and demand impacts that are significant, accurate and measurable

- Educate the residential retrofit market about best practices, innovative technologies and opportunities to leverage participation in all applicable incentives for managing energy consumption.

## **Policies and Procedures**

Program participation must be influenced by one of Progress Energy’s educational opportunities.

The program provides incentives for high efficiency HVAC equipment including installation and maintenance, duct repair, attic and wall insulation upgrades, reflective roofing, high performance windows, window film and heat pump water heaters to residential customers in Progress Energy’s service territory.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions, such as baseline or code revisions, updated measure and verification analysis or technological advances.

Progress Energy is proposing to include the following measures with this program:

### ***High Efficiency HVAC Systems***

The High Efficiency HVAC System measure will provide customers an incentive to install a high efficiency HVAC system when their existing system fails. The incentive will be awarded on

a per unit basis according to efficiency rating and tonnage, regardless of the system type (*PTAC, Mini-Split, Multi-Split, Geothermal Heat Pumps, etc.*). Measure requirements will be outlined in the Program Participation Standards.

### ***HVAC Early Replacement***

This measure provides customers an incentive for replacing their low efficiency HVAC system, prior to it failing, with a high efficiency HVAC system. The incentive will be awarded on a per unit basis according to efficiency rating and tonnage regardless of the system type (*PTAC, Mini-Split, Multi-Split, Geothermal Heat Pumps, etc.*). Measure requirements will be outlined in the Program Participation Standards.

### ***Proper Sizing of High Efficiency HVAC Systems***

This portion of the program encourages the customer to have a new replacement air conditioning system properly sized by the HVAC contractor using industry accepted sizing protocol. The Proper Sizing of High Efficiency HVAC Systems measure is performed in conjunction with the installation of a new HVAC system.

### ***Supply and Return Plenum Seal***

This measure encourages the HVAC contractor to seal the supply and return portion of the plenum to a new air handler with mastic. The Supply and Return Plenum Seal measure is performed in conjunction with the installation of a new HVAC system.

### ***HVAC Commissioning***

An incentive will be provided for the Commissioning of HVAC system(s) in accordance with Progress Energy standards and requirements, eligible on all Florida Energy Code compliant HVAC systems. The requirements and incentives will be outlined in the Program Participation Standards. The HVAC Commissioning measure is performed in conjunction with the installation of a new HVAC system.

### ***Duct Repair***

This portion of the program is designed to promote energy efficiency through improved duct sealing. A customer must have electric heating and a centrally-ducted cooling system, either air conditioning or heat pump, to be eligible for this program. The requirements and incentives will be outlined in the Program Participation Standards.

### ***Attic Insulation Upgrade***

This program measure encourages customers to upgrade their attic insulation by paying a portion of the installed cost. Eligible residences must have whole house electric air conditioning and/or whole house electric heating. The residence must meet the requirements of the Program Participation Standards to qualify for this measure.

### ***Wall Insulation Upgrade***

This program measure encourages customers to upgrade the insulation value of the exterior walls of the home by paying a portion of the installed cost. The requirements and incentives will be outlined in the Program Participation Standards.

### ***Reflective Roof Coating***

This measure will provide incentives to install an ENERGY STAR ® or Cool Roof Rating Council approved reflective roof coating product to a manufactured home’s roof. The product must meet initial reflectance specifications as outlined in the Program Participation Standards.

### ***Reflective Roof***

This measure provides an incentive to install an ENERGY STAR ® or Cool Roof Rating Council reflective roof, on Single family, Multi-family, and applicable manufactured homes. The product must meet initial reflectance specifications as outlined in the Program Participation Standards.

### ***Window Film***

The measure awards an incentive for installing high performance window film. Qualifying residences will install window film that meets the specifications as outlined in the Program Participation Standards.

### ***Replacement Windows***

This measure awards an incentive for installing high performance windows. Qualifying residences will install windows that meet the specifications as outlined in the Program Participation Standards.



### ***HVAC Tune-up***

An HVAC contractor performs a tune-up on the customers’ existing HVAC system(s) to include: verifying proper refrigerant charge, proper air flow to the residence, and cleaning indoor/outdoor coils and fan blades. During the performance assessment of the HVAC system, eligible customers will be encouraged to consider participating in the HVAC Early Replacement measure. The contractor must adhere to all requirements as outlined in the Program Participation Standards.

### ***HVAC Quality Installation***

The HVAC Quality Installation measure includes a requirement for the proper selection of equipment that is designed to perform efficiently in Florida’s hot, humid climate. The Quality Installation measure also includes right-sizing of the equipment, supply and return plenum sealing, air flow verification and correct refrigerant charging. The contractor must adhere to all requirements as outlined in the Program Participation Standards.

### ***Heat Pump Water Heater***

Progress Energy will offer an incentive to install a new heat pump water heater that meets the ENERGY STAR ® electric water heater qualifications. This appliance must also meet the specifications as outlined in the Program Participation Standards.

### ***Financing***

Financing assistance is an alternative to the direct incentive payment. Progress Energy may explore opportunities to collaborate with 3<sup>rd</sup> party financing institutions to offer eligible program participants a financing option that focuses on achieving a low monthly payment. A potential financing option could be longer amortization schedules that would be utilized to create a monthly payment that corresponds with the monthly energy savings. Another potential feature of financing assistance would be to apply the customer’s applicable incentive(s) for the measure(s) installed to the loan to buy-down the amount of the monthly payment.

## Program Participation

Annual participation estimates for the Home Energy Improvement program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 1,473,688   | 95,088   | 6.5%  |
| 2012 | 1,495,098                                | 1,495,098   | 106,024  | 13.5%   |
| 2013 | 1,521,451                                | 1,521,451   | 113,502  | 20.7%   |
| 2014 | 1,548,531                                | 1,548,531   | 121,797  | 28.2%   |
| 2015 | 1,575,167                                | 1,575,167   | 157,357  | 37.7%   |
| 2016 | 1,600,448                                | 1,600,448   | 141,480  | 45.9%   |
| 2017 | 1,624,503                                | 1,624,503   | 133,785  | 53.5%   |
| 2018 | 1,647,724                                | 1,647,724   | 117,942  | 59.9%   |
| 2019 | 1,671,277                                | 1,671,277   | 106,111  | 65.4%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. The entire residential class is eligible for participation in at least one measure.
3. Number of program participants represents the number of individual measure participants projected in a given year.
4. Cumulative penetration is the ratio of cumulative measure participants to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure’s per customer savings and, annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 646                        | 0.46                             | 0.29                             | 61,448,060                 | 43,292                           | 28,006                           |
| 2012 | 651                        | 0.46                             | 0.29                             | 69,032,446                 | 48,284                           | 31,261                           |
| 2013 | 656                        | 0.46                             | 0.29                             | 74,468,479                 | 52,679                           | 33,134                           |
| 2014 | 656                        | 0.46                             | 0.29                             | 79,887,709                 | 56,324                           | 35,605                           |
| 2015 | 657                        | 0.46                             | 0.29                             | 103,389,362                | 72,947                           | 46,375                           |
| 2016 | 656                        | 0.46                             | 0.30                             | 92,804,528                 | 65,772                           | 41,975                           |
| 2017 | 654                        | 0.47                             | 0.30                             | 87,526,958                 | 62,353                           | 39,933                           |
| 2018 | 652                        | 0.47                             | 0.30                             | 76,908,813                 | 55,099                           | 35,404                           |
| 2019 | 650                        | 0.47                             | 0.30                             | 68,936,174                 | 49,683                           | 32,025                           |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 688                        | 0.49                             | 0.31                             | 65,460,618                 | 46,119                           | 29,834                           |
| 2012 | 694                        | 0.49                             | 0.31                             | 73,540,264                 | 51,437                           | 33,302                           |
| 2013 | 699                        | 0.49                             | 0.31                             | 79,331,270                 | 56,119                           | 35,298                           |
| 2014 | 699                        | 0.49                             | 0.31                             | 85,104,377                 | 60,002                           | 37,930                           |
| 2015 | 700                        | 0.49                             | 0.31                             | 110,140,687                | 77,710                           | 49,404                           |
| 2016 | 699                        | 0.50                             | 0.32                             | 98,864,664                 | 70,067                           | 44,716                           |
| 2017 | 697                        | 0.50                             | 0.32                             | 93,242,468                 | 66,425                           | 42,541                           |
| 2018 | 695                        | 0.50                             | 0.32                             | 81,930,959                 | 58,697                           | 37,716                           |
| 2019 | 692                        | 0.50                             | 0.32                             | 73,437,706                 | 52,928                           | 34,116                           |

## Impact Evaluation Plan

The Home Energy Improvement program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels. These analyses are supported by end-use metering data, where feasible.

## Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs \$<br>(000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|-----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$1,017,140             | \$1,350,508           | -\$333,369                  | 0.75      |
| Participant             | \$1,213,696             | \$487,514             | \$726,182                   | 2.49      |
| Total Resource Cost     | \$1,017,140             | \$624,326             | \$392,814                   | 1.63      |

PROGRAM: Home Energy Improvement - RIM

| YEAR    | BENEFITS   |          |           |         |           | COSTS      |           |           |         |           |           |           |          |
|---------|------------|----------|-----------|---------|-----------|------------|-----------|-----------|---------|-----------|-----------|-----------|----------|
|         | (1)        | (2)      | (3)       | (4)     | (5)       | (6)        | (7)       | (8)       | (9)     | (10)      | (11)      | (12)      | (13)     |
|         | TOTAL      | A VOIDED | A VOIDED  | REVENUE | TOTAL     | TOTAL      | INCREASED | INCREASED | UTILITY |           |           |           |          |
|         | FUEL & O&M | T&D CAP. | GEN. CAP. | GAINS   | BENEFITS  | FUEL & O&M | T&D CAP.  | GEN. CAP. | PROGRAM | INCENTIVE | REVENUE   | TOTAL     | NET      |
|         | SAVINGS    | COSTS    | COSTS     |         |           | INCREASE   | COSTS     | COSTS     | COSTS   | PAYMENTS  | LOSSES    | COSTS     | BENEFITS |
|         | \$(000)    | \$(000)  | \$(000)   | \$(000) | \$(000)   | \$(000)    | \$(000)   | \$(000)   | \$(000) | \$(000)   | \$(000)   | \$(000)   | \$(000)  |
| 2010    | 0          | 0        | 0         | 0       | 0         | 0          | 0         | 0         | 0       | 0         | 0         | 0         | 0        |
| 2011    | 7,200      | 640      | 0         | 0       | 7,839     | 0          | 0         | 0         | 12,812  | 55,089    | 8,832     | 76,733    | -68,894  |
| 2012    | 13,398     | 1,356    | 0         | 0       | 14,754    | 0          | 0         | 0         | 15,700  | 65,758    | 18,333    | 99,791    | -85,036  |
| 2013    | 27,263     | 2,125    | 9,973     | 0       | 39,360    | 0          | 0         | 0         | 18,359  | 76,756    | 30,220    | 125,335   | -85,975  |
| 2014    | 26,923     | 2,950    | 21,792    | 0       | 51,665    | 0          | 0         | 0         | 21,355  | 86,820    | 43,520    | 151,696   | -100,031 |
| 2015    | 40,026     | 4,022    | 30,191    | 0       | 74,239    | 0          | 0         | 0         | 29,979  | 118,912   | 64,281    | 213,171   | -138,932 |
| 2016    | 53,868     | 4,990    | 44,279    | 0       | 103,137   | 0          | 0         | 0         | 29,036  | 112,662   | 78,554    | 220,253   | -117,116 |
| 2017    | 75,198     | 5,908    | 85,304    | 0       | 166,410   | 0          | 0         | 0         | 29,490  | 112,057   | 81,897    | 223,443   | -57,034  |
| 2018    | 80,334     | 6,719    | 59,353    | 0       | 146,406   | 0          | 0         | 0         | 27,863  | 103,765   | 89,395    | 221,023   | -74,617  |
| 2019    | 88,788     | 7,450    | 67,186    | 0       | 163,424   | 0          | 0         | 0         | 26,785  | 97,962    | 102,938   | 227,686   | -64,262  |
| 2020    | 89,523     | 7,450    | 68,593    | 0       | 165,565   | 0          | 0         | 0         | 0       | 0         | 105,436   | 105,436   | 60,130   |
| 2021    | 89,294     | 7,450    | 70,041    | 0       | 166,785   | 0          | 0         | 0         | 0       | 0         | 113,013   | 113,013   | 53,771   |
| 2022    | 110,325    | 7,450    | 39,680    | 0       | 157,456   | 0          | 0         | 0         | 0       | 0         | 113,812   | 113,812   | 43,643   |
| 2023    | 114,159    | 7,366    | 50,828    | 0       | 172,353   | 0          | 0         | 0         | 0       | 0         | 113,151   | 113,151   | 59,202   |
| 2024    | 92,680     | 7,271    | 64,974    | 0       | 164,924   | 0          | 0         | 0         | 0       | 0         | 111,607   | 111,607   | 53,317   |
| 2025    | 90,067     | 7,164    | 65,023    | 0       | 162,254   | 0          | 0         | 0         | 0       | 0         | 109,754   | 109,754   | 52,500   |
| 2026    | 104,055    | 6,598    | 39,452    | 0       | 150,104   | 0          | 0         | 0         | 0       | 0         | 101,359   | 101,359   | 48,745   |
| 2027    | 78,543     | 5,950    | 64,300    | 0       | 148,793   | 0          | 0         | 0         | 0       | 0         | 90,617    | 90,617    | 58,176   |
| 2028    | 69,784     | 5,295    | 58,710    | 0       | 133,788   | 0          | 0         | 0         | 0       | 0         | 79,686    | 79,686    | 54,102   |
| 2029    | 69,839     | 4,613    | 37,710    | 0       | 112,162   | 0          | 0         | 0         | 0       | 0         | 68,440    | 68,440    | 43,722   |
| 2030    | 62,373     | 3,776    | 44,258    | 0       | 110,407   | 0          | 0         | 0         | 0       | 0         | 54,815    | 54,815    | 55,592   |
| 2031    | 48,623     | 2,937    | 38,664    | 0       | 90,223    | 0          | 0         | 0         | 0       | 0         | 40,944    | 40,944    | 49,280   |
| 2032    | 37,801     | 2,206    | 31,502    | 0       | 71,508    | 0          | 0         | 0         | 0       | 0         | 31,216    | 31,216    | 40,292   |
| 2033    | 27,439     | 1,534    | 24,377    | 0       | 53,350    | 0          | 0         | 0         | 0       | 0         | 22,097    | 22,097    | 31,253   |
| 2034    | 16,872     | 904      | 16,273    | 0       | 34,049    | 0          | 0         | 0         | 0       | 0         | 13,065    | 13,065    | 20,984   |
| 2035    | 14,471     | 746      | 13,822    | 0       | 29,039    | 0          | 0         | 0         | 0       | 0         | 11,266    | 11,266    | 17,773   |
| 2036    | 12,251     | 604      | 11,448    | 0       | 24,302    | 0          | 0         | 0         | 0       | 0         | 9,556     | 9,556     | 14,747   |
| 2037    | 9,953      | 468      | 9,004     | 0       | 19,425    | 0          | 0         | 0         | 0       | 0         | 7,844     | 7,844     | 11,581   |
| 2038    | 7,803      | 347      | 6,685     | 0       | 14,834    | 0          | 0         | 0         | 0       | 0         | 6,235     | 6,235     | 8,599    |
| NOMINAL | 1,558,846  | 116,289  | 1,073,421 | 0       | 2,748,556 | 0          | 0         | 0         | 211,379 | 829,781   | 1,721,883 | 2,763,043 | -14,487  |
| NPV     | 577,361    | 45,603   | 394,176   | 0       | 1,017,140 | 0          | 0         | 0         | 136,812 | 542,349   | 671,348   | 1,350,508 | -333,369 |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.753

PROGRAM: Home Energy Improvement - Participant

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |  |                           | NET<br>BENEFITS<br>\$(000) |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|--|---------------------------|----------------------------|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)  | (7)                       |                            |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0                          |
| 2011    | 8,832  | 55,089                           | 0   | 63,921                       | 49,809                           | 0  | 49,809                    | 14,112                     |
| 2012    | 18,333   | 65,758                           | 0   | 84,091                       | 59,297                           | 0  | 59,297                    | 24,794                     |
| 2013    | 30,220   | 76,756                           | 0   | 106,976                      | 69,006                           | 0  | 69,006                    | 37,970                     |
| 2014    | 43,520   | 86,820                           | 0   | 130,340                      | 77,941                           | 0  | 77,941                    | 52,399                     |
| 2015    | 64,281   | 118,912                          | 0   | 183,192                      | 106,659                          | 0  | 106,659                   | 76,534                     |
| 2016    | 78,554   | 112,662                          | 0   | 191,217                      | 101,099                          | 0  | 101,099                   | 90,117                     |
| 2017    | 81,897   | 112,057                          | 0   | 193,954                      | 100,609                          | 0  | 100,609                   | 93,344                     |
| 2018    | 89,395   | 103,765                          | 0   | 193,160                      | 93,217                           | 0  | 93,217                    | 99,943                     |
| 2019    | 102,938  | 97,962                           | 0   | 200,900                      | 88,043                           | 0  | 88,043                    | 112,857                    |
| 2020    | 105,436  | 0                                | 0   | 105,436                      | 0                                | 0  | 0                         | 105,436                    |
| 2021    | 113,013  | 0                                | 0   | 113,013                      | 0                                | 0  | 0                         | 113,013                    |
| 2022    | 113,812  | 0                                | 0   | 113,812                      | 0                                | 0  | 0                         | 113,812                    |
| 2023    | 113,151  | 0                                | 0   | 113,151                      | 0                                | 0  | 0                         | 113,151                    |
| 2024    | 111,607  | 0                                | 0   | 111,607                      | 0                                | 0  | 0                         | 111,607                    |
| 2025    | 109,754  | 0                                | 0   | 109,754                      | 0                                | 0  | 0                         | 109,754                    |
| 2026    | 101,359  | 0                                | 0   | 101,359                      | 0                                | 0  | 0                         | 101,359                    |
| 2027    | 90,617   | 0                                | 0   | 90,617                       | 0                                | 0  | 0                         | 90,617                     |
| 2028    | 79,686   | 0                                | 0   | 79,686                       | 0                                | 0  | 0                         | 79,686                     |
| 2029    | 68,440   | 0                                | 0   | 68,440                       | 0                                | 0  | 0                         | 68,440                     |
| 2030    | 54,815   | 0                                | 0   | 54,815                       | 0                                | 0  | 0                         | 54,815                     |
| 2031    | 40,944   | 0                                | 0   | 40,944                       | 0                                | 0  | 0                         | 40,944                     |
| 2032    | 31,216   | 0                                | 0   | 31,216                       | 0                                | 0  | 0                         | 31,216                     |
| 2033    | 22,097   | 0                                | 0   | 22,097                       | 0                                | 0  | 0                         | 22,097                     |
| 2034    | 13,065   | 0                                | 0   | 13,065                       | 0                                | 0  | 0                         | 13,065                     |
| 2035    | 11,266   | 0                                | 0   | 11,266                       | 0                                | 0  | 0                         | 11,266                     |
| 2036    | 9,556  | 0                                | 0   | 9,556                        | 0                                | 0  | 0                         | 9,556                      |
| 2037    | 7,844  | 0                                | 0   | 7,844                        | 0                                | 0  | 0                         | 7,844                      |
| 2038    | 6,235  | 0                                | 0   | 6,235                        | 0                                | 0  | 0                         | 6,235                      |
| NOMINAL | 1,721,883                                      | 829,781                          | 0   | 2,551,664                    | 745,681                          | 0  | 745,681                   | 1,805,983                  |
| NPV     | 671,348  | 542,349                          | 0   | 1,213,696                    | 487,514                          | 0  | 487,514                   | 726,182                    |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 2.490

PROGRAM: Home Energy Improvement - TRC

| YEAR    | BENEFITS                              |                                     |                                      |   |                          | COSTS                        |  |                                       |  |                                     |                        | NET<br>BENEFITS<br>\$(000) |
|---------|---------------------------------------|-------------------------------------|--------------------------------------|---|--------------------------|------------------------------|--|---------------------------------------|--|-------------------------------------|------------------------|----------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS | (2)<br>AVOIDED<br>T&D CAP.<br>COSTS | (3)<br>AVOIDED<br>GEN. CAP.<br>COSTS | (4)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS | (5)<br>TOTAL<br>BENEFITS | (6)<br>PARTICIPANT'S<br>COST | (7)<br>TOTAL<br>FUEL & O&M<br>INCREASE | (8)<br>INCREASED<br>T&D CAP.<br>COSTS | (9)<br>INCREASED<br>GEN. CAP.<br>COSTS | (10)<br>UTILITY<br>PROGRAM<br>COSTS | (11)<br>TOTAL<br>COSTS |                            |
|         | \$(000)                               | \$(000)                             | \$(000)                              | \$(000)                                   | \$(000)                  | \$(000)                      | \$(000)                                | \$(000)                               | \$(000)                                | \$(000)                             | \$(000)                |                            |
| 2010    | 0                                     | 0                                   | 0                                    | 0   | 0                        | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 0                          |
| 2011    | 7,200                                 | 640                                 | 0                                    | 0   | 7,839                    | 49,809                       | 0                                      | 0                                     | 0                                      | 12,812                              | 62,621                 | -54,781                    |
| 2012    | 13,398                                | 1,356                               | 0                                    | 0   | 14,754                   | 59,297                       | 0                                      | 0                                     | 0                                      | 15,700                              | 74,997                 | -60,243                    |
| 2013    | 27,263                                | 2,125                               | 9,973                                | 0   | 39,360                   | 69,006                       | 0                                      | 0                                     | 0                                      | 18,359                              | 87,365                 | -48,005                    |
| 2014    | 26,923                                | 2,950                               | 21,792                               | 0   | 51,665                   | 77,941                       | 0                                      | 0                                     | 0                                      | 21,355                              | 99,297                 | -47,632                    |
| 2015    | 40,026                                | 4,022                               | 30,191                               | 0   | 74,239                   | 106,659                      | 0                                      | 0                                     | 0                                      | 29,979                              | 136,638                | -62,399                    |
| 2016    | 53,868                                | 4,990                               | 44,279                               | 0   | 103,137                  | 101,099                      | 0                                      | 0                                     | 0                                      | 29,036                              | 130,136                | -26,998                    |
| 2017    | 75,198                                | 5,908                               | 85,304                               | 0   | 166,410                  | 100,609                      | 0                                      | 0                                     | 0                                      | 29,490                              | 130,099                | 36,311                     |
| 2018    | 80,334                                | 6,719                               | 59,353                               | 0   | 146,406                  | 93,217                       | 0                                      | 0                                     | 0                                      | 27,863                              | 121,080                | 25,326                     |
| 2019    | 88,788                                | 7,450                               | 67,186                               | 0   | 163,424                  | 88,043                       | 0                                      | 0                                     | 0                                      | 26,785                              | 114,828                | 48,595                     |
| 2020    | 89,523                                | 7,450                               | 68,593                               | 0   | 165,565                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 165,565                    |
| 2021    | 89,294                                | 7,450                               | 70,041                               | 0   | 166,785                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 166,785                    |
| 2022    | 110,325                               | 7,450                               | 39,680                               | 0   | 157,456                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 157,456                    |
| 2023    | 114,159                               | 7,366                               | 50,828                               | 0   | 172,353                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 172,353                    |
| 2024    | 92,680                                | 7,271                               | 64,974                               | 0   | 164,924                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 164,924                    |
| 2025    | 90,067                                | 7,164                               | 65,023                               | 0   | 162,254                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 162,254                    |
| 2026    | 104,055                               | 6,598                               | 39,452                               | 0   | 150,104                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 150,104                    |
| 2027    | 78,543                                | 5,950                               | 64,300                               | 0   | 148,793                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 148,793                    |
| 2028    | 69,784                                | 5,295                               | 58,710                               | 0   | 133,788                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 133,788                    |
| 2029    | 69,839                                | 4,613                               | 37,710                               | 0   | 112,162                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 112,162                    |
| 2030    | 62,373                                | 3,776                               | 44,258                               | 0   | 110,407                  | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 110,407                    |
| 2031    | 48,623                                | 2,937                               | 38,664                               | 0   | 90,223                   | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 90,223                     |
| 2032    | 37,801                                | 2,206                               | 31,502                               | 0   | 71,508                   | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 71,508                     |
| 2033    | 27,439                                | 1,534                               | 24,377                               | 0   | 53,350                   | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 53,350                     |
| 2034    | 16,872                                | 904                                 | 16,273                               | 0   | 34,049                   | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 34,049                     |
| 2035    | 14,471                                | 746                                 | 13,822                               | 0   | 29,039                   | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 29,039                     |
| 2036    | 12,251                                | 604                                 | 11,448                               | 0   | 24,302                   | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 24,302                     |
| 2037    | 9,953                                 | 468                                 | 9,004                                | 0   | 19,425                   | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 19,425                     |
| 2038    | 7,803                                 | 347                                 | 6,685                                | 0   | 14,834                   | 0                            | 0                                      | 0                                     | 0                                      | 0                                   | 0                      | 14,834                     |
| NOMINAL | 1,558,846                             | 116,289                             | 1,073,421                            | 0   | 2,748,556                | 745,681                      | 0                                      | 0                                     | 0                                      | 211,379                             | 957,060                | 1,791,497                  |
| NPV     | 577,361                               | 45,603                              | 394,176                              | 0   | 1,017,140                | 487,514                      | 0                                      | 0                                     | 0                                      | 136,812                             | 624,326                | 392,814                    |

Utility Discount Rate = 8.48  
Benefit Cost Ratio = 1.629



**C. RESIDENTIAL NEW CONSTRUCTION PROGRAM**

**Program Start Date:** 1995

Program modified in 2000, 2004, 2006, 2007

Modifications proposed in 2010

**Program Description**

The Residential New Construction program (RNC) is designed to improve the energy efficiency of newly constructed residences in the single family, multi-family and manufactured homes segments.

The program seeks to meet the following overall goals:

- Provide a cost-effective comprehensive program portfolio of measures across all housing types
- Educate and promote energy efficient building design in the residential new construction industry
- Obtain energy and demand impacts that are significant, measurable and accurate
- Evaluate and recommend energy efficient building envelope and equipment measures for the new construction market

## **Policies and Procedures**

Program participation must be influenced by one of Progress Energy’s educational opportunities.

The Residential New Construction program will provide financial incentives and education to builders and developers for incorporating energy efficient measures into the construction process. To qualify for the program, the residence must be a new metered residence in Progress Energy territory

Renovations and additions will be governed by the current FL Building Code for eligibility as new construction. Additions do not qualify for the residential manufactured and the multi-family home segment.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions, such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

### ***High Efficiency HVAC Systems***

High efficiency heat pumps will be expanded to 3 tiers of classification; 15 to 19+ SEER (*or equivalent EER*). Systems will qualify based on efficiency rating and tonnage regardless of the system type (*PTAC, Mini-Splits, Multi-Splits, Geothermal Heat Pumps, etc.*).

### ***High Performance Windows***

An incentive will be provided for the installation of high performance windows. The product must meet the specifications as outlined in the Program Participation Standards.

### ***High Performance Exterior Wall Insulation***

An incentive will be provided for the installation of high performance exterior wall insulation that exceeds the current Florida Energy Code by a factor of two. The product must meet the specifications as outlined in the Program Participation Standards.

### ***HVAC Commissioning***

An incentive will be provided for the commissioning of HVAC system(s) in accordance with Progress Energy standards and requirements, eligible on all Florida Energy Code compliant HVAC systems. The requirements and incentives will be outlined in the Program Participation Standards.

### ***ENERGY STAR® Certification***

Progress Energy will offer the builder an incentive to help offset the cost to have a residence rated to meet the ENERGY STAR® certification. The incentive is paid if the residence achieves ENERGY STAR®'s qualifications and at least two Residential New Construction measures are installed. The builder who qualifies for this incentive is not eligible for any other RNC program incentives. The requirements and incentives will be outlined in the Program Participation Standards.

### ***Code Plus 20 Construction***

Progress Energy will offer an incentive to builders that construct a residence exceeding the current Florida Energy Code by at least 20% provided they install at least three Residential New Construction program measures. The builder who qualifies for this incentive is not eligible for any other RNC program incentives. The requirements and incentives will be outlined in the Program Participation Standards.

### ***Multi-Family Complexes with Heat Pumps***

Multi-family builders and developers that can verify a change in design from A/C systems with electric resistance heat to heat pumps will qualify for a per heat pump system incentive to offset the costs associated with the design change. The requirements and incentives will be outlined in the Program Participation Standards.

### ***HVAC Quality Installation***

The Quality Installation measure requires the proper selection of equipment and includes the right-sizing of the equipment, supply and return plenum sealing, air flow verification and correct refrigerant charging. The contractor must adhere to all requirements as outlined in the Program Participation Standards.

### ***Heat Pump Water Heaters***

Progress Energy will offer builders an incentive to install new heat pump water heaters that meet the ENERGY STAR ® electric water heater qualifications. This appliance must also meet the specifications as outlined in the Program Participation Standards.

## Program Participation

Annual participation estimates for the Residential New Construction program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 16,273  | 3,292  | 20.2%   |
| 2012 | 1,495,098                                | 21,410  | 3,286  | 17.5%   |
| 2013 | 1,521,451                                | 26,353  | 3,265  | 15.4%   |
| 2014 | 1,548,531                                | 27,080  | 3,847  | 15.0%   |
| 2015 | 1,575,167                                | 26,636  | 3,936  | 15.0%   |
| 2016 | 1,600,448                                | 25,281  | 3,638  | 14.9%   |
| 2017 | 1,624,503                                | 24,055  | 3,457  | 14.8%   |
| 2018 | 1,647,724                                | 23,221  | 3,196  | 14.7%   |
| 2019 | 1,671,277                                | 23,553  | 3,009  | 14.5%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. Eligible Customers is the number of qualifying new homes built in Progress Energy's territory in the given year.
3. Number of program participants represents the number of individual participants projected in a given year.
4. Cumulative penetration is the ratio of cumulative participants to the accumulated eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure’s per customer savings and, annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 2159                       | 1.03                             | 0.89                             | 7,109,013                  | 3,400                            | 2,926                            |
| 2012 | 2232                       | 1.10                             | 0.91                             | 7,333,726                  | 3,608                            | 3,002                            |
| 2013 | 2292                       | 1.14                             | 0.93                             | 7,483,534                  | 3,727                            | 3,040                            |
| 2014 | 1984                       | 1.00                             | 0.88                             | 7,633,343                  | 3,828                            | 3,369                            |
| 2015 | 2073                       | 1.02                             | 0.89                             | 8,157,673                  | 4,020                            | 3,506                            |
| 2016 | 2160                       | 1.05                             | 0.91                             | 7,858,055                  | 3,810                            | 3,293                            |
| 2017 | 2230                       | 1.07                             | 0.92                             | 7,708,247                  | 3,692                            | 3,169                            |
| 2018 | 2318                       | 1.09                             | 0.93                             | 7,408,630                  | 3,498                            | 2,976                            |
| 2019 | 2388                       | 1.12                             | 0.94                             | 7,183,918                  | 3,355                            | 2,834                            |

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 2300                       | 1.10                             | 0.95                             | 7,573,232                  | 3,622                            | 3,117                            |
| 2012 | 2378                       | 1.17                             | 0.97                             | 7,812,618                  | 3,843                            | 3,198                            |
| 2013 | 2442                       | 1.22                             | 0.99                             | 7,972,209                  | 3,971                            | 3,239                            |
| 2014 | 2114                       | 1.06                             | 0.93                             | 8,131,800                  | 4,078                            | 3,589                            |
| 2015 | 2208                       | 1.09                             | 0.95                             | 8,690,369                  | 4,282                            | 3,735                            |
| 2016 | 2301                       | 1.12                             | 0.96                             | 8,371,186                  | 4,058                            | 3,509                            |
| 2017 | 2376                       | 1.14                             | 0.98                             | 8,211,596                  | 3,933                            | 3,376                            |
| 2018 | 2469                       | 1.17                             | 0.99                             | 7,892,413                  | 3,726                            | 3,171                            |
| 2019 | 2544                       | 1.19                             | 1.00                             | 7,653,027                  | 3,574                            | 3,019                            |

## Impact Evaluation Plan

The Residential New Construction program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels.

## Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits \$(000) | NPV Costs \$(000) | NPV Net Benefits \$(000) | B/C Ratio |
|-------------------------|----------------------|-------------------|--------------------------|-----------|
| Rate Impact Measure     | \$105,668            | \$137,298         | -\$31,630                | 0.77      |
| Participant             | \$126,643            | \$55,138          | \$71,505                 | 2.3       |
| Total Resource Cost     | \$105,668            | \$65,793          | \$39,875                 | 1.61      |

PROGRAM: Residential New Construction - RIM

| YEAR    | BENEFITS                       |                              |                               |                  |                   | COSTS                           |                                |                                 |                             |                       |                   |                |         | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|------------------------------|-------------------------------|------------------|-------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|-----------------------|-------------------|----------------|---------|----------------------------|
|         | (1)                            | (2)                          | (3)                           | (4)              | (5)               | (6)                             | (7)                            | (8)                             | (9)                         | (10)                  | (11)              | (12)           |         |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP.<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | REVENUE<br>GAINS | TOTAL<br>BENEFITS | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | INCENTIVE<br>PAYMENTS | REVENUE<br>LOSSES | TOTAL<br>COSTS |         |                            |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)          | \$(000)           | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)               | \$(000)           | \$(000)        |         |                            |
| 2010    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0       |                            |
| 2011    | 849                            | 75                           | 0                             | 0                | 925               | 0                               | 0                              | 0                               | 1,199                       | 8,154                 | 1,019             | 10,372         | -9,448  |                            |
| 2012    | 1,514                          | 152                          | 0                             | 0                | 1,666             | 0                               | 0                              | 0                               | 1,345                       | 8,748                 | 2,024             | 12,117         | -10,451 |                            |
| 2013    | 2,952                          | 230                          | 1,026                         | 0                | 4,207             | 0                               | 0                              | 0                               | 1,491                       | 9,337                 | 3,225             | 14,053         | -9,846  |                            |
| 2014    | 2,877                          | 316                          | 2,219                         | 0                | 5,412             | 0                               | 0                              | 0                               | 1,710                       | 9,670                 | 4,506             | 15,886         | -10,474 |                            |
| 2015    | 4,008                          | 407                          | 2,895                         | 0                | 7,310             | 0                               | 0                              | 0                               | 1,958                       | 10,876                | 6,231             | 19,065         | -11,755 |                            |
| 2016    | 5,236                          | 492                          | 7,532                         | 0                | 13,260            | 0                               | 0                              | 0                               | 2,020                       | 11,002                | 7,434             | 20,456         | -7,197  |                            |
| 2017    | 7,637                          | 575                          | 9,237                         | 0                | 17,449            | 0                               | 0                              | 0                               | 2,136                       | 11,368                | 7,659             | 21,163         | -3,714  |                            |
| 2018    | 7,738                          | 654                          | 5,459                         | 0                | 13,851            | 0                               | 0                              | 0                               | 2,203                       | 11,507                | 8,388             | 22,098         | -8,247  |                            |
| 2019    | 8,649                          | 729                          | 6,208                         | 0                | 15,586            | 0                               | 0                              | 0                               | 2,297                       | 11,747                | 9,759             | 23,804         | -8,218  |                            |
| 2020    | 8,726                          | 729                          | 6,338                         | 0                | 15,793            | 0                               | 0                              | 0                               | 0                           | 0                     | 9,996             | 9,996          | 5,798   |                            |
| 2021    | 8,727                          | 729                          | 6,472                         | 0                | 15,928            | 0                               | 0                              | 0                               | 0                           | 0                     | 10,712            | 10,712         | 5,215   |                            |
| 2022    | 10,718                         | 729                          | 3,537                         | 0                | 14,983            | 0                               | 0                              | 0                               | 0                           | 0                     | 10,790            | 10,790         | 4,193   |                            |
| 2023    | 11,147                         | 721                          | 5,825                         | 0                | 17,694            | 0                               | 0                              | 0                               | 0                           | 0                     | 10,704            | 10,704         | 6,990   |                            |
| 2024    | 9,044                          | 713                          | 5,996                         | 0                | 15,753            | 0                               | 0                              | 0                               | 0                           | 0                     | 10,562            | 10,562         | 5,190   |                            |
| 2025    | 8,816                          | 705                          | 6,006                         | 0                | 15,526            | 0                               | 0                              | 0                               | 0                           | 0                     | 10,421            | 10,421         | 5,105   |                            |
| 2026    | 10,021                         | 645                          | 3,610                         | 0                | 14,275            | 0                               | 0                              | 0                               | 0                           | 0                     | 9,652             | 9,652          | 4,623   |                            |
| 2027    | 7,694                          | 582                          | 5,869                         | 0                | 14,145            | 0                               | 0                              | 0                               | 0                           | 0                     | 8,783             | 8,783          | 5,362   |                            |
| 2028    | 6,895                          | 520                          | 5,328                         | 0                | 12,743            | 0                               | 0                              | 0                               | 0                           | 0                     | 7,831             | 7,831          | 4,912   |                            |
| 2029    | 7,426                          | 445                          | 3,705                         | 0                | 11,575            | 0                               | 0                              | 0                               | 0                           | 0                     | 6,704             | 6,704          | 4,871   |                            |
| 2030    | 7,088                          | 368                          | 7,348                         | 0                | 14,804            | 0                               | 0                              | 0                               | 0                           | 0                     | 5,476             | 5,476          | 9,328   |                            |
| 2031    | 5,792                          | 289                          | 6,770                         | 0                | 12,851            | 0                               | 0                              | 0                               | 0                           | 0                     | 4,149             | 4,149          | 8,701   |                            |
| 2032    | 4,589                          | 222                          | 5,467                         | 0                | 10,277            | 0                               | 0                              | 0                               | 0                           | 0                     | 3,282             | 3,282          | 6,994   |                            |
| 2033    | 3,389                          | 158                          | 4,083                         | 0                | 7,631             | 0                               | 0                              | 0                               | 0                           | 0                     | 2,460             | 2,460          | 5,170   |                            |
| 2034    | 2,208                          | 98                           | 2,632                         | 0                | 4,937             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,612             | 1,612          | 3,325   |                            |
| 2035    | 2,108                          | 90                           | 2,497                         | 0                | 4,695             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,570             | 1,570          | 3,125   |                            |
| 2036    | 2,031                          | 84                           | 2,368                         | 0                | 4,482             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,528             | 1,528          | 2,954   |                            |
| 2037    | 1,962                          | 77                           | 2,237                         | 0                | 4,276             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,484             | 1,484          | 2,792   |                            |
| 2038    | 1,892                          | 71                           | 2,111                         | 0                | 4,074             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,435             | 1,435          | 2,640   |                            |
| NOMINAL | 161,729                        | 11,604                       | 122,775                       | 0                | 296,107           | 0                               | 0                              | 0                               | 16,359                      | 92,410                | 169,400           | 278,168        | 17,938  |                            |
| NPV     | 58,480                         | 4,551                        | 42,637                        | 0                | 105,668           | 0                               | 0                              | 0                               | 10,655                      | 61,315                | 65,328            | 137,298        | -31,630 |                            |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.770



PROGRAM: Residential New Construction - Participant

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |  |                           |                            |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|--|---------------------------|----------------------------|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)  | (7)                       | (8)                        |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0                          |
| 2011    | 1,019  | 8,154                            | 0   | 9,173                        | 7,327                            | 0  | 7,327                     | 1,847                      |
| 2012    | 2,024  | 8,748                            | 0   | 10,772                       | 7,865                            | 0  | 7,865                     | 2,907                      |
| 2013    | 3,225  | 9,337                            | 0   | 12,562                       | 8,398                            | 0  | 8,398                     | 4,164                      |
| 2014    | 4,506  | 9,670                            | 0   | 14,176                       | 8,705                            | 0  | 8,705                     | 5,471                      |
| 2015    | 6,231  | 10,876                           | 0   | 17,107                       | 9,789                            | 0  | 9,789                     | 7,318                      |
| 2016    | 7,434  | 11,002                           | 0   | 18,437                       | 9,898                            | 0  | 9,898                     | 8,538                      |
| 2017    | 7,659  | 11,368                           | 0   | 19,027                       | 10,224                           | 0  | 10,224                    | 8,803                      |
| 2018    | 8,388  | 11,507                           | 0   | 19,895                       | 10,343                           | 0  | 10,343                    | 9,553                      |
| 2019    | 9,759  | 11,747                           | 0   | 21,507                       | 10,547                           | 0  | 10,547                    | 10,960                     |
| 2020    | 9,996  | 0                                | 0   | 9,996                        | 0                                | 0  | 0                         | 9,996                      |
| 2021    | 10,712   | 0                                | 0   | 10,712                       | 0                                | 0  | 0                         | 10,712                     |
| 2022    | 10,790   | 0                                | 0   | 10,790                       | 0                                | 0  | 0                         | 10,790                     |
| 2023    | 10,704   | 0                                | 0   | 10,704                       | 0                                | 0  | 0                         | 10,704                     |
| 2024    | 10,562   | 0                                | 0   | 10,562                       | 0                                | 0  | 0                         | 10,562                     |
| 2025    | 10,421   | 0                                | 0   | 10,421                       | 0                                | 0  | 0                         | 10,421                     |
| 2026    | 9,652  | 0                                | 0   | 9,652                        | 0                                | 0  | 0                         | 9,652                      |
| 2027    | 8,783  | 0                                | 0   | 8,783                        | 0                                | 0  | 0                         | 8,783                      |
| 2028    | 7,831  | 0                                | 0   | 7,831                        | 0                                | 0  | 0                         | 7,831                      |
| 2029    | 6,704  | 0                                | 0   | 6,704                        | 0                                | 0  | 0                         | 6,704                      |
| 2030    | 5,476  | 0                                | 0   | 5,476                        | 0                                | 0  | 0                         | 5,476                      |
| 2031    | 4,149  | 0                                | 0   | 4,149                        | 0                                | 0  | 0                         | 4,149                      |
| 2032    | 3,282  | 0                                | 0   | 3,282                        | 0                                | 0  | 0                         | 3,282                      |
| 2033    | 2,460  | 0                                | 0   | 2,460                        | 0                                | 0  | 0                         | 2,460                      |
| 2034    | 1,612  | 0                                | 0   | 1,612                        | 0                                | 0  | 0                         | 1,612                      |
| 2035    | 1,570  | 0                                | 0   | 1,570                        | 0                                | 0  | 0                         | 1,570                      |
| 2036    | 1,528  | 0                                | 0   | 1,528                        | 0                                | 0  | 0                         | 1,528                      |
| 2037    | 1,484  | 0                                | 0   | 1,484                        | 0                                | 0  | 0                         | 1,484                      |
| 2038    | 1,435  | 0                                | 0   | 1,435                        | 0                                | 0  | 0                         | 1,435                      |
| NOMINAL | 169,400  | 92,410                           | 0   | 261,809                      | 83,096                           | 0  | 83,096                    | 178,714                    |
| NPV     | 65,328   | 61,315                           | 0   | 126,643                      | 55,138                           | 0  | 55,138                    | 71,505                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 2.297

PROGRAM: Residential New Construction - TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 849                                       | 75                                      | 0  | 0   | 925                          | 7,327                            | 0  | 0   | 0  | 1,199                                  | 8,526                     | -7,601                     |
| 2012    | 1,514                                     | 152                                     | 0  | 0   | 1,666                        | 7,865                            | 0  | 0   | 0  | 1,345                                  | 9,210                     | -7,544                     |
| 2013    | 2,952                                     | 230                                     | 1,026                                    | 0   | 4,207                        | 8,398                            | 0  | 0   | 0  | 1,491                                  | 9,889                     | -5,682                     |
| 2014    | 2,877                                     | 316                                     | 2,219                                    | 0   | 5,412                        | 8,705                            | 0  | 0   | 0  | 1,710                                  | 10,415                    | -5,004                     |
| 2015    | 4,008                                     | 407                                     | 2,895                                    | 0   | 7,310                        | 9,789                            | 0  | 0   | 0  | 1,958                                  | 11,747                    | -4,437                     |
| 2016    | 5,236                                     | 492                                     | 7,532                                    | 0   | 13,260                       | 9,898                            | 0  | 0   | 0  | 2,020                                  | 11,918                    | 1,342                      |
| 2017    | 7,637                                     | 575                                     | 9,237                                    | 0   | 17,449                       | 10,224                           | 0  | 0   | 0  | 2,136                                  | 12,360                    | 5,089                      |
| 2018    | 7,738                                     | 654                                     | 5,459                                    | 0   | 13,851                       | 10,343                           | 0  | 0   | 0  | 2,203                                  | 12,545                    | 1,305                      |
| 2019    | 8,649                                     | 729                                     | 6,208                                    | 0   | 15,586                       | 10,547                           | 0  | 0   | 0  | 2,297                                  | 12,844                    | 2,742                      |
| 2020    | 8,726                                     | 729                                     | 6,338                                    | 0   | 15,793                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 15,793                     |
| 2021    | 8,727                                     | 729                                     | 6,472                                    | 0   | 15,928                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 15,928                     |
| 2022    | 10,718                                    | 729                                     | 3,537                                    | 0   | 14,983                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 14,983                     |
| 2023    | 11,147                                    | 721                                     | 5,825                                    | 0   | 17,694                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 17,694                     |
| 2024    | 9,044                                     | 713                                     | 5,996                                    | 0   | 15,753                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 15,753                     |
| 2025    | 8,816                                     | 705                                     | 6,006                                    | 0   | 15,526                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 15,526                     |
| 2026    | 10,021                                    | 645                                     | 3,610                                    | 0   | 14,275                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 14,275                     |
| 2027    | 7,694                                     | 582                                     | 5,869                                    | 0   | 14,145                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 14,145                     |
| 2028    | 6,895                                     | 520                                     | 5,328                                    | 0   | 12,743                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 12,743                     |
| 2029    | 7,426                                     | 445                                     | 3,705                                    | 0   | 11,575                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 11,575                     |
| 2030    | 7,088                                     | 368                                     | 7,348                                    | 0   | 14,804                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 14,804                     |
| 2031    | 5,792                                     | 289                                     | 6,770                                    | 0   | 12,851                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 12,851                     |
| 2032    | 4,589                                     | 222                                     | 5,467                                    | 0   | 10,277                       | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 10,277                     |
| 2033    | 3,389                                     | 158                                     | 4,083                                    | 0   | 7,631                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 7,631                      |
| 2034    | 2,208                                     | 98                                      | 2,632                                    | 0   | 4,937                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,937                      |
| 2035    | 2,108                                     | 90                                      | 2,497                                    | 0   | 4,695                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,695                      |
| 2036    | 2,031                                     | 84                                      | 2,368                                    | 0   | 4,482                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,482                      |
| 2037    | 1,962                                     | 77                                      | 2,237                                    | 0   | 4,276                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,276                      |
| 2038    | 1,892                                     | 71                                      | 2,111                                    | 0   | 4,074                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,074                      |
| NOMINAL | 161,729                                   | 11,604                                  | 122,775                                  | 0   | 296,107                      | 83,096                           | 0  | 0   | 0  | 16,359                                 | 99,455                    | 196,652                    |
| NPV     | 58,480                                    | 4,551                                   | 42,637                                   | 0   | 105,668                      | 55,138                           | 0  | 0   | 0  | 10,655                                 | 65,793                    | 39,875                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.606

**D. NEIGHBORHOOD ENERGY SAVER PROGRAM**

**Program Start Date:** 2007

Modifications proposed in 2010

**Program Description**

Progress Energy’s Neighborhood Energy Saver program is a custom energy conservation program designed to assist low-income families with escalating energy costs by making energy efficiency improvements at their residence. Trained professional surveyors and installers representing Progress Energy will offer low-income families in targeted neighborhoods a home energy assessment followed by the installation of specified electric energy conservation measures. While in the home, residents will be provided energy saving tips for improving and sustaining household energy efficiency. The energy conservation measures installed and energy efficiency education provided will be at no cost to the participants.

The Neighborhood Energy Saver program seeks to achieve the following goals:

- Conduct a home energy assessment to identify energy efficiency opportunities within the customer’s home
- Implement a comprehensive package of electric conservation measures to increase the efficiency in the resident’s home
- Provide one-on-one customer education on energy efficiency techniques and energy conservation measures

- Promote behavioral changes to assist customers in controlling their energy usage.

**Policies and Procedures:**

Progress Energy’s Neighborhood Energy Saver program participation is based on the median income guidelines and minimum percentage of households within the Census Block Group meeting those guidelines as calculated from the 2000 and 2010 U.S. Census reports. In the absence of Census data that meets the afore mentioned guidelines, Progress Energy will utilize local municipality defined low-income neighborhood data. Additional requirements are as follows:

- The residence must be a residentially-metered customer in Progress Energy territory
- Customer must reside in a selected Progress Energy qualifying Census Block Group that meets the definition of a Low-income neighborhood as stated above
- Multi-family dwellings that meet the above definition, are located in the Neighborhood Energy Saver city, but not within the census block may also be eligible to participate in the Neighborhood Energy Saver program if they meet guidelines as presented in the Program Participation Standards.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

***Compact Fluorescent Bulbs***

This portion of the program will provide for the installation of a maximum of five (5) compact fluorescent lamps (CFL's) which are in use for an average of at least four (4) hours per day.

***Refrigerator Coil Brush***

This portion of the program will provide the customer with a coil brush to remove dust and debris from condenser coils to improve the refrigerator efficiency.

***Refrigerator Thermometer***

This measure will provide for the installation of one thermometer in the food compartment and one thermometer in the freezer of the refrigerator.

***Change Filter Calendar***

This portion of the program will provide each homeowner a Progress Energy magnetic calendar to help remind them to clean or change HVAC filter monthly.

***Weatherization Measures***

This portion of the program will provide weather stripping, door sweeps, caulk, foam sealant, and clear patch tape which will be used to reduce or stop air infiltration around doors, windows, and where pipes enter the home. Air infiltration reduction is significant to saving energy and customer comfort.

***Water heater insulation wrap and insulation for water pipes***

This portion of the program will furnish and install a hot water heater wrap and pipe insulation as identified by the Neighborhood Energy Saver program Home Energy Evaluation.

***Water conservation shower head and faucet aerators***

This portion of the program will provide a maximum of three (3) aerators and two (2) low flow showerheads per household

***Water heater temperature check and adjustment***

The portion of the program will provide a temperature check of the hot water heater and perform the turn down adjustment if the customer elects to do so

***HVAC filters***

This portion of the program will allow each customer to receive a one year supply of filters (12); one filter may be installed at time of evaluation if needed

***Indoor wall thermometer***

This portion of the program will provide the installation of one wall plate thermometer per home

***HVAC winterization kit***

This measure will provide for the installation of a winterization HVAC kit for wall/window AC units, if seasonably applicable. The resident will receive or have installed a maximum of three

(3) kits. The customer will be educated on the proper use and value of the weatherization kit as a method of stopping air infiltration in the home

### ***Attic Insulation Upgrade***

This portion of the program will upgrade the customer's insulation from R-0/4 to R-19 if required

### ***HVAC Maintenance***

This portion of the program requires performing basic maintenance on the indoor and outdoor components of the central air and heating unit

### ***Window Film/Solar Screen***

This portion of the program provides installing window film or solar screen on east, west and south oriented windows

## Program Participation

Annual participation estimates for the Neighborhood Energy Saver program are shown in the following table:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 45,718  | 4,680  | 10.2%   |
| 2012 | 1,495,098                                | 41,953  | 4,828  | 20.4%   |
| 2013 | 1,521,451                                | 37,964  | 4,926  | 30.4%   |
| 2014 | 1,548,531                                | 33,797  | 5,025  | 40.3%   |
| 2015 | 1,575,167                                | 29,448  | 5,370  | 50.8%   |
| 2016 | 1,600,448                                | 24,667  | 5,173  | 60.6%   |
| 2017 | 1,624,503                                | 19,987  | 5,074  | 70.2%   |
| 2018 | 1,647,724                                | 15,313  | 4,877  | 79.3%   |
| 2019 | 1,671,277                                | 10,742  | 4,729  | 88.1%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. Eligible customers represents the count of homes in Progress Energy service territory that are at or below program qualifying income levels based on current US Census block data with a 2% growth rate per year.
3. Number of participants represents the customers that Progress Energy expects to reach through direct offerings in each year.
4. Cumulative penetration is the ratio of cumulative participants to the remaining eligible customer pool.



## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure’s per customer savings and annual projected participation. The total projected program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1715                       | 0.56                             | 0.75                             | 8,025,741                  | 2,635                            | 3,494                            |
| 2012 | 1715                       | 0.56                             | 0.75                             | 8,279,431                  | 2,717                            | 3,605                            |
| 2013 | 1715                       | 0.56                             | 0.75                             | 8,448,557                  | 2,773                            | 3,678                            |
| 2014 | 1715                       | 0.56                             | 0.75                             | 8,617,684                  | 2,828                            | 3,752                            |
| 2015 | 1715                       | 0.56                             | 0.75                             | 9,209,628                  | 3,023                            | 4,010                            |
| 2016 | 1715                       | 0.56                             | 0.75                             | 8,871,374                  | 2,912                            | 3,862                            |
| 2017 | 1715                       | 0.56                             | 0.75                             | 8,702,248                  | 2,856                            | 3,789                            |
| 2018 | 1715                       | 0.56                             | 0.75                             | 8,363,994                  | 2,745                            | 3,642                            |
| 2019 | 1715                       | 0.56                             | 0.75                             | 8,110,304                  | 2,662                            | 3,531                            |

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1827                       | 0.60                             | 0.80                             | 8,549,822                  | 2,807                            | 3,723                            |
| 2012 | 1827                       | 0.60                             | 0.80                             | 8,820,078                  | 2,895                            | 3,840                            |
| 2013 | 1827                       | 0.60                             | 0.80                             | 9,000,248                  | 2,954                            | 3,919                            |
| 2014 | 1827                       | 0.60                             | 0.80                             | 9,180,418                  | 3,013                            | 3,997                            |
| 2015 | 1827                       | 0.60                             | 0.80                             | 9,811,016                  | 3,220                            | 4,272                            |
| 2016 | 1827                       | 0.60                             | 0.80                             | 9,450,675                  | 3,102                            | 4,115                            |
| 2017 | 1827                       | 0.60                             | 0.80                             | 9,270,504                  | 3,043                            | 4,036                            |
| 2018 | 1827                       | 0.60                             | 0.80                             | 8,910,162                  | 2,924                            | 3,879                            |
| 2019 | 1827                       | 0.60                             | 0.80                             | 8,639,906                  | 2,836                            | 3,762                            |

## Impact Evaluation Plan

The Neighborhood Energy Saver program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order

to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels.

