

BEFORE THE PUBLIC SERVICE COMMISSION

In Re: Commission Review of Numeric
Conservation goals (Progress
Energy Florida, Inc.)

Docket No. 080408-EG

Filed: June 1, 2009

**PROGRESS ENERGY FLORIDA, INC.'S
PETITION FOR APPROVAL OF CONSERVATION GOALS**

Pursuant to Sections 366.81 and 366.82, Florida Statutes and Rule 25-17.0021, Florida Administrative Code, Progress Energy Florida, Inc. ("PEF") petitions the Florida Public Service Commission ("Commission") for approval of PEF's proposed conservation goals for the period 2010-2019. In support of this petition, PEF states:

1. The name and address of the affected agency are:

Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

2. The name and address of the petitioner are:

Progress Energy Florida, Inc.
299 First Avenue North
St. Petersburg, Florida 33701

3. Notices, orders, pleadings and correspondence to be served upon PEF in this proceeding should be directed to:

John T. Burnett
Associate General Counsel
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4. Pursuant to Section 366.81, Florida Statutes, the Commission requires each utility to develop plans and implement programs for increasing energy efficiency and conservation and demand-side renewable energy systems within its service area,

subject to the approval of the Commission. PEF is a public utility within the meaning of Section 366.02(1), Florida Statutes, and is subject to the Commission's jurisdiction under Chapter 366, Florida Statutes. The Commission has stated that it will establish conservation goals for PEF in this proceeding. The establishment of PEF's conservation goals will affect the need for and selection of resource alternatives by PEF, and the goals will be the target for PEF to meet in its attached filing of a demand side management plan; therefore, PEF's substantial interests will be determined in this proceeding.

5. This docket and separate dockets for each of the other six FEECA utilities in Florida were established for the purpose of developing and prescribing numeric conservation or DSM goals for each of the seven Florida FEECA utilities to be applicable during the period 2010-2019. The seven separate dockets were consolidated in Order No. PSC-08-0816-PCO-EG for the purpose of conducting Staff workshops and for hearing.

6. PEF is not aware of any disputed issues of material fact. PEF's programs, assumptions, and evaluation methodology in the proposed goals and DSM plan are reasonable. The Commission should approve the high RIM goal scenario option proposed by PEF.

7. PEF is simultaneously filing the prepared direct testimony and exhibits of John A. Masiello and is co-sponsoring the testimony of Mike Rufo, Managing Director in the Consulting and Analysis Group at Itron Inc. Mr. Masiello's testimony, along with the exhibits contained therein, set forth proposed conservation goals for the ten-year period 2010-2019 and summarize PEF's ten-year projections based upon PEF's most recent planning process of the total, cost-effective, winter and summer peak demand (MW) and annual energy (GWH) savings reasonable achievable in the residential and

commercial/industrial classes through demand side management. PEF's goals are delineated in Mr. Masiello's direct testimony.

Projections of summer and winter demand savings, annual energy saving and participants for the individual measures identified in Mr. Masiello's testimony are presented in Exhibit Nos. JAM-6 and JAM-7, also appended to Mr. Masiello's testimony filed today. PEF's projections reflect consideration of overlapping measures, rebound effects, free riders, interactions with building codes and appliance efficiency standards, and PEF's latest monitoring and evaluation of conservation programs and measures. The Commission should approve Progress Energy's overall Residential MW and GWH goals and overall Commercial/Industrial MW and GWH goals set forth in this filing. These goals reflect the reasonably achievable demand side management potential in PEF's service territory over the ten year period 2010-2019 developed in PEF's planning process.

8. PEF's proposed goals are further supported by the testimony and exhibits of Itron representative, Mike Rufo, currently a Managing Director of Itron Inc.'s Consulting and Analysis ("C&A") Group, which specializes in the analysis of energy efficiency, demand response, distributed generation, resource planning, and advanced metering infrastructure ("AMI/SmartGrid"). The seven Florida utilities subject to the Florida Energy Efficiency and Conservation Act ("FEECA") along with the Natural Resources Defense Council (NRDC) and the Southern Alliance for Clean Energy (SACE) formed a collaborative to conduct an assessment of the technical potential for energy and peak demand savings from energy efficiency, demand response, and customer-scale renewable energy in their respective service territories. Members of the collaborative developed a request for proposals in which Itron/KEMA was chosen to

conduct a technical potential study on behalf of the collaborative to assess the technical potential for reducing electricity use and peak demand by implementing a wide range of end-use energy efficiency and demand response measures, as well as customer-scale solar photovoltaic and solar thermal installations in the service territories of the seven collaborative utilities. This study was filed with the Commission on March 16, 2009. Itron's professionals have provided consulting services to the energy industry since the early 1980's, primarily to electric and gas related public and private sector institutions, to perform the requisite tasks associated with a comprehensive DSM evaluation for all FEECA utilities. A comprehensive list of DSM measures that meet the requirements of Rule 25-17.0021, Florida Administrative Code, was identified.

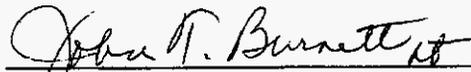
The results from this collaborative effort were developed with the expectation these recommendations would be used to meet the requirements of the Commission's Review of Numeric Conservation Goals. Itron's Technical Potential Study serves as the foundation for estimating economic and achievable potential for each collaborative utility and provides direct input into PEF's proposed DSM goals for 2010-2019. The Itron testimony of Mike Rufo has been filed on behalf of all collaborative utilities and is incorporated as part of PEF's direct case. The Itron testimony is also appended and labeled as Exhibit JAM-18 to John Masiello's direct testimony.

9. PEF is entitled to relief pursuant to Sections 366.81 and 366.82, Florida Statutes and Florida Administrative Code Rule 25-17.0021. PEF's proposed goals reflect the reasonably achievable demand side management potential in PEF's service territory over the ten year period 2010-2019 developed in PEF's planning process. The

Commission should approve the goals set forth in PEF's high RIM scenario as set forth in this filing.

WHEREFORE, PEF respectfully requests that the Commission enter an order approving and establishing PEF's proposed numeric conservation goals pursuant to Rule 25-17.0021, Florida Administrative Code, as set forth in this filing.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished to the following by U.S. Mail this 1st day of June, 2009 to all parties of record as indicated below.


JOHN T. BURNETT

<p>Florida Public Utilities Company Mr. John T. English P. O. Box 3395 West Palm Beach, FL 33402-3395 Phone: (561) 838-1762 FAX: (561) 833-8562</p>	<p>Southern Alliance for Clean Air/Natural Resources Defense E. Leon Jacobs, Jr. c/o Williams & Jacobs, LLC 1720 South Gadsden St. MS 14, Suite 201 Tallahassee, FL 32301</p>
<p>Susan Clark Radey Law Firm 301 South Bronough Street, Suite 200 Tallahassee, FL 32301</p>	<p>Jeremy Susac, Executive Director Florida Energy and Climate Commission c/o Governor's Energy Office 600 South Calhoun St., Suite 251 Tallahassee, FL 32399-0001</p>
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<p>Itron, Inc. Mr. Michael Ting Principal Consultant 1111 Broadway, Suite 1800 Oakland, CA 94607</p>	<p>GDS Associates, Inc. Mr. Richard F. Spelman, President 1850 Parkway Place, Suite 800 Marietta, GA 30067</p>

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**In re: Commission Review of
Numeric Conservation Goals
(Progress Energy Florida, Inc.)**

Docket No. 080408-EG

Submitted for Filing: June 1, 2009

**TESTIMONY OF
JOHN A. MASIELLO
ON BEHALF OF
PROGRESS ENERGY FLORIDA**

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**PROGRESS ENERGY FLORIDA
DOCKET NO. 080408-EG**

**DIRECT TESTIMONY OF
JOHN A. MASIELLO**

Introduction and Qualifications

Q. Please state your name and business address.

A. My name is John A. Masiello. My business address is 3300 Exchange Place,
Lake Mary, Florida 32746

Q. By whom are you employed and in what capacity?

A. I am employed by Progress Energy Florida, Inc. ("Progress Energy," "PEF," or
"the Company") in the capacity of Director, DSM and Alternative Energy.

**Q. Please describe the duties and responsibilities of your position with
Progress Energy.**

A. My responsibilities include the design, implementation and operations of the
Company's Demand-Side Management (DSM) programs, including the
development, implementation, training, budgeting, and accounting functions
related to these programs. By DSM, I mean direct load control (DLC) and energy
efficiency programs or dispatchable (demand response) and non dispatchable
programs.

1 **Q. Please summarize your educational background and professional**
2 **experience.**

3 A. I have a Masters of Business Administration degree from the University of Central
4 Florida and a Bachelor of Arts degree in Business Management. In addition, I
5 have received the following energy-related certifications; Certified Energy
6 Manager (CEM) and Certified Cogeneration Professional (CCP), from the
7 Association of Energy Engineers. Additional certifications I have received include
8 Certified Sustainable Development Professional (CSDP), Certified Business
9 Energy Professional (BEP), and Distributed Generation Certified Professional
10 (DGCP). I am also a Certified Energy Rater for the State of Florida. Beyond the
11 education and certifications mentioned above, I have over twenty five (25) years
12 of experience in developing and implementing Demand Side Management (DSM)
13 Programs. Prior to joining Progress Energy in July 1991, I served for ten years as
14 the manager of an energy services company that was recognized by the Carter
15 Administration for its development of a model energy efficiency program.

16

17 **Q. Have you previously testified before the Florida Public Service**
18 **Commission?**

19 A. Yes. I have provided testimony to the Florida Public Service Commission
20 ("FPSC" or the "Commission") on behalf of Progress Energy Florida on numerous
21 occasions in consideration of our company's DSM programs. In addition, I have
22 served as an industry expert, providing guidance on energy efficiency programs
23 and policy for the state of Florida, on FPSC workshops, and government
24 committees. I am currently serving on the Governor's Florida Policy Academy

1 Team, the Council for Sustainable Florida, and the Florida Solar Energy Center
2 Policy Advisory Board. In 2009, I received the AEE 2009 *Renewable Energy*
3 *Innovator of the Year* award.
4

5 **Q. What is the purpose of your testimony?**

6 A. The purpose of my testimony is to present the various goal scenarios resulting
7 from the Achievable Studies conducted in participation with the seven (7) electric
8 utilities subject to FEECA, along with the Natural Resources Defense Council
9 (NRDC) and the Southern Alliance for Clean Energy (SACE) (collectively referred
10 to as the "Collaborative"). Members of the Collaborative in conjunction with Itron,
11 Inc., performed analyses to determine the technical and achievable potential for
12 energy efficiency in Florida. The result of these studies developed 6 scenarios to
13 be utilized in determining the numeric demand-side goals for each of the utilities
14 for the years 2010 through 2019. The goal scenarios presented range from a
15 high to low Rate Impact Measure (RIM) scenario and a high to low Total
16 Resource Cost (TRC) scenario. The proposed estimated goal scenarios are
17 based upon the Company's most recent planning process of the total cost-
18 effective kilowatt and kilowatt-hour (kWh) DSM savings reasonably achievable in
19 Progress Energy's service area over the ten-year period from 2010 to 2019.
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1 **Q. Please describe how your testimony is organized.**

2 A.

3 Section 1: Introduction and Qualifications

4 Section 2: Progress Energy's Proposed Goal Scenarios

5 Section 3: Overall Process to Develop the Proposed Goal Scenarios

6 Section 4: Achievable Numeric DSM Goal Scenarios

7 Section 5: Regulatory Compliance (Testimony Guidelines and Issues)

8 Section 6: Innovative Measures/Initiatives

9 Section 7: Conclusions

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11 **Q. Do you have any Exhibits to your testimony?**

12 A. Yes, I have prepared or supervised the preparation of the following exhibits to my
13 direct testimony:

14 1. Exhibit No. ____ (JAM 1), Progress Energy's Proposed Goal Scenario Ten-
15 Year Projections of DSM Savings;

16 2. Exhibit No. ____ (JAM 2), Progress Energy's projected total Technical
17 potential amount of DSM;

18 3. Exhibit No. ____ (JAM 3), Progress Energy's projected economic amount of
19 DSM savings using RIM;

20 4. Exhibit No. ____ (JAM 4), Progress Energy's projected economic amount of
21 DSM savings using TRC;

22 5. Exhibit No. ____ (JAM 5), Progress Energy's projected annual bill impacts
23 on residential customers with 1,200 kWh, with no incremental DSM added;

- 1 6. Exhibit No. ____ (JAM 6), Progress Energy's projected achievable goal
- 2 scenario amount of DSM savings using RIM and Participant tests with
- 3 1,200 kWh bill impacts;
- 4 7. Exhibit No. ____ (JAM 7), Progress Energy's projected achievable goal
- 5 scenario amount of DSM savings using TRC and Participant tests with
- 6 1,200 kWh bill impacts;
- 7 8. Exhibit No. ____ (JAM 8), Progress Energy's Sensitivity Analysis - RIM -
- 8 TRC DSM economic potential with regard to high and low capital costs for
- 9 generation, high fuel and CO2 costs, low fuel and CO2 costs, and no future
- 10 CO2 costs;
- 11 9. Exhibit No. ____ (JAM 9) Measure list used for analysis;
- 12 10. Exhibit No. ____ (JAM 10) Measures not found cost effective for Achievable
- 13 Study analysis;
- 14 11. Exhibit No. ____ (JAM 11) Energy Management Upgrades
- 15 12. Exhibit No. ____ (JAM 12) PEF Renewable Energy Initiative;
- 16 13. Exhibit No. ____ (JAM 13) Neighborhood Energy Saver Plus Initiative;
- 17 14. Exhibit No. ____ (JAM 14) Carbon Footprint Initiative;
- 18 15. Exhibit No. ____ (JAM 15) Business Energy Saver Initiative
- 19 16. Exhibit No. ____ (JAM 16) Customer Awareness and Education Initiatives
- 20 17. Exhibit No. ____ (JAM 17) List of measures that are eliminated based on 2
- 21 year payback criteria;
- 22 18. Exhibit No. ____ (JAM 18) Itron Inc.'s Direct Testimony;

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PROPOSED DSM GOAL SCENARIOS

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Q. What are the DSM scenarios that you are proposing to the Commission for their review in establishing goals for PEF during the period of 2010-2019 in this proceeding?

A. Below are the goal scenarios being proposed to the Commission for Progress Energy:

PEF's DSM Goal Scenarios									
	"Low"			"Mid"			"High"		
	WMW	SMW	GWh	WMW	SMW	GWh	WMW	SMW	GWh
Rate Impact Test (RIM)	239	252	397	431	380	475	560	521	614
Total Resource Cost Test (TRC)	246	240	516	440	383	666	882	744	1585

***All bill impacts and analysis were developed based on the high scenario**
***All values are presented at the generator and will be adjusted accordingly to account for transmission and distribution losses at the meter.**

Q. How is Progress Energy's DSM proposed goal scenario for the upcoming period of 2010-2019 allocated for the residential and commercial/industrial segments?

A. The following table summarizes Progress Energy's proposed residential and commercial ten-year cumulative goals scenario.

Residential			Commercial/Industrial		
<u>Winter MW</u>	<u>Summer MW</u>	<u>GWh</u>	<u>Winter MW</u>	<u>Summer MW</u>	<u>GWh</u>
463	323	488	96	198	126

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2 **Q. How successful has Progress Energy's DSM goals achievement**
3 **performance been for the 2005-2014 period?**

4 **A.** Progress Energy is currently on track to meet its DSM goals achievement from
5 2005 – 2014. Below is a summary of accomplishments through 2008:

6

7 **Residential Market Segment**

- 8 • 207 MW of winter peak demand reduction,
- 9 • 87 MW of summer peak demand reduction, and
- 10 • 118 GWh of energy reduction

11 **Commercial/Industrial Market Segment**

- 12 • 86 MW of winter peak demand reduction,
- 13 • 97 MW of summer peak demand reduction, and
- 14 • 78 GWh of energy reduction.

15 The results above include the impact of customers' heightened awareness of
16 efficiency, fuel prices, and environmental impacts. During the past few years,
17 results were directly affected by the number of standby generation installations as
18 an outcome of hurricanes and subsequent legislation. Although many companies
19 have installed back-up generation in recent years, this is not expected to continue

1 at the same rate in the future. Rising costs and decreased availability of
2 generators are expected to result in fewer participants in this program. During
3 the more than two decades of implementing DSM, Progress Energy has met its
4 goals consistently since the inception of the FEECA. Additionally, Progress
5 Energy has demonstrated success in implementing cost-effective programs that
6 have resulted in the savings of nearly \$1 billion dollars since 1981 and more than
7 12,000 GWh.

8 Progress Energy has aggressively sought achievement of its goals by
9 continuously developing innovative program offerings to our residential and
10 commercial/industrial customers. This strategy has resulted in avoiding the need
11 for generation while meeting the efficiency needs of our customers. Specific
12 programs that have contributed to the successful implementation of measures
13 and produced meaningful results for our customers include currently approved
14 programs noted below:

15 **Residential DSM Programs**

16 **Home Energy Check:** The Home Energy Check program is a comprehensive
17 residential energy evaluation (audit) program. The program provides PEF's
18 residential customers with an analysis of energy consumption and
19 recommendations for energy efficiency improvements. It acts as a motivational
20 tool to identify, evaluate, and inform consumers on cost-effective energy-saving
21 measures. It serves as the foundation of the residential Home Energy
22 Improvement program and is a program requirement for participation. To further

1 influence customer behavior, an educational efficiency kit is included with this
2 program.

3 The Home Energy Check offers seven different types of energy audits:

- 4 • Free walk-through audit
- 5 • Paid walk-through audit (\$15 charge)
- 6 • Energy rating (Energy Gauge)
- 7 • Mail-in audit
 - 8 ○ Student Audit
- 9 • Web-based audit
- 10 • Phone-assisted audit

11 **Home Energy Improvement:** This is an umbrella program for existing homes.
12 This program combines thermal envelope efficiency improvements with upgraded
13 equipment and appliances. The Home Energy Improvement program includes
14 incentives for measures such as: duct testing, duct leakage repair, attic insulation,
15 injected wall insulation, replacement windows, window film, reflective roofing, high
16 efficiency heat pump replacing resistance heat, high efficiency heat pump
17 replacing a heat pump, HVAC commissioning, plenum sealing, proper sizing and
18 supplemental bonuses for contractors to complete required paperwork.

19 **Residential New Construction:** The Home Advantage Program promotes
20 energy-efficient construction which exceeds the building code. Information,
21 education, and consultation are provided to homebuilders and contractors on
22 energy-related issues and efficiency measures. This program encourages the
23 installation of high performance windows, reflective roof materials, high efficiency

1 insulation, conditioned space air handler placement and energy recovery
2 ventilation.

3 **Low Income Weatherization Program:** The program goal is to integrate PEF's
4 DSM program measures with the Department of Community Affairs (DCA) and
5 local weatherization providers to deliver energy efficiency measures to low-
6 income families. Through this partnership PEF assists local weatherization
7 agencies by providing energy education materials and financial incentives to
8 weatherize the homes of low-income families.

9 **Neighborhood Energy Saver Program:** Neighborhood Energy Saver (NES) was
10 designed by PEF to assist low-income families with escalating energy costs. This
11 program has been recognized by American Energy Services Professionals
12 (AESP) and the Southeastern Electric Exchange (SEE). The goal of the NES
13 program is to implement a comprehensive package of electric conservation
14 measures for an entire defined community at no cost to the customer. In addition
15 to the installation of the conservation measures, an important component of this
16 program is educating families on energy efficiency techniques and the promotion
17 of behavioral changes to help customers control their energy usage.

18 **EnergyWise:** This is a voluntary load control program that serves to reduce system
19 demand during peak capacity periods and/or emergency conditions by temporarily
20 interrupting selected customer appliances for specified periods of time. Customers
21 have a choice of options and receive a credit on their monthly electric bills
22 depending on the options selected and their monthly kWh usage.

1 **Renewable Energy Program:** This program consists of the following two (2)
2 options designed to encourage the installation of renewable energy systems.

3 ● **Solar Water Heater with EnergyWise:** This measure encourages
4 residential customers to install a solar thermal water heating system.
5 Since inception of this program, in February 2007, over 1,500 customers
6 have taken advantage of this program. These participants have
7 leveraged state, federal, and PEF's rebates and incentives to directly
8 benefit from solar energy, while providing all customers the benefits of
9 demand reduction associated with our residential direct load control
10 program, EnergyWise.

11 ● **SolarWise for Schools:** This measure promotes environmental
12 stewardship and renewable energy education through the installation of
13 solar energy systems at schools within PEF's service territory.
14 Customers participating in the Winter-Only EnergyWise or Year-Round
15 EnergyWise Program can elect to donate their monthly credit toward the
16 SolarWise for Schools Fund. The fund accumulates associated
17 participant credits for a period of 2 years, at which time the customer may
18 elect to renew for an additional 2 years.

19 All proceeds collected from participating customers, and their associated
20 monthly credits, are used to install solar photovoltaic arrays at schools,
21 promote photovoltaic and renewable energy, and provide energy
22 education

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1 **Commercial DSM Programs:**

2 PEF has also established program measures to address the commercial,
3 industrial and governmental sectors. Progress Energy recognizes the unique
4 needs of our varied business segments, and consistently strives to develop
5 products and services to meet their needs.

6 **Business Energy Check:** The Business Energy Check is an audit for non-
7 residential customers and includes multiple options to support the convenience of
8 our customers. The free audit for non-residential facilities can be completed at
9 the facility by an auditor or online by the business customer. The paid audit
10 provides a more thorough and detailed energy analysis for non-residential
11 facilities. This program acts as a motivational tool to identify, evaluate, and inform
12 consumers on cost-effective and energy-saving measures for their facility. It
13 serves as the foundation of the Better Business Program and as such, is a
14 requirement for participation in that program.

15 **Better Business:** This umbrella efficiency program provides incentives to existing
16 commercial and industrial customers for heating, air conditioning, motors, water
17 heating, roof insulation upgrade, duct leakage and repair, window film, demand-
18 control ventilation, lighting, occupancy sensors, green roof, compressed air and
19 HVAC optimization.

20 **Business New Construction:** This is an umbrella efficiency program for new
21 commercial/industrial buildings. This program provides information, education,
22 and advice on energy-related issues and efficiency measures through early
23 involvement in the building's design process. With the exception of the ceiling

1 insulation upgrade, duct test and leakage repair, HVAC steam cleaning and roof
2 top unit recommissioning, the Commercial/Industrial New Construction program
3 provides incentives for the same efficiency measures listed in the Better Business
4 program for existing buildings.

5 **Innovation Incentive:** Recognizing the diversity of commercial customers' needs
6 along with emerging technology, our Innovation Incentive program provides
7 incentives for customer-specific demand and energy conservation projects, on a
8 case-by-case basis. The individual measure and application must pass cost
9 effectiveness tests, identifying it as being a benefit to all customers, both the
10 participant and the non-participants. To be eligible, projects must reduce or shift
11 a minimum of 10 kW of peak demand. This program focuses on measures not
12 offered in PEF's other DSM programs. Examples include refrigeration equipment
13 replacement, microwave drying systems, and inductive heating (to replace
14 resistance heat).

15 **Standby Generation:** PEF provides an incentive for customers to voluntarily
16 operate their on-site generation during times of system peak. Since the 2004
17 hurricane season and resulting regulation there has been an increase in customer
18 owned backup generators. This has directly impacted the program's success with
19 an increase in participation of over 200% since 2006. The program allows
20 Progress Energy to control the operation of the units or send notification for the
21 customer to manually operate the system. The customer receives a monthly
22 incentive for the available demand and an energy credit associated with the hours
23 of dispatched control.

1 **Curtable Service Program:** The Curtable Service Program is a dispatchable
2 DSM program in which customers contract to curtail or shut down a portion of
3 their load during times of capacity shortages. The curtailment is done voluntarily
4 by the customer when notified by PEF. In return for this cooperation, the
5 customer receives a monthly rebate for the curtable portion of their load.

6 **Interruptible Service Program:** The Interruptible Service program is a rate tariff
7 which allows PEF to switch off electrical service to customers during times of
8 capacity shortages. The signal to operate the automatic switch on the customer's
9 service is activated by the Energy Control Center. In return for this, the
10 customers receive a monthly rebate on their kW demand charge.

11 **Technology Development Program:** This program allows PEF to undertake
12 certain development and demonstration projects which have promise to become
13 cost-effective conservation and energy efficiency programs. Recently, this
14 program has been used to research wireless strategies for load control, including
15 IP addressable switches. In an attempt to advance the residential load control
16 program, an initial effort has led to a plan for the transition of approximately 700
17 winter megawatts to the next generation of load management, DSM Smart Grid.
18 Additionally, this program has helped to research solar water heating and
19 photovoltaic arrays, supporting the development of Solar Water Heating with
20 EnergyWise and SunSense.

21 **Qualifying Facility:** Power is purchased from qualifying cogeneration and small
22 power production facilities.

23

1 **Q. How do Progress Energy's DSM accomplishments compare to other utilities**
2 **in the nation?**

3 A. Progress Energy has been a leader in implementing innovative demand-side
4 management and energy efficiency programs in the State of Florida since 1981.
5 Progress Energy has consistently been engaged in the marketing and
6 implementation of cost-effective programs and measures, as demonstrated by our
7 success of DSM program implementations for both our residential and commercial
8 customers.

9 Progress Energy Florida has proven to be a leader in energy management and
10 conservation. Progress Energy is ranked first in the nation in two important areas.
11 Progress Energy is ranked first for Demand Side Management reduction as a
12 percentage of peak load and first for Energy Wise demand reduction as a
13 percentage of winter peak. This data is provided in the 2008 US DOE/EIA 861
14 Report comparing the top 10 utilities based on the total customers served who
15 report Demand Side Management and Load management programs.

16 Through Progress Energy's consistent innovation, we have been able to grow a
17 significant program portfolio over time. Progress Energy will continue to be an
18 innovative leader in DSM by responding to the changing environment to meet the
19 energy efficiency needs of our customers. There are ongoing changes in the DSM
20 landscape impacted by stronger building codes. With the decline in the housing
21 market, tightened credit availability, and weakened financial and retail industries,
22 the Florida economy has been adversely affected and consumers may not be
23 able to invest in needed efficiency improvements in future years to the same

1 extent as they have in the past. Recognizing this changing landscape, Progress
2 Energy is focusing our efforts on cost effective innovative technologies that will
3 result in market transformation similar to those led by PEF in the residential new
4 construction and renewable arenas.

5

6 **Q. Please give a general description as to how Progress Energy developed its**
7 **2010-2019 goal scenarios?**

8 A. Collaborative was formed consisting of members from seven Florida
9 utilities(subject to FEECA), SACE and NRDC. Collectively, the Collaborative
10 identified a comprehensive list of measures and the associated costs, savings,
11 feasibilities, and saturation for those measures with consideration of overlapping
12 measures, rebound effects, free riders, and interactions with efficiency codes, as
13 guided by Commission Rule 25-17.0021(3), F.A.C. Utilizing supply-side curves
14 provided by Itron Inc., we then evaluated the measures in Florida Integrated
15 Resource Evaluator (FIRE), an FPSC approved model. In addition, our system
16 planning organization developed the base supply plan to enable a direct
17 comparison of DSM to our generation resource needs. When this exercise was
18 completed, three scenarios varying the amount of customer incentives were
19 developed for RIM and TRC perspective: the lesser of 33% of incremental cost or
20 2 year payback (low), the lesser of 50% of incremental cost or 2 year payback
21 (mid) and 2 year payback (high), constrained by RIM. This analysis produced the
22 6 goal scenarios described above to provide as options to the FPSC for review in
23 determining Progress Energy's goals for the period of 2010-2019. We then
24 conducted assessments of the residential and commercial market segments (both

1 new and existing construction) and their major end-use categories to estimate the
2 Technical Potential, Economic Potential and Achievable Potential for DSM within
3 the Progress Energy service area. With the inclusion of the Achievable Potential
4 Study with Itron Inc., Progress Energy has developed a comprehensive list of
5 programs and measures addressing low income, renewable and other innovative
6 programs. These programs will be combined to establish the 2010-2019 program
7 filing to achieve a cost effective DSM portfolio. For additional detail regarding
8 Itron Inc.'s analysis, please refer to Exhibit No. ____ (JAM 18) Itron Inc.'s Direct
9 Testimony, pages 18-21.

11 Overall Process to Develop DSM Goal Scenarios

13 **Q. What was the process used to determine the DSM goal scenarios for the
14 2010-2019 period for Progress Energy?**

15 **A.** In anticipation of setting goals for DSM programs in the State of Florida, an
16 assessment of the technical potential for energy and peak demand savings
17 from energy efficiency (EE), demand response (DR), and customer-scale
18 photovoltaics (PV) was required by the FPSC. Due to the enormity of the
19 project, the parties concluded that efficiencies could be realized by a
20 collaborative approach. A Collaborative was formed, and a Request For
21 Proposal (RFP) was developed and issued to eleven providers to perform the
22 technical potential study. Four responses were received, with Itron Inc. being
23 selected by the Collaborative. Eventually Itron Inc. went on to conduct the
24 economic and achievable studies as well.

1 For the first phase of the process, the goals filing, a comprehensive list of
2 measures was developed by Itron in conjunction with the Collaborative. In
3 addition, key measure data and baseline data were also provided to facilitate
4 the analysis. The key measure data provided included measure costs (with
5 input from Collaborative members), measure savings, measure feasibility, and
6 measure saturation, with consideration for overlapping measures by ordering
7 the measures by least-cost, accounting for interactive effects between
8 measures. Additional considerations were given to rebound effects, free riders,
9 interactions with building codes, and appliance efficiency standards. Supply
10 curve measures by customer segment and customer building types were
11 provided by Itron Inc. and were used to facilitate the cost-effectiveness analysis
12 performed with the FIRE model. FIRE is a computer program developed to
13 assist in determining the cost-effectiveness of demand-side programs. There
14 are basically three sections of the computer program: 1) a section for data
15 input, 2), a section that calculates costs and benefits, and 3) a section that uses
16 four tests that analyzes the measure's cost effectiveness. The four cost
17 effectiveness tests are: 1) The TRC Test, 2) the Participants Test, 3) the RIM
18 Test, and 4) the Utility Cost Test. The FIRE model evaluates the economic
19 impact of existing and proposed conservation measures by determining the
20 relative cost-effectiveness of the measures versus an avoided supply-side
21 resource (the avoided unit).

22 The analysis was broken into three distinct segments, consisting of Technical
23 Potential, Economic Potential and Achievable Potential. Assessments were
24 conducted of the residential, commercial, and industrial market segments (both

1 new and existing construction) using the major end-use categories defined in
2 Chapter 25-17.0021, through a series of Participant, RIM, and TRC evaluations.
3 Measures with less than a 2 year payback without any utility incentive were
4 treated as free riders and removed from further analysis. A list of these
5 measures is included in Exhibit No. ___17 (JAM) List of measures that are
6 eliminated based on 2 year payback criteria. A 2 year payback barometer is a
7 widely accepted threshold which results in a large percent of free riders initially.
8 For further material regarding two year payback, please reference the American
9 Council for an Energy-Efficient Economy (ACEEE) report by John Laitner, 2006,
10 McKinsey & Company Pedro Haas 2008. Given the large number of free riders
11 resulting from the 2 year payback barometer, Progress Energy chose to provide
12 higher incentives to reduce the payback period of those measures that had
13 longer payback periods, which promoted increased adoption projections. Next,
14 three incentive scenarios were developed for RIM and TRC; the lesser of 33%
15 of incremental cost or 2 year payback (low), the lesser of 50% of incremental
16 cost or 2 year payback (medium) and 2 year payback constrained by RIM or
17 TRC (high). This produced the 6 goal scenarios that Progress Energy is
18 presenting for review. The result of this tiered analysis culminated with the
19 Achievable Potential. The values and impacts of the Achievable Study were
20 developed by Collaborative inputs including saturation levels and combined with
21 the Itron Inc. analysis using a dynamic modeling tool developed by KEMA Inc.
22 known as DSM Assyst End-use Study Model. DSM Assyst produced the
23 customer adoption estimates taking into account the incentive level, the
24 customer awareness of the measure, vendor and product availability, and each

1 utility's saturation levels from existing DSM program history. For additional
2 detail regarding Itron Inc.'s analysis, please refer to Exhibit No. ____ (JAM 18)
3 Itron Inc.'s Direct Testimony, pages 9 and 11.

4 Regarding the inclusion of demand response, the values and impacts of the
5 Achievable Study were developed by Itron Inc. This model utilizes industry data
6 from the 2008 Department of Energy (DOE) Demand Response Study of Load
7 Reduction, as well as the 2008 Federal Energy Regulatory Commission (FERC)
8 Assessment of Demand Response and Advanced Metering Study, in addition to
9 others. For additional detail regarding Itron Inc.'s inclusion of DR measures,
10 please refer to Exhibit No. ____ (JAM 18) Itron Inc.'s Direct Testimony, page.
11 10.

12 Additionally, PV values and inputs of the Achievable Study were developed by
13 incorporating the findings of several industry-known studies into the Itron Inc.
14 model, i.e. 2002, Analysis of Factors Influencing the Annual Energy Production
15 of Photovoltaic Systems. For additional detail regarding Itron Inc.'s inclusion of
16 PV measures, please refer to Exhibit No. ____ (JAM 18) Itron Inc.'s Direct
17 Testimony, page 10.

18 The Achievable Study provided direct input into Progress Energy's proposed
19 DSM goal scenarios for 2010-2019, with 215 iterative RIM measures identified
20 for inclusion in the proposed goal scenario. For additional detail regarding Itron
21 Inc.'s analysis, please refer to Exhibit No. ____ (JAM 18) Itron Inc.'s Direct
22 Testimony, pages 8, 9, 11, 18-21.

23

1 Q. What other sources were used to assist with developing the DSM goal
2 scenarios?

3 A. Extensive efforts were made to identify opportunities to offer our customers cost
4 effective DSM programs by researching emerging technologies, state, local,
5 national trends, marketing analysis, customer analysis studies, industry
6 benchmarking, and direct customer feedback from audits and tradeshow.

7 To better understand customer behavior, focus groups were conducted to
8 determine market acceptance of energy-efficiency measures. The groups
9 provided valuable directional information on which measures would generate
10 greater customer participation. Customers were presented a series of potential
11 energy-efficiency home-improvements with corresponding incentives, energy
12 savings, customer costs, benefits, pay-back periods as well as other pertinent
13 information. Customers then evaluated the measure based upon their likelihood
14 to participate.

15 In addition to using customer research for program refinement, Progress Energy
16 tests advertising messaging in focus groups prior to the launch of new energy-
17 efficiency advertising campaigns. This ensures the messaging selected is
18 effective in attracting and motivating the customer to participate in programs.
19 Prior to launching Save the Watts Campaign in 2007, Progress Energy tested
20 customer reaction to this concept and found broad acceptance and likability.

21

22

23

1 **Q. Did you produce ten-year projections of DSM savings as a result of this**
2 **process?**

3 A. Yes. We have made projections for the ten-year planning period recognizing
4 the success and history of existing programs. Ten-year projections of the total
5 amount of cost-effective savings reasonably achievable through DSM for the
6 Progress Energy system are shown in my Exhibit (JAM__1).

7

8 **Q. What considerations did Progress Energy use to determine the DSM**
9 **measures to be analyzed?**

10 A. In an effort to identify measures to address the emerging needs of our diverse
11 customer segments, members of the Collaborative, as well as Itron Inc.,
12 compiled a comprehensive list of efficiency measures that include direct load
13 control and customer-scale photovoltaic technologies. The sources of this
14 information included measures from recent DSM program filings in Florida, the
15 California Database for Energy Efficiency Resources (DEER), Itron Inc.'s
16 energy efficiency program Best Practices project, and previous potential studies
17 conducted in other regions. During the analysis of the DSM measures,
18 Progress Energy gave consideration to the issues and end-use categories
19 specified in Commission Rule 25-17.0021(3), F.A.C., including the market
20 penetration of natural gas. The DSM measures were evaluated separately for
21 the residential and commercial/industrial market segments and vintage (*i.e.*,
22 existing construction and new construction). The residential space conditioning
23 measures were also evaluated for each of the two major baseline technologies
24 (*i.e.*, strip-heat and heat pumps). For additional detail regarding Itron Inc.'s

1 considerations when developing the measure list, please refer to Exhibit No.
2 ____ (JAM 18) Itron Inc.'s Direct Testimony, pages 9-11.

3

4 **Q. What DSM measures did the Collaborative analyze?**

5 A. Collectively, the Collaborative compiled a comprehensive measure list
6 contained in Exhibit No. ____ (JAM 9).

7 For additional detail regarding Itron Inc.'s considerations when developing the
8 measure list, please refer to Exhibit No. ____ (JAM 18) Itron Inc.'s Direct
9 Testimony pgs. 9-11.

10

11 **Achievable Numeric DSM Goal Scenarios**

12

13 **Q. With respect to your achievable numeric DSM goal scenarios, would you**
14 **please describe the market penetration analysis that you mentioned**
15 **previously?**

16 A. Yes. The market penetration analysis used to estimate the participation
17 projections for each DSM measure involved a mix of approaches. Actual
18 historical data and expert judgment from over twenty five years of implementing
19 successful DSM programs by the Company provided the basis for projecting
20 participation in many of the DSM measures included in Progress Energy's
21 programs. Participation was determined based upon varying forces such as
22 market growth, economic strength, weather conditions, and other related
23 impacts. Additionally, Progress Energy, along with the other IOU's,
24 incorporated the information provided by Itron Inc. Florida-specific baseline

1 data was also leveraged from end-use surveys, baseline studies previously
2 conducted, case studies from FSEC, and demographic data from the Florida
3 Census. In addition, secondary sources such as the 2006 California
4 Commercial End-Use Survey and the Energy Information Administration's
5 Residential, Commercial, and Manufacturing Energy Consumption Surveys
6 were used to perform the market penetration analysis.

7 For additional detail regarding Itron Inc.'s considerations regarding market
8 penetration analysis, please refer to Exhibit No. ____ (JAM 18) Itron Inc.'s Direct
9 Testimony, page.11.

10

11 **Q. What cost-effectiveness test should the Commission use to set DSM**
12 **goals for Progress Energy?**

13 A. As set in past precedent in Order No. PSC-94-1313-FOF-EG, issued October
14 25, 1994 in Docket No. 930549-EG, the RIM test is the threshold measure that
15 should be used in Florida as it reasonably balances the interests of all
16 stakeholders. This well-recognized principle was upheld a second time in Order
17 No. PSC-99-1942-FOF-EG, issued October 1, 1999 in Docket No. 971005-EG,
18 and additionally a third time in Order No. PSC-04-0769-PAA-EG, issued
19 August 9, 2004 in Docket No. 040031-EG.

20

21 **Q. How does Progress Energy define cost-effective DSM?**

22 A. Under current regulatory framework, DSM programs are found to be cost-
23 effective only if they satisfy the Commission's Participant and RIM cost-
24 effectiveness tests. If a DSM measure passes both the Participant and RIM

1 tests, then it is cost effective to all customers, both those participating and
2 those not participating. A program that passes the Participant and TRC tests,
3 but fails the RIM test, is not considered cost-effective for purposes of
4 determining DSM goals that represent and benefit all customers.

5
6 **Q. Are there any direct load control measures that were cost-effective?**

7 A. Yes. Several load control programs for both residential and commercial
8 options were found to be cost effective, contributing an estimated 333 WMW to
9 Progress Energy's proposed Winter Peak MW Demand goal over the ten-year
10 period.

11
12 **Q. How did PEF incorporate direct load control into its achievable goal
13 scenarios potential?**

14 A. PEF analyzed the potential for direct load control from two perspectives. We
15 looked at our existing residential Energy Management Program which currently
16 provides approximately 700 MW of winter demand reduction and 300 MW of
17 summer demand reduction. We evaluated a previously offered Commercial
18 DLC program that was closed to new participants as of July, 2000. Using our
19 existing Residential and Commercial DLC programs as the foundation, we
20 examined how we could transition the existing DLC platform to the next
21 generation DLC technology that is compatible and will allow future integration
22 with "smart grid" technologies. Part of this evaluation involved examining
23 additional load control programs. These programs give customers greater

1 knowledge of their energy cost in a more detailed and timely manner and allow
2 customers to control and change their energy consumption patterns.

3

4 **Q. What do these cost-effectiveness results for the direct load control**
5 **measures mean to Progress Energy's Residential Energy Management**
6 **Program?**

7 A. The cost-effectiveness results mean that Progress Energy's strategy to
8 transition from the existing one-way DLC system that is near its end-of-life to a
9 two-way DLC system is cost-effective and will help preserve the generation
10 capacity we have accumulated over the 25+ years the program has been in
11 existence. It will also provide the infrastructure necessary to enhance and
12 support existing and future DSM programs, including innovative renewable
13 energy programs such as Solar Water Heating with EnergyWise.

14

15 **Q. How is PEF preparing its existing Energy Management Programs for**
16 **"Smart Grid"?**

17 A. A "Smart Grid" solution has many definitions but one of the key components is
18 secure integrated two-way communications with key devices and equipment on
19 the utility grid. This new communication capability provides the timely energy
20 usage and system load information required by both the Utility and the
21 consumer to achieve the enhanced direct load control capability and improved
22 grid efficiency. It allows the Utility to tap into DSM benefits and operational
23 efficiencies that current stand-alone systems cannot provide.

1 In addition, at the Federal level, the Energy Independence and Security Act
2 (EISA) of 2007 and the American Recovery and Reinvestment Act of 2009
3 (ARRA) provide incentives for utilities to demonstrate/evaluate and invest in
4 Smart Grid technologies. Additionally, HB 7135 added new language in *Florida*
5 *Statute* 366.82(2) which gives the Commission explicit authority to “allow
6 efficiency investments in generation, transmission and distribution as well as
7 efficiencies within the user base.” We must plan for incorporating the right
8 functionality and flexibility into our DLC technology as required to make these
9 efficiency improvements and to move toward a “smarter” grid.

10
11 **Q. How long has PEF offered direct load control programs?**

12 A. We began our existing Residential and C/I Load Management programs in 1981
13 targeting electric water heaters, central electric heating/cooling systems, and
14 pool pumps. These programs have grown resulting in a direct load control
15 program that is one of the largest in the country. One-way paging technology
16 was available and widely used at the time of program inception and was
17 installed as the communication infrastructure for this program. We have
18 upgraded the system several times, but at this juncture we are facing issues of
19 technology obsolescence and end-of-life. Driven by the decline in personal
20 paging devices, manufacturers of our communications infrastructure
21 discontinued production of new equipment in the mid 1990’s. In addition, it is
22 increasingly difficult to find replacement parts for our field transmitters and
23 receivers. Also, many of our original switches will soon reach the end of their
24 useful life. The one-way paging systems are giving way to newer digital two-

1 way communications systems that are being applied to Smart Grid
2 technologies. PEF needs to transition its current direct load control programs to
3 a new digital two-way communications platform. Please see Exhibit No.____
4 (JAM 11) Energy Management Upgrades for additional information regarding
5 the existing one-way direct load control system used today.

6
7 **Q. How does PEF propose to transition its existing direct load control**
8 **program to next generation direct load control technology?**

9 A. PEF is approaching a DLC technology transition in an incremental manner.
10 Given the large amount of load that is currently under control, we must begin to
11 change out DLC switches and communications infrastructure to replace failed
12 equipment as well as older, obsolete equipment prior to complete failure. The
13 new switches will have dual communications ability to allow continued operation
14 with the existing communications system and then be converted over to the
15 new digital two-way communications systems. Therefore, we have developed a
16 ten year replacement schedule for our existing residential customers that will
17 change out all DLC switches with digital two-way communication switches. This
18 process will be done in a cost effective manner over approximately ten years
19 and will give us even more DR program options for customers, will be fully
20 compatible with Smart Grid infrastructure, and will have the flexibility to perform
21 other functions at lower cost. The new two-way communications platform will
22 also allow PEF to enhance our commercial direct load control programs. These
23 enhancements will provide commercial customers with the appropriate
24 communications, usage data, costs, and time-of-use data. This approach can

1 also support future transition to new smart grid strategies. The resulting
2 infrastructure can enable future demand response programs that could include
3 tiered pricing that support customer behavior changes based on energy
4 usage/price awareness. Please see Exhibit No.____ (JAM 11) Energy
5 Management Upgrades for additional information regarding our strategy for a
6 systematic technology upgrade.

7

8 **Q. Please describe some of the next generation demand response programs**
9 **that PEF is evaluating.**

10 A. As previously mentioned, we began by deploying new residential direct load
11 control technology compatible with future Smart Grid technologies to transition
12 old equipment being used in our existing programs to next generation direct
13 load control. We also examined new and enhanced commercial demand
14 response programs as part of our potential studies. Some of the potential
15 programs we researched included providing targeted commercial customers
16 with more immediate energy use and cost information, peak period notification,
17 direct load control programs with incentives, time-of-use pricing, and general
18 usage/cost awareness education which can lead to additional energy and
19 demand reductions based on customer behavior/actions. The implementation
20 of a commercial incentive tariff that pays for use would be necessary to support
21 these Commercial DR programs. Additional potential residential programs
22 being evaluated include future tiered pricing that support customer behavior
23 changes based on energy usage/price awareness, future smart appliance

1 control capability, and enhanced programs utilizing future Smart Grid
2 technologies such as renewable distributed generation and storage. PEF is
3 also evaluating programs that deliver distribution grid efficiencies and demand
4 response capabilities.

5

6 **Q. Are there other benefits to PEF's customers in deploying this new**
7 **technology?**

8 A. Yes. As an example, PEF commercial customers can benefit by leveraging
9 this technology to shift load from peak to off-peak periods under PEF's existing
10 TOU rate or by participating in a new direct load control program with peak
11 incentives.

12 Also, next generation direct load control programs with two-way
13 communications to the customer's home can integrate with future Smart Grid
14 technologies that identify operational issues in advance to improve quality of
15 service and reduce down time, especially in storm situations. Other potential
16 benefits could result from integration with future Smart Grid technologies being
17 evaluated to deliver distribution grid efficiencies and capabilities that allow for
18 future support of integrating renewables such as solar PV and electric vehicles.
19 These Smart Grid technologies can mitigate peak power demands on the grid
20 from variable loads induced on the system that must be managed to protect the
21 grid integrity. Deploying this new technology will also provide the potential to
22 create a number of local jobs in Florida that will benefit the overall Florida
23 economy.

24

1 **Q. What direct load control demand and energy potential has been included**
2 **in PEF's achievable goal scenarios?**

3 A. As part of the technical potential study, PEF completed a comprehensive study
4 on a number of direct load control programs that we could cost effectively
5 deploy on our system. In the ten year proposed goal scenarios, PEF has
6 included expanding its existing residential direct load control program, adding
7 programs that provide commercial customers with more energy and cost
8 awareness, new direct load control incentives, and Enhanced TOU capabilities.

9

10 **Regulatory Compliance**

11

12 **Q. Has Progress Energy provided an adequate assessment of the full**
13 **technical potential of all available demand-side conservation and**
14 **efficiency measures, including demand-side renewable energy systems?**

15 A. Yes. Progress Energy is providing Exhibit No. ____ (JAM-2), Progress Energy's
16 projected total Technical potential amount of DSM. For further details of the
17 Technical Potential Study, please refer to Exhibit No. ____ (JAM 18), Itron Inc.'s
18 Direct Testimony.

19

20 **Q. Has Progress Energy provided an adequate assessment of the achievable**
21 **potential of all available demand-side conservation and efficiency**
22 **measures, including demand-side renewable energy systems?**

23 A. Yes. As a result of the collaborative efforts described earlier, Progress Energy
24 is providing Exhibit No. ____ (JAM 6), Progress Energy's projected achievable

1 amount of DSM savings using RIM and Participant tests with 1,200 kWh bill
2 impacts; and Exhibit No. ____ (JAM 7), Progress Energy's projected achievable
3 amount of DSM savings using TRC and Participant tests with 1,200 kWh bill
4 impacts. For further details of the Achievable Potential Study, please refer to
5 Exhibit No. ____ (JAM 18) Itron Inc.'s Direct Testimony, pages 9,18.

6
7 **Q Should the commission establish separate goals for demand-side**
8 **renewable energy systems?**

9 A. No. There is no need to establish separate goals for demand-side renewable
10 energy systems since they are already included with our existing goals. Currently
11 PEF offers a program known as *Solar Water Heater with EnergyWise*. This
12 measure encourages eligible residential customers to install a solar thermal water
13 heating system. Another example is the Company's program known as
14 *SolarWise for Schools*, promoting environmental stewardship, energy education,
15 and renewable energy production through the installation of solar energy systems
16 at schools within PEF's service territory. In addition, Progress Energy has
17 developed new solar initiatives for both residential and commercial customers to
18 be implemented in association with the approval of our program filing. Since
19 demand-side renewables are included in our overall DSM goals, a separate goal
20 is not required.

21
22
23

1 **Q. Should the commission establish additional goals for efficiency**
2 **improvements in generation, transmission and distribution?**

3 A. No. Progress Energy continuously identifies and evaluates conservation and
4 efficiency improvement opportunities throughout its transmission and distribution
5 resources, as guided in 25-17.001(e). For example, Progress Energy is
6 evaluating a Smart Grid strategy that will transition our current direct load control
7 programs to the next generation of DSM, known as Distribution Grid System
8 Efficiency as described in Exhibit No. ____ (JAM 11). The Energy Management
9 (EM) Upgrades is a key component of this program that will result in transmission
10 and distribution efficiency improvements.

11

12 **Q. Should the commission establish separate goals for residential and**
13 **commercial/industrial customer participation in utility energy audit**
14 **programs for the period 2010-2019?**

15 A. No. Progress Energy has a robust DSM program that requires participation in our
16 energy audit prior to the installation of DSM measures. We meet the diverse
17 needs of our customer segments by offering multiple audit options for the
18 customer's convenience. These audit types include online, mail-in, on-site,
19 phone, and student audits to educate consumers on implementing cost-effective
20 efficiency measures. The audit is the catalyst for measure implementation. While
21 specific measures are designed and directed for individual customer segments,
22 the process, procedures and objectives are developed as a cohesive collection
23 and as such ensure cost effective synergies.