### **Cost Effectiveness**

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs \$ (000)</b> | <b>NPV Net Benefits<br/>\$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|---------------------------|-------------------------------------|------------------|
| <b>Rate Impact Measure</b>     | \$69,352                        | \$90,095                  | -\$20,743                           | 0.77             |
| <b>Participant</b>             | \$77,508                        | \$28,350                  | \$49,158                            | 2.73             |
| <b>Total Resource Cost</b>     | \$69,352                        | \$40,937                  | \$28,415                            | 1.69             |

PROGRAM Neighborhood Energy Saver - RIM

| YEAR    | BENEFITS                       |                              |                               |                  |                   | COSTS                           |                                |                                 |                             |                       |                   |                |         | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|------------------------------|-------------------------------|------------------|-------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|-----------------------|-------------------|----------------|---------|----------------------------|
|         | (1)                            | (2)                          | (3)                           | (4)              | (5)               | (6)                             | (7)                            | (8)                             | (9)                         | (10)                  | (11)              | (12)           |         |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP.<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | REVENUE<br>GAINS | TOTAL<br>BENEFITS | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | INCENTIVE<br>PAYMENTS | REVENUE<br>LOSSES | TOTAL<br>COSTS |         |                            |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)          | \$(000)           | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)               | \$(000)           | \$(000)        |         |                            |
| 2010    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0       |                            |
| 2011    | 934                            | 75                           | 0                             | 0                | 1,009             | 0                               | 0                              | 0                               | 1,591                       | 3,648                 | 1,154             | 6,393          | -5,384  |                            |
| 2012    | 1,645                          | 149                          | 0                             | 0                | 1,795             | 0                               | 0                              | 0                               | 1,733                       | 3,954                 | 2,259             | 7,946          | -6,151  |                            |
| 2013    | 3,243                          | 225                          | 1,189                         | 0                | 4,657             | 0                               | 0                              | 0                               | 1,867                       | 4,239                 | 3,582             | 9,688          | -5,031  |                            |
| 2014    | 3,010                          | 287                          | 2,406                         | 0                | 5,703             | 0                               | 0                              | 0                               | 2,010                       | 4,544                 | 4,856             | 11,410         | -5,707  |                            |
| 2015    | 4,121                          | 354                          | 3,030                         | 0                | 7,504             | 0                               | 0                              | 0                               | 2,266                       | 5,107                 | 6,595             | 13,967         | -6,463  |                            |
| 2016    | 5,329                          | 417                          | 4,009                         | 0                | 9,755             | 0                               | 0                              | 0                               | 2,307                       | 5,169                 | 7,756             | 15,233         | -5,478  |                            |
| 2017    | 6,696                          | 478                          | 4,767                         | 0                | 11,941            | 0                               | 0                              | 0                               | 2,390                       | 5,329                 | 7,918             | 15,636         | -3,696  |                            |
| 2018    | 7,342                          | 515                          | 5,222                         | 0                | 13,080            | 0                               | 0                              | 0                               | 2,424                       | 5,380                 | 8,197             | 16,001         | -2,921  |                            |
| 2019    | 7,820                          | 550                          | 5,686                         | 0                | 14,056            | 0                               | 0                              | 0                               | 2,483                       | 5,481                 | 9,077             | 17,041         | -2,985  |                            |
| 2020    | 7,329                          | 509                          | 5,385                         | 0                | 13,222            | 0                               | 0                              | 0                               | 0                           | 0                     | 8,658             | 8,658          | 4,565   |                            |
| 2021    | 6,430                          | 447                          | 4,818                         | 0                | 11,694            | 0                               | 0                              | 0                               | 0                           | 0                     | 8,134             | 8,134          | 3,560   |                            |
| 2022    | 6,742                          | 383                          | 2,248                         | 0                | 9,374             | 0                               | 0                              | 0                               | 0                           | 0                     | 6,993             | 6,993          | 2,380   |                            |
| 2023    | 6,173                          | 336                          | 3,248                         | 0                | 9,756             | 0                               | 0                              | 0                               | 0                           | 0                     | 6,091             | 6,091          | 3,664   |                            |
| 2024    | 4,281                          | 288                          | 2,862                         | 0                | 7,431             | 0                               | 0                              | 0                               | 0                           | 0                     | 5,126             | 5,126          | 2,305   |                            |
| 2025    | 3,398                          | 240                          | 2,362                         | 0                | 5,999             | 0                               | 0                              | 0                               | 0                           | 0                     | 4,111             | 4,111          | 1,888   |                            |
| 2026    | 3,176                          | 192                          | 1,203                         | 0                | 4,571             | 0                               | 0                              | 0                               | 0                           | 0                     | 3,043             | 3,043          | 1,528   |                            |
| 2027    | 2,176                          | 164                          | 1,813                         | 0                | 4,153             | 0                               | 0                              | 0                               | 0                           | 0                     | 2,463             | 2,463          | 1,690   |                            |
| 2028    | 1,705                          | 138                          | 1,506                         | 0                | 3,348             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,889             | 1,889          | 1,459   |                            |
| 2029    | 1,678                          | 101                          | 1,294                         | 0                | 3,072             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,198             | 1,198          | 1,875   |                            |
| 2030    | 1,561                          | 88                           | 1,881                         | 0                | 3,530             | 0                               | 0                              | 0                               | 0                           | 0                     | 1,063             | 1,063          | 2,467   |                            |
| 2031    | 1,358                          | 75                           | 1,658                         | 0                | 3,091             | 0                               | 0                              | 0                               | 0                           | 0                     | 914               | 914            | 2,177   |                            |
| 2032    | 1,135                          | 62                           | 1,411                         | 0                | 2,609             | 0                               | 0                              | 0                               | 0                           | 0                     | 756               | 756            | 1,853   |                            |
| 2033    | 881                            | 48                           | 1,125                         | 0                | 2,054             | 0                               | 0                              | 0                               | 0                           | 0                     | 587               | 587            | 1,466   |                            |
| 2034    | 634                            | 35                           | 826                           | 0                | 1,494             | 0                               | 0                              | 0                               | 0                           | 0                     | 412               | 412            | 1,083   |                            |
| 2035    | 423                            | 23                           | 561                           | 0                | 1,007             | 0                               | 0                              | 0                               | 0                           | 0                     | 276               | 276            | 731     |                            |
| 2036    | 214                            | 11                           | 287                           | 0                | 512               | 0                               | 0                              | 0                               | 0                           | 0                     | 139               | 139            | 373     |                            |
| 2037    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0       |                            |
| 2038    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0       |                            |
| NOMINAL | 89,430                         | 6,189                        | 60,796                        | 0                | 156,416           | 0                               | 0                              | 0                               | 19,071                      | 42,850                | 103,248           | 165,170        | -8,754  |                            |
| NPV     | 40,496                         | 2,910                        | 25,946                        | 0                | 69,352            | 0                               | 0                              | 0                               | 12,587                      | 28,350                | 49,158            | 90,095         | -20,743 |                            |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.770

PROGRAM: Neighborhood Energy Saver - Participant

| YEAR    | BENEFITS  |   |  |                                     | COSTS                                   |   |                                  | NET BENEFITS |
|---------|---|---|--|-------------------------------------|---|---|----------------------------------|--------------|
|         | (1)<br>SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | (2)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (3)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | (4)<br>TOTAL<br>BENEFITS<br>\$(000) | (5)<br>PARTICIPANT'S<br>COST<br>\$(000) | (6)<br>PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | (7)<br>TOTAL<br>COSTS<br>\$(000) |              |
| 2010    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0            |
| 2011    | 1,154   | 3,648                                   | 0  | 4,802                               | 3,648                                   | 0   | 3,648                            | 1,154        |
| 2012    | 2,259   | 3,954                                   | 0  | 6,213                               | 3,954                                   | 0   | 3,954                            | 2,259        |
| 2013    | 3,582   | 4,239                                   | 0  | 7,821                               | 4,239                                   | 0   | 4,239                            | 3,582        |
| 2014    | 4,856   | 4,544                                   | 0  | 9,400                               | 4,544                                   | 0   | 4,544                            | 4,856        |
| 2015    | 6,595   | 5,107                                   | 0  | 11,701                              | 5,107                                   | 0   | 5,107                            | 6,595        |
| 2016    | 7,756   | 5,169                                   | 0  | 12,926                              | 5,169                                   | 0   | 5,169                            | 7,756        |
| 2017    | 7,918   | 5,329                                   | 0  | 13,247                              | 5,329                                   | 0   | 5,329                            | 7,918        |
| 2018    | 8,197   | 5,380                                   | 0  | 13,577                              | 5,380                                   | 0   | 5,380                            | 8,197        |
| 2019    | 9,077   | 5,481                                   | 0  | 14,558                              | 5,481                                   | 0   | 5,481                            | 9,077        |
| 2020    | 8,658   | 0                                       | 0  | 8,658                               | 0                                       | 0   | 0                                | 8,658        |
| 2021    | 8,134   | 0                                       | 0  | 8,134                               | 0                                       | 0   | 0                                | 8,134        |
| 2022    | 6,993   | 0                                       | 0  | 6,993                               | 0                                       | 0   | 0                                | 6,993        |
| 2023    | 6,091   | 0                                       | 0  | 6,091                               | 0                                       | 0   | 0                                | 6,091        |
| 2024    | 5,126   | 0                                       | 0  | 5,126                               | 0                                       | 0   | 0                                | 5,126        |
| 2025    | 4,111   | 0                                       | 0  | 4,111                               | 0                                       | 0   | 0                                | 4,111        |
| 2026    | 3,043   | 0                                       | 0  | 3,043                               | 0                                       | 0   | 0                                | 3,043        |
| 2027    | 2,463   | 0                                       | 0  | 2,463                               | 0                                       | 0   | 0                                | 2,463        |
| 2028    | 1,889   | 0                                       | 0  | 1,889                               | 0                                       | 0   | 0                                | 1,889        |
| 2029    | 1,198   | 0                                       | 0  | 1,198                               | 0                                       | 0   | 0                                | 1,198        |
| 2030    | 1,063   | 0                                       | 0  | 1,063                               | 0                                       | 0   | 0                                | 1,063        |
| 2031    | 914   | 0                                       | 0  | 914                                 | 0                                       | 0   | 0                                | 914          |
| 2032    | 756   | 0                                       | 0  | 756                                 | 0                                       | 0   | 0                                | 756          |
| 2033    | 587   | 0                                       | 0  | 587                                 | 0                                       | 0   | 0                                | 587          |
| 2034    | 412   | 0                                       | 0  | 412                                 | 0                                       | 0   | 0                                | 412          |
| 2035    | 276   | 0                                       | 0  | 276                                 | 0                                       | 0   | 0                                | 276          |
| 2036    | 139   | 0                                       | 0  | 139                                 | 0                                       | 0   | 0                                | 139          |
| 2037    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0            |
| 2038    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0            |
| NOMINAL | 103,248   | 42,850                                  | 0  | 146,098                             | 42,850                                  | 0   | 42,850                           | 103,248      |
| NPV     | 49,158  | 28,350                                  | 0  | 77,508                              | 28,350                                  | 0   | 28,350                           | 49,158       |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 2.734

PROGRAM: Neighborhood Energy Saver - TRC

| YEAR    | BENEFITS                       |                              |                               |                                    |                   | COSTS                 |                                 |                                |                                 |                             |                | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|------------------------------|-------------------------------|------------------------------------|-------------------|-----------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|----------------|----------------------------|
|         | (1)                            | (2)                          | (3)                           | (4)                                | (5)               | (6)                   | (7)                             | (8)                            | (9)                             | (10)                        | (11)           |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP.<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | OTHER<br>PARTICIPANT'S<br>BENEFITS | TOTAL<br>BENEFITS | PARTICIPANT'S<br>COST | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | TOTAL<br>COSTS |                            |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)                            | \$(000)           | \$(000)               | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)        |                            |
| 2010    | 0                              | 0                            | 0                             | 0                                  | 0                 | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 0                          |
| 2011    | 934                            | 75                           | 0                             | 0                                  | 1,009             | 3,648                 | 0                               | 0                              | 0                               | 1,591                       | 5,239          | -4,230                     |
| 2012    | 1,645                          | 149                          | 0                             | 0                                  | 1,795             | 3,954                 | 0                               | 0                              | 0                               | 1,733                       | 5,687          | -3,892                     |
| 2013    | 3,243                          | 225                          | 1,189                         | 0                                  | 4,657             | 4,239                 | 0                               | 0                              | 0                               | 1,867                       | 6,106          | -1,449                     |
| 2014    | 3,010                          | 287                          | 2,406                         | 0                                  | 5,703             | 4,544                 | 0                               | 0                              | 0                               | 2,010                       | 6,554          | -851                       |
| 2015    | 4,121                          | 354                          | 3,030                         | 0                                  | 7,504             | 5,107                 | 0                               | 0                              | 0                               | 2,266                       | 7,373          | 132                        |
| 2016    | 5,329                          | 417                          | 4,009                         | 0                                  | 9,755             | 5,169                 | 0                               | 0                              | 0                               | 2,307                       | 7,476          | 2,278                      |
| 2017    | 6,696                          | 478                          | 4,767                         | 0                                  | 11,941            | 5,329                 | 0                               | 0                              | 0                               | 2,390                       | 7,718          | 4,223                      |
| 2018    | 7,342                          | 515                          | 5,222                         | 0                                  | 13,080            | 5,380                 | 0                               | 0                              | 0                               | 2,424                       | 7,804          | 5,276                      |
| 2019    | 7,820                          | 550                          | 5,686                         | 0                                  | 14,056            | 5,481                 | 0                               | 0                              | 0                               | 2,483                       | 7,964          | 6,092                      |
| 2020    | 7,329                          | 509                          | 5,385                         | 0                                  | 13,222            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 13,222                     |
| 2021    | 6,430                          | 447                          | 4,818                         | 0                                  | 11,694            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 11,694                     |
| 2022    | 6,742                          | 383                          | 2,248                         | 0                                  | 9,374             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 9,374                      |
| 2023    | 6,173                          | 336                          | 3,248                         | 0                                  | 9,756             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 9,756                      |
| 2024    | 4,281                          | 288                          | 2,862                         | 0                                  | 7,431             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 7,431                      |
| 2025    | 3,398                          | 240                          | 2,362                         | 0                                  | 5,999             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 5,999                      |
| 2026    | 3,176                          | 192                          | 1,203                         | 0                                  | 4,571             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 4,571                      |
| 2027    | 2,176                          | 164                          | 1,813                         | 0                                  | 4,153             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 4,153                      |
| 2028    | 1,705                          | 138                          | 1,506                         | 0                                  | 3,348             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 3,348                      |
| 2029    | 1,678                          | 101                          | 1,294                         | 0                                  | 3,072             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 3,072                      |
| 2030    | 1,561                          | 88                           | 1,881                         | 0                                  | 3,530             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 3,530                      |
| 2031    | 1,358                          | 75                           | 1,658                         | 0                                  | 3,091             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 3,091                      |
| 2032    | 1,135                          | 62                           | 1,411                         | 0                                  | 2,609             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 2,609                      |
| 2033    | 881                            | 48                           | 1,125                         | 0                                  | 2,054             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 2,054                      |
| 2034    | 634                            | 35                           | 826                           | 0                                  | 1,494             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 1,494                      |
| 2035    | 423                            | 23                           | 561                           | 0                                  | 1,007             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 1,007                      |
| 2036    | 214                            | 11                           | 287                           | 0                                  | 512               | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 512                        |
| 2037    | 0                              | 0                            | 0                             | 0                                  | 0                 | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 0                          |
| 2038    | 0                              | 0                            | 0                             | 0                                  | 0                 | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 0                          |
| NOMINAL | 89,430                         | 6,189                        | 60,796                        | 0                                  | 156,416           | 42,850                | 0                               | 0                              | 0                               | 19,071                      | 61,922         | 94,494                     |
| NPV     | 40,496                         | 2,910                        | 25,946                        | 0                                  | 69,352            | 28,350                | 0                               | 0                              | 0                               | 12,587                      | 40,937         | 28,415                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.694

**E. LOW-INCOME WEATHERIZATION ASSISTANCE PROGRAM**

**Program Start Date:** 2000

Program modified in 2006

Modifications proposed in 2010

**Program Description**

The Low-Income Weatherization Assistance program is designed to leverage working relationships with providers to integrate Demand Side Management measures and offer energy efficiency with an education component. The Low-income Weatherization Assistance program combines weatherization provider partnerships with energy education and energy efficiency improvements to benefit low-income families. The program seeks to meet the following goals:

- Integrate Progress Energy 's Low-income Weatherization Assistance program procedures with the Department of Community Affairs and local home improvement providers to deliver energy efficiency measures to low-income families
- Identify and educate contractors and low-income customers regarding energy saving opportunities to improve home energy efficiency
- Increase low-income families' participation in Progress Energy's Demand Side Management programs
- Educate low-income families on achievable, sustainable strategies to reduce individual energy bills

## **Policies and Procedures**

The program provides incentives for attic insulation upgrades, duct testing and repair, reduced air infiltration, water heater wrap, HVAC maintenance, high efficiency heat pumps, high efficiency electric water heater, low flow showerheads, compact fluorescent light bulbs, faucet aerators, refrigerator coil brush, dedicated heat pump water heaters, window screen/film, reflective roof coating, window air conditioning replacement with window unit winterization kit, and a community energy education component.

The program eligibility requirements to qualify for participation are as follows:

- The residence must be a residentially-metered customer in Progress Energy territory
- Must meet Florida's weatherization and local home improvement provider low-income criteria, in addition to income requirements determined by the Department of Community Affairs (DCA)
- Homes must be greater than two years old
- A DCA approved provider or local provider's approved contractors must perform all work.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on

changes in market conditions, such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

***Attic Insulation Upgrade***

This portion of the program encourages customers to add insulation to the ceiling area by paying a portion of the installed cost. The customer must have either whole house electric cooling or electric heating to be eligible for this program.

***Duct Test and Repair***

This portion of the program is designed to encourage eligible customers to improve their central duct system by reducing the air leakage rate. This is accomplished by performing a duct leakage test, then offering to repair the leakage that is discovered by the duct test. The home must have central ducted electric cooling and electric heat to participate in this measure.

***Reduced Air Infiltration***

The provider must demonstrate a minimum reduction of air infiltration into the home of 1500 cfm at 50 pascal's to receive an incentive. The home must not exceed ASHRAE Standard 62 for acceptable indoor air quality.



### ***Water Heater Wrap***

This portion of the program will provide and install a water heater wrap as identified in the Program Participation Standards.

### ***High-Efficiency Electric Heat Pumps***

For high efficiency electric heat pumps, Progress Energy will provide an incentive per unit. The specific incentive available is dependent upon the efficiency level of the unit installed and the type of electric heat the new equipment is replacing. In order to qualify for an incentive, both the air handler and the outdoor condensing unit shall be replaced, and both units shall be new.

### ***High Efficiency Electric Water Heating***

The high efficiency water heating portion of this program promotes technologies that heat water more efficiently than a standard electric water heater and save energy. The incentive depends on the type of technology being installed.

### ***Heating and Air Conditioning Maintenance***

To maximize efficiency an incentive will be provided for a heating & air conditioning contractor to perform service/tune-up maintenance on existing electric central heating and air conditioning systems.

***Low Flow Showerhead – Aerators***

This measure will improve energy efficiency for low-income customers in existing homes. Progress Energy will pay an incentive per showerhead for a maximum of two (2) per home, and an additional incentive per aerator for a maximum of three (3) per home.

***Compact Fluorescent Light***

This measure will help low-income customers reduce their energy costs by installing up to three (3) compact fluorescent lamps (CFLs) per home.

***Refrigerator Coil Brush***

This portion of the program will encourage low-income customers to clean the coils on their refrigerator. The local provider will demonstrate coil cleaning techniques and leave one brush with the customer for future use.

***Window Film/Screen***

The local provider will be responsible for meeting manufacturer’s instructions and specifications, and installing this measure on west, southwest and northwest oriented windows only. Jalousie, double/triple pane, frosted/plastic windows and skylights are not eligible.

### ***Roof Coating for Manufactured Homes***

This portion of the program can lower cooling cost and extend roof life for manufactured homes by providing an incentive to install an ENERGY STAR® or Cool Roof Rating Council approved reflective roof coating product.

### ***Window AC Replacement/Recycle with HVAC Window Unit Winterization Kit***

This measure will provide an incentive for replacement/recycle of one window A/C unit per home. Customer will receive a HVAC window winterization kit. The window A/C unit to be replaced must be in operating condition and the provider must be sure the window A/C unit is removed from the premise and recycled appropriately.

### ***Community Energy Connection***

This part of the program will provide low-income residents with energy education training and interactive workstations that focus on assisting low-income families with developing achievable, sustainable strategies to reduce individual energy bills. Each attendee will receive an Energy Conservation Kit. The energy education training will provide a series of Community Energy Connection workshops in low-income communities, designed to partner with low-income providers. These educational workshops will include three stations: Energy Education Presentation, Social Service Agency Presentation, and Expo/Interactive Workstation. The interactive display station will consist of the following: A/C Thermostat, Lighting, Attic Insulation, Air Handler, and Refrigerator Coil Cleaning.

## Program Participation

Annual participation estimates for the Low-income Weatherization Assistance program are shown in the following table:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 1,011   | 506  | 50.0%   |
| 2012 | 1,495,098                                | 1,026   | 513  | 50.0%   |
| 2013 | 1,521,451                                | 1,044   | 522  | 50.0%   |
| 2014 | 1,548,531                                | 1,062   | 531  | 50.0%   |
| 2015 | 1,575,167                                | 1,081   | 541  | 50.0%   |
| 2016 | 1,600,448                                | 1,098   | 549  | 50.0%   |
| 2017 | 1,624,503                                | 1,115   | 557  | 50.0%   |
| 2018 | 1,647,724                                | 1,131   | 565  | 50.0%   |
| 2019 | 1,671,277                                | 1,147   | 573  | 50.0%   |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. Eligible customers is the count that State agencies expects to participate in low-income programs in PEF Area
3. Number of participants represents the eligible customers that Progress Energy expects to reach via partnership with State agencies
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure’s per customer savings and annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables:

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1757                       | 1.03                             | 0.81                             | 888,113                    | 523                              | 411                              |
| 2012 | 2140                       | 1.20                             | 1.01                             | 1,097,879                  | 614                              | 517                              |
| 2013 | 2309                       | 1.31                             | 1.03                             | 1,205,518                  | 684                              | 538                              |
| 2014 | 2288                       | 1.20                             | 0.96                             | 1,215,257                  | 637                              | 509                              |
| 2015 | 2360                       | 1.45                             | 1.00                             | 1,275,326                  | 782                              | 541                              |
| 2016 | 2349                       | 1.84                             | 1.11                             | 1,289,503                  | 1,008                            | 610                              |
| 2017 | 2190                       | 1.67                             | 1.02                             | 1,220,536                  | 928                              | 568                              |
| 2018 | 2105                       | 1.54                             | 0.91                             | 1,189,761                  | 869                              | 517                              |
| 2019 | 2068                       | 1.59                             | 0.90                             | 1,185,440                  | 910                              | 517                              |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1872                       | 1.10                             | 0.87                             | 946,107                    | 557                              | 438                              |
| 2012 | 2280                       | 1.27                             | 1.07                             | 1,169,571                  | 654                              | 550                              |
| 2013 | 2460                       | 1.40                             | 1.10                             | 1,284,239                  | 729                              | 573                              |
| 2014 | 2437                       | 1.28                             | 1.02                             | 1,294,613                  | 679                              | 542                              |
| 2015 | 2514                       | 1.54                             | 1.07                             | 1,358,605                  | 833                              | 576                              |
| 2016 | 2502                       | 1.96                             | 1.18                             | 1,373,707                  | 1,074                            | 650                              |
| 2017 | 2333                       | 1.77                             | 1.09                             | 1,300,237                  | 989                              | 605                              |
| 2018 | 2242                       | 1.64                             | 0.97                             | 1,267,453                  | 926                              | 550                              |
| 2019 | 2203                       | 1.69                             | 0.96                             | 1,262,849                  | 970                              | 551                              |

### Impact Evaluation Plan

The Low income Weatherization program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels.

### Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs \$<br>(000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|-----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$12,066                | \$15,691              | -\$3,625                    | 0.77      |
| Participant             | \$12,599                | \$4,906               | \$7,693                     | 2.57      |
| Total Resource Cost     | \$12,066                | \$7,997               | \$4,069                     | 1.51      |

PROGRAM: Low Income Weatherization Assistance - RIM

| YEAR    | BENEFITS   |   |  |                                    |                                     | COSTS   |  |   |   |  |                                      |                                   | NET BENEFITS |
|---------|--|---|--|------------------------------------|-------------------------------------|---|--|---|---|--|--------------------------------------|-----------------------------------|--------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>A VOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>A VOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>REVENUE<br>GAINS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (7)<br>INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | (8)<br>INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | (9)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (10)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (11)<br>REVENUE<br>LOSSES<br>\$(000) | (12)<br>TOTAL<br>COSTS<br>\$(000) |              |
| 2010    | 0  | 0   | 0  | 0                                  | 0                                   | 0   | 0  | 0   | 0   | 0  | 0                                    | 0                                 | 0            |
| 2011    | 107  | 9   | 0  | 0                                  | 116                                 | 0   | 0  | 0   | 424   | 569                                      | 127                                  | 1,120                             | -1,004       |
| 2012    | 209  | 20  | 0  | 0                                  | 228                                 | 0   | 0  | 0   | 486   | 724                                      | 279                                  | 1,489                             | -1,261       |
| 2013    | 435  | 31  | 163  | 0                                  | 629                                 | 0   | 0  | 0   | 481   | 803                                      | 470                                  | 1,754                             | -1,126       |
| 2014    | 426  | 43  | 350  | 0                                  | 818                                 | 0   | 0  | 0   | 505   | 793                                      | 673                                  | 1,971                             | -1,152       |
| 2015    | 599  | 55  | 456  | 0                                  | 1,110                               | 0   | 0  | 0   | 539   | 889                                      | 941                                  | 2,369                             | -1,259       |
| 2016    | 802  | 68  | 746  | 0                                  | 1,615                               | 0   | 0  | 0   | 568   | 908                                      | 1,139                                | 2,615                             | -1,000       |
| 2017    | 1,069  | 80  | 931  | 0                                  | 2,079                               | 0   | 0  | 0   | 555   | 906                                      | 1,180                                | 2,641                             | -562         |
| 2018    | 1,138  | 87  | 828  | 0                                  | 2,053                               | 0   | 0  | 0   | 523   | 878                                      | 1,229                                | 2,629                             | -576         |
| 2019    | 1,195  | 93  | 888  | 0                                  | 2,176                               | 0   | 0  | 0   | 524   | 928                                      | 1,344                                | 2,796                             | -621         |
| 2020    | 1,110  | 87  | 838  | 0                                  | 2,035                               | 0   | 0  | 0   | 0   | 0  | 1,261                                | 1,261                             | 774          |
| 2021    | 1,003  | 81  | 786  | 0                                  | 1,870                               | 0   | 0  | 0   | 0   | 0  | 1,219                                | 1,219                             | 651          |
| 2022    | 1,125  | 76  | 395  | 0                                  | 1,595                               | 0   | 0  | 0   | 0   | 0  | 1,100                                | 1,100                             | 495          |
| 2023    | 1,075  | 70  | 599  | 0                                  | 1,744                               | 0   | 0  | 0   | 0   | 0  | 998                                  | 998                               | 745          |
| 2024    | 786  | 65  | 568  | 0                                  | 1,418                               | 0   | 0  | 0   | 0   | 0  | 895                                  | 895                               | 523          |
| 2025    | 691  | 60  | 526  | 0                                  | 1,277                               | 0   | 0  | 0   | 0   | 0  | 796                                  | 796                               | 481          |
| 2026    | 744  | 54  | 303  | 0                                  | 1,101                               | 0   | 0  | 0   | 0   | 0  | 669                                  | 669                               | 432          |
| 2027    | 594  | 51  | 523  | 0                                  | 1,168                               | 0   | 0  | 0   | 0   | 0  | 648                                  | 648                               | 520          |
| 2028    | 565  | 48  | 504  | 0                                  | 1,117                               | 0   | 0  | 0   | 0   | 0  | 614                                  | 614                               | 502          |
| 2029    | 729  | 42  | 527  | 0                                  | 1,297                               | 0   | 0  | 0   | 0   | 0  | 548                                  | 548                               | 750          |
| 2030    | 651  | 35  | 736  | 0                                  | 1,422                               | 0   | 0  | 0   | 0   | 0  | 469                                  | 469                               | 953          |
| 2031    | 534  | 28  | 614  | 0                                  | 1,176                               | 0   | 0  | 0   | 0   | 0  | 379                                  | 379                               | 796          |
| 2032    | 421  | 22  | 492  | 0                                  | 935                                 | 0   | 0  | 0   | 0   | 0  | 295                                  | 295                               | 640          |
| 2033    | 277  | 14  | 337  | 0                                  | 628                                 | 0   | 0  | 0   | 0   | 0  | 193                                  | 193                               | 435          |
| 2034    | 135  | 7   | 174  | 0                                  | 316                                 | 0   | 0  | 0   | 0   | 0  | 87                                   | 87                                | 229          |
| 2035    | 88   | 5   | 117  | 0                                  | 210                                 | 0   | 0  | 0   | 0   | 0  | 58                                   | 58                                | 152          |
| 2036    | 51   | 3   | 67   | 0                                  | 120                                 | 0   | 0  | 0   | 0   | 0  | 33                                   | 33                                | 87           |
| 2037    | 0  | 0   | 0  | 0                                  | 0                                   | 0   | 0  | 0   | 0   | 0  | 0                                    | 0                                 | 0            |
| 2038    | 0  | 0   | 0  | 0                                  | 0                                   | 0   | 0  | 0   | 0   | 0  | 0                                    | 0                                 | 0            |
| NOMINAL | 16,554   | 1,232   | 12,465   | 0                                  | 30,252                              | 0   | 0  | 0   | 4,605   | 7,397                                    | 17,645                               | 29,647                            | 604          |
| NPV     | 6,751  | 524   | 4,791  | 0                                  | 12,066                              | 0   | 0  | 0   | 3,091   | 4,906                                    | 7,693                                | 15,691                            | -3,625       |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.769

**PROGRAM: Low Income Weatherization Assistance - Participant**

| YEAR    | BENEFITS  |   |  |                                     | COSTS                                   |   |                                  | (8)<br>NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-------------------------------------|---|---|----------------------------------|-----------------------------------|
|         | (1)<br>SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | (2)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (3)<br>OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | (4)<br>TOTAL<br>BENEFITS<br>\$(000) | (5)<br>PARTICIPANT'S<br>COST<br>\$(000) | (6)<br>PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | (7)<br>TOTAL<br>COSTS<br>\$(000) |                                   |
| 2010    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0                                 |
| 2011    | 127   | 569                                     | 0  | 696                                 | 569                                     | 0   | 569                              | 127                               |
| 2012    | 279   | 724                                     | 0  | 1,003                               | 724                                     | 0   | 724                              | 279                               |
| 2013    | 470   | 803                                     | 0  | 1,274                               | 803                                     | 0   | 803                              | 470                               |
| 2014    | 673   | 793                                     | 0  | 1,466                               | 793                                     | 0   | 793                              | 673                               |
| 2015    | 941   | 889                                     | 0  | 1,829                               | 889                                     | 0   | 889                              | 941                               |
| 2016    | 1,139   | 908                                     | 0  | 2,047                               | 908                                     | 0   | 908                              | 1,139                             |
| 2017    | 1,180   | 906                                     | 0  | 2,086                               | 906                                     | 0   | 906                              | 1,180                             |
| 2018    | 1,229   | 878                                     | 0  | 2,106                               | 878                                     | 0   | 878                              | 1,229                             |
| 2019    | 1,344   | 928                                     | 0  | 2,272                               | 928                                     | 0   | 928                              | 1,344                             |
| 2020    | 1,261   | 0                                       | 0  | 1,261                               | 0                                       | 0   | 0                                | 1,261                             |
| 2021    | 1,219   | 0                                       | 0  | 1,219                               | 0                                       | 0   | 0                                | 1,219                             |
| 2022    | 1,100   | 0                                       | 0  | 1,100                               | 0                                       | 0   | 0                                | 1,100                             |
| 2023    | 998   | 0                                       | 0  | 998                                 | 0                                       | 0   | 0                                | 998                               |
| 2024    | 895   | 0                                       | 0  | 895                                 | 0                                       | 0   | 0                                | 895                               |
| 2025    | 796   | 0                                       | 0  | 796                                 | 0                                       | 0   | 0                                | 796                               |
| 2026    | 669   | 0                                       | 0  | 669                                 | 0                                       | 0   | 0                                | 669                               |
| 2027    | 648   | 0                                       | 0  | 648                                 | 0                                       | 0   | 0                                | 648                               |
| 2028    | 614   | 0                                       | 0  | 614                                 | 0                                       | 0   | 0                                | 614                               |
| 2029    | 548   | 0                                       | 0  | 548                                 | 0                                       | 0   | 0                                | 548                               |
| 2030    | 469   | 0                                       | 0  | 469                                 | 0                                       | 0   | 0                                | 469                               |
| 2031    | 379   | 0                                       | 0  | 379                                 | 0                                       | 0   | 0                                | 379                               |
| 2032    | 295   | 0                                       | 0  | 295                                 | 0                                       | 0   | 0                                | 295                               |
| 2033    | 193   | 0                                       | 0  | 193                                 | 0                                       | 0   | 0                                | 193                               |
| 2034    | 87  | 0                                       | 0  | 87                                  | 0                                       | 0   | 0                                | 87                                |
| 2035    | 58  | 0                                       | 0  | 58                                  | 0                                       | 0   | 0                                | 58                                |
| 2036    | 33  | 0                                       | 0  | 33                                  | 0                                       | 0   | 0                                | 33                                |
| 2037    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0                                 |
| 2038    | 0   | 0                                       | 0  | 0                                   | 0                                       | 0   | 0                                | 0                                 |
| NOMINAL | 17,645  | 7,397                                   | 0  | 25,042                              | 7,397                                   | 0   | 7,397                            | 17,645                            |
| NPV     | 7,693   | 4,906                                   | 0  | 12,599                              | 4,906                                   | 0   | 4,906                            | 7,693                             |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 2.568



PROGRAM: Low Income Weatherization Assistance - TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 107                                       | 9                                       | 0  | 0   | 116                          | 569                              | 0  | 0   | 0  | 424                                    | 992                       | -877                       |
| 2012    | 209                                       | 20                                      | 0  | 0   | 228                          | 724                              | 0  | 0   | 0  | 486                                    | 1,210                     | -981                       |
| 2013    | 435                                       | 31                                      | 163                                      | 0   | 629                          | 803                              | 0  | 0   | 0  | 481                                    | 1,284                     | -655                       |
| 2014    | 426                                       | 43                                      | 350                                      | 0   | 818                          | 793                              | 0  | 0   | 0  | 505                                    | 1,298                     | -479                       |
| 2015    | 599                                       | 55                                      | 456                                      | 0   | 1,110                        | 889                              | 0  | 0   | 0  | 539                                    | 1,428                     | -318                       |
| 2016    | 802                                       | 68                                      | 746                                      | 0   | 1,615                        | 908                              | 0  | 0   | 0  | 568                                    | 1,477                     | 139                        |
| 2017    | 1,069                                     | 80                                      | 931                                      | 0   | 2,079                        | 906                              | 0  | 0   | 0  | 555                                    | 1,462                     | 618                        |
| 2018    | 1,138                                     | 87                                      | 828                                      | 0   | 2,053                        | 878                              | 0  | 0   | 0  | 523                                    | 1,400                     | 653                        |
| 2019    | 1,195                                     | 93                                      | 888                                      | 0   | 2,176                        | 928                              | 0  | 0   | 0  | 524                                    | 1,452                     | 724                        |
| 2020    | 1,110                                     | 87                                      | 838                                      | 0   | 2,035                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 2,035                      |
| 2021    | 1,003                                     | 81                                      | 786                                      | 0   | 1,870                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,870                      |
| 2022    | 1,125                                     | 76                                      | 395                                      | 0   | 1,595                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,595                      |
| 2023    | 1,075                                     | 70                                      | 599                                      | 0   | 1,744                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,744                      |
| 2024    | 786                                       | 65                                      | 568                                      | 0   | 1,418                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,418                      |
| 2025    | 691                                       | 60                                      | 526                                      | 0   | 1,277                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,277                      |
| 2026    | 744                                       | 54                                      | 303                                      | 0   | 1,101                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,101                      |
| 2027    | 594                                       | 51                                      | 523                                      | 0   | 1,168                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,168                      |
| 2028    | 565                                       | 48                                      | 504                                      | 0   | 1,117                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,117                      |
| 2029    | 729                                       | 42                                      | 527                                      | 0   | 1,297                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,297                      |
| 2030    | 651                                       | 35                                      | 736                                      | 0   | 1,422                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,422                      |
| 2031    | 534                                       | 28                                      | 614                                      | 0   | 1,176                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,176                      |
| 2032    | 421                                       | 22                                      | 492                                      | 0   | 935                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 935                        |
| 2033    | 277                                       | 14                                      | 337                                      | 0   | 628                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 628                        |
| 2034    | 135                                       | 7                                       | 174                                      | 0   | 316                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 316                        |
| 2035    | 88  | 5                                       | 117                                      | 0   | 210                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 210                        |
| 2036    | 51  | 3                                       | 67                                       | 0   | 120                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 120                        |
| 2037    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2038    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| NOMINAL | 16,554                                    | 1,232                                   | 12,465                                   | 0   | 30,252                       | 7,397                            | 0  | 0   | 0  | 4,605                                  | 12,003                    | 18,249                     |
| NPV     | 6,751                                     | 524                                     | 4,791                                    | 0   | 12,066                       | 4,906                            | 0  | 0   | 0  | 3,091                                  | 7,997                     | 4,069                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.509

**F. RESIDENTIAL ENERGY MANAGEMENT PROGRAM**

**Program Start Date:** 1981

Program Modified in 1995, 2000, 2007

Modifications proposed in 2010

**Program Description**

Residential Energy Management is a voluntary customer program that allows Progress Energy to reduce peak demand and defer generation construction. Peak demand is reduced by interrupting service to selected electrical equipment with radio controlled switches installed on the customers' premises. These controlled interruptions are at Progress Energy's option during specified time periods and coincident with hours of peak demand.

**Policies and Procedures**

It continues to be cost-effective to add new participants to the Residential Year Round Energy Management (RSL-1) and Winter Only (RSL-2) Rate Schedules. Continuing the Residential Energy Management program will increase the summer and winter load control capabilities. In addition to increasing the program's winter effectiveness, the 100% strip control will continue to be offered to any new participants and existing participants requesting a change with heat pump equipment.

This program has grown to be one of the largest direct load control programs in the nation today. Progress Energy will continue to offer this program to residential customers, but major

infrastructure maintenance procedures are required to maintain a reliable program. The current direct load control one-way communications and home appliance switching infrastructure that allows Progress Energy to load shed over 700 MW of winter peak demand is becoming obsolete due to the end-of-life of major components in the near future. Major infrastructure maintenance and system upgrades are necessary to continue to ensure the availability of the existing 700 MW of direct load control capacity and support additional capacity in the future.

## Program Participation

Annual program participation estimates beginning in the year 2010 are shown in the table below. The estimates reflect continuing the year round program, maintaining a winter only option, 100% strip control, and adding new participants.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 941,530   | 7,700  | 0.8%  |
| 2012 | 1,495,098                                | 955,209   | 7,700  | 1.6%  |
| 2013 | 1,521,451                                | 972,046   | 7,700  | 2.4%  |
| 2014 | 1,548,531                                | 989,347   | 7,700  | 3.1%  |
| 2015 | 1,575,167                                | 1,006,365   | 7,700  | 3.8%  |
| 2016 | 1,600,448                                | 1,022,517   | 13,950   | 5.1%  |
| 2017 | 1,624,503                                | 1,037,885   | 13,950   | 6.4%  |
| 2018 | 1,647,724                                | 1,052,721   | 13,950   | 7.6%  |
| 2019 | 1,671,277                                | 1,067,769   | 9,750  | 8.4%  |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. Estimate of the eligible customers are based on customers that are not presently on Energy Management and have electric heat.
3. New participants of winter only or year round Energy Management Schedule.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

The total program savings shown in the following tables reflect the demand and energy savings associated with the new program participants projected for the Residential Energy Management 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2012 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2013 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2014 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2015 | -                          | 2.14                             | 1.11                             | -                          | 16,478                           | 8,547                            |
| 2016 | -                          | 2.14                             | 1.11                             | -                          | 29,853                           | 15,485                           |
| 2017 | -                          | 2.14                             | 1.11                             | -                          | 29,853                           | 15,485                           |
| 2018 | -                          | 2.14                             | 1.11                             | -                          | 29,853                           | 15,485                           |
| 2019 | -                          | 2.14                             | 1.11                             | -                          | 20,865                           | 10,823                           |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2012 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2013 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2014 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2015 | -                          | 2.28                             | 1.18                             | -                          | 17,554                           | 9,105                            |
| 2016 | -                          | 2.28                             | 1.18                             | -                          | 31,802                           | 16,496                           |
| 2017 | -                          | 2.28                             | 1.18                             | -                          | 31,802                           | 16,496                           |
| 2018 | -                          | 2.28                             | 1.18                             | -                          | 31,802                           | 16,496                           |
| 2019 | -                          | 2.28                             | 1.18                             | -                          | 22,227                           | 11,529                           |

### **Impact Evaluation Plan**

Progress Energy is conducting a residential end-use metering study that will be used to estimate the appliance level and duty-cycle impacts of residential load control. This end-use metering data will be used to perform engineering and statistical analysis to calculate the impacts of the program.

### **Cost-Effectiveness**

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs \$<br/>(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|-------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$950,529                       | \$810,825                     | \$139,704                           | 1.17             |
| Participant                    | \$263,082                       | \$0                           | \$263,082                           | 9999             |
| Total Resource Cost            | \$950,529                       | \$531,381                     | \$419,148                           | 1.79             |

PROGRAM: Residential Energy Management - RIM

| YEAR    | BENEFITS   |  |   |                                    |                                     | COSTS   |  |   |   |  |                                      |                                   |
|---------|--|--|---|------------------------------------|-------------------------------------|---|--|---|---|--|--------------------------------------|-----------------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | (3)<br>AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | (4)<br>REVENUE<br>GAINS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (7)<br>INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | (8)<br>INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | (9)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (10)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (11)<br>REVENUE<br>LOSSES<br>\$(000) | (12)<br>TOTAL<br>COSTS<br>\$(000) |
| 2010    | 18,068   | 0  | 24,095  | 0                                  | 42,163                              | 0   | 0  | 0   | 14,663  | 20,385                                   | 783                                  | 35,830                            |
| 2011    | 16,995   | 0  | 24,864  | 0                                  | 41,859                              | 0   | 0  | 0   | 15,594  | 20,770                                   | 888                                  | 37,252                            |
| 2012    | 20,049   | 0  | 25,849  | 0                                  | 45,898                              | 0   | 0  | 0   | 20,678  | 21,155                                   | 956                                  | 42,789                            |
| 2013    | 20,247   | 0  | 37,713  | 0                                  | 57,961                              | 0   | 0  | 0   | 51,400  | 21,540                                   | 1,270                                | 74,210                            |
| 2014    | 10,580   | 0  | 38,662  | 0                                  | 49,242                              | 748   | 0  | 0   | 86,236  | 20,996                                   | 829                                  | 108,808                           |
| 2015    | 0  | 0  | 64,114  | 0                                  | 64,114                              | 14,256  | 0  | 0   | 116,400                                       | 21,975                                   | 1,492                                | 154,123                           |
| 2016    | 0  | 0  | 74,989  | 0                                  | 74,989                              | 3,262   | 0  | 0   | 109,266                                       | 22,672                                   | 1,601                                | 136,800                           |
| 2017    | 41,029   | 0  | 138,858   | 0                                  | 179,887                             | 0   | 0  | 0   | 103,536                                       | 23,370                                   | 1,495                                | 128,400                           |
| 2018    | 18,217   | 0  | 83,569  | 0                                  | 101,786                             | 0   | 0  | 0   | 87,234  | 24,067                                   | 1,302                                | 112,602                           |
| 2019    | 12,907   | 0  | 87,782  | 0                                  | 100,689                             | 0   | 0  | 0   | 71,723  | 24,765                                   | 1,391                                | 97,878                            |
| 2020    | 11,535   | 0  | 90,312  | 0                                  | 101,848                             | 0   | 0  | 0   | 44,303  | 24,765                                   | 1,458                                | 70,525                            |
| 2021    | 1,999  | 0  | 92,926  | 0                                  | 94,925                              | 0   | 0  | 0   | 41,690  | 24,765                                   | 1,884                                | 68,338                            |
| 2022    | 27,501   | 0  | 64,346  | 0                                  | 91,847                              | 0   | 0  | 0   | 40,952  | 24,765                                   | 1,555                                | 67,271                            |
| 2023    | 36,212   | 0  | 65,153  | 0                                  | 101,365                             | 0   | 0  | 0   | 37,514  | 24,765                                   | 1,725                                | 64,004                            |
| 2024    | 7,724  | 0  | 90,921  | 0                                  | 98,644                              | 0   | 0  | 0   | 32,173  | 24,765                                   | 1,843                                | 58,780                            |
| 2025    | 1,994  | 0  | 93,165  | 0                                  | 95,159                              | 0   | 0  | 0   | 25,873  | 24,765                                   | 1,819                                | 52,457                            |
| 2026    | 26,493   | 0  | 73,667  | 0                                  | 100,160                             | 0   | 0  | 0   | 18,648  | 24,765                                   | 1,866                                | 45,278                            |
| 2027    | 10,415   | 0  | 112,704   | 0                                  | 123,119                             | 0   | 0  | 0   | 15,418  | 24,765                                   | 1,888                                | 42,070                            |
| 2028    | 8,654  | 0  | 116,169   | 0                                  | 124,822                             | 0   | 0  | 0   | 13,784  | 24,765                                   | 1,934                                | 40,483                            |
| 2029    | 16,099   | 0  | 104,848   | 0                                  | 120,947                             | 0   | 0  | 0   | 11,632  | 24,765                                   | 2,069                                | 38,466                            |
| 2030    | 25,618   | 0  | 107,591   | 0                                  | 133,209                             | 0   | 0  | 0   | 12,569  | 24,765                                   | 2,576                                | 39,910                            |
| 2031    | 25,406   | 0  | 111,895   | 0                                  | 137,300                             | 0   | 0  | 0   | 14,355  | 24,765                                   | 2,361                                | 41,481                            |
| 2032    | 24,979   | 0  | 116,370   | 0                                  | 141,349                             | 0   | 0  | 0   | 18,485  | 24,765                                   | 2,365                                | 45,614                            |
| 2033    | 23,109   | 0  | 121,026   | 0                                  | 144,135                             | 0   | 0  | 0   | 17,853  | 24,765                                   | 2,770                                | 45,388                            |
| 2034    | 25,401   | 0  | 125,866   | 0                                  | 151,267                             | 0   | 0  | 0   | 18,327  | 24,765                                   | 2,357                                | 45,448                            |
| 2035    | 21,525   | 0  | 130,901   | 0                                  | 152,425                             | 0   | 0  | 0   | 18,906  | 24,765                                   | 2,675                                | 46,346                            |
| 2036    | 19,424   | 0  | 136,137   | 0                                  | 155,560                             | 0   | 0  | 0   | 18,082  | 24,765                                   | 2,990                                | 45,837                            |
| 2037    | 20,426   | 0  | 141,582   | 0                                  | 162,008                             | 0   | 0  | 0   | 40,207  | 24,765                                   | 2,683                                | 67,655                            |
| NOMINAL | 504,317  | 0  | 2,519,066                                       | 0                                  | 3,023,383                           | 18,265  | 0  | 0   | 1,128,540                                     | 687,455                                  | 51,640                               | 1,885,900                         |
| NPV     | 185,672  | 0  | 764,857   | 0                                  | 950,529                             | 11,090  | 0  | 0   | 520,291                                       | 263,082                                  | 16,362                               | 810,825                           |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.172

PROGRAM: Residential Energy Management - Participant

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |  |                           | NET BENEFITS<br>TO<br>PARTICIPANTS<br>\$(000) |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|--|---------------------------|---|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)  | (7)                       |   |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |   |
| 2010    | 0  | \$20,385                         | 0   | 20,385                       | 0                                | 0  | 0                         | 20,385  |
| 2011    | 0  | \$20,770                         | 0   | 20,770                       | 0                                | 0  | 0                         | 20,770  |
| 2012    | 0  | \$21,155                         | 0   | 21,155                       | 0                                | 0  | 0                         | 21,155  |
| 2013    | 0  | \$21,540                         | 0   | 21,540                       | 0                                | 0  | 0                         | 21,540  |
| 2014    | 0  | \$20,996                         | 0   | 20,996                       | 0                                | 0  | 0                         | 20,996  |
| 2015    | 0  | \$21,975                         | 0   | 21,975                       | 0                                | 0  | 0                         | 21,975  |
| 2016    | 0  | \$22,672                         | 0   | 22,672                       | 0                                | 0  | 0                         | 22,672  |
| 2017    | 0  | \$23,370                         | 0   | 23,370                       | 0                                | 0  | 0                         | 23,370  |
| 2018    | 0  | \$24,067                         | 0   | 24,067                       | 0                                | 0  | 0                         | 24,067  |
| 2019    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2020    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2021    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2022    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2023    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2024    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2025    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2026    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2027    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2028    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2029    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2030    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2031    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2032    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2033    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2034    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2035    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2036    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| 2037    | 0  | \$24,765                         | 0   | 24,765                       | 0                                | 0  | 0                         | 24,765  |
| NOMINAL | 0  | 687,455                          | 0   | 687,455                      | 0                                | 0  | 0                         | 687,455                                       |
| NPV     | 0  | 263,082                          | 0   | 263,082                      | 0                                | 0  | 0                         | 263,082                                       |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999



PROGRAM: Residential Energy Management - TRC

| YEAR    | BENEFITS                       |                              |                               |                  |                   | COSTS                           |                                |                                 |                             |                       |                   |                |           | NET<br>BENEFITS<br>\$(000) |           |
|---------|--------------------------------|------------------------------|-------------------------------|------------------|-------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|-----------------------|-------------------|----------------|-----------|----------------------------|-----------|
|         | (1)                            | (2)                          | (3)                           | (4)              | (5)               | (6)                             | (7)                            | (8)                             | (9)                         | (10)                  | (11)              | (12)           | (13)      |                            |           |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP.<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | REVENUE<br>GAINS | TOTAL<br>BENEFITS | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | INCENTIVE<br>PAYMENTS | REVENUE<br>LOSSES | TOTAL<br>COSTS |           |                            |           |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)          | \$(000)           | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)               | \$(000)           | \$(000)        | \$(000)   |                            |           |
| 2010    | 18,068                         | 0                            | 24,095                        | 0                | 42,163            | 0                               | 0                              | 0                               | 14,663                      | 0                     | 0                 | 14,663         |           | 27,500                     |           |
| 2011    | 16,995                         | 0                            | 24,864                        | 0                | 41,859            | 0                               | 0                              | 0                               | 15,594                      | 0                     | 0                 | 15,594         |           | 26,265                     |           |
| 2012    | 20,049                         | 0                            | 25,849                        | 0                | 45,898            | 0                               | 0                              | 0                               | 20,678                      | 0                     | 0                 | 20,678         |           | 25,220                     |           |
| 2013    | 20,247                         | 0                            | 37,713                        | 0                | 57,961            | 0                               | 0                              | 0                               | 51,400                      | 0                     | 0                 | 51,400         |           | 6,561                      |           |
| 2014    | 10,580                         | 0                            | 38,662                        | 0                | 49,242            | 748                             | 0                              | 0                               | 86,236                      | 0                     | 0                 | 86,984         |           | (37,742)                   |           |
| 2015    | 0                              | 0                            | 64,114                        | 0                | 64,114            | 14,256                          | 0                              | 0                               | 116,400                     | 0                     | 0                 | 130,656        |           | (66,542)                   |           |
| 2016    | 0                              | 0                            | 74,989                        | 0                | 74,989            | 3,262                           | 0                              | 0                               | 109,266                     | 0                     | 0                 | 112,528        |           | (37,539)                   |           |
| 2017    | 41,029                         | 0                            | 138,858                       | 0                | 179,887           | 0                               | 0                              | 0                               | 103,536                     | 0                     | 0                 | 103,536        |           | 76,351                     |           |
| 2018    | 18,217                         | 0                            | 83,569                        | 0                | 101,786           | 0                               | 0                              | 0                               | 87,234                      | 0                     | 0                 | 87,234         |           | 14,553                     |           |
| 2019    | 12,907                         | 0                            | 87,782                        | 0                | 100,689           | 0                               | 0                              | 0                               | 71,723                      | 0                     | 0                 | 71,723         |           | 28,966                     |           |
| 2020    | 11,535                         | 0                            | 90,312                        | 0                | 101,848           | 0                               | 0                              | 0                               | 44,303                      | 0                     | 0                 | 44,303         |           | 57,545                     |           |
| 2021    | 1,999                          | 0                            | 92,926                        | 0                | 94,925            | 0                               | 0                              | 0                               | 41,690                      | 0                     | 0                 | 41,690         |           | 53,235                     |           |
| 2022    | 27,501                         | 0                            | 64,346                        | 0                | 91,847            | 0                               | 0                              | 0                               | 40,952                      | 0                     | 0                 | 40,952         |           | 50,895                     |           |
| 2023    | 36,212                         | 0                            | 65,153                        | 0                | 101,365           | 0                               | 0                              | 0                               | 37,514                      | 0                     | 0                 | 37,514         |           | 63,851                     |           |
| 2024    | 7,724                          | 0                            | 90,921                        | 0                | 98,644            | 0                               | 0                              | 0                               | 32,173                      | 0                     | 0                 | 32,173         |           | 66,471                     |           |
| 2025    | 1,994                          | 0                            | 93,165                        | 0                | 95,159            | 0                               | 0                              | 0                               | 25,873                      | 0                     | 0                 | 25,873         |           | 69,285                     |           |
| 2026    | 26,493                         | 0                            | 73,667                        | 0                | 100,160           | 0                               | 0                              | 0                               | 18,648                      | 0                     | 0                 | 18,648         |           | 81,512                     |           |
| 2027    | 10,415                         | 0                            | 112,704                       | 0                | 123,119           | 0                               | 0                              | 0                               | 15,418                      | 0                     | 0                 | 15,418         |           | 107,702                    |           |
| 2028    | 8,654                          | 0                            | 116,169                       | 0                | 124,822           | 0                               | 0                              | 0                               | 13,784                      | 0                     | 0                 | 13,784         |           | 111,038                    |           |
| 2029    | 16,099                         | 0                            | 104,848                       | 0                | 120,947           | 0                               | 0                              | 0                               | 11,632                      | 0                     | 0                 | 11,632         |           | 109,315                    |           |
| 2030    | 25,618                         | 0                            | 107,591                       | 0                | 133,209           | 0                               | 0                              | 0                               | 12,569                      | 0                     | 0                 | 12,569         |           | 120,639                    |           |
| 2031    | 25,406                         | 0                            | 111,895                       | 0                | 137,300           | 0                               | 0                              | 0                               | 14,355                      | 0                     | 0                 | 14,355         |           | 122,945                    |           |
| 2032    | 24,979                         | 0                            | 116,370                       | 0                | 141,349           | 0                               | 0                              | 0                               | 18,485                      | 0                     | 0                 | 18,485         |           | 122,864                    |           |
| 2033    | 23,109                         | 0                            | 121,026                       | 0                | 144,135           | 0                               | 0                              | 0                               | 17,853                      | 0                     | 0                 | 17,853         |           | 126,281                    |           |
| 2034    | 25,401                         | 0                            | 125,866                       | 0                | 151,267           | 0                               | 0                              | 0                               | 18,327                      | 0                     | 0                 | 18,327         |           | 132,940                    |           |
| 2035    | 21,525                         | 0                            | 130,901                       | 0                | 152,425           | 0                               | 0                              | 0                               | 18,906                      | 0                     | 0                 | 18,906         |           | 133,519                    |           |
| 2036    | 19,424                         | 0                            | 136,137                       | 0                | 155,560           | 0                               | 0                              | 0                               | 18,082                      | 0                     | 0                 | 18,082         |           | 137,478                    |           |
| 2037    | 20,426                         | 0                            | 141,582                       | 0                | 162,008           | 0                               | 0                              | 0                               | 40,207                      | 0                     | 0                 | 40,207         |           | 121,801                    |           |
| NOMINAL | 504,317                        | 0                            | 2,519,066                     | 0                | 3,023,383         | 0                               | 18,265                         | 0                               | 0                           | 1,128,540             | 0                 | 0              | 1,146,805 | 0                          | 1,876,578 |
| NPV     | 185,672                        | 0                            | 764,857                       | 0                | 950,529           | 0                               | 11,090                         | 0                               | 0                           | 520,291               | 0                 | 0              | 531,381   | 0                          | 419,148   |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.789

## **G. TECHNICAL POTENTIAL PROGRAM**

**Program Start Date:** Proposed to start in 2011

### **Program Description**

The Technical Potential program will target the residential customer segment and promote measures that have a payback period of two years or less. This program is designed to meet a technical potential goal of 1528 GWh by the end of 2019. The measures within this program include but are not limited to the following:

- Installation of water heater blanket
- HVAC annual maintenance
- Installation of solar window screens
- Electronically commutated motors as part of HVAC replacement 16 SEER or higher
- Pool pump replacement - variable speed
- Residential lighting (CFLs)
- Refrigerator and freezer recycling
- Air filter replacement

Progress Energy will continue to pursue measures that will focus on providing savings opportunities for customers who may be unable to make capital investments, but have a desire to

focus on low-cost measures or practices that will enable them to achieve their savings goals. Technical Potential is an unprecedented program, and Progress Energy will employ multiple strategies to support goal achievement including: education, traditional incentives and retail partnerships. Also, since many of the measures in the Technical Potential program share the same general target audience as the Home Energy Improvement program, these measures will be marketed through the Home Energy Improvement Program and other programs as appropriate.

### ***Education***

Our educational outreach efforts will consist of multiple delivery channels and will reach all customer segments.

#### ***Community Education***

- Progress Energy will expand its educational efforts in the local communities. Through local outreach PEF will work with homeowners' associations to provide energy-efficiency workshops. Additionally, the Company will provide energy-related news articles to insert into community newsletters. Technical Potential measures will be included as recommendations during the Home Energy Check, as appropriate. Additionally, community competitions will be developed to raise awareness of energy efficiency among neighbors.

#### ***Education Through Behavior Modification***

- Progress Energy proposes to incorporate personalized feedback into customer education to motivate customers to adopt behaviors that will support energy efficiency. By using

behavior modification tools like those offered by OPOWER and other such vendors, PEF will help the customer better understand their energy usage and help them to see how their energy consumption compares to other similar customers, set personal goals for energy reduction, and obtain feedback on their progress. Studies have shown that similar tools have supported customer’s energy usage reductions by about 2%. Energy reductions achieved through these tools will be counted within this program.

- The incorporation of personalized feedback in this tool increases the success of the behavior change. These tools provide customers the opportunity to compare their energy usage to neighbors with similar demographics and similar home size and make informed energy choices. This program gives Progress Energy the opportunity to expand our reach with energy efficiency to all customers segments including low-income and rental communities. All customer groups will be able to take advantage of this education and benefit from it.

### ***Education of Low-Income Customers***

Low-income customers are typically the hardest to motivate to participate in energy efficiency measures due to cost barriers and lack of access to energy education information. Progress Energy has successfully utilized its Neighborhood Energy Saver program as a means to weatherize the homes of thousands of low-income Progress Energy customers. Tied in with the weatherization efforts, Progress Energy has also offered in-home energy education at the time of the Neighborhood Energy Saver visit to teach customers about regularly changing their air filters, using CFL bulbs, and the

benefits of insulating their water heaters, as well as many other energy-saving behaviors. To increase our educational outreach efforts, Progress Energy has developed an educational video that highlights simple behavioral changes customers can make to save energy throughout the home. This video will be shown at weatherization agency offices throughout the service territory. In addition, PEF will be conducting energy education workshops that will include seminars, product demonstrations and question and answer sessions for customer to learn about cost-effective ways to save energy now and in the future.

### ***Student Education***

Progress Energy will reach out to local schools and youth organizations to expose students to no-cost and low-cost energy-efficient behaviors and improvements that they and their families can do in their homes. As part of this effort, Progress Energy will expand the Home Energy Check for Kids program to incorporate all grade levels. In addition, PEF has started to pilot an after-school program with a YMCA in Clearwater, Florida where high school students will develop a “green club” with the goal of mentoring younger students about energy efficiency. Progress Energy’s employees will act as mentors, assist with energy education for the club and participate as guest speakers at student events. Our goal is to expand this program to other YMCAs and youth organizations through our service territory.

### ***Education of External Influencers***

Developing partnerships with external parties that help influence our customers is important to ensuring that the energy efficiency message is heard. Contractors, builders, retailers, realtors and local businesses are just a few of those external parties who act as an extension of Progress Energy to help educate our customers about being energy efficient. These partnerships will include training seminars, follow-up communications including newsletters and email blasts, and the development of co-op and joint advertising strategies to ensure the greatest impact.

### ***General Customer Education***

Progress Energy will utilize campaigns like the Save-the-Watts themed campaign to educate and inform customers about the energy efficiency programs that PEF offers. Progress Energy will provide online content and mass media messaging to ensure customers have the tools they need to make informed decisions regarding energy efficiency.

### ***Traditional Incentives***

Educating our customers will be a strategy that is utilized throughout the life of the program, but in order to move the market and achieve Progress Energy’s GWh reduction goal, PEF will also employ the use of traditional customer incentives.

### ***Customer Incentives***

As most product adoption bell curves indicate, there is a steep incline in participation early in the lifecycle of the program (participants are called ‘early adopters’), a point where participation flattens out (‘early and late majority’), followed by a steady decline (‘laggards’).

Incentives will be offered on measures at some point during the lifecycle of the program, and will be used to drive participation in the measures that may require more motivation due to higher initial out-of-pocket cost to the customer, such as: appliance recycling, HVAC replacement and pool pump replacement.

### ***Contractor Incentives***

Progress Energy will also offer financial incentives for contractors who install measures as part of this program. The incentives serve to motivate the contractor to make energy efficient recommendations and encourage them to document installation of the measure for verification.

### ***Retail Partnerships***

Many of the measures that make up the Technical Potential program lend themselves naturally to partnerships with retailers.

- ***Do-it-yourself Measures***

Measures such as air filters, water heater blankets and CFL bulbs can be purchased and installed directly by the customer. By developing partnerships with retailers, Progress Energy can ensure that customers who are in stores and in a buying mode receive the education they need about these products. Through ongoing contractor education, PEF will ensure store staff is educated about energy efficiency measures so that they can act as an extension of Progress Energy and answer questions that customers may have about the energy-saving benefits of the measures.

- ***Financial Incentives***

Progress Energy will offer financial incentives to the customers when they purchase qualifying measures from the retail store. These incentives will be administered through buy-downs (where Progress Energy pays a portion of the item cost so that it will have a lower price in the store) as well as mail-in rebates where customers will receive money back once proof of purchase has been verified.

### ***Marketing Tactics***

Progress Energy will employ a variety of standard marketing strategies to drive customer participation in the Technical Potential program. Some of these marketing tactics include:

- Mass Media
- Market Segmentation
- Direct Marketing



- Event Marketing

### **Implementation Approach**

To meet the Commission’s aggressive implementation of goal achievement, Progress Energy will attempt to deploy strategies and expenditures to support this achievement. PEF will also continue to research and monitor emerging technologies (like LED lighting) that may offer greater energy savings for our customers versus what is currently available in the market.

The general timeline for the implementation of the Technical Potential Program is noted below:

- Build upon existing contractor relationships and develop relationships for new measures
- Execute contracts with 3<sup>rd</sup> party vendors for CFL and Appliance Recycling measure roll-out and develop turnkey retail partnerships
- Leverage existing infrastructure, relationships, and established baselines to increase adoption
- Continuously monitor the market for the best adaptation strategies and mix of incentives and education to move the market to the next level

## **Policies and Procedures**

The program seeks to meet the following overall goals:

- To accelerate the adoption of energy efficiency measures with a short payback period
- Develop cost-effective marketing strategies and strategies that will deliver participation and energy reduction goals
- Obtain energy reductions that are significant and measurable
- Expand the portfolio of energy efficiency offerings for existing residential homes and new home construction

The program eligibility requirements to qualify for participation are as follows:

- The residence must be in Progress Energy’s service area and be an active residentially-metered Progress Energy customer.
- Existing or newly constructed residential single-family, multifamily or manufactured homes.
- Specific eligibility requirements for each item installed in this program will be presented in the Program Participation Standards and are subject to revision based on changes in market conditions such as baseline, code revisions, updated measure and valuation analysis, or technological advances.

The program will encourage customers to implement the following program measures:

***Water Heater Blanket***

This measure encourages the purchase and installation of water heater blankets on electric water heaters. This measure will be promoted through the consumer and retail channels in order to generate awareness and participation.

***HVAC Annual Maintenance***

This measure encourages the annual cleaning of outdoor coils in the HVAC system in order to ensure the system will continue to function as efficiently as possible. Education directly to the customers and through the contractor channels will be used to generate awareness of and participation in this measure.

***Installation of Solar Window Screens***

Solar window screens are a more affordable alternative to window film and provide the customer with many of the same benefits. This measure will be promoted through education to both consumers and through the contractor channels to generate awareness and participation.

***Electronically Commutated Motors as part of HVAC Replacement 16 SEER or Higher***

Electronically Commutated Motors are the standard air handler motor on the higher efficiency HVAC systems (typically 16 SEER or higher) and offer significant energy savings compared to other motor types. This measure will be promoted through education to both consumers and through the contractor channels to generate awareness and participation.

***Pool Pump Replacement (variable speed)***

This measure will encourage customers to upgrade to a variable speed pool pump. Progress Energy will educate consumers, contractors, pool builders, and pool maintenance service companies about the energy savings of variable speed pool pump motors.

***Residential Lighting (CFLs)***

The residential lighting measure will provide incentives and marketing support through retailers to encourage greater Progress Energy customer adoption of CFL lighting. Progress Energy will partner with various manufacturers and retailers across its service territory to offer a wide selection of products to customers.

***Refrigerator and freezer recycling***

The refrigerator and freezer recycling measure are designed to remove less efficient refrigerators and freezers that are operating within residences across the Progress Energy service territory. The program will include scheduling and free appliance pick-up at the customer's location, transportation to a recycling facility, and recovery and recycling of appliance materials.

***Air filter replacement***

Progress Energy will encourage customers to regularly replace air filters on central HVAC systems that have standard air filtration. Continuous education and awareness marketing will play a key role in encouraging customers to adopt this energy-saving behavior.

## Program Participation

Annual participation estimates for the Technical Potential program are shown in the following table

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 1,473,688   | 140,096  | 9.5%  |
| 2012 | 1,495,098                                | 1,495,098   | 156,207  | 19.8%   |
| 2013 | 1,521,451                                | 1,521,451   | 164,901  | 30.3%   |
| 2014 | 1,548,531                                | 1,548,531   | 187,585  | 41.9%   |
| 2015 | 1,575,167                                | 1,575,167   | 191,691  | 53.4%   |
| 2016 | 1,600,448                                | 1,600,448   | 203,381  | 65.2%   |
| 2017 | 1,624,503                                | 1,624,503   | 192,831  | 76.1%   |
| 2018 | 1,647,724                                | 1,647,724   | 211,794  | 87.9%   |
| 2019 | 1,671,277                                | 1,671,277   | 222,791  | 100.0%  |

1. The total number of customers is the forecast of residential customers in Progress Energy's 2009 Ten Year Site Plan.
2. The entire residential class is eligible for participation
3. Number of participants represents the customers that Progress Energy expects to reach through this program annually
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure, based on each measure’s per customer savings and annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1139                       | 0.14                             | 0.32                             | 159,502,452                | 19,992                           | 44,548                           |
| 2012 | 1021                       | 0.12                             | 0.27                             | 159,413,022                | 18,580                           | 41,469                           |
| 2013 | 966                        | 0.11                             | 0.24                             | 159,314,367                | 17,653                           | 40,243                           |
| 2014 | 849                        | 0.08                             | 0.20                             | 159,284,578                | 15,453                           | 37,231                           |
| 2015 | 830                        | 0.08                             | 0.19                             | 159,130,399                | 15,817                           | 37,089                           |
| 2016 | 785                        | 0.08                             | 0.18                             | 159,579,461                | 15,697                           | 36,251                           |
| 2017 | 828                        | 0.09                             | 0.20                             | 159,579,461                | 17,714                           | 38,226                           |
| 2018 | 753                        | 0.08                             | 0.17                             | 159,579,461                | 16,861                           | 36,289                           |
| 2019 | 716                        | 0.07                             | 0.16                             | 159,579,461                | 15,864                           | 34,786                           |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1213                       | 0.15                             | 0.34                             | 169,917,962                | 21,297                           | 47,457                           |
| 2012 | 1087                       | 0.13                             | 0.28                             | 169,822,692                | 19,793                           | 44,177                           |
| 2013 | 1029                       | 0.11                             | 0.26                             | 169,717,595                | 18,805                           | 42,871                           |
| 2014 | 905                        | 0.09                             | 0.21                             | 169,685,860                | 16,462                           | 39,662                           |
| 2015 | 884                        | 0.09                             | 0.21                             | 169,521,614                | 16,850                           | 39,511                           |
| 2016 | 836                        | 0.08                             | 0.19                             | 170,000,000                | 16,722                           | 38,618                           |
| 2017 | 882                        | 0.10                             | 0.21                             | 170,000,000                | 18,871                           | 40,722                           |
| 2018 | 803                        | 0.08                             | 0.18                             | 170,000,000                | 17,962                           | 38,658                           |
| 2019 | 763                        | 0.08                             | 0.17                             | 170,000,000                | 16,899                           | 37,058                           |

## Impact Evaluation Plan

Progress Energy will measure participation in the program through the use of data from our third party partners as well as market surveys.

## **V. COMMERCIAL/INDUSTRIAL CONSERVATION PROGRAMS**

Progress Energy’s Demand Side Management Plan includes ten (10) commercial/industrial programs:

- Business Energy Check - Commercial/industrial energy audits
- Better Business - program for existing facilities
- Commercial/Industrial New Construction - program for new construction facilities
- Business Energy Saver – low-income energy conservation program
- Commercial Green Building New Construction - new facilities program to achieve optimal energy efficiency
- Innovation Incentive - program of custom measures
- Standby Generation - Rate Tariff GSLM-2
- Interruptible Service - Rate Tariff IS-2
- Curtailable Service - Rate Tariff CS-2
- Business Energy Response - program designed to reduce system peak demand and increase renewable energy generation on the Progress Energy grid.



**A. BUSINESS ENERGY CHECK PROGRAM**

**Program Start Date:** 1995

Modifications proposed in 2010

**Program Description**

The Business Energy Check is a commercial energy audit program that provides commercial customers with an analysis of their energy use as well as recommendations on how they can save on their electricity bill. The audit focuses on education and encouraging customers to implement minimal cost energy-saving practices and measures. The audit also provides Progress Energy the opportunity to promote cost effective measures in customers' facilities. The Business Energy Check program serves as the foundation for participation in other commercial, industrial and governmental Demand Side Management programs.

The Business Energy Check program offers the following types of energy audits:

Type 1: Free Walk-Through

Type 2: Paid Walk-Through

Type 3: Customer Online (Internet Option)

Type 4: Customer Phone Assisted.

## **Policies and Procedures**

All commercial, industrial, and governmental customers of Progress Energy are eligible to receive any of the above mentioned audit types conducted on commercial metered buildings located in Progress Energy’s service territory. There is no charge for Type 1, Type 3 and Type 4 audits, while there is a nominal customer charge for the Type 2 energy analysis. When a customer requests a Business Energy Check, they will be given the option of any of the above offered audit types. Progress Energy reserves the option to work with other agencies and/or companies as an extension of the Business Energy Check service. The specific details on the procedures for each type of audit will be presented in the Program Participation Standards.

Customers participating in all audit types will be provided with sustainable educational and behavioral energy saving examples of easily installed energy conservation measures to reduce energy consumption. The program promotes continued customer involvement by demonstrating sustainable and measureable energy reduction in the business’ energy consumption by the implementation of low-cost energy conservation measures.

The customer will receive a Commercial Energy Efficiency Kit via the following methods:

- At the time of the onsite Business Energy Check
- Through the mail following completion of the online or phone assisted audit

Progress Energy is proposing to include the following measures with this program:

### ***Energy Conservation Measure Kit***

#### ***Lighting***

This measure will provide customers with up to three (3) compact fluorescent light bulbs to upgrade an existing incandescent fixture located in their facility. This demonstration will encourage additional lighting energy conservation measures changes within the facility.

#### ***Indoor room Thermometer***

This measure will provide one room thermometer per business. This measure will establish a reference point for customers to select an energy savings setting for the HVAC system thermostat.

#### ***Refrigerator Thermometer***

This measure will provide one thermometer in the food or freezer compartment of the refrigerator. This measure will establish a reference point for customers to select an energy savings setting for the refrigeration system thermostat.

#### ***Power Conservation Strip***

This measure will provide a power conservation strip to reduce idle energy use when appliances are not in operation. The ease of installation and the demonstration of immediate energy reduction will encourage additional customer participation.

### ***Change Filter Calendar***

This portion of the program will provide each business a Progress Energy magnetic calendar to help remind them to clean or change the HVAC filter monthly to facilitate optimal HVAC performance.

### ***Additional Kit Components***

The energy conservation measure kit will also include educational tools that will assist the business owner in making decisions about their energy use. Examples of these educational tools include, but are not limited to the following:

### ***Energy Use Data Sheet***

A common appliance and equipment energy use data sheet will be provided to the customer. This will demonstrate to the customer examples where energy is being utilized within their facility, encouraging the customer to make behavior changes to reduce energy consumption.

### ***Facility Setback Procedure***

This measure will provide a suggested setback process for relative facilities. The process can be used as behavior modification training for employees or as a poster located at entrances and exits of the facility. It will provide a point of reference to remind employees to choose the best energy saving setting for the facility when shutting down.

## Program Participation

Annual participation estimates for the Business Energy Check program are shown in the following table:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 170,886   | 2,261  | 1.3%  |
| 2012 | 175,147                                  | 172,886   | 2,330  | 2.7%  |
| 2013 | 178,542                                  | 173,951   | 2,424  | 4.0%  |
| 2014 | 182,030                                  | 177,276   | 2,545  | 5.4%  |
| 2015 | 185,461                                  | 180,492   | 2,723  | 6.8%  |
| 2016 | 188,717                                  | 183,449   | 2,859  | 8.3%  |
| 2017 | 191,817                                  | 186,235   | 2,945  | 9.7%  |
| 2018 | 194,809                                  | 189,005   | 3,034  | 11.2%   |
| 2019 | 197,848                                  | 191,869   | 3,064  | 12.6%   |

1. The total number of customers is the forecast of commercial/industrial customers in Progress Energy's 2009 Ten Year Site Plan.
2. All commercial, industrial and governmental rate classes are eligible to participate.
3. Number of program participants represents the participants projected.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure’s per customer savings and annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 575                        | 0.14                             | 0.34                             | 1,300,500                  | 321                              | 773                              |
| 2012 | 586                        | 0.14                             | 0.35                             | 1,365,525                  | 337                              | 812                              |
| 2013 | 590                        | 0.15                             | 0.35                             | 1,430,550                  | 353                              | 850                              |
| 2014 | 583                        | 0.14                             | 0.35                             | 1,482,570                  | 366                              | 881                              |
| 2015 | 352                        | 0.08                             | 0.14                             | 958,230                    | 211                              | 386                              |
| 2016 | 329                        | 0.07                             | 0.13                             | 941,850                    | 207                              | 380                              |
| 2017 | 311                        | 0.07                             | 0.13                             | 917,280                    | 202                              | 370                              |
| 2018 | 297                        | 0.07                             | 0.12                             | 900,900                    | 198                              | 363                              |
| 2019 | 294                        | 0.06                             | 0.12                             | 900,900                    | 198                              | 363                              |

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 607                        | 0.15                             | 0.36                             | 1,371,637                  | 338                              | 815                              |
| 2012 | 618                        | 0.15                             | 0.37                             | 1,440,219                  | 355                              | 856                              |
| 2013 | 622                        | 0.15                             | 0.37                             | 1,508,801                  | 372                              | 897                              |
| 2014 | 614                        | 0.15                             | 0.37                             | 1,563,667                  | 386                              | 929                              |
| 2015 | 371                        | 0.08                             | 0.15                             | 1,010,645                  | 222                              | 407                              |
| 2016 | 347                        | 0.08                             | 0.14                             | 993,369                    | 218                              | 400                              |
| 2017 | 329                        | 0.07                             | 0.13                             | 967,455                    | 213                              | 390                              |
| 2018 | 313                        | 0.07                             | 0.13                             | 950,179                    | 209                              | 383                              |
| 2019 | 310                        | 0.07                             | 0.12                             | 950,179                    | 209                              | 383                              |

## Impact Evaluation Plan

The range of possible recommendations resulting from the audit, and the inclusion of both technological and behavioral recommendations suggests the need to carefully survey participants to determine what specific actions have been undertaken due to the completed audit. Initially, the

use of site-specific engineering estimates is likely to be the most cost-effective method of estimating program impacts, although the use of statistical analysis technique may also be considered, depending on the participation levels actually achieved.

**B. BETTER BUSINESS PROGRAM**

**Program Start Date:** 1995

Program modified 2000, 2005, 2006 and 2007

Modifications proposed in 2010

**Program Description**

The Better Business program is designed for existing Commercial, Industrial and Governmental customers who want to retrofit with high efficiency improvements. All business customers are eligible for this program. The Better Business program builds on customer awareness, utilizing the various audit types, contractor participation, and Progress Energy promotion to educate customers on cost effective measures relevant to their businesses.

The program seeks to meet the following overall goals:

- Provide the market place with a cost-effective comprehensive program portfolio of measures across all building types
- Improve customer energy savings and demand reduction through the installation of energy efficient equipment and thermal envelope upgrades
- Obtain energy and demand reductions that are significant, accurate and measurable



- Educate the commercial retrofit market about best practices, innovative technologies and opportunities to participate in other non-Progress Energy incentives for managing energy consumption

### **Policies and Procedures**

The general eligibility requirements are as follows:

- Must have been influenced by one of Progress Energy’s educational opportunities
- The facility must be a commercially metered customer in Progress Energy service territory.

Commercial multi-family is defined as commercially metered accounts of multi-family residential apartments or condominiums, or assisted living residential apartment units. Any multi-family residential dwellings that are metered (referred to as “Domestic/Commercial”) shall be eligible to participate in this program and will be provided the more appropriate residential energy efficiency kit in lieu of the commercial kit.

Progress Energy reserves the right to inspect the installation of measures and equipment prior to issuing any incentive payments.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

***HVAC Equipment & Heat Pump Water Heaters***

The HVAC equipment component of Better Business provides customers with information on high efficiency HVAC equipment and financial incentives for the purchase of high efficiency unitary heat pumps and air conditioners including heat pump water heaters, hybrid desiccant and geothermal units, thermal energy storage systems, package terminal heat pumps and package terminal air conditioners, water-cooled chillers, air-cooled chillers, EMS Chiller Optimization, and high efficiency straight cool air conditioners 14 to 19+ SEER. The Better Business HVAC measures also provide PEF customers with a one-time incentive to maintain/recommission and/or repair their current rooftop package DX units. The incentives will be based on a per unit basis. PTAC/PTHP coil cleaning is also a one-time incentive to stimulate the annual maintenance of customer's equipment. Hotel AC sensors for controlling HVAC systems during unoccupied periods in hotel rooms will be offered as a per room incentive. Variable Speed Drive controls and Variable Speed Drives for Chiller and Cooling Tower Pump incentives will also be offered under this program.

***Energy Recovery Ventilation / Demand Control Ventilation / Heat Pipes / Exhaust Hood Optimization***

The program promotes the installation of high efficiency energy recovery ventilation units in the conditioned air stream for customers using electric cooling and heating. These units are capable of removing over 70% of the sensible heat and over 60% of the latent heat when properly sized and installed. To qualify for Progress Energy's incentive, the energy recovery ventilation must

meet qualifications outlined in the Program Participation Standards. Demand Control Ventilation will provide incentives for the installation of Demand Control Ventilation using CO<sub>2</sub> sensors. Demand Control Ventilation saves energy by automatically adjusting building ventilation rates in real time based on occupancy. Heat Pipe technology for pre-conditioning fresh air will also be incented and must meet the Program Participation Standards. Exhaust hood controls for varying ventilation will be included as an incentive.

### ***Duct Leakage Test and Repair***

This portion of the program is designed to promote energy efficiency through improved duct system sealing. This program component applies to HVAC equipment and systems that are no larger than 65,000 Btu/h. A customer must have electric heating and a centrally-ducted cooling system, either air conditioning or heat pump, to be eligible for this program.

### ***Efficient Indoor lighting***

This measure will provide customers with an incentive to upgrade their lighting systems to an approved lighting technology. The following technologies will be included: Premium T-8's and T-5's, occupancy sensors, ceramic metal halides, LED display lighting, Induction/Cold cathode, CFL lamps with integral ballast, and CFL hardwire fixtures. The Program Participation Standards will outline the incentive adjustments due to code changes.

### ***Ceiling Insulation Upgrade***

This portion of the program encourages customers to add insulation to the conditioned ceiling area by paying for a portion of the installed cost. The facility must meet the Program Participation Standard requirements in order to qualify for this measure.

### ***Cool Roof / Green Roof / Roof Insulation***

The cool roof measure will provide customers with an incentive to install an approved “cool roof” providing the facility has electric cooling. Customers must meet the specifications for solar reflectance and reliability, having initial reflectance as outlined in the Program Participation Standards. The green roof measure will provide an incentive for customers to install an approved green roof on their facility. The roof insulation measure encourages customers to add insulation to the conditioned roof area.

### ***Efficient Compressed Air System***

This measure will provide an incentive to encourage business customers to utilize a proactive approach to increase the efficiency of compressed air systems. The customer must provide a pre- and post-analysis of the system in order to be eligible for incentives.

### ***Efficient Motors***

This measure promotes the installation of certain high efficiency polyphase motors through a simple incentive structure based on the motor size and a specified \$/hp. The specific incentive amount will be a function of the motor size and efficiency.

### ***Window Film / Solar Screen***

This measure provides an incentive to install window film or solar screen on windows having east, west, and south exposures. The qualifying facilities and requirements are outlined in the Program Participation Standards.

### ***Refrigeration***

This measure provides an incentive to install energy efficient devices to reduce energy consumption of refrigeration equipment. The eligible devices include vending machine controls, and high efficiency ice makers.

### ***Building Commissioning***

This measure provides an incentive to customers for conducting whole building commissioning. The requirement and incentives will be outlined in the Program Participation Standards.

Incentive Levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in the market conditions, such as baseline or code revisions, updated measures and valuation analysis or technological advances.

## Program Participation

Annual participation estimates for the Better Business program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 170,886   | 4,094  | 2.4%  |
| 2012 | 175,147                                  | 175,147   | 4,411  | 4.9%  |
| 2013 | 178,542                                  | 178,542   | 2,962  | 6.4%  |
| 2014 | 182,030                                  | 182,030   | 2,297  | 7.6%  |
| 2015 | 185,461                                  | 185,461   | 1,927  | 8.5%  |
| 2016 | 188,717                                  | 188,717   | 1,414  | 9.1%  |
| 2017 | 191,817                                  | 191,817   | 1,171  | 9.5%  |
| 2018 | 194,809                                  | 194,809   | 1,361  | 10.1%   |
| 2019 | 197,848                                  | 197,848   | 1,561  | 10.7%   |

1. The total number of customers is the forecast of Commercial/Industrial customers in Progress Energy's 2009 Ten Year Site Plan.
2. All Commercial, Industrial and Governmental rate classes are eligible to participate.
3. Number of program participants represents the measure participants projected.
4. Cumulative penetration is the ratio of cumulative measure participants to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure’s per customer savings and annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 6019                       | 0.89                             | 2.12                             | 24,640,060                 | 3,649                            | 8,672                            |
| 2012 | 6156                       | 0.89                             | 2.16                             | 27,152,324                 | 3,935                            | 9,523                            |
| 2013 | 6230                       | 0.88                             | 2.18                             | 18,452,581                 | 2,621                            | 6,452                            |
| 2014 | 6503                       | 0.89                             | 2.26                             | 14,937,795                 | 2,044                            | 5,202                            |
| 2015 | 6679                       | 0.90                             | 2.32                             | 12,870,384                 | 1,732                            | 4,471                            |
| 2016 | 6681                       | 0.90                             | 2.32                             | 9,446,403                  | 1,270                            | 3,281                            |
| 2017 | 6680                       | 0.90                             | 2.32                             | 7,822,499                  | 1,052                            | 2,715                            |
| 2018 | 6678                       | 0.90                             | 2.32                             | 9,089,310                  | 1,222                            | 3,155                            |
| 2019 | 6676                       | 0.90                             | 2.32                             | 10,421,059                 | 1,400                            | 3,617                            |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 6348                       | 0.94                             | 2.23                             | 25,987,872                 | 3,849                            | 9,146                            |
| 2012 | 6492                       | 0.94                             | 2.28                             | 28,637,556                 | 4,150                            | 10,044                           |
| 2013 | 6571                       | 0.93                             | 2.30                             | 19,461,938                 | 2,765                            | 6,805                            |
| 2014 | 6859                       | 0.94                             | 2.39                             | 15,754,892                 | 2,156                            | 5,487                            |
| 2015 | 7044                       | 0.95                             | 2.45                             | 13,574,394                 | 1,827                            | 4,716                            |
| 2016 | 7046                       | 0.95                             | 2.45                             | 9,963,122                  | 1,339                            | 3,460                            |
| 2017 | 7046                       | 0.95                             | 2.45                             | 8,250,390                  | 1,110                            | 2,863                            |
| 2018 | 7044                       | 0.95                             | 2.45                             | 9,586,496                  | 1,289                            | 3,328                            |
| 2019 | 7041                       | 0.95                             | 2.44                             | 10,991,091                 | 1,477                            | 3,815                            |

### **Impact Evaluation Plan**

The Better Business program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels. These analyses are supported by end-use metering data where feasible.

### **Cost Effectiveness**

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| <b>Rate Impact Measure</b>     | \$135,407                       | \$158,076                    | -\$22,669                           | 0.86             |
| <b>Participant</b>             | \$139,582                       | \$33,617                     | \$105,964                           | 4.15             |
| <b>Total Resource Cost</b>     | \$135,407                       | \$52,111                     | \$83,296                            | 2.6              |



PROGRAM: Better Business - RIM

| YEAR    | BENEFITS                                  |   |  |                             |                              | COSTS                                      |   |  |  |                                  |                              |                           |         | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-----------------------------|------------------------------|--|---|--|--|----------------------------------|------------------------------|---------------------------|---------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                       | (8)  | (9)                                    | (10)                             | (11)                         | (12)                      |         |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |         |                            |
| 2010    | 0   | 0                                       | 0  | 0                           | 0                            | 0  | 0   | 0  | 0                                      | 0                                | 0                            | 0                         | 0       |                            |
| 2011    | 2,790                                     | 147                                     | 0  | 0                           | 2,937                        | 0  | 0   | 0  | 4,510                                  | 9,893                            | 3,084                        | 17,487                    | -14,550 |                            |
| 2012    | 5,165                                     | 307                                     | 0  | 0                           | 5,472                        | 0  | 0   | 0  | 5,333                                  | 11,755                           | 6,309                        | 23,397                    | -17,925 |                            |
| 2013    | 8,824                                     | 413                                     | 2,728                                    | 0                           | 11,965                       | 0  | 0   | 0  | 3,893                                  | 8,585                            | 9,007                        | 21,485                    | -9,520  |                            |
| 2014    | 7,818                                     | 497                                     | 5,181                                    | 0                           | 13,496                       | 0  | 0   | 0  | 3,364                                  | 7,454                            | 11,363                       | 22,181                    | -8,685  |                            |
| 2015    | 9,813                                     | 569                                     | 6,038                                    | 0                           | 16,419                       | 0  | 0   | 0  | 3,081                                  | 6,855                            | 14,314                       | 24,250                    | -7,831  |                            |
| 2016    | 11,197                                    | 604                                     | 6,705                                    | 0                           | 18,506                       | 0  | 0   | 0  | 2,406                                  | 5,295                            | 15,099                       | 22,800                    | -4,294  |                            |
| 2017    | 14,373                                    | 633                                     | 5,046                                    | 0                           | 20,053                       | 0  | 0   | 0  | 2,112                                  | 4,591                            | 13,823                       | 20,526                    | -473    |                            |
| 2018    | 13,756                                    | 676                                     | 8,501                                    | 0                           | 22,933                       | 0  | 0   | 0  | 2,601                                  | 5,610                            | 14,157                       | 22,368                    | 565     |                            |
| 2019    | 15,027                                    | 731                                     | 9,392                                    | 0                           | 25,150                       | 0  | 0   | 0  | 3,156                                  | 6,767                            | 16,060                       | 25,983                    | -833    |                            |
| 2020    | 15,052                                    | 729                                     | 9,557                                    | 0                           | 25,337                       | 0  | 0   | 0  | 0                                      | 0                                | 16,460                       | 16,460                    | 8,877   |                            |
| 2021    | 14,814                                    | 708                                     | 9,481                                    | 0                           | 25,003                       | 0  | 0   | 0  | 0                                      | 0                                | 17,364                       | 17,364                    | 7,640   |                            |
| 2022    | 17,318                                    | 686                                     | 5,019                                    | 0                           | 23,023                       | 0  | 0   | 0  | 0                                      | 0                                | 16,996                       | 16,996                    | 6,027   |                            |
| 2023    | 18,065                                    | 669                                     | 8,180                                    | 0                           | 26,915                       | 0  | 0   | 0  | 0                                      | 0                                | 17,037                       | 17,037                    | 9,878   |                            |
| 2024    | 15,260                                    | 655                                     | 8,364                                    | 0                           | 24,279                       | 0  | 0   | 0  | 0                                      | 0                                | 17,080                       | 17,080                    | 7,199   |                            |
| 2025    | 15,225                                    | 644                                     | 8,359                                    | 0                           | 24,227                       | 0  | 0   | 0  | 0                                      | 0                                | 17,227                       | 17,227                    | 7,000   |                            |
| 2026    | 15,309                                    | 535                                     | 4,575                                    | 0                           | 20,420                       | 0  | 0   | 0  | 0                                      | 0                                | 14,673                       | 14,673                    | 5,747   |                            |
| 2027    | 10,662                                    | 416                                     | 6,420                                    | 0                           | 17,499                       | 0  | 0   | 0  | 0                                      | 0                                | 11,697                       | 11,697                    | 5,801   |                            |
| 2028    | 8,744                                     | 331                                     | 5,212                                    | 0                           | 14,287                       | 0  | 0   | 0  | 0                                      | 0                                | 9,530                        | 9,530                     | 4,757   |                            |
| 2029    | 7,932                                     | 257                                     | 2,453                                    | 0                           | 10,642                       | 0  | 0   | 0  | 0                                      | 0                                | 7,633                        | 7,633                     | 3,009   |                            |
| 2030    | 6,515                                     | 199                                     | 3,169                                    | 0                           | 9,883                        | 0  | 0   | 0  | 0                                      | 0                                | 6,073                        | 6,073                     | 3,810   |                            |
| 2031    | 5,141                                     | 151                                     | 2,496                                    | 0                           | 7,788                        | 0  | 0   | 0  | 0                                      | 0                                | 4,743                        | 4,743                     | 3,044   |                            |
| 2032    | 3,885                                     | 110                                     | 1,885                                    | 0                           | 5,879                        | 0  | 0   | 0  | 0                                      | 0                                | 3,555                        | 3,555                     | 2,324   |                            |
| 2033    | 2,411                                     | 65                                      | 1,148                                    | 0                           | 3,623                        | 0  | 0   | 0  | 0                                      | 0                                | 2,207                        | 2,207                     | 1,417   |                            |
| 2034    | 644                                       | 15                                      | 253                                      | 0                           | 912                          | 0  | 0   | 0  | 0                                      | 0                                | 613                          | 613                       | 298     |                            |
| 2035    | 561                                       | 12                                      | 210                                      | 0                           | 783                          | 0  | 0   | 0  | 0                                      | 0                                | 535                          | 535                       | 248     |                            |
| 2036    | 505                                       | 10                                      | 178                                      | 0                           | 693                          | 0  | 0   | 0  | 0                                      | 0                                | 476                          | 476                       | 217     |                            |
| 2037    | 451                                       | 8                                       | 152                                      | 0                           | 611                          | 0  | 0   | 0  | 0                                      | 0                                | 430                          | 430                       | 182     |                            |
| 2038    | 386                                       | 6                                       | 118                                      | 0                           | 510                          | 0  | 0   | 0  | 0                                      | 0                                | 368                          | 368                       | 142     |                            |
| NOMINAL | 247,637                                   | 10,784                                  | 120,823                                  | 0                           | 379,245                      | 0  | 0   | 0  | 30,456                                 | 66,804                           | 267,912                      | 365,172                   | 14,072  |                            |
| NPV     | 88,732                                    | 4,143                                   | 42,532                                   | 0                           | 135,407                      | 0  | 0   | 0  | 18,494                                 | 40,621                           | 98,961                       | 158,076                   | -22,669 |                            |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 0.857

| PROGRAM: Better Business - Participant |                                       |                            |                                      |                        |                            |                                     |                     |                                      |
|--|---------------------------------------|----------------------------|--------------------------------------|------------------------|----------------------------|-------------------------------------|---------------------|--------------------------------------|
| YEAR                                   | BENEFITS                              |                            |                                      |                        | COSTS                      |                                     |                     | NET BENEFITS TO PARTICIPANTS \$(000) |
|  | (1)                                   | (2)                        | (3)                                  | (4)                    | (5)                        | (6)                                 | (7)                 |                                      |
|  | SAVINGS IN PARTICIPANT'S BILL \$(000) | INCENTIVE PAYMENTS \$(000) | OTHER PARTICIPANT'S BENEFITS \$(000) | TOTAL BENEFITS \$(000) | PARTICIPANT'S COST \$(000) | PARTICIPANT'S BILL INCREASE \$(000) | TOTAL COSTS \$(000) |                                      |
| 2010                                   | 0                                     | 0                          | 0                                    | 0                      | 0                          | 0                                   | 0                   | 0                                    |
| 2011                                   | 3,084                                 | 9,893                      | 0                                    | 12,976                 | 8,185                      | 0                                   | 8,185               | 4,791                                |
| 2012                                   | 6,309                                 | 11,755                     | 0                                    | 18,064                 | 9,728                      | 0                                   | 9,728               | 8,336                                |
| 2013                                   | 9,007                                 | 8,585                      | 0                                    | 17,592                 | 7,106                      | 0                                   | 7,106               | 10,485                               |
| 2014                                   | 11,363                                | 7,454                      | 0                                    | 18,816                 | 6,170                      | 0                                   | 6,170               | 12,647                               |
| 2015                                   | 14,314                                | 6,855                      | 0                                    | 21,169                 | 5,678                      | 0                                   | 5,678               | 15,491                               |
| 2016                                   | 15,099                                | 5,295                      | 0                                    | 20,394                 | 4,384                      | 0                                   | 4,384               | 16,010                               |
| 2017                                   | 13,823                                | 4,591                      | 0                                    | 18,414                 | 3,797                      | 0                                   | 3,797               | 14,616                               |
| 2018                                   | 14,157                                | 5,610                      | 0                                    | 19,767                 | 4,640                      | 0                                   | 4,640               | 15,127                               |
| 2019                                   | 16,060                                | 6,767                      | 0                                    | 22,827                 | 5,595                      | 0                                   | 5,595               | 17,233                               |
| 2020                                   | 16,460                                | 0                          | 0                                    | 16,460                 | 0                          | 0                                   | 0                   | 16,460                               |
| 2021                                   | 17,364                                | 0                          | 0                                    | 17,364                 | 0                          | 0                                   | 0                   | 17,364                               |
| 2022                                   | 16,996                                | 0                          | 0                                    | 16,996                 | 0                          | 0                                   | 0                   | 16,996                               |
| 2023                                   | 17,037                                | 0                          | 0                                    | 17,037                 | 0                          | 0                                   | 0                   | 17,037                               |
| 2024                                   | 17,080                                | 0                          | 0                                    | 17,080                 | 0                          | 0                                   | 0                   | 17,080                               |
| 2025                                   | 17,227                                | 0                          | 0                                    | 17,227                 | 0                          | 0                                   | 0                   | 17,227                               |
| 2026                                   | 14,673                                | 0                          | 0                                    | 14,673                 | 0                          | 0                                   | 0                   | 14,673                               |
| 2027                                   | 11,697                                | 0                          | 0                                    | 11,697                 | 0                          | 0                                   | 0                   | 11,697                               |
| 2028                                   | 9,530                                 | 0                          | 0                                    | 9,530                  | 0                          | 0                                   | 0                   | 9,530                                |
| 2029                                   | 7,633                                 | 0                          | 0                                    | 7,633                  | 0                          | 0                                   | 0                   | 7,633                                |
| 2030                                   | 6,073                                 | 0                          | 0                                    | 6,073                  | 0                          | 0                                   | 0                   | 6,073                                |
| 2031                                   | 4,743                                 | 0                          | 0                                    | 4,743                  | 0                          | 0                                   | 0                   | 4,743                                |
| 2032                                   | 3,555                                 | 0                          | 0                                    | 3,555                  | 0                          | 0                                   | 0                   | 3,555                                |
| 2033                                   | 2,207                                 | 0                          | 0                                    | 2,207                  | 0                          | 0                                   | 0                   | 2,207                                |
| 2034                                   | 613                                   | 0                          | 0                                    | 613                    | 0                          | 0                                   | 0                   | 613                                  |
| 2035                                   | 535                                   | 0                          | 0                                    | 535                    | 0                          | 0                                   | 0                   | 535                                  |
| 2036                                   | 476                                   | 0                          | 0                                    | 476                    | 0                          | 0                                   | 0                   | 476                                  |
| 2037                                   | 430                                   | 0                          | 0                                    | 430                    | 0                          | 0                                   | 0                   | 430                                  |
| 2038                                   | 368                                   | 0                          | 0                                    | 368                    | 0                          | 0                                   | 0                   | 368                                  |
| NOMINAL                                | 267,912                               | 66,804                     | 0                                    | 334,716                | 55,283                     | 0                                   | 55,283              | 279,433                              |
| NPV                                    | 98,961                                | 40,621                     | 0                                    | 139,582                | 33,617                     | 0                                   | 33,617              | 105,964                              |
| Utility Discount Rate                  |                                       |                            |                                      |                        | 8.48                       |                                     |                     |                                      |
| Benefit Cost Ratio:                    |                                       |                            |                                      |                        | 4.152                      |                                     |                     |                                      |

PROGRAM: Better Business - TRC

| YEAR    | BENEFITS                       |                             |                               |                                  |                   | COSTS                 |                                 |                                |                                 |                             |                | NET<br>BENEFITS |
|---------|--------------------------------|-----------------------------|-------------------------------|----------------------------------|-------------------|-----------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|----------------|-----------------|
|         | (1)                            | (2)                         | (3)                           | (4)                              | (5)               | (6)                   | (7)                             | (8)                            | (9)                             | (10)                        | (11)           |                 |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | OTHER<br>PARTICIPANT<br>BENEFITS | TOTAL<br>BENEFITS | PARTICIPANT'S<br>COST | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | TOTAL<br>COSTS |                 |
|         | \$(000)                        | \$(000)                     | \$(000)                       | \$(000)                          | \$(000)           | \$(000)               | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)        | \$(000)         |
| 2010    | 0                              | 0                           | 0                             | 0                                | 0                 | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 0               |
| 2011    | 2,790                          | 147                         | 0                             | 0                                | 2,937             | 8,185                 | 0                               | 0                              | 0                               | 4,510                       | 12,696         | -9,758          |
| 2012    | 5,165                          | 307                         | 0                             | 0                                | 5,472             | 9,728                 | 0                               | 0                              | 0                               | 5,333                       | 15,061         | -9,589          |
| 2013    | 8,824                          | 413                         | 2,728                         | 0                                | 11,965            | 7,106                 | 0                               | 0                              | 0                               | 3,893                       | 11,000         | 965             |
| 2014    | 7,818                          | 497                         | 5,181                         | 0                                | 13,496            | 6,170                 | 0                               | 0                              | 0                               | 3,364                       | 9,534          | 3,962           |
| 2015    | 9,813                          | 569                         | 6,038                         | 0                                | 16,419            | 5,678                 | 0                               | 0                              | 0                               | 3,081                       | 8,759          | 7,661           |
| 2016    | 11,197                         | 604                         | 6,705                         | 0                                | 18,506            | 4,384                 | 0                               | 0                              | 0                               | 2,406                       | 6,790          | 11,716          |
| 2017    | 14,373                         | 633                         | 5,046                         | 0                                | 20,053            | 3,797                 | 0                               | 0                              | 0                               | 2,112                       | 5,909          | 14,144          |
| 2018    | 13,756                         | 676                         | 8,501                         | 0                                | 22,933            | 4,640                 | 0                               | 0                              | 0                               | 2,601                       | 7,241          | 15,692          |
| 2019    | 15,027                         | 731                         | 9,392                         | 0                                | 25,150            | 5,595                 | 0                               | 0                              | 0                               | 3,156                       | 8,750          | 16,400          |
| 2020    | 15,052                         | 729                         | 9,557                         | 0                                | 25,337            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 25,337          |
| 2021    | 14,814                         | 708                         | 9,481                         | 0                                | 25,003            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 25,003          |
| 2022    | 17,318                         | 686                         | 5,019                         | 0                                | 23,023            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 23,023          |
| 2023    | 18,065                         | 669                         | 8,180                         | 0                                | 26,915            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 26,915          |
| 2024    | 15,260                         | 655                         | 8,364                         | 0                                | 24,279            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 24,279          |
| 2025    | 15,225                         | 644                         | 8,359                         | 0                                | 24,227            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 24,227          |
| 2026    | 15,309                         | 535                         | 4,575                         | 0                                | 20,420            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 20,420          |
| 2027    | 10,662                         | 416                         | 6,420                         | 0                                | 17,499            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 17,499          |
| 2028    | 8,744                          | 331                         | 5,212                         | 0                                | 14,287            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 14,287          |
| 2029    | 7,932                          | 257                         | 2,453                         | 0                                | 10,642            | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 10,642          |
| 2030    | 6,515                          | 199                         | 3,169                         | 0                                | 9,883             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 9,883           |
| 2031    | 5,141                          | 151                         | 2,496                         | 0                                | 7,788             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 7,788           |
| 2032    | 3,885                          | 110                         | 1,885                         | 0                                | 5,879             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 5,879           |
| 2033    | 2,411                          | 65                          | 1,148                         | 0                                | 3,623             | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 3,623           |
| 2034    | 644                            | 15                          | 253                           | 0                                | 912               | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 912             |
| 2035    | 561                            | 12                          | 210                           | 0                                | 783               | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 783             |
| 2036    | 505                            | 10                          | 178                           | 0                                | 693               | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 693             |
| 2037    | 451                            | 8                           | 152                           | 0                                | 611               | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 611             |
| 2038    | 386                            | 6                           | 118                           | 0                                | 510               | 0                     | 0                               | 0                              | 0                               | 0                           | 0              | 510             |
| NOMINAL | 247,637                        | 10,784                      | 120,823                       | 0                                | 379,245           | 55,283                | 0                               | 0                              | 0                               | 30,456                      | 85,740         | 293,505         |
| NPV     | 88,732                         | 4,143                       | 42,532                        | 0                                | 135,407           | 33,617                | 0                               | 0                              | 0                               | 18,494                      | 52,111         | 83,296          |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 2.598

**C. COMMERCIAL/INDUSTRIAL NEW CONSTRUCTION PROGRAM**

**Program Start Date:** 1995

Program modified in 2000, 2005, 2006 and 2007

Modifications proposed in 2010

**Program Description**

The Commercial/Industrial New Construction program is designed to improve the energy efficient construction of commercial buildings.

The program seeks to meet the following overall goals:

- Provide a cost-effective, comprehensive program portfolio of measures across all building types
- Educate the commercial new construction industry about energy efficient commercial building design
- Evaluate and recommend the most cost-effective energy efficient building envelope and equipment measures for the new construction market
- Obtain energy and demand impacts that are significant, accurate, and measurable
- Provide customers with current information of innovative technologies for managing energy consumption to maximize participation.

## **Policies and Procedures**

The general eligibility requirements are as follows:

- Must have been influenced by one of Progress Energy’s educational opportunities
- Equipment and measures must be installed in facilities that are commercially metered in Progress Energy service territory
- Progress Energy reserves the right to inspect the installation of measures and equipment prior to issuing any incentive payments
- The owner/builder or manufacturer must meet the requirements listed in the Program Participation Standards and comply with all state, local and federal codes

Incentive Levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions such as baseline or code revisions, updated measures, and valuation analysis or technological advances.

Progress Energy is proposing to include the following measures with this program:

***HVAC Equipment***

The HVAC equipment component of Commercial/Industrial New Construction provides customers with information on high efficiency HVAC equipment and financial incentives for the purchase of high efficiency unitary heat pumps and air conditioners, hybrid desiccant and geothermal units, high efficient straight cool air conditioners, thermal energy storage, package terminal heat pumps, and water-cooled and air-cooled chillers. The incentive is calculated for each unit based on the KW difference between the high efficiency unit and the program-specified baseline efficiency. Variable Speed Drive controls and Variable Speed Drives for Chiller and Cooling Tower Pumps incentives will also be offered under this program.

***Energy Recovery Ventilation / Demand Control Ventilation / Heat Pipes***

The program promotes the installation of high efficiency energy recovery ventilation units in the conditioned air stream for customers using electric cooling and heating. These units are capable of removing over 70% of the sensible heat and over 60% of the latent heat when properly sized and installed. To qualify for Progress Energy’s incentive, the energy recovery ventilation must meet Program Participation Standards qualifications. Demand Control Ventilation will provide incentives for the installation of Demand Control Ventilation using *C02* sensors. Demand Control Ventilation saves energy by automatically adjusting building ventilation rates in real time based on occupancy. An incentive will be offered for Heat Pipe technology for pre-conditioning fresh air and must meet the Program Participation Standards. Exhaust hood controls for varying ventilation will be included as an incentive.

### ***Cool Roof / Green Roof/ Roof Insulation***

The cool roof measure will provide customers with an incentive to install an approved “cool roof” providing the facility has electric cooling. Customers must meet the specifications for solar reflectance and reliability, having initial reflectance as outlined in the Program Participation Standards. The green roof measure will provide an incentive for customers to install an approved green roof on their facility. The roof insulation measure encourages customers to add insulation to the conditioned roof area.