24

1 **Q. Does Progress Energy’s proposed DSM goal scenarios adequately reflect**
2 **the costs and benefits to customers participating in the measure, pursuant**
3 **to Section 366.82(3)(A), F.S.?**

4 A. Yes. For the reasons discussed above, we are confident that the costs and
5 benefits of program participants are adequately reflected in our proposed goal
6 scenarios.

7

8 **Q. Do Progress Energy’s proposed DSM goal scenarios adequately reflect the**
9 **costs and benefits to the general body of ratepayers as a whole, including**
10 **utility incentives and participant contributions?**

11 A. Yes. The Participant and RIM tests taken together adequately encompass
12 consideration of each of these costs and benefits. Given that we utilized these
13 tests in our measure analysis, we are confident that the goal scenarios we are
14 proposing will provide the Commission the necessary information to determine
15 goals that will enable Progress Energy to provide our customers with
16 comprehensive DSM services, while ensuring that all stakeholders’ interests are
17 balanced.

18

19 **Q. Do Progress Energy’s proposed DSM goal scenarios adequately reflect the**
20 **costs imposed by state and federal regulations on the emission of**
21 **greenhouse gases?**

22 A. Yes. We have included the estimated costs associated with potential CO2
23 regulations in our measure analysis, in response to the HB7135 addition to FS
24 366.82 3.(d); “In order to estimate the costs imposed by state and federal

1 regulations on the emission of greenhouse gases.” We used a mid range CO2
2 estimate known as the EPA Study to comply with this requirement.

3

4 **Q. Should the Commission establish incentives to promote both customer-**
5 **owned and utility-owned energy efficiency and demand-side renewable**
6 **energy systems?**

7 A. Progress Energy believes utility incentives, as authorized in recent legislation,
8 provide the Commission a useful tool to address a utility’s performance and
9 financial impacts as it strives to meet future goals. The traditional application of
10 the Commission’s RIM cost-effectiveness modeling has undergone a modification
11 in this docket with the inclusion of carbon costs, acceptance of a smaller buffer
12 above RIM 1.0, and the inclusion of innovative projects that would not have
13 ordinarily qualified under traditional RIM. Progress Energy believes that these
14 changes from traditional RIM warrant consideration of an incentive, and therefore
15 supports a Commission evaluation of utility incentives based on the outcome of
16 this goals docket. If the Commission seeks to prescribe goals based on any test
17 other than RIM, as already modified above, we believe the issues of goals and
18 incentives would become inseparable, and an immediate consideration of
19 incentives would become necessary.

20

21

22

23

1 **Q Please identify the projected technical potential for Progress Energy.**

2 A. As developed in conjunction with the Collaborative effort, please refer to
3 document number 03183-09 and Exhibit No. ____ (JAM 2), Progress Energy's
4 Technical Potential Study. For further details of the Technical Potential Study,
5 please refer to Exhibit No. ____ (JAM 18) Itron Inc.'s Direct Testimony, pages 11-
6 16.

7

8 **Q. Please identify the 2010-2019 projected DSM economic potential and**
9 **associated measures for Progress Energy based on the RIM cost-**
10 **effectiveness tests.**

11 A. As developed in conjunction with the Collaborative effort, please refer to Exhibit
12 No. ____ (JAM 3)

13

14 **Q. Please identify the 2010-2019 projected DSM economic potential and**
15 **associated measures for Progress Energy based on the TRC cost-**
16 **effectiveness tests.**

17 A. As developed in conjunction with the Collaborative effort, please refer to Exhibit
18 No. ____ (JAM 4)

19

20

1 **Q. Please identify the 2010-2019 projected DSM achievable potential and**
2 **associated measures for Progress Energy based on the TRC and Participant**
3 **cost effectiveness tests.**

4 A. As developed in conjunction with the Collaborative effort, please refer to Exhibit
5 No. ____ (JAM 7)

6 For further details of the Achievable Potential Study, please refer to Exhibit No.
7 ____ (JAM 18) Itron Inc.'s Direct Testimony, pages 18-21.

8

9 **Q. Please identify the 2010-2019 projected DSM achievable potential and**
10 **associated measures for Progress Energy based on the RIM and Participant**
11 **cost-effectiveness tests.**

12 A. As developed in conjunction with the Collaborative effort, please refer to Exhibit
13 No. ____ (JAM 6)

14 For further details of the Achievable Potential Study, please refer to Exhibit No.
15 ____ (JAM 18) Itron Inc.'s Direct Testimony, pages 18-21.

16

17 **Q. Please describe what is included in Exhibit No. ____ (JAM 8).**

18 A. In the referenced exhibit, PEF is providing the sensitivity of the 2010-2019 RIM
19 DSM economic potential with regard to high and low capital costs for generation,
20 high fuel and CO2 costs, low fuel and CO2 costs, and no future CO2 costs.

21

22

23

1 **Q. Would you briefly describe the methodology used to determine the**
2 **sensitivity analysis for the 2010-2019 TRC and RIM DSM economic potential**
3 **with regard to high and low capital costs for generation, high fuel and CO2**
4 **costs, low fuel and CO2 costs, and no future CO2 costs.**

5 A. Using the Economic Study data as input into the FIRE model, we adjusted each
6 component of avoided costs for referenced sensitivities above. For each
7 sensitivity, we produced RIM and TRC case results, which are included in Exhibit
8 No. ____ (JAM 8)

9

10 **Q. Please describe what is included in Exhibit No. ____ (JAM 5).**

11 A. In the referenced exhibit, Progress Energy has provided estimated 2010-2019
12 annual bill impacts on residential customers using 1,200 kWh/month with no
13 incremental DSM added.

14

15 **Q. For Progress Energy, what are the 2010-2019 annual bill impacts on**
16 **residential customers using 1,200 kWh/month for the projected RIM**
17 **achievable portfolio and the projected TRC achievable portfolio?**

18 A. Progress Energy's estimated annual bill impacts on residential customers using
19 1,200 kWh/month for the projected RIM achievable portfolio and the projected
20 TRC achievable portfolio, can be found in Exhibit No. ____ (JAM 6) and Exhibit No.
21 ____ (JAM 7).

22

23

24

1 **Innovative Measures/Programs**

2

3 **Q What communication efforts has Progress Energy Florida made to educate**
4 **customers about energy efficiency and the programs available to them**
5 **through Progress Energy Florida?**

6 A. PEF uses a three-prong approach to educate customers about energy efficiency.
7 This strategy includes the following:

- 8 • Broad-based campaigns typically carried out through mass media in order to
9 reach the greatest number of customers in a highly cost-effective manner;
- 10 • An interactive customer messaging campaign to bring the message to life and
11 interest customers in participating in programs; and
- 12 • Grassroots and community marketing for one-on-one communication to leave a
13 lasting impression.

14 Combined, these three approaches interact to create an effective communication
15 strategy that educates and engages customers so that the message is not only
16 memorable but prompts action by PEF customers. For additional information
17 regarding what we are doing to educate our customers regarding efficiency,
18 please refer to Exhibit No. ____ (JAM 16) Customer Awareness and Education
19 Initiatives.

20

21 **Q. Is Progress Energy planning any new programs that encourage demand**
22 **side renewable systems?**

23 A. Yes.

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Renewable Energy Initiative

Progress Energy has a long history of proactively pursuing research and development of innovative technologies in order to offer our customers options in meeting their varying desires to conserve electricity. We will be filing for approval of enhancements to our current renewable offerings as well as new solar offerings for both residential and commercial customers. These measures will be designed to encourage the implementation of renewable energy systems within PEF’s service territory. The program will consist of measures to provide incentives for solar PV array installations for PEF customers, and enhancements to our existing Solar Water Heating and EnergyWise program. This initiative is further described in Exhibit No. ___ (JAM 12), PEF Renewable Energy Initiative.

Carbon Footprint Initiative

Additionally, we are proposing a new commercial sector initiative called the “Carbon Footprint” (CF) program. The initiative would allow for the impacts of carbon associated with tradeshow or conventions to be captured, and would enable the convention host to redirect their funding contributions toward PEF’s low income and renewable energy programs. This new initiative leverages the integration of these hospitality-sector promotional events with our low-income energy efficiency and renewable energy programs, resulting in advanced participation with our low-income community and solar energy measures. Please refer to Exhibit No. ___ (JAM 14), Carbon Footprint Initiative.

1 **Q. What is the purpose of the Carbon Footprint Initiative and how will it work?**

2 A. From our experience with the Orlando convention market, we recognize that there
3 is interest in the hospitality sector for convention hosts to participate in carbon
4 offset activities. In order to capture the impacts that conventions or meetings
5 could have on carbon, an algorithm has been developed to calculate the carbon
6 emissions effects associated with on-site electric consumption and travel. The
7 benefit to the convention host would be to reduce carbon by directing their
8 funding contributions toward PEF's low income and/or renewable energy
9 programs. Progress Energy would provide a certificate, signage, or other
10 recognition that the event had offset its carbon use while conferencing in Florida.

11

12 **Q. Provide examples how Progress Energy balances the needs of the diverse
13 customer segments within its vast service territory?**

14 A. Progress Energy consistently analyzes the evolving needs of its customers in our
15 service territory. Associated with the DSM program expansion implemented in
16 2007, Progress Energy introduced an innovative approach to supporting
17 residential low-income customers and communities with the Neighborhood
18 Energy Saver (NES) program. Further enhancements and the addition of
19 measures to this successful program are proposed, along with the introduction of
20 a commercial initiative, Business Energy Saver Initiative (BES). The following
21 examples include either enhancements to programs that we offer our customers
22 currently, or are new innovative initiatives that are being considered for
23 implementation.

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1 **Neighborhood Energy Saver Plus (NESP)**

2 Currently, the PEF NES program consists of a comprehensive package of electric
3 conservation measures at no cost to the customer. NES uses a unique
4 canvassing technique that employs a door to door implementation strategy with
5 coinciding informational and educational communications. Every opportunity from
6 the initial communication through the installation of the measures is used to
7 educate customers on lowering their energy bill and empowering customers to
8 sustain the behavioral changes. Progress Energy Florida will add five additional
9 energy conservation measures to its existing NES program. With the addition of
10 NES Plus, the total number of energy conservation measures will increase from
11 16 measures to a total offering of 21.

12 In addition to the installation of the conservation measures, an important
13 component of this program is educating families on energy efficiency techniques
14 and the promotion of behavioral changes to help customers manage their energy
15 usage. We will continue to take this program to new levels with the addition of the
16 “Low Bill” Energy Education Assistance Workshop, developed to educate and
17 empower low income customers to use the energy in their homes more efficiently
18 and reduce their energy consumption. The curriculum will incorporate a
19 tradeshow style format utilizing props featuring interactive hands-on workstations
20 consisting of displays illustrating duct leakage, lighting, water heating, thermostat
21 settings, EnergyWise, infiltration/indoor air quality reduction techniques, and the
22 impact of faulty equipment in their homes. Please refer to Exhibit No. (JAM 13),
23 Neighborhood Energy Saver Plus Initiative, for further detail.

24

1 measures, measure costs, measure savings, measure feasibility, and measure
2 saturation. Assessments were then conducted of the residential, commercial and
3 industrial market segments (both new and existing construction) and the major
4 end-use categories, to determine our proposed 2010-2019 goal scenarios.

5
6 **Q. Does the methodology used by Progress Energy comply with statutory and**
7 **Florida Administrative Code requirements?**

8 A. Yes. Progress Energy used the Commission's approved cost-effective
9 methodology, as guided by Florida Administrative Code 25-17.0021, as well as
10 Section 366.82, Florida Statutes.

11
12 **Q. Do Progress Energy's proposed DSM goal scenarios provide a cost-**
13 **effective means for all ratepayers to help meet the need for additional**
14 **generation through 2019?**

15 A. Yes. Progress Energy's proposed goal scenarios for 2010-2019 are the
16 culmination of an extensive collaborative effort to assess the full technical and
17 achievable potential for energy and peak demand savings for DSM in Florida.
18 Additionally, we are proposing more efficiency options for our low income
19 customers and enhanced incentives for customers interested in investing in
20 renewable energy. Once our goals determined, we are confident that the result
21 will be a DSM goal complement that will meet the efficiency needs of our diverse
22 customer segments for the next ten years while balancing the interests of all
23 stakeholders.

1 **Q. What is the next action that is requested be taken toward determining**
2 **Progress Energy's 2010-2019 DSM goals?**

3 A. Progress Energy requests the FPSC review the proposed goal scenarios with
4 consideration of precedent set in Orders No. PSC-94-1313-FOF-EG;PSC-99-
5 1942-FOF-EG, and PSC-04-0769-PAA-EG. Consistent with this well-reasoned
6 precedent, particular attention should be paid to minimize any adverse impacts to
7 our customers by asking those who can least afford it to subsidize the
8 participation of others. Focus should also be placed on balancing the needs of all
9 stakeholders, as the Commission has done consistently in the past

10

11 **Q. Should one of Progress Energy's proposed DSM goal scenarios be**
12 **approved?**

13 A. Yes. While we are confident that the process for determining PEF's proposed
14 goal scenario was sound, there are external influences impacting the DSM
15 landscape to include stronger building codes, the decline in the housing market,
16 tightened credit availability, and weakened financial and retail industries. Given
17 the adverse impact that these factors have had on Florida's economy, consumers
18 may not be able to invest in needed efficiency improvements in future years to the
19 same extent as they have in the past. Thus, while PEF believes that the
20 Commission should approve the goals set forth in the high scenario for PEF,
21 external factors that are beyond PEF's control may act to make the energy
22 component of those highly aggressive goals difficult to achieve.

23

24 **Q. Does this conclude your testimony?**

1 A. Yes, this concludes my testimony.

**Exhibit No. (JAM 1) Progress Energy's Proposed Goal Scenario Ten-Year
Projections of DSM Savings**

RIM	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
SMW	33.34	37.44	49.36	51.82	53.91	56.79	67.32	65.59	60.69	44.33	520.57
WMW	42.42	46.32	54.01	55.14	56.27	56.83	69.45	69.23	66.05	43.84	559.55
GWH	50.64	53.71	58.31	61.38	64.45	72.74	69.05	68.44	59.85	55.24	613.80

TRC	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
SMW	54.27	58.72	70.96	73.39	75.81	82.37	90.32	89.84	83.04	65.20	743.93
WMW	68.99	74.50	84.61	87.35	90.10	95.01	105.69	105.14	97.46	72.83	881.68
GWH	130.72	138.64	150.53	158.45	166.37	194.10	178.26	170.33	154.49	142.61	1,584.50

**Exhibit No. (JAM 2) Progress Energy's Projected Total Technical Potential
Amount of DSM***

	Summer System Peak			Winter System Peak			Annual Energy		
	Baseline	Technical Potential		Baseline	Technical Potential		Baseline	Technical Potential	
	(MW)	(MW)	(%)	(MW)	(MW)	(%)	(GWh)	(GWh)	(%)
Residential	4,698	2,140	45.5%	5,175	1,479	28.6%	20,645	8,232	39.9%
Commercial	1,757	743	42.3%	1,166	371	31.8%	11,544	3,648	31.6%
Industrial	389	60	15.3%	282	47	16.8%	2,670	471	17.6%
Total	6,844	2,942	43.0%	6,622	1,897	28.7%	34,859	12,351	35.4%

*All segments deemed to have DSM potential were included in the study

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

RIM	Summer System Peak	Winter System Peak	Annual Energy
	(MW)	(MW)	(GWh)
Residential	2,015	1,336	6,476
Commercial	694	330	3,526
Industrial	50	38	410
Totals	2,759	1,704	10,412

*2010-2030 Total

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

Residential

MH 100 112 AC Maintenance (Outdoor Coil Cleaning)	SF 260 251 ROB 2L4'T8, 1EB
MF 130 139 AC Maintenance (Indoor Coil Cleaning)	MF 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)
MH 100 113 AC Maintenance (Indoor Coil Cleaning)	SF 400 407 Faucet Aerators
SF 700 701 Energy Star DW (EF=0.68)	MF 190 205 Weather Strip/Caulk w/Blower Door
MH 130 138 AC Maintenance (Outdoor Coil Cleaning)	MF 500 503 Energy Star CW CEE Tier 3 (MEF=2.2)
MH 130 139 AC Maintenance (Indoor Coil Cleaning)	MH 500 503 Energy Star CW CEE Tier 3 (MEF=2.2)
MH 700 701 Energy Star DW (EF=0.68)	SF 500 503 Energy Star CW CEE Tier 3 (MEF=2.2)
MF 700 701 Energy Star DW (EF=0.68)	MF 400 410 Water Heater Timeclock
MF 130 153 Weather Strip/Caulk w/Blower Door	MH 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)
SF 400 411 Heat Trap	SF 400 403 Solar Water Heat
MH 400 411 Heat Trap	MH 190 205 Weather Strip/Caulk w/Blower Door
SF 400 405 Low Flow Showerhead	MH 400 407 Faucet Aerators
SF 190 205 Weather Strip/Caulk w/Blower Door	MF 260 252 RET 2L4'T8, 1EB
MF 300 301 HE Refrigerator - Energy Star version of above	MH 260 252 RET 2L4'T8, 1EB
SF 300 301 HE Refrigerator - Energy Star version of above	SF 260 252 RET 2L4'T8, 1EB
MH 300 301 HE Refrigerator - Energy Star version of above	MH 950 951 Energy Star Desktop PC
MF 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)	SF 950 951 Energy Star Desktop PC
MH 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)	SF 400 404 AC Heat Recovery Units
SF 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)	MF 950 951 Energy Star Desktop PC
MH 400 405 Low Flow Showerhead	MH 400 403 Solar Water Heat
MF 800 803 Variable-Speed Pool Pump (<1 hp)	SF 100 114 Proper Refrigerant Charging and Air Flow
MH 800 803 Variable-Speed Pool Pump (<1 hp)	SF 130 140 Proper Refrigerant Charging and Air Flow
SF 800 803 Variable-Speed Pool Pump (<1 hp)	MH 400 404 AC Heat Recovery Units
MF 800 804 PV-Powered Pool Pumps	MF 130 145 Window Film
SF 800 804 PV-Powered Pool Pumps	SF 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit
MH 800 804 PV-Powered Pool Pumps	SF 130 145 Window Film
MF 400 411 Heat Trap	MF 400 407 Faucet Aerators
SF 940 941 Energy Star VCR	MH 130 145 Window Film
MH 940 941 Energy Star VCR	MF 100 114 Proper Refrigerant Charging and Air Flow
MF 940 941 Energy Star VCR	MH 930 931 Energy Star DVD Player
SF 400 410 Water Heater Timeclock	SF 930 931 Energy Star DVD Player
MH 220 221 CFL (18-Watt integral ballast), 0.5 hr/day	MF 930 931 Energy Star DVD Player
SF 220 221 CFL (18-Watt integral ballast), 0.5 hr/day	MF 130 140 Proper Refrigerant Charging and Air Flow
MF 220 221 CFL (18-Watt integral ballast), 0.5 hr/day	SF 190 202 Ceiling R-0 to R-19 Insulation
MF 400 405 Low Flow Showerhead	SF 130 143 Reflective Roof
MH 920 921 Energy Star Set-Top Box	MF 400 403 Solar Water Heat
SF 920 921 Energy Star Set-Top Box	MF 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit
MF 920 921 Energy Star Set-Top Box	MF 250 251 ROB 2L4'T8, 1EB
MH 400 410 Water Heater Timeclock	MH 250 251 ROB 2L4'T8, 1EB
SF 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)	SF 250 251 ROB 2L4'T8, 1EB
MH 910 911 Energy Star TV	SF 100 117 Reflective Roof
SF 910 911 Energy Star TV	SF 190 196 Reflective Roof
MF 910 911 Energy Star TV	MF 100 119 Window Film
MF 350 351 HE Freezer	MF 190 197 Window Film
MH 350 351 HE Freezer	SF 400 406 Pipe Wrap
SF 350 351 HE Freezer	MF 100 105 14 SEER Split-System Heat Pump
MF 260 251 ROB 2L4'T8, 1EB	MF 400 404 AC Heat Recovery Units
MH 260 251 ROB 2L4'T8, 1EB	

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

MF 130 143 Reflective Roof	SF 130 144 Radiant Barrier
MH 100 114 Proper Refrigerant Charging and Air Flow	SF 100 101 14 SEER Split-System Air Conditioner
MF 190 196 Reflective Roof	MH 130 132 15 SEER Split-System Heat Pump
MH 130 140 Proper Refrigerant Charging and Air Flow	MH 100 107 17 SEER Split-System Heat Pump
MH 100 119 Window Film	MH 130 131 14 SEER Split-System Heat Pump
MF 190 202 Ceiling R-0 to R-19 Insulation	MH 100 122 Single Pane Clear Windows to Double Pane Low-E Windows
SF 100 105 14 SEER Split-System Heat Pump	MH 130 141 Electronically Commutated Motors (ECM) on an Air Handler Unit
SF 130 131 14 SEER Split-System Heat Pump	MH 130 148 Single Pane Clear Windows to Double Pane Low-E Windows
MF 100 117 Reflective Roof	MH 100 106 15 SEER Split-System Heat Pump
MH 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit	MH 130 133 17 SEER Split-System Heat Pump
SF 130 132 15 SEER Split-System Heat Pump	MF 190 191 HE Room Air Conditioner - EER 11
SF 100 107 17 SEER Split-System Heat Pump	SF 100 116 Duct Repair
SF 100 119 Window Film	MF 100 118 Radiant Barrier
SF 100 122 Single Pane Clear Windows to Double Pane Low-E Windows	MH 190 200 Single Pane Clear Windows to Double Pane Low-E Windows
SF 100 106 15 SEER Split-System Heat Pump	MF 400 406 Pipe Wrap
SF 130 148 Single Pane Clear Windows to Double Pane Low-E Windows	SF 190 192 HE Room Air Conditioner - EER 12
SF 130 133 17 SEER Split-System Heat Pump	SF 190 197 Window Film
MF 130 141 Electronically Commutated Motors (ECM) on an Air Handler Unit	SF 100 102 15 SEER Split-System Air Conditioner
SF 130 141 Electronically Commutated Motors (ECM) on an Air Handler Unit	SF 100 120 Window Tinting
MF 100 107 17 SEER Split-System Heat Pump	MF 130 144 Radiant Barrier
MH 190 197 Window Film	MF 100 120 Window Tinting
MH 130 143 Reflective Roof	MF 100 101 14 SEER Split-System Air Conditioner
MH 190 202 Ceiling R-0 to R-19 Insulation	SF 130 146 Window Tinting
MF 100 106 15 SEER Split-System Heat Pump	MF 130 146 Window Tinting
MH 190 196 Reflective Roof	SF 100 103 17 SEER Split-System Air Conditioner
SF 400 409 Water Heater Temperature Check and Adjustment	MH 190 191 HE Room Air Conditioner - EER 11
SF 190 200 Single Pane Clear Windows to Double Pane Low-E Windows	MH 130 144 Radiant Barrier
MH 100 117 Reflective Roof	MF 100 116 Duct Repair
MF 130 132 15 SEER Split-System Heat Pump	SF 100 104 19 SEER Split-System Air Conditioner
MF 100 122 Single Pane Clear Windows to Double Pane Low-E Windows	MH 100 118 Radiant Barrier
MH 400 406 Pipe Wrap	MF 190 192 HE Room Air Conditioner - EER 12
MF 130 148 Single Pane Clear Windows to Double Pane Low-E Windows	MH 400 409 Water Heater Temperature Check and Adjustment
MF 130 131 14 SEER Split-System Heat Pump	MH 130 146 Window Tinting
MF 130 133 17 SEER Split-System Heat Pump	MH 100 120 Window Tinting
MH 100 105 14 SEER Split-System Heat Pump	MH 100 101 14 SEER Split-System Air Conditioner
MF 190 200 Single Pane Clear Windows to Double Pane Low-E Windows	MF 190 198 Window Tinting
MF 250 252 RET 2L4'T8, 1EB	MF 100 124 Ceiling R-0 to R-19 Insulation
MH 250 252 RET 2L4'T8, 1EB	SF 100 124 Ceiling R-0 to R-19 Insulation
SF 250 252 RET 2L4'T8, 1EB	MF 100 102 15 SEER Split-System Air Conditioner
SF 190 191 HE Room Air Conditioner - EER 11	MH 100 116 Duct Repair
SF 100 118 Radiant Barrier	SF 130 142 Duct Repair
	SF 100 111 Sealed Attic w/Sprayed Foam Insulated Roof Deck
	MF 100 111 Sealed Attic w/Sprayed Foam Insulated Roof Deck
	MH 190 192 HE Room Air Conditioner - EER 12