### ***Efficient Indoor lighting***

This measure will provide customers with an incentive to install lighting systems which are above code. The following technologies will be included: Premium T-8’s and T-5’s, occupancy sensors, ceramic metal halides, LED display lighting and Induction/Cold cathode. The Program Participation Standards will outline the incentive adjustments due to code changes.

### ***Window Film / Solar Screen***

This measure promotes the purchase of windows that meet Progress Energy requirements for window film or solar screen on windows having east, west, and south exposures. The qualifying facilities and requirements are outlined in the Program Participation Standards.

### ***Refrigeration***

This measure provides an incentive to install energy efficient devices to reduce energy consumption of refrigeration equipment. These devices include vending machine controls and high efficiency ice makers.

### ***Building Commissioning***

This measure provides an incentive to customers for conducting whole building commissioning. The requirement and incentives will be outlined in the Participation Standards.

### ***Efficient Motors***

This measure promotes the installation of certain high efficiency polyphase motors through a simple incentive structure based on the motor size and a specified \$/hp. The specific incentive amount will be a function of the motor size and efficiency.



## Program Participation

Annual participation estimates for the Commercial/Industrial New Construction program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 3,653   | 145  | 4.0%  |
| 2012 | 175,147                                  | 4,261   | 147  | 3.7%  |
| 2013 | 178,542                                  | 3,395   | 148  | 3.9%  |
| 2014 | 182,030                                  | 3,488   | 150  | 4.0%  |
| 2015 | 185,461                                  | 3,431   | 151  | 4.1%  |
| 2016 | 188,717                                  | 3,256   | 153  | 4.2%  |
| 2017 | 191,817                                  | 3,100   | 154  | 4.3%  |
| 2018 | 194,809                                  | 2,992   | 156  | 4.4%  |
| 2019 | 197,848                                  | 3,039   | 157  | 4.4%  |

1. The total number of customers is the forecast of commercial/industrial customers in Progress Energy's 2009 Ten Year Site Plan.
2. All commercial, industrial and governmental rate class customers who build new metered facilities in a given year are eligible to participate.
3. Number of program participants represents the measure participants projected.
4. Cumulative penetration is the ratio of cumulative measure participants to the accumulated eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's per customer savings and annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 22,968                     | 3.68                             | 9.04                             | 3,334,521                  | 535                              | 1,312                            |
| 2012 | 23,257                     | 3.73                             | 9.15                             | 3,410,216                  | 547                              | 1,342                            |
| 2013 | 23,032                     | 5.22                             | 9.50                             | 3,411,006                  | 772                              | 1,408                            |
| 2014 | 23,052                     | 5.21                             | 9.51                             | 3,448,168                  | 780                              | 1,423                            |
| 2015 | 21,092                     | 5.00                             | 8.95                             | 3,186,500                  | 755                              | 1,352                            |
| 2016 | 20,207                     | 4.86                             | 8.64                             | 3,083,342                  | 741                              | 1,318                            |
| 2017 | 19,245                     | 4.69                             | 8.29                             | 2,965,934                  | 722                              | 1,278                            |
| 2018 | 18,694                     | 4.58                             | 8.09                             | 2,909,900                  | 712                              | 1,259                            |
| 2019 | 17,943                     | 4.38                             | 7.76                             | 2,820,817                  | 689                              | 1,219                            |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 24,224                     | 3.89                             | 9.53                             | 3,516,920                  | 564                              | 1,384                            |
| 2012 | 24,529                     | 3.93                             | 9.65                             | 3,596,755                  | 577                              | 1,415                            |
| 2013 | 24,291                     | 5.50                             | 10.02                            | 3,597,588                  | 815                              | 1,485                            |
| 2014 | 24,313                     | 5.50                             | 10.03                            | 3,636,782                  | 822                              | 1,501                            |
| 2015 | 22,245                     | 5.27                             | 9.44                             | 3,360,802                  | 797                              | 1,426                            |
| 2016 | 21,312                     | 5.12                             | 9.11                             | 3,252,001                  | 782                              | 1,390                            |
| 2017 | 20,298                     | 4.94                             | 8.74                             | 3,128,170                  | 762                              | 1,348                            |
| 2018 | 19,717                     | 4.83                             | 8.53                             | 3,069,072                  | 751                              | 1,327                            |
| 2019 | 18,924                     | 4.62                             | 8.18                             | 2,975,115                  | 727                              | 1,286                            |

## Impact Evaluation Plan

The Commercial/Industrial New Construction program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels. These analyses are supported by end-use metering data, where feasible.

## Cost Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs<br>\$(000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$28,376                | \$36,607             | -\$8,232                    | 0.78      |
| Participant             | \$32,117                | \$13,738             | \$18,379                    | 2.34      |
| Total Resource Cost     | \$28,376                | \$18,228             | \$10,148                    | 1.56      |

**PROGRAM: Commercial/Industrial New Construction - RIM**

| YEAR    | BENEFITS                                  |   |  |                             |                              | COSTS                                      |   |  |  |                                  |                              |                           |                            |
|---------|---|---|--|-----------------------------|------------------------------|--|---|--|--|----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                       | (8)  | (9)                                    | (10)                             | (11)                         | (12)                      | (13)                       |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 0   | 0                                       | 0  | 0                           | 0                            | 0  | 0   | 0  | 0                                      | 0                                | 0                            | 0                         | 0                          |
| 2011    | 384                                       | 21                                      | 0  | 0                           | 405                          | 0  | 0   | 0  | 685                                    | 1,205                            | 417                          | 2,307                     | -1,903                     |
| 2012    | 684                                       | 42                                      | 0  | 0                           | 726                          | 0  | 0   | 0  | 744                                    | 1,619                            | 822                          | 3,185                     | -2,459                     |
| 2013    | 1,305                                     | 64                                      | 411                                      | 0                           | 1,781                        | 0  | 0   | 0  | 816                                    | 2,094                            | 1,307                        | 4,217                     | -2,436                     |
| 2014    | 1,278                                     | 86                                      | 869                                      | 0                           | 2,234                        | 0  | 0   | 0  | 873                                    | 2,634                            | 1,826                        | 5,333                     | -3,099                     |
| 2015    | 1,730                                     | 107                                     | 1,095                                    | 0                           | 2,931                        | 0  | 0   | 0  | 901                                    | 2,967                            | 2,469                        | 6,337                     | -3,406                     |
| 2016    | 2,171                                     | 127                                     | 1,355                                    | 0                           | 3,654                        | 0  | 0   | 0  | 935                                    | 3,042                            | 2,872                        | 6,849                     | -3,196                     |
| 2017    | 3,054                                     | 147                                     | 1,117                                    | 0                           | 4,319                        | 0  | 0   | 0  | 969                                    | 3,113                            | 2,858                        | 6,940                     | -2,622                     |
| 2018    | 3,060                                     | 165                                     | 1,982                                    | 0                           | 5,207                        | 0  | 0   | 0  | 1,015                                  | 3,230                            | 3,063                        | 7,307                     | -2,100                     |
| 2019    | 3,407                                     | 183                                     | 2,241                                    | 0                           | 5,830                        | 0  | 0   | 0  | 1,041                                  | 3,292                            | 3,544                        | 7,876                     | -2,046                     |
| 2020    | 3,412                                     | 183                                     | 2,278                                    | 0                           | 5,873                        | 0  | 0   | 0  | 0                                      | 0                                | 3,622                        | 3,622                     | 2,251                      |
| 2021    | 3,250                                     | 172                                     | 2,189                                    | 0                           | 5,611                        | 0  | 0   | 0  | 0                                      | 0                                | 3,714                        | 3,714                     | 1,898                      |
| 2022    | 3,716                                     | 162                                     | 1,125                                    | 0                           | 5,003                        | 0  | 0   | 0  | 0                                      | 0                                | 3,548                        | 3,548                     | 1,455                      |
| 2023    | 3,728                                     | 152                                     | 1,755                                    | 0                           | 5,635                        | 0  | 0   | 0  | 0                                      | 0                                | 3,421                        | 3,421                     | 2,214                      |
| 2024    | 2,978                                     | 141                                     | 1,703                                    | 0                           | 4,821                        | 0  | 0   | 0  | 0                                      | 0                                | 3,276                        | 3,276                     | 1,545                      |
| 2025    | 2,812                                     | 130                                     | 1,600                                    | 0                           | 4,542                        | 0  | 0   | 0  | 0                                      | 0                                | 3,132                        | 3,132                     | 1,410                      |
| 2026    | 3,009                                     | 115                                     | 927                                      | 0                           | 4,050                        | 0  | 0   | 0  | 0                                      | 0                                | 2,823                        | 2,823                     | 1,227                      |
| 2027    | 2,310                                     | 99                                      | 1,445                                    | 0                           | 3,854                        | 0  | 0   | 0  | 0                                      | 0                                | 2,501                        | 2,501                     | 1,353                      |
| 2028    | 2,010                                     | 84                                      | 1,251                                    | 0                           | 3,345                        | 0  | 0   | 0  | 0                                      | 0                                | 2,168                        | 2,168                     | 1,177                      |
| 2029    | 1,934                                     | 69                                      | 624                                      | 0                           | 2,627                        | 0  | 0   | 0  | 0                                      | 0                                | 1,832                        | 1,832                     | 795                        |
| 2030    | 1,874                                     | 63                                      | 964                                      | 0                           | 2,901                        | 0  | 0   | 0  | 0                                      | 0                                | 1,704                        | 1,704                     | 1,197                      |
| 2031    | 1,626                                     | 54                                      | 855                                      | 0                           | 2,534                        | 0  | 0   | 0  | 0                                      | 0                                | 1,456                        | 1,456                     | 1,078                      |
| 2032    | 1,393                                     | 46                                      | 754                                      | 0                           | 2,193                        | 0  | 0   | 0  | 0                                      | 0                                | 1,227                        | 1,227                     | 966                        |
| 2033    | 1,136                                     | 37                                      | 630                                      | 0                           | 1,802                        | 0  | 0   | 0  | 0                                      | 0                                | 989                          | 989                       | 812                        |
| 2034    | 857                                       | 28                                      | 496                                      | 0                           | 1,380                        | 0  | 0   | 0  | 0                                      | 0                                | 735                          | 735                       | 644                        |
| 2035    | 705                                       | 22                                      | 412                                      | 0                           | 1,139                        | 0  | 0   | 0  | 0                                      | 0                                | 601                          | 601                       | 538                        |
| 2036    | 551                                       | 16                                      | 321                                      | 0                           | 888                          | 0  | 0   | 0  | 0                                      | 0                                | 461                          | 461                       | 427                        |
| 2037    | 381                                       | 11                                      | 224                                      | 0                           | 616                          | 0  | 0   | 0  | 0                                      | 0                                | 317                          | 317                       | 299                        |
| 2038    | 201                                       | 6                                       | 121                                      | 0                           | 328                          | 0  | 0   | 0  | 0                                      | 0                                | 165                          | 165                       | 162                        |
| NOMINAL | 54,950                                    | 2,531                                   | 28,745                                   | 0                           | 86,227                       | 0  | 0   | 0  | 7,978                                  | 23,197                           | 56,868                       | 88,044                    | -1,817                     |
| NPV     | 18,120                                    | 900                                     | 9,355                                    | 0                           | 28,376                       | 0  | 0   | 0  | 4,490                                  | 12,661                           | 19,456                       | 36,607                    | -8,232                     |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 0.775

PROGRAM: Commercial/Industrial New Construction - Participant

| YEAR    | BENEFITS                            |                       |                                    |                   | COSTS                 |                                   |                | NET BENEFITS<br>TO<br>PARTICIPANTS<br>\$(000) |
|---------|-------------------------------------|-----------------------|------------------------------------|-------------------|-----------------------|-----------------------------------|----------------|---|
|         | (1)                                 | (2)                   | (3)                                | (4)               | (5)                   | (6)                               | (7)            |   |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL | INCENTIVE<br>PAYMENTS | OTHER<br>PARTICIPANT'S<br>BENEFITS | TOTAL<br>BENEFITS | PARTICIPANT'S<br>COST | PARTICIPANT'S<br>BILL<br>INCREASE | TOTAL<br>COSTS |   |
|         | \$(000)                             | \$(000)               | \$(000)                            | \$(000)           | \$(000)               | \$(000)                           | \$(000)        |   |
| 2010    | 0                                   | 0                     | 0                                  | 0                 | 0                     | 0                                 | 0              | 0   |
| 2011    | 417                                 | 1,205                 | 0                                  | 1,622             | 2,186                 | 0                                 | 2,186          | -564  |
| 2012    | 822                                 | 1,619                 | 0                                  | 2,441             | 2,297                 | 0                                 | 2,297          | 144   |
| 2013    | 1,307                               | 2,094                 | 0                                  | 3,401             | 2,568                 | 0                                 | 2,568          | 833   |
| 2014    | 1,826                               | 2,634                 | 0                                  | 4,460             | 2,704                 | 0                                 | 2,704          | 1,756   |
| 2015    | 2,469                               | 2,967                 | 0                                  | 5,436             | 2,753                 | 0                                 | 2,753          | 2,683   |
| 2016    | 2,872                               | 3,042                 | 0                                  | 5,914             | 2,823                 | 0                                 | 2,823          | 3,091   |
| 2017    | 2,858                               | 3,113                 | 0                                  | 5,972             | 2,891                 | 0                                 | 2,891          | 3,080   |
| 2018    | 3,063                               | 3,230                 | 0                                  | 6,293             | 3,001                 | 0                                 | 3,001          | 3,292   |
| 2019    | 3,544                               | 3,292                 | 0                                  | 6,836             | 3,059                 | 0                                 | 3,059          | 3,777   |
| 2020    | 3,622                               | 0                     | 0                                  | 3,622             | 0                     | 0                                 | 0              | 3,622   |
| 2021    | 3,714                               | 0                     | 0                                  | 3,714             | 0                     | 0                                 | 0              | 3,714   |
| 2022    | 3,548                               | 0                     | 0                                  | 3,548             | 0                     | 0                                 | 0              | 3,548   |
| 2023    | 3,421                               | 0                     | 0                                  | 3,421             | 0                     | 0                                 | 0              | 3,421   |
| 2024    | 3,276                               | 0                     | 0                                  | 3,276             | 0                     | 0                                 | 0              | 3,276   |
| 2025    | 3,132                               | 0                     | 0                                  | 3,132             | 0                     | 0                                 | 0              | 3,132   |
| 2026    | 2,823                               | 0                     | 0                                  | 2,823             | 0                     | 0                                 | 0              | 2,823   |
| 2027    | 2,501                               | 0                     | 0                                  | 2,501             | 0                     | 0                                 | 0              | 2,501   |
| 2028    | 2,168                               | 0                     | 0                                  | 2,168             | 0                     | 0                                 | 0              | 2,168   |
| 2029    | 1,832                               | 0                     | 0                                  | 1,832             | 0                     | 0                                 | 0              | 1,832   |
| 2030    | 1,704                               | 0                     | 0                                  | 1,704             | 0                     | 0                                 | 0              | 1,704   |
| 2031    | 1,456                               | 0                     | 0                                  | 1,456             | 0                     | 0                                 | 0              | 1,456   |
| 2032    | 1,227                               | 0                     | 0                                  | 1,227             | 0                     | 0                                 | 0              | 1,227   |
| 2033    | 989                                 | 0                     | 0                                  | 989               | 0                     | 0                                 | 0              | 989   |
| 2034    | 735                                 | 0                     | 0                                  | 735               | 0                     | 0                                 | 0              | 735   |
| 2035    | 601                                 | 0                     | 0                                  | 601               | 0                     | 0                                 | 0              | 601   |
| 2036    | 461                                 | 0                     | 0                                  | 461               | 0                     | 0                                 | 0              | 461   |
| 2037    | 317                                 | 0                     | 0                                  | 317               | 0                     | 0                                 | 0              | 317   |
| 2038    | 165                                 | 0                     | 0                                  | 165               | 0                     | 0                                 | 0              | 165   |
| NOMINAL | 56,868                              | 23,197                |                                    | 80,066            | 24,282                |                                   | 24,282         | 55,784  |
| NPV     | 19,456                              | 12,661                |                                    | 32,117            | 13,738                |                                   | 13,738         | 18,379  |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 2.338

PROGRAM: Commercial/Industrial New Construction - TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           |                            |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      | (12)                       |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 384                                       | 21                                      | 0  | 0   | 405                          | 2,186                            | 0  | 0   | 0  | 685                                    | 2,871                     | -2,466                     |
| 2012    | 684                                       | 42                                      | 0  | 0   | 726                          | 2,297                            | 0  | 0   | 0  | 744                                    | 3,041                     | -2,315                     |
| 2013    | 1,305                                     | 64                                      | 411                                      | 0   | 1,781                        | 2,568                            | 0  | 0   | 0  | 816                                    | 3,383                     | -1,602                     |
| 2014    | 1,278                                     | 86                                      | 869                                      | 0   | 2,234                        | 2,704                            | 0  | 0   | 0  | 873                                    | 3,577                     | -1,343                     |
| 2015    | 1,730                                     | 107                                     | 1,095                                    | 0   | 2,931                        | 2,753                            | 0  | 0   | 0  | 901                                    | 3,654                     | -723                       |
| 2016    | 2,171                                     | 127                                     | 1,355                                    | 0   | 3,654                        | 2,823                            | 0  | 0   | 0  | 935                                    | 3,758                     | -105                       |
| 2017    | 3,054                                     | 147                                     | 1,117                                    | 0   | 4,319                        | 2,891                            | 0  | 0   | 0  | 969                                    | 3,860                     | 458                        |
| 2018    | 3,060                                     | 165                                     | 1,982                                    | 0   | 5,207                        | 3,001                            | 0  | 0   | 0  | 1,015                                  | 4,015                     | 1,192                      |
| 2019    | 3,407                                     | 183                                     | 2,241                                    | 0   | 5,830                        | 3,059                            | 0  | 0   | 0  | 1,041                                  | 4,099                     | 1,731                      |
| 2020    | 3,412                                     | 183                                     | 2,278                                    | 0   | 5,873                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 5,873                      |
| 2021    | 3,250                                     | 172                                     | 2,189                                    | 0   | 5,611                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 5,611                      |
| 2022    | 3,716                                     | 162                                     | 1,125                                    | 0   | 5,003                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 5,003                      |
| 2023    | 3,728                                     | 152                                     | 1,755                                    | 0   | 5,635                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 5,635                      |
| 2024    | 2,978                                     | 141                                     | 1,703                                    | 0   | 4,821                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,821                      |
| 2025    | 2,812                                     | 130                                     | 1,600                                    | 0   | 4,542                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,542                      |
| 2026    | 3,009                                     | 115                                     | 927                                      | 0   | 4,050                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 4,050                      |
| 2027    | 2,310                                     | 99                                      | 1,445                                    | 0   | 3,854                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 3,854                      |
| 2028    | 2,010                                     | 84                                      | 1,251                                    | 0   | 3,345                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 3,345                      |
| 2029    | 1,934                                     | 69                                      | 624                                      | 0   | 2,627                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 2,627                      |
| 2030    | 1,874                                     | 63                                      | 964                                      | 0   | 2,901                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 2,901                      |
| 2031    | 1,626                                     | 54                                      | 855                                      | 0   | 2,534                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 2,534                      |
| 2032    | 1,393                                     | 46                                      | 754                                      | 0   | 2,193                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 2,193                      |
| 2033    | 1,136                                     | 37                                      | 630                                      | 0   | 1,802                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,802                      |
| 2034    | 857                                       | 28                                      | 496                                      | 0   | 1,380                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,380                      |
| 2035    | 705                                       | 22                                      | 412                                      | 0   | 1,139                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,139                      |
| 2036    | 551                                       | 16                                      | 321                                      | 0   | 888                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 888                        |
| 2037    | 381                                       | 11                                      | 224                                      | 0   | 616                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 616                        |
| 2038    | 201                                       | 6                                       | 121                                      | 0   | 328                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 328                        |
| NOMINAL | 54,950                                    | 2,531                                   | 28,745                                   | 0   | 86,227                       | 24,282                           | 0  | 0   | 0  | 7,978                                  | 32,260                    | 53,967                     |
| NPV     | 18,120                                    | 900                                     | 9,355                                    | 0   | 28,376                       | 13,738                           | 0  | 0   | 0  | 4,490                                  | 18,228                    | 10,148                     |

Utility Discount Rate: 8.48  
Benefit Cost Ratio: 1.557

**D. BUSINESS ENERGY SAVER PROGRAM**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The Business Energy Saver program is designed to encourage and educate business customers located in low-income areas by demonstration and installation of sustainable energy conservation measures to help control and reduce energy consumption within their business. The business must be located within the surrounding area of the Progress Energy qualifying Census Block Group that meets the definition of a low-income neighborhood. Trained, professional surveyors and installers representing Progress Energy will offer businesses an energy assessment followed by the installation of specified electric energy conservation measures. While in the business, the owner will be provided energy saving tips for improving and sustaining energy efficiency. The energy conservation measures installed and energy efficiency education provided will be at no cost to the participants.

The Business Energy Saver program seeks to achieve the following goals:

- Conduct an energy assessment to identify energy efficiency opportunities in the business
- Implement a comprehensive package of electric energy conservation measures to increase the business' energy efficiency and lower energy consumption
- Provide one-on-one customer education on energy efficiency techniques and the installation of energy conservation measures to create an immediate measurable and sustainable energy reduction in their business

- Promote behavioral changes that will help businesses in targeted areas to more effectively control their energy consumption over time

### **Policies and Procedures**

The program eligibility requirements to qualify for participation are as follows:

- The business must be a Progress Energy metered customer within Progress Energy service territory
- Business must be in a selected Progress Energy qualifying Census Block Group which meets the definition of a low-income neighborhood and surrounding area
- National and Chain Accounts are not eligible for participation in the Business Energy Saver program
- All installations must be accessible for verification by a Progress Energy representative
- A State of Florida General Licensed Contractor selected and approved by Progress Energy must be used to implement the Business Energy Saver program measures
- The business energy consumption shall be within Progress Energy defined standards
- The business will have been in operation for at least one year within Progress Energy service territory



- The business must meet the licensing requirement as established by the local municipality and state regulatory agencies.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions such as baseline or code revisions, updated measurement and valuation analysis, or technological advances.

Progress Energy is proposing to include the following measures with this program:

***Compact Fluorescent Bulbs***

This measure will install in the business up to five (5) compact fluorescent bulbs to replace incandescent bulbs with comparable lumens output

***Refrigerator Coil Brush***

This portion of the program will provide the customer with a coil brush and demonstration how to remove dust and debris from condenser coils to improve the refrigerator efficiency.

***Refrigerator Thermometer***

This measure will install one thermometer in the food or freezer compartment of the refrigerator to provide a reference temperature for efficient operation of the appliance

### ***Change Filter Calendar***

This portion of the program will provide each business with a Progress Energy magnetic calendar to help remind them to clean or change the HVAC filter monthly

### ***Weatherization Measures***

This portion of the program will install weather stripping, door sweeps, caulk, foam sealant, and clear patch tape where needed to reduce air infiltration around doors, windows, and where pipes enter the business

### ***Water Heater Insulation Wrap and Insulation for Water Pipes***

This portion of the program will install a water heater wrap and pipe insulation as identified to improve the efficiency of the water heating system. Foam insulated water heaters will be excluded from this measure

### ***Water Conservation Faucet Aerators***

This portion of the program will install a maximum of two (2) aerators per business. This measure will reduce energy consumption related to the water heater system

### ***Water Heater Temperature Check and Adjustment***

This portion of the program will provide a temperature check of the water heater and inform the customer of the possibility for reducing temperatures within manufacturer’s recommendation and code requirements

### ***HVAC Filters***

This portion of the program will provide each customer with a one-year supply of filters (12) for the main HVAC system. One filter may be installed at time of evaluation if needed

### ***Indoor Wall Thermometer***

This portion of the program will install one wall plate thermometer per business to encourage the business owner to be aware of thermostat setting

### ***HVAC Window Unit Winterization Kit***

This measure will install a winterization HVAC kit on wall/window AC units, if seasonably applicable. The business will receive or have installed a maximum of three (3) kits. The customer will be educated on the proper use and value of the winterization kit as a method of stopping air infiltration in the business

### ***HVAC Maintenance***

This measure will provide basic maintenance on the condensing and air handling units to increase energy efficiency through proper operational maintenance of mechanical equipment

### ***Attic Insulation Upgrade***

This portion of the program will upgrade the customer's ceiling insulation up to R-30 as building code will allow. This measure will improve the efficiency of the business' building envelope

***Window Film/Solar Screen***

This portion of the program will install window film or solar screen on south, east, or west oriented windows to reduce solar heat gain within the building.

## Program Participation

Annual participation estimates for the Business Energy Saver program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 1,225   | 100  | 8.2%  |
| 2012 | 175,147                                  | 1,150   | 120  | 17.6%   |
| 2013 | 178,542                                  | 1,154   | 120  | 24.7%   |
| 2014 | 182,030                                  | 1,180   | 120  | 30.3%   |
| 2015 | 185,461                                  | 1,206   | 120  | 34.8%   |
| 2016 | 188,717                                  | 1,232   | 120  | 38.6%   |
| 2017 | 191,817                                  | 1,260   | 120  | 41.8%   |
| 2018 | 194,809                                  | 1,287   | 120  | 44.6%   |
| 2019 | 197,848                                  | 1,315   | 120  | 47.0%   |

1. The total number of customers is the forecast of Commercial/Industrial customers in Progress Energy's 2009 Ten Year Site Plan.
2. Eligible customers represent the estimate of non-fortune 500 businesses that are serving NES low-income areas, escalated 2% per year.
3. Number of program participants represents the participants projected.
4. Cumulative penetration is the ratio of cumulative participants to the remaining eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure’s per customer savings and annual projected participation. The total projected program savings were then computed as the sum of the individual measure savings, as shown in the following tables.

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 2308                       | 0.41                             | 1.64                             | 230,790                    | 41                               | 164                              |
| 2012 | 2308                       | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2013 | 2308                       | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2014 | 2308                       | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2015 | 2308                       | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2016 | 2308                       | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2017 | 2308                       | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2018 | 2308                       | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |
| 2019 | 2308                       | 0.41                             | 1.64                             | 276,948                    | 50                               | 197                              |

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 2434                       | 0.44                             | 1.73                             | 243,414                    | 44                               | 173                              |
| 2012 | 2434                       | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2013 | 2434                       | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2014 | 2434                       | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2015 | 2434                       | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2016 | 2434                       | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2017 | 2434                       | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2018 | 2434                       | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |
| 2019 | 2434                       | 0.44                             | 1.73                             | 292,097                    | 52                               | 207                              |

## Impact Evaluation Plan

The Business Energy Saver program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels.

## Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs<br>\$(000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$1,841                 | \$1,869              | -\$28                       | 0.99      |
| Participant             | \$1,518                 | \$447                | \$1,072                     | 3.4       |
| Total Resource Cost     | \$1,841                 | \$797                | \$1,044                     | 2.31      |

“Original Goal Scenario”

PROGRAM: Com BESP RIM

| YEAR    | BENEFITS                       |                              |                               |                  |                   | COSTS                           |                                |                                 |                             |                        |                   |                |      | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|------------------------------|-------------------------------|------------------|-------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|------------------------|-------------------|----------------|------|----------------------------|
|         | (1)                            | (2)                          | (3)                           | (4)              | (5)               | (6)                             | (7)                            | (8)                             | (9)                         | (10)                   | (11)              | (12)           |      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | A VOIDED<br>T&D CAP<br>COSTS | A VOIDED<br>GEN. CAP<br>COSTS | REVENUE<br>GAINS | TOTAL<br>BENEFITS | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | INCENTIVE<br>PA YMENTS | REVENUE<br>LOSSES | TOTAL<br>COSTS |      |                            |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)          | \$(000)           | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)                | \$(000)           | \$(000)        |      |                            |
| 2010    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                      | 0                 | 0              | 0    |                            |
| 2011    | 28                             | 2                            | 0                             | 0                | 30                | 0                               | 0                              | 0                               | 45                          | 63                     | 29                | 137            | -107 |                            |
| 2012    | 53                             | 5                            | 0                             | 0                | 59                | 0                               | 0                              | 0                               | 58                          | 79                     | 62                | 199            | -140 |                            |
| 2013    | 108                            | 8                            | 48                            | 0                | 164               | 0                               | 0                              | 0                               | 62                          | 82                     | 98                | 243            | -78  |                            |
| 2014    | 96                             | 10                           | 98                            | 0                | 205               | 0                               | 0                              | 0                               | 66                          | 86                     | 136               | 288            | -83  |                            |
| 2015    | 127                            | 13                           | 122                           | 0                | 262               | 0                               | 0                              | 0                               | 70                          | 90                     | 185               | 345            | -83  |                            |
| 2016    | 164                            | 15                           | 148                           | 0                | 326               | 0                               | 0                              | 0                               | 75                          | 93                     | 211               | 379            | -53  |                            |
| 2017    | 250                            | 17                           | 119                           | 0                | 386               | 0                               | 0                              | 0                               | 79                          | 97                     | 207               | 383            | 4    |                            |
| 2018    | 242                            | 19                           | 209                           | 0                | 470               | 0                               | 0                              | 0                               | 85                          | 101                    | 221               | 407            | 64   |                            |
| 2019    | 248                            | 19                           | 221                           | 0                | 488               | 0                               | 0                              | 0                               | 91                          | 105                    | 241               | 437            | 51   |                            |
| 2020    | 219                            | 17                           | 194                           | 0                | 430               | 0                               | 0                              | 0                               | 0                           | 0                      | 219               | 219            | 211  |                            |
| 2021    | 184                            | 14                           | 164                           | 0                | 362               | 0                               | 0                              | 0                               | 0                           | 0                      | 202               | 202            | 160  |                            |
| 2022    | 197                            | 12                           | 75                            | 0                | 284               | 0                               | 0                              | 0                               | 0                           | 0                      | 173               | 173            | 111  |                            |
| 2023    | 171                            | 9                            | 102                           | 0                | 283               | 0                               | 0                              | 0                               | 0                           | 0                      | 144               | 144            | 139  |                            |
| 2024    | 106                            | 7                            | 81                            | 0                | 194               | 0                               | 0                              | 0                               | 0                           | 0                      | 112               | 112            | 82   |                            |
| 2025    | 81                             | 5                            | 62                            | 0                | 149               | 0                               | 0                              | 0                               | 0                           | 0                      | 88                | 88             | 61   |                            |
| 2026    | 72                             | 3                            | 28                            | 0                | 103               | 0                               | 0                              | 0                               | 0                           | 0                      | 62                | 62             | 41   |                            |
| 2027    | 34                             | 2                            | 26                            | 0                | 61                | 0                               | 0                              | 0                               | 0                           | 0                      | 36                | 36             | 26   |                            |
| 2028    | 28                             | 1                            | 23                            | 0                | 52                | 0                               | 0                              | 0                               | 0                           | 0                      | 30                | 30             | 22   |                            |
| 2029    | 25                             | 1                            | 11                            | 0                | 37                | 0                               | 0                              | 0                               | 0                           | 0                      | 22                | 22             | 15   |                            |
| 2030    | 24                             | 1                            | 16                            | 0                | 40                | 0                               | 0                              | 0                               | 0                           | 0                      | 18                | 18             | 23   |                            |
| 2031    | 19                             | 1                            | 14                            | 0                | 33                | 0                               | 0                              | 0                               | 0                           | 0                      | 13                | 13             | 20   |                            |
| 2032    | 17                             | 1                            | 12                            | 0                | 29                | 0                               | 0                              | 0                               | 0                           | 0                      | 11                | 11             | 18   |                            |
| 2033    | 13                             | 1                            | 10                            | 0                | 23                | 0                               | 0                              | 0                               | 0                           | 0                      | 9                 | 9              | 13   |                            |
| 2034    | 9                              | 0                            | 8                             | 0                | 17                | 0                               | 0                              | 0                               | 0                           | 0                      | 7                 | 7              | 9    |                            |
| 2035    | 5                              | 0                            | 5                             | 0                | 11                | 0                               | 0                              | 0                               | 0                           | 0                      | 5                 | 5              | 6    |                            |
| 2036    | 3                              | 0                            | 3                             | 0                | 6                 | 0                               | 0                              | 0                               | 0                           | 0                      | 2                 | 2              | 3    |                            |
| 2037    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                      | 0                 | 0              | 0    |                            |
| 2038    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                      | 0                 | 0              | 0    |                            |
| NOMINAL | 2,520                          | 184                          | 1,800                         | 0                | 4,504             | 0                               | 0                              | 0                               | 631                         | 795                    | 2,545             | 3,971          | 533  |                            |
| NPV     | 1,032                          | 80                           | 729                           | 0                | 1,841             | 0                               | 0                              | 0                               | 350                         | 447                    | 1,072             | 1,869          | -28  |                            |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.985



PROGRAM: Com BSP Participant

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |  |                           | NET BENEFITS<br>TO<br>PARTICIPANTS<br>\$(000) |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|--|---------------------------|---|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)  | (7)                       |   |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |   |
| 2010    | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0   |
| 2011    | 29   | 63                               | 0   | 92                           | 63                               | 0  | 63                        | 29  |
| 2012    | 62   | 79                               | 0   | 141                          | 79                               | 0  | 79                        | 62  |
| 2013    | 98   | 82                               | 0   | 181                          | 82                               | 0  | 82                        | 98  |
| 2014    | 136  | 86                               | 0   | 222                          | 86                               | 0  | 86                        | 136   |
| 2015    | 185  | 90                               | 0   | 275                          | 90                               | 0  | 90                        | 185   |
| 2016    | 211  | 93                               | 0   | 304                          | 93                               | 0  | 93                        | 211   |
| 2017    | 207  | 97                               | 0   | 304                          | 97                               | 0  | 97                        | 207   |
| 2018    | 221  | 101                              | 0   | 322                          | 101                              | 0  | 101                       | 221   |
| 2019    | 241  | 105                              | 0   | 346                          | 105                              | 0  | 105                       | 241   |
| 2020    | 219  | 0                                | 0   | 219                          | 0                                | 0  | 0                         | 219   |
| 2021    | 202  | 0                                | 0   | 202                          | 0                                | 0  | 0                         | 202   |
| 2022    | 173  | 0                                | 0   | 173                          | 0                                | 0  | 0                         | 173   |
| 2023    | 144  | 0                                | 0   | 144                          | 0                                | 0  | 0                         | 144   |
| 2024    | 112  | 0                                | 0   | 112                          | 0                                | 0  | 0                         | 112   |
| 2025    | 88   | 0                                | 0   | 88                           | 0                                | 0  | 0                         | 88  |
| 2026    | 62   | 0                                | 0   | 62                           | 0                                | 0  | 0                         | 62  |
| 2027    | 36   | 0                                | 0   | 36                           | 0                                | 0  | 0                         | 36  |
| 2028    | 30   | 0                                | 0   | 30                           | 0                                | 0  | 0                         | 30  |
| 2029    | 22   | 0                                | 0   | 22                           | 0                                | 0  | 0                         | 22  |
| 2030    | 18   | 0                                | 0   | 18                           | 0                                | 0  | 0                         | 18  |
| 2031    | 13   | 0                                | 0   | 13                           | 0                                | 0  | 0                         | 13  |
| 2032    | 11   | 0                                | 0   | 11                           | 0                                | 0  | 0                         | 11  |
| 2033    | 9  | 0                                | 0   | 9                            | 0                                | 0  | 0                         | 9   |
| 2034    | 7  | 0                                | 0   | 7                            | 0                                | 0  | 0                         | 7   |
| 2035    | 5  | 0                                | 0   | 5                            | 0                                | 0  | 0                         | 5   |
| 2036    | 2  | 0                                | 0   | 2                            | 0                                | 0  | 0                         | 2   |
| 2037    | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0   |
| 2038    | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0   |
| NOMINAL | 2,545  | 795                              | 0   | 3,340                        | 795                              | 0  | 795                       | 2,545   |
| NPV     | 1,072  | 447                              | 0   | 1,518                        | 447                              | 0  | 447                       | 1,072   |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 3.398

“Original Goal Scenario”

PROGRAM: Com BESP TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           |                            |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      | (12)                       |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 28  | 2                                       | 0  | 0   | 30                           | 63                               | 0  | 0   | 0  | 45                                     | 108                       | -78                        |
| 2012    | 53  | 5                                       | 0  | 0   | 59                           | 79                               | 0  | 0   | 0  | 58                                     | 137                       | -78                        |
| 2013    | 108                                       | 8                                       | 48                                       | 0   | 164                          | 82                               | 0  | 0   | 0  | 62                                     | 144                       | 20                         |
| 2014    | 96  | 10                                      | 98                                       | 0   | 205                          | 86                               | 0  | 0   | 0  | 66                                     | 152                       | 52                         |
| 2015    | 127                                       | 13                                      | 122                                      | 0   | 262                          | 90                               | 0  | 0   | 0  | 70                                     | 160                       | 102                        |
| 2016    | 164                                       | 15                                      | 148                                      | 0   | 326                          | 93                               | 0  | 0   | 0  | 75                                     | 168                       | 159                        |
| 2017    | 250                                       | 17                                      | 119                                      | 0   | 386                          | 97                               | 0  | 0   | 0  | 79                                     | 176                       | 211                        |
| 2018    | 242                                       | 19                                      | 209                                      | 0   | 470                          | 101                              | 0  | 0   | 0  | 85                                     | 186                       | 284                        |
| 2019    | 248                                       | 19                                      | 221                                      | 0   | 488                          | 105                              | 0  | 0   | 0  | 91                                     | 196                       | 292                        |
| 2020    | 219                                       | 17                                      | 194                                      | 0   | 430                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 430                        |
| 2021    | 184                                       | 14                                      | 164                                      | 0   | 362                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 362                        |
| 2022    | 197                                       | 12                                      | 75                                       | 0   | 284                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 284                        |
| 2023    | 171                                       | 9                                       | 102                                      | 0   | 283                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 283                        |
| 2024    | 106                                       | 7                                       | 81                                       | 0   | 194                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 194                        |
| 2025    | 81  | 5                                       | 62                                       | 0   | 149                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 149                        |
| 2026    | 72  | 3                                       | 28                                       | 0   | 103                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 103                        |
| 2027    | 34  | 2                                       | 26                                       | 0   | 61                           | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 61                         |
| 2028    | 28  | 1                                       | 23                                       | 0   | 52                           | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 52                         |
| 2029    | 25  | 1                                       | 11                                       | 0   | 37                           | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 37                         |
| 2030    | 24  | 1                                       | 16                                       | 0   | 40                           | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 40                         |
| 2031    | 19  | 1                                       | 14                                       | 0   | 33                           | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 33                         |
| 2032    | 17  | 1                                       | 12                                       | 0   | 29                           | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 29                         |
| 2033    | 13  | 1                                       | 10                                       | 0   | 23                           | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 23                         |
| 2034    | 9   | 0                                       | 8  | 0   | 17                           | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 17                         |
| 2035    | 5   | 0                                       | 5  | 0   | 11                           | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 11                         |
| 2036    | 3   | 0                                       | 3  | 0   | 6                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 6                          |
| 2037    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2038    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| NOMINAL | 2,520                                     | 184                                     | 1,800                                    | 0   | 4,504                        | 795                              | 0  | 0   | 0  | 631                                    | 1,426                     | 3,078                      |
| NPV     | 1,032                                     | 80                                      | 729                                      | 0   | 1,841                        | 447                              | 0  | 0   | 0  | 350                                    | 797                       | 1,044                      |

Utility Discount Rate = 8.48  
Benefit Cost Ratio = 2.309

**E. COMMERCIAL GREEN BUILDING NEW CONSTRUCTION**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The Commercial Green Building New Construction program is designed for commercial, industrial, and governmental customers who are building new facilities to achieve optimal energy efficiency. The Commercial Green Building New Construction program is designed to encourage the energy efficient construction of new commercial facilities according to guidelines set forth by LEED-NC. The LEED-NC rating system for commercial buildings focuses on improving energy efficiency, reducing carbon emissions, and addressing other environmental and human-health outcomes.

The program seeks to achieve the following goals:

- Promote use and increased quantity of Progress Energy approved energy efficient measures during certification process
- Motivate new construction builders to obtain LEED-NC certification
- Demonstrate green building design costs are offset by sustainable energy reductions through installation of energy efficient measures

## **Policies and Procedures**

The general eligibility requirements are as follows:

- Qualification is limited to LEED-NC certified buildings only
- Incentive based on LEED-NC registration and certification fees
- Building must have installed a minimum number of Progress Energy Commercial New Construction program measures as outlined in the Program Participation Standards
- Commercial Green Building New Construction program incentive will be paid in addition to Commercial New Construction program incentives
- This program will offer a capped incentive in the amount of 50% of the registration and certification fees for obtaining a LEED-NC certificate for a New Construction building.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions, such as baseline or code revisions, updated measurement and valuation analysis, technological advances, or changes to the structure in the LEED-NC registration and certification fees.

## Program Participation

Annual participation estimates for the Commercial Green Building New Construction program are shown in the following table:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 3,653   | 150  | 4.1%  |
| 2012 | 175,147                                  | 4,261   | 158  | 3.9%  |
| 2013 | 178,542                                  | 3,395   | 165  | 4.2%  |
| 2014 | 182,030                                  | 3,488   | 168  | 4.3%  |
| 2015 | 185,461                                  | 3,431   | 173  | 4.5%  |
| 2016 | 188,717                                  | 3,256   | 165  | 4.6%  |
| 2017 | 191,817                                  | 3,100   | 158  | 4.6%  |
| 2018 | 194,809                                  | 2,992   | 153  | 4.7%  |
| 2019 | 197,848                                  | 3,039   | 150  | 4.7%  |

1. The total number of customers is the forecast of Commercial/Industrial customers in Progress Energy's 2009 Ten Year Site Plan.
2. All Commercial, Industrial and Governmental rate class customers who build new facilities in a given year are eligible to participate.
3. Number of program participants represents the participants projected.
4. Cumulative penetration is the ratio of cumulative participants to the accumulated eligible customer pool.

## Savings Estimates

The total program savings were developed by analyzing new construction facilities compared to LEED-NC certified buildings. The total program savings are shown in the following table.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 3464                       | 0.92                             | 1.50                             | 519,525                    | 138                              | 226                              |
| 2012 | 3464                       | 0.92                             | 1.50                             | 547,233                    | 145                              | 238                              |
| 2013 | 3464                       | 0.92                             | 1.50                             | 571,478                    | 152                              | 248                              |
| 2014 | 3464                       | 0.92                             | 1.50                             | 581,868                    | 155                              | 253                              |
| 2015 | 3464                       | 0.92                             | 1.50                             | 599,186                    | 159                              | 260                              |
| 2016 | 3464                       | 0.92                             | 1.50                             | 571,478                    | 152                              | 248                              |
| 2017 | 3464                       | 0.92                             | 1.50                             | 547,233                    | 145                              | 238                              |
| 2018 | 3464                       | 0.92                             | 1.50                             | 529,916                    | 141                              | 230                              |
| 2019 | 3464                       | 0.92                             | 1.50                             | 519,525                    | 138                              | 226                              |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 3653                       | 0.97                             | 1.59                             | 547,943                    | 146                              | 238                              |
| 2012 | 3653                       | 0.97                             | 1.59                             | 577,167                    | 153                              | 251                              |
| 2013 | 3653                       | 0.97                             | 1.59                             | 602,737                    | 160                              | 262                              |
| 2014 | 3653                       | 0.97                             | 1.59                             | 613,696                    | 163                              | 267                              |
| 2015 | 3653                       | 0.97                             | 1.59                             | 631,961                    | 168                              | 275                              |
| 2016 | 3653                       | 0.97                             | 1.59                             | 602,737                    | 160                              | 262                              |
| 2017 | 3653                       | 0.97                             | 1.59                             | 577,167                    | 153                              | 251                              |
| 2018 | 3653                       | 0.97                             | 1.59                             | 558,902                    | 148                              | 243                              |
| 2019 | 3653                       | 0.97                             | 1.59                             | 547,943                    | 146                              | 238                              |

## Impact Evaluation Plan

The Commercial Green Building New Construction program includes the installation of varied types of measures. As such, the impact evaluation plan addresses interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts.

## Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs<br>\$(000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$5,355                 | \$7,467              | -\$2,112                    | 0.72      |
| Participant             | \$6,670                 | \$2,466              | \$4,203                     | 2.7       |
| Total Resource Cost     | \$5,355                 | \$3,264              | \$2,091                     | 1.64      |

PROGRAM: Com Green-LEED NC

RIM

| YEAR    | BENEFITS                       |                              |                               |                  |                   | COSTS                           |                                |                                 |                             |                       |                   |                |        | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|------------------------------|-------------------------------|------------------|-------------------|---------------------------------|--------------------------------|---------------------------------|-----------------------------|-----------------------|-------------------|----------------|--------|----------------------------|
|         | (1)                            | (2)                          | (3)                           | (4)              | (5)               | (6)                             | (7)                            | (8)                             | (9)                         | (10)                  | (11)              | (12)           |        |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP.<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | REVENUE<br>GAINS | TOTAL<br>BENEFITS | TOTAL<br>FUEL & O&M<br>INCREASE | INCREASED<br>T&D CAP.<br>COSTS | INCREASED<br>GEN. CAP.<br>COSTS | UTILITY<br>PROGRAM<br>COSTS | INCENTIVE<br>PAYMENTS | REVENUE<br>LOSSES | TOTAL<br>COSTS |        |                            |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)          | \$(000)           | \$(000)                         | \$(000)                        | \$(000)                         | \$(000)                     | \$(000)               | \$(000)           | \$(000)        |        |                            |
| 2010    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0      |                            |
| 2011    | 60                             | 3                            | 0                             | 0                | 63                | 0                               | 0                              | 0                               | 118                         | 347                   | 65                | 530            | -468   |                            |
| 2012    | 109                            | 7                            | 0                             | 0                | 116               | 0                               | 0                              | 0                               | 131                         | 439                   | 130               | 700            | -584   |                            |
| 2013    | 212                            | 10                           | 68                            | 0                | 291               | 0                               | 0                              | 0                               | 145                         | 542                   | 211               | 897            | -606   |                            |
| 2014    | 210                            | 14                           | 146                           | 0                | 370               | 0                               | 0                              | 0                               | 155                         | 643                   | 297               | 1,096          | -726   |                            |
| 2015    | 290                            | 18                           | 188                           | 0                | 496               | 0                               | 0                              | 0                               | 169                         | 695                   | 414               | 1,278          | -782   |                            |
| 2016    | 374                            | 22                           | 236                           | 0                | 631               | 0                               | 0                              | 0                               | 170                         | 696                   | 490               | 1,356          | -725   |                            |
| 2017    | 534                            | 25                           | 196                           | 0                | 755               | 0                               | 0                              | 0                               | 172                         | 700                   | 493               | 1,365          | -610   |                            |
| 2018    | 536                            | 28                           | 351                           | 0                | 915               | 0                               | 0                              | 0                               | 175                         | 712                   | 534               | 1,422          | -507   |                            |
| 2019    | 601                            | 32                           | 400                           | 0                | 1,033             | 0                               | 0                              | 0                               | 182                         | 733                   | 625               | 1,539          | -507   |                            |
| 2020    | 607                            | 32                           | 408                           | 0                | 1,047             | 0                               | 0                              | 0                               | 0                           | 0                     | 642               | 642            | 404    |                            |
| 2021    | 608                            | 32                           | 417                           | 0                | 1,057             | 0                               | 0                              | 0                               | 0                           | 0                     | 696               | 696            | 361    |                            |
| 2022    | 741                            | 32                           | 228                           | 0                | 1,000             | 0                               | 0                              | 0                               | 0                           | 0                     | 701               | 701            | 299    |                            |
| 2023    | 792                            | 32                           | 380                           | 0                | 1,204             | 0                               | 0                              | 0                               | 0                           | 0                     | 719               | 719            | 485    |                            |
| 2024    | 673                            | 32                           | 397                           | 0                | 1,101             | 0                               | 0                              | 0                               | 0                           | 0                     | 735               | 735            | 367    |                            |
| 2025    | 681                            | 32                           | 404                           | 0                | 1,117             | 0                               | 0                              | 0                               | 0                           | 0                     | 753               | 753            | 364    |                            |
| 2026    | 746                            | 28                           | 238                           | 0                | 1,013             | 0                               | 0                              | 0                               | 0                           | 0                     | 690               | 690            | 323    |                            |
| 2027    | 576                            | 25                           | 378                           | 0                | 979               | 0                               | 0                              | 0                               | 0                           | 0                     | 619               | 619            | 359    |                            |
| 2028    | 509                            | 21                           | 331                           | 0                | 861               | 0                               | 0                              | 0                               | 0                           | 0                     | 541               | 541            | 320    |                            |
| 2029    | 495                            | 18                           | 166                           | 0                | 679               | 0                               | 0                              | 0                               | 0                           | 0                     | 459               | 459            | 219    |                            |
| 2030    | 410                            | 14                           | 218                           | 0                | 641               | 0                               | 0                              | 0                               | 0                           | 0                     | 368               | 368            | 273    |                            |
| 2031    | 314                            | 10                           | 167                           | 0                | 490               | 0                               | 0                              | 0                               | 0                           | 0                     | 278               | 278            | 213    |                            |
| 2032    | 213                            | 7                            | 114                           | 0                | 333               | 0                               | 0                              | 0                               | 0                           | 0                     | 186               | 186            | 147    |                            |
| 2033    | 109                            | 3                            | 59                            | 0                | 171               | 0                               | 0                              | 0                               | 0                           | 0                     | 94                | 94             | 76     |                            |
| 2034    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0      |                            |
| 2035    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0      |                            |
| 2036    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0      |                            |
| 2037    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0      |                            |
| 2038    | 0                              | 0                            | 0                             | 0                | 0                 | 0                               | 0                              | 0                               | 0                           | 0                     | 0                 | 0              | 0      |                            |
| NOMINAL | 10,395                         | 477                          | 5,490                         | 0                | 16,362            | 0                               | 0                              | 0                               | 1,417                       | 5,508                 | 10,740            | 17,666         | -1,304 |                            |
| NPV     | 3,402                          | 166                          | 1,787                         | 0                | 5,355             | 0                               | 0                              | 0                               | 798                         | 3,052                 | 3,617             | 7,467          | -2,112 |                            |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 0.717



| PROGRAM: | Com Green-LEED NC                              |                                  | Participant                                   |                              |                                  |  |                           |  |
|----------|--|----------------------------------|---|------------------------------|----------------------------------|--|---------------------------|--|
| YEAR     | BENEFITS                                       |                                  |   |                              | COSTS                            |  |                           | (8)<br>NET BENEFITS<br>TO<br>PARTICIPANTS<br>\$(000) |
|          | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)  | (7)                       |  |
|          | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |  |
| 2010     | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0  |
| 2011     | 65   | 347                              | 0   | 412                          | 372                              | 0  | 372                       | 40   |
| 2012     | 130  | 439                              | 0   | 569                          | 412                              | 0  | 412                       | 157  |
| 2013     | 211  | 542                              | 0   | 752                          | 451                              | 0  | 451                       | 301  |
| 2014     | 297  | 643                              | 0   | 941                          | 482                              | 0  | 482                       | 458  |
| 2015     | 414  | 695                              | 0   | 1,109                        | 522                              | 0  | 522                       | 588  |
| 2016     | 490  | 696                              | 0   | 1,186                        | 522                              | 0  | 522                       | 664  |
| 2017     | 493  | 700                              | 0   | 1,193                        | 525                              | 0  | 525                       | 668  |
| 2018     | 534  | 712                              | 0   | 1,246                        | 534                              | 0  | 534                       | 712  |
| 2019     | 625  | 733                              | 0   | 1,358                        | 550                              | 0  | 550                       | 808  |
| 2020     | 642  | 0                                | 0   | 642                          | 0                                | 0  | 0                         | 642  |
| 2021     | 696  | 0                                | 0   | 696                          | 0                                | 0  | 0                         | 696  |
| 2022     | 701  | 0                                | 0   | 701                          | 0                                | 0  | 0                         | 701  |
| 2023     | 719  | 0                                | 0   | 719                          | 0                                | 0  | 0                         | 719  |
| 2024     | 735  | 0                                | 0   | 735                          | 0                                | 0  | 0                         | 735  |
| 2025     | 753  | 0                                | 0   | 753                          | 0                                | 0  | 0                         | 753  |
| 2026     | 690  | 0                                | 0   | 690                          | 0                                | 0  | 0                         | 690  |
| 2027     | 619  | 0                                | 0   | 619                          | 0                                | 0  | 0                         | 619  |
| 2028     | 541  | 0                                | 0   | 541                          | 0                                | 0  | 0                         | 541  |
| 2029     | 459  | 0                                | 0   | 459                          | 0                                | 0  | 0                         | 459  |
| 2030     | 368  | 0                                | 0   | 368                          | 0                                | 0  | 0                         | 368  |
| 2031     | 278  | 0                                | 0   | 278                          | 0                                | 0  | 0                         | 278  |
| 2032     | 186  | 0                                | 0   | 186                          | 0                                | 0  | 0                         | 186  |
| 2033     | 94   | 0                                | 0   | 94                           | 0                                | 0  | 0                         | 94   |
| 2034     | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0  |
| 2035     | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0  |
| 2036     | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0  |
| 2037     | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0  |
| 2038     | 0  | 0                                | 0   | 0                            | 0                                | 0  | 0                         | 0  |
| NOMINAL  | 10,740   | 5,508                            |   | 16,249                       | 4,370                            |  | 4,370                     | 11,878   |
| NPV      | 3,617  | 3,052                            |   | 6,670                        | 2,466                            |  | 2,466                     | 4,203  |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 2.704

PROGRAM: Com Green-LEED NC TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           |                            |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      | (12)                       |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2011    | 60  | 3                                       | 0  | 0   | 63                           | 372                              | 0  | 0   | 0  | 118                                    | 490                       | -427                       |
| 2012    | 109                                       | 7                                       | 0  | 0   | 116                          | 412                              | 0  | 0   | 0  | 131                                    | 543                       | -427                       |
| 2013    | 212                                       | 10                                      | 68                                       | 0   | 291                          | 451                              | 0  | 0   | 0  | 145                                    | 596                       | -305                       |
| 2014    | 210                                       | 14                                      | 146                                      | 0   | 370                          | 482                              | 0  | 0   | 0  | 155                                    | 638                       | -268                       |
| 2015    | 290                                       | 18                                      | 188                                      | 0   | 496                          | 522                              | 0  | 0   | 0  | 169                                    | 690                       | -194                       |
| 2016    | 374                                       | 22                                      | 236                                      | 0   | 631                          | 522                              | 0  | 0   | 0  | 170                                    | 692                       | -61                        |
| 2017    | 534                                       | 25                                      | 196                                      | 0   | 755                          | 525                              | 0  | 0   | 0  | 172                                    | 697                       | 58                         |
| 2018    | 536                                       | 28                                      | 351                                      | 0   | 915                          | 534                              | 0  | 0   | 0  | 175                                    | 710                       | 206                        |
| 2019    | 601                                       | 32                                      | 400                                      | 0   | 1,033                        | 550                              | 0  | 0   | 0  | 182                                    | 731                       | 302                        |
| 2020    | 607                                       | 32                                      | 408                                      | 0   | 1,047                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,047                      |
| 2021    | 608                                       | 32                                      | 417                                      | 0   | 1,057                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,057                      |
| 2022    | 741                                       | 32                                      | 228                                      | 0   | 1,000                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,000                      |
| 2023    | 792                                       | 32                                      | 380                                      | 0   | 1,204                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,204                      |
| 2024    | 673                                       | 32                                      | 397                                      | 0   | 1,101                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,101                      |
| 2025    | 681                                       | 32                                      | 404                                      | 0   | 1,117                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,117                      |
| 2026    | 746                                       | 28                                      | 238                                      | 0   | 1,013                        | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 1,013                      |
| 2027    | 576                                       | 25                                      | 378                                      | 0   | 979                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 979                        |
| 2028    | 509                                       | 21                                      | 331                                      | 0   | 861                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 861                        |
| 2029    | 495                                       | 18                                      | 166                                      | 0   | 679                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 679                        |
| 2030    | 410                                       | 14                                      | 218                                      | 0   | 641                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 641                        |
| 2031    | 314                                       | 10                                      | 167                                      | 0   | 490                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 490                        |
| 2032    | 213                                       | 7                                       | 114                                      | 0   | 333                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 333                        |
| 2033    | 109                                       | 3                                       | 59                                       | 0   | 171                          | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 171                        |
| 2034    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2035    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2036    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2037    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| 2038    | 0   | 0                                       | 0  | 0   | 0                            | 0                                | 0  | 0   | 0  | 0                                      | 0                         | 0                          |
| NOMINAL | 10,395                                    | 477                                     | 5,490                                    | 0   | 16,362                       | 4,370                            | 0  | 0   | 0  | 1,417                                  | 5,788                     | 10,575                     |
| NPV     | 3,402                                     | 166                                     | 1,787                                    | 0   | 5,355                        | 2,466                            | 0  | 0   | 0  | 798                                    | 3,264                     | 2,091                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.641

## **F. INNOVATION INCENTIVE PROGRAM**

**Program Start Date:** 1992

Program modified in 1995

Modifications proposed in 2010

### **Program Description**

The objective of the Innovation Incentive program is to encourage customers to make capital investments for the installation of energy efficiency measures which reduce peak KW and energy on the Progress Energy system. This program offers customized incentives specifically designed for individual innovative projects which are not otherwise addressed by Progress Energy Demand Side Management programs.