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

SF 100 121 Default Window With Sunscreen	MH 190 203 Ceiling R-19 to R-38 Insulation
MF 100 103 17 SEER Split-System Air Conditioner	MF 130 152 Wall 2x4 R-0 to Blow-In R-13 Insulation
SF 130 147 Default Window With Sunscreen	MH 130 152 Wall 2x4 R-0 to Blow-In R-13 Insulation
MH 190 198 Window Tinting	SF 130 151 Ceiling R-19 to R-38 Insulation
MF 100 104 19 SEER Split-System Air Conditioner	MF 100 125 Ceiling R-19 to R-38 Insulation
MH 100 102 15 SEER Split-System Air Conditioner	MH 100 125 Ceiling R-19 to R-38 Insulation
MF 100 121 Default Window With Sunscreen	MF 130 151 Ceiling R-19 to R-38 Insulation
MH 100 103 17 SEER Split-System Air Conditioner	MH 130 151 Ceiling R-19 to R-38 Insulation
MF 130 142 Duct Repair	
MF 130 147 Default Window With Sunscreen	Commercial
SF 190 199 Default Window With Sunscreen	1 110 111 Premium T8, Electronic Ballast
SF 960 961 Energy Star Laptop PC	1 110 112 Premium T8, EB, Reflector
MH 960 961 Energy Star Laptop PC	1 110 113 Occupancy Sensor
MF 400 409 Water Heater Temperature Check and Adjustment	1 110 114 Continuous Dimming
MF 960 961 Energy Star Laptop PC	1 110 115 Lighting Control Tuneup
MH 100 104 19 SEER Split-System Air Conditioner	1 120 121 ROB Premium T8, 1EB
SF 190 198 Window Tinting	1 120 122 ROB Premium T8, EB, Reflector
MF 190 199 Default Window With Sunscreen	1 120 123 Occupancy Sensor
MH 100 124 Ceiling R-0 to R-19 Insulation	1 120 124 Lighting Control Tuneup
MH 100 111 Sealed Attic w/Sprayed Foam Insulated Roof Deck	1 140 141 CFL Hardwired, Modular 18W
MH 100 121 Default Window With Sunscreen	1 150 151 PSMH, 250W, magnetic ballast
MH 130 142 Duct Repair	1 150 153 High Bay T5
MH 900 901 Energy Star TV	1 160 161 LED Exit Sign
SF 900 901 Energy Star TV	1 200 201 High Pressure Sodium 250W Lamp
MF 900 901 Energy Star TV	1 200 202 Outdoor Lighting Controls (Photocell/Timeclock)
MH 130 147 Default Window With Sunscreen	1 210 211 Outdoor Lighting Controls (Photocell/Timeclock)
MH 190 199 Default Window With Sunscreen	1 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
MF 130 137 Sealed Attics	1 300 302 High Efficiency Chiller Motors
MF 130 150 Ceiling R-0 to R-19 Insulation	1 300 304 EMS - Chiller
SF 130 150 Ceiling R-0 to R-19 Insulation	1 300 305 Chiller Tune Up/Diagnostics
SF 130 137 Sealed Attics	1 300 306 VSD for Chiller Pumps and Towers
SF 190 204 Wall 2x4 R-0 to Blow-In R-13 Insulation	1 300 307 EMS Optimization
MH 130 137 Sealed Attics	1 300 308 Aerosole Duct Sealing
MH 130 150 Ceiling R-0 to R-19 Insulation	1 300 309 Duct/Pipe Insulation
SF 100 126 Wall 2x4 R-0 to Blow-In R-13 Insulation	1 300 311 Window Film (Standard)
SF 190 203 Ceiling R-19 to R-38 Insulation	1 300 313 Ceiling Insulation
MF 190 204 Wall 2x4 R-0 to Blow-In R-13 Insulation	1 300 314 Roof Insulation
MH 190 204 Wall 2x4 R-0 to Blow-In R-13 Insulation	1 300 315 Cool Roof - Chiller
SF 100 109 HVAC Proper Sizing	1 300 317 Thermal Energy Storage (TES)
MF 100 126 Wall 2x4 R-0 to Blow-In R-13 Insulation	1 320 321 DX Packaged System, EER=10.9, 10 tons
SF 130 135 HVAC Proper Sizing	1 320 322 Hybrid Dessicant-DX System (Trane CDQ)
MH 100 126 Wall 2x4 R-0 to Blow-In R-13 Insulation	1 320 323 Geothermal Heat Pump, EER=13, 10 tons
MF 100 109 HVAC Proper Sizing	1 320 326 DX Tune Up/ Advanced Diagnostics
MF 130 135 HVAC Proper Sizing	1 320 327 DX Coil Cleaning
SF 130 152 Wall 2x4 R-0 to Blow-In R-13 Insulation	1 320 328 Optimize Controls
MH 100 109 HVAC Proper Sizing	1 320 329 Aerosole Duct Sealing
MH 130 135 HVAC Proper Sizing	1 320 330 Duct/Pipe Insulation
MF 190 203 Ceiling R-19 to R-38 Insulation	1 320 332 Window Film (Standard)
SF 100 125 Ceiling R-19 to R-38 Insulation	1 320 334 Ceiling Insulation
	1 320 335 Roof Insulation
	1 320 336 Cool Roof - DX

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

1 340 341 Packaged HP System, EER=10.9, 10 tons	10 210 211 Outdoor Lighting Controls (Photocell/Timeclock)
1 340 342 Geothermal Heat Pump, EER=13, 10 tons	10 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
1 340 344 Aerosole Duct Sealing	10 300 302 High Efficiency Chiller Motors
1 340 345 Duct/Pipe Insulation	10 300 304 EMS - Chiller
1 340 347 Window Film (Standard)	10 300 305 Chiller Tune Up/Diagnostics
1 340 349 Ceiling Insulation	10 300 306 VSD for Chiller Pumps and Towers
1 340 350 Roof Insulation	10 300 307 EMS Optimization
1 340 351 Cool Roof - DX	10 300 308 Aerosole Duct Sealing
1 360 361 HE PTAC, EER=9.6, 1 ton	10 300 309 Duct/Pipe Insulation
1 360 362 Occupancy Sensor (hotels)	10 300 311 Window Film (Standard)
1 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	10 300 313 Ceiling Insulation
1 400 402 Variable Speed Drive Control	10 300 314 Roof Insulation
1 400 403 Air Handler Optimization	10 300 315 Cool Roof - Chiller
1 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit	10 300 317 Thermal Energy Storage (TES)
1 400 405 Demand Control Ventilation (DCV)	10 320 321 DX Packaged System, EER=10.9, 10 tons
1 400 406 Energy Recovery Ventilation (ERV)	10 320 322 Hybrid Dessicant-DX System (Trane CDQ)
1 600 601 High Efficiency Water Heater (electric)	10 320 323 Geothermal Heat Pump, EER=13, 10 tons
1 600 603 Heat Pump Water Heater (air source)	10 320 326 DX Tune Up/ Advanced Diagnostics
1 600 604 Solar Water Heater	10 320 327 DX Coil Cleaning
1 600 606 Demand controlled circulating systems	10 320 328 Optimize Controls
1 600 608 Heat Recovery Unit	10 320 329 Aerosole Duct Sealing
1 600 609 Heat Trap	10 320 330 Duct/Pipe Insulation
1 600 610 Hot Water Pipe Insulation	10 320 332 Window Film (Standard)
1 700 701 PC Manual Power Management Enabling	10 320 334 Ceiling Insulation
1 700 702 PC Network Power Management Enabling	10 320 335 Roof insulation
1 710 711 Energy Star or Better Monitor	10 320 336 Cool Roof - DX
1 710 712 Monitor Power Management Enabling	10 340 341 Packaged HP System, EER=10.9, 10 tons
1 720 721 Energy Star or Better Monitor	10 340 342 Geothermal Heat Pump, EER=13, 10 tons
1 720 722 Monitor Power Management Enabling	10 340 344 Aerosole Duct Sealing
1 730 731 Energy Star or Better Copier	10 340 345 Duct/Pipe Insulation
1 730 732 Copier Power Management Enabling	10 340 347 Window Film (Standard)
1 740 741 Printer Power Management Enabling	10 340 349 Ceiling Insulation
1 800 801 Convection Oven	10 340 350 Roof Insulation
1 810 811 Efficient Fryer	10 340 351 Cool Roof - DX
1 900 901 Vending Misers (cooled machines only)	10 360 361 HE PTAC, EER=9.6, 1 ton
10 110 111 Premium T8, Elecctronic Ballast	10 360 362 Occupancy Sensor (hotels)
10 110 112 Premium T8, EB, Reflector	10 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
10 110 113 Occupancy Sensor	10 400 402 Variable Speed Drive Control
10 110 114 Continuous Dimming	10 400 403 Air Handler Optimization
10 110 115 Lighting Control Tuneup	10 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
10 120 121 ROB Premium T8, 1EB	10 400 405 Demand Control Ventilation (DCV)
10 120 122 ROB Premium T8, EB, Reflector	10 400 406 Energy Recovery Ventilation (ERV)
10 120 123 Occupancy Sensor	10 600 601 High Efficiency Water Heater (electric)
10 120 124 Lighting Control Tuneup	10 600 603 Heat Pump Water Heater (air source)
10 140 141 CFL Hardwired, Modular 18W	10 600 604 Solar Water Heater
10 150 151 PSMH, 250W, magnetic ballast	10 600 606 Demand controlled circulating systems
10 150 153 High Bay T5	10 600 608 Heat Recovery Unit
10 160 161 LED Exit Sign	10 600 609 Heat Trap
10 200 201 High Pressure Sodium 250W Lamp	10 600 610 Hot Water Pipe Insulation
10 200 202 Outdoor Lighting Controls (Photocell/Timeclock)	

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

10 700 701 PC Manual Power Management Enabling	11 320 335 Roof Insulation
10 700 702 PC Network Power Management Enabling	11 320 336 Cool Roof - DX
10 710 711 Energy Star or Better Monitor	11 340 341 Packaged HP System, EER=10.9, 10 tons
10 710 712 Monitor Power Management Enabling	11 340 342 Geothermal Heat Pump, EER=13, 10 tons
10 720 721 Energy Star or Better Monitor	11 340 344 Aerosole Duct Sealing
10 720 722 Monitor Power Management Enabling	11 340 345 Duct/Pipe Insulation
10 730 731 Energy Star or Better Copier	11 340 347 Window Film (Standard)
10 730 732 Copier Power Management Enabling	11 340 349 Ceiling Insulation
10 740 741 Printer Power Management Enabling	11 340 350 Roof Insulation
10 800 801 Convection Oven	11 340 351 Cool Roof - DX
10 810 811 Efficient Fryer	11 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
10 900 901 Vending Misers (cooled machines only)	11 400 402 Variable Speed Drive Control
11 110 111 Premium T8, Elecctronic Ballast	11 400 403 Air Handler Optimization
11 110 112 Premium T8, EB, Reflector	11 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
11 110 113 Occupancy Sensor	11 400 405 Demand Control Ventilation (DCV)
11 110 114 Continuous Dimming	11 400 406 Energy Recovery Ventilation (ERV)
11 110 115 Lighting Control Tuneup	11 600 601 High Efficiency Water Heater (electric)
11 120 121 ROB Premium T8, 1EB	11 600 603 Heat Pump Water Heater (air source)
11 120 122 ROB Premium T8, EB, Reflector	11 600 604 Solar Water Heater
11 120 123 Occupancy Sensor	11 600 606 Demand controlled circulating systems
11 120 124 Lighting Control Tuneup	11 600 608 Heat Recovery Unit
11 140 141 CFL Hardwired, Modular 18W	11 600 609 Heat Trap
11 150 151 PSMH, 250W, magnetic ballast	11 600 610 Hot Water Pipe Insulation
11 150 153 High Bay T5	11 700 701 PC Manual Power Management Enabling
11 160 161 LED Exit Sign	11 700 702 PC Network Power Management Enabling
11 200 201 High Pressure Sodium 250W Lamp	11 710 711 Energy Star or Better Monitor
11 200 202 Outdoor Lighting Controls (Photocell/Timeclock)	11 710 712 Monitor Power Management Enabling
11 210 211 Outdoor Lighting Controls (Photocell/Timeclock)	11 720 721 Energy Star or Better Monitor
11 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	11 720 722 Monitor Power Management Enabling
11 300 302 High Efficiency Chiller Motors	11 730 731 Energy Star or Better Copier
11 300 304 EMS - Chiller	11 730 732 Copier Power Management Enabling
11 300 305 Chiller Tune Up/Diagnostics	11 740 741 Printer Power Management Enabling
11 300 306 VSD for Chiller Pumps and Towers	11 800 801 Convection Oven
11 300 307 EMS Optimization	11 900 901 Vending Misers (cooled machines only)
11 300 308 Aerosole Duct Sealing	2 110 111 Premium T8, Elecctronic Ballast
11 300 309 Duct/Pipe Insulation	2 110 112 Premium T8, EB, Reflector
11 300 311 Window Film (Standard)	2 110 113 Occupancy Sensor
11 300 313 Ceiling Insulation	2 110 114 Continuous Dimming
11 300 314 Roof Insulation	2 110 115 Lighting Control Tuneup
11 300 315 Cool Roof - Chiller	2 120 121 ROB Premium T8, 1EB
11 300 317 Thermal Energy Storage (TES)	2 120 122 ROB Premium T8, EB, Reflector
11 320 321 DX Packaged System, EER=10.9, 10 tons	2 120 123 Occupancy Sensor
11 320 322 Hybrid Dessicant-DX System (Trane CDQ)	2 120 124 Lighting Control Tuneup
11 320 323 Geothermal Heat Pump, EER=13, 10 tons	2 140 141 CFL Hardwired, Modular 18W
11 320 326 DX Tune Up/ Advanced Diagnostics	2 150 151 PSMH, 250W, magnetic ballast
11 320 327 DX Coil Cleaning	2 150 153 High Bay T5
11 320 328 Optimize Controls	2 160 161 LED Exit Sign
11 320 329 Aerosole Duct Sealing	2 200 201 High Pressure Sodium 250W Lamp
11 320 330 Duct/Pipe Insulation	2 200 202 Outdoor Lighting Controls (Photocell/Timeclock)
11 320 332 Window Film (Standard)	
11 320 334 Ceiling Insulation	

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

2 210 211 Outdoor Lighting Controls (Photocell/Timeclock)	2 700 701 PC Manual Power Management Enabling
2 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	2 700 702 PC Network Power Management Enabling
2 300 302 High Efficiency Chiller Motors	2 710 711 Energy Star or Better Monitor
2 300 304 EMS - Chiller	2 710 712 Monitor Power Management Enabling
2 300 305 Chiller Tune Up/Diagnostics	2 720 721 Energy Star or Better Monitor
2 300 306 VSD for Chiller Pumps and Towers	2 720 722 Monitor Power Management Enabling
2 300 307 EMS Optimization	2 730 731 Energy Star or Better Copier
2 300 308 Aerosole Duct Sealing	2 730 732 Copier Power Management Enabling
2 300 309 Duct/Pipe Insulation	2 740 741 Printer Power Management Enabling
2 300 311 Window Film (Standard)	2 800 801 Convection Oven
2 300 313 Ceiling Insulation	2 810 811 Efficient Fryer
2 300 314 Roof Insulation	2 900 901 Vending Misers (cooled machines only)
2 300 315 Cool Roof - Chiller	3 110 111 Premium T8, Electronic Ballast
2 300 317 Thermal Energy Storage (TES)	3 110 112 Premium T8, EB, Reflector
2 320 321 DX Packaged System, EER=10.9, 10 tons	3 110 113 Occupancy Sensor
2 320 322 Hybrid Dessicant-DX System (Trane CDQ)	3 110 114 Continuous Dimming
2 320 323 Geothermal Heat Pump, EER=13, 10 tons	3 110 115 Lighting Control Tuneup
2 320 326 DX Tune Up/ Advanced Diagnostics	3 120 121 ROB Premium T8, 1EB
2 320 327 DX Coil Cleaning	3 120 122 ROB Premium T8, EB, Reflector
2 320 328 Optimize Controls	3 120 123 Occupancy Sensor
2 320 329 Aerosole Duct Sealing	3 120 124 Lighting Control Tuneup
2 320 330 Duct/Pipe Insulation	3 140 141 CFL Hardwired, Modular 18W
2 320 332 Window Film (Standard)	3 150 151 PSMH, 250W, magnetic ballast
2 320 334 Ceiling Insulation	3 150 153 High Bay T5
2 320 335 Roof Insulation	3 160 161 LED Exit Sign
2 320 336 Cool Roof - DX	3 200 201 High Pressure Sodium 250W Lamp
2 340 341 Packaged HP System, EER=10.9, 10 tons	3 210 211 Outdoor Lighting Controls (Photocell/Timeclock)
2 340 342 Geothermal Heat Pump, EER=13, 10 tons	3 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
2 340 344 Aerosole Duct Sealing	3 300 302 High Efficiency Chiller Motors
2 340 345 Duct/Pipe Insulation	3 300 304 EMS - Chiller
2 340 347 Window Film (Standard)	3 300 305 Chiller Tune Up/Diagnostics
2 340 349 Ceiling Insulation	3 300 306 VSD for Chiller Pumps and Towers
2 340 350 Roof Insulation	3 300 307 EMS Optimization
2 340 351 Cool Roof - DX	3 300 308 Aerosole Duct Sealing
2 360 361 HE PTAC, EER=9.6, 1 ton	3 300 309 Duct/Pipe Insulation
2 360 362 Occupancy Sensor (hotels)	3 300 311 Window Film (Standard)
2 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	3 300 313 Ceiling Insulation
2 400 402 Variable Speed Drive Control	3 300 314 Roof Insulation
2 400 403 Air Handler Optimization	3 300 315 Cool Roof - Chiller
2 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit	3 300 317 Thermal Energy Storage (TES)
2 400 405 Demand Control Ventilation (DCV)	3 320 321 DX Packaged System, EER=10.9, 10 tons
2 400 406 Energy Recovery Ventilation (ERV)	3 320 322 Hybrid Dessicant-DX System (Trane CDQ)
2 400 407 Separate Makeup Air / Exhaust Hoods AC	3 320 323 Geothermal Heat Pump, EER=13, 10 tons
2 600 601 High Efficiency Water Heater (electric)	3 320 326 DX Tune Up/ Advanced Diagnostics
2 600 603 Heat Pump Water Heater (air source)	3 320 327 DX Coil Cleaning
2 600 604 Solar Water Heater	3 320 328 Optimize Controls
2 600 606 Demand controlled circulating systems	3 320 329 Aerosole Duct Sealing
2 600 608 Heat Recovery Unit	3 320 330 Duct/Pipe Insulation
2 600 609 Heat Trap	3 320 332 Window Film (Standard)
2 600 610 Hot Water Pipe Insulation	3 320 334 Ceiling Insulation
	3 320 335 Roof Insulation

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

- | | |
|---|---|
| 3 320 336 Cool Roof - DX | 4 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons |
| 3 340 341 Packaged HP System, EER=10.9, 10 tons | 4 300 302 High Efficiency Chiller Motors |
| 3 340 342 Geothermal Heat Pump, EER=13, 10 tons | 4 300 304 EMS - Chiller |
| 3 340 344 Aerosole Duct Sealing | 4 300 305 Chiller Tune Up/Diagnostics |
| 3 340 345 Duct/Pipe Insulation | 4 300 306 VSD for Chiller Pumps and Towers |
| 3 340 347 Window Film (Standard) | 4 300 307 EMS Optimization |
| 3 340 349 Ceiling Insulation | 4 300 308 Aerosole Duct Sealing |
| 3 340 350 Roof Insulation | 4 300 309 Duct/Pipe Insulation |
| 3 340 351 Cool Roof - DX | 4 300 311 Window Film (Standard) |
| 3 360 361 HE PTAC, EER=9.6, 1 ton | 4 300 313 Ceiling Insulation |
| 3 360 362 Occupancy Sensor (hotels) | 4 300 314 Roof Insulation |
| 3 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4% | 4 300 315 Cool Roof - Chiller |
| 3 400 402 Variable Speed Drive Control | 4 300 317 Thermal Energy Storage (TES) |
| 3 400 403 Air Handler Optimization | 4 320 321 DX Packaged System, EER=10.9, 10 tons |
| 3 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit | 4 320 322 Hybrid Dessicant-DX System (Trane CDQ) |
| 3 400 405 Demand Control Ventilation (DCV) | 4 320 323 Geothermal Heat Pump, EER=13, 10 tons |
| 3 400 406 Energy Recovery Ventilation (ERV) | 4 320 326 DX Tune Up/ Advanced Diagnostics |
| 3 600 601 High Efficiency Water Heater (electric) | 4 320 327 DX Coil Cleaning |
| 3 600 603 Heat Pump Water Heater (air source) | 4 320 328 Optimize Controls |
| 3 600 604 Solar Water Heater | 4 320 329 Aerosole Duct Sealing |
| 3 600 606 Demand controlled circulating systems | 4 320 330 Duct/Pipe Insulation |
| 3 600 608 Heat Recovery Unit | 4 320 332 Window Film (Standard) |
| 3 600 609 Heat Trap | 4 320 334 Ceiling Insulation |
| 3 600 610 Hot Water Pipe Insulation | 4 320 335 Roof Insulation |
| 3 700 701 PC Manual Power Management Enabling | 4 320 336 Cool Roof - DX |
| 3 700 702 PC Network Power Management Enabling | 4 340 341 Packaged HP System, EER=10.9, 10 tons |
| 3 710 711 Energy Star or Better Monitor | 4 340 342 Geothermal Heat Pump, EER=13, 10 tons |
| 3 710 712 Monitor Power Management Enabling | 4 340 344 Aerosole Duct Sealing |
| 3 720 721 Energy Star or Better Monitor | 4 340 345 Duct/Pipe Insulation |
| 3 720 722 Monitor Power Management Enabling | 4 340 347 Window Film (Standard) |
| 3 730 731 Energy Star or Better Copier | 4 340 349 Ceiling Insulation |
| 3 730 732 Copier Power Management Enabling | 4 340 350 Roof Insulation |
| 3 740 741 Printer Power Management Enabling | 4 340 351 Cool Roof - DX |
| 3 800 801 Convection Oven | 4 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4% |
| 3 810 811 Efficient Fryer | 4 400 402 Variable Speed Drive Control |
| 3 900 901 Vending Misers (cooled machines only) | 4 400 403 Air Handler Optimization |
| 4 110 111 Premium T8, Elecctronic Ballast | 4 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit |
| 4 110 112 Premium T8, EB, Reflector | 4 400 405 Demand Control Ventilation (DCV) |
| 4 110 113 Occupancy Sensor | 4 400 406 Energy Recovery Ventilation (ERV) |
| 4 110 114 Continuous Dimming | 4 400 407 Separate Makeup Air / Exhaust Hoods AC |
| 4 110 115 Lighting Control Tuneup | 4 500 501 High-efficiency fan motors |
| 4 120 121 ROB Premium T8, 1EB | 4 500 503 Night covers for display cases |
| 4 120 122 ROB Premium T8, EB, Reflector | 4 500 504 Evaporator fan controller for MT walk-ins |
| 4 120 123 Occupancy Sensor | 4 500 505 Efficient compressor motor |
| 4 120 124 Lighting Control Tuneup | 4 500 506 Compressor VSD retrofit |
| 4 150 151 PSMH, 250W, magnetic ballast | 4 500 507 Floating head pressure controls |
| 4 150 153 High Bay T5 | 4 500 509 Demand Hot Gas Defrost |
| 4 160 161 LED Exit Sign | 4 500 510 Demand Defrost Electric |
| 4 200 201 High Pressure Sodium 250W Lamp | 4 500 511 Anti-sweat (humidistat) controls |
| 4 210 211 Outdoor Lighting Controls (Photocell/Timeclock) | 4 500 513 High R-Value Glass Doors |

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

4 500 514 Multiplex Compressor System	5 320 321 DX Packaged System, EER=10.9, 10 tons
4 500 515 Oversized Air Cooled Condenser	5 320 322 Hybrid Dessicant-DX System (Trane CDQ)
4 500 516 Freezer-Cooler Replacement Gaskets	5 320 323 Geothermal Heat Pump, EER=13, 10 tons
4 500 517 LED Display Lighting	5 320 326 DX Tune Up/ Advanced Diagnostics
4 600 601 High Efficiency Water Heater (electric)	5 320 327 DX Coil Cleaning
4 600 603 Heat Pump Water Heater (air source)	5 320 328 Optimize Controls
4 600 604 Solar Water Heater	5 320 329 Aerosole Duct Sealing
4 600 606 Demand controlled circulating systems	5 320 330 Duct/Pipe Insulation
4 600 608 Heat Recovery Unit	5 320 332 Window Film (Standard)
4 600 609 Heat Trap	5 320 334 Ceiling Insulation
4 600 610 Hot Water Pipe Insulation	5 320 335 Roof Insulation
4 700 701 PC Manual Power Management Enabling	5 320 336 Cool Roof - DX
4 700 702 PC Network Power Management Enabling	5 340 341 Packaged HP System, EER=10.9, 10 tons
4 710 711 Energy Star or Better Monitor	5 340 342 Geothermal Heat Pump, EER=13, 10 tons
4 710 712 Monitor Power Management Enabling	5 340 344 Aerosole Duct Sealing
4 720 721 Energy Star or Better Monitor	5 340 345 Duct/Pipe Insulation
4 720 722 Monitor Power Management Enabling	5 340 347 Window Film (Standard)
4 730 731 Energy Star or Better Copier	5 340 349 Ceiling Insulation
4 730 732 Copier Power Management Enabling	5 340 350 Roof Insulation
4 740 741 Printer Power Management Enabling	5 340 351 Cool Roof - DX
4 800 801 Convection Oven	5 360 361 HE PTAC, EER=9.6, 1 ton
4 810 811 Efficient Fryer	5 360 362 Occupancy Sensor (hotels)
4 900 901 Vending Misers (cooled machines only)	5 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
5 110 111 Premium T8, Elecctronic Ballast	5 400 402 Variable Speed Drive Control
5 110 112 Premium T8, EB, Reflector	5 400 403 Air Handler Optimization
5 110 113 Occupancy Sensor	5 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
5 110 114 Continuous Dimming	5 400 405 Demand Control Ventilation (DCV)
5 110 115 Lighting Control Tuneup	5 400 406 Energy Recovery Ventilation (ERV)
5 120 121 ROB Premium T8, 1EB	5 600 601 High Efficiency Water Heater (electric)
5 120 122 ROB Premium T8, EB, Reflector	5 600 603 Heat Pump Water Heater (air source)
5 120 123 Occupancy Sensor	5 600 604 Solar Water Heater
5 120 124 Lighting Control Tuneup	5 600 606 Demand controlled circulating systems
5 140 141 CFL Hardwired, Modular 18W	5 600 608 Heat Recovery Unit
5 150 151 PSMH, 250W, magnetic ballast	5 600 609 Heat Trap
5 150 153 High Bay T5	5 600 610 Hot Water Pipe Insulation
5 160 161 LED Exit Sign	5 700 701 PC Manual Power Management Enabling
5 200 201 High Pressure Sodium 250W Lamp	5 700 702 PC Network Power Management Enabling
5 210 211 Outdoor Lighting Controls (Photocell/Timeclock)	5 710 711 Energy Star or Better Monitor
5 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	5 710 712 Monitor Power Management Enabling
5 300 302 High Efficiency Chiller Motors	5 720 721 Energy Star or Better Monitor
5 300 304 EMS - Chiller	5 720 722 Monitor Power Management Enabling
5 300 305 Chiller Tune Up/Diagnostics	5 730 731 Energy Star or Better Copier
5 300 306 VSD for Chiller Pumps and Towers	5 730 732 Copier Power Management Enabling
5 300 307 EMS Optimization	5 740 741 Printer Power Management Enabling
5 300 308 Aerosole Duct Sealing	5 800 801 Convection Oven
5 300 309 Duct/Pipe Insulation	5 810 811 Efficient Fryer
5 300 311 Window Film (Standard)	5 900 901 Vending Misers (cooled machines only)
5 300 313 Ceiling Insulation	6 110 111 Premium T8, Elecctronic Ballast
5 300 314 Roof Insulation	6 110 112 Premium T8, EB, Reflector
5 300 315 Cool Roof - Chiller	6 110 113 Occupancy Sensor
5 300 317 Thermal Energy Storage (TES)	

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

6 110 114 Continuous Dimming	6 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
6 110 115 Lighting Control Tuneup	6 400 405 Demand Control Ventilation (DCV)
6 120 121 ROB Premium T8, 1EB	6 400 406 Energy Recovery Ventilation (ERV)
6 120 122 ROB Premium T8, EB, Reflector	6 600 601 High Efficiency Water Heater (electric)
6 120 123 Occupancy Sensor	6 600 603 Heat Pump Water Heater (air source)
6 120 124 Lighting Control Tuneup	6 600 604 Solar Water Heater
6 130 131 CFL Screw-in 18W	6 600 606 Demand controlled circulating systems
6 140 141 CFL Hardwired, Modular 18W	6 600 608 Heat Recovery Unit
6 150 151 PSMH, 250W, magnetic ballast	6 600 609 Heat Trap
6 150 153 High Bay T5	6 600 610 Hot Water Pipe Insulation
6 160 161 LED Exit Sign	6 700 701 PC Manual Power Management Enabling
6 200 201 High Pressure Sodium 250W Lamp	6 700 702 PC Network Power Management Enabling
6 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	6 710 711 Energy Star or Better Monitor
6 300 302 High Efficiency Chiller Motors	6 710 712 Monitor Power Management Enabling
6 300 304 EMS - Chiller	6 720 721 Energy Star or Better Monitor
6 300 305 Chiller Tune Up/Diagnostics	6 720 722 Monitor Power Management Enabling
6 300 306 VSD for Chiller Pumps and Towers	6 730 731 Energy Star or Better Copier
6 300 307 EMS Optimization	6 730 732 Copier Power Management Enabling
6 300 308 Aerosole Duct Sealing	6 740 741 Printer Power Management Enabling
6 300 309 Duct/Pipe Insulation	6 800 801 Convection Oven
6 300 311 Window Film (Standard)	6 810 811 Efficient Fryer
6 300 313 Ceiling Insulation	6 900 901 Vending Misers (cooled machines only)
6 300 314 Roof Insulation	7 110 111 Premium T8, Electronic Ballast
6 300 315 Cool Roof - Chiller	7 110 112 Premium T8, EB, Reflector
6 300 317 Thermal Energy Storage (TES)	7 110 113 Occupancy Sensor
6 320 321 DX Packaged System, EER=10.9, 10 tons	7 110 114 Continuous Dimming
6 320 322 Hybrid Dessicant-DX System (Trane CDQ)	7 110 115 Lighting Control Tuneup
6 320 323 Geothermal Heat Pump, EER=13, 10 tons	7 120 121 ROB Premium T8, 1EB
6 320 326 DX Tune Up/ Advanced Diagnostics	7 120 122 ROB Premium T8, EB, Reflector
6 320 327 DX Coil Cleaning	7 120 123 Occupancy Sensor
6 320 328 Optimize Controls	7 120 124 Lighting Control Tuneup
6 320 329 Aerosole Duct Sealing	7 140 141 CFL Hardwired, Modular 18W
6 320 330 Duct/Pipe Insulation	7 150 151 PSMH, 250W, magnetic ballast
6 320 332 Window Film (Standard)	7 150 153 High Bay T5
6 320 334 Ceiling Insulation	7 160 161 LED Exit Sign
6 320 335 Roof Insulation	7 200 201 High Pressure Sodium 250W Lamp
6 320 336 Cool Roof - DX	7 210 211 Outdoor Lighting Controls (Photocell/Timeclock)
6 340 341 Packaged HP System, EER=10.9, 10 tons	7 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
6 340 342 Geothermal Heat Pump, EER=13, 10 tons	7 300 302 High Efficiency Chiller Motors
6 340 344 Aerosole Duct Sealing	7 300 304 EMS - Chiller
6 340 345 Duct/Pipe Insulation	7 300 305 Chiller Tune Up/Diagnostics
6 340 347 Window Film (Standard)	7 300 306 VSD for Chiller Pumps and Towers
6 340 349 Ceiling Insulation	7 300 307 EMS Optimization
6 340 350 Roof Insulation	7 300 308 Aerosole Duct Sealing
6 340 351 Cool Roof - DX	7 300 309 Duct/Pipe Insulation
6 360 361 HE PTAC, EER=9.6, 1 ton	7 300 311 Window Film (Standard)
6 360 362 Occupancy Sensor (hotels)	7 300 313 Ceiling Insulation
6 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	7 300 314 Roof Insulation
6 400 402 Variable Speed Drive Control	7 300 315 Cool Roof - Chiller
6 400 403 Air Handler Optimization	7 300 317 Thermal Energy Storage (TES)

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

- | | |
|--|---|
| 7 320 321 DX Packaged System, EER=10.9, 10 tons | 8 110 114 Continuous Dimming |
| 7 320 322 Hybrid Dessicant-DX System (Trane CDQ) | 8 110 115 Lighting Control Tuneup |
| 7 320 323 Geothermal Heat Pump, EER=13, 10 tons | 8 120 121 ROB Premium T8, 1EB |
| 7 320 326 DX Tune Up/ Advanced Diagnostics | 8 120 122 ROB Premium T8, EB, Reflector |
| 7 320 327 DX Coil Cleaning | 8 120 123 Occupancy Sensor |
| 7 320 328 Optimize Controls | 8 120 124 Lighting Control Tuneup |
| 7 320 329 Aerosole Duct Sealing | 8 140 141 CFL Hardwired, Modular 18W |
| 7 320 330 Duct/Pipe Insulation | 8 150 151 PSMH, 250W, magnetic ballast |
| 7 320 332 Window Film (Standard) | 8 150 153 High Bay T5 |
| 7 320 334 Ceiling Insulation | 8 160 161 LED Exit Sign |
| 7 320 335 Roof Insulation | 8 200 201 High Pressure Sodium 250W Lamp |
| 7 320 336 Cool Roof - DX | 8 210 211 Outdoor Lighting Controls (Photocell/Timeclock) |
| 7 340 341 Packaged HP System, EER=10.9, 10 tons | 8 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons |
| 7 340 342 Geothermal Heat Pump, EER=13, 10 tons | 8 300 302 High Efficiency Chiller Motors |
| 7 340 344 Aerosole Duct Sealing | 8 300 304 EMS - Chiller |
| 7 340 345 Duct/Pipe Insulation | 8 300 305 Chiller Tune Up/Diagnostics |
| 7 340 347 Window Film (Standard) | 8 300 306 VSD for Chiller Pumps and Towers |
| 7 340 349 Ceiling Insulation | 8 300 307 EMS Optimization |
| 7 340 350 Roof Insulation | 8 300 308 Aerosole Duct Sealing |
| 7 340 351 Cool Roof - DX | 8 300 309 Duct/Pipe Insulation |
| 7 360 361 HE PTAC, EER=9.6, 1 ton | 8 300 311 Window Film (Standard) |
| 7 360 362 Occupancy Sensor (hotels) | 8 300 313 Ceiling Insulation |
| 7 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4% | 8 300 314 Roof Insulation |
| 7 400 402 Variable Speed Drive Control | 8 300 315 Cool Roof - Chiller |
| 7 400 403 Air Handler Optimization | 8 300 317 Thermal Energy Storage (TES) |
| 7 400 404 Electronically Commutated Motors (ECM) on an
Air Handler Unit | 8 320 321 DX Packaged System, EER=10.9, 10 tons |
| 7 400 405 Demand Control Ventilation (DCV) | 8 320 322 Hybrid Dessicant-DX System (Trane CDQ) |
| 7 400 406 Energy Recovery Ventilation (ERV) | 8 320 323 Geothermal Heat Pump, EER=13, 10 tons |
| 7 600 601 High Efficiency Water Heater (electric) | 8 320 326 DX Tune Up/ Advanced Diagnostics |
| 7 600 603 Heat Pump Water Heater (air source) | 8 320 327 DX Coil Cleaning |
| 7 600 604 Solar Water Heater | 8 320 328 Optimize Controls |
| 7 600 606 Demand controlled circulating systems | 8 320 329 Aerosole Duct Sealing |
| 7 600 608 Heat Recovery Unit | 8 320 330 Duct/Pipe Insulation |
| 7 600 609 Heat Trap | 8 320 332 Window Film (Standard) |
| 7 600 610 Hot Water Pipe Insulation | 8 320 334 Ceiling Insulation |
| 7 700 701 PC Manual Power Management Enabling | 8 320 335 Roof Insulation |
| 7 700 702 PC Network Power Management Enabling | 8 320 336 Cool Roof - DX |
| 7 710 711 Energy Star or Better Monitor | 8 340 341 Packaged HP System, EER=10.9, 10 tons |
| 7 710 712 Monitor Power Management Enabling | 8 340 342 Geothermal Heat Pump, EER=13, 10 tons |
| 7 720 721 Energy Star or Better Copier | 8 340 344 Aerosole Duct Sealing |
| 7 720 722 Monitor Power Management Enabling | 8 340 345 Duct/Pipe Insulation |
| 7 730 731 Energy Star or Better Copier | 8 340 347 Window Film (Standard) |
| 7 730 732 Copier Power Management Enabling | 8 340 349 Ceiling Insulation |
| 7 740 741 Printer Power Management Enabling | 8 340 350 Roof Insulation |
| 7 800 801 Convection Oven | 8 340 351 Cool Roof - DX |
| 7 810 811 Efficient Fryer | 8 360 361 HE PTAC, EER=9.6, 1 ton |
| 7 900 901 Vending Misers (cooled machines only) | 8 360 362 Occupancy Sensor (hotels) |
| 8 110 111 Premium T8, Electronic Ballast | 8 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4% |
| 8 110 112 Premium T8, EB, Reflector | 8 400 402 Variable Speed Drive Control |
| 8 110 113 Occupancy Sensor | 8 400 403 Air Handler Optimization |

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

8 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit	9 320 321 DX Packaged System, EER=10.9, 10 tons
8 400 405 Demand Control Ventilation (DCV)	9 320 322 Hybrid Dessicant-DX System (Trane CDQ)
8 400 406 Energy Recovery Ventilation (ERV)	9 320 323 Geothermal Heat Pump, EER=13, 10 tons
8 600 601 High Efficiency Water Heater (electric)	9 320 326 DX Tune Up/ Advanced Diagnostics
8 600 603 Heat Pump Water Heater (air source)	9 320 327 DX Coil Cleaning
8 600 604 Solar Water Heater	9 320 328 Optimize Controls
8 600 606 Demand controlled circulating systems	9 320 329 Aerosole Duct Sealing
8 600 608 Heat Recovery Unit	9 320 330 Duct/Pipe Insulation
8 600 609 Heat Trap	9 320 332 Window Film (Standard)
8 600 610 Hot Water Pipe Insulation	9 320 334 Ceiling Insulation
8 700 701 PC Manual Power Management Enabling	9 320 335 Roof Insulation
8 700 702 PC Network Power Management Enabling	9 320 336 Cool Roof - DX
8 710 711 Energy Star or Better Monitor	9 340 341 Packaged HP System, EER=10.9, 10 tons
8 710 712 Monitor Power Management Enabling	9 340 342 Geothermal Heat Pump, EER=13, 10 tons
8 720 721 Energy Star or Better Monitor	9 340 344 Aerosole Duct Sealing
8 720 722 Monitor Power Management Enabling	9 340 345 Duct/Pipe Insulation
8 730 731 Energy Star or Better Copier	9 340 347 Window Film (Standard)
8 730 732 Copier Power Management Enabling	9 340 349 Ceiling Insulation
8 740 741 Printer Power Management Enabling	9 340 350 Roof Insulation
8 800 801 Convection Oven	9 340 351 Cool Roof - DX
8 810 811 Efficient Fryer	9 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
8 900 901 Vending Misers (cooled machines only)	9 400 402 Variable Speed Drive Control
9 110 111 Premium T8, Elecctronic Ballast	9 400 403 Air Handler Optimization
9 110 112 Premium T8, EB, Reflector	9 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
9 110 113 Occupancy Sensor	9 400 405 Demand Control Ventilation (DCV)
9 110 114 Continuous Dimming	9 400 406 Energy Recovery Ventilation (ERV)
9 110 115 Lighting Control Tuneup	9 600 601 High Efficiency Water Heater (electric)
9 120 121 ROB Premium T8, 1EB	9 600 603 Heat Pump Water Heater (air source)
9 120 122 ROB Premium T8, EB, Reflector	9 600 604 Solar Water Heater
9 120 123 Occupancy Sensor	9 600 606 Demand controlled circulating systems
9 120 124 Lighting Control Tuneup	9 600 608 Heat Recovery Unit
9 140 141 CFL Hardwired, Modular 18W	9 600 609 Heat Trap
9 150 151 PSMH, 250W, magnetic ballast	9 600 610 Hot Water Pipe Insulation
9 150 153 High Bay T5	9 700 701 PC Manual Power Management Enabling
9 160 161 LED Exit Sign	9 700 702 PC Network Power Management Enabling
9 200 201 High Pressure Sodium 250W Lamp	9 710 711 Energy Star or Better Monitor
9 210 211 Outdoor Lighting Controls (Photocell/Timeclock)	9 710 712 Monitor Power Management Enabling
9 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	9 720 721 Energy Star or Better Monitor
9 300 302 High Efficiency Chiller Motors	9 720 722 Monitor Power Management Enabling
9 300 304 EMS - Chiller	9 730 731 Energy Star or Better Copier
9 300 305 Chiller Tune Up/Diagnostics	9 730 732 Copier Power Management Enabling
9 300 306 VSD for Chiller Pumps and Towers	9 740 741 Printer Power Management Enabling
9 300 307 EMS Optimization	9 800 801 Convection Oven
9 300 308 Aerosole Duct Sealing	9 810 811 Efficient Fryer
9 300 309 Duct/Pipe Insulation	9 900 901 Vending Misers (cooled machines only)
9 300 311 Window Film (Standard)	
9 300 313 Ceiling Insulation	
9 300 314 Roof Insulation	
9 300 315 Cool Roof - Chiller	
9 300 317 Thermal Energy Storage (TES)	
	Industrial
	1 100 101 Compressed Air-O&M
	1 100 102 Compressed Air - Controls
	1 100 103 Compressed Air - System Optimization

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

1 100 104 Compressed Air- Sizing	1 720 722 Hybrid Dessicant-DX System (Trane CDQ)
1 100 105 Comp Air - Replace 1-5 HP motor	1 720 723 Geothermal Heat Pump, EER=13, 10 tons
1 100 106 Comp Air - ASD (1-5 hp)	1 720 724 DX Tune Up/ Advanced Diagnostics
1 100 107 Comp Air - Motor practices-1 (1-5 HP)	1 720 726 Optimize Controls
1 100 108 Comp Air - Replace 6-100 HP motor	1 720 727 Aerosole Duct Sealing
1 100 109 Comp Air - ASD (6-100 hp)	1 720 728 Duct/Pipe Insulation
1 100 110 Comp Air - Motor practices-1 (6-100 HP)	1 720 729 Window Film (Standard)
1 100 111 Comp Air - Replace 100+ HP motor	1 720 730 Roof Insulation
1 100 112 Comp Air - ASD (100+ hp)	1 720 731 Cool Roof - DX
1 100 113 Comp Air - Motor practices-1 (100+ HP)	1 800 801 Premium T8, Elecctronic Ballast
1 200 201 Fans - O&M	1 800 804 High Bay T5
1 200 202 Fans - Controls	1 900 901 Replace V-belts
1 200 203 Fans - System Optimization	10 100 101 Compressed Air-O&M
1 200 204 Fans- Improve components	10 100 102 Compressed Air - Controls
1 200 205 Fans - Replace 1-5 HP motor	10 100 103 Compressed Air - System Optimization
1 200 206 Fans - ASD (1-5 hp)	10 100 104 Compressed Air- Sizing
1 200 207 Fans - Motor practices-1 (1-5 HP)	10 100 105 Comp Air - Replace 1-5 HP motor
1 200 208 Fans - Replace 6-100 HP motor	10 100 106 Comp Air - ASD (1-5 hp)
1 200 209 Fans - ASD (6-100 hp)	10 100 107 Comp Air - Motor practices-1 (1-5 HP)
1 200 210 Fans - Motor practices-1 (6-100 HP)	10 100 108 Comp Air - Replace 6-100 HP motor
1 200 211 Fans - Replace 100+ HP motor	10 100 109 Comp Air - ASD (6-100 hp)
1 200 212 Fans - ASD (100+ hp)	10 100 110 Comp Air - Motor practices-1 (6-100 HP)
1 200 213 Fans - Motor practices-1 (100+ HP)	10 100 111 Comp Air - Replace 100+ HP motor
1 300 301 Pumps - O&M	10 100 112 Comp Air - ASD (100+ hp)
1 300 302 Pumps - Controls	10 100 113 Comp Air - Motor practices-1 (100+ HP)
1 300 303 Pumps - System Optimization	10 200 201 Fans - O&M
1 300 304 Pumps - Sizing	10 200 202 Fans - Controls
1 300 305 Pumps - Replace 1-5 HP motor	10 200 203 Fans - System Optimization
1 300 306 Pumps - ASD (1-5 hp)	10 200 204 Fans- Improve components
1 300 307 Pumps - Motor practices-1 (1-5 HP)	10 200 205 Fans - Replace 1-5 HP motor
1 300 308 Pumps - Replace 6-100 HP motor	10 200 206 Fans - ASD (1-5 hp)
1 300 309 Pumps - ASD (6-100 hp)	10 200 207 Fans - Motor practices-1 (1-5 HP)
1 300 310 Pumps - Motor practices-1 (6-100 HP)	10 200 208 Fans - Replace 6-100 HP motor
1 300 311 Pumps - Replace 100+ HP motor	10 200 209 Fans - ASD (6-100 hp)
1 300 312 Pumps - ASD (100+ hp)	10 200 210 Fans - Motor practices-1 (6-100 HP)
1 300 313 Pumps - Motor practices-1 (100+ HP)	10 200 211 Fans - Replace 100+ HP motor
1 400 401 Bakery - Process (Mixing) - O&M	10 200 212 Fans - ASD (100+ hp)
1 500 501 Bakery - Process	10 200 213 Fans - Motor practices-1 (100+ HP)
1 550 551 Efficient Refrigeration - Operations	10 300 301 Pumps - O&M
1 550 552 Optimization Refrigeration	10 300 302 Pumps - Controls
1 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	10 300 303 Pumps - System Optimization
1 700 702 High Efficiency Chiller Motors	10 300 304 Pumps - Sizing
1 700 704 Chiller Tune Up/Diagnostics	10 300 305 Pumps - Replace 1-5 HP motor
1 700 705 VSD for Chiller Pumps and Towers	10 300 306 Pumps - ASD (1-5 hp)
1 700 706 EMS Optimization - Chiller	10 300 307 Pumps - Motor practices-1 (1-5 HP)
1 700 707 Aerosole Duct Sealing - Chiller	10 300 308 Pumps - Replace 6-100 HP motor
1 700 708 Duct/Pipe Insulation - Chiller	10 300 309 Pumps - ASD (6-100 hp)
1 700 709 Window Film (Standard) - Chiller	10 300 310 Pumps - Motor practices-1 (6-100 HP)
1 700 710 Roof Insulation - Chiller	10 300 311 Pumps - Replace 100+ HP motor
1 700 711 Cool Roof - Chiller	10 300 312 Pumps - ASD (100+ hp)
1 720 721 DX Packaged System, EER=10.9, 10 tons	10 300 313 Pumps - Motor practices-1 (100+ HP)

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

10 400 415 Drives - Process Controls (batch + site)	11 200 207 Fans - Motor practices-1 (1-5 HP)
10 400 425 Drives - Process Control	11 200 208 Fans - Replace 6-100 HP motor
10 400 426 Efficient drives - rolling	11 200 209 Fans - ASD (6-100 hp)
10 500 505 Efficient electric melting	11 200 210 Fans - Motor practices-1 (6-100 HP)
10 500 506 Intelligent extruder (DOE)	11 200 211 Fans - Replace 100+ HP motor
10 500 507 Near Net Shape Casting	11 200 212 Fans - ASD (100+ hp)
10 500 508 Heating - Process Control	11 200 213 Fans - Motor practices-1 (100+ HP)
10 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	11 300 301 Pumps - O&M
10 700 702 High Efficiency Chiller Motors	11 300 302 Pumps - Controls
10 700 703 EMS - Chiller	11 300 303 Pumps - System Optimization
10 700 704 Chiller Tune Up/Diagnostics	11 300 304 Pumps - Sizing
10 700 705 VSD for Chiller Pumps and Towers	11 300 305 Pumps - Replace 1-5 HP motor
10 700 706 EMS Optimization - Chiller	11 300 306 Pumps - ASD (1-5 hp)
10 700 707 Aerosole Duct Sealing - Chiller	11 300 307 Pumps - Motor practices-1 (1-5 HP)
10 700 708 Duct/Pipe Insulation - Chiller	11 300 308 Pumps - Replace 6-100 HP motor
10 700 709 Window Film (Standard) - Chiller	11 300 309 Pumps - ASD (6-100 hp)
10 700 710 Roof Insulation - Chiller	11 300 310 Pumps - Motor practices-1 (6-100 HP)
10 700 711 Cool Roof - Chiller	11 300 311 Pumps - Replace 100+ HP motor
10 720 721 DX Packaged System, EER=10.9, 10 tons	11 300 312 Pumps - ASD (100+ hp)
10 720 722 Hybrid Dessicant-DX System (Trane CDQ)	11 300 313 Pumps - Motor practices-1 (100+ HP)
10 720 723 Geothermal Heat Pump, EER=13, 10 tons	11 400 427 Drives - Optimization process (M&T)
10 720 724 DX Tune Up/ Advanced Diagnostics	11 400 428 Drives - Scheduling
10 720 725 DX Coil Cleaning	11 400 429 Machinery
10 720 726 Optimize Controls	11 500 509 Efficient Curing ovens
10 720 727 Aerosole Duct Sealing	11 500 510 Heating - Optimization process (M&T)
10 720 728 Duct/Pipe Insulation	11 500 511 Heating - Scheduling
10 720 729 Window Film (Standard)	11 600 603 New transformers welding
10 720 730 Roof Insulation	11 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
10 720 731 Cool Roof - DX	11 700 702 High Efficiency Chiller Motors
10 800 801 Premium T8, Elecctronic Ballast	11 700 703 EMS - Chiller
10 800 804 High Bay T5	11 700 704 Chiller Tune Up/Diagnostics
10 900 901 Replace V-belts	11 700 705 VSD for Chiller Pumps and Towers
11 100 101 Compressed Air-O&M	11 700 706 EMS Optimization - Chiller
11 100 102 Compressed Air - Controls	11 700 707 Aerosole Duct Sealing - Chiller
11 100 103 Compressed Air - System Optimization	11 700 708 Duct/Pipe insulation - Chiller
11 100 104 Compressed Air- Sizing	11 700 709 Window Film (Standard) - Chiller
11 100 105 Comp Air - Replace 1-5 HP motor	11 700 710 Roof Insulation - Chiller
11 100 106 Comp Air - ASD (1-5 hp)	11 700 711 Cool Roof - Chiller
11 100 107 Comp Air - Motor practices-1 (1-5 HP)	11 720 721 DX Packaged System, EER=10.9, 10 tons
11 100 108 Comp Air - Replace 6-100 HP motor	11 720 722 Hybrid Dessicant-DX System (Trane CDQ)
11 100 109 Comp Air - ASD (6-100 hp)	11 720 723 Geothermal Heat Pump, EER=13, 10 tons
11 100 110 Comp Air - Motor practices-1 (6-100 HP)	11 720 724 DX Tune Up/ Advanced Diagnostics
11 100 111 Comp Air - Replace 100+ HP motor	11 720 726 Optimize Controls
11 100 112 Comp Air - ASD (100+ hp)	11 720 727 Aerosole Duct Sealing
11 100 113 Comp Air - Motor practices-1 (100+ HP)	11 720 728 Duct/Pipe Insulation
11 200 201 Fans - O&M	11 720 729 Window Film (Standard)
11 200 202 Fans - Controls	11 720 730 Roof Insulation
11 200 203 Fans - System Optimization	11 720 731 Cool Roof - DX
11 200 204 Fans- Improve components	11 800 801 Premium T8, Elecctronic Ballast
11 200 205 Fans - Replace 1-5 HP motor	11 800 804 High Bay T5
11 200 206 Fans - ASD (1-5 hp)	11 900 901 Replace V-belts