Representative examples of energy efficient technologies that would be considered under this program include, but are not limited to, refrigeration equipment replacement and new lighting technologies.

### **Policies and Procedures**

The timeline of the Innovation Incentive program can range from six months to one year depending on the project. The steps included are application, monitoring, data collection, analysis of data, inspection, and processing incentive to the customer.

Program eligibility requirements to qualify for participation are as follows:

- Participant must be located in the Progress Energy service territory and be a commercially metered customer
- Participant must be willing to allow Progress Energy to monitor and inspect the installations of all measures and equipment.

Specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards.

Progress Energy will perform a customer-specific cost-effectiveness analysis for each project being considered under the Innovation Incentive program, using the Commission-approved cost-effectiveness tests described in Rule 25-17.008, Florida Administrative Code. The customer's incentive shall be based on the energy saved and/or demand reduction achieved, but shall not exceed 50% of the project cost or reduce the payback to less than two years. The maximum incentive for one project is \$500,000 per year. For complex engineering projects, Progress Energy reserves the right to stage the total incentive amount when necessary to confirm energy efficiency savings of the project.

After Progress Energy has reviewed and approved the project, an application will be executed between Progress Energy and the customer.

## Program Participation

Annual participation estimates for the Innovation Incentive program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 170,886   | 4  | 0.0%  |
| 2012 | 175,147                                  | 175,147   | 8  | 0.0%  |
| 2013 | 178,542                                  | 178,542   | 10   | 0.0%  |
| 2014 | 182,030                                  | 182,030   | 12   | 0.0%  |
| 2015 | 185,461                                  | 185,461   | 15   | 0.0%  |
| 2016 | 188,717                                  | 188,717   | 17   | 0.0%  |
| 2017 | 191,817                                  | 191,817   | 20   | 0.0%  |
| 2018 | 194,809                                  | 194,809   | 23   | 0.0%  |
| 2019 | 197,848                                  | 197,848   | 25   | 0.0%  |

1. The total number of customers is the forecast of Commercial/Industrial customers in Progress Energy's 2009 Ten Year Site Plan.
2. All commercial, industrial and governmental rate classes are eligible to participate.
3. Numer of program participants represents the participants projected.
4. Cumulative penetration is the ratio of cumulative participating customers to the eligible customer pool.

### **Savings Estimates**

Program savings were not estimated during the planning stage and are not included in the Demand Side Management plan total. Any impacts obtained by this program will be calculated for each individual project and will be reported to the Commission to be counted toward achieving Progress Energy’s conservation goals.

### **Impact Evaluation Plan**

To verify the estimated savings for each project, an engineering/billing analysis based on customer-specific site and usage data will be performed. Monitoring will continue until Progress Energy has reasonable assurance that the project will remain in place and produce cost-effective energy savings for its estimated life. An incentive will not be issued to the customer until Progress Energy is reasonably sure of the projected savings.

### **Cost Effectiveness**

Each individual project will be analyzed for cost-effectiveness at the time of project submittal to Progress Energy, using the Commission-approved tests of cost-effectiveness. Therefore, total program cost-effectiveness results are not shown.

## **G. STANDBY GENERATION PROGRAM**

**Program Start Date:** 1993

Program modified in 1995, 2007

Modifications proposed in 2010

### **Program Description**

The Standby Generation program is a demand control program that will reduce Progress Energy's demand based upon the control of customer equipment. The program is a voluntary program available to all commercial and industrial customers who have on-site generation capability and are willing to reduce their Progress Energy demand when deemed necessary. The program is offered through the General Service Load Management-2 (GSLM-2) rate schedule.

Progress Energy may have direct control of the customer equipment or will rely upon the customer to initiate the generation upon being notified by Progress Energy and continue running it until Progress Energy notifies the customer that the generation is no longer needed. Progress Energy does not restrict other use of the equipment by the customer.

Standby Generation program participants receive a monthly credit on their energy bill according to the demonstrated ability of the customer to reduce demand at Progress Energy's request. An additional credit will be based on the KWh the customer provides. The credits are based upon the load served by the customer's generator, which would have been served by Progress Energy if the Standby Generation program were not in operation. By compensating the customer for the use of their on-site generation, Progress Energy can impact the commercial and industrial market

while minimizing rate impacts. The incentive will be based on a per KW credit per month plus an additional compensation per KWh to support customer O&M associated with run time requested by the company.

### **Policies and Procedures**

The general program eligibility requirements to qualify for participation are as follows:

- Customer must be eligible for service under the GS-1, GST-1, GSD-1 or GSDDT-1 Rate Schedules
- Customer must have standby generation that will allow facility demand reduction at the request of Progress Energy
- Customer's Standby Generation Capacity calculation must be at least 50 KW
- Customer must be within the range of Progress Energy's load management system



## Program Participation

Annual participation estimates for the Standby Generation program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 547   | 10   | 1.8%  |
| 2012 | 175,147                                  | 560   | 10   | 3.6%  |
| 2013 | 178,542                                  | 571   | 10   | 5.3%  |
| 2014 | 182,030                                  | 582   | 10   | 6.9%  |
| 2015 | 185,461                                  | 593   | 10   | 8.4%  |
| 2016 | 188,717                                  | 604   | 10   | 9.9%  |
| 2017 | 191,817                                  | 614   | 10   | 11.4%   |
| 2018 | 194,809                                  | 623   | 10   | 12.8%   |
| 2019 | 197,848                                  | 633   | 10   | 14.2%   |

1. Total Number of Customers is the forecast of Commercial/Industrial customers in the Progress Energy 2009 Ten Year Site Plan.
2. Eligible Customers is based upon tariff GSLM-2 Rate Schedule.
3. Annual number of program participants represents the projected number of customers.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

The KW and KWh savings estimates for this program were determined from historical data and are presented below.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2012 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2013 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2014 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2015 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2016 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2017 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2018 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |
| 2019 | -                          | 400.00                           | 400.00                           | -                          | 4,000                            | 4,000                            |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2012 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2013 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2014 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2015 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2016 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2017 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2018 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |
| 2019 | -                          | 425.08                           | 425.08                           | -                          | 4,251                            | 4,251                            |

### Impact Evaluation Plan

Progress Energy uses on-site metering to measure the generation capability of each Standby Generation program participant to reduce load at the time they join the program. The customer and a Progress Energy representative will observe the metering tests to determine the load that the standby generator carries. This system testing will also determine the initial readings that will be recorded in order to determine the incentive that the customer will receive on their bill each month.

### Cost Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs<br>\$(000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$80,510                | \$11,584             | \$68,926                    | 6.95      |
| Participant             | \$10,235                | \$0                  | \$10,235                    | 9999      |
| Total Resource Cost     | \$80,510                | \$1,349              | \$79,161                    | 59.68     |

PROGRAM: Standby Generation - RIM

| YEAR    | BENEFITS                                  |  |  |                             |                              | COSTS                                      |  |                                  |                              |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|--|--|-----------------------------|------------------------------|--|--|----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                    | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                    | (8)                              | (9)                          | (10)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 15  | 0                                      | 0  | 0                           | 15                           | 0  | 63                                     | 117                              | 8                            | 189                       | -174                       |
| 2011    | 37  | 0                                      | 0  | 0                           | 37                           | 0  | 68                                     | 235                              | 22                           | 325                       | -288                       |
| 2012    | 42  | 0                                      | 0  | 0                           | 42                           | 0  | 73                                     | 352                              | 26                           | 451                       | -409                       |
| 2013    | 975                                       | 0                                      | 1,949                                    | 0                           | 2,924                        | 0  | 78                                     | 470                              | 27                           | 575                       | 2,349                      |
| 2014    | 0   | 0                                      | 3,839                                    | 0                           | 3,839                        | 87   | 83                                     | 587                              | 36                           | 793                       | 3,047                      |
| 2015    | 0   | 0                                      | 4,682                                    | 0                           | 4,682                        | 716  | 88                                     | 704                              | 47                           | 1,556                     | 3,127                      |
| 2016    | 140                                       | 0                                      | 5,203                                    | 0                           | 5,343                        | 0  | 93                                     | 822                              | 90                           | 1,005                     | 4,338                      |
| 2017    | 1,498                                     | 0                                      | 6,233                                    | 0                           | 7,731                        | 0  | 98                                     | 939                              | 89                           | 1,126                     | 6,605                      |
| 2018    | 2,040                                     | 0                                      | 8,261                                    | 0                           | 10,301                       | 0  | 103                                    | 1,057                            | 95                           | 1,255                     | 9,046                      |
| 2019    | 1,708                                     | 0                                      | 9,368                                    | 0                           | 11,076                       | 0  | 108                                    | 1,174                            | 111                          | 1,393                     | 9,683                      |
| 2020    | 1,557                                     | 0                                      | 9,565                                    | 0                           | 11,122                       | 0  | 50                                     | 1,174                            | 114                          | 1,338                     | 9,784                      |
| 2021    | 632                                       | 0                                      | 9,767                                    | 0                           | 10,398                       | 0  | 50                                     | 1,174                            | 124                          | 1,348                     | 9,051                      |
| 2022    | 3,629                                     | 0                                      | 5,337                                    | 0                           | 8,965                        | 0  | 50                                     | 1,174                            | 125                          | 1,349                     | 7,617                      |
| 2023    | 3,999                                     | 0                                      | 8,911                                    | 0                           | 12,910                       | 0  | 50                                     | 1,174                            | 128                          | 1,352                     | 11,558                     |
| 2024    | 1,139                                     | 0                                      | 9,305                                    | 0                           | 10,444                       | 0  | 50                                     | 1,174                            | 131                          | 1,355                     | 9,090                      |
| 2025    | 584                                       | 0                                      | 9,464                                    | 0                           | 10,048                       | 0  | 50                                     | 1,174                            | 134                          | 1,358                     | 8,690                      |
| 2026    | 3,639                                     | 0                                      | 6,234                                    | 0                           | 9,872                        | 0  | 50                                     | 1,174                            | 137                          | 1,361                     | 8,512                      |
| 2027    | 1,315                                     | 0                                      | 11,267                                   | 0                           | 12,582                       | 0  | 50                                     | 1,174                            | 112                          | 1,336                     | 11,246                     |
| 2028    | 1,169                                     | 0                                      | 11,535                                   | 0                           | 12,704                       | 0  | 50                                     | 1,174                            | 143                          | 1,367                     | 11,337                     |
| 2029    | 3,138                                     | 0                                      | 6,061                                    | 0                           | 9,199                        | 0  | 50                                     | 1,174                            | 147                          | 1,371                     | 7,828                      |
| 2030    | 3,434                                     | 0                                      | 10,141                                   | 0                           | 13,574                       | 0  | 50                                     | 1,174                            | 151                          | 1,375                     | 12,199                     |
| 2031    | 3,517                                     | 0                                      | 10,546                                   | 0                           | 14,063                       | 0  | 50                                     | 1,174                            | 154                          | 1,378                     | 12,685                     |
| 2032    | 3,532                                     | 0                                      | 10,968                                   | 0                           | 14,500                       | 0  | 50                                     | 1,174                            | 157                          | 1,381                     | 13,119                     |
| 2033    | 3,460                                     | 0                                      | 11,407                                   | 0                           | 14,867                       | 0  | 50                                     | 1,174                            | 161                          | 1,385                     | 13,482                     |
| 2034    | 3,634                                     | 0                                      | 11,863                                   | 0                           | 15,497                       | 0  | 50                                     | 1,174                            | 164                          | 1,388                     | 14,109                     |
| 2035    | 3,528                                     | 0                                      | 12,338                                   | 0                           | 15,866                       | 0  | 50                                     | 1,174                            | 168                          | 1,392                     | 14,473                     |
| 2036    | 3,469                                     | 0                                      | 12,831                                   | 0                           | 16,300                       | 0  | 50                                     | 1,174                            | 172                          | 1,396                     | 14,904                     |
| 2037    | 3,586                                     | 0                                      | 13,344                                   | 0                           | 16,930                       | 0  | 50                                     | 1,174                            | 176                          | 1,400                     | 15,530                     |
| 2038    | 3,681                                     | 0                                      | 13,878                                   | 0                           | 17,559                       | 0  | 50                                     | 1,174                            | 179                          | 1,403                     | 16,156                     |
| NOMINAL | 59,093                                    | 0                                      | 234,299                                  | 0                           | 293,391                      | 803  | 1,807                                  | 28,763                           | 3,327                        | 34,700                    | 258,692                    |
| NPV     | 14,764                                    | 0                                      | 65,746                                   | 0                           | 80,510                       | 539  | 810                                    | 9,282                            | 953                          | 11,584                    | 68,926                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 6.950

PROGRAM: Standby Generation - Participant

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |                           | NET<br>BENEFITS<br>\$(000) |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|---------------------------|----------------------------|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)                       |                            |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 8  | 117                              | 0   | 126                          | 0                                | 0                         | 126                        |
| 2011    | 22   | 235                              | 0   | 257                          | 0                                | 0                         | 257                        |
| 2012    | 26   | 352                              | 0   | 378                          | 0                                | 0                         | 378                        |
| 2013    | 27   | 470                              | 0   | 497                          | 0                                | 0                         | 497                        |
| 2014    | 36   | 587                              | 0   | 623                          | 0                                | 0                         | 623                        |
| 2015    | 47   | 704                              | 0   | 751                          | 0                                | 0                         | 751                        |
| 2016    | 90   | 822                              | 0   | 911                          | 0                                | 0                         | 911                        |
| 2017    | 89   | 939                              | 0   | 1,028                        | 0                                | 0                         | 1,028                      |
| 2018    | 95   | 1,057                            | 0   | 1,152                        | 0                                | 0                         | 1,152                      |
| 2019    | 111  | 1,174                            | 0   | 1,285                        | 0                                | 0                         | 1,285                      |
| 2020    | 114  | 1,174                            | 0   | 1,288                        | 0                                | 0                         | 1,288                      |
| 2021    | 124  | 1,174                            | 0   | 1,298                        | 0                                | 0                         | 1,298                      |
| 2022    | 125  | 1,174                            | 0   | 1,299                        | 0                                | 0                         | 1,299                      |
| 2023    | 128  | 1,174                            | 0   | 1,302                        | 0                                | 0                         | 1,302                      |
| 2024    | 131  | 1,174                            | 0   | 1,305                        | 0                                | 0                         | 1,305                      |
| 2025    | 134  | 1,174                            | 0   | 1,308                        | 0                                | 0                         | 1,308                      |
| 2026    | 137  | 1,174                            | 0   | 1,311                        | 0                                | 0                         | 1,311                      |
| 2027    | 112  | 1,174                            | 0   | 1,286                        | 0                                | 0                         | 1,286                      |
| 2028    | 143  | 1,174                            | 0   | 1,317                        | 0                                | 0                         | 1,317                      |
| 2029    | 147  | 1,174                            | 0   | 1,321                        | 0                                | 0                         | 1,321                      |
| 2030    | 151  | 1,174                            | 0   | 1,325                        | 0                                | 0                         | 1,325                      |
| 2031    | 154  | 1,174                            | 0   | 1,328                        | 0                                | 0                         | 1,328                      |
| 2032    | 157  | 1,174                            | 0   | 1,331                        | 0                                | 0                         | 1,331                      |
| 2033    | 161  | 1,174                            | 0   | 1,335                        | 0                                | 0                         | 1,335                      |
| 2034    | 164  | 1,174                            | 0   | 1,338                        | 0                                | 0                         | 1,338                      |
| 2035    | 168  | 1,174                            | 0   | 1,342                        | 0                                | 0                         | 1,342                      |
| 2036    | 172  | 1,174                            | 0   | 1,346                        | 0                                | 0                         | 1,346                      |
| 2037    | 176  | 1,174                            | 0   | 1,350                        | 0                                | 0                         | 1,350                      |
| 2038    | 179  | 1,174                            | 0   | 1,353                        | 0                                | 0                         | 1,353                      |
| NOMINAL | 3,327  | 28,763                           | 0   | 32,090                       | 0                                | 0                         | 32,090                     |
| NPV     | 953  | 9,282                            | 0   | 10,235                       | 0                                | 0                         | 10,235                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

PROGRAM: Standby Generation - TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                                      |  |                                  |                           |                            |
|---------|---|---|--|---|------------------------------|--|--|----------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)  | (7)                                    | (8)                              | (9)                       | (10)                       |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 15  | 0                                       | 0  | 0   | 15                           | 0  | 63                                     | 0                                | 63                        | -48                        |
| 2011    | 37  | 0                                       | 0  | 0   | 37                           | 0  | 68                                     | 0                                | 68                        | -31                        |
| 2012    | 42  | 0                                       | 0  | 0   | 42                           | 0  | 73                                     | 0                                | 73                        | -31                        |
| 2013    | 975                                       | 0                                       | 1,949                                    | 0   | 2,924                        | 0  | 78                                     | 0                                | 78                        | 2,846                      |
| 2014    | 0   | 0                                       | 3,839                                    | 0   | 3,839                        | 87   | 83                                     | 0                                | 170                       | 3,669                      |
| 2015    | 0   | 0                                       | 4,682                                    | 0   | 4,682                        | 716  | 88                                     | 0                                | 804                       | 3,878                      |
| 2016    | 140                                       | 0                                       | 5,203                                    | 0   | 5,343                        | 0  | 93                                     | 0                                | 93                        | 5,250                      |
| 2017    | 1,498                                     | 0                                       | 6,233                                    | 0   | 7,731                        | 0  | 98                                     | 0                                | 98                        | 7,633                      |
| 2018    | 2,040                                     | 0                                       | 8,261                                    | 0   | 10,301                       | 0  | 103                                    | 0                                | 103                       | 10,198                     |
| 2019    | 1,708                                     | 0                                       | 9,368                                    | 0   | 11,076                       | 0  | 108                                    | 0                                | 108                       | 10,968                     |
| 2020    | 1,557                                     | 0                                       | 9,565                                    | 0   | 11,122                       | 0  | 50                                     | 0                                | 50                        | 11,072                     |
| 2021    | 632                                       | 0                                       | 9,767                                    | 0   | 10,398                       | 0  | 50                                     | 0                                | 50                        | 10,348                     |
| 2022    | 3,629                                     | 0                                       | 5,337                                    | 0   | 8,965                        | 0  | 50                                     | 0                                | 50                        | 8,915                      |
| 2023    | 3,999                                     | 0                                       | 8,911                                    | 0   | 12,910                       | 0  | 50                                     | 0                                | 50                        | 12,860                     |
| 2024    | 1,139                                     | 0                                       | 9,305                                    | 0   | 10,444                       | 0  | 50                                     | 0                                | 50                        | 10,394                     |
| 2025    | 584                                       | 0                                       | 9,464                                    | 0   | 10,048                       | 0  | 50                                     | 0                                | 50                        | 9,998                      |
| 2026    | 3,639                                     | 0                                       | 6,234                                    | 0   | 9,872                        | 0  | 50                                     | 0                                | 50                        | 9,822                      |
| 2027    | 1,315                                     | 0                                       | 11,267                                   | 0   | 12,582                       | 0  | 50                                     | 0                                | 50                        | 12,532                     |
| 2028    | 1,169                                     | 0                                       | 11,535                                   | 0   | 12,704                       | 0  | 50                                     | 0                                | 50                        | 12,654                     |
| 2029    | 3,138                                     | 0                                       | 6,061                                    | 0   | 9,199                        | 0  | 50                                     | 0                                | 50                        | 9,149                      |
| 2030    | 3,434                                     | 0                                       | 10,141                                   | 0   | 13,574                       | 0  | 50                                     | 0                                | 50                        | 13,524                     |
| 2031    | 3,517                                     | 0                                       | 10,546                                   | 0   | 14,063                       | 0  | 50                                     | 0                                | 50                        | 14,013                     |
| 2032    | 3,532                                     | 0                                       | 10,968                                   | 0   | 14,500                       | 0  | 50                                     | 0                                | 50                        | 14,450                     |
| 2033    | 3,460                                     | 0                                       | 11,407                                   | 0   | 14,867                       | 0  | 50                                     | 0                                | 50                        | 14,817                     |
| 2034    | 3,634                                     | 0                                       | 11,863                                   | 0   | 15,497                       | 0  | 50                                     | 0                                | 50                        | 15,447                     |
| 2035    | 3,528                                     | 0                                       | 12,338                                   | 0   | 15,866                       | 0  | 50                                     | 0                                | 50                        | 15,816                     |
| 2036    | 3,469                                     | 0                                       | 12,831                                   | 0   | 16,300                       | 0  | 50                                     | 0                                | 50                        | 16,250                     |
| 2037    | 3,586                                     | 0                                       | 13,344                                   | 0   | 16,930                       | 0  | 50                                     | 0                                | 50                        | 16,880                     |
| 2038    | 3,681                                     | 0                                       | 13,878                                   | 0   | 17,559                       | 0  | 50                                     | 0                                | 50                        | 17,509                     |
| NOMINAL | 59,093                                    | 0                                       | 234,299                                  | 0   | 293,391                      | 803  | 1,807                                  | 0                                | 2,609                     | 290,782                    |
| NPV     | 14,764                                    | 0                                       | 65,746                                   | 0   | 80,510                       | 539  | 810                                    | 0                                | 1,349                     | 79,161                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 59.683

## **H. INTERRUPTIBLE SERVICE PROGRAM**

**Program Start Date:** 1996 for the IS-2 and IST-2 rate schedules.

Modifications proposed in 2010

### **Program Description**

The Interruptible Service program is a direct load control program that reduces Progress Energy's demand at times of capacity shortage during peak or emergency conditions.

### **Policies and Procedures**

The program is available throughout the entire territory served by Progress Energy to any non-residential customer who is willing to have their power interrupted. The program is currently offered through the Interruptible General Service (IS-2) and Interruptible General Service Time of Use (IST-2) rate schedules. The IS-1 and IST-1 rate schedules were closed to new customers in 1996, but remain active for those customers that were grand-fathered onto the rate.

Progress Energy will have remote control of the circuit breaker or disconnect switch supplying the customer's equipment. If purchased power is available at the time of potential interruption, customers who choose not to have their load interrupted will be assessed at the price of that purchased power supplied. Customers participating in the Interruptible Service program will receive a monthly interruptible demand credit based on their billing demand and billing load factor.

The general program eligibility requirements to qualify for participation are as follows:

- Customer must be eligible for service under the IS-2 or IST-2 Rate Schedules.
- Minimum billing demand must be 500 KW or more.
- Available at primary, transmission and secondary service voltages.



## Program Participation

Annual participation estimates for the Interruptible Service program are shown in the following table.

| Year | Total Number<br>of Customers<br>(1) | Total Number<br>of Measure<br>Eligible<br>Customers (2) | Annual Number of<br>Program Measure<br>Participants (3) | Cumulative<br>Penetration Level<br>(%) (4) |
|------|-------------------------------------|---|---|--|
| 2011 | 170,886                             | 459   | 1   | 0.2%                                       |
| 2012 | 175,147                             | 470   | 1   | 0.4%                                       |
| 2013 | 178,542                             | 479   | 1   | 0.6%                                       |
| 2014 | 182,030                             | 489   | 1   | 0.8%                                       |
| 2015 | 185,461                             | 498   | 1   | 1.0%                                       |
| 2016 | 188,717                             | 507   | 1   | 1.2%                                       |
| 2017 | 191,817                             | 515   | 1   | 1.4%                                       |
| 2018 | 194,809                             | 523   | 1   | 1.5%                                       |
| 2019 | 197,848                             | 531   | 1   | 1.7%                                       |

1. Total Number of Customers is the forecast of Commercial/Industrial customers in the Progress Energy 2009 Ten Year Site Plan.
2. Eligible Customers is based upon tariff IS-2 Rate Schedule.
3. Annual number of program participants represents the projected number of customers.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Savings estimate for the Interruptible Service program are shown in the following tables.

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2012 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2013 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2014 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2015 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2016 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2017 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2018 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |
| 2019 | -                          | 326.00                           | 311.00                           | -                          | 326                              | 311                              |

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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2012 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2013 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2014 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2015 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2016 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2017 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2018 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |
| 2019 | -                          | 336.79                           | 321.30                           | -                          | 337                              | 321                              |

## Impact Evaluation Plan

Program impacts are evaluated through on-site interval metering data of all Interruptible Service customers.

## Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs<br>\$(000) | NPV Net<br>Benefits<br>\$(000) | B/C Ratio |
|-------------------------|-------------------------|----------------------|--------------------------------|-----------|
| Rate Impact Measure     | \$6,187                 | \$1,315              | \$4,872                        | 4.7       |
| Participant             | \$1,127                 | \$0                  | \$1,127                        | 9999      |
| Total Resource Cost     | \$6,187                 | \$187                | \$6,000                        | 33.09     |

PROGRAM: Interruptible Service - RIM

| YEAR    | BENEFITS   |  |   |                                    |                                     | COSTS   |   |   |                                     |                                   | (11)<br>NET<br>BENEFITS<br>\$(000) |
|---------|--|--|---|------------------------------------|-------------------------------------|---|---|---|-------------------------------------|-----------------------------------|------------------------------------|
|         | (1)<br>TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | (2)<br>A VOIDED<br>T&D CAP<br>COSTS<br>\$(000) | (3)<br>A VOIDED<br>GEN. CAP<br>COSTS<br>\$(000) | (4)<br>REVENUE<br>GAINS<br>\$(000) | (5)<br>TOTAL<br>BENEFITS<br>\$(000) | (6)<br>TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | (7)<br>UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | (8)<br>INCENTIVE<br>PAYMENTS<br>\$(000) | (9)<br>REVENUE<br>LOSSES<br>\$(000) | (10)<br>TOTAL<br>COSTS<br>\$(000) |                                    |
| 2010    | 1  | 0  | 0   | 0                                  | 1                                   | 0   | 16  | 13                                      | 1                                   | 30                                | -29                                |
| 2011    | 3  | 0  | 0   | 0                                  | 3                                   | 0   | 17  | 27                                      | 1                                   | 45                                | -42                                |
| 2012    | 3  | 0  | 0   | 0                                  | 3                                   | 0   | 17  | 40                                      | 2                                   | 59                                | -56                                |
| 2013    | 76   | 0  | 147   | 0                                  | 223                                 | 0   | 18  | 54                                      | 3                                   | 74                                | 149                                |
| 2014    | 0  | 0  | 290   | 0                                  | 290                                 | 4   | 18  | 67                                      | 3                                   | 93                                | 197                                |
| 2015    | 0  | 0  | 353   | 0                                  | 353                                 | 51  | 19  | 81                                      | 5                                   | 155                               | 198                                |
| 2016    | 12   | 0  | 412   | 0                                  | 424                                 | 0   | 19  | 94                                      | 5                                   | 119                               | 305                                |
| 2017    | 119  | 0  | 493   | 0                                  | 612                                 | 0   | 20  | 108                                     | 5                                   | 133                               | 479                                |
| 2018    | 155  | 0  | 623   | 0                                  | 779                                 | 0   | 20  | 121                                     | 5                                   | 147                               | 632                                |
| 2019    | 130  | 0  | 707   | 0                                  | 837                                 | 0   | 21  | 135                                     | 6                                   | 162                               | 675                                |
| 2020    | 120  | 0  | 722   | 0                                  | 841                                 | 0   | 5   | 135                                     | 7                                   | 146                               | 695                                |
| 2021    | 50   | 0  | 737   | 0                                  | 787                                 | 0   | 5   | 135                                     | 8                                   | 148                               | 639                                |
| 2022    | 274  | 0  | 403   | 0                                  | 677                                 | 0   | 5   | 135                                     | 7                                   | 147                               | 530                                |
| 2023    | 301  | 0  | 672   | 0                                  | 974                                 | 0   | 5   | 135                                     | 8                                   | 147                               | 826                                |
| 2024    | 88   | 0  | 702   | 0                                  | 790                                 | 0   | 5   | 135                                     | 8                                   | 148                               | 643                                |
| 2025    | 45   | 0  | 714   | 0                                  | 759                                 | 0   | 5   | 135                                     | 8                                   | 148                               | 611                                |
| 2026    | 273  | 0  | 470   | 0                                  | 743                                 | 0   | 5   | 135                                     | 8                                   | 148                               | 595                                |
| 2027    | 103  | 0  | 850   | 0                                  | 953                                 | 0   | 5   | 135                                     | 8                                   | 148                               | 805                                |
| 2028    | 91   | 0  | 871   | 0                                  | 962                                 | 0   | 5   | 135                                     | 9                                   | 148                               | 813                                |
| 2029    | 247  | 0  | 479   | 0                                  | 726                                 | 0   | 5   | 135                                     | 9                                   | 149                               | 577                                |
| 2030    | 270  | 0  | 802   | 0                                  | 1,071                               | 0   | 5   | 135                                     | 10                                  | 150                               | 922                                |
| 2031    | 277  | 0  | 834   | 0                                  | 1,110                               | 0   | 5   | 135                                     | 10                                  | 149                               | 961                                |
| 2032    | 280  | 0  | 867   | 0                                  | 1,147                               | 0   | 5   | 135                                     | 10                                  | 150                               | 998                                |
| 2033    | 272  | 0  | 902   | 0                                  | 1,174                               | 0   | 5   | 135                                     | 11                                  | 150                               | 1,024                              |
| 2034    | 286  | 0  | 938   | 0                                  | 1,224                               | 0   | 5   | 135                                     | 10                                  | 150                               | 1,074                              |
| 2035    | 277  | 0  | 976   | 0                                  | 1,253                               | 0   | 5   | 135                                     | 11                                  | 150                               | 1,102                              |
| 2036    | 273  | 0  | 1,015   | 0                                  | 1,287                               | 0   | 5   | 135                                     | 11                                  | 151                               | 1,136                              |
| 2037    | 280  | 0  | 1,055   | 0                                  | 1,335                               | 0   | 5   | 135                                     | 11                                  | 151                               | 1,185                              |
| 2038    | 289  | 0  | 1,098   | 0                                  | 1,386                               | 0   | 5   | 135                                     | 11                                  | 151                               | 1,235                              |
| NOMINAL | 4,590  | 0  | 18,133  | 0                                  | 22,724                              | 56  | 278   | 3,304                                   | 209                                 | 3,846                             | 18,877                             |
| NPV     | 1,141  | 0  | 5,046   | 0                                  | 6,187                               | 37  | 150   | 1,066                                   | 61                                  | 1,315                             | 4,872                              |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 4.706

PROGRAM: Interruptible Service - Participant

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |                           | NET<br>BENEFITS<br>\$(000) |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|---------------------------|----------------------------|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)                       |                            |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 1  | 13                               | 0   | 14                           | 0                                | 0                         | 14                         |
| 2011    | 1  | 27                               | 0   | 28                           | 0                                | 0                         | 28                         |
| 2012    | 2  | 40                               | 0   | 42                           | 0                                | 0                         | 42                         |
| 2013    | 3  | 54                               | 0   | 57                           | 0                                | 0                         | 57                         |
| 2014    | 3  | 67                               | 0   | 71                           | 0                                | 0                         | 71                         |
| 2015    | 5  | 81                               | 0   | 86                           | 0                                | 0                         | 86                         |
| 2016    | 5  | 94                               | 0   | 100                          | 0                                | 0                         | 100                        |
| 2017    | 5  | 108                              | 0   | 113                          | 0                                | 0                         | 113                        |
| 2018    | 5  | 121                              | 0   | 127                          | 0                                | 0                         | 127                        |
| 2019    | 6  | 135                              | 0   | 141                          | 0                                | 0                         | 141                        |
| 2020    | 7  | 135                              | 0   | 141                          | 0                                | 0                         | 141                        |
| 2021    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2022    | 7  | 135                              | 0   | 142                          | 0                                | 0                         | 142                        |
| 2023    | 8  | 135                              | 0   | 142                          | 0                                | 0                         | 142                        |
| 2024    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2025    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2026    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2027    | 8  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2028    | 9  | 135                              | 0   | 143                          | 0                                | 0                         | 143                        |
| 2029    | 9  | 135                              | 0   | 144                          | 0                                | 0                         | 144                        |
| 2030    | 10   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2031    | 10   | 135                              | 0   | 144                          | 0                                | 0                         | 144                        |
| 2032    | 10   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2033    | 11   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2034    | 10   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2035    | 11   | 135                              | 0   | 145                          | 0                                | 0                         | 145                        |
| 2036    | 11   | 135                              | 0   | 146                          | 0                                | 0                         | 146                        |
| 2037    | 11   | 135                              | 0   | 146                          | 0                                | 0                         | 146                        |
| 2038    | 11   | 135                              | 0   | 146                          | 0                                | 0                         | 146                        |
| NOMINAL | 209  | 3,304                            | 0   | 3,513                        | 0                                | 0                         | 3,513                      |
| NPV     | 61   | 1,066                            | 0   | 1,127                        | 0                                | 0                         | 1,127                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

PROGRAM: Interruptible Service - TRC

| YEAR    | BENEFITS                       |                              |                               |                                  |                   | COSTS                           |                             |                       |                | NET<br>BENEFITS<br>\$(000) |
|---------|--------------------------------|------------------------------|-------------------------------|----------------------------------|-------------------|---------------------------------|-----------------------------|-----------------------|----------------|----------------------------|
|         | (1)                            | (2)                          | (3)                           | (4)                              | (5)               | (6)                             | (7)                         | (8)                   | (9)            |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS | AVOIDED<br>T&D CAP.<br>COSTS | AVOIDED<br>GEN. CAP.<br>COSTS | OTHER<br>PARTICIPANT<br>BENEFITS | TOTAL<br>BENEFITS | TOTAL<br>FUEL & O&M<br>INCREASE | UTILITY<br>PROGRAM<br>COSTS | PARTICIPANT'S<br>COST | TOTAL<br>COSTS |                            |
|         | \$(000)                        | \$(000)                      | \$(000)                       | \$(000)                          | \$(000)           | \$(000)                         | \$(000)                     | \$(000)               | \$(000)        |                            |
| 2010    | 1                              | 0                            | 0                             | 0                                | 1                 | 0                               | 16                          | 0                     | 16             | -15                        |
| 2011    | 3                              | 0                            | 0                             | 0                                | 3                 | 0                               | 17                          | 0                     | 17             | -14                        |
| 2012    | 3                              | 0                            | 0                             | 0                                | 3                 | 0                               | 17                          | 0                     | 17             | -14                        |
| 2013    | 76                             | 0                            | 147                           | 0                                | 223               | 0                               | 18                          | 0                     | 18             | 205                        |
| 2014    | 0                              | 0                            | 290                           | 0                                | 290               | 4                               | 18                          | 0                     | 22             | 267                        |
| 2015    | 0                              | 0                            | 353                           | 0                                | 353               | 51                              | 19                          | 0                     | 70             | 284                        |
| 2016    | 12                             | 0                            | 412                           | 0                                | 424               | 0                               | 19                          | 0                     | 19             | 405                        |
| 2017    | 119                            | 0                            | 493                           | 0                                | 612               | 0                               | 20                          | 0                     | 20             | 592                        |
| 2018    | 155                            | 0                            | 623                           | 0                                | 779               | 0                               | 20                          | 0                     | 20             | 759                        |
| 2019    | 130                            | 0                            | 707                           | 0                                | 837               | 0                               | 21                          | 0                     | 21             | 816                        |
| 2020    | 120                            | 0                            | 722                           | 0                                | 841               | 0                               | 5                           | 0                     | 5              | 836                        |
| 2021    | 50                             | 0                            | 737                           | 0                                | 787               | 0                               | 5                           | 0                     | 5              | 782                        |
| 2022    | 274                            | 0                            | 403                           | 0                                | 677               | 0                               | 5                           | 0                     | 5              | 672                        |
| 2023    | 301                            | 0                            | 672                           | 0                                | 974               | 0                               | 5                           | 0                     | 5              | 969                        |
| 2024    | 88                             | 0                            | 702                           | 0                                | 790               | 0                               | 5                           | 0                     | 5              | 785                        |
| 2025    | 45                             | 0                            | 714                           | 0                                | 759               | 0                               | 5                           | 0                     | 5              | 754                        |
| 2026    | 273                            | 0                            | 470                           | 0                                | 743               | 0                               | 5                           | 0                     | 5              | 738                        |
| 2027    | 103                            | 0                            | 850                           | 0                                | 953               | 0                               | 5                           | 0                     | 5              | 948                        |
| 2028    | 91                             | 0                            | 871                           | 0                                | 962               | 0                               | 5                           | 0                     | 5              | 957                        |
| 2029    | 247                            | 0                            | 479                           | 0                                | 726               | 0                               | 5                           | 0                     | 5              | 721                        |
| 2030    | 270                            | 0                            | 802                           | 0                                | 1,071             | 0                               | 5                           | 0                     | 5              | 1,066                      |
| 2031    | 277                            | 0                            | 834                           | 0                                | 1,110             | 0                               | 5                           | 0                     | 5              | 1,105                      |
| 2032    | 280                            | 0                            | 867                           | 0                                | 1,147             | 0                               | 5                           | 0                     | 5              | 1,142                      |
| 2033    | 272                            | 0                            | 902                           | 0                                | 1,174             | 0                               | 5                           | 0                     | 5              | 1,169                      |
| 2034    | 286                            | 0                            | 938                           | 0                                | 1,224             | 0                               | 5                           | 0                     | 5              | 1,219                      |
| 2035    | 277                            | 0                            | 976                           | 0                                | 1,253             | 0                               | 5                           | 0                     | 5              | 1,248                      |
| 2036    | 273                            | 0                            | 1,015                         | 0                                | 1,287             | 0                               | 5                           | 0                     | 5              | 1,282                      |
| 2037    | 280                            | 0                            | 1,055                         | 0                                | 1,335             | 0                               | 5                           | 0                     | 5              | 1,330                      |
| 2038    | 289                            | 0                            | 1,098                         | 0                                | 1,386             | 0                               | 5                           | 0                     | 5              | 1,381                      |
| NOMINAL | 4,590                          | 0                            | 18,133                        | 0                                | 22,724            | 56                              | 278                         | 0                     | 333            | 22,391                     |
| NPV     | 1,141                          | 0                            | 5,046                         | 0                                | 6,187             | 37                              | 150                         | 0                     | 187            | 6,000                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 33.061

## **I. CURTAILABLE SERVICE PROGRAM**

**Program Start Date:** 1996 for the CS-2 and CST-2 rate schedules

2004 for the CS-3 and CST-3 rate schedules.

Modifications proposed in 2010

### **Program Description**

The Curtailable Service program is an indirect load control program that will reduce Progress Energy's demand at times of capacity shortage during peak or emergency conditions.

### **Policies and Procedures**

The program is available throughout the entire territory served by Progress Energy to any non-residential customer who agrees to curtail 25% of their average monthly billing demand for CS-2 and CST-2 and a minimum of 2000 KW for CS-3 and CST-3. The program is currently offered through the Curtailable General Service (CS-2) and Curtailable General Service Time of Use (CST-2) rate schedules. The CS-1 and CST-1 rate schedules were closed to new customers in 1996, but remain active for those customers that were grand-fathered onto the rate.

Progress Energy will notify customers when off-system power purchases may begin in support of their service. If purchased power is available at the time of notification, customers who choose not to reduce their load will be assessed charges as set forth in the applicable tariff. Additionally, Progress Energy will provide notification of curtailment request. Upon curtailment

request, customers choosing not to comply with their curtailment responsibility will be assessed penalties as described in the applicable tariff. Customers participating in the Curtailable Service program receive a monthly curtailable demand credit based on their curtailable demand and billing load factor. The general program eligibility requirements to qualify for participation are as follows:

- Customer must be eligible for service under the CS-2 or CST-2 Rate Schedules.
- Minimum billing demand must be 500 KW or more for CS-2 and CST-2.
- Available at primary, transmission and secondary service voltages.



## Program Participation

Annual participation estimates for the Curtailable Service program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 906   | 1  | 0.1%  |
| 2012 | 175,147                                  | 928   | 1  | 0.2%  |
| 2013 | 178,542                                  | 946   | 1  | 0.3%  |
| 2014 | 182,030                                  | 965   | 1  | 0.4%  |
| 2015 | 185,461                                  | 983   | 1  | 0.5%  |
| 2016 | 188,717                                  | 1,000   | 1  | 0.6%  |
| 2017 | 191,817                                  | 1,017   | 1  | 0.7%  |
| 2018 | 194,809                                  | 1,032   | 1  | 0.8%  |
| 2019 | 197,848                                  | 1,049   | 1  | 0.9%  |

## Savings Estimates

Savings estimate for the Curtailable Service program are shown in the following tables.

At the Meter

| Year | Per Customer<br>KWh Reduction | Per Customer<br>Winter KW<br>Reduction | Per Customer<br>Summer KW<br>Reduction | Total Annual<br>KWh Reduction | Total Annual<br>Winter KW<br>Reduction | Total Annual<br>Summer KW<br>Reduction |
|------|-------------------------------|--|--|-------------------------------|--|--|
| 2011 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2012 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2013 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2014 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2015 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2016 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2017 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2018 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |
| 2019 | -                             | 282.00                                 | 189.00                                 | -                             | 282                                    | 189                                    |

At the Generator

| Year | Per Customer<br>KWh Reduction | Per Customer<br>Winter KW<br>Reduction | Per Customer<br>Summer KW<br>Reduction | Total Annual<br>KWh Reduction | Total Annual<br>Winter KW<br>Reduction | Total Annual<br>Summer KW<br>Reduction |
|------|-------------------------------|--|--|-------------------------------|--|--|
| 2011 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2012 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2013 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2014 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2015 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2016 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2017 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2018 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |
| 2019 | -                             | 299.68                                 | 200.85                                 | -                             | 300                                    | 201                                    |

## Impact Evaluation Plan

Program impacts are evaluated through on-site interval metering data of all Curtailable Service customers.

## Cost-Effectiveness

All cost effectiveness tests are net of free ridership. The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$4,508                         | \$720                        | \$3,788                             | 6.26             |
| Participant                    | \$663                           | \$0                          | \$663                               | 9999             |
| Total Resource Cost            | \$4,508                         | \$57                         | \$4,450                             | 78.8             |

PROGRAM: Curtailable Service - RIM

| YEAR    | BENEFITS                                  |   |  |                             |                              | COSTS                                      |  |                                  |                              |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|-----------------------------|------------------------------|--|--|----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)                         | (5)                          | (6)  | (7)                                    | (8)                              | (9)                          | (10)                      |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 1   | 0                                       | 0  | 0                           | 1                            | 0  | 0                                      | 8                                | 1                            | 8                         | -8                         |
| 2011    | 3   | 0                                       | 0  | 0                           | 3                            | 0  | 1                                      | 15                               | 1                            | 17                        | -15                        |
| 2012    | 3   | 0                                       | 0  | 0                           | 3                            | 0  | 1                                      | 23                               | 2                            | 26                        | -23                        |
| 2013    | 48  | 0                                       | 92                                       | 0                           | 140                          | 0  | 2                                      | 31                               | 2                            | 35                        | 106                        |
| 2014    | 0   | 0                                       | 182                                      | 0                           | 182                          | 2  | 2                                      | 39                               | 3                            | 45                        | 137                        |
| 2015    | 0   | 0                                       | 222                                      | 0                           | 222                          | 30   | 3                                      | 46                               | 4                            | 83                        | 139                        |
| 2016    | 10  | 0                                       | 367                                      | 0                           | 377                          | 0  | 3                                      | 54                               | 5                            | 62                        | 315                        |
| 2017    | 106                                       | 0                                       | 440                                      | 0                           | 546                          | 0  | 4                                      | 62                               | 5                            | 70                        | 476                        |
| 2018    | 99  | 0                                       | 391                                      | 0                           | 491                          | 0  | 4                                      | 70                               | 5                            | 78                        | 412                        |
| 2019    | 83  | 0                                       | 444                                      | 0                           | 527                          | 0  | 5                                      | 77                               | 6                            | 87                        | 439                        |
| 2020    | 77  | 0                                       | 453                                      | 0                           | 530                          | 0  | 5                                      | 77                               | 6                            | 88                        | 441                        |
| 2021    | 35  | 0                                       | 463                                      | 0                           | 497                          | 0  | 5                                      | 77                               | 6                            | 89                        | 409                        |
| 2022    | 174                                       | 0                                       | 253                                      | 0                           | 427                          | 0  | 5                                      | 77                               | 6                            | 89                        | 338                        |
| 2023    | 192                                       | 0                                       | 422                                      | 0                           | 614                          | 0  | 5                                      | 77                               | 7                            | 89                        | 525                        |
| 2024    | 58  | 0                                       | 441                                      | 0                           | 499                          | 0  | 5                                      | 77                               | 7                            | 89                        | 410                        |
| 2025    | 31  | 0                                       | 448                                      | 0                           | 479                          | 0  | 5                                      | 77                               | 7                            | 89                        | 390                        |
| 2026    | 174                                       | 0                                       | 295                                      | 0                           | 469                          | 0  | 5                                      | 77                               | 7                            | 89                        | 380                        |
| 2027    | 66  | 0                                       | 534                                      | 0                           | 600                          | 0  | 5                                      | 77                               | 7                            | 89                        | 510                        |
| 2028    | 59  | 0                                       | 547                                      | 0                           | 606                          | 0  | 5                                      | 77                               | 7                            | 90                        | 516                        |
| 2029    | 220                                       | 0                                       | 428                                      | 0                           | 647                          | 0  | 5                                      | 77                               | 8                            | 90                        | 557                        |
| 2030    | 242                                       | 0                                       | 715                                      | 0                           | 956                          | 0  | 5                                      | 77                               | 8                            | 90                        | 866                        |
| 2031    | 247                                       | 0                                       | 744                                      | 0                           | 990                          | 0  | 5                                      | 77                               | 8                            | 90                        | 900                        |
| 2032    | 249                                       | 0                                       | 773                                      | 0                           | 1,022                        | 0  | 5                                      | 77                               | 8                            | 90                        | 931                        |
| 2033    | 243                                       | 0                                       | 804                                      | 0                           | 1,047                        | 0  | 5                                      | 77                               | 8                            | 91                        | 957                        |
| 2034    | 255                                       | 0                                       | 836                                      | 0                           | 1,091                        | 0  | 5                                      | 77                               | 8                            | 91                        | 1,001                      |
| 2035    | 247                                       | 0                                       | 870                                      | 0                           | 1,117                        | 0  | 5                                      | 77                               | 9                            | 91                        | 1,026                      |
| 2036    | 242                                       | 0                                       | 905                                      | 0                           | 1,147                        | 0  | 5                                      | 77                               | 9                            | 91                        | 1,055                      |
| 2037    | 250                                       | 0                                       | 941                                      | 0                           | 1,191                        | 0  | 5                                      | 77                               | 9                            | 91                        | 1,099                      |
| 2038    | 258                                       | 0                                       | 978                                      | 0                           | 1,236                        | 0  | 5                                      | 77                               | 9                            | 91                        | 1,145                      |
| NOMINAL | 3,668                                     | 0                                       | 13,987                                   | 0                           | 17,654                       | 32   | 118                                    | 1,892                            | 177                          | 2,218                     | 15,436                     |
| NPV     | 855                                       | 0                                       | 3,652                                    | 0                           | 4,508                        | 21   | 36                                     | 611                              | 52                           | 720                       | 3,787                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 6.259

PROGRAM: Curtailable Service - Participant

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |                           | NET<br>BENEFITS<br>\$(000) |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|---------------------------|----------------------------|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)                       |                            |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 1  | 8                                | 0   | 8                            | 0                                | 0                         | 8                          |
| 2011    | 1  | 15                               | 0   | 17                           | 0                                | 0                         | 17                         |
| 2012    | 2  | 23                               | 0   | 25                           | 0                                | 0                         | 25                         |
| 2013    | 2  | 31                               | 0   | 33                           | 0                                | 0                         | 33                         |
| 2014    | 3  | 39                               | 0   | 41                           | 0                                | 0                         | 41                         |
| 2015    | 4  | 46                               | 0   | 50                           | 0                                | 0                         | 50                         |
| 2016    | 5  | 54                               | 0   | 59                           | 0                                | 0                         | 59                         |
| 2017    | 5  | 62                               | 0   | 66                           | 0                                | 0                         | 66                         |
| 2018    | 5  | 70                               | 0   | 74                           | 0                                | 0                         | 74                         |
| 2019    | 6  | 77                               | 0   | 83                           | 0                                | 0                         | 83                         |
| 2020    | 6  | 77                               | 0   | 83                           | 0                                | 0                         | 83                         |
| 2021    | 6  | 77                               | 0   | 84                           | 0                                | 0                         | 84                         |
| 2022    | 6  | 77                               | 0   | 84                           | 0                                | 0                         | 84                         |
| 2023    | 7  | 77                               | 0   | 84                           | 0                                | 0                         | 84                         |
| 2024    | 7  | 77                               | 0   | 84                           | 0                                | 0                         | 84                         |
| 2025    | 7  | 77                               | 0   | 84                           | 0                                | 0                         | 84                         |
| 2026    | 7  | 77                               | 0   | 84                           | 0                                | 0                         | 84                         |
| 2027    | 7  | 77                               | 0   | 84                           | 0                                | 0                         | 84                         |
| 2028    | 7  | 77                               | 0   | 85                           | 0                                | 0                         | 85                         |
| 2029    | 8  | 77                               | 0   | 85                           | 0                                | 0                         | 85                         |
| 2030    | 8  | 77                               | 0   | 85                           | 0                                | 0                         | 85                         |
| 2031    | 8  | 77                               | 0   | 85                           | 0                                | 0                         | 85                         |
| 2032    | 8  | 77                               | 0   | 85                           | 0                                | 0                         | 85                         |
| 2033    | 8  | 77                               | 0   | 86                           | 0                                | 0                         | 86                         |
| 2034    | 8  | 77                               | 0   | 86                           | 0                                | 0                         | 86                         |
| 2035    | 9  | 77                               | 0   | 86                           | 0                                | 0                         | 86                         |
| 2036    | 9  | 77                               | 0   | 86                           | 0                                | 0                         | 86                         |
| 2037    | 9  | 77                               | 0   | 86                           | 0                                | 0                         | 86                         |
| 2038    | 9  | 77                               | 0   | 86                           | 0                                | 0                         | 86                         |
| NOMINAL | 177  | 1,892                            | 0   | 2,069                        | 0                                | 0                         | 2,069                      |
| NPV     | 52   | 611                              | 0   | 663                          | 0                                | 0                         | 663                        |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

PROGRAM: Curtailable Service - TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                                      |  |                                  |                           | NET<br>BENEFITS<br>\$(000) |
|---------|---|---|--|---|------------------------------|--|--|----------------------------------|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)  | (7)                                    | (8)                              | (9)                       |                            |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                            |
| 2010    | 1   | 0                                       | 0  | 0   | 1                            | 0  | 0                                      | 0                                | 0                         | 1                          |
| 2011    | 3   | 0                                       | 0  | 0   | 3                            | 0  | 1                                      | 0                                | 1                         | 2                          |
| 2012    | 3   | 0                                       | 0  | 0   | 3                            | 0  | 1                                      | 0                                | 1                         | 2                          |
| 2013    | 48  | 0                                       | 92                                       | 0   | 140                          | 0  | 2                                      | 0                                | 2                         | 139                        |
| 2014    | 0   | 0                                       | 182                                      | 0   | 182                          | 2  | 2                                      | 0                                | 4                         | 178                        |
| 2015    | 0   | 0                                       | 222                                      | 0   | 222                          | 30   | 3                                      | 0                                | 33                        | 189                        |
| 2016    | 10  | 0                                       | 367                                      | 0   | 377                          | 0  | 3                                      | 0                                | 3                         | 374                        |
| 2017    | 106                                       | 0                                       | 440                                      | 0   | 546                          | 0  | 4                                      | 0                                | 4                         | 542                        |
| 2018    | 99  | 0                                       | 391                                      | 0   | 491                          | 0  | 4                                      | 0                                | 4                         | 487                        |
| 2019    | 83  | 0                                       | 444                                      | 0   | 527                          | 0  | 5                                      | 0                                | 5                         | 522                        |
| 2020    | 77  | 0                                       | 453                                      | 0   | 530                          | 0  | 5                                      | 0                                | 5                         | 525                        |
| 2021    | 35  | 0                                       | 463                                      | 0   | 497                          | 0  | 5                                      | 0                                | 5                         | 492                        |
| 2022    | 174                                       | 0                                       | 253                                      | 0   | 427                          | 0  | 5                                      | 0                                | 5                         | 422                        |
| 2023    | 192                                       | 0                                       | 422                                      | 0   | 614                          | 0  | 5                                      | 0                                | 5                         | 609                        |
| 2024    | 58  | 0                                       | 441                                      | 0   | 499                          | 0  | 5                                      | 0                                | 5                         | 494                        |
| 2025    | 31  | 0                                       | 448                                      | 0   | 479                          | 0  | 5                                      | 0                                | 5                         | 474                        |
| 2026    | 174                                       | 0                                       | 295                                      | 0   | 469                          | 0  | 5                                      | 0                                | 5                         | 464                        |
| 2027    | 66  | 0                                       | 534                                      | 0   | 600                          | 0  | 5                                      | 0                                | 5                         | 595                        |
| 2028    | 59  | 0                                       | 547                                      | 0   | 606                          | 0  | 5                                      | 0                                | 5                         | 601                        |
| 2029    | 220                                       | 0                                       | 428                                      | 0   | 647                          | 0  | 5                                      | 0                                | 5                         | 642                        |
| 2030    | 242                                       | 0                                       | 715                                      | 0   | 956                          | 0  | 5                                      | 0                                | 5                         | 951                        |
| 2031    | 247                                       | 0                                       | 744                                      | 0   | 990                          | 0  | 5                                      | 0                                | 5                         | 985                        |
| 2032    | 249                                       | 0                                       | 773                                      | 0   | 1,022                        | 0  | 5                                      | 0                                | 5                         | 1,017                      |
| 2033    | 243                                       | 0                                       | 804                                      | 0   | 1,047                        | 0  | 5                                      | 0                                | 5                         | 1,042                      |
| 2034    | 255                                       | 0                                       | 836                                      | 0   | 1,091                        | 0  | 5                                      | 0                                | 5                         | 1,086                      |
| 2035    | 247                                       | 0                                       | 870                                      | 0   | 1,117                        | 0  | 5                                      | 0                                | 5                         | 1,112                      |
| 2036    | 242                                       | 0                                       | 905                                      | 0   | 1,147                        | 0  | 5                                      | 0                                | 5                         | 1,142                      |
| 2037    | 250                                       | 0                                       | 941                                      | 0   | 1,191                        | 0  | 5                                      | 0                                | 5                         | 1,186                      |
| 2038    | 258                                       | 0                                       | 978                                      | 0   | 1,236                        | 0  | 5                                      | 0                                | 5                         | 1,231                      |
| NOMINAL | 3,668                                     | 0                                       | 13,987                                   | 0   | 17,654                       | 32   | 118                                    | 0                                | 149                       | 17,505                     |
| NPV     | 855                                       | 0                                       | 3,652                                    | 0   | 4,508                        | 21   | 36                                     | 0                                | 57                        | 4,450                      |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 78.800

**J. BUSINESS ENERGY RESPONSE PROGRAM**

**Program Start Date:** Proposed to start in 2011

**Program Description**

This program will provide participating non-residential customers with prompt time-of-use energy information, enabling the customer to utilize current energy usage data to identify opportunities to reduce electric consumption during high peak/rate periods. Additionally, these customers will have the opportunity to take advantage of the critical peak rebate incentive that will be offered upon approval of this demand response program and associated tariff sheet (GSDR). This critical peak rebate will be provided to the qualifying non-residential customers during critical peak times to encourage the customer to reduce load during these peak events by allowing direct load control of their air-conditioning systems and/or interfacing with their energy management systems.

There will be a phased infrastructure enhancement plan and implementation that will enable advanced remote metering, direct load control & energy management system demand response interfaces, provide customers with more frequent interval meter data including the addition of a two-way communications network, and a Meter Data Management System with a customer-accessible energy usage and reporting web portal.

Goals of the program are:

- Provide non-residential customers alternative methods/technologies to reduce their electricity cost and contribute to Progress Energy’s overall energy and demand reduction goals
- Reduce on-peak demand and energy usage
- Provide low-cost added-value data services (i.e. detailed energy usage reports) in lieu of monthly incentives to lower overall program cost
- Incent participants for only energy/demand benefits actually provided and measured
- Implement the necessary metering & communications technology to support this program and create the opportunity for other energy efficiency programs to be added in the future. This infrastructure will allow Progress Energy to match the American Recovery and Reinvestment Act stimulus grant funds awarded by the Department of Energy.
- Total participation goal is approximately 85,000 AMI web portal (access) non-residential customers by 2019 with many participants upgrading to other energy efficiency programs by the end of 2019 resulting in additional demand and energy reductions

### **Policies and Procedures**

Incentives will be based on measured demand reduction compared to a benchmark average demand established over a period just prior to the critical peak event day.



The program eligibility requirements to qualify for participation are as follows:

General Requirements:

- Meet program specific requirements to ensure needed technology is compatible and expected load reduction is feasible as will be indicated in the GSDR tariff sheet
- The building/facility must be a Progress Energy non-residential tariff type with a time of use or demand rate or have an existing time of use or demand meter
- The building/facility must have an approved Progress Energy “smart meter” that is connected to the Progress Energy Advanced Metering Infrastructure/Demand Response network with two-way communications active (provided by Progress Energy)
- The metering and DR equipment/installation must be considered cost effective by Progress Energy
- The non-residential participant must agree to participate for a minimum number of control events if demand response equipment is installed
- Exceptions to the non-residential tariff type requirement may be made in the event the commercial customer is out of our AMI range, resulting in the need to install meters/gateways to complete the two-way communications network to the customer or if interval data is needed on that residential customer for research purposes
- Participant must allow Progress Energy and/or its contractor access to all equipment on this program when required by Progress Energy

- Incentive Levels and specific eligibility requirements for each feature promoted in this program will be presented in the Program Participation Standards.

## Program Participation

Annual participation estimates for the Business Energy Response program are shown in the following table.

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 170,886   | 7  | 0.0%  |
| 2012 | 175,147                                  | 175,147   | 904  | 0.5%  |
| 2013 | 178,542                                  | 178,542   | 6,905  | 4.4%  |
| 2014 | 182,030                                  | 182,030   | 9,904  | 9.7%  |
| 2015 | 185,461                                  | 185,461   | 15,904   | 18.1%   |
| 2016 | 188,717                                  | 188,717   | 15,905   | 26.2%   |
| 2017 | 191,817                                  | 191,817   | 15,904   | 34.1%   |
| 2018 | 194,809                                  | 194,809   | 15,904   | 41.8%   |
| 2019 | 197,848                                  | 197,848   | 10,814   | 46.6%   |

1. Total Number of Customers is the forecast of commercial/industrial (C/I) customers in the Progress Energy 2009 Ten Year Site Plan.
2. All commercial, industrial and governmental rate classes are eligible to participate. Note: There are three levels of participation and customers may participant in more than one.
3. Number of program participants represents the participants projected.
4. Cumulative penetration is the ratio of projected measure participating customers to the eligible customer pool.

## Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure’s per customer savings and, annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 0.00                             | 118.16                           | -                          | -                                | 827                              |
| 2012 | -                          | 0.00                             | 7.13                             | -                          | -                                | 6,445                            |
| 2013 | 1,716                      | 0.47                             | 1.40                             | 10,398,501                 | 3,212                            | 9,662                            |
| 2014 | 1,716                      | 0.49                             | 1.14                             | 15,597,752                 | 4,817                            | 11,263                           |
| 2015 | 1,716                      | 0.50                             | 0.91                             | 25,996,253                 | 8,029                            | 14,474                           |
| 2016 | 1,716                      | 0.50                             | 0.91                             | 25,996,253                 | 8,029                            | 14,479                           |
| 2017 | 1,716                      | 0.50                             | 0.91                             | 25,996,253                 | 8,029                            | 14,474                           |
| 2018 | 1,716                      | 0.50                             | 0.91                             | 25,996,253                 | 8,029                            | 14,474                           |
| 2019 | 1,716                      | 0.49                             | 1.05                             | 17,330,835                 | 5,353                            | 11,379                           |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | -                          | 0.00                             | 124.63                           | -                          | -                                | 872                              |
| 2012 | -                          | 0.00                             | 7.52                             | -                          | -                                | 6,798                            |
| 2013 | 1,810                      | 0.49                             | 1.48                             | 10,967,299                 | 3,387                            | 10,190                           |
| 2014 | 1,810                      | 0.51                             | 1.20                             | 16,450,949                 | 5,081                            | 11,879                           |
| 2015 | 1,810                      | 0.53                             | 0.96                             | 27,418,248                 | 8,468                            | 15,266                           |
| 2016 | 1,810                      | 0.53                             | 0.96                             | 27,418,248                 | 8,468                            | 15,271                           |
| 2017 | 1,810                      | 0.53                             | 0.96                             | 27,418,248                 | 8,468                            | 15,266                           |
| 2018 | 1,810                      | 0.53                             | 0.96                             | 27,418,248                 | 8,468                            | 15,266                           |
| 2019 | 1,810                      | 0.52                             | 1.11                             | 18,278,832                 | 5,646                            | 12,002                           |

1. 2011 and 2012 contain demand values for summer participants only.

The measure that affects energy is available in years 2013 thru 2019.

## Impact Evaluation Plan

Baseline energy and demand usage will be collected from participants to create a statistically valid baseline for winter and summer peak impact evaluation. This baseline will be compared to participants’ energy and demand actual data to determine program impacts. In addition, the program requires actual demand comparison before incentives are paid out.

## Cost-Effectiveness

The economic results of the program are as follows:

| Cost-Effectiveness Test | NPV Benefits<br>\$(000) | NPV Costs \$<br>(000) | NPV Net<br>Benefits \$(000) | B/C Ratio |
|-------------------------|-------------------------|-----------------------|-----------------------------|-----------|
| Rate Impact Measure     | \$338,403               | \$297,608             | \$40,795                    | 1.14      |
| Participant             | \$166,203               | \$0                   | \$166,203                   | 9999      |
| Total Resource Cost     | \$338,403               | \$131,405             | \$206,998                   | 2.58      |

PROGRAM: Business Energy Response - RIM

| YEAR    | BENEFITS                                   |  |   |                             |                              | COSTS                                      |   |  |  |                                   |                              |                           |                            |
|---------|--|--|---|-----------------------------|------------------------------|--|---|--|--|-----------------------------------|------------------------------|---------------------------|----------------------------|
|         | (1)  | (2)                                      | (3)                                       | (4)                         | (5)                          | (6)  | (7)                                       | (8)  | (9)                                    | (10)                              | (11)                         | (12)                      | (13)                       |
|         | TOTAL<br>FUEL & O&M<br>SA VINGS<br>\$(000) | A VOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | A VOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | REVENUE<br>GAINS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | INCENTIVE<br>PA YMENTS<br>\$(000) | REVENUE<br>LOSSES<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 5  | 0  | 0   | 0                           | 5                            | 0  | 0   | 0  | 10,940                                 | 50                                | 3                            | 10,993                    | -10,988                    |
| 2011    | 7  | 0  | 0   | 0                           | 7                            | 0  | 0   | 0  | 13,780                                 | 66                                | 5                            | 13,851                    | -13,844                    |
| 2012    | 9,439                                      | 585                                      | 0   | 0                           | 10,024                       | 0  | 0   | 0  | 20,734                                 | 194                               | 9,339                        | 30,267                    | -20,243                    |
| 2013    | 20,588                                     | 995                                      | 6,833                                     | 0                           | 28,416                       | 0  | 0   | 0  | 24,301                                 | 322                               | 16,765                       | 41,388                    | -12,971                    |
| 2014    | 14,705                                     | 995                                      | 14,287                                    | 0                           | 29,987                       | 76   | 0   | 0  | 21,551                                 | 450                               | 17,498                       | 39,575                    | -9,587                     |
| 2015    | 15,799                                     | 995                                      | 17,343                                    | 0                           | 34,137                       | 755  | 0   | 0  | 21,108                                 | 578                               | 19,187                       | 41,627                    | -7,490                     |
| 2016    | 21,330                                     | 995                                      | 5,590                                     | 0                           | 27,916                       | 0  | 0   | 0  | 19,847                                 | 705                               | 18,889                       | 39,441                    | -11,526                    |
| 2017    | 18,064                                     | 995                                      | 11,468                                    | 0                           | 30,527                       | 0  | 0   | 0  | 16,634                                 | 833                               | 16,370                       | 33,837                    | -3,310                     |
| 2018    | 21,707                                     | 995                                      | 24,557                                    | 0                           | 47,259                       | 0  | 0   | 0  | 12,966                                 | 961                               | 15,674                       | 29,601                    | 17,659                     |
| 2019    | 21,301                                     | 995                                      | 26,546                                    | 0                           | 48,843                       | 0  | 0   | 0  | 10,218                                 | 1,010                             | 16,409                       | 27,638                    | 21,205                     |
| 2020    | 21,328                                     | 995                                      | 26,239                                    | 0                           | 48,562                       | 0  | 0   | 0  | 8,343                                  | 1,010                             | 16,892                       | 26,245                    | 22,317                     |
| 2021    | 20,062                                     | 995                                      | 27,736                                    | 0                           | 48,793                       | 0  | 0   | 0  | 7,446                                  | 1,010                             | 18,282                       | 26,739                    | 22,055                     |
| 2022    | 26,688                                     | 995                                      | 12,328                                    | 0                           | 40,011                       | 0  | 0   | 0  | 6,934                                  | 1,010                             | 18,439                       | 26,384                    | 13,627                     |
| 2023    | 28,736                                     | 995                                      | 20,599                                    | 0                           | 50,330                       | 0  | 0   | 0  | 5,241                                  | 1,010                             | 18,898                       | 25,150                    | 25,180                     |
| 2024    | 22,729                                     | 995                                      | 28,753                                    | 0                           | 52,477                       | 0  | 0   | 0  | 3,294                                  | 1,010                             | 19,277                       | 23,581                    | 28,896                     |
| 2025    | 22,101                                     | 995                                      | 29,640                                    | 0                           | 52,736                       | 0  | 0   | 0  | 2,709                                  | 1,010                             | 19,789                       | 23,509                    | 29,227                     |
| 2026    | 29,665                                     | 995                                      | 14,489                                    | 0                           | 45,149                       | 0  | 0   | 0  | 2,574                                  | 1,010                             | 20,246                       | 23,830                    | 21,319                     |
| 2027    | 24,986                                     | 995                                      | 35,271                                    | 0                           | 61,252                       | 0  | 0   | 0  | 2,371                                  | 1,010                             | 20,692                       | 24,073                    | 37,178                     |
| 2028    | 24,502                                     | 995                                      | 28,191                                    | 0                           | 53,688                       | 0  | 0   | 0  | 2,092                                  | 1,010                             | 21,163                       | 24,266                    | 29,422                     |
| 2029    | 26,767                                     | 995                                      | 7,254                                     | 0                           | 35,016                       | 0  | 0   | 0  | 1,687                                  | 1,010                             | 21,770                       | 24,467                    | 10,549                     |
| 2030    | 28,311                                     | 995                                      | 12,393                                    | 0                           | 41,699                       | 0  | 0   | 0  | 1,930                                  | 1,010                             | 22,266                       | 25,207                    | 16,492                     |
| 2031    | 29,254                                     | 995                                      | 12,787                                    | 0                           | 43,036                       | 0  | 0   | 0  | 2,175                                  | 1,010                             | 22,777                       | 25,963                    | 17,074                     |
| 2032    | 30,279                                     | 995                                      | 13,227                                    | 0                           | 44,501                       | 0  | 0   | 0  | 2,686                                  | 1,010                             | 23,239                       | 26,935                    | 17,565                     |
| 2033    | 31,193                                     | 995                                      | 13,940                                    | 0                           | 46,128                       | 0  | 0   | 0  | 2,643                                  | 1,010                             | 23,826                       | 27,479                    | 18,649                     |
| 2034    | 31,757                                     | 995                                      | 14,097                                    | 0                           | 46,849                       | 0  | 0   | 0  | 2,770                                  | 1,010                             | 24,258                       | 28,039                    | 18,810                     |
| 2035    | 33,317                                     | 995                                      | 14,967                                    | 0                           | 49,279                       | 0  | 0   | 0  | 2,912                                  | 1,010                             | 24,891                       | 28,814                    | 20,465                     |
| 2036    | 34,539                                     | 995                                      | 15,674                                    | 0                           | 51,207                       | 0  | 0   | 0  | 2,818                                  | 1,010                             | 25,469                       | 29,297                    | 21,910                     |
| 2037    | 35,549                                     | 995                                      | 16,113                                    | 0                           | 52,657                       | 0  | 0   | 0  | 8,298                                  | 1,010                             | 26,085                       | 35,393                    | 17,263                     |
| NOMINAL | 644,702                                    | 25,464                                   | 450,324                                   | 0                           | 1,120,490                    | 831  | 0   | 0  | 241,001                                | 23,357                            | 518,397                      | 783,587                   | 336,903                    |
| NPV     | 188,953                                    | 8,450                                    | 141,000                                   | 0                           | 338,403                      | 514  | 0   | 0  | 130,891                                | 6,944                             | 159,259                      | 297,608                   | 40,795                     |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 1.137

PROGRAM: Business Energy Response - Participant

| YEAR    | BENEFITS                                       |                                  |   |                              | COSTS                            |  |                           | NET BENEFITS<br>TO<br>PARTICIPANT |
|---------|--|----------------------------------|---|------------------------------|----------------------------------|--|---------------------------|-----------------------------------|
|         | (1)  | (2)                              | (3)   | (4)                          | (5)                              | (6)  | (7)                       |                                   |
|         | SAVINGS IN<br>PARTICIPANT'S<br>BILL<br>\$(000) | INCENTIVE<br>PAYMENTS<br>\$(000) | OTHER<br>PARTICIPANT'S<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | PARTICIPANT'S<br>BILL<br>INCREASE<br>\$(000) | TOTAL<br>COSTS<br>\$(000) |                                   |
| 2010    | 3  | 50                               | 0   | 53                           | 0                                | 0  | 0                         | 53                                |
| 2011    | 5  | 66                               | 0   | 71                           | 0                                | 0  | 0                         | 71                                |
| 2012    | 9,339  | 194                              | 0   | 9,533                        | 0                                | 0  | 0                         | 9,533                             |
| 2013    | 16,765   | 322                              | 0   | 17,087                       | 0                                | 0  | 0                         | 17,087                            |
| 2014    | 17,498   | 450                              | 0   | 17,947                       | 0                                | 0  | 0                         | 17,947                            |
| 2015    | 19,187   | 578                              | 0   | 19,764                       | 0                                | 0  | 0                         | 19,764                            |
| 2016    | 18,889   | 705                              | 0   | 19,594                       | 0                                | 0  | 0                         | 19,594                            |
| 2017    | 16,370   | 833                              | 0   | 17,203                       | 0                                | 0  | 0                         | 17,203                            |
| 2018    | 15,674   | 961                              | 0   | 16,635                       | 0                                | 0  | 0                         | 16,635                            |
| 2019    | 16,409   | 1,010                            | 0   | 17,420                       | 0                                | 0  | 0                         | 17,420                            |
| 2020    | 16,892   | 1,010                            | 0   | 17,902                       | 0                                | 0  | 0                         | 17,902                            |
| 2021    | 18,282   | 1,010                            | 0   | 19,293                       | 0                                | 0  | 0                         | 19,293                            |
| 2022    | 18,439   | 1,010                            | 0   | 19,450                       | 0                                | 0  | 0                         | 19,450                            |
| 2023    | 18,898   | 1,010                            | 0   | 19,909                       | 0                                | 0  | 0                         | 19,909                            |
| 2024    | 19,277   | 1,010                            | 0   | 20,287                       | 0                                | 0  | 0                         | 20,287                            |
| 2025    | 19,789   | 1,010                            | 0   | 20,800                       | 0                                | 0  | 0                         | 20,800                            |
| 2026    | 20,246   | 1,010                            | 0   | 21,256                       | 0                                | 0  | 0                         | 21,256                            |
| 2027    | 20,692   | 1,010                            | 0   | 21,702                       | 0                                | 0  | 0                         | 21,702                            |
| 2028    | 21,163   | 1,010                            | 0   | 22,174                       | 0                                | 0  | 0                         | 22,174                            |
| 2029    | 21,770   | 1,010                            | 0   | 22,780                       | 0                                | 0  | 0                         | 22,780                            |
| 2030    | 22,266   | 1,010                            | 0   | 23,277                       | 0                                | 0  | 0                         | 23,277                            |
| 2031    | 22,777   | 1,010                            | 0   | 23,788                       | 0                                | 0  | 0                         | 23,788                            |
| 2032    | 23,239   | 1,010                            | 0   | 24,249                       | 0                                | 0  | 0                         | 24,249                            |
| 2033    | 23,826   | 1,010                            | 0   | 24,836                       | 0                                | 0  | 0                         | 24,836                            |
| 2034    | 24,258   | 1,010                            | 0   | 25,269                       | 0                                | 0  | 0                         | 25,269                            |
| 2035    | 24,891   | 1,010                            | 0   | 25,902                       | 0                                | 0  | 0                         | 25,902                            |
| 2036    | 25,469   | 1,010                            | 0   | 26,479                       | 0                                | 0  | 0                         | 26,479                            |
| 2037    | 26,085   | 1,010                            | 0   | 27,095                       | 0                                | 0  | 0                         | 27,095                            |
| NOMINAL | 518,397  | 23,357                           | 0   | 541,754                      | 0                                | 0  | 0                         | 541,754                           |
| NPV     | 159,259  | 6,944                            | 0   | 166,203                      | 0                                | 0  | 0                         | 166,203                           |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 9999

PROGRAM: Business Energy Response - TRC

| YEAR    | BENEFITS                                  |   |  |   |                              | COSTS                            |  |   |  |  |                           |                            |
|---------|---|---|--|---|------------------------------|----------------------------------|--|---|--|--|---------------------------|----------------------------|
|         | (1)                                       | (2)                                     | (3)                                      | (4)   | (5)                          | (6)                              | (7)  | (8)                                       | (9)  | (10)                                   | (11)                      | (12)                       |
|         | TOTAL<br>FUEL & O&M<br>SAVINGS<br>\$(000) | AVOIDED<br>T&D CAP.<br>COSTS<br>\$(000) | AVOIDED<br>GEN. CAP.<br>COSTS<br>\$(000) | OTHER<br>PARTICIPANT<br>BENEFITS<br>\$(000) | TOTAL<br>BENEFITS<br>\$(000) | PARTICIPANT'S<br>COST<br>\$(000) | TOTAL<br>FUEL & O&M<br>INCREASE<br>\$(000) | INCREASED<br>T&D CAP.<br>COSTS<br>\$(000) | INCREASED<br>GEN. CAP.<br>COSTS<br>\$(000) | UTILITY<br>PROGRAM<br>COSTS<br>\$(000) | TOTAL<br>COSTS<br>\$(000) | NET<br>BENEFITS<br>\$(000) |
| 2010    | 5   | 0                                       | 0  | 0   | 5                            | 0                                | 0  | 0   | 0  | 10,940                                 | 10,940                    | -10,936                    |
| 2011    | 7   | 0                                       | 0  | 0   | 7                            | 0                                | 0  | 0   | 0  | 13,780                                 | 13,780                    | -13,772                    |
| 2012    | 9,439                                     | 585                                     | 0  | 0   | 10,024                       | 0                                | 0  | 0   | 0  | 20,734                                 | 20,734                    | -10,709                    |
| 2013    | 20,588                                    | 995                                     | 6,833                                    | 0   | 28,416                       | 0                                | 0  | 0   | 0  | 24,301                                 | 24,301                    | 4,115                      |
| 2014    | 14,705                                    | 995                                     | 14,287                                   | 0   | 29,987                       | 0                                | 76   | 0   | 0  | 21,551                                 | 21,628                    | 8,360                      |
| 2015    | 15,799                                    | 995                                     | 17,343                                   | 0   | 34,137                       | 0                                | 755  | 0   | 0  | 21,108                                 | 21,863                    | 12,275                     |
| 2016    | 21,330                                    | 995                                     | 5,590                                    | 0   | 27,916                       | 0                                | 0  | 0   | 0  | 19,847                                 | 19,847                    | 8,068                      |
| 2017    | 18,064                                    | 995                                     | 11,468                                   | 0   | 30,527                       | 0                                | 0  | 0   | 0  | 16,634                                 | 16,634                    | 13,893                     |
| 2018    | 21,707                                    | 995                                     | 24,557                                   | 0   | 47,259                       | 0                                | 0  | 0   | 0  | 12,966                                 | 12,966                    | 34,293                     |
| 2019    | 21,301                                    | 995                                     | 26,546                                   | 0   | 48,843                       | 0                                | 0  | 0   | 0  | 10,218                                 | 10,218                    | 38,625                     |
| 2020    | 21,328                                    | 995                                     | 26,239                                   | 0   | 48,562                       | 0                                | 0  | 0   | 0  | 8,343                                  | 8,343                     | 40,219                     |
| 2021    | 20,062                                    | 995                                     | 27,736                                   | 0   | 48,793                       | 0                                | 0  | 0   | 0  | 7,446                                  | 7,446                     | 41,348                     |
| 2022    | 26,688                                    | 995                                     | 12,328                                   | 0   | 40,011                       | 0                                | 0  | 0   | 0  | 6,934                                  | 6,934                     | 33,077                     |
| 2023    | 28,736                                    | 995                                     | 20,599                                   | 0   | 50,330                       | 0                                | 0  | 0   | 0  | 5,241                                  | 5,241                     | 45,089                     |
| 2024    | 22,729                                    | 995                                     | 28,753                                   | 0   | 52,477                       | 0                                | 0  | 0   | 0  | 3,294                                  | 3,294                     | 49,184                     |
| 2025    | 22,101                                    | 995                                     | 29,640                                   | 0   | 52,736                       | 0                                | 0  | 0   | 0  | 2,709                                  | 2,709                     | 50,027                     |
| 2026    | 29,665                                    | 995                                     | 14,489                                   | 0   | 45,149                       | 0                                | 0  | 0   | 0  | 2,574                                  | 2,574                     | 42,576                     |
| 2027    | 24,986                                    | 995                                     | 35,271                                   | 0   | 61,252                       | 0                                | 0  | 0   | 0  | 2,371                                  | 2,371                     | 58,881                     |
| 2028    | 24,502                                    | 995                                     | 28,191                                   | 0   | 53,688                       | 0                                | 0  | 0   | 0  | 2,092                                  | 2,092                     | 51,596                     |
| 2029    | 26,767                                    | 995                                     | 7,254                                    | 0   | 35,016                       | 0                                | 0  | 0   | 0  | 1,687                                  | 1,687                     | 33,329                     |
| 2030    | 28,311                                    | 995                                     | 12,393                                   | 0   | 41,699                       | 0                                | 0  | 0   | 0  | 1,930                                  | 1,930                     | 39,769                     |
| 2031    | 29,254                                    | 995                                     | 12,787                                   | 0   | 43,036                       | 0                                | 0  | 0   | 0  | 2,175                                  | 2,175                     | 40,861                     |
| 2032    | 30,279                                    | 995                                     | 13,227                                   | 0   | 44,501                       | 0                                | 0  | 0   | 0  | 2,686                                  | 2,686                     | 41,815                     |
| 2033    | 31,193                                    | 995                                     | 13,940                                   | 0   | 46,128                       | 0                                | 0  | 0   | 0  | 2,643                                  | 2,643                     | 43,485                     |
| 2034    | 31,757                                    | 995                                     | 14,097                                   | 0   | 46,849                       | 0                                | 0  | 0   | 0  | 2,770                                  | 2,770                     | 44,078                     |
| 2035    | 33,317                                    | 995                                     | 14,967                                   | 0   | 49,279                       | 0                                | 0  | 0   | 0  | 2,912                                  | 2,912                     | 46,367                     |
| 2036    | 34,539                                    | 995                                     | 15,674                                   | 0   | 51,207                       | 0                                | 0  | 0   | 0  | 2,818                                  | 2,818                     | 48,389                     |
| 2037    | 35,549                                    | 995                                     | 16,113                                   | 0   | 52,657                       | 0                                | 0  | 0   | 0  | 8,298                                  | 8,298                     | 44,358                     |
| NOMINAL | 644,702                                   | 25,464                                  | 450,324                                  | 0   | 1,120,490                    | 0                                | 831  | 0   | 0  | 241,001                                | 241,832                   | 878,658                    |
| NPV     | 188,953                                   | 8,450                                   | 141,000                                  | 0   | 338,403                      | 0                                | 514  | 0   | 0  | 130,891                                | 131,405                   | 206,998                    |

Utility Discount Rate = 8.48

Benefit Cost Ratio = 2.575



## **VI. DEMAND-SIDE RENEWABLE PORTFOLIO**

The Demand Side Renewable Portfolio was designed to emphasize the benefits of solar photovoltaic technology and encourage the development of renewable programs, with an added focus placed on low-income and education pilots. Additionally, Progress Energy endeavored to collaborate with state initiatives and provide interested customers with the option to voluntarily support renewable efforts. This portfolio encourages education of energy efficiency by recommending an energy audit be performed on the home or business prior to participation.

The Demand-Side Renewable Energy Portfolio is comprised of the following pilot programs:

- Solar Water Heating for Low-income Residential
- Solar Water Heating with Energy Management
- Residential Solar Photovoltaic
- Commercial Solar Photovoltaic
- Photovoltaic for Schools
- Research & Demonstration

Incentive levels and specific eligibility requirements for the initial measures promoted in these pilot programs will be presented in the Program Participation Standards. Customer participation

will be evaluated on an on-going basis; funds may be moved from one pilot program to another based upon actual participation. Progress Energy will implement these pilot programs over a five-year period to evaluate the system impacts.

**A. SOLAR WATER HEATING FOR LOW INCOME RESIDENTIAL CUSTOMERS PILOT**

**Program Start Date:** Proposed to start in 2011

**Program Description**

The Solar Water Heating for the Low-income Residential Customers Pilot is a custom renewable energy measure designed to assist low-income families with energy costs by incorporating a solar thermal water heating system in their residence while it is under construction. Progress Energy will collaborate with non-profit builders to provide low-income families with a residential solar thermal water heater. The solar thermal system will be provided at no cost to the non-profit builders or the residential participants.

**Policies and Procedures**

The incentive for this program is the total cost of the solar thermal system plus the associated installation cost. The program will be limited to a targeted annual incentive cap of \$114,000. The incentive cap for this program has been revised from the value stated in PEF's DSM Program Plan as filed on March 30, 2010, due to a scrivener's error found in the development of this revised Plan, and the correction is being made with this filing.

## Program Participation

Annual participation estimates for the Solar Water Heating for Low Income Residential Customers Pilot program are shown in the table below:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 896   | 30   | 3.3%  |
| 2012 | 1,495,098                                | 864   | 30   | 6.9%  |
| 2013 | 1,521,451                                | 817   | 30   | 11.0%   |
| 2014 | 1,548,531                                | 753   | 30   | 15.9%   |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all residential customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customers based on U.S. Census block data for income qualifications.
3. Annual number of program participants represents the projected number of low-income homes to participate in this pilot annually. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total pilot savings were developed by first estimating per customer savings and, annual projected participation. The total pilot savings were then computed as the product of those two variables for each year, and are shown in the following tables.

### At the Meter

| Year | Per Customer<br>KWh Reduction | Per Customer<br>Winter KW<br>Reduction | Per Customer<br>Summer KW<br>Reduction | Total Annual<br>KWh Reduction | Total Annual<br>Winter KW<br>Reduction | Total Annual<br>Summer KW<br>Reduction |
|------|-------------------------------|--|--|-------------------------------|--|--|
| 2011 | 2,314                         | 0.40                                   | 0.37                                   | 69,420                        | 12                                     | 11                                     |
| 2012 | 2,314                         | 0.40                                   | 0.37                                   | 69,420                        | 12                                     | 11                                     |
| 2013 | 2,314                         | 0.40                                   | 0.37                                   | 69,420                        | 12                                     | 11                                     |
| 2014 | 2,314                         | 0.40                                   | 0.37                                   | 69,420                        | 12                                     | 11                                     |

### At the Generator

| Year | Per Customer<br>KWh Reduction | Per Customer<br>Winter KW<br>Reduction | Per Customer<br>Summer KW<br>Reduction | Total Annual<br>KWh Reduction | Total Annual<br>Winter KW<br>Reduction | Total Annual<br>Summer KW<br>Reduction |
|------|-------------------------------|--|--|-------------------------------|--|--|
| 2011 | 2,466                         | 0.43                                   | 0.39                                   | 74,295                        | 13                                     | 12                                     |
| 2012 | 2,466                         | 0.43                                   | 0.39                                   | 74,295                        | 13                                     | 12                                     |
| 2013 | 2,466                         | 0.43                                   | 0.39                                   | 74,295                        | 13                                     | 12                                     |
| 2014 | 2,466                         | 0.43                                   | 0.39                                   | 74,295                        | 13                                     | 12                                     |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

### Impact Evaluation Plan

Maintain record of capacity of systems installed.

### Cost-Effectiveness

The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$359                           | \$906                        | -\$547                              | 0.4              |
| Participant                    | \$745                           | \$392                        | \$353                               | 1.9              |
| Total Resource Cost            | \$359                           | \$553                        | -\$194                              | 0.65             |

**B. SOLAR WATER HEATING WITH ENERGY MANAGEMENT PROGRAM**

**Program Start Date:** 2007

Proposed modification in 2011

**Program Description**

The Solar Water Heating with Energy Management Program encourages residential customers to install new solar thermal water heating systems on their residence. This program incorporates a long standing cost effective Demand Side Management program with the requirement for customers to participate in our residential demand response program.

**Policies and Procedures**

There are two incentives associated with this program. First, participants will receive a one-time \$550 rebate designed to reduce the upfront cost of the renewable energy system. Second, participants will receive a monthly bill credit associated with their participation in the residential demand response program.

This program was designed with the support and input of the solar industry. The program will record participant occupancy levels to capture the most accurate energy savings. The program will be limited to a targeted annual incentive cap of \$1,237,500.

## Program Participation

Annual participation estimates for the Solar Water Heating with Energy Management program are shown in the table below:

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| 2011        | 1,473,688                                       | 1,223,161  | 2,250   | 0.2%   |
| 2012        | 1,495,098                                       | 1,240,931  | 2,250   | 0.4%   |
| 2013        | 1,521,451                                       | 1,262,804  | 2,250   | 0.5%   |
| 2014        | 1,548,531                                       | 1,285,281  | 2,250   | 0.7%   |

1. Total Number of Customers is the forecast of all residential customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customers is the total number of customers less existing participation
3. Annual number of program participants represents the projected number of homes to be involved in this pilot by year. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.



## Savings Estimates

Total program savings were developed by first estimating per customer savings and, annual projected participation, multiplied by measure. The total program savings were then computed as the sum of the individual customer savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1,718                      | 2.14                             | 1.11                             | 3,865,725                  | 4,815                            | 2,491                            |
| 2012 | 1,718                      | 2.14                             | 1.11                             | 3,865,725                  | 4,815                            | 2,491                            |
| 2013 | 1,718                      | 2.14                             | 1.11                             | 3,865,725                  | 4,815                            | 2,491                            |
| 2014 | 1,718                      | 2.14                             | 1.11                             | 3,865,725                  | 4,815                            | 2,491                            |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 1,831                      | 2.28                             | 1.18                             | 4,137,209                  | 5,153                            | 2,666                            |
| 2012 | 1,831                      | 2.28                             | 1.18                             | 4,137,209                  | 5,153                            | 2,666                            |
| 2013 | 1,831                      | 2.28                             | 1.18                             | 4,137,209                  | 5,153                            | 2,666                            |
| 2014 | 1,831                      | 2.28                             | 1.18                             | 4,137,209                  | 5,153                            | 2,666                            |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

**Impact Evaluation Plan**

Maintain record of capacity of systems installed.

**Cost-Effectiveness**

The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$34,097                        | \$28,707                     | \$5,390                             | 1.19             |
| Participant                    | \$33,388                        | \$28,811                     | \$4,577                             | 1.16             |
| Total Resource Cost            | \$41,138                        | \$31,171                     | \$9,967                             | 1.32             |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

## **C. RESIDENTIAL SOLAR PHOTOVOLTAIC PILOT**

**Program Start Date:** Proposed to start in 2011

### **Program Description**

The Solar PV pilot encourages residential customers to install new solar photovoltaic (PV) systems on their home. This pilot promotes the installation of renewable energy on energy efficient homes by requiring customers to participate in at least one residential energy efficiency measure. The program design includes an annual reservation process for pre-approval to ensure the incentive expenditure cap is available for participation.

Goals of the program are:

- Provide residential customers with a higher return on investment in PV systems
- Increase renewable energy generation on Progress Energy’s system
- Increase participation in existing residential Demand Side Management measures

### **Policies and Procedures**

This program will provide participating residential customers a rebate of up to \$2.00 per Watt of the PV dc power rating up to a \$20,000 maximum for installing a new photovoltaic system. This rebate is designed to reduce the initial investment required to install a qualified renewable solar

energy system. The program will be limited to a targeted annual incentive cap of \$1,000,000 per year.

Participation with this program is intended to support and collaborate with state initiatives. As such, Progress Energy anticipates these rebates would be used with state funds to limit Florida residents to a maximum incentive of \$4.00 per Watt total when all state, local, and utility incentives are combined. Progress Energy will work with our customers to endeavor to not to exceed this incentive cap.

## Program Participation

Annual participation estimates for the Residential Solar Photovoltaic Pilot program are shown in the table below:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 1,473,688                                | 1,473,688   | 100  | 0.0%  |
| 2012 | 1,495,098                                | 1,495,098   | 100  | 0.0%  |
| 2013 | 1,521,451                                | 1,521,451   | 100  | 0.0%  |
| 2014 | 1,548,531                                | 1,548,531   | 100  | 0.0%  |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all Residential customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customers represent all residential customers.
3. Annual number of program participants represents the projected number of homes to be involved in this pilot by year. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total pilot savings were developed by first estimating per customer savings and, annual projected participation, multiplied by measure. The total pilot savings were then computed as the sum of the individual customer savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 8,340                      | 0.00                             | 1.58                             | 833,960                    | -                                | 158                              |
| 2012 | 8,340                      | 0.00                             | 1.58                             | 833,960                    | -                                | 158                              |
| 2013 | 8,340                      | 0.00                             | 1.58                             | 833,960                    | -                                | 158                              |
| 2014 | 8,340                      | 0.00                             | 1.58                             | 833,960                    | -                                | 158                              |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 8,887                      | 0.00                             | 1.68                             | 892,528                    | -                                | 169                              |
| 2012 | 8,887                      | 0.00                             | 1.68                             | 892,528                    | -                                | 169                              |
| 2013 | 8,887                      | 0.00                             | 1.68                             | 892,528                    | -                                | 169                              |
| 2014 | 8,887                      | 0.00                             | 1.68                             | 892,528                    | -                                | 169                              |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

Annual incremental coincident winter KW reductions for this Pilot program are de minimize and round to zero.

## Impact Evaluation Plan

Maintain record of capacity of systems installed.

## Cost-Effectiveness

The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs<br/>\$(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$4,469                         | \$8,761                      | -\$4,292                            | 0.51             |
| Participant                    | \$11,361                        | \$13,958                     | -\$2,597                            | 0.81             |
| Total Resource Cost            | \$7,511                         | \$14,400                     | -\$6,889                            | 0.52             |

#### **D. COMMERCIAL SOLAR PHOTOVOLTAIC PILOT**

**Program Start Date:** Proposed to start in 2011

##### **Program Description**

Solar PV pilot encourages Commercial customers to install new solar photovoltaic (PV) systems on their facilities. This pilot promotes the installation of renewable on energy efficient businesses by requiring customers to participate in at least one commercial energy efficiency measure. The program design includes an annual reservation process for pre-approval to ensure the incentive expenditure cap is available for participation. The program design also provides commercial customers with a higher return on investment in PV systems designed to:

- Increase renewable energy generation on Progress Energy's system
- Increase participation in existing Commercial Demand Side Management measures

##### **Policies and Procedures**

This program will provide participating commercial customers who install a new photovoltaic system with a tiered rebate up to the following incentive levels, based on the PV dc power rating:

- \$2.00 per Watt for the first 10 KW
- \$1.50 per Watt for 11KW to 50 KW
- \$1.00 per Watt for 51KW to 100 KW



The rebate is designed to reduce the initial investment required to install a qualified renewable solar energy system. Total incentives per participant will be limited to \$130,000, based on a maximum installation of 100KW. Program design includes an annual reservation process for pre-approval to ensure the incentive expenditure cap is available for participation. The program will be limited to a targeted annual incentive cap of \$1,000,000 per year.

Participation with this program is intended to support and collaborate with state initiatives. As such, Progress Energy anticipates these rebates would be used with state funds to limit Florida business owners to a maximum incentive of \$4.00 per Watt total when all state, local, and utility incentives are combined. Progress Energy will work with our customers to endeavor to not to exceed this incentive cap.

## Program Participation

Participation estimates for the Commercial Solar Photovoltaic Pilot program are shown in the following table:

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| 2011        | 170,886   | 7,524  | 23  | 0.3%   |
| 2012        | 175,147   | 7,562  | 23  | 0.6%   |
| 2013        | 178,542   | 7,600  | 23  | 0.9%   |
| 2014        | 182,030   | 7,638  | 23  | 1.2%   |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all Commercial/Industrial customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customers are the estimated number of customers with electric water heater that qualifies for the load management program.
3. Annual number of program participants represents the projected number of commercial participants in this pilot annually. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

## Savings Estimates

Total pilot savings were developed by first estimating per customer savings and annual projected participation, multiplied by measure. The total pilot savings were then computed as the sum of the individual customer savings, and are shown in the following tables.

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 41,698                     | -                                | 7.87                             | 959,052                    | -                                | 181                              |
| 2012 | 41,698                     | -                                | 7.87                             | 959,052                    | -                                | 181                              |
| 2013 | 41,698                     | -                                | 7.87                             | 959,052                    | -                                | 181                              |
| 2014 | 41,698                     | -                                | 7.87                             | 959,052                    | -                                | 181                              |

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 44,158                     | -                                | 8.33                             | 1,019,184                  | -                                | 192                              |
| 2012 | 44,158                     | -                                | 8.33                             | 1,019,184                  | -                                | 192                              |
| 2013 | 44,158                     | -                                | 8.33                             | 1,019,184                  | -                                | 192                              |
| 2014 | 44,158                     | -                                | 8.33                             | 1,019,184                  | -                                | 192                              |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

Annual incremental coincident winter kW reductions for this Pilot program are De Minimis and round to zero.

## Impact Evaluation Plan

Maintain record of capacity of systems installed.

## Cost-Effectiveness

The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs \$ (000)</b> | <b>NPV Net<br/>Benefits<br/>\$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|---------------------------|---|------------------|
| Rate Impact Measure            | \$5,119                         | \$8,809                   | -\$3,690                                | 0.58             |
| Participant                    | \$10,904                        | \$12,714                  | -\$1,810                                | 0.86             |
| Total Resource Cost            | \$7,713                         | \$13,213                  | -\$5,500                                | 0.58             |

## **E. PHOTOVOLTAIC FOR SCHOOLS PILOT**

**Program Start Date:** Proposed to start in 2010

### **Program Description**

The Schools Pilot is designed to assist schools with energy costs while promoting energy education. This program will provide participating public schools with new photovoltaic systems at no cost to the school. These systems will be installed, owned, operated and maintained by Progress Energy for a period of 5 years, after which the school assumes ownership and system benefits.

Goals of the program are:

- Eliminate the initial investment required to install a renewable solar PV system
- Increase renewable energy generation on Progress Energy’s system
- Increase participation in existing residential Demand Side Management measures through energy education
- Increase solar education and awareness in Progress Energy communities and schools

### **Policies and Procedures**

This program will fully fund the PV systems that are installed on the participating public schools. These schools will enter an agreement allowing Progress Energy to own and operate the system for an initial 5 year period. Progress Energy will record the total PV system and installation cost

as a regulatory asset to be amortized over five years. After the 5-year contract period, the school will assume ownership of the PV system. Customers will apply for participation in this program. The program will be limited to an annual target of one system with a rating up to 100 KW installed on a post secondary public school and (10) 10 KW systems with battery backup option installed on public schools, preferably serving as emergency shelters.

Post secondary school participation will be prioritized based on attendance and consumption associated with their main campus. Public schools will be selected using a competitive process that aligns with Florida’s SunSmart E-Shelters Program Application with an emphasis placed on the schools commitment to energy efficiency and renewable energy education.

The incentive for this program is the total equipment cost of the solar PV system plus the associated installation, operation and maintenance cost for the first five years. The solar PV system and installation will be considered a rebate that will eliminate the cost to the customer for providing new renewable energy system on their facilities.

This program places an emphasis on energy education and promotes environmental stewardship. As such, customers participating in the Winter-Only Energy Management or Year Round Energy Management residential demand response programs can elect to contribute their monthly credit toward a fund design to support and promote energy education. The fund will accumulate associated participant credits for a period of two years, at which time the customer may elect to renew for an additional two years. All proceeds collected from participating customers and their associated monthly credits will be used to promote energy efficiency and renewable energy educational opportunities.

## Program Participation

Projected participation projections for K-12:

| Year | Total Number of Customers <sup>(1)</sup> | Total Number of Measure Eligible Customers <sup>(2)</sup> | Annual Number of Program Measure Participants <sup>(3)</sup> | Cumulative Penetration Level (%) <sup>(4)</sup> |
|------|--|---|--|---|
| 2011 | 170,886                                  | 100   | 10   | 10.0%   |
| 2012 | 175,147                                  | 101   | 10   | 19.8%   |
| 2013 | 178,542                                  | 102   | 10   | 29.4%   |
| 2014 | 182,030                                  | 103   | 10   | 38.8%   |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all Commercial customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customer projections represent the projected number of K-12 schools in the Progress Energy service area that also serve as an emergency shelter.
3. Annual number of program participants represents the projected number of K-12 schools participants in this pilot by year. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.

Projected participation projections for post secondary:

| <b>Year</b> | <b>Total Number of Customers <sup>(1)</sup></b> | <b>Total Number of Measure Eligible Customers <sup>(2)</sup></b> | <b>Annual Number of Program Measure Participants <sup>(3)</sup></b> | <b>Cumulative Penetration Level (%) <sup>(4)</sup></b> |
|-------------|---|--|---|--|
| 2011        | 170,886   | 11   | 1   | 9.0%   |
| 2012        | 175,147   | 11   | 1   | 17.8%  |
| 2013        | 178,542   | 11   | 1   | 26.5%  |
| 2014        | 182,030   | 11   | 1   | 34.9%  |

All numbers annual except cumulative penetration level

1. Total Number of Customers is the forecast of all Commercial customers from the Progress Energy 2009 Ten Year Site Plan.
2. Eligible customer projections represent the projected number of post secondary schools in the Progress Energy service area that also serve as an emergency shelter.
3. Annual number of program participants represents the projected number of post secondary schools participants in this pilot by year. There are no new participants beyond the 5-year time frame of this Pilot.
4. Cumulative penetration is the ratio of cumulative participants to the eligible customer pool.



## Savings Estimates

Total pilot savings were developed by first estimating per customer savings and, annual projected participation, multiplied by measure. The total pilot savings were then computed as the sum of the individual customer savings, and are shown in the following tables.

Projected savings estimates for K-12:

### 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 16679                      | -                                | 3.20                             | 166,792                    | -                                | 32                               |
| 2012 | 16679                      | -                                | 3.20                             | 166,792                    | -                                | 32                               |
| 2013 | 16679                      | -                                | 3.20                             | 166,792                    | -                                | 32                               |
| 2014 | 16679                      | -                                | 3.20                             | 166,792                    | -                                | 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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 17663                      | -                                | 3.39                             | 177,250                    | -                                | 34                               |
| 2012 | 17663                      | -                                | 3.39                             | 177,250                    | -                                | 34                               |
| 2013 | 17663                      | -                                | 3.39                             | 177,250                    | -                                | 34                               |
| 2014 | 17663                      | -                                | 3.39                             | 177,250                    | -                                | 34                               |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

Annual incremental coincident winter kW reductions for this Pilot program are De Minimus and round to zero.

Projected savings estimates for post secondary:

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 166,792                    | -                                | 31.00                            | 166,792                    | -                                | 31                               |
| 2012 | 166,792                    | -                                | 31.00                            | 166,792                    | -                                | 31                               |
| 2013 | 166,792                    | -                                | 31.00                            | 166,792                    | -                                | 31                               |
| 2014 | 166,792                    | -                                | 31.00                            | 166,792                    | -                                | 31                               |

**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 |
|------|----------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------------|----------------------------------|
| 2011 | 176,633                    | -                                | 33                               | 177,250                    | -                                | 33                               |
| 2012 | 176,633                    | -                                | 33                               | 177,250                    | -                                | 33                               |
| 2013 | 176,633                    | -                                | 33                               | 177,250                    | -                                | 33                               |
| 2014 | 176,633                    | -                                | 33                               | 177,250                    | -                                | 33                               |

The tables above show annual incremental savings for new participants in this 5-year Pilot program. There are no new participants and no new annual savings additions beyond the 5-year time frame of this Pilot.

Annual incremental coincident winter kW reductions for this Pilot program are De Minimus and round to zero.

**Impact Evaluation Plan**

Maintain record of capacity of systems installed.

**Cost-Effectiveness**

The economic results of the program are as follows:

| <b>Cost-Effectiveness Test</b> | <b>NPV Benefits<br/>\$(000)</b> | <b>NPV Costs \$<br/>(000)</b> | <b>NPV Net<br/>Benefits \$(000)</b> | <b>B/C Ratio</b> |
|--------------------------------|---------------------------------|-------------------------------|-------------------------------------|------------------|
| Rate Impact Measure            | \$1,681                         | \$7,913                       | -\$6,232                            | 0.21             |
| Participant                    | \$4,550                         | \$1,042                       | \$3,508                             | 4.37             |
| Total Resource Cost            | \$5,100                         | \$7,824                       | -\$2,724                            | 0.65             |

## **F. RESEARCH AND DEMONSTRATION PILOT**

**Program Start Date:** Proposed to start in 2011

### **Program Description**

The purpose of this program component is to research technology and establish R&D initiatives to support the development of renewable energy pilot programs. Demonstration projects will provide real-world field testing to assist in the development of these initiatives. The program will be limited to a targeted annual expenditure cap of 5% of the total Demand-Side Renewable Portfolio annual expenditures.

### **Policies and Procedures**

In general, each R&D project that is proposed and investigated will proceed as follows:

- Project concept or idea development
- Project research and design, including estimated costs and benefits
- Conduct field test, modeling, general research, and theoretical testing
- Each project will be designed to support the development of future solar and renewable energy pilot programs.

## **VII. TECHNOLOGY DEVELOPMENT PROGRAM**

**Program Start Date:** 1995

Modifications proposed in 2010

### **Program Description**

The purpose of this program is to establish a system for meeting the goals in Section 366.82(2), Florida Statutes, and Rule 25-17, Florida Administrative Code. Progress Energy will undertake certain research and demonstration projects which provide support for the development of cost-effective demand reduction, energy efficiency, and alternative energy programs. Technical and operational knowledge for the advances in the energy field may come from field demonstration projects, research partnerships, webinars, general education, etc. The Technology Development program is designed to allow Progress Energy to investigate technologies and support the development of new programs from initial concept through submittal to the Commission for consideration and approval. In general, each research and demonstration project that is proposed and investigated will proceed as follows:

- Project concept or idea development
- Project research and design, including estimated costs and benefits
- Conduct field testing, pilot program, modeling, general research, and theoretical testing
- Evaluation of collected data, including cost-effectiveness

- Acceptance or rejection of project for continuation as a program
- If accepted for continuation, application will be made to the Commission for approval to implement the program

### **Policies and Procedures**

Eligible customers will be dependent on the type of project proposed and investigated as determined during the project research and design phase. Each project that is proposed and investigated will have to meet one or more of the goals identified in Section 366.82(2), Florida Statutes, and Rule 25-17, Florida Administrative Code. If not, the project will not proceed beyond the project concept or idea phase.

### **Program Participation**

In many cases the demand reduction, energy efficiency, and alternative energy projects that are proposed and investigated under this program will require field testing with actual customers. After being defined in the project research and design phase, these projects will offer services or products to eligible customers on a voluntary basis.

Examples of potential projects that may be funded under this program include:

- Demand reduction, energy efficiency technologies, such as energy awareness devices
- Market transformation initiatives, such as smart charging for electric vehicles
- And other alternative energy and innovative technologies.

All costs will be included as part of the pre-approved project expenditures under this program.