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

12 100 101	Compressed Air-O&M	12 700 706	EMS Optimization - Chiller
12 100 102	Compressed Air - Controls	12 700 707	Aerosole Duct Sealing - Chiller
12 100 103	Compressed Air - System Optimization	12 700 708	Duct/Pipe Insulation - Chiller
12 100 104	Compressed Air- Sizing	12 700 709	Window Film (Standard) - Chiller
12 100 105	Comp Air - Replace 1-5 HP motor	12 700 710	Roof Insulation - Chiller
12 100 106	Comp Air - ASD (1-5 hp)	12 700 711	Cool Roof - Chiller
12 100 107	Comp Air - Motor practices-1 (1-5 HP)	12 720 721	DX Packaged System, EER=10.9, 10 tons
12 100 108	Comp Air - Replace 6-100 HP motor	12 720 722	Hybrid Dessicant-DX System (Trane CDQ)
12 100 109	Comp Air - ASD (6-100 hp)	12 720 723	Geothermal Heat Pump, EER=13, 10 tons
12 100 110	Comp Air - Motor practices-1 (6-100 HP)	12 720 724	DX Tune Up/ Advanced Diagnostics
12 100 111	Comp Air - Replace 100+ HP motor	12 720 725	DX Coil Cleaning
12 100 112	Comp Air - ASD (100+ hp)	12 720 726	Optimize Controls
12 100 113	Comp Air - Motor practices-1 (100+ HP)	12 720 727	Aerosole Duct Sealing
12 200 201	Fans - O&M	12 720 728	Duct/Pipe Insulation
12 200 202	Fans - Controls	12 720 729	Window Film (Standard)
12 200 203	Fans - System Optimization	12 720 730	Roof Insulation
12 200 204	Fans- Improve components	12 720 731	Cool Roof - DX
12 200 205	Fans - Replace 1-5 HP motor	12 800 801	Premium T8, Electronic Ballast
12 200 206	Fans - ASD (1-5 hp)	12 800 802	CFL Hardwired, Modular 18W
12 200 207	Fans - Motor practices-1 (1-5 HP)	12 800 804	High Bay T5
12 200 208	Fans - Replace 6-100 HP motor	12 800 805	Occupancy Sensor
12 200 209	Fans - ASD (6-100 hp)	12 900 901	Replace V-belts
12 200 210	Fans - Motor practices-1 (6-100 HP)	13 100 101	Compressed Air-O&M
12 200 211	Fans - Replace 100+ HP motor	13 100 102	Compressed Air - Controls
12 200 212	Fans - ASD (100+ hp)	13 100 103	Compressed Air - System Optimization
12 200 213	Fans - Motor practices-1 (100+ HP)	13 100 104	Compressed Air- Sizing
12 300 301	Pumps - O&M	13 100 105	Comp Air - Replace 1-5 HP motor
12 300 302	Pumps - Controls	13 100 106	Comp Air - ASD (1-5 hp)
12 300 303	Pumps - System Optimization	13 100 107	Comp Air - Motor practices-1 (1-5 HP)
12 300 304	Pumps - Sizing	13 100 108	Comp Air - Replace 6-100 HP motor
12 300 305	Pumps - Replace 1-5 HP motor	13 100 109	Comp Air - ASD (6-100 hp)
12 300 306	Pumps - ASD (1-5 hp)	13 100 110	Comp Air - Motor practices-1 (6-100 HP)
12 300 307	Pumps - Motor practices-1 (1-5 HP)	13 100 111	Comp Air - Replace 100+ HP motor
12 300 308	Pumps - Replace 6-100 HP motor	13 100 112	Comp Air - ASD (100+ hp)
12 300 309	Pumps - ASD (6-100 hp)	13 100 113	Comp Air - Motor practices-1 (100+ HP)
12 300 310	Pumps - Motor practices-1 (6-100 HP)	13 200 201	Fans - O&M
12 300 311	Pumps - Replace 100+ HP motor	13 200 202	Fans - Controls
12 300 312	Pumps - ASD (100+ hp)	13 200 203	Fans - System Optimization
12 300 313	Pumps - Motor practices-1 (100+ HP)	13 200 204	Fans- Improve components
12 400 427	Drives - Optimization process (M&T)	13 200 205	Fans - Replace 1-5 HP motor
12 400 428	Drives - Scheduling	13 200 206	Fans - ASD (1-5 hp)
12 400 429	Machinery	13 200 207	Fans - Motor practices-1 (1-5 HP)
12 500 509	Efficient Curing ovens	13 200 208	Fans - Replace 6-100 HP motor
12 500 510	Heating - Optimization process (M&T)	13 200 209	Fans - ASD (6-100 hp)
12 500 511	Heating - Scheduling	13 200 210	Fans - Motor practices-1 (6-100 HP)
12 600 603	New transformers welding	13 200 211	Fans - Replace 100+ HP motor
12 700 701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	13 200 212	Fans - ASD (100+ hp)
12 700 702	High Efficiency Chiller Motors	13 200 213	Fans - Motor practices-1 (100+ HP)
12 700 703	EMS - Chiller	13 300 301	Pumps - O&M
12 700 704	Chiller Tune Up/Diagnostics	13 300 302	Pumps - Controls
12 700 705	VSD for Chiller Pumps and Towers	13 300 303	Pumps - System Optimization

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DSM Savings Using RIM***

13 300 304 Pumps - Sizing	14 200 201 Fans - O&M
13 300 305 Pumps - Replace 1-5 HP motor	14 200 202 Fans - Controls
13 300 306 Pumps - ASD (1-5 hp)	14 200 203 Fans - System Optimization
13 300 307 Pumps - Motor practices-1 (1-5 HP)	14 200 204 Fans- Improve components
13 300 308 Pumps - Replace 6-100 HP motor	14 200 205 Fans - Replace 1-5 HP motor
13 300 309 Pumps - ASD (6-100 hp)	14 200 206 Fans - ASD (1-5 hp)
13 300 310 Pumps - Motor practices-1 (6-100 HP)	14 200 207 Fans - Motor practices-1 (1-5 HP)
13 300 311 Pumps - Replace 100+ HP motor	14 200 208 Fans - Replace 6-100 HP motor
13 300 312 Pumps - ASD (100+ hp)	14 200 209 Fans - ASD (6-100 hp)
13 300 313 Pumps - Motor practices-1 (100+ HP)	14 200 210 Fans - Motor practices-1 (6-100 HP)
13 400 413 Clean Room - Controls	14 200 211 Fans - Replace 100+ HP motor
13 400 428 Drives - Scheduling	14 200 212 Fans - ASD (100+ hp)
13 400 429 Machinery	14 200 213 Fans - Motor practices-1 (100+ HP)
13 500 509 Efficient Curing ovens	14 300 301 Pumps - O&M
13 600 604 Efficient processes (welding, etc.)	14 300 302 Pumps - Controls
13 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	14 300 303 Pumps - System Optimization
13 700 702 High Efficiency Chiller Motors	14 300 304 Pumps - Sizing
13 700 704 Chiller Tune Up/Diagnostics	14 300 305 Pumps - Replace 1-5 HP motor
13 700 705 VSD for Chiller Pumps and Towers	14 300 306 Pumps - ASD (1-5 hp)
13 700 706 EMS Optimization - Chiller	14 300 307 Pumps - Motor practices-1 (1-5 HP)
13 700 707 Aerosole Duct Sealing - Chiller	14 300 308 Pumps - Replace 6-100 HP motor
13 700 708 Duct/Pipe Insulation - Chiller	14 300 309 Pumps - ASD (6-100 hp)
13 700 709 Window Film (Standard) - Chiller	14 300 310 Pumps - Motor practices-1 (6-100 HP)
13 700 710 Roof Insulation - Chiller	14 300 311 Pumps - Replace 100+ HP motor
13 700 711 Cool Roof - Chiller	14 300 312 Pumps - ASD (100+ hp)
13 720 721 DX Packaged System, EER=10.9, 10 tons	14 300 313 Pumps - Motor practices-1 (100+ HP)
13 720 722 Hybrid Dessicant-DX System (Trane CDQ)	14 400 427 Drives - Optimization process (M&T)
13 720 723 Geothermal Heat Pump, EER=13, 10 tons	14 400 428 Drives - Scheduling
13 720 724 DX Tune Up/ Advanced Diagnostics	14 400 429 Machinery
13 720 726 Optimize Controls	14 500 509 Efficient Curing ovens
13 720 727 Aerosole Duct Sealing	14 500 510 Heating - Optimization process (M&T)
13 720 728 Duct/Pipe Insulation	14 600 603 New transformers welding
13 720 729 Window Film (Standard)	14 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
13 720 730 Roof Insulation	14 700 702 High Efficiency Chiller Motors
13 720 731 Cool Roof - DX	14 700 703 EMS - Chiller
13 800 801 Premium T8, Electronic Ballast	14 700 704 Chiller Tune Up/Diagnostics
13 800 804 High Bay T5	14 700 705 VSD for Chiller Pumps and Towers
13 900 901 Replace V-belts	14 700 706 EMS Optimization - Chiller
14 100 101 Compressed Air-O&M	14 700 707 Aerosole Duct Sealing - Chiller
14 100 102 Compressed Air - Controls	14 700 708 Duct/Pipe Insulation - Chiller
14 100 103 Compressed Air - System Optimization	14 700 709 Window Film (Standard) - Chiller
14 100 104 Compressed Air- Sizing	14 700 710 Roof Insulation - Chiller
14 100 105 Comp Air - Replace 1-5 HP motor	14 700 711 Cool Roof - Chiller
14 100 106 Comp Air - ASD (1-5 hp)	14 720 721 DX Packaged System, EER=10.9, 10 tons
14 100 107 Comp Air - Motor practices-1 (1-5 HP)	14 720 722 Hybrid Dessicant-DX System (Trane CDQ)
14 100 108 Comp Air - Replace 6-100 HP motor	14 720 723 Geothermal Heat Pump, EER=13, 10 tons
14 100 109 Comp Air - ASD (6-100 hp)	14 720 724 DX Tune Up/ Advanced Diagnostics
14 100 110 Comp Air - Motor practices-1 (6-100 HP)	14 720 725 DX Coil Cleaning
14 100 111 Comp Air - Replace 100+ HP motor	14 720 726 Optimize Controls
14 100 112 Comp Air - ASD (100+ hp)	14 720 727 Aerosole Duct Sealing
14 100 113 Comp Air - Motor practices-1 (100+ HP)	14 720 728 Duct/Pipe Insulation

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

14 720 729 Window Film (Standard)	15 700 702 High Efficiency Chiller Motors
14 720 730 Roof Insulation	15 700 704 Chiller Tune Up/Diagnostics
14 720 731 Cool Roof - DX	15 700 705 VSD for Chiller Pumps and Towers
14 800 801 Premium T8, Electronic Ballast	15 700 706 EMS Optimization - Chiller
14 800 804 High Bay T5	15 700 707 Aerosole Duct Sealing - Chiller
14 900 901 Replace V-belts	15 700 708 Duct/Pipe Insulation - Chiller
15 100 101 Compressed Air-O&M	15 700 709 Window Film (Standard) - Chiller
15 100 102 Compressed Air - Controls	15 700 710 Roof Insulation - Chiller
15 100 103 Compressed Air - System Optimization	15 700 711 Cool Roof - Chiller
15 100 104 Compressed Air- Sizing	15 720 721 DX Packaged System, EER=10.9, 10 tons
15 100 105 Comp Air - Replace 1-5 HP motor	15 720 722 Hybrid Dessicant-DX System (Trane CDQ)
15 100 106 Comp Air - ASD (1-5 hp)	15 720 723 Geothermal Heat Pump, EER=13, 10 tons
15 100 107 Comp Air - Motor practices-1 (1-5 HP)	15 720 724 DX Tune Up/ Advanced Diagnostics
15 100 108 Comp Air - Replace 6-100 HP motor	15 720 726 Optimize Controls
15 100 109 Comp Air - ASD (6-100 hp)	15 720 727 Aerosole Duct Sealing
15 100 110 Comp Air - Motor practices-1 (6-100 HP)	15 720 728 Duct/Pipe Insulation
15 100 111 Comp Air - Replace 100+ HP motor	15 720 729 Window Film (Standard)
15 100 112 Comp Air - ASD (100+ hp)	15 720 730 Roof Insulation
15 100 113 Comp Air - Motor practices-1 (100+ HP)	15 720 731 Cool Roof - DX
15 200 201 Fans - O&M	15 800 801 Premium T8, Electronic Ballast
15 200 202 Fans - Controls	15 800 804 High Bay T5
15 200 203 Fans - System Optimization	15 900 901 Replace V-belts
15 200 204 Fans- Improve components	16 100 101 Compressed Air-O&M
15 200 205 Fans - Replace 1-5 HP motor	16 100 102 Compressed Air - Controls
15 200 206 Fans - ASD (1-5 hp)	16 100 103 Compressed Air - System Optimization
15 200 207 Fans - Motor practices-1 (1-5 HP)	16 100 104 Compressed Air- Sizing
15 200 208 Fans - Replace 6-100 HP motor	16 100 105 Comp Air - Replace 1-5 HP motor
15 200 209 Fans - ASD (6-100 hp)	16 100 106 Comp Air - ASD (1-5 hp)
15 200 210 Fans - Motor practices-1 (6-100 HP)	16 100 107 Comp Air - Motor practices-1 (1-5 HP)
15 200 211 Fans - Replace 100+ HP motor	16 100 108 Comp Air - Replace 6-100 HP motor
15 200 212 Fans - ASD (100+ hp)	16 100 109 Comp Air - ASD (6-100 hp)
15 200 213 Fans - Motor practices-1 (100+ HP)	16 100 110 Comp Air - Motor practices-1 (6-100 HP)
15 300 301 Pumps - O&M	16 100 111 Comp Air - Replace 100+ HP motor
15 300 302 Pumps - Controls	16 100 112 Comp Air - ASD (100+ hp)
15 300 303 Pumps - System Optimization	16 100 113 Comp Air - Motor practices-1 (100+ HP)
15 300 304 Pumps - Sizing	16 200 201 Fans - O&M
15 300 305 Pumps - Replace 1-5 HP motor	16 200 202 Fans - Controls
15 300 306 Pumps - ASD (1-5 hp)	16 200 203 Fans - System Optimization
15 300 307 Pumps - Motor practices-1 (1-5 HP)	16 200 204 Fans- Improve components
15 300 308 Pumps - Replace 6-100 HP motor	16 200 205 Fans - Replace 1-5 HP motor
15 300 309 Pumps - ASD (6-100 hp)	16 200 206 Fans - ASD (1-5 hp)
15 300 310 Pumps - Motor practices-1 (6-100 HP)	16 200 207 Fans - Motor practices-1 (1-5 HP)
15 300 311 Pumps - Replace 100+ HP motor	16 200 208 Fans - Replace 6-100 HP motor
15 300 312 Pumps - ASD (100+ hp)	16 200 209 Fans - ASD (6-100 hp)
15 300 313 Pumps - Motor practices-1 (100+ HP)	16 200 210 Fans - Motor practices-1 (6-100 HP)
15 400 427 Drives - Optimization process (M&T)	16 200 211 Fans - Replace 100+ HP motor
15 400 428 Drives - Scheduling	16 200 212 Fans - ASD (100+ hp)
15 400 429 Machinery	16 200 213 Fans - Motor practices-1 (100+ HP)
15 500 509 Efficient Curing ovens	16 300 301 Pumps - O&M
15 600 603 New transformers welding	16 300 302 Pumps - Controls
15 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	16 300 303 Pumps - System Optimization

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

16 300 304 Pumps - Sizing	2 200 201 Fans - O&M
16 300 305 Pumps - Replace 1-5 HP motor	2 200 202 Fans - Controls
16 300 306 Pumps - ASD (1-5 hp)	2 200 203 Fans - System Optimization
16 300 307 Pumps - Motor practices-1 (1-5 HP)	2 200 204 Fans- Improve components
16 300 308 Pumps - Replace 6-100 HP motor	2 200 205 Fans - Replace 1-5 HP motor
16 300 309 Pumps - ASD (6-100 hp)	2 200 206 Fans - ASD (1-5 hp)
16 300 310 Pumps - Motor practices-1 (6-100 HP)	2 200 207 Fans - Motor practices-1 (1-5 HP)
16 300 311 Pumps - Replace 100+ HP motor	2 200 208 Fans - Replace 6-100 HP motor
16 300 312 Pumps - ASD (100+ hp)	2 200 209 Fans - ASD (6-100 hp)
16 300 313 Pumps - Motor practices-1 (100+ HP)	2 200 210 Fans - Motor practices-1 (6-100 HP)
16 400 416 Process Drives - ASD	2 200 211 Fans - Replace 100+ HP motor
16 400 428 Drives - Scheduling	2 200 212 Fans - ASD (100+ hp)
16 400 430 Efficient Machinery	2 200 213 Fans - Motor practices-1 (100+ HP)
16 500 509 Efficient Curing ovens	2 300 301 Pumps - O&M
16 600 605 Process control	2 300 302 Pumps - Controls
16 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	2 300 303 Pumps - System Optimization
16 700 702 High Efficiency Chiller Motors	2 300 304 Pumps - Sizing
16 700 704 Chiller Tune Up/Diagnostics	2 300 305 Pumps - Replace 1-5 HP motor
16 700 705 VSD for Chiller Pumps and Towers	2 300 306 Pumps - ASD (1-5 hp)
16 700 706 EMS Optimization - Chiller	2 300 307 Pumps - Motor practices-1 (1-5 HP)
16 700 707 Aerosole Duct Sealing - Chiller	2 300 308 Pumps - Replace 6-100 HP motor
16 700 708 Duct/Pipe Insulation - Chiller	2 300 309 Pumps - ASD (6-100 hp)
16 700 709 Window Film (Standard) - Chiller	2 300 310 Pumps - Motor practices-1 (6-100 HP)
16 700 710 Roof Insulation - Chiller	2 300 311 Pumps - Replace 100+ HP motor
16 700 711 Cool Roof - Chiller	2 300 312 Pumps - ASD (100+ hp)
16 720 721 DX Packaged System, EER=10.9, 10 tons	2 300 313 Pumps - Motor practices-1 (100+ HP)
16 720 722 Hybrid Dessicant-DX System (Trane CDQ)	2 400 402 O&M/drives spinning machines
16 720 723 Geothermal Heat Pump, EER=13, 10 tons	2 500 502 Drying (UV/IR)
16 720 724 DX Tune Up/ Advanced Diagnostics	2 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
16 720 726 Optimize Controls	2 700 702 High Efficiency Chiller Motors
16 720 727 Aerosole Duct Sealing	2 700 703 EMS - Chiller
16 720 728 Duct/Pipe Insulation	2 700 704 Chiller Tune Up/Diagnostics
16 720 729 Window Film (Standard)	2 700 705 VSD for Chiller Pumps and Towers
16 720 730 Roof Insulation	2 700 706 EMS Optimization - Chiller
16 720 731 Cool Roof - DX	2 700 707 Aerosole Duct Sealing - Chiller
16 800 801 Premium T8, Electronic Ballast	2 700 708 Duct/Pipe Insulation - Chiller
16 800 804 High Bay T5	2 700 709 Window Film (Standard) - Chiller
16 900 901 Replace V-belts	2 700 710 Roof Insulation - Chiller
2 100 101 Compressed Air-O&M	2 700 711 Cool Roof - Chiller
2 100 102 Compressed Air - Controls	2 720 721 DX Packaged System, EER=10.9, 10 tons
2 100 103 Compressed Air - System Optimization	2 720 722 Hybrid Dessicant-DX System (Trane CDQ)
2 100 104 Compressed Air- Sizing	2 720 723 Geothermal Heat Pump, EER=13, 10 tons
2 100 105 Comp Air - Replace 1-5 HP motor	2 720 724 DX Tune Up/ Advanced Diagnostics
2 100 106 Comp Air - ASD (1-5 hp)	2 720 725 DX Coil Cleaning
2 100 107 Comp Air - Motor practices-1 (1-5 HP)	2 720 726 Optimize Controls
2 100 108 Comp Air - Replace 6-100 HP motor	2 720 727 Aerosole Duct Sealing
2 100 109 Comp Air - ASD (6-100 hp)	2 720 728 Duct/Pipe Insulation
2 100 110 Comp Air - Motor practices-1 (6-100 HP)	2 720 729 Window Film (Standard)
2 100 111 Comp Air - Replace 100+ HP motor	2 720 730 Roof Insulation
2 100 112 Comp Air - ASD (100+ hp)	2 720 731 Cool Roof - DX
2 100 113 Comp Air - Motor practices-1 (100+ HP)	2 800 801 Premium T8, Electronic Ballast

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

2 800 802 CFL Hardwired, Modular 18W	3 700 703 EMS - Chiller
2 800 804 High Bay T5	3 700 704 Chiller Tune Up/Diagnostics
2 800 805 Occupancy Sensor	3 700 705 VSD for Chiller Pumps and Towers
2 900 901 Replace V-belts	3 700 706 EMS Optimization - Chiller
2 900 902 Membranes for wastewater	3 700 707 Aerosole Duct Sealing - Chiller
3 100 101 Compressed Air-O&M	3 700 708 Duct/Pipe Insulation - Chiller
3 100 102 Compressed Air - Controls	3 700 709 Window Film (Standard) - Chiller
3 100 103 Compressed Air - System Optimization	3 700 710 Roof Insulation - Chiller
3 100 104 Compressed Air- Sizing	3 700 711 Cool Roof - Chiller
3 100 105 Comp Air - Replace 1-5 HP motor	3 720 721 DX Packaged System, EER=10.9, 10 tons
3 100 106 Comp Air - ASD (1-5 hp)	3 720 722 Hybrid Dessicant-DX System (Trane CDQ)
3 100 107 Comp Air - Motor practices-1 (1-5 HP)	3 720 723 Geothermal Heat Pump, EER=13, 10 tons
3 100 108 Comp Air - Replace 6-100 HP motor	3 720 724 DX Tune Up/ Advanced Diagnostics
3 100 109 Comp Air - ASD (6-100 hp)	3 720 725 DX Coil Cleaning
3 100 110 Comp Air - Motor practices-1 (6-100 HP)	3 720 726 Optimize Controls
3 100 111 Comp Air - Replace 100+ HP motor	3 720 727 Aerosole Duct Sealing
3 100 112 Comp Air - ASD (100+ hp)	3 720 728 Duct/Pipe Insulation
3 100 113 Comp Air - Motor practices-1 (100+ HP)	3 720 729 Window Film (Standard)
3 200 201 Fans - O&M	3 720 730 Roof Insulation
3 200 202 Fans - Controls	3 720 731 Cool Roof - DX
3 200 203 Fans - System Optimization	3 800 801 Premium T8, Electronic Ballast
3 200 204 Fans- Improve components	3 800 804 High Bay T5
3 200 205 Fans - Replace 1-5 HP motor	3 900 901 Replace V-belts
3 200 206 Fans - ASD (1-5 hp)	4 100 101 Compressed Air-O&M
3 200 207 Fans - Motor practices-1 (1-5 HP)	4 100 102 Compressed Air - Controls
3 200 208 Fans - Replace 6-100 HP motor	4 100 103 Compressed Air - System Optimization
3 200 209 Fans - ASD (6-100 hp)	4 100 104 Compressed Air- Sizing
3 200 210 Fans - Motor practices-1 (6-100 HP)	4 100 105 Comp Air - Replace 1-5 HP motor
3 200 211 Fans - Replace 100+ HP motor	4 100 106 Comp Air - ASD (1-5 hp)
3 200 212 Fans - ASD (100+ hp)	4 100 107 Comp Air - Motor practices-1 (1-5 HP)
3 200 213 Fans - Motor practices-1 (100+ HP)	4 100 108 Comp Air - Replace 6-100 HP motor
3 200 214 Optimize drying process	4 100 109 Comp Air - ASD (6-100 hp)
3 300 301 Pumps - O&M	4 100 110 Comp Air - Motor practices-1 (6-100 HP)
3 300 302 Pumps - Controls	4 100 111 Comp Air - Replace 100+ HP motor
3 300 303 Pumps - System Optimization	4 100 112 Comp Air - ASD (100+ hp)
3 300 304 Pumps - Sizing	4 100 113 Comp Air - Motor practices-1 (100+ HP)
3 300 305 Pumps - Replace 1-5 HP motor	4 200 201 Fans - O&M
3 300 306 Pumps - ASD (1-5 hp)	4 200 202 Fans - Controls
3 300 307 Pumps - Motor practices-1 (1-5 HP)	4 200 203 Fans - System Optimization
3 300 308 Pumps - Replace 6-100 HP motor	4 200 204 Fans- Improve components
3 300 309 Pumps - ASD (6-100 hp)	4 200 205 Fans - Replace 1-5 HP motor
3 300 310 Pumps - Motor practices-1 (6-100 HP)	4 200 206 Fans - ASD (1-5 hp)
3 300 311 Pumps - Replace 100+ HP motor	4 200 207 Fans - Motor practices-1 (1-5 HP)
3 300 312 Pumps - ASD (100+ hp)	4 200 208 Fans - Replace 6-100 HP motor
3 300 313 Pumps - Motor practices-1 (100+ HP)	4 200 209 Fans - ASD (6-100 hp)
3 400 403 Air conveying systems	4 200 210 Fans - Motor practices-1 (6-100 HP)
3 400 404 Replace V-Belts	4 200 211 Fans - Replace 100+ HP motor
3 400 405 Drives - EE motor	4 200 212 Fans - ASD (100+ hp)
3 500 503 Heat Pumps - Drying	4 200 213 Fans - Motor practices-1 (100+ HP)
3 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	4 300 301 Pumps - O&M
3 700 702 High Efficiency Chiller Motors	4 300 302 Pumps - Controls