Technology focused on energy efficiency, demand response, alternative energy, as well as innovations within the energy field in general have undergone significant development since 1995. With the current international focus in this arena, advances are even more rapid today. In addition, the way in which customers accept these products and the studies associated with how to offer products and services, further complicates the efficient and effective development of programs. In order to keep pace, an enhanced focus on research, demonstration, and development is needed.

At the discretion of Progress Energy, annual basis expenditures not to exceed \$2,000,000 annually, may be made and recovered through the Energy Conservation Cost Recovery clause for all research projects that are proposed and investigated. If any single project's expenditures exceed 25% of the pre-approved annual program budget, a status report will be filed as a component of the Energy Conservation Cost Recovery Clause Projection and True-Up filings.

The status report will identify each project under investigation with disbursements exceeding 25% of the pre-approved annual program budget, the scope and purpose of the project, its development schedule identifying accomplishments and projections, and the project's actual and proposed expenditures for Commission review. If total program expenditures are projected to exceed \$2,000,000 in a given year, Progress Energy will apply to the Commission staff for approval to proceed with the particular project which would cause Progress Energy to exceed the limit.

Finally, Progress Energy will account for and maintain records of all expenses for each project in accordance with Rule 25-17.015, Florida Administrative Code.

### **Savings Estimates**

The Technology Development program makes it possible to obtain and use actual data from field tests, as well as customer and market research studies instead of relying heavily on engineering assumptions, model results, and estimates. Benefit and cost figures derived from these projects will be more accurate and provide enhanced reliability to forecasts, allowing better assessment of potential future demand reduction, energy efficiency, alternative, and innovative programs submitted to the Commission for approval.

A second benefit resulting from this research program is that the field tests, customer research and market evaluations uncover benefits, costs, and disadvantages that may be overlooked by an engineering estimate or evaluation. Real world testing provides actual experience on a small scale to be obtained. This should facilitate the decision-making process and improve the success rate of approved programs.

Consequently, program savings were not estimated during the planning stage and are not included in the Demand Side Management Plan totals. Any impacts obtained by this program will be calculated for each individual project and will be reported to the Commission to be counted toward achieving Progress Energy’s conservation goals.



## **Impact Evaluation Plan**

The methodology for monitoring and evaluating a project that is submitted to the Commission for approval as a program shall be determined during the project research and design phase and shall be refined during the field test or pilot program phase. Since projects will normally include a field test or pilot program, the data will be actual rather than estimated. In the event a project does not involve a field test or pilot program, the estimated or modeled savings will be documented with the methodology used.

## **Cost-Effectiveness**

The cost-effectiveness of each project submitted to the Commission for approval to be implemented as a program shall be analyzed and reported using the Commission-approved cost-effectiveness tests.

## **VIII. QUALIFYING FACILITIES PROGRAM**

### **Program Description**

The purpose of this program is to meet the objectives and obligations established by Section 366.051, Florida Statutes, and the Commission's rules contained within Part III of Chapter 25-17, Florida Administrative Code, regarding the purchase of as-available energy and firm energy and capacity from qualifying facilities pursuant to standard offer and negotiated contracts.

Under the Qualifying Facilities program, Progress Energy develops standard offer contracts, negotiates, enters into, amends and restructures firm energy and capacity contracts entered into with qualifying cogeneration and small power production facilities, and administers all such contracts.

## **IX. STAFF-REQUESTED TABLES**

The associated tables 1-3 provide a summary of cost effectiveness tests, demand and energy savings, and penetration rates for only those programs proposed with this Revised Goal Plan. Tables 4 and 5 are a summarization of program costs and ECCR rate impacts for all programs proposed in this filing, including the previously approved Demand Side Renewable Portfolio.

## **Staff-Requested Tables**

### **Table IX-1: Savings**

#### **Residential Programs**

The tables below indicate the total annual and cumulative saving impacts (Summer Demand MW, Winter Demand MW, and Annual Energy (GWh) for the Residential Programs included in the Original Goal Scenario, for years 2011 – 2019.

- Home Energy Check
- Home Energy Improvement
- Residential New Construction
- Neighborhood Energy Saver
- Low Income Weatherization Assistance
- Residential Energy Management
- Technical Potential

| Home Energy Check |                       |  |                       |  |                        |                             |                             |
|-------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                   | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
| 2011              | 10.89                 |  | 6.71                  |  | 28.88                  |                             |                             |
| 2012              | 10.98                 |  | 6.72                  |  | 29.21                  |                             |                             |
| 2013              | 10.92                 |  | 6.66                  |  | 29.11                  |                             |                             |
| 2014              | 10.88                 |  | 6.61                  |  | 29.05                  |                             |                             |
| 2015              | 10.90                 |  | 6.60                  |  | 29.17                  |                             |                             |
| 2016              | 10.64                 |  | 6.42                  |  | 28.52                  |                             |                             |
| 2017              | 10.62                 |  | 6.39                  |  | 28.53                  |                             |                             |
| 2018              | 10.58                 |  | 6.34                  |  | 28.48                  |                             |                             |
| 2019              | 10.55                 |  | 6.30                  |  | 28.43                  |                             |                             |
|                   |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                   |                       |  |                       |  |                        | 10.89                       | 6.71                        |
|                   |                       |  |                       |  |                        | 21.87                       | 13.42                       |
|                   |                       |  |                       |  |                        | 32.79                       | 20.08                       |
|                   |                       |  |                       |  |                        | 43.67                       | 26.69                       |
|                   |                       |  |                       |  |                        | 54.57                       | 33.29                       |
|                   |                       |  |                       |  |                        | 65.21                       | 39.71                       |
|                   |                       |  |                       |  |                        | 75.83                       | 46.10                       |
|                   |                       |  |                       |  |                        | 86.41                       | 52.44                       |
|                   |                       |  |                       |  |                        | 96.96                       | 58.74                       |
|                   |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
|                   |                       |  |                       |  |                        |                             | 28.88                       |
|                   |                       |  |                       |  |                        |                             | 58.09                       |
|                   |                       |  |                       |  |                        |                             | 87.19                       |
|                   |                       |  |                       |  |                        |                             | 116.25                      |
|                   |                       |  |                       |  |                        |                             | 145.41                      |
|                   |                       |  |                       |  |                        |                             | 173.94                      |
|                   |                       |  |                       |  |                        |                             | 202.46                      |
|                   |                       |  |                       |  |                        |                             | 230.94                      |
|                   |                       |  |                       |  |                        |                             | 259.37                      |

| Home Energy Improvement |                       |  |                       |  |                        |                             |                             |
|-------------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                         | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
| 2011                    | 29.83                 |  | 46.12                 |  | 65.46                  |                             |                             |
| 2012                    | 33.30                 |  | 51.44                 |  | 73.54                  |                             |                             |
| 2013                    | 35.30                 |  | 56.12                 |  | 79.33                  |                             |                             |
| 2014                    | 37.93                 |  | 60.00                 |  | 85.10                  |                             |                             |
| 2015                    | 49.40                 |  | 77.71                 |  | 110.14                 |                             |                             |
| 2016                    | 44.72                 |  | 70.07                 |  | 98.86                  |                             |                             |
| 2017                    | 42.54                 |  | 66.43                 |  | 93.24                  |                             |                             |
| 2018                    | 37.72                 |  | 58.70                 |  | 81.93                  |                             |                             |
| 2019                    | 34.12                 |  | 52.93                 |  | 73.44                  |                             |                             |
|                         |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                         |                       |  |                       |  |                        | 29.83                       | 46.12                       |
|                         |                       |  |                       |  |                        | 63.14                       | 97.56                       |
|                         |                       |  |                       |  |                        | 98.43                       | 153.68                      |
|                         |                       |  |                       |  |                        | 136.36                      | 213.68                      |
|                         |                       |  |                       |  |                        | 185.77                      | 291.39                      |
|                         |                       |  |                       |  |                        | 230.48                      | 361.45                      |
|                         |                       |  |                       |  |                        | 273.03                      | 427.88                      |
|                         |                       |  |                       |  |                        | 310.74                      | 486.58                      |
|                         |                       |  |                       |  |                        | 344.86                      | 539.50                      |
|                         |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
|                         |                       |  |                       |  |                        |                             | 65.46                       |
|                         |                       |  |                       |  |                        |                             | 139.00                      |
|                         |                       |  |                       |  |                        |                             | 218.33                      |
|                         |                       |  |                       |  |                        |                             | 303.44                      |
|                         |                       |  |                       |  |                        |                             | 413.58                      |
|                         |                       |  |                       |  |                        |                             | 512.44                      |
|                         |                       |  |                       |  |                        |                             | 605.68                      |
|                         |                       |  |                       |  |                        |                             | 687.62                      |
|                         |                       |  |                       |  |                        |                             | 761.05                      |

| Residential New Construction |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|------------------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                              | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                         | 3.12                  |  | 3.62                  |  | 7.57                   |  | 3.12                        |  | 3.62                        |  | 7.57                        |
| 2012                         | 3.20                  |  | 3.84                  |  | 7.81                   |  | 6.32                        |  | 7.47                        |  | 15.39                       |
| 2013                         | 3.24                  |  | 3.97                  |  | 7.97                   |  | 9.55                        |  | 11.44                       |  | 23.36                       |
| 2014                         | 3.59                  |  | 4.08                  |  | 8.13                   |  | 13.14                       |  | 15.51                       |  | 31.49                       |
| 2015                         | 3.74                  |  | 4.28                  |  | 8.69                   |  | 16.88                       |  | 19.80                       |  | 40.18                       |
| 2016                         | 3.51                  |  | 4.06                  |  | 8.37                   |  | 20.39                       |  | 23.85                       |  | 48.55                       |
| 2017                         | 3.38                  |  | 3.93                  |  | 8.21                   |  | 23.76                       |  | 27.79                       |  | 56.76                       |
| 2018                         | 3.17                  |  | 3.73                  |  | 7.89                   |  | 26.93                       |  | 31.51                       |  | 64.66                       |
| 2019                         | 3.02                  |  | 3.57                  |  | 7.65                   |  | 29.95                       |  | 35.09                       |  | 72.31                       |

| Neighborhood Energy Saver |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|---------------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                           | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                      | 3.72                  |  | 2.81                  |  | 8.55                   |  | 3.72                        |  | 2.81                        |  | 8.55                        |
| 2012                      | 3.84                  |  | 2.90                  |  | 8.82                   |  | 7.56                        |  | 5.70                        |  | 17.37                       |
| 2013                      | 3.92                  |  | 2.95                  |  | 9.00                   |  | 11.48                       |  | 8.66                        |  | 26.37                       |
| 2014                      | 4.00                  |  | 3.01                  |  | 9.18                   |  | 15.48                       |  | 11.67                       |  | 35.55                       |
| 2015                      | 4.27                  |  | 3.22                  |  | 9.81                   |  | 19.75                       |  | 14.89                       |  | 45.36                       |
| 2016                      | 4.12                  |  | 3.10                  |  | 9.45                   |  | 23.87                       |  | 17.99                       |  | 54.81                       |
| 2017                      | 4.04                  |  | 3.04                  |  | 9.27                   |  | 27.90                       |  | 21.03                       |  | 64.08                       |
| 2018                      | 3.88                  |  | 2.92                  |  | 8.91                   |  | 31.78                       |  | 23.96                       |  | 72.99                       |
| 2019                      | 3.76                  |  | 2.84                  |  | 8.64                   |  | 35.54                       |  | 26.79                       |  | 81.63                       |

| Low Income Weatherization |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|---------------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                           | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                      | 0.44                  |  | 0.56                  |  | 0.95                   |  | 0.44                        |  | 0.56                        |  | 0.95                        |
| 2012                      | 0.55                  |  | 0.65                  |  | 1.17                   |  | 0.99                        |  | 1.21                        |  | 2.12                        |
| 2013                      | 0.57                  |  | 0.73                  |  | 1.28                   |  | 1.56                        |  | 1.94                        |  | 3.40                        |
| 2014                      | 0.54                  |  | 0.68                  |  | 1.29                   |  | 2.10                        |  | 2.62                        |  | 4.69                        |
| 2015                      | 0.58                  |  | 0.83                  |  | 1.36                   |  | 2.68                        |  | 3.45                        |  | 6.05                        |
| 2016                      | 0.65                  |  | 1.07                  |  | 1.37                   |  | 3.33                        |  | 4.53                        |  | 7.43                        |
| 2017                      | 0.61                  |  | 0.99                  |  | 1.30                   |  | 3.93                        |  | 5.52                        |  | 8.73                        |
| 2018                      | 0.55                  |  | 0.93                  |  | 1.27                   |  | 4.48                        |  | 6.44                        |  | 9.99                        |
| 2019                      | 0.55                  |  | 0.97                  |  | 1.26                   |  | 5.04                        |  | 7.41                        |  | 11.26                       |

| Residential Energy Management |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|-------------------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                               | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                          | 9.11                  |  | 17.55                 |  | 0.00                   |  | 9.11                        |  | 17.55                       |  | 0.00                        |
| 2012                          | 9.11                  |  | 17.55                 |  | 0.00                   |  | 18.21                       |  | 35.11                       |  | 0.00                        |
| 2013                          | 9.11                  |  | 17.55                 |  | 0.00                   |  | 27.32                       |  | 52.66                       |  | 0.00                        |
| 2014                          | 9.11                  |  | 17.55                 |  | 0.00                   |  | 36.42                       |  | 70.22                       |  | 0.00                        |
| 2015                          | 9.11                  |  | 17.55                 |  | 0.00                   |  | 45.53                       |  | 87.77                       |  | 0.00                        |
| 2016                          | 16.50                 |  | 31.80                 |  | 0.00                   |  | 62.02                       |  | 119.57                      |  | 0.00                        |
| 2017                          | 16.50                 |  | 31.80                 |  | 0.00                   |  | 78.52                       |  | 151.37                      |  | 0.00                        |
| 2018                          | 16.50                 |  | 31.80                 |  | 0.00                   |  | 95.01                       |  | 183.18                      |  | 0.00                        |
| 2019                          | 11.53                 |  | 22.23                 |  | 0.00                   |  | 106.54                      |  | 205.40                      |  | 0.00                        |

| Technical Potential |                       |  |                       |  |                        |   |                             |  |                             |  |                             |
|---------------------|-----------------------|--|-----------------------|--|------------------------|---|-----------------------------|--|-----------------------------|--|-----------------------------|
|                     | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |   | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                | 47.46                 |  | 21.30                 |  | 169.92                 | " | 47.46                       |  | 21.30                       |  | 169.92                      |
| 2012                | 44.18                 |  | 19.79                 |  | 169.82                 |   | 91.63                       |  | 41.09                       |  | 339.74                      |
| 2013                | 42.87                 |  | 18.81                 |  | 169.72                 |   | 134.51                      |  | 59.90                       |  | 509.46                      |
| 2014                | 39.66                 |  | 16.46                 |  | 169.69                 |   | 174.17                      |  | 76.36                       |  | 679.14                      |
| 2015                | 39.51                 |  | 16.85                 |  | 169.52                 |   | 213.68                      |  | 93.21                       |  | 848.67                      |
| 2016                | 38.62                 |  | 16.72                 |  | 170.00                 |   | 252.30                      |  | 109.93                      |  | 1018.67                     |
| 2017                | 40.72                 |  | 18.87                 |  | 170.00                 |   | 293.02                      |  | 128.80                      |  | 1188.67                     |
| 2018                | 38.66                 |  | 17.96                 |  | 170.00                 |   | 331.68                      |  | 146.76                      |  | 1358.67                     |
| 2019                | 37.06                 |  | 16.90                 |  | 170.00                 |   | 368.73                      |  | 163.66                      |  | 1528.67                     |



**Commercial Programs**

The tables below indicate the total annual and cumulative saving impacts (Summer Demand MW, Winter Demand MW, and Annual Energy (GWh) for the Commercial Programs included in the Original Goal Scenario, for years 2011 – 2019.

- Business Energy Check
- Better Business
- Commercial/Industrial New Construction
- Business Energy Saver
- Commercial Green Building New Construction
- Innovation Incentive
- Standby Generation
- Interruptible Service
- Curtailable Service
- Business Energy Response

| Business Energy Check |                       |  |                       |  |                        |  |  |
|-----------------------|-----------------------|--|-----------------------|--|------------------------|--|--|
|                       | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  |  |
| 2011                  | 0.82                  |  | 0.34                  |  | 1.37                   |  |  |
| 2012                  | 0.86                  |  | 0.36                  |  | 1.44                   |  |  |
| 2013                  | 0.90                  |  | 0.37                  |  | 1.51                   |  |  |
| 2014                  | 0.93                  |  | 0.39                  |  | 1.56                   |  |  |
| 2015                  | 0.41                  |  | 0.22                  |  | 1.01                   |  |  |
| 2016                  | 0.40                  |  | 0.22                  |  | 0.99                   |  |  |
| 2017                  | 0.39                  |  | 0.21                  |  | 0.97                   |  |  |
| 2018                  | 0.38                  |  | 0.21                  |  | 0.95                   |  |  |
| 2019                  | 0.38                  |  | 0.21                  |  | 0.95                   |  |  |

|      | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
|------|-----------------------------|--|-----------------------------|--|-----------------------------|
| 2011 | 0.82                        |  | 0.34                        |  | 1.37                        |
| 2012 | 1.67                        |  | 0.69                        |  | 2.81                        |
| 2013 | 2.57                        |  | 1.07                        |  | 4.32                        |
| 2014 | 3.50                        |  | 1.45                        |  | 5.88                        |
| 2015 | 3.90                        |  | 1.67                        |  | 6.89                        |
| 2016 | 4.30                        |  | 1.89                        |  | 7.89                        |
| 2017 | 4.69                        |  | 2.10                        |  | 8.86                        |
| 2018 | 5.08                        |  | 2.31                        |  | 9.81                        |
| 2019 | 5.46                        |  | 2.52                        |  | 10.76                       |

| Better Business |                       |  |                       |  |                        |  |  |
|-----------------|-----------------------|--|-----------------------|--|------------------------|--|--|
|                 | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  |  |
| 2011            | 9.15                  |  | 3.85                  |  | 25.99                  |  |  |
| 2012            | 10.04                 |  | 4.15                  |  | 28.64                  |  |  |
| 2013            | 6.81                  |  | 2.77                  |  | 19.46                  |  |  |
| 2014            | 5.49                  |  | 2.16                  |  | 15.75                  |  |  |
| 2015            | 4.72                  |  | 1.83                  |  | 13.57                  |  |  |
| 2016            | 3.46                  |  | 1.34                  |  | 9.96                   |  |  |
| 2017            | 2.86                  |  | 1.11                  |  | 8.25                   |  |  |
| 2018            | 3.33                  |  | 1.29                  |  | 9.59                   |  |  |
| 2019            | 3.82                  |  | 1.48                  |  | 10.99                  |  |  |

|      | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
|------|-----------------------------|--|-----------------------------|--|-----------------------------|
| 2011 | 9.15                        |  | 3.85                        |  | 25.99                       |
| 2012 | 19.19                       |  | 8.00                        |  | 54.63                       |
| 2013 | 26.00                       |  | 10.76                       |  | 74.09                       |
| 2014 | 31.48                       |  | 12.92                       |  | 89.84                       |
| 2015 | 36.20                       |  | 14.75                       |  | 103.42                      |
| 2016 | 39.66                       |  | 16.09                       |  | 113.38                      |
| 2017 | 42.52                       |  | 17.20                       |  | 121.63                      |
| 2018 | 45.85                       |  | 18.49                       |  | 131.22                      |
| 2019 | 49.66                       |  | 19.96                       |  | 142.21                      |

| Commercial/Industrial New Construction |                       |                       |                        |                             |                             |                             |  |
|--|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|--|
|  | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |  |
| 2011                                   | 1.38                  | 0.56                  | 3.52                   | 1.38                        | 0.56                        | 3.52                        |  |
| 2012                                   | 1.42                  | 0.58                  | 3.60                   | 2.80                        | 1.14                        | 7.11                        |  |
| 2013                                   | 1.49                  | 0.82                  | 3.60                   | 4.28                        | 1.96                        | 10.71                       |  |
| 2014                                   | 1.50                  | 0.82                  | 3.64                   | 5.79                        | 2.78                        | 14.35                       |  |
| 2015                                   | 1.43                  | 0.80                  | 3.36                   | 7.21                        | 3.58                        | 17.71                       |  |
| 2016                                   | 1.39                  | 0.78                  | 3.25                   | 8.60                        | 4.36                        | 20.96                       |  |
| 2017                                   | 1.35                  | 0.76                  | 3.13                   | 9.95                        | 5.12                        | 24.09                       |  |
| 2018                                   | 1.33                  | 0.75                  | 3.07                   | 11.28                       | 5.87                        | 27.16                       |  |
| 2019                                   | 1.29                  | 0.73                  | 2.98                   | 12.56                       | 6.60                        | 30.13                       |  |

| Business Energy Saver |                       |                       |                        |                             |                             |                             |  |
|-----------------------|-----------------------|-----------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|--|
|                       | Summer Demand<br>(MW) | Winter Demand<br>(MW) | Annual Energy<br>(GWh) | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand | Cumulative<br>Annual Energy |  |
| 2011                  | 0.17                  | 0.04                  | 0.24                   | 0.17                        | 0.04                        | 0.24                        |  |
| 2012                  | 0.21                  | 0.05                  | 0.29                   | 0.38                        | 0.10                        | 0.54                        |  |
| 2013                  | 0.21                  | 0.05                  | 0.29                   | 0.59                        | 0.15                        | 0.83                        |  |
| 2014                  | 0.21                  | 0.05                  | 0.29                   | 0.79                        | 0.20                        | 1.12                        |  |
| 2015                  | 0.21                  | 0.05                  | 0.29                   | 1.00                        | 0.25                        | 1.41                        |  |
| 2016                  | 0.21                  | 0.05                  | 0.29                   | 1.21                        | 0.30                        | 1.70                        |  |
| 2017                  | 0.21                  | 0.05                  | 0.29                   | 1.42                        | 0.36                        | 2.00                        |  |
| 2018                  | 0.21                  | 0.05                  | 0.29                   | 1.62                        | 0.41                        | 2.29                        |  |
| 2019                  | 0.21                  | 0.05                  | 0.29                   | 1.83                        | 0.46                        | 2.58                        |  |

| Commercial Green Building |                       |  |                       |  |                        |                             |                             |
|---------------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                           | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
|                           |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                           |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
| 2011                      | 0.24                  |  | 0.15                  |  | 0.55                   | 0.24                        | 0.15                        |
| 2012                      | 0.25                  |  | 0.15                  |  | 0.58                   | 0.49                        | 0.30                        |
| 2013                      | 0.26                  |  | 0.16                  |  | 0.60                   | 0.75                        | 0.46                        |
| 2014                      | 0.27                  |  | 0.16                  |  | 0.61                   | 1.02                        | 0.62                        |
| 2015                      | 0.28                  |  | 0.17                  |  | 0.63                   | 1.29                        | 0.79                        |
| 2016                      | 0.26                  |  | 0.16                  |  | 0.60                   | 1.56                        | 0.95                        |
| 2017                      | 0.25                  |  | 0.15                  |  | 0.58                   | 1.81                        | 1.10                        |
| 2018                      | 0.24                  |  | 0.15                  |  | 0.56                   | 2.05                        | 1.25                        |
| 2019                      | 0.24                  |  | 0.15                  |  | 0.55                   | 2.29                        | 1.40                        |

| Innovation Incentive |                       |  |                       |  |                        |                             |                             |
|----------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                      | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
|                      |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                      |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
| 2011                 | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2012                 | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2013                 | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2014                 | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2015                 | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2016                 | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2017                 | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2018                 | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |
| 2019                 | 0.00                  |  | 0.00                  |  | 0.00                   | 0.00                        | 0.00                        |

| Standby Generation |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|--------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                    | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 4.25                        |  | 4.25                        |  | 0.00                        |
| 2012               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 8.50                        |  | 8.50                        |  | 0.00                        |
| 2013               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 12.75                       |  | 12.75                       |  | 0.00                        |
| 2014               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 17.00                       |  | 17.00                       |  | 0.00                        |
| 2015               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 21.26                       |  | 21.26                       |  | 0.00                        |
| 2016               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 25.51                       |  | 25.51                       |  | 0.00                        |
| 2017               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 29.76                       |  | 29.76                       |  | 0.00                        |
| 2018               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 34.01                       |  | 34.01                       |  | 0.00                        |
| 2019               | 4.25                  |  | 4.25                  |  | 0.00                   |  | 38.26                       |  | 38.26                       |  | 0.00                        |

| Interruptible Service |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|-----------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                       | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 0.32                        |  | 0.34                        |  | 0.00                        |
| 2012                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 0.64                        |  | 0.67                        |  | 0.00                        |
| 2013                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 0.96                        |  | 1.01                        |  | 0.00                        |
| 2014                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 1.28                        |  | 1.35                        |  | 0.00                        |
| 2015                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 1.61                        |  | 1.69                        |  | 0.00                        |
| 2016                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 1.93                        |  | 2.02                        |  | 0.00                        |
| 2017                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 2.25                        |  | 2.36                        |  | 0.00                        |
| 2018                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 2.57                        |  | 2.70                        |  | 0.00                        |
| 2019                  | 0.32                  |  | 0.34                  |  | 0.00                   |  | 2.89                        |  | 3.03                        |  | 0.00                        |

| Curtable Service |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                  | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011             | 0.20                  |  | 0.30                  |  | 0.00                   |  | 0.20                        |  | 0.30                        |  | 0.00                        |
| 2012             | 0.20                  |  | 0.30                  |  | 0.00                   |  | 0.40                        |  | 0.60                        |  | 0.00                        |
| 2013             | 0.20                  |  | 0.30                  |  | 0.00                   |  | 0.60                        |  | 0.90                        |  | 0.00                        |
| 2014             | 0.20                  |  | 0.30                  |  | 0.00                   |  | 0.80                        |  | 1.20                        |  | 0.00                        |
| 2015             | 0.20                  |  | 0.30                  |  | 0.00                   |  | 1.01                        |  | 1.50                        |  | 0.00                        |
| 2016             | 0.20                  |  | 0.30                  |  | 0.00                   |  | 1.21                        |  | 1.80                        |  | 0.00                        |
| 2017             | 0.20                  |  | 0.30                  |  | 0.00                   |  | 1.41                        |  | 2.10                        |  | 0.00                        |
| 2018             | 0.20                  |  | 0.30                  |  | 0.00                   |  | 1.61                        |  | 2.40                        |  | 0.00                        |
| 2019             | 0.20                  |  | 0.30                  |  | 0.00                   |  | 1.81                        |  | 2.70                        |  | 0.00                        |

| Business Energy Response |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|--------------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                          | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                     | 0.87                  |  | 0.00                  |  | 0.00                   |  | 0.87                        |  | 0.00                        |  | 0.00                        |
| 2012                     | 6.80                  |  | 0.00                  |  | 0.00                   |  | 7.67                        |  | 0.00                        |  | 0.00                        |
| 2013                     | 10.19                 |  | 3.39                  |  | 10.97                  |  | 17.86                       |  | 3.39                        |  | 10.97                       |
| 2014                     | 11.88                 |  | 5.08                  |  | 16.45                  |  | 29.74                       |  | 8.47                        |  | 27.42                       |
| 2015                     | 15.27                 |  | 8.47                  |  | 27.42                  |  | 45.01                       |  | 16.94                       |  | 54.84                       |
| 2016                     | 15.27                 |  | 8.47                  |  | 27.42                  |  | 60.28                       |  | 25.40                       |  | 82.25                       |
| 2017                     | 15.27                 |  | 8.47                  |  | 27.42                  |  | 75.54                       |  | 33.87                       |  | 109.67                      |
| 2018                     | 15.27                 |  | 8.47                  |  | 27.42                  |  | 90.81                       |  | 42.34                       |  | 137.09                      |
| 2019                     | 12.00                 |  | 5.65                  |  | 18.28                  |  | 102.81                      |  | 47.99                       |  | 155.37                      |

**Other Programs**

The tables below indicate the total annual and cumulative saving impacts (Summer Demand MW, Winter Demand MW, and Annual Energy (GWh) for the Other Programs included in the Original Goal Scenario, for years 2011 – 2019.

- Technology Development
- Qualifying Facilities
- Demand Side Renewable Portfolio<sup>1</sup>

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<sup>1</sup> Previously approved in Order No. PSC-10-0605-PAA-EG

| Technology Development |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|------------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                        | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                   | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2012                   | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2013                   | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2014                   | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2015                   | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2016                   | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2017                   | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2018                   | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2019                   | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |

| Qualifying Facilities |                       |  |                       |  |                        |  |                             |  |                             |  |                             |
|-----------------------|-----------------------|--|-----------------------|--|------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|
|                       | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |  | Cumulative<br>Summer Demand |  | Cumulative<br>Winter Demand |  | Cumulative<br>Annual Energy |
| 2011                  | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2012                  | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2013                  | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2014                  | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2015                  | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2016                  | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2017                  | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2018                  | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |
| 2019                  | 0.00                  |  | 0.00                  |  | 0.00                   |  | 0.00                        |  | 0.00                        |  | 0.00                        |



| Demand Side Renewable Portfolio |                       |  |                       |  |                        |                             |                             |
|---------------------------------|-----------------------|--|-----------------------|--|------------------------|-----------------------------|-----------------------------|
|                                 | Summer Demand<br>(MW) |  | Winter Demand<br>(MW) |  | Annual Energy<br>(GWh) |                             |                             |
|                                 |                       |  |                       |  |                        | Cumulative<br>Summer Demand | Cumulative<br>Winter Demand |
|                                 |                       |  |                       |  |                        |                             | Cumulative<br>Annual Energy |
| 2011                            | 3.11                  |  | 5.17                  |  | 6.48                   | 3.11                        | 5.17                        |
| 2012                            | 3.11                  |  | 5.17                  |  | 6.48                   | 6.21                        | 10.33                       |
| 2013                            | 3.11                  |  | 5.17                  |  | 6.48                   | 9.32                        | 15.50                       |
| 2014                            | 3.11                  |  | 5.17                  |  | 6.48                   | 12.42                       | 20.66                       |
|                                 |                       |  |                       |  |                        |                             | 25.91                       |

**Table IX-2: Penetration Rates****Residential Programs**

The tables below indicate the penetration rates assumed for each program compared to historic rates for similar programs for the Residential Programs included in the Original Goal Scenario, for years 2011 – 2019.

- Home Energy Check
- Home Energy Improvement
- Residential New Construction
- Neighborhood Energy Saver
- Low Income Weatherization Assistance
- Residential Energy Management
- Technical Potential

Historical penetration rates were based on the period 2007-2008.

| Home Energy Check        |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 1,473,688          |  | 70,303       | 4.8%            |
| 2012                     | 1,495,098          |  | 71,521       | 4.8%            |
| 2013                     | 1,521,451          |  | 71,492       | 4.7%            |
| 2014                     | 1,548,531          |  | 71,585       | 4.6%            |
| 2015                     | 1,575,167          |  | 72,093       | 4.6%            |
| 2016                     | 1,600,448          |  | 70,715       | 4.4%            |
| 2017                     | 1,624,503          |  | 71,585       | 4.4%            |
| 2018                     | 1,647,724          |  | 70,936       | 4.3%            |
| 2019                     | 1,671,277          |  | 71,025       | 4.2%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 3.8%               |  |              |                 |
| Low                      | 2.9%               |  |              |                 |

| Home Energy Improvement  |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 1,473,688          |  | 95,088       | 6.5%            |
| 2012                     | 1,495,098          |  | 106,024      | 7.1%            |
| 2013                     | 1,521,451          |  | 113,502      | 7.5%            |
| 2014                     | 1,548,531          |  | 121,797      | 7.9%            |
| 2015                     | 1,575,167          |  | 157,357      | 10.0%           |
| 2016                     | 1,600,448          |  | 141,480      | 8.8%            |
| 2017                     | 1,624,503          |  | 133,785      | 8.2%            |
| 2018                     | 1,647,724          |  | 117,942      | 7.2%            |
| 2019                     | 1,671,277          |  | 106,111      | 6.3%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 3.0%               |  |              |                 |
| Low                      | 1.5%               |  |              |                 |

| Residential New Construction |                       |  |              |  |                 |
|------------------------------|-----------------------|--|--------------|--|-----------------|
|                              | Eligible<br>Customers |  | Participants |  | % Participation |
| 2011                         | 16,273                |  | 3,292        |  | 20.2%           |
| 2012                         | 21,410                |  | 3,286        |  | 15.3%           |
| 2013                         | 26,353                |  | 3,265        |  | 12.4%           |
| 2014                         | 27,080                |  | 3,847        |  | 14.2%           |
| 2015                         | 26,636                |  | 3,936        |  | 14.8%           |
| 2016                         | 25,281                |  | 3,638        |  | 14.4%           |
| 2017                         | 24,055                |  | 3,457        |  | 14.4%           |
| 2018                         | 23,221                |  | 3,196        |  | 13.8%           |
| 2019                         | 23,553                |  | 3,009        |  | 12.8%           |
| % Historic Participation     |                       |  |              |  |                 |
| High                         | 62.1%                 |  |              |  |                 |
| Low                          | 31.5%                 |  |              |  |                 |

| Neighborhood Energy Saver |                       |  |              |  |                 |
|---------------------------|-----------------------|--|--------------|--|-----------------|
|                           | Eligible<br>Customers |  | Participants |  | % Participation |
| 2011                      | 45,718                |  | 4,680        |  | 10.2%           |
| 2012                      | 41,953                |  | 4,828        |  | 11.5%           |
| 2013                      | 37,964                |  | 4,926        |  | 13.0%           |
| 2014                      | 33,797                |  | 5,025        |  | 14.9%           |
| 2015                      | 29,448                |  | 5,370        |  | 18.2%           |
| 2016                      | 24,667                |  | 5,173        |  | 21.0%           |
| 2017                      | 19,987                |  | 5,074        |  | 25.4%           |
| 2018                      | 15,313                |  | 4,877        |  | 31.8%           |
| 2019                      | 10,742                |  | 4,729        |  | 44.0%           |
| % Historic Participation  |                       |  |              |  |                 |
| High                      | 9.4%                  |  |              |  |                 |
| Low                       | 9.4%                  |  |              |  |                 |

| Low Income Weatherization |                    |  |              |  |                 |
|---------------------------|--------------------|--|--------------|--|-----------------|
|                           | Eligible Customers |  | Participants |  | % Participation |
| 2011                      | 1,011              |  | 506          |  | 50.0%           |
| 2012                      | 1,026              |  | 513          |  | 50.0%           |
| 2013                      | 1,044              |  | 522          |  | 50.0%           |
| 2014                      | 1,062              |  | 531          |  | 50.0%           |
| 2015                      | 1,081              |  | 541          |  | 50.0%           |
| 2016                      | 1,098              |  | 549          |  | 50.0%           |
| 2017                      | 1,115              |  | 557          |  | 50.0%           |
| 2018                      | 1,131              |  | 565          |  | 50.0%           |
| 2019                      | 1,147              |  | 573          |  | 50.0%           |
| % Historic Participation  |                    |  |              |  |                 |
| High                      | 50.0%              |  |              |  |                 |
| Low                       | 50.0%              |  |              |  |                 |

| Residential Energy Management |                    |  |              |  |                 |
|-------------------------------|--------------------|--|--------------|--|-----------------|
|                               | Eligible Customers |  | Participants |  | % Participation |
| 2011                          | 941,530            |  | 7,700        |  | 0.8%            |
| 2012                          | 955,209            |  | 7,700        |  | 0.8%            |
| 2013                          | 972,046            |  | 7,700        |  | 0.8%            |
| 2014                          | 989,347            |  | 7,700        |  | 0.8%            |
| 2015                          | 1,006,365          |  | 7,700        |  | 0.8%            |
| 2016                          | 1,022,517          |  | 13,950       |  | 1.4%            |
| 2017                          | 1,037,885          |  | 13,950       |  | 1.3%            |
| 2018                          | 1,052,721          |  | 13,950       |  | 1.3%            |
| 2019                          | 1,067,769          |  | 9,750        |  | 0.9%            |
| % Historic Participation      |                    |  |              |  |                 |
| High                          | 0.9%               |  |              |  |                 |
| Low                           | 0.7%               |  |              |  |                 |

| Technical Potential      |                       |  |              |                 |
|--------------------------|-----------------------|--|--------------|-----------------|
|                          | Eligible<br>Customers |  | Participants | % Participation |
| 2011                     | 1,473,688             |  | 140,096      | 9.5%            |
| 2012                     | 1,495,098             |  | 156,207      | 10.4%           |
| 2013                     | 1,521,451             |  | 164,901      | 10.8%           |
| 2014                     | 1,548,531             |  | 187,585      | 12.1%           |
| 2015                     | 1,575,167             |  | 191,691      | 12.2%           |
| 2016                     | 1,600,448             |  | 203,381      | 12.7%           |
| 2017                     | 1,624,503             |  | 192,831      | 11.9%           |
| 2018                     | 1,647,724             |  | 211,794      | 12.9%           |
| 2019                     | 1,671,277             |  | 222,791      | 13.3%           |
| % Historic Participation |                       |  |              |                 |
| High                     | N/A                   |  |              |                 |
| Low                      | N/A                   |  |              |                 |

**Commercial Programs**

The tables below indicate the penetration rates assumed for each program compared to historic rates for similar programs for the Commercial Programs included in the Original Goal Scenario, for years 2011 – 2019.

- Business Energy Check
- Better Business
- Commercial/Industrial New Construction
- Business Energy Saver
- Commercial Green Building New Construction
- Innovation Incentive
- Standby Generation
- Interruptible Service
- Curtailable Service
- Business Energy Response

| Business Energy Check    |                    |  |              |  |                 |
|--------------------------|--------------------|--|--------------|--|-----------------|
|                          | Eligible Customers |  | Participants |  | % Participation |
| 2011                     | 170,886            |  | 2,261        |  | 1.3%            |
| 2012                     | 172,886            |  | 2,330        |  | 1.3%            |
| 2013                     | 173,951            |  | 2,424        |  | 1.4%            |
| 2014                     | 177,276            |  | 2,545        |  | 1.4%            |
| 2015                     | 180,492            |  | 2,723        |  | 1.5%            |
| 2016                     | 183,449            |  | 2,859        |  | 1.6%            |
| 2017                     | 186,235            |  | 2,945        |  | 1.6%            |
| 2018                     | 189,005            |  | 3,034        |  | 1.6%            |
| 2019                     | 191,869            |  | 3,064        |  | 1.6%            |
| % Historic Participation |                    |  |              |  |                 |
| High                     | 1.7%               |  |              |  |                 |
| Low                      | 1.2%               |  |              |  |                 |

| Better Business          |                    |  |              |  |                 |
|--------------------------|--------------------|--|--------------|--|-----------------|
|                          | Eligible Customers |  | Participants |  | % Participation |
| 2011                     | 170,886            |  | 4,094        |  | 2.4%            |
| 2012                     | 175,147            |  | 4,411        |  | 2.5%            |
| 2013                     | 178,542            |  | 2,962        |  | 1.7%            |
| 2014                     | 182,030            |  | 2,297        |  | 1.3%            |
| 2015                     | 185,461            |  | 1,927        |  | 1.0%            |
| 2016                     | 188,717            |  | 1,414        |  | 0.7%            |
| 2017                     | 191,817            |  | 1,171        |  | 0.6%            |
| 2018                     | 194,809            |  | 1,361        |  | 0.7%            |
| 2019                     | 197,848            |  | 1,561        |  | 0.8%            |
| % Historic Participation |                    |  |              |  |                 |
| High                     | 1.0%               |  |              |  |                 |
| Low                      | 0.6%               |  |              |  |                 |

Historical participation is based on number of customers, projections are based on measures.



| Commercial/Industrial New Construction |                    |  |              |                 |
|--|--------------------|--|--------------|-----------------|
|  | Eligible Customers |  | Participants | % Participation |
| 2011                                   | 3,653              |  | 145          | 4.0%            |
| 2012                                   | 4,261              |  | 147          | 3.4%            |
| 2013                                   | 3,395              |  | 148          | 4.4%            |
| 2014                                   | 3,488              |  | 150          | 4.3%            |
| 2015                                   | 3,431              |  | 151          | 4.4%            |
| 2016                                   | 3,256              |  | 153          | 4.7%            |
| 2017                                   | 3,100              |  | 154          | 5.0%            |
| 2018                                   | 2,992              |  | 156          | 5.2%            |
| 2019                                   | 3,039              |  | 157          | 5.2%            |
| % Historic Participation               |                    |  |              |                 |
| High                                   | 1.5%               |  |              |                 |
| Low                                    | 1.1%               |  |              |                 |

Historical participation is based on number of customers, projections are based on measures.

| Business Energy Saver    |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 1,225              |  | 100          | 8.2%            |
| 2012                     | 1,150              |  | 120          | 10.4%           |
| 2013                     | 1,154              |  | 120          | 10.4%           |
| 2014                     | 1,180              |  | 120          | 10.2%           |
| 2015                     | 1,206              |  | 120          | 10.0%           |
| 2016                     | 1,232              |  | 120          | 9.7%            |
| 2017                     | 1,260              |  | 120          | 9.5%            |
| 2018                     | 1,287              |  | 120          | 9.3%            |
| 2019                     | 1,315              |  | 120          | 9.1%            |
| % Historic Participation |                    |  |              |                 |
| High                     | N/A                |  |              |                 |
| Low                      | N/A                |  |              |                 |

| Commercial Green Building |                    |  |              |  |                 |
|---------------------------|--------------------|--|--------------|--|-----------------|
|                           | Eligible Customers |  | Participants |  | % Participation |
| 2011                      | 3,653              |  | 150          |  | 4.1%            |
| 2012                      | 4,261              |  | 158          |  | 3.7%            |
| 2013                      | 3,395              |  | 165          |  | 4.9%            |
| 2014                      | 3,488              |  | 168          |  | 4.8%            |
| 2015                      | 3,431              |  | 173          |  | 5.0%            |
| 2016                      | 3,256              |  | 165          |  | 5.1%            |
| 2017                      | 3,100              |  | 158          |  | 5.1%            |
| 2018                      | 2,992              |  | 153          |  | 5.1%            |
| 2019                      | 3,039              |  | 150          |  | 4.9%            |
| % Historic Participation  |                    |  |              |  |                 |
| High                      | N/A                |  |              |  |                 |
| Low                       | N/A                |  |              |  |                 |

| Innovation Incentive     |                    |  |              |  |                 |
|--------------------------|--------------------|--|--------------|--|-----------------|
|                          | Eligible Customers |  | Participants |  | % Participation |
| 2011                     | 170,886            |  | 4            |  | 0.0%            |
| 2012                     | 175,147            |  | 8            |  | 0.0%            |
| 2013                     | 178,542            |  | 10           |  | 0.0%            |
| 2014                     | 182,030            |  | 12           |  | 0.0%            |
| 2015                     | 185,461            |  | 15           |  | 0.0%            |
| 2016                     | 188,717            |  | 17           |  | 0.0%            |
| 2017                     | 191,817            |  | 20           |  | 0.0%            |
| 2018                     | 194,809            |  | 23           |  | 0.0%            |
| 2019                     | 197,848            |  | 25           |  | 0.0%            |
| % Historic Participation |                    |  |              |  |                 |
| High                     | 0.0%               |  |              |  |                 |
| Low                      | 0.0%               |  |              |  |                 |

| Standby Generation       |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 547                |  | 10           | 1.8%            |
| 2012                     | 560                |  | 10           | 1.8%            |
| 2013                     | 571                |  | 10           | 1.8%            |
| 2014                     | 582                |  | 10           | 1.7%            |
| 2015                     | 593                |  | 10           | 1.7%            |
| 2016                     | 604                |  | 10           | 1.7%            |
| 2017                     | 614                |  | 10           | 1.6%            |
| 2018                     | 623                |  | 10           | 1.6%            |
| 2019                     | 633                |  | 10           | 1.6%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 14.2%              |  |              |                 |
| Low                      | 4.4%               |  |              |                 |

| Interruptible Service    |                    |  |              |                 |
|--------------------------|--------------------|--|--------------|-----------------|
|                          | Eligible Customers |  | Participants | % Participation |
| 2011                     | 459                |  | 1            | 0.2%            |
| 2012                     | 470                |  | 1            | 0.2%            |
| 2013                     | 479                |  | 1            | 0.2%            |
| 2014                     | 489                |  | 1            | 0.2%            |
| 2015                     | 498                |  | 1            | 0.2%            |
| 2016                     | 507                |  | 1            | 0.2%            |
| 2017                     | 515                |  | 1            | 0.2%            |
| 2018                     | 523                |  | 1            | 0.2%            |
| 2019                     | 531                |  | 1            | 0.2%            |
| % Historic Participation |                    |  |              |                 |
| High                     | 0.3%               |  |              |                 |
| Low                      | 0.0%               |  |              |                 |

| Curtable Service         |                       |  |              |  |                 |
|--------------------------|-----------------------|--|--------------|--|-----------------|
|                          | Eligible<br>Customers |  | Participants |  | % Participation |
| 2011                     | 906                   |  | 1            |  | 0.1%            |
| 2012                     | 928                   |  | 1            |  | 0.1%            |
| 2013                     | 946                   |  | 1            |  | 0.1%            |
| 2014                     | 965                   |  | 1            |  | 0.1%            |
| 2015                     | 983                   |  | 1            |  | 0.1%            |
| 2016                     | 1,000                 |  | 1            |  | 0.1%            |
| 2017                     | 1,017                 |  | 1            |  | 0.1%            |
| 2018                     | 1,032                 |  | 1            |  | 0.1%            |
| 2019                     | 1,049                 |  | 1            |  | 0.1%            |
| % Historic Participation |                       |  |              |  |                 |
| High                     | 0.0%                  |  |              |  |                 |
| Low                      | 0.0%                  |  |              |  |                 |

| Business Energy Response |                       |  |              |  |                 |
|--------------------------|-----------------------|--|--------------|--|-----------------|
|                          | Eligible<br>Customers |  | Participants |  | % Participation |
| 2011                     | 170,886               |  | 7            |  | 0.0%            |
| 2012                     | 175,147               |  | 904          |  | 0.5%            |
| 2013                     | 178,542               |  | 6,905        |  | 3.9%            |
| 2014                     | 182,030               |  | 9,904        |  | 5.4%            |
| 2015                     | 185,461               |  | 15,904       |  | 8.6%            |
| 2016                     | 188,717               |  | 15,905       |  | 8.4%            |
| 2017                     | 191,817               |  | 15,904       |  | 8.3%            |
| 2018                     | 194,809               |  | 15,904       |  | 8.2%            |
| 2019                     | 197,848               |  | 10,814       |  | 5.5%            |
| % Historic Participation |                       |  |              |  |                 |
| High                     | N/A                   |  |              |  |                 |
| Low                      | N/A                   |  |              |  |                 |

## Other Programs

The tables below indicate the penetration rates assumed for each program compared to historic rates for similar programs for the Residential Programs included in the Original Goal Scenario, for years 2011 – 2019.

- Technology Development
- Qualifying Facilities
- Demand Side Renewable Portfolio<sup>2</sup>

<sup>2</sup> Previously approved in Order No. PSC-10-0605-PAA-EG

| Technology Development   |                       |  |              |  |                 |
|--------------------------|-----------------------|--|--------------|--|-----------------|
|                          | Eligible<br>Customers |  | Participants |  | % Participation |
| 2011                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2012                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2013                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2014                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2015                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2016                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2017                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2018                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2019                     | 0.00                  |  | 0.00         |  | 0.0%            |
| % Historic Participation |                       |  |              |  |                 |
| High                     | 0.0%                  |  |              |  |                 |
| Low                      | 0.0%                  |  |              |  |                 |

| Qualifying Facilities    |                       |  |              |  |                 |
|--------------------------|-----------------------|--|--------------|--|-----------------|
|                          | Eligible<br>Customers |  | Participants |  | % Participation |
| 2011                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2012                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2013                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2014                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2015                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2016                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2017                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2018                     | 0.00                  |  | 0.00         |  | 0.0%            |
| 2019                     | 0.00                  |  | 0.00         |  | 0.0%            |
| % Historic Participation |                       |  |              |  |                 |
| High                     | 0.0%                  |  |              |  |                 |
| Low                      | 0.0%                  |  |              |  |                 |

**Demand-Side Renewable Portfolio**

| Solar Water Heating for Low-Income Residential Customers |                    |  |              |                 |
|--|--------------------|--|--------------|-----------------|
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 896                |  | 30           | 3.3%            |
| 2012   | 864                |  | 30           | 3.5%            |
| 2013   | 817                |  | 30           | 3.7%            |
| 2014   | 753                |  | 30           | 4.0%            |
| Solar Water Heating with Energy Management               |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 1,223,161          |  | 2,250        | 0.2%            |
| 2012   | 1,240,931          |  | 2,250        | 0.2%            |
| 2013   | 1,262,804          |  | 2,250        | 0.2%            |
| 2014   | 1,285,281          |  | 2,250        | 0.2%            |
| Residential Solar Photovoltaic                           |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 1,473,688          |  | 100          | 0.0%            |
| 2012   | 1,495,098          |  | 100          | 0.0%            |
| 2013   | 1,521,451          |  | 100          | 0.0%            |
| 2014   | 1,548,531          |  | 100          | 0.0%            |
| Commercial Solar Photovoltaic                            |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 7,524              |  | 23           | 0.3%            |
| 2012   | 7,562              |  | 23           | 0.3%            |
| 2013   | 7,600              |  | 23           | 0.3%            |
| 2014   | 7,638              |  | 23           | 0.3%            |
| Photovoltaic for Schools Pilot                           |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 100                |  | 10           | 10.0%           |
| 2012   | 101                |  | 10           | 9.9%            |
| 2013   | 102                |  | 10           | 9.8%            |
| 2014   | 103                |  | 10           | 9.7%            |
| Photovoltaic for Schools Pilot Post Secondary            |                    |  |              |                 |
|  | Eligible Customers |  | Participants | % Participation |
| 2011   | 11                 |  | 1            | 9.0%            |
| 2012   | 11                 |  | 1            | 8.9%            |
| 2013   | 11                 |  | 1            | 8.8%            |
| 2014   | 11                 |  | 1            | 8.7%            |

Note that Historic Participation does not exist as these are new programs

**Table IX-3: Total Cost****Residential Programs**

The tables below indicate the total cost (by program) for administrative, incentive and marketing costs for the Residential Programs included in the Original Goal Scenario, for years 2011 – 2019.