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

4 300 303 Pumps - System Optimization	5 200 201 Fans - O&M
4 300 304 Pumps - Sizing	5 200 202 Fans - Controls
4 300 305 Pumps - Replace 1-5 HP motor	5 200 203 Fans - System Optimization
4 300 306 Pumps - ASD (1-5 hp)	5 200 204 Fans- Improve components
4 300 307 Pumps - Motor practices-1 (1-5 HP)	5 200 205 Fans - Replace 1-5 HP motor
4 300 308 Pumps - Replace 6-100 HP motor	5 200 206 Fans - ASD (1-5 hp)
4 300 309 Pumps - ASD (6-100 hp)	5 200 207 Fans - Motor practices-1 (1-5 HP)
4 300 310 Pumps - Motor practices-1 (6-100 HP)	5 200 208 Fans - Replace 6-100 HP motor
4 300 311 Pumps - Replace 100+ HP motor	5 200 209 Fans - ASD (6-100 hp)
4 300 312 Pumps - ASD (100+ hp)	5 200 210 Fans - Motor practices-1 (6-100 HP)
4 300 313 Pumps - Motor practices-1 (100+ HP)	5 200 211 Fans - Replace 100+ HP motor
4 400 405 Drives - EE motor	5 200 212 Fans - ASD (100+ hp)
4 400 406 Gap Forming papermachine	5 200 213 Fans - Motor practices-1 (100+ HP)
4 400 407 High Consistency forming	5 300 301 Pumps - O&M
4 400 408 Optimization control PM	5 300 302 Pumps - Controls
4 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	5 300 303 Pumps - System Optimization
4 700 702 High Efficiency Chiller Motors	5 300 304 Pumps - Sizing
4 700 704 Chiller Tune Up/Diagnostics	5 300 305 Pumps - Replace 1-5 HP motor
4 700 705 VSD for Chiller Pumps and Towers	5 300 306 Pumps - ASD (1-5 hp)
4 700 706 EMS Optimization - Chiller	5 300 307 Pumps - Motor practices-1 (1-5 HP)
4 700 707 Aerosole Duct Sealing - Chiller	5 300 308 Pumps - Replace 6-100 HP motor
4 700 708 Duct/Pipe Insulation - Chiller	5 300 309 Pumps - ASD (6-100 hp)
4 700 709 Window Film (Standard) - Chiller	5 300 310 Pumps - Motor practices-1 (6-100 HP)
4 700 710 Roof Insulation - Chiller	5 300 311 Pumps - Replace 100+ HP motor
4 700 711 Cool Roof - Chiller	5 300 312 Pumps - ASD (100+ hp)
4 720 721 DX Packaged System, EER=10.9, 10 tons	5 300 313 Pumps - Motor practices-1 (100+ HP)
4 720 722 Hybrid Dessicant-DX System (Trane CDQ)	5 400 409 Efficient practices printing press
4 720 723 Geothermal Heat Pump, EER=13, 10 tons	5 400 410 Efficient Printing press (fewer cylinders)
4 720 724 DX Tune Up/ Advanced Diagnostics	5 400 411 Light cylinders
4 720 726 Optimize Controls	5 400 412 Efficient drives
4 720 727 Aerosole Duct Sealing	5 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
4 720 728 Duct/Pipe Insulation	5 700 702 High Efficiency Chiller Motors
4 720 729 Window Film (Standard)	5 700 704 Chiller Tune Up/Diagnostics
4 720 730 Roof Insulation	5 700 705 VSD for Chiller Pumps and Towers
4 720 731 Cool Roof - DX	5 700 706 EMS Optimization - Chiller
4 800 801 Premium T8, Elecctronic Ballast	5 700 707 Aerosole Duct Sealing - Chiller
4 800 804 High Bay T5	5 700 708 Duct/Pipe Insulation - Chiller
4 900 901 Replace V-belts	5 700 709 Window Film (Standard) - Chiller
5 100 101 Compressed Air-O&M	5 700 710 Roof Insulation - Chiller
5 100 102 Compressed Air - Controls	5 700 711 Cool Roof - Chiller
5 100 103 Compressed Air - System Optimization	5 720 721 DX Packaged System, EER=10.9, 10 tons
5 100 104 Compressed Air- Sizing	5 720 722 Hybrid Dessicant-DX System (Trane CDQ)
5 100 105 Comp Air - Replace 1-5 HP motor	5 720 723 Geothermal Heat Pump, EER=13, 10 tons
5 100 106 Comp Air - ASD (1-5 hp)	5 720 724 DX Tune Up/ Advanced Diagnostics
5 100 107 Comp Air - Motor practices-1 (1-5 HP)	5 720 726 Optimize Controls
5 100 108 Comp Air - Replace 6-100 HP motor	5 720 727 Aerosole Duct Sealing
5 100 109 Comp Air - ASD (6-100 hp)	5 720 728 Duct/Pipe Insulation
5 100 110 Comp Air - Motor practices-1 (6-100 HP)	5 720 729 Window Film (Standard)
5 100 111 Comp Air - Replace 100+ HP motor	5 720 730 Roof Insulation
5 100 112 Comp Air - ASD (100+ hp)	5 720 731 Cool Roof - DX
5 100 113 Comp Air - Motor practices-1 (100+ HP)	5 800 801 Premium T8, Elecctronic Ballast

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

5 800 804 High Bay T5	6 700 707 Aerosole Duct Sealing - Chiller
5 900 901 Replace V-belts	6 700 708 Duct/Pipe Insulation - Chiller
6 100 101 Compressed Air-O&M	6 700 709 Window Film (Standard) - Chiller
6 100 102 Compressed Air - Controls	6 700 710 Roof Insulation - Chiller
6 100 103 Compressed Air - System Optimization	6 700 711 Cool Roof - Chiller
6 100 104 Compressed Air- Sizing	6 720 721 DX Packaged System, EER=10.9, 10 tons
6 100 105 Comp Air - Replace 1-5 HP motor	6 720 722 Hybrid Dessicant-DX System (Trane CDQ)
6 100 106 Comp Air - ASD (1-5 hp)	6 720 723 Geothermal Heat Pump, EER=13, 10 tons
6 100 107 Comp Air - Motor practices-1 (1-5 HP)	6 720 724 DX Tune Up/ Advanced Diagnostics
6 100 108 Comp Air - Replace 6-100 HP motor	6 720 726 Optimize Controls
6 100 109 Comp Air - ASD (6-100 hp)	6 720 727 Aerosole Duct Sealing
6 100 110 Comp Air - Motor practices-1 (6-100 HP)	6 720 728 Duct/Pipe insulation
6 100 111 Comp Air - Replace 100+ HP motor	6 720 729 Window Film (Standard)
6 100 112 Comp Air - ASD (100+ hp)	6 720 730 Roof Insulation
6 100 113 Comp Air - Motor practices-1 (100+ HP)	6 720 731 Cool Roof - DX
6 200 201 Fans - O&M	6 800 801 Premium T8, Elecctronic Ballast
6 200 202 Fans - Controls	6 800 804 High Bay T5
6 200 203 Fans - System Optimization	7 100 101 Compressed Air-O&M
6 200 204 Fans- Improve components	7 100 102 Compressed Air - Controls
6 200 205 Fans - Replace 1-5 HP motor	7 100 103 Compressed Air - System Optimization
6 200 206 Fans - ASD (1-5 hp)	7 100 104 Compressed Air- Sizing
6 200 207 Fans - Motor practices-1 (1-5 HP)	7 100 105 Comp Air - Replace 1-5 HP motor
6 200 208 Fans - Replace 6-100 HP motor	7 100 106 Comp Air - ASD (1-5 hp)
6 200 209 Fans - ASD (6-100 hp)	7 100 107 Comp Air - Motor practices-1 (1-5 HP)
6 200 210 Fans - Motor practices-1 (6-100 HP)	7 100 108 Comp Air - Replace 6-100 HP motor
6 200 211 Fans - Replace 100+ HP motor	7 100 109 Comp Air - ASD (6-100 hp)
6 200 212 Fans - ASD (100+ hp)	7 100 110 Comp Air - Motor practices-1 (6-100 HP)
6 200 213 Fans - Motor practices-1 (100+ HP)	7 100 111 Comp Air - Replace 100+ HP motor
6 300 301 Pumps - O&M	7 100 112 Comp Air - ASD (100+ hp)
6 300 302 Pumps - Controls	7 100 113 Comp Air - Motor practices-1 (100+ HP)
6 300 303 Pumps - System Optimization	7 100 114 Power recovery
6 300 304 Pumps - Sizing	7 100 115 Refinery Controls
6 300 305 Pumps - Replace 1-5 HP motor	7 200 201 Fans - O&M
6 300 306 Pumps - ASD (1-5 hp)	7 200 202 Fans - Controls
6 300 307 Pumps - Motor practices-1 (1-5 HP)	7 200 203 Fans - System Optimization
6 300 308 Pumps - Replace 6-100 HP motor	7 200 204 Fans- Improve components
6 300 309 Pumps - ASD (6-100 hp)	7 200 205 Fans - Replace 1-5 HP motor
6 300 310 Pumps - Motor practices-1 (6-100 HP)	7 200 206 Fans - ASD (1-5 hp)
6 300 311 Pumps - Replace 100+ HP motor	7 200 207 Fans - Motor practices-1 (1-5 HP)
6 300 312 Pumps - ASD (100+ hp)	7 200 208 Fans - Replace 6-100 HP motor
6 300 313 Pumps - Motor practices-1 (100+ HP)	7 200 209 Fans - ASD (6-100 hp)
6 400 413 Clean Room - Controls	7 200 210 Fans - Motor practices-1 (6-100 HP)
6 400 414 Clean Room - New Designs	7 200 211 Fans - Replace 100+ HP motor
6 400 415 Drives - Process Controls (batch + site)	7 200 212 Fans - ASD (100+ hp)
6 400 416 Process Drives - ASD	7 200 213 Fans - Motor practices-1 (100+ HP)
6 600 601 Other Process Controls (batch + site)	7 200 215 Power recovery
6 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	7 200 216 Refinery Controls
6 700 702 High Efficiency Chiller Motors	7 300 301 Pumps - O&M
6 700 704 Chiller Tune Up/Diagnostics	7 300 302 Pumps - Controls
6 700 705 VSD for Chiller Pumps and Towers	7 300 303 Pumps - System Optimization
6 700 706 EMS Optimization - Chiller	7 300 304 Pumps - Sizing

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

7 300 305 Pumps - Replace 1-5 HP motor	8 200 202 Fans - Controls
7 300 306 Pumps - ASD (1-5 hp)	8 200 203 Fans - System Optimization
7 300 307 Pumps - Motor practices-1 (1-5 HP)	8 200 204 Fans- Improve components
7 300 308 Pumps - Replace 6-100 HP motor	8 200 205 Fans - Replace 1-5 HP motor
7 300 309 Pumps - ASD (6-100 hp)	8 200 206 Fans - ASD (1-5 hp)
7 300 310 Pumps - Motor practices-1 (6-100 HP)	8 200 207 Fans - Motor practices-1 (1-5 HP)
7 300 311 Pumps - Replace 100+ HP motor	8 200 208 Fans - Replace 6-100 HP motor
7 300 312 Pumps - ASD (100+ hp)	8 200 209 Fans - ASD (6-100 hp)
7 300 313 Pumps - Motor practices-1 (100+ HP)	8 200 210 Fans - Motor practices-1 (6-100 HP)
7 300 314 Power recovery	8 200 211 Fans - Replace 100+ HP motor
7 300 315 Refinery Controls	8 200 212 Fans - ASD (100+ hp)
7 600 602 Efficient desalter	8 200 213 Fans - Motor practices-1 (100+ HP)
7 600 606 Power recovery	8 300 301 Pumps - O&M
7 600 607 Refinery Controls	8 300 302 Pumps - Controls
7 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	8 300 303 Pumps - System Optimization
7 700 702 High Efficiency Chiller Motors	8 300 304 Pumps - Sizing
7 700 704 Chiller Tune Up/Diagnostics	8 300 305 Pumps - Replace 1-5 HP motor
7 700 705 VSD for Chiller Pumps and Towers	8 300 306 Pumps - ASD (1-5 hp)
7 700 706 EMS Optimization - Chiller	8 300 307 Pumps - Motor practices-1 (1-5 HP)
7 700 707 Aerosole Duct Sealing - Chiller	8 300 308 Pumps - Replace 6-100 HP motor
7 700 708 Duct/Pipe Insulation - Chiller	8 300 309 Pumps - ASD (6-100 hp)
7 700 709 Window Film (Standard) - Chiller	8 300 310 Pumps - Motor practices-1 (6-100 HP)
7 700 710 Roof Insulation - Chiller	8 300 311 Pumps - Replace 100+ HP motor
7 700 711 Cool Roof - Chiller	8 300 312 Pumps - ASD (100+ hp)
7 720 721 DX Packaged System, EER=10.9, 10 tons	8 300 313 Pumps - Motor practices-1 (100+ HP)
7 720 722 Hybrid Dessicant-DX System (Trane CDQ)	8 400 417 O&M - Extruders/Injection Moulding
7 720 723 Geothermal Heat Pump, EER=13, 10 tons	8 400 418 Extruders/injection Moulding-multipump
7 720 724 DX Tune Up/ Advanced Diagnostics	8 400 419 Direct drive Extruders
7 720 726 Optimize Controls	8 400 420 Injection Moulding - Impulse Cooling
7 720 727 Aerosole Duct Sealing	8 400 421 Injection Moulding - Direct drive
7 720 728 Duct/Pipe Insulation	8 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
7 720 729 Window Film (Standard)	8 700 702 High Efficiency Chiller Motors
7 720 730 Roof Insulation	8 700 703 EMS - Chiller
7 720 731 Cool Roof - DX	8 700 704 Chiller Tune Up/Diagnostics
7 800 801 Premium T8, Electronic Ballast	8 700 705 VSD for Chiller Pumps and Towers
7 800 804 High Bay T5	8 700 706 EMS Optimization - Chiller
7 900 901 Replace V-belts	8 700 707 Aerosole Duct Sealing - Chiller
8 100 101 Compressed Air-O&M	8 700 708 Duct/Pipe Insulation - Chiller
8 100 102 Compressed Air - Controls	8 700 709 Window Film (Standard) - Chiller
8 100 103 Compressed Air - System Optimization	8 700 710 Roof Insulation - Chiller
8 100 104 Compressed Air- Sizing	8 700 711 Cool Roof - Chiller
8 100 105 Comp Air - Replace 1-5 HP motor	8 720 721 DX Packaged System, EER=10.9, 10 tons
8 100 106 Comp Air - ASD (1-5 hp)	8 720 722 Hybrid Dessicant-DX System (Trane CDQ)
8 100 107 Comp Air - Motor practices-1 (1-5 HP)	8 720 723 Geothermal Heat Pump, EER=13, 10 tons
8 100 108 Comp Air - Replace 6-100 HP motor	8 720 724 DX Tune Up/ Advanced Diagnostics
8 100 109 Comp Air - ASD (6-100 hp)	8 720 726 Optimize Controls
8 100 110 Comp Air - Motor practices-1 (6-100 HP)	8 720 727 Aerosole Duct Sealing
8 100 111 Comp Air - Replace 100+ HP motor	8 720 728 Duct/Pipe Insulation
8 100 112 Comp Air - ASD (100+ hp)	8 720 729 Window Film (Standard)
8 100 113 Comp Air - Motor practices-1 (100+ HP)	8 720 730 Roof Insulation
8 200 201 Fans - O&M	8 720 731 Cool Roof - DX

**Exhibit No. (JAM 3) Progress Energy's Projected Economic Amount of
DSM Savings Using RIM***

8 800 801 Premium T8, Electronic Ballast	9 700 705 VSD for Chiller Pumps and Towers
8 800 804 High Bay T5	9 700 706 EMS Optimization - Chiller
8 900 901 Replace V-belts	9 700 707 Aerosole Duct Sealing - Chiller
9 100 101 Compressed Air-O&M	9 700 708 Duct/Pipe Insulation - Chiller
9 100 102 Compressed Air - Controls	9 700 709 Window Film (Standard) - Chiller
9 100 103 Compressed Air - System Optimization	9 700 710 Roof Insulation - Chiller
9 100 104 Compressed Air- Sizing	9 700 711 Cool Roof - Chiller
9 100 105 Comp Air - Replace 1-5 HP motor	9 720 721 DX Packaged System, EER=10.9, 10 tons
9 100 106 Comp Air - ASD (1-5 hp)	9 720 722 Hybrid Dessicant-DX System (Trane CDQ)
9 100 107 Comp Air - Motor practices-1 (1-5 HP)	9 720 723 Geothermal Heat Pump, EER=13, 10 tons
9 100 108 Comp Air - Replace 6-100 HP motor	9 720 724 DX Tune Up/ Advanced Diagnostics
9 100 109 Comp Air - ASD (6-100 hp)	9 720 726 Optimize Controls
9 100 110 Comp Air - Motor practices-1 (6-100 HP)	9 720 727 Aerosole Duct Sealing
9 100 111 Comp Air - Replace 100+ HP motor	9 720 728 Duct/Pipe Insulation
9 100 112 Comp Air - ASD (100+ hp)	9 720 729 Window Film (Standard)
9 100 113 Comp Air - Motor practices-1 (100+ HP)	9 720 730 Roof Insulation
9 200 201 Fans - O&M	9 720 731 Cool Roof - DX
9 200 202 Fans - Controls	9 800 801 Premium T8, Electronic Ballast
9 200 203 Fans - System Optimization	9 800 804 High Bay T5
9 200 204 Fans- Improve components	9 900 901 Replace V-belts
9 200 205 Fans - Replace 1-5 HP motor	
9 200 206 Fans - ASD (1-5 hp)	
9 200 207 Fans - Motor practices-1 (1-5 HP)	
9 200 208 Fans - Replace 6-100 HP motor	
9 200 209 Fans - ASD (6-100 hp)	
9 200 210 Fans - Motor practices-1 (6-100 HP)	
9 200 211 Fans - Replace 100+ HP motor	
9 200 212 Fans - ASD (100+ hp)	
9 200 213 Fans - Motor practices-1 (100+ HP)	
9 300 301 Pumps - O&M	
9 300 302 Pumps - Controls	
9 300 303 Pumps - System Optimization	
9 300 304 Pumps - Sizing	
9 300 305 Pumps - Replace 1-5 HP motor	
9 300 306 Pumps - ASD (1-5 hp)	
9 300 307 Pumps - Motor practices-1 (1-5 HP)	
9 300 308 Pumps - Replace 6-100 HP motor	
9 300 309 Pumps - ASD (6-100 hp)	
9 300 310 Pumps - Motor practices-1 (6-100 HP)	
9 300 311 Pumps - Replace 100+ HP motor	
9 300 312 Pumps - ASD (100+ hp)	
9 300 313 Pumps - Motor practices-1 (100+ HP)	
9 400 405 Drives - EE motor	
9 400 415 Drives - Process Controls (batch + site)	
9 400 422 Efficient grinding	
9 400 423 Process control	
9 400 424 Process optimization	
9 500 504 Top-heating (glass)	
9 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	
9 700 702 High Efficiency Chiller Motors	
9 700 704 Chiller Tune Up/Diagnostics	

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

TRC	Summer System Peak	Winter System Peak	Annual Energy
	(MW)	(MW)	(GWh)
Residential	1,539	721	6,194
Commercial	505	253	2,280
Industrial	37	29	265
Totals	2,081	1,003	8,739

*2010-2030 Total

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

Residential

MF 100 109 HVAC Proper Sizing	MF 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)
MF 100 112 AC Maintenance (Outdoor Coil Cleaning)	MF 800 801 Two Speed Pool Pump (1.5 hp)
MF 100 114 Proper Refrigerant Charging and Air Flow	MF 800 802 High Efficiency One Speed Pool Pump (1.5 hp)
MF 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit	MF 800 803 Variable-Speed Pool Pump (<1 hp)
MF 100 117 Reflective Roof	MF 900 901 Energy Star TV
MF 100 119 Window Film	MF 910 911 Energy Star TV
MF 100 120 Window Tinting	MF 920 921 Energy Star Set-Top Box
MF 100 121 Default Window With Sunscreen	MF 930 931 Energy Star DVD Player
MF 100 122 Single Pane Clear Windows to Double Pane Low-E Windows	MF 940 941 Energy Star VCR
MF 100 124 Ceiling R-0 to R-19 Insulation	MF 950 951 Energy Star Desktop PC
MF 130 135 HVAC Proper Sizing	MF 960 961 Energy Star Laptop PC
MF 130 138 AC Maintenance (Outdoor Coil Cleaning)	MH 100 109 HVAC Proper Sizing
MF 130 140 Proper Refrigerant Charging and Air Flow	MH 100 112 AC Maintenance (Outdoor Coil Cleaning)
MF 130 141 Electronically Commutated Motors (ECM) on an Air Handler Unit	MH 100 113 AC Maintenance (Indoor Coil Cleaning)
MF 130 143 Reflective Roof	MH 100 114 Proper Refrigerant Charging and Air Flow
MF 130 145 Window Film	MH 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit
MF 130 146 Window Tinting	MH 100 116 Duct Repair
MF 130 147 Default Window With Sunscreen	MH 100 117 Reflective Roof
MF 130 148 Single Pane Clear Windows to Double Pane Low-E Windows	MH 100 119 Window Film
MF 130 150 Ceiling R-0 to R-19 Insulation	MH 100 120 Window Tinting
MF 190 191 HE Room Air Conditioner - EER 11	MH 100 121 Default Window With Sunscreen
MF 190 196 Reflective Roof	MH 100 122 Single Pane Clear Windows to Double Pane Low-E Windows
MF 190 197 Window Film	MH 100 124 Ceiling R-0 to R-19 Insulation
MF 190 198 Window Tinting	MH 130 135 HVAC Proper Sizing
MF 190 199 Default Window With Sunscreen	MH 130 138 AC Maintenance (Outdoor Coil Cleaning)
MF 190 200 Single Pane Clear Windows to Double Pane Low-E Windows	MH 130 140 Proper Refrigerant Charging and Air Flow
MF 220 221 CFL (18-Watt integral ballast), 0.5 hr/day	MH 130 141 Electronically Commutated Motors (ECM) on an Air Handler Unit
MF 230 231 CFL (18-Watt integral ballast), 2.5 hr/day	MH 130 142 Duct Repair
MF 240 241 CFL (18-Watt integral ballast), 6.0 hr/day	MH 130 143 Reflective Roof
MF 250 251 ROB 2L4'T8, 1EB	MH 130 145 Window Film
MF 250 252 RET 2L4'T8, 1EB	MH 130 146 Window Tinting
MF 260 251 ROB 2L4'T8, 1EB	MH 130 147 Default Window With Sunscreen
MF 260 252 RET 2L4'T8, 1EB	MH 130 148 Single Pane Clear Windows to Double Pane Low-E Windows
MF 300 301 HE Refrigerator - Energy Star version of above	MH 130 150 Ceiling R-0 to R-19 Insulation
MF 350 351 HE Freezer	MH 190 191 HE Room Air Conditioner - EER 11
MF 400 405 Low Flow Showerhead	MH 190 196 Reflective Roof
MF 400 406 Pipe Wrap	MH 190 197 Window Film
MF 400 407 Faucet Aerators	MH 190 198 Window Tinting
MF 400 408 Water Heater Blanket	MH 190 199 Default Window With Sunscreen
MF 400 409 Water Heater Temperature Check and Adjustment	MH 190 200 Single Pane Clear Windows to Double Pane Low-E Windows
MF 400 410 Water Heater Timeclock	MH 190 202 Ceiling R-0 to R-19 Insulation
MF 400 411 Heat Trap	MH 220 221 CFL (18-Watt integral ballast), 0.5 hr/day
MF 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)	MH 230 231 CFL (18-Watt integral ballast), 2.5 hr/day