- Home Energy Check
- Home Energy Improvement
- Residential New Construction
- Neighborhood Energy Saver
- Low Income Weatherization Assistance
- Residential Energy Management
- Technical Potential



| Home Energy Check |              |  |              |  |             |  |             |
|-------------------|--------------|--|--------------|--|-------------|--|-------------|
|                   | Total Cost   |  | Admin        |  | Incentives  |  | Marketing   |
| 2011              | \$16,037,703 |  | \$10,227,116 |  | \$997,827   |  | \$4,812,760 |
| 2012              | \$16,978,774 |  | \$10,803,228 |  | \$1,091,674 |  | \$5,083,872 |
| 2013              | \$17,792,527 |  | \$11,306,902 |  | \$1,164,730 |  | \$5,320,895 |
| 2014              | \$18,712,964 |  | \$11,881,728 |  | \$1,239,834 |  | \$5,591,401 |
| 2015              | \$19,831,282 |  | \$12,585,812 |  | \$1,322,735 |  | \$5,922,735 |
| 2016              | \$20,450,468 |  | \$12,974,600 |  | \$1,370,173 |  | \$6,105,694 |
| 2017              | \$21,615,402 |  | \$13,681,555 |  | \$1,495,467 |  | \$6,438,379 |
| 2018              | \$22,780,281 |  | \$14,389,041 |  | \$1,619,926 |  | \$6,771,314 |
| 2019              | \$24,003,751 |  | \$15,135,280 |  | \$1,745,986 |  | \$7,122,485 |

| Home Energy Improvement |               |  |              |  |               |  |             |
|-------------------------|---------------|--|--------------|--|---------------|--|-------------|
|                         | Total Cost    |  | Admin        |  | Incentives    |  | Marketing   |
| 2011                    | \$67,894,320  |  | \$8,711,729  |  | \$55,082,953  |  | \$4,099,637 |
| 2012                    | \$81,467,755  |  | \$10,675,979 |  | \$65,767,787  |  | \$5,023,990 |
| 2013                    | \$95,111,359  |  | \$12,484,242 |  | \$76,752,179  |  | \$5,874,938 |
| 2014                    | \$108,175,754 |  | \$14,521,829 |  | \$86,820,123  |  | \$6,833,802 |
| 2015                    | \$148,884,986 |  | \$20,385,450 |  | \$118,906,382 |  | \$9,593,153 |
| 2016                    | \$141,710,084 |  | \$19,745,315 |  | \$112,672,856 |  | \$9,291,913 |
| 2017                    | \$141,536,733 |  | \$20,052,485 |  | \$112,047,785 |  | \$9,436,463 |
| 2018                    | \$131,631,052 |  | \$18,946,648 |  | \$103,768,334 |  | \$8,916,070 |
| 2019                    | \$124,744,919 |  | \$18,213,909 |  | \$97,959,758  |  | \$8,571,251 |

| Residential New Construction |              |  |             |  |              |  |           |
|------------------------------|--------------|--|-------------|--|--------------|--|-----------|
|                              | Total Cost   |  | Admin       |  | Incentives   |  | Marketing |
| 2011                         | \$9,351,429  |  | \$1,102,968 |  | \$8,152,550  |  | \$95,910  |
| 2012                         | \$10,092,655 |  | \$1,237,799 |  | \$8,747,221  |  | \$107,635 |
| 2013                         | \$10,829,049 |  | \$1,371,834 |  | \$9,337,925  |  | \$119,290 |
| 2014                         | \$11,380,924 |  | \$1,573,385 |  | \$9,670,723  |  | \$136,816 |
| 2015                         | \$12,828,332 |  | \$1,801,060 |  | \$10,870,658 |  | \$156,614 |
| 2016                         | \$13,029,869 |  | \$1,858,241 |  | \$11,010,042 |  | \$161,586 |
| 2017                         | \$13,503,417 |  | \$1,965,073 |  | \$11,367,468 |  | \$170,876 |
| 2018                         | \$13,708,337 |  | \$2,026,565 |  | \$11,505,549 |  | \$176,223 |
| 2019                         | \$14,044,522 |  | \$2,113,455 |  | \$11,747,288 |  | \$183,779 |

| Neighborhood Energy Saver |             |  |             |  |             |  |           |
|---------------------------|-------------|--|-------------|--|-------------|--|-----------|
|                           | Total Cost  |  | Admin       |  | Incentives  |  | Marketing |
| 2011                      | \$5,238,906 |  | \$1,431,969 |  | \$3,647,829 |  | \$159,108 |
| 2012                      | \$5,687,377 |  | \$1,559,859 |  | \$3,954,201 |  | \$173,318 |
| 2013                      | \$6,105,790 |  | \$1,680,398 |  | \$4,238,681 |  | \$186,711 |
| 2014                      | \$6,554,644 |  | \$1,809,009 |  | \$4,544,634 |  | \$201,001 |
| 2015                      | \$7,372,201 |  | \$2,039,599 |  | \$5,105,979 |  | \$226,622 |
| 2016                      | \$7,476,730 |  | \$2,076,424 |  | \$5,169,592 |  | \$230,714 |
| 2017                      | \$7,718,851 |  | \$2,150,957 |  | \$5,328,899 |  | \$238,995 |
| 2018                      | \$7,803,845 |  | \$2,181,526 |  | \$5,379,927 |  | \$242,392 |
| 2019                      | \$7,963,686 |  | \$2,234,533 |  | \$5,480,871 |  | \$248,281 |

| Low Income Weatherization |             |  |           |  |            |  |           |
|---------------------------|-------------|--|-----------|--|------------|--|-----------|
|                           | Total Cost  |  | Admin     |  | Incentives |  | Marketing |
| 2011                      | \$993,419   |  | \$381,763 |  | \$569,238  |  | \$42,418  |
| 2012                      | \$1,207,680 |  | \$437,039 |  | \$722,082  |  | \$48,560  |
| 2013                      | \$1,285,595 |  | \$432,946 |  | \$804,543  |  | \$48,105  |
| 2014                      | \$1,298,750 |  | \$454,689 |  | \$793,540  |  | \$50,521  |
| 2015                      | \$1,426,580 |  | \$484,901 |  | \$887,801  |  | \$53,878  |
| 2016                      | \$1,476,855 |  | \$511,545 |  | \$908,472  |  | \$56,838  |
| 2017                      | \$1,462,181 |  | \$499,888 |  | \$906,750  |  | \$55,543  |
| 2018                      | \$1,398,431 |  | \$469,982 |  | \$876,228  |  | \$52,220  |
| 2019                      | \$1,453,856 |  | \$472,347 |  | \$929,026  |  | \$52,483  |

| Residential Energy Management |               |  |               |  |              |  |             |
|-------------------------------|---------------|--|---------------|--|--------------|--|-------------|
|                               | Total Cost    |  | Admin         |  | Incentives   |  | Marketing   |
| 2011                          | \$33,475,651  |  | \$11,839,545  |  | \$20,770,000 |  | \$866,105   |
| 2012                          | \$39,130,400  |  | \$17,087,316  |  | \$21,155,001 |  | \$888,083   |
| 2013                          | \$70,440,081  |  | \$47,976,761  |  | \$21,540,002 |  | \$923,318   |
| 2014                          | \$105,832,766 |  | \$82,946,707  |  | \$21,925,003 |  | \$961,056   |
| 2015                          | \$136,046,502 |  | \$113,085,327 |  | \$21,974,500 |  | \$986,675   |
| 2016                          | \$129,805,898 |  | \$106,120,903 |  | \$22,672,000 |  | \$1,012,995 |
| 2017                          | \$124,973,965 |  | \$100,564,987 |  | \$23,369,500 |  | \$1,039,479 |
| 2018                          | \$109,573,901 |  | \$84,451,121  |  | \$24,067,000 |  | \$1,055,779 |
| 2019                          | \$94,969,990  |  | \$69,135,391  |  | \$24,764,500 |  | \$1,070,100 |

| Technical Potential |               |  |              |  |               |  |              |
|---------------------|---------------|--|--------------|--|---------------|--|--------------|
|                     | Total Cost    |  | Admin        |  | Incentives    |  | Marketing    |
| 2011                | \$120,848,833 |  | \$35,839,810 |  | \$68,143,230  |  | \$16,865,793 |
| 2012                | \$127,844,150 |  | \$34,383,690 |  | \$77,279,899  |  | \$16,180,560 |
| 2013                | \$132,003,277 |  | \$36,008,395 |  | \$79,049,755  |  | \$16,945,127 |
| 2014                | \$136,334,687 |  | \$36,076,137 |  | \$83,281,545  |  | \$16,977,005 |
| 2015                | \$149,026,114 |  | \$39,677,527 |  | \$90,676,810  |  | \$18,671,777 |
| 2016                | \$159,864,941 |  | \$43,006,028 |  | \$96,620,783  |  | \$20,238,131 |
| 2017                | \$184,967,158 |  | \$49,362,583 |  | \$112,375,123 |  | \$23,229,451 |
| 2018                | \$192,725,374 |  | \$52,150,490 |  | \$116,033,476 |  | \$24,541,407 |
| 2019                | \$198,139,497 |  | \$54,113,375 |  | \$118,561,004 |  | \$25,465,118 |

**Commercial Programs**

The tables below indicate the total cost (by program) for administrative, incentive and marketing costs for the Commercial Programs included in the Original Goal Scenario, for years 2011 – 2019.

- Business Energy Check
- Better Business
- Commercial/Industrial New Construction
- Business Energy Saver
- Commercial Green Building New Construction
- Innovation Incentive
- Standby Generation
- Interruptible Service
- Curtailable Service
- Business Energy Response

| Business Energy Check |             |  |             |  |            |  |           |
|-----------------------|-------------|--|-------------|--|------------|--|-----------|
|                       | Total Cost  |  | Admin       |  | Incentives |  | Marketing |
| 2011                  | \$3,111,000 |  | \$2,731,050 |  | \$76,500   |  | \$303,450 |
| 2012                  | \$3,405,180 |  | \$2,982,546 |  | \$91,350   |  | \$331,284 |
| 2013                  | \$3,753,588 |  | \$3,281,693 |  | \$107,250  |  | \$364,645 |
| 2014                  | \$4,160,160 |  | \$3,632,940 |  | \$123,120  |  | \$404,100 |
| 2015                  | \$4,437,289 |  | \$3,906,466 |  | \$96,525   |  | \$434,298 |
| 2016                  | \$4,873,944 |  | \$4,294,293 |  | \$101,775  |  | \$477,876 |
| 2017                  | \$5,262,768 |  | \$4,640,873 |  | \$105,840  |  | \$516,056 |
| 2018                  | \$5,689,659 |  | \$5,021,406 |  | \$110,550  |  | \$557,703 |
| 2019                  | \$6,058,163 |  | \$5,344,920 |  | \$118,800  |  | \$594,443 |

| Better Business |              |  |             |  |              |  |           |
|-----------------|--------------|--|-------------|--|--------------|--|-----------|
|                 | Total Cost   |  | Admin       |  | Incentives   |  | Marketing |
| 2011            | \$14,391,803 |  | \$4,052,459 |  | \$9,889,071  |  | \$450,273 |
| 2012            | \$17,087,922 |  | \$4,799,848 |  | \$11,754,758 |  | \$533,316 |
| 2013            | \$12,478,450 |  | \$3,504,074 |  | \$8,585,034  |  | \$389,342 |
| 2014            | \$10,818,065 |  | \$3,028,025 |  | \$7,453,593  |  | \$336,447 |
| 2015            | \$9,936,333  |  | \$2,773,226 |  | \$6,854,971  |  | \$308,136 |
| 2016            | \$7,700,538  |  | \$2,165,169 |  | \$5,294,795  |  | \$240,574 |
| 2017            | \$6,702,542  |  | \$1,900,468 |  | \$4,590,911  |  | \$211,163 |
| 2018            | \$8,211,006  |  | \$2,340,637 |  | \$5,610,298  |  | \$260,071 |
| 2019            | \$9,922,477  |  | \$2,840,016 |  | \$6,766,904  |  | \$315,557 |

| Commercial/Industrial New Construction |             |  |           |  |             |  |           |
|--|-------------|--|-----------|--|-------------|--|-----------|
|  | Total Cost  |  | Admin     |  | Incentives  |  | Marketing |
| 2011                                   | \$1,892,443 |  | \$616,394 |  | \$1,209,478 |  | \$66,571  |
| 2012                                   | \$2,366,569 |  | \$669,487 |  | \$1,624,945 |  | \$72,137  |
| 2013                                   | \$2,913,951 |  | \$734,204 |  | \$2,100,549 |  | \$79,198  |
| 2014                                   | \$3,513,002 |  | \$785,770 |  | \$2,642,444 |  | \$84,788  |
| 2015                                   | \$3,875,828 |  | \$811,348 |  | \$2,976,990 |  | \$87,490  |
| 2016                                   | \$3,984,515 |  | \$841,836 |  | \$3,051,952 |  | \$90,727  |
| 2017                                   | \$4,089,662 |  | \$871,825 |  | \$3,123,938 |  | \$93,899  |
| 2018                                   | \$4,252,106 |  | \$913,077 |  | \$3,240,716 |  | \$98,313  |
| 2019                                   | \$4,341,239 |  | \$936,468 |  | \$3,303,707 |  | \$101,064 |

| Business Energy Saver |            |  |          |  |            |  |           |
|-----------------------|------------|--|----------|--|------------|--|-----------|
|                       | Total Cost |  | Admin    |  | Incentives |  | Marketing |
| 2011                  | \$107,665  |  | \$40,365 |  | \$62,815   |  | \$4,485   |
| 2012                  | \$136,746  |  | \$52,164 |  | \$78,786   |  | \$5,796   |
| 2013                  | \$144,456  |  | \$55,890 |  | \$82,356   |  | \$6,210   |
| 2014                  | \$152,190  |  | \$59,616 |  | \$85,950   |  | \$6,624   |
| 2015                  | \$159,924  |  | \$63,342 |  | \$89,544   |  | \$7,038   |
| 2016                  | \$167,658  |  | \$67,068 |  | \$93,138   |  | \$7,452   |
| 2017                  | \$175,578  |  | \$70,794 |  | \$96,918   |  | \$7,866   |
| 2018                  | \$185,688  |  | \$76,383 |  | \$100,818  |  | \$8,487   |
| 2019                  | \$195,822  |  | \$81,972 |  | \$104,742  |  | \$9,108   |

| Commercial Green Building |            |  |           |  |            |  |           |
|---------------------------|------------|--|-----------|--|------------|--|-----------|
|                           | Total Cost |  | Admin     |  | Incentives |  | Marketing |
| 2011                      | \$465,525  |  | \$106,313 |  | \$347,400  |  | \$11,813  |
| 2012                      | \$570,222  |  | \$118,168 |  | \$438,924  |  | \$13,130  |
| 2013                      | \$686,235  |  | \$130,235 |  | \$541,530  |  | \$14,471  |
| 2014                      | \$798,672  |  | \$139,860 |  | \$643,272  |  | \$15,540  |
| 2015                      | \$864,308  |  | \$151,963 |  | \$695,460  |  | \$16,885  |
| 2016                      | \$866,415  |  | \$152,955 |  | \$696,465  |  | \$16,995  |
| 2017                      | \$872,002  |  | \$154,571 |  | \$700,256  |  | \$17,175  |
| 2018                      | \$887,553  |  | \$157,942 |  | \$712,062  |  | \$17,549  |
| 2019                      | \$914,550  |  | \$163,350 |  | \$733,050  |  | \$18,150  |

| Innovation Incentive |            |  |           |  |            |  |           |
|----------------------|------------|--|-----------|--|------------|--|-----------|
|                      | Total Cost |  | Admin     |  | Incentives |  | Marketing |
| 2011                 | \$232,197  |  | \$227,553 |  | \$0        |  | \$4,644   |
| 2012                 | \$237,422  |  | \$232,674 |  | \$0        |  | \$4,748   |
| 2013                 | \$246,919  |  | \$241,981 |  | \$0        |  | \$4,938   |
| 2014                 | \$256,796  |  | \$251,660 |  | \$0        |  | \$5,136   |
| 2015                 | \$267,067  |  | \$261,726 |  | \$0        |  | \$5,341   |
| 2016                 | \$280,421  |  | \$274,813 |  | \$0        |  | \$5,608   |
| 2017                 | \$294,442  |  | \$288,553 |  | \$0        |  | \$5,889   |
| 2018                 | \$312,108  |  | \$305,866 |  | \$0        |  | \$6,242   |
| 2019                 | \$330,835  |  | \$324,218 |  | \$0        |  | \$6,617   |

| Standby Generation Service |             |  |           |             |           |
|----------------------------|-------------|--|-----------|-------------|-----------|
|                            | Total Cost  |  | Admin     | Incentives  | Marketing |
| 2011                       | \$2,988,000 |  | \$813,000 | \$2,170,000 | \$5,000   |
| 2012                       | \$3,006,405 |  | \$831,405 | \$2,170,000 | \$5,000   |
| 2013                       | \$3,025,224 |  | \$850,224 | \$2,170,000 | \$5,000   |
| 2014                       | \$3,044,466 |  | \$869,466 | \$2,170,000 | \$5,000   |
| 2015                       | \$3,044,467 |  | \$869,467 | \$2,170,000 | \$5,000   |
| 2016                       | \$3,064,142 |  | \$889,142 | \$2,170,000 | \$5,000   |
| 2017                       | \$3,084,260 |  | \$909,260 | \$2,170,000 | \$5,000   |
| 2018                       | \$3,104,831 |  | \$929,831 | \$2,170,000 | \$5,000   |
| 2019                       | \$3,125,865 |  | \$950,865 | \$2,170,000 | \$5,000   |

| Interruptible Service |              |  |             |              |           |
|-----------------------|--------------|--|-------------|--------------|-----------|
|                       | Total Cost   |  | Admin       | Incentives   | Marketing |
| 2011                  | \$19,239,525 |  | \$1,112,525 | \$18,125,000 | \$2,000   |
| 2012                  | \$19,264,602 |  | \$1,137,602 | \$18,125,000 | \$2,000   |
| 2013                  | \$19,290,243 |  | \$1,163,243 | \$18,125,000 | \$2,000   |
| 2014                  | \$19,316,460 |  | \$1,189,460 | \$18,125,000 | \$2,000   |
| 2015                  | \$19,316,461 |  | \$1,189,461 | \$18,125,000 | \$2,000   |
| 2016                  | \$19,343,269 |  | \$1,216,269 | \$18,125,000 | \$2,000   |
| 2017                  | \$19,370,680 |  | \$1,243,680 | \$18,125,000 | \$2,000   |
| 2018                  | \$19,398,708 |  | \$1,271,708 | \$18,125,000 | \$2,000   |
| 2019                  | \$19,427,366 |  | \$1,300,366 | \$18,125,000 | \$2,000   |

| Curtailed Service |            |  |           |            |           |
|-------------------|------------|--|-----------|------------|-----------|
|                   | Total Cost |  | Admin     | Incentives | Marketing |
| 2011              | \$842,025  |  | \$90,025  | \$750,000  | \$2,000   |
| 2012              | \$844,096  |  | \$92,096  | \$750,000  | \$2,000   |
| 2013              | \$846,213  |  | \$94,213  | \$750,000  | \$2,000   |
| 2014              | \$848,377  |  | \$96,377  | \$750,000  | \$2,000   |
| 2015              | \$848,377  |  | \$96,377  | \$750,000  | \$2,000   |
| 2016              | \$850,591  |  | \$98,591  | \$750,000  | \$2,000   |
| 2017              | \$852,854  |  | \$100,854 | \$750,000  | \$2,000   |
| 2018              | \$855,169  |  | \$103,169 | \$750,000  | \$2,000   |
| 2019              | \$857,535  |  | \$105,535 | \$750,000  | \$2,000   |

| Business Energy Response |              |  |              |  |             |  |           |
|--------------------------|--------------|--|--------------|--|-------------|--|-----------|
|                          | Total Cost   |  | Admin        |  | Incentives  |  | Marketing |
| 2011                     | \$13,845,893 |  | \$13,779,527 |  | \$66,366    |  | \$0       |
| 2012                     | \$20,927,789 |  | \$20,733,631 |  | \$194,158   |  | \$0       |
| 2013                     | \$24,623,200 |  | \$24,058,238 |  | \$321,950   |  | \$243,013 |
| 2014                     | \$22,001,198 |  | \$21,335,942 |  | \$449,741   |  | \$215,515 |
| 2015                     | \$21,685,178 |  | \$20,896,568 |  | \$577,533   |  | \$211,076 |
| 2016                     | \$20,552,600 |  | \$19,648,802 |  | \$705,325   |  | \$198,473 |
| 2017                     | \$17,467,112 |  | \$16,467,656 |  | \$833,116   |  | \$166,340 |
| 2018                     | \$13,927,389 |  | \$12,836,816 |  | \$960,908   |  | \$129,665 |
| 2019                     | \$11,228,207 |  | \$10,115,596 |  | \$1,010,433 |  | \$102,178 |



**Other Programs**

The tables below indicate the total cost (by program) for administrative, incentive and marketing costs for the Other Programs included in the Original Goal Scenario, for years 2011 – 2019.

- Technology Development
- Qualifying Facilities
- Demand Side Renewable Portfolio<sup>3</sup>

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<sup>3</sup> Previously approved in Order No. PSC-10-0605-PAA-EG

| Technology Development |             |  |             |            |           |
|------------------------|-------------|--|-------------|------------|-----------|
|                        | Total Cost  |  | Admin       | Incentives | Marketing |
| 2011                   | \$2,000,000 |  | \$2,000,000 | \$0        | \$0       |
| 2012                   | \$2,000,000 |  | \$2,000,000 | \$0        | \$0       |
| 2013                   | \$2,000,000 |  | \$2,000,000 | \$0        | \$0       |
| 2014                   | \$2,000,000 |  | \$2,000,000 | \$0        | \$0       |
| 2015                   | \$2,000,000 |  | \$2,000,000 | \$0        | \$0       |
| 2016                   | \$2,000,000 |  | \$2,000,000 | \$0        | \$0       |
| 2017                   | \$2,000,000 |  | \$2,000,000 | \$0        | \$0       |
| 2018                   | \$2,000,000 |  | \$2,000,000 | \$0        | \$0       |
| 2019                   | \$2,000,000 |  | \$2,000,000 | \$0        | \$0       |

| Qualifying Facilities |            |  |           |            |           |
|-----------------------|------------|--|-----------|------------|-----------|
|                       | Total Cost |  | Admin     | Incentives | Marketing |
| 2011                  | \$752,747  |  | \$752,747 | \$0        | \$0       |
| 2012                  | \$771,566  |  | \$771,566 | \$0        | \$0       |
| 2013                  | \$790,855  |  | \$790,855 | \$0        | \$0       |
| 2014                  | \$810,626  |  | \$810,626 | \$0        | \$0       |
| 2015                  | \$830,892  |  | \$830,892 | \$0        | \$0       |
| 2016                  | \$851,664  |  | \$851,664 | \$0        | \$0       |
| 2017                  | \$872,956  |  | \$872,956 | \$0        | \$0       |
| 2018                  | \$894,780  |  | \$894,780 | \$0        | \$0       |
| 2019                  | \$917,149  |  | \$917,149 | \$0        | \$0       |

| Demand Side Renewable Portfolio |             |  |             |             |           |
|---------------------------------|-------------|--|-------------|-------------|-----------|
|                                 | Total Cost  |  | Admin       | Incentives  | Marketing |
| 2011                            | \$5,148,571 |  | \$1,263,857 | \$3,643,414 | \$241,300 |
| 2012                            | \$5,697,979 |  | \$1,278,608 | \$4,175,529 | \$243,842 |
| 2013                            | \$6,202,606 |  | \$1,293,602 | \$4,662,526 | \$246,478 |
| 2014                            | \$6,662,457 |  | \$1,308,806 | \$5,104,402 | \$249,249 |
| 2015                            | \$1,967,282 |  | \$50,625    | \$1,916,657 | \$0       |
| 2016                            | \$1,702,371 |  | \$50,625    | \$1,651,746 | \$0       |
| 2017                            | \$1,280,014 |  | \$50,625    | \$1,229,389 | \$0       |
| 2018                            | \$902,775   |  | \$50,625    | \$852,150   | \$0       |
| 2019                            | \$570,656   |  | \$50,625    | \$520,031   | \$0       |

**Table IX-4.1: Percentage of Total ECCR Rate**

The table below indicates the percentage of Savings, Net Benefits and ECCR Rate for the Original Goal Scenario.

| Percentage of Total ECCR Rate    |        |                 |            |            |              |             |       |
|----------------------------------|--------|-----------------|------------|------------|--------------|-------------|-------|
| Program                          | Type   | % of Total Goal |            |            | Net Benefits |             | ECCR  |
|                                  |        | Summer (%)      | Winter (%) | Energy (%) | E-TRC \$000  | E-RIM \$000 |       |
| Business Energy Check            | Com-EE | 0.5%            | 0.2%       | 0.3%       | N/A          | N/A         | 1.0%  |
| Commercial Green Building        | Com-EE | 0.2%            | 0.1%       | 0.0%       | \$2,091      | -\$2,112    | 0.2%  |
| Business Energy Saver            | Com-EE | 0.1%            | 0.0%       | 0.1%       | \$1,044      | -\$28       | 0.0%  |
| Commercial/Industrial New Constr | Com-EE | 1.0%            | 0.5%       | 1.0%       | \$10,148     | -\$8,232    | 0.7%  |
| Better Business                  | Com-EE | 4.1%            | 1.7%       | 4.6%       | \$83,296     | -\$22,669   | 2.3%  |
| Innovation Incentive             | Com-EE | N/A             | N/A        | N/A        | N/A          | N/A         | 0.1%  |
| Business Energy Response         | Com-DR | 8.4%            | 4.0%       | 5.0%       | \$206,998    | \$40,795    | 3.9%  |
| Interruptible Service            | Com-DR | 0.3%            | 0.3%       | 0.0%       | \$6,000      | \$4,872     | 4.1%  |
| Curtaillable Service             | Com-DR | 0.2%            | 0.2%       | 0.0%       | \$4,450      | \$3,788     | 0.2%  |
| Standby Generation Service       | Com-DR | 3.5%            | 3.5%       | 0.0%       | \$79,161     | \$68,926    | 0.6%  |
| Technical Potential              | Res-EE | 30.2%           | 13.6%      | 49.5%      | N/A          | N/A         | 32.9% |
| Home Energy Improvement          | Res-EE | 28.3%           | 44.9%      | 24.7%      | \$392,814    | -\$333,369  | 24.4% |
| Residential New Construction     | Res-EE | 2.5%            | 2.9%       | 2.3%       | \$39,875     | -\$31,630   | 2.6%  |
| Neighborhood Energy Saver        | Res-EE | 2.9%            | 2.2%       | 2.6%       | \$28,415     | -\$20,743   | 1.5%  |
| Low Income Weatherization        | Res-EE | 0.4%            | 0.6%       | 0.4%       | \$4,069      | -\$3,625    | 0.3%  |
| Home Energy Check                | Res-EE | 8.0%            | 4.9%       | 8.4%       | N/A          | N/A         | 4.2%  |
| Residential Energy Management    | Res-DR | 8.5%            | 18.5%      | 0.0%       | \$419,148    | \$139,704   | 16.1% |
| Existing Load Management         | Res-DR | 0.0%            | 0.0%       | 0.0%       |              |             | 3.7%  |
| Qualifying Facilities            | All    | N/A             | N/A        | N/A        | N/A          | N/A         | 0.2%  |
| Technology Development           | All    | N/A             | N/A        | N/A        | N/A          | N/A         | 0.4%  |
| Demand Side Renewable Portfolio  | All-RE | 1.0%            | 1.7%       | 0.8%       | -\$5,341     | -\$9,371    | 0.7%  |

**Table IX-4.2: Percentage of Total ECCR Rate (detailed by year)**

The table below indicates the percentage of total ECCR rates by program and year for the Original Goal Scenario.

| Percentage of Total ECCR Rate (detail by year) |              |       |       |       |       |       |       |       |       |       |
|--|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Program  | Plan<br>ECCR | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  |
| Business Energy Check                          | 1.0%         | 1.0%  | 0.9%  | 0.9%  | 0.9%  | 0.8%  | 0.9%  | 0.9%  | 1.1%  | 1.2%  |
| Commercial Green Building                      | 0.2%         | 0.1%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  |
| Business Energy Saver                          | 0.0%         | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  |
| Commercial/Industrial New Constr               | 0.7%         | 0.6%  | 0.7%  | 0.7%  | 0.8%  | 0.7%  | 0.7%  | 0.7%  | 0.8%  | 0.8%  |
| Better Business                                | 2.3%         | 4.5%  | 4.8%  | 3.0%  | 2.3%  | 1.8%  | 1.4%  | 1.2%  | 1.5%  | 1.9%  |
| Innovation Incentive                           | 0.1%         | 0.1%  | 0.1%  | 0.1%  | 0.1%  | 0.0%  | 0.1%  | 0.1%  | 0.1%  | 0.1%  |
| Business Energy Response                       | 3.9%         | 4.3%  | 5.8%  | 6.0%  | 4.7%  | 4.0%  | 3.8%  | 3.1%  | 2.6%  | 2.1%  |
| Commercial LM (closed)                         | 0.1%         | 0.2%  | 0.2%  | 0.2%  | 0.1%  | 0.1%  | 0.1%  | 0.1%  | 0.1%  | 0.1%  |
| Interruptible Service                          | 4.1%         | 6.0%  | 5.4%  | 4.7%  | 4.2%  | 3.5%  | 3.6%  | 3.5%  | 3.6%  | 3.7%  |
| Curtailable Service                            | 0.2%         | 0.3%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  |
| Standby Generation Service                     | 0.6%         | 0.9%  | 0.8%  | 0.7%  | 0.7%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  |
| Technical Potential                            | 32.9%        | 37.9% | 35.6% | 32.1% | 29.4% | 27.3% | 29.6% | 33.1% | 35.6% | 37.7% |
| Home Energy Improvement                        | 24.4%        | 21.3% | 22.7% | 23.1% | 23.4% | 27.3% | 26.2% | 25.3% | 24.3% | 23.7% |
| Residential New Construction                   | 2.6%         | 2.9%  | 2.8%  | 2.6%  | 2.5%  | 2.4%  | 2.4%  | 2.4%  | 2.5%  | 2.7%  |
| Neighborhood Energy Saver                      | 1.5%         | 1.6%  | 1.6%  | 1.5%  | 1.4%  | 1.4%  | 1.4%  | 1.4%  | 1.4%  | 1.5%  |
| Low Income Weatherization                      | 0.3%         | 0.3%  | 0.3%  | 0.3%  | 0.3%  | 0.3%  | 0.3%  | 0.3%  | 0.3%  | 0.3%  |
| Home Energy Check                              | 4.2%         | 5.0%  | 4.7%  | 4.3%  | 4.0%  | 3.6%  | 3.8%  | 3.9%  | 4.2%  | 4.6%  |
| Residential Energy Management                  | 19.8%        | 10.5% | 10.9% | 17.1% | 22.9% | 24.9% | 24.0% | 22.4% | 20.3% | 18.1% |
| Qualifying Facilities                          | 0.2%         | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  |
| Technology Development                         | 0.4%         | 0.6%  | 0.6%  | 0.5%  | 0.4%  | 0.4%  | 0.4%  | 0.4%  | 0.4%  | 0.4%  |
| Demand Side Renewable Portfolio                | 0.7%         | 1.5%  | 1.5%  | 1.4%  | 1.4%  | 0.4%  | 0.3%  | 0.2%  | 0.2%  | 0.1%  |

**Table IX-5: Total Plan ECCR Rate Impact**

The table below indicates the total plan ECCR revenue requirements and ECCR rate impact for the Original Goal Scenario.

| Original Goal Scenario Plan ECCR Rate Impact |                                 |   |
|--|---------------------------------|---|
|  | Total ECCR Revenue Requirements | Residential Bill Impact (\$/Mo @ 1,200 kWh) |
| 2011   | 319,118,930                     | \$11.28                                     |
| 2012   | 359,038,356                     | \$12.60                                     |
| 2013   | 410,860,767                     | \$14.45                                     |
| 2014   | 462,977,709                     | \$16.52                                     |
| 2015   | 545,292,569                     | \$19.72                                     |
| 2016   | 540,689,639                     | \$19.56                                     |
| 2017   | 558,732,715                     | \$20.00                                     |
| 2018   | 540,866,629                     | \$19.03                                     |
| 2019   | 525,900,552                     | \$18.20                                     |

The table below indicates the total plan ECCR revenue requirements and ECCR rate impact for the Revised Goal.

| Revised Goal Plan ECCR Rate Impact |                                 |   |
|------------------------------------|---------------------------------|---|
|                                    | Total ECCR Revenue Requirements | Residential Bill Impact (\$/Mo @ 1,200 kWh) |
| 2011                               | 130,962,866                     | \$4.84                                      |
| 2012                               | 147,959,682                     | \$5.39                                      |
| 2013                               | 191,263,109                     | \$6.90                                      |
| 2014                               | 234,361,192                     | \$8.47                                      |
| 2015                               | 258,435,799                     | \$9.43                                      |
| 2016                               | 252,364,979                     | \$9.11                                      |
| 2017                               | 237,580,971                     | \$8.45                                      |
| 2018                               | 219,148,476                     | \$7.58                                      |
| 2019                               | 203,412,004                     | \$6.86                                      |

## **X.     TARIFF REVISION**

### **Exhibit A Legislative Copy Format Tariffs**

Eight Revised Tariff Sheet No. 2.0

Fourth Revised Tariff Sheet No. 2.6

Twenty-first Revised Tariff Sheet No. 6.100

Second Revised Tariff Sheet no. 6.226

Original Tariff Sheet No. 6.228

Original Tariff Sheet No. 6.229

**MISCELLANEOUS  
INDEX**

| <u>DESCRIPTION</u>                 | <u>SHEET NO.</u> |
|------------------------------------|------------------|
| Home Energy Check-up               | 2.3              |
| Non-Residential Energy Audit       | 2.4              |
| Florida Energy Gauge Ratings       | 2.6              |
| <u>Load</u> Energy Profiler Online | 2.7              |
| Remote Access                      | 2.8              |

**Florida Energy Gauge Ratings  
Energy Gauge****Availability:**

Available throughout the entire territory served by the Company.

**Applicable:**

To residential customers with single family homes (mobile, manufactured homes excluded). Upon request a state certified Home Energy Rating System (HERS) rater will perform an on-site energy inspection on an existing home and provide a rating certificate. New homes with completed Florida Energy Code Whole Building Performance Method A will require a review of code calculations to be eligible for a rating certificate.

**Schedule of Fees:**

The following fees are based on a home equal to or less than 1,850 air conditioned square feet and one (1) air handler.

| Rating                            | * New Home | * New Home (With Energy Code Compliance Form Provided) | * Existing Home |
|-----------------------------------|------------|--|-----------------|
| Class I On-Site <sup>1</sup>      | \$550+95   | N/A  | \$550+95        |
| Class II On-Site <sup>2</sup>     | \$315+45   | N/A  | \$315+45        |
| Class III From Plans <sup>2</sup> | \$12+0     | \$35   | N/A             |

\* Includes electronic registration fees charged by the State of Florida.

<sup>1</sup> A \$35 fee will be added for each additional air handler.

<sup>2</sup> For homes with greater than 1,850 square feet of air conditioned space, an additional \$0.09 per square foot will be added.

**Definitions:**

Existing home: is a completed residential occupancy building for which a certificate of occupancy or equivalent approval for occupancy, has been issued.

Florida Energy Code Whole Building Performance Method A: Required by the State listing building components, dimensions and system efficiencies.

**Energy Gauge Ratings are Categorized in Three Classes:**

Class I: Energy rating requiring an on-site energy audit with specialized performance testing for air infiltration and duct leakage. Class I ratings have the highest level of confidence.

Class II: Energy rating requiring an on-site energy audit. Class II ratings have a good level of confidence.

Class III: Energy rating reserved for new buildings only and uses construction plans to generate data for ratings. Class III ratings have a fair level of confidence.

**Terms of Payment:**

The fee shall be payable at the time the rating is completed and delivered. The Company reserves the right to withhold the rating certificate until the fee is paid.

ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning- FloridaMark A. Myers, Vice President, Finance

EFFECTIVE: December 23, 2003





## INDEX OF RATE SCHEDULES

| FPSC UNIFORM<br>RATE SCHEDULE<br>DESIGNATION |  | BEGINS ON<br>SHEET NO. |
|--|--|------------------------|
| BA-1   | Billing Adjustments  | 6.105                  |
| SC-1   | Service Charges  | 6.110                  |
| RS-1   | Residential Service  | 6.120                  |
| RSL-1  | Residential - Load Management (Optional)   | 6.130                  |
| RSL-2  | Residential - Load Management - Winter Only - (Optional)   | 6.135                  |
| RST-1  | Residential Service (Optional Time of Use)<br>(Closed to New Customers as of 02/10/10)           | 6.140                  |
| GS-1   | General Service - Non-Demand   | 6.150                  |
| GST-1  | General Service - Non-Demand (Optional Time of Use)  | 6.160                  |
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| GSD-1  | General Service - Demand   | 6.170                  |
| GSDT-1                                       | General Service - Demand (Optional Time of Use)  | 6.180                  |
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| GSLM-2                                       | General Service - Load Management - Standby Generation   | 6.225                  |
| GSDR-1                                       | General Service Demand Response  | 6.228                  |
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| CS-2   | Curtable General Service   | 6.235                  |
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| CST-2  | Curtable General Service (Optional Time of Use)  | 6.245                  |
| CST-3  | Curtable General Service (Optional Time of Use)<br>Fixed Curtable Demand                         | 6.2490                 |
| IS-1   | Interruptible General Service<br>(Closed to New Customers as of 04/16/96)                        | 6.250                  |
| IS-2   | Interruptible General Service  | 6.255                  |
| IST-1  | Interruptible General Service (Optional Time of Use)<br>(Closed to New Customers as of 04/16/96) | 6.260                  |
| IST-2  | Interruptible General Service (Optional Time of Use)   | 6.265                  |
| LS-1   | Lighting Service   | 6.280                  |
| SS-1   | Firm Standby Service   | 6.310                  |
| SS-2   | Interruptible Standby Service  | 6.315                  |
| SS-3   | Curtable Standby Service   | 6.320                  |
| TS-1   | Temporary Service  | 6.330                  |
| RSS-1  | Residential Seasonal Service Rider   | 6.350                  |
| CISR-1                                       | Commercial/Industrial Service Rider  | 6.360                  |
| PPS-1  | General Service - Premier Power Service Rider  | 6.370                  |

ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning - Florida

EFFECTIVE: February 10, 2010



6.226

Page 2 of 2

RATE SCHEDULE GSLM-2  
GENERAL SERVICE LOAD MANAGEMENT – STANDBY GENERATION  
(Continued from Page No. 1)

Schedules:

Requests by the Company for the customer to reduce facility demand by operation of the standby generation can occur at any time during the day. The GSLM-2 will not be operated more than twice each day with the total operation not exceeding twelve (12) hours. Under extreme emergency conditions, the Company may request the Customer to voluntarily operate their standby generation for longer than twelve (12) hours a day.

Term of Service:

Service under this rate schedule shall be for a minimum initial term of twelve (12) months from completion of Company acceptance testing of customer's equipment and shall continue thereafter until terminated by either party by written notice sixty (60) days prior to termination.

Special Provisions:

1. The Company shall be allowed reasonable access to the customer's premises to install, maintain, inspect, test and remove the equipment associated with this rate.
2. Prior to the installation of the equipment, the Company may inspect the customer's electrical equipment (including standby generator) to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment (including standby generator). The Company may, at its option, require a commercial energy audit as a prerequisite to receiving service under this rate. The audit may be used to establish or confirm equipment capacity, operating hours, or to determine the ability of the Company to control electric demand.
3. If the Company determines that the equipment installed as part of this rate by the Company has been tampered with, the Company may discontinue service under this rate and bill the customer for prior credits received under this rate for that fiscal year.
4. Customers taking service under this Standby Generation rate schedule who desire to transfer to a firm rate schedule after the initial term of service will be required to provide the Company with written notice at least 12 months prior to such transfer. Such notice shall be irrevocable unless the Company and the customer agree to void the notice.
5. The Company reserves the right, at its option, to remove Customers from this rate who, during any consecutive 12 month period, do not participate in at least 75% of Company requests to reduce their demand by operation of their standby generation equipment.

ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning - Florida Mark A. Myers, Vice President, Finance

EFFECTIVE: October 1, 2003



## RATE SCHEDULE GSDR-1 GENERAL SERVICE DEMAND RESPONSE

### Availability:

Available only within the range of the Company's two-way communications capability to the "smart" billing meter.

### Applicable:

To customers who are eligible for service under Rate Schedules GS, GST-1, GSD-1, or GSDT-1 who have qualified equipment that will allow for a demand reduction during a Company Control Event. The customer must have a Business Energy Check that pre-qualifies and identifies the tons of air-conditioning (A/C) eligible for Direct Load Control (DLC) or the subscribed demand reduction kW by customer's Energy Management System (EMS) under this rate schedule. Customers cannot be on this rate schedule and also the General Service Load Management (GSLM-1) or General Service Load Management - Standby Generation (GSLM-2) rate schedule.

### Limitation of Service:

Load control of the customer's equipment will occur at the Company's request or by the Company if the equipment is directly connected to the Company's two-way demand response system.

Standby or resale service not permitted hereunder. Service under this rate is subject to the Company's currently effective and filed "General Rules and Regulations for Electric Service."

### Rate Per Company Control Event:

The rates and all other terms and conditions of Company rate schedules GS, GST-1, GSD-1 or GSDT-1 (whichever shall otherwise be applicable) shall be applicable to service under this rate schedule, subject to the following:

### GSDR-1 CRITICAL PEAK REBATE AMOUNT

| <u>Rebate (Credit)</u>   | <u>Time Period Rate Effective</u> |
|--|-----------------------------------|
| <u>\$1.20 per Ton of air conditioning load reduced per Control Event</u> | <u>April through October</u>      |
| <u>OR</u>  |                                   |
| <u>\$2.86 per kW reduced per Control Event (EMS customers only)</u>      | <u>April through October</u>      |

The customer's Critical Peak Rebate (CPR) per Company Control Event will be a calculated value based upon the following formulas depending on the type of participation and will only be credited for actual participation in a Company Control Event:

#### Direct Load Control Switch:

CPR = (Tons of A/C load confirmed during Business Energy Check) times \$1.20

#### Interconnection to Existing Energy Management System:

CPR = Average demand reduction kW times \$2.86, where

- Average demand reduction kW = control baseline kW - actual average kW demand during the Company Control Event period, where  
Control baseline kW = the average kW demand from the most recent prior three non-control days during hours corresponding to the Company Control Event period.
- Customer must submit a subscribed demand reduction kW. The subscribed demand reduction kW = the kW reduction that will be achieved by customer's EMS control during a Company Control Event period.
- The subscribed demand reduction kW must be at least 20 kW and at least 10% of the customer's average monthly peak demand.
- Actual average kW demand during Company Control Event period = average kW measured during the Company Control Event period. (minimum of 50% and maximum of 150% of the subscribed demand reduction kW).
- Upon Company notification, the customer will be given 15 minutes to initiate demand reduction of 50% to 150% of subscribed demand reduction kW to qualify for CPR.

\*Non-Control days exclude weekend days and observed holidays as defined in the otherwise applicable rate.

### Definitions:

CPR = Critical Peak Rebate (credit) amount provided to the customer each time they participate in a Company Control Event.

#### Tons of

A/C Load = Actual connected tons of air conditioning controlled by the DLC switch.



**RATE SCHEDULE GSDR-1**  
**GENERAL SERVICE DEMAND RESPONSE**  
(Continued from Page No. 1)

DLC = Direct Load Control of the customer's air conditioning system using 50% duty cycle for a minimum of 2 consecutive hours during a load control event using a Company supplied control switch. Total operation not to exceed 12 hours per day.

EMS = Energy Management System owned by the customer that reduces a subscribed demand reduction kW during a 2-hour Company Control Event time frame. EMS notification of a Company Control Event can be manual or automatic.

Company  
Control Event= Any request by the Company to reduce customer's kW usage as defined by this tariff whether notified electronically, manually, or otherwise.

Schedules:

Requests by the Company for the customer to reduce facility demand by operation of the DLC or EMS equipment can occur at any time during the day. The GSDR will not be operated more than twice each day. Under extreme emergency conditions, the Company may request DLC Customers to voluntarily participate for longer than twelve (12) hours a day.

Special Provisions:

1. The Company shall be allowed reasonable access to the customer's premises to install, maintain, inspect, test and remove the equipment associated with this rate.
2. Prior to the installation of the equipment, the Company may inspect the customer's electrical equipment to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment (including Air Conditioning System). The Company may, at its option, require a commercial energy audit as a prerequisite to receiving service under this rate. The audit may be used to establish or confirm equipment capacity, operating hours, or to determine the ability of the Company to control electric demand.
3. If the Company determines that the equipment installed as part of this rate by the Company has been tampered with, the Company may discontinue service under this rate and bill the customer for prior credits received under this rate for the previous twelve (12) months.
4. If the customer does not participate in three or more Company Control Event periods during the months of April through October during any year, the Company shall be allowed to remove the equipment and/or terminate service under this rate schedule.
5. The Company may initiate a minimum of three Company Control Event periods during the months of April through October of each year.

ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning - Florida

EFFECTIVE:

## **Exhibit B Clean Copy Format Tariffs**

Eight Revised Tariff Sheet No. 2.0

Fourth Revised Tariff Sheet No. 2.6

Twenty-First Revised Tariff Sheet No. 6.100

Second Revised Tariff Sheet No. 6.226

Original Tariff Sheet No. 6.228

Original Tariff Sheet No. 6.229

**MISCELLANEOUS  
INDEX**

| <u>DESCRIPTION</u>           | <u>SHEET NO.</u> |
|------------------------------|------------------|
| Home Energy Check-up         | 2.3              |
| Non-Residential Energy Audit | 2.4              |
| Florida Energy Gauge Ratings | 2.6              |
| Load Profiler Online         | 2.7              |
| Remote Access                | 2.8              |



**Florida Energy Gauge Ratings  
Energy Gauge**

**Availability:**

Available throughout the entire territory served by the Company.

**Applicable:**

To residential customers with single family homes (mobile, manufactured homes excluded). Upon request a state certified Home Energy Rating System (HERS) rater will perform an on-site energy inspection on an existing home and provide a rating certificate. New homes with completed Florida Energy Code Whole Building Performance Method A will require a review of code calculations to be eligible for a rating certificate.

**Schedule of Fees:**

The following fees are based on a home equal to or less than 1,850 air conditioned square feet and one (1) air handler.

| Rating                            | New Home | Existing Home |
|-----------------------------------|----------|---------------|
| Class I On-Site <sup>1</sup>      | \$550    | \$550         |
| Class II On-Site <sup>2</sup>     | \$315    | \$315         |
| Class III From Plans <sup>2</sup> | \$120    | N/A           |

\* Includes electronic registration fees charged by the State of Florida.

<sup>1</sup> A \$35 fee will be added for each additional air handler.

<sup>2</sup> For homes with greater than 1,850 square feet of air conditioned space, an additional \$0.09 per square foot will be added.

**Definitions:**

Existing home: is a completed residential occupancy building for which a certificate of occupancy or equivalent approval for occupancy, has been issued.

Florida Energy Code Whole Building Performance Method A: Required by the State listing building components, dimensions and system efficiencies.

**Energy Gauge Ratings are Categorized in Three Classes:**

Class I: Energy rating requiring an on-site energy audit with specialized performance testing for air infiltration and duct leakage. Class I ratings have the highest level of confidence.

Class II: Energy rating requiring an on-site energy audit. Class II ratings have a good level of confidence.

Class III: Energy rating reserved for new buildings only and uses construction plans to generate data for ratings. Class III ratings have a fair level of confidence.

**Terms of Payment:**

The fee shall be payable at the time the rating is completed. The Company reserves the right to withhold the rating certificate until the fee is paid.

ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning - Florida

EFFECTIVE:

**INDEX OF RATE SCHEDULES**

| <b>FPSC UNIFORM<br/>RATE SCHEDULE<br/>DESIGNATION</b> |  | <b>BEGINS ON<br/>SHEET NO.</b> |
|---|--|--------------------------------|
| BA-1  | Billing Adjustments  | 6.105                          |
| SC-1  | Service Charges  | 6.110                          |
| RS-1  | Residential Service  | 6.120                          |
| RSL-1   | Residential - Load Management (Optional)   | 6.130                          |
| RSL-2   | Residential - Load Management - Winter Only - (Optional)   | 6.135                          |
| RST-1   | Residential Service (Optional Time of Use)<br>(Closed to New Customers as of 02/10/10)           | 6.140                          |
| GS-1  | General Service - Non-Demand   | 6.150                          |
| GST-1   | General Service - Non-Demand (Optional Time of Use)  | 6.160                          |
| GS-2  | General Service - Non-Demand (100% Load Factor Usage)  | 6.165                          |
| GSD-1   | General Service - Demand   | 6.170                          |
| GSDT-1  | General Service - Demand (Optional Time of Use)  | 6.180                          |
| GSLM-1  | General Service - Load Management (Optional)   | 6.220                          |
| GSLM-2  | General Service - Load Management - Standby Generation   | 6.225                          |
| GSDR-1  | General Service Demand Response  | 6.228                          |
| CS-1  | Curtable General Service<br>(Closed to New Customers as of 04/16/96)                             | 6.230                          |
| CS-2  | Curtable General Service   | 6.235                          |
| CS-3  | Curtable General Service<br>Fixed Curtable Demand  | 6.2390                         |
| CST-1   | Curtable General Service (Optional Time of Use)<br>(Closed to New Customers as of 04/16/96)      | 6.240                          |
| CST-2   | Curtable General Service (Optional Time of Use)  | 6.245                          |
| CST-3   | Curtable General Service (Optional Time of Use)<br>Fixed Curtable Demand                         | 6.2490                         |
| IS-1  | Interruptible General Service<br>(Closed to New Customers as of 04/16/96)                        | 6.250                          |
| IS-2  | Interruptible General Service  | 6.255                          |
| IST-1   | Interruptible General Service (Optional Time of Use)<br>(Closed to New Customers as of 04/16/96) | 6.260                          |
| IST-2   | Interruptible General Service (Optional Time of Use)   | 6.265                          |
| LS-1  | Lighting Service   | 6.280                          |
| SS-1  | Firm Standby Service   | 6.310                          |
| SS-2  | Interruptible Standby Service  | 6.315                          |
| SS-3  | Curtable Standby Service   | 6.320                          |
| TS-1  | Temporary Service  | 6.330                          |
| RSS-1   | Residential Seasonal Service Rider   | 6.350                          |
| CISR-1  | Commercial/Industrial Service Rider  | 6.360                          |
| PPS-1   | General Service - Premier Power Service Rider  | 6.370                          |

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**EFFECTIVE:**



**RATE SCHEDULE GSLM-2  
GENERAL SERVICE LOAD MANAGEMENT – STANDBY GENERATION  
(Continued from Page No. 1)**

**Schedules:**

Requests by the Company for the customer to reduce facility demand by operation of the standby generation can occur at any time during the day. The GSLM-2 will not be operated more than twice each day with the total operation not exceeding twelve (12) hours. Under extreme emergency conditions, the Company may request the Customer to voluntarily operate their standby generation for longer than twelve (12) hours a day.

**Term of Service:**

Service under this rate schedule shall be for a minimum initial term of twelve (12) months from completion of Company acceptance testing of customer's equipment and shall continue thereafter until terminated by either party by written notice sixty (60) days prior to termination.

**Special Provisions:**

1. The Company shall be allowed reasonable access to the customer's premises to install, maintain, inspect, test and remove the equipment associated with this rate.
2. Prior to the installation of the equipment, the Company may inspect the customer's electrical equipment (including standby generator) to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment (including standby generator). The Company may, at its option, require a commercial energy audit as a prerequisite to receiving service under this rate. The audit may be used to establish or confirm equipment capacity, operating hours, or to determine the ability of the Company to control electric demand.
3. If the Company determines that the equipment installed as part of this rate by the Company has been tampered with, the Company may discontinue service under this rate and bill the customer for prior credits received under this rate for that fiscal year.
4. Customers taking service under this Standby Generation rate schedule who desire to transfer to a firm rate schedule after the initial term of service will be required to provide the Company with written notice at least 12 months prior to such transfer. Such notice shall be irrevocable unless the Company and the customer agree to void the notice.
5. The Company reserves the right, at its option, to remove Customers from this rate who, during any consecutive 12 month period, do not participate in at least 75% of Company requests to reduce their demand by operation of their standby generation equipment.

**ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning - Florida****EFFECTIVE:**

**RATE SCHEDULE GSDR-1  
GENERAL SERVICE DEMAND RESPONSE**

**Availability:**

Available only within the range of the Company's two-way communications capability to the "smart" billing meter.

**Applicable:**

To customers who are eligible for service under Rate Schedules GS, GST-1, GSD-1, or GSDT-1 who have qualified equipment that will allow for a demand reduction during a Company Control Event. The customer must have a Business Energy Check that pre-qualifies and identifies the tons of air-conditioning (A/C) eligible for Direct Load Control (DLC) or the subscribed demand reduction kW by customer's Energy Management System (EMS) under this rate schedule. Customers cannot be on this rate schedule and also the General Service Load Management (GSLM-1) or General Service Load Management – Standby Generation (GSLM-2) rate schedule.

**Limitation of Service:**

Load control of the customer's equipment will occur at the Company's request or by the Company if the equipment is directly connected to the Company's two-way demand response system.

Standby or resale service not permitted hereunder. Service under this rate is subject to the Company's currently effective and filed "General Rules and Regulations for Electric Service."

**Rate Per Company Control Event:**

The rates and all other terms and conditions of Company rate schedules GS, GST-1, GSD-1 or GSDT-1 (whichever shall otherwise be applicable) shall be applicable to service under this rate schedule, subject to the following:

**GSDR-1 CRITICAL PEAK REBATE AMOUNT**

| <u>Rebate (Credit)</u>  | <u>Time Period Rate Effective</u> |
|---|-----------------------------------|
| \$1.20 per Ton of air conditioning load reduced per Control Event | April through October             |
| OR  |                                   |
| \$2.86 per kW reduced per Control Event (EMS customers only)      | April through October             |

The customer's Critical Peak Rebate (CPR) per Company Control Event will be a calculated value based upon the following formulas depending on the type of participation and will only be credited for actual participation in a Company Control Event:

**Direct Load Control Switch:**

CPR = (Tons of A/C load confirmed during Business Energy Check) times \$1.20

**Interconnection to Existing Energy Management System:**

CPR = Average demand reduction kW times \$2.86, where

- Average demand reduction kW = control baseline kW – actual average kW demand during the Company Control Event period, where  
Control baseline kW = the average kW demand from the most recent prior three non-control days\* during hours corresponding to the Company Control Event period.
- Customer must submit a subscribed demand reduction kW. The subscribed demand reduction kW = the kW reduction that will be achieved by customer's EMS control during a Company Control Event period.
- The subscribed demand reduction kW must be at least 20 kW and at least 10% of the customer's average monthly peak demand.
- Actual average kW demand during Company Control Event period = average kW measured during the Company Control Event period. (minimum of 50% and maximum of 150% of the subscribed demand reduction kW).
- Upon Company notification, the customer will be given 15 minutes to initiate demand reduction of 50% to 150% of subscribed demand reduction kW to qualify for CPR.

\*Non-Control days exclude weekend days and observed holidays as defined in the otherwise applicable rate.

**Definitions:**

CPR = Critical Peak Rebate (credit) amount provided to the customer each time they participate in a Company Control Event.

Tons of

A/C Load = Actual connected tons of air conditioning controlled by the DLC switch.

**ISSUED BY: Lori J. Cross, Manager, Utility Regulatory Planning - Florida**  
**EFFECTIVE:**



**RATE SCHEDULE GSDR-1  
GENERAL SERVICE DEMAND RESPONSE  
(Continued from Page No. 1)**

- DLC =** Direct Load Control of the customer's air conditioning system using 50% duty cycle for a minimum of 2 consecutive hours during a load control event using a Company supplied control switch. Total operation not to exceed 12 hours per day.
- EMS =** Energy Management System owned by the customer that reduces a subscribed demand reduction kW during a 2-hour Company Control Event time frame. EMS notification of a Company Control Event can be manual or automatic.
- Company Control Event=** Any request by the Company to reduce customer's kW usage as defined by this tariff whether notified electronically, manually, or otherwise.

**Schedules:**

Requests by the Company for the customer to reduce facility demand by operation of the DLC or EMS equipment can occur at any time during the day. The GSDR will not be operated more than twice each day. Under extreme emergency conditions, the Company may request DLC Customers to voluntarily participate for longer than twelve (12) hours a day.

**Special Provisions:**

1. The Company shall be allowed reasonable access to the customer's premises to install, maintain, inspect, test and remove the equipment associated with this rate.
2. Prior to the installation of the equipment, the Company may inspect the customer's electrical equipment to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment (including Air Conditioning System). The Company may, at its option, require a commercial energy audit as a prerequisite to receiving service under this rate. The audit may be used to establish or confirm equipment capacity, operating hours, or to determine the ability of the Company to control electric demand.
3. If the Company determines that the equipment installed as part of this rate by the Company has been tampered with, the Company may discontinue service under this rate and bill the customer for prior credits received under this rate for the previous twelve (12) months.
4. If the customer does not participate in three or more Company Control Event periods during the months of April through October during any year, the Company shall be allowed to remove the equipment and/or terminate service under this rate schedule.
5. The Company may initiate a minimum of three Company Control Event periods during the months of April through October of each year.