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

MH 240 241 CFL (18-Watt integral ballast), 6.0 hr/day	SF 130 148 Single Pane Clear Windows to Double Pane Low-E Windows
MH 250 251 ROB 2L4'T8, 1EB	SF 130 150 Ceiling R-0 to R-19 Insulation
MH 250 252 RET 2L4'T8, 1EB	SF 190 191 HE Room Air Conditioner - EER 11
MH 260 251 ROB 2L4'T8, 1EB	SF 190 196 Reflective Roof
MH 260 252 RET 2L4'T8, 1EB	SF 190 198 Window Tinting
MH 300 301 HE Refrigerator - Energy Star version of above	SF 190 199 Default Window With Sunscreen
MH 350 351 HE Freezer	SF 220 221 CFL (18-Watt integral ballast), 0.5 hr/day
MH 400 405 Low Flow Showerhead	SF 230 231 CFL (18-Watt integral ballast), 2.5 hr/day
MH 400 406 Pipe Wrap	SF 240 241 CFL (18-Watt integral ballast), 6.0 hr/day
MH 400 407 Faucet Aerators	SF 250 251 ROB 2L4'T8, 1EB
MH 400 408 Water Heater Blanket	SF 250 252 RET 2L4'T8, 1EB
MH 400 409 Water Heater Temperature Check and Adjustment	SF 260 251 ROB 2L4'T8, 1EB
MH 400 410 Water Heater Timeclock	SF 260 252 RET 2L4'T8, 1EB
MH 400 411 Heat Trap	SF 300 301 HE Refrigerator - Energy Star version of above
MH 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)	SF 350 351 HE Freezer
MH 800 801 Two Speed Pool Pump (1.5 hp)	SF 400 405 Low Flow Showerhead
MH 800 802 High Efficiency One Speed Pool Pump (1.5 hp)	SF 400 406 Pipe Wrap
MH 800 803 Variable-Speed Pool Pump (<1 hp)	SF 400 407 Faucet Aerators
MH 900 901 Energy Star TV	SF 400 408 Water Heater Blanket
MH 910 911 Energy Star TV	SF 400 409 Water Heater Temperature Check and Adjustment
MH 920 921 Energy Star Set-Top Box	SF 400 410 Water Heater Timeclock
MH 930 931 Energy Star DVD Player	SF 400 411 Heat Trap
MH 940 941 Energy Star VCR	SF 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)
MH 950 951 Energy Star Desktop PC	SF 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)
MH 960 961 Energy Star Laptop PC	SF 800 801 Two Speed Pool Pump (1.5 hp)
SF 100 101 14 SEER Split-System Air Conditioner	SF 800 802 High Efficiency One Speed Pool Pump (1.5 hp)
SF 100 109 HVAC Proper Sizing	SF 800 803 Variable-Speed Pool Pump (<1 hp)
SF 100 112 AC Maintenance (Outdoor Coil Cleaning)	SF 900 901 Energy Star TV
SF 100 113 AC Maintenance (Indoor Coil Cleaning)	SF 910 911 Energy Star TV
SF 100 114 Proper Refrigerant Charging and Air Flow	SF 920 921 Energy Star Set-Top Box
SF 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit	SF 930 931 Energy Star DVD Player
SF 100 116 Duct Repair	SF 940 941 Energy Star VCR
SF 100 117 Reflective Roof	SF 950 951 Energy Star Desktop PC
SF 100 120 Window Tinting	SF 960 961 Energy Star Laptop PC
SF 100 121 Default Window With Sunscreen	
SF 100 122 Single Pane Clear Windows to Double Pane Low-E Windows	
SF 130 135 HVAC Proper Sizing	Commercial
SF 130 138 AC Maintenance (Outdoor Coil Cleaning)	1 110 111 Premium T8, Electronic Ballast
SF 130 139 AC Maintenance (Indoor Coil Cleaning)	1 110 112 Premium T8, EB, Reflector
SF 130 140 Proper Refrigerant Charging and Air Flow	1 110 115 Lighting Control Tuneup
SF 130 141 Electronically Commutated Motors (ECM) on an Air Handler Unit	1 120 121 ROB Premium T8, 1EB
SF 130 142 Duct Repair	1 120 122 ROB Premium T8, EB, Reflector
SF 130 143 Reflective Roof	1 120 124 Lighting Control Tuneup
SF 130 146 Window Tinting	1 140 141 CFL Hardwired, Modular 18W
SF 130 147 Default Window With Sunscreen	1 150 151 PSMH, 250W, magnetic ballast
	1 150 153 High Bay T5
	1 160 161 LED Exit Sign
	1 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

1 300 302 High Efficiency Chiller Motors	10 300 302 High Efficiency Chiller Motors
1 300 305 Chiller Tune Up/Diagnostics	10 300 305 Chiller Tune Up/Diagnostics
1 300 306 VSD for Chiller Pumps and Towers	10 300 306 VSD for Chiller Pumps and Towers
1 300 307 EMS Optimization	10 300 307 EMS Optimization
1 300 308 Aerosole Duct Sealing	10 300 308 Aerosole Duct Sealing
1 300 309 Duct/Pipe Insulation	10 300 309 Duct/Pipe Insulation
1 300 311 Window Film (Standard)	10 300 311 Window Film (Standard)
1 300 313 Ceiling Insulation	10 300 313 Ceiling Insulation
1 300 314 Roof Insulation	10 300 314 Roof Insulation
1 300 315 Cool Roof - Chiller	10 300 315 Cool Roof - Chiller
1 320 326 DX Tune Up/ Advanced Diagnostics	10 320 326 DX Tune Up/ Advanced Diagnostics
1 320 327 DX Coil Cleaning	10 320 327 DX Coil Cleaning
1 320 328 Optimize Controls	10 320 328 Optimize Controls
1 320 329 Aerosole Duct Sealing	10 320 329 Aerosole Duct Sealing
1 320 330 Duct/Pipe Insulation	10 320 330 Duct/Pipe Insulation
1 320 332 Window Film (Standard)	10 320 332 Window Film (Standard)
1 320 334 Ceiling Insulation	10 320 334 Ceiling Insulation
1 320 335 Roof Insulation	10 320 335 Roof Insulation
1 320 336 Cool Roof - DX	10 320 336 Cool Roof - DX
1 340 344 Aerosole Duct Sealing	10 340 344 Aerosole Duct Sealing
1 340 345 Duct/Pipe Insulation	10 340 345 Duct/Pipe Insulation
1 340 347 Window Film (Standard)	10 340 347 Window Film (Standard)
1 340 349 Ceiling Insulation	10 340 349 Ceiling Insulation
1 340 350 Roof Insulation	10 340 350 Roof Insulation
1 340 351 Cool Roof - DX	10 340 351 Cool Roof - DX
1 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	10 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
1 400 403 Air Handler Optimization	10 400 403 Air Handler Optimization
1 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit	10 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
1 400 405 Demand Control Ventilation (DCV)	10 400 405 Demand Control Ventilation (DCV)
1 600 601 High Efficiency Water Heater (electric)	10 600 601 High Efficiency Water Heater (electric)
1 600 603 Heat Pump Water Heater (air source)	10 600 603 Heat Pump Water Heater (air source)
1 600 604 Solar Water Heater	10 600 604 Solar Water Heater
1 600 608 Heat Recovery Unit	10 600 608 Heat Recovery Unit
1 600 609 Heat Trap	10 600 609 Heat Trap
1 600 610 Hot Water Pipe Insulation	10 600 610 Hot Water Pipe Insulation
1 700 701 PC Manual Power Management Enabling	10 700 701 PC Manual Power Management Enabling
1 700 702 PC Network Power Management Enabling	10 700 702 PC Network Power Management Enabling
1 710 712 Monitor Power Management Enabling	10 710 712 Monitor Power Management Enabling
1 720 722 Monitor Power Management Enabling	10 720 722 Monitor Power Management Enabling
1 900 901 Vending Misers (cooled machines only)	10 900 901 Vending Misers (cooled machines only)
10 110 111 Premium T8, Electronic Ballast	11 110 111 Premium T8, Electronic Ballast
10 110 112 Premium T8, EB, Reflector	11 110 112 Premium T8, EB, Reflector
10 110 115 Lighting Control Tuneup	11 110 115 Lighting Control Tuneup
10 120 121 ROB Premium T8, 1EB	11 120 121 ROB Premium T8, 1EB
10 120 122 ROB Premium T8, EB, Reflector	11 120 122 ROB Premium T8, EB, Reflector
10 120 124 Lighting Control Tuneup	11 120 124 Lighting Control Tuneup
10 150 151 PSMH, 250W, magnetic ballast	11 150 151 PSMH, 250W, magnetic ballast
10 150 153 High Bay T5	11 150 153 High Bay T5
10 160 161 LED Exit Sign	
10 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

11 160 161 LED Exit Sign	2 120 122 ROB Premium T8, EB, Reflector
11 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	2 120 124 Lighting Control Tuneup
11 300 302 High Efficiency Chiller Motors	2 150 151 PSMH, 250W, magnetic ballast
11 300 305 Chiller Tune Up/Diagnostics	2 150 153 High Bay T5
11 300 306 VSD for Chiller Pumps and Towers	2 160 161 LED Exit Sign
11 300 307 EMS Optimization	2 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
11 300 308 Aerosole Duct Sealing	2 300 302 High Efficiency Chiller Motors
11 300 309 Duct/Pipe Insulation	2 300 305 Chiller Tune Up/Diagnostics
11 300 311 Window Film (Standard)	2 300 306 VSD for Chiller Pumps and Towers
11 300 313 Ceiling Insulation	2 300 307 EMS Optimization
11 300 314 Roof Insulation	2 300 308 Aerosole Duct Sealing
11 300 315 Cool Roof - Chiller	2 300 309 Duct/Pipe Insulation
11 320 326 DX Tune Up/ Advanced Diagnostics	2 300 311 Window Film (Standard)
11 320 327 DX Coil Cleaning	2 300 313 Ceiling Insulation
11 320 328 Optimize Controls	2 300 314 Roof Insulation
11 320 329 Aerosole Duct Sealing	2 300 315 Cool Roof - Chiller
11 320 330 Duct/Pipe Insulation	2 320 326 DX Tune Up/ Advanced Diagnostics
11 320 332 Window Film (Standard)	2 320 327 DX Coil Cleaning
11 320 334 Ceiling Insulation	2 320 328 Optimize Controls
11 320 335 Roof Insulation	2 320 329 Aerosole Duct Sealing
11 320 336 Cool Roof - DX	2 320 330 Duct/Pipe Insulation
11 340 344 Aerosole Duct Sealing	2 320 332 Window Film (Standard)
11 340 345 Duct/Pipe Insulation	2 320 334 Ceiling Insulation
11 340 347 Window Film (Standard)	2 320 335 Roof Insulation
11 340 349 Ceiling Insulation	2 320 336 Cool Roof - DX
11 340 350 Roof Insulation	2 340 344 Aerosole Duct Sealing
11 340 351 Cool Roof - DX	2 340 345 Duct/Pipe Insulation
11 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	2 340 347 Window Film (Standard)
11 400 403 Air Handler Optimization	2 340 349 Ceiling Insulation
11 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit	2 340 350 Roof Insulation
11 400 405 Demand Control Ventilation (DCV)	2 340 351 Cool Roof - DX
11 400 406 Energy Recovery Ventilation (ERV)	2 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
11 600 601 High Efficiency Water Heater (electric)	2 400 403 Air Handler Optimization
11 600 603 Heat Pump Water Heater (air source)	2 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
11 600 604 Solar Water Heater	2 400 405 Demand Control Ventilation (DCV)
11 600 608 Heat Recovery Unit	2 400 407 Separate Makeup Air / Exhaust Hoods AC
11 600 609 Heat Trap	2 600 601 High Efficiency Water Heater (electric)
11 600 610 Hot Water Pipe Insulation	2 600 603 Heat Pump Water Heater (air source)
11 700 701 PC Manual Power Management Enabling	2 600 604 Solar Water Heater
11 700 702 PC Network Power Management Enabling	2 600 608 Heat Recovery Unit
11 710 712 Monitor Power Management Enabling	2 600 609 Heat Trap
11 720 722 Monitor Power Management Enabling	2 600 610 Hot Water Pipe Insulation
11 730 732 Copier Power Management Enabling	2 700 701 PC Manual Power Management Enabling
11 740 741 Printer Power Management Enabling	2 700 702 PC Network Power Management Enabling
11 900 901 Vending Misers (cooled machines only)	2 710 712 Monitor Power Management Enabling
2 110 111 Premium T8, Electronic Ballast	2 720 722 Monitor Power Management Enabling
2 110 112 Premium T8, EB, Reflector	2 900 901 Vending Misers (cooled machines only)
2 110 115 Lighting Control Tuneup	3 110 111 Premium T8, Electronic Ballast
2 120 121 ROB Premium T8, 1EB	3 110 112 Premium T8, EB, Reflector
	3 110 115 Lighting Control Tuneup

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

3 120 121 ROB Premium T8, 1EB	4 120 121 ROB Premium T8, 1EB
3 120 122 ROB Premium T8, EB, Reflector	4 120 122 ROB Premium T8, EB, Reflector
3 120 124 Lighting Control Tuneup	4 120 124 Lighting Control Tuneup
3 150 151 PSMH, 250W, magnetic ballast	4 150 151 PSMH, 250W, magnetic ballast
3 150 153 High Bay T5	4 150 153 High Bay T5
3 160 161 LED Exit Sign	4 160 161 LED Exit Sign
3 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	4 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
3 300 302 High Efficiency Chiller Motors	4 300 302 High Efficiency Chiller Motors
3 300 305 Chiller Tune Up/Diagnostics	4 300 305 Chiller Tune Up/Diagnostics
3 300 306 VSD for Chiller Pumps and Towers	4 300 306 VSD for Chiller Pumps and Towers
3 300 307 EMS Optimization	4 300 307 EMS Optimization
3 300 308 Aerosole Duct Sealing	4 300 308 Aerosole Duct Sealing
3 300 309 Duct/Pipe Insulation	4 300 309 Duct/Pipe Insulation
3 300 311 Window Film (Standard)	4 300 311 Window Film (Standard)
3 300 313 Ceiling Insulation	4 300 313 Ceiling Insulation
3 300 314 Roof Insulation	4 300 314 Roof Insulation
3 300 315 Cool Roof - Chiller	4 300 315 Cool Roof - Chiller
3 320 326 DX Tune Up/ Advanced Diagnostics	4 320 326 DX Tune Up/ Advanced Diagnostics
3 320 327 DX Coil Cleaning	4 320 327 DX Coil Cleaning
3 320 328 Optimize Controls	4 320 328 Optimize Controls
3 320 329 Aerosole Duct Sealing	4 320 329 Aerosole Duct Sealing
3 320 330 Duct/Pipe Insulation	4 320 330 Duct/Pipe Insulation
3 320 332 Window Film (Standard)	4 320 332 Window Film (Standard)
3 320 334 Ceiling Insulation	4 320 334 Ceiling Insulation
3 320 335 Roof Insulation	4 320 335 Roof Insulation
3 320 336 Cool Roof - DX	4 320 336 Cool Roof - DX
3 340 344 Aerosole Duct Sealing	4 340 344 Aerosole Duct Sealing
3 340 345 Duct/Pipe Insulation	4 340 345 Duct/Pipe Insulation
3 340 347 Window Film (Standard)	4 340 347 Window Film (Standard)
3 340 349 Ceiling Insulation	4 340 349 Ceiling Insulation
3 340 350 Roof Insulation	4 340 350 Roof Insulation
3 340 351 Cool Roof - DX	4 340 351 Cool Roof - DX
3 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	4 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
3 400 403 Air Handler Optimization	4 400 403 Air Handler Optimization
3 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit	4 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
3 400 405 Demand Control Ventilation (DCV)	4 400 405 Demand Control Ventilation (DCV)
3 600 601 High Efficiency Water Heater (electric)	4 400 407 Separate Makeup Air / Exhaust Hoods AC
3 600 603 Heat Pump Water Heater (air source)	4 500 503 Night covers for display cases
3 600 604 Solar Water Heater	4 500 505 Efficient compressor motor
3 600 608 Heat Recovery Unit	4 500 507 Floating head pressure controls
3 600 609 Heat Trap	4 500 509 Demand Hot Gas Defrost
3 600 610 Hot Water Pipe Insulation	4 500 510 Demand Defrost Electric
3 700 701 PC Manual Power Management Enabling	4 500 511 Anti-sweat (humidistat) controls
3 700 702 PC Network Power Management Enabling	4 500 516 Freezer-Cooler Replacement Gaskets
3 710 712 Monitor Power Management Enabling	4 600 601 High Efficiency Water Heater (electric)
3 720 722 Monitor Power Management Enabling	4 600 603 Heat Pump Water Heater (air source)
3 900 901 Vending Misers (cooled machines only)	4 600 604 Solar Water Heater
4 110 111 Premium T8, Electronic Ballast	4 600 608 Heat Recovery Unit
4 110 112 Premium T8, EB, Reflector	4 600 609 Heat Trap
4 110 115 Lighting Control Tuneup	4 600 610 Hot Water Pipe Insulation

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

4 700 701 PC Manual Power Management Enabling	5 600 609 Heat Trap
4 700 702 PC Network Power Management Enabling	5 600 610 Hot Water Pipe Insulation
4 710 712 Monitor Power Management Enabling	5 700 701 PC Manual Power Management Enabling
4 720 722 Monitor Power Management Enabling	5 700 702 PC Network Power Management Enabling
4 900 901 Vending Misers (cooled machines only)	5 710 712 Monitor Power Management Enabling
5 110 111 Premium T8, Electronic Ballast	5 720 722 Monitor Power Management Enabling
5 110 112 Premium T8, EB, Reflector	5 900 901 Vending Misers (cooled machines only)
5 110 113 Occupancy Sensor	6 110 111 Premium T8, Electronic Ballast
5 110 115 Lighting Control Tuneup	6 110 112 Premium T8, EB, Reflector
5 120 121 ROB Premium T8, 1EB	6 110 113 Occupancy Sensor
5 120 122 ROB Premium T8, EB, Reflector	6 110 115 Lighting Control Tuneup
5 120 124 Lighting Control Tuneup	6 120 121 ROB Premium T8, 1EB
5 140 141 CFL Hardwired, Modular 18W	6 120 122 ROB Premium T8, EB, Reflector
5 150 151 PSMH, 250W, magnetic ballast	6 120 123 Occupancy Sensor
5 150 153 High Bay T5	6 120 124 Lighting Control Tuneup
5 160 161 LED Exit Sign	6 130 131 CFL Screw-in 18W
5 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	6 140 141 CFL Hardwired, Modular 18W
5 300 302 High Efficiency Chiller Motors	6 150 151 PSMH, 250W, magnetic ballast
5 300 305 Chiller Tune Up/Diagnostics	6 150 153 High Bay T5
5 300 306 VSD for Chiller Pumps and Towers	6 160 161 LED Exit Sign
5 300 307 EMS Optimization	6 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
5 300 308 Aerosole Duct Sealing	6 300 302 High Efficiency Chiller Motors
5 300 309 Duct/Pipe Insulation	6 300 305 Chiller Tune Up/Diagnostics
5 300 311 Window Film (Standard)	6 300 306 VSD for Chiller Pumps and Towers
5 300 313 Ceiling Insulation	6 300 307 EMS Optimization
5 300 314 Roof Insulation	6 300 308 Aerosole Duct Sealing
5 300 315 Cool Roof - Chiller	6 300 309 Duct/Pipe Insulation
5 320 326 DX Tune Up/ Advanced Diagnostics	6 300 311 Window Film (Standard)
5 320 327 DX Coil Cleaning	6 300 313 Ceiling Insulation
5 320 328 Optimize Controls	6 300 314 Roof Insulation
5 320 329 Aerosole Duct Sealing	6 300 315 Cool Roof - Chiller
5 320 330 Duct/Pipe Insulation	6 320 326 DX Tune Up/ Advanced Diagnostics
5 320 332 Window Film (Standard)	6 320 327 DX Coil Cleaning
5 320 334 Ceiling Insulation	6 320 328 Optimize Controls
5 320 335 Roof Insulation	6 320 329 Aerosole Duct Sealing
5 320 336 Cool Roof - DX	6 320 330 Duct/Pipe Insulation
5 340 344 Aerosole Duct Sealing	6 320 332 Window Film (Standard)
5 340 345 Duct/Pipe Insulation	6 320 334 Ceiling Insulation
5 340 347 Window Film (Standard)	6 320 335 Roof Insulation
5 340 349 Ceiling Insulation	6 320 336 Cool Roof - DX
5 340 350 Roof Insulation	6 340 344 Aerosole Duct Sealing
5 340 351 Cool Roof - DX	6 340 345 Duct/Pipe Insulation
5 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	6 340 347 Window Film (Standard)
5 400 403 Air Handler Optimization	6 340 349 Ceiling Insulation
5 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit	6 340 350 Roof Insulation
5 400 405 Demand Control Ventilation (DCV)	6 340 351 Cool Roof - DX
5 600 601 High Efficiency Water Heater (electric)	6 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
5 600 603 Heat Pump Water Heater (air source)	6 400 403 Air Handler Optimization
5 600 604 Solar Water Heater	6 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
5 600 608 Heat Recovery Unit	6 400 405 Demand Control Ventilation (DCV)

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

6 600 601 High Efficiency Water Heater (electric)	7 400 405 Demand Control Ventilation (DCV)
6 600 603 Heat Pump Water Heater (air source)	7 400 406 Energy Recovery Ventilation (ERV)
6 600 604 Solar Water Heater	7 600 601 High Efficiency Water Heater (electric)
6 600 606 Demand controlled circulating systems	7 600 603 Heat Pump Water Heater (air source)
6 600 608 Heat Recovery Unit	7 600 604 Solar Water Heater
6 600 609 Heat Trap	7 600 606 Demand controlled circulating systems
6 600 610 Hot Water Pipe Insulation	7 600 608 Heat Recovery Unit
6 700 701 PC Manual Power Management Enabling	7 600 609 Heat Trap
6 700 702 PC Network Power Management Enabling	7 600 610 Hot Water Pipe Insulation
6 710 712 Monitor Power Management Enabling	7 700 701 PC Manual Power Management Enabling
6 720 722 Monitor Power Management Enabling	7 700 702 PC Network Power Management Enabling
6 900 901 Vending Misers (cooled machines only)	7 710 712 Monitor Power Management Enabling
7 110 111 Premium T8, Electronic Ballast	7 720 722 Monitor Power Management Enabling
7 110 112 Premium T8, EB, Reflector	7 900 901 Vending Misers (cooled machines only)
7 110 115 Lighting Control Tuneup	8 110 111 Premium T8, Electronic Ballast
7 120 121 ROB Premium T8, 1EB	8 110 112 Premium T8, EB, Reflector
7 120 122 ROB Premium T8, EB, Reflector	8 110 115 Lighting Control Tuneup
7 120 124 Lighting Control Tuneup	8 120 121 ROB Premium T8, 1EB
7 150 151 PSMH, 250W, magnetic ballast	8 120 122 ROB Premium T8, EB, Reflector
7 150 153 High Bay T5	8 120 124 Lighting Control Tuneup
7 160 161 LED Exit Sign	8 150 151 PSMH, 250W, magnetic ballast
7 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	8 150 153 High Bay T5
7 300 302 High Efficiency Chiller Motors	8 160 161 LED Exit Sign
7 300 305 Chiller Tune Up/Diagnostics	8 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
7 300 306 VSD for Chiller Pumps and Towers	8 300 302 High Efficiency Chiller Motors
7 300 307 EMS Optimization	8 300 305 Chiller Tune Up/Diagnostics
7 300 308 Aerosole Duct Sealing	8 300 306 VSD for Chiller Pumps and Towers
7 300 309 Duct/Pipe Insulation	8 300 307 EMS Optimization
7 300 311 Window Film (Standard)	8 300 308 Aerosole Duct Sealing
7 300 313 Ceiling Insulation	8 300 309 Duct/Pipe Insulation
7 300 314 Roof Insulation	8 300 311 Window Film (Standard)
7 300 315 Cool Roof - Chiller	8 300 313 Ceiling Insulation
7 320 326 DX Tune Up/ Advanced Diagnostics	8 300 314 Roof Insulation
7 320 327 DX Coil Cleaning	8 300 315 Cool Roof - Chiller
7 320 328 Optimize Controls	8 320 326 DX Tune Up/ Advanced Diagnostics
7 320 329 Aerosole Duct Sealing	8 320 327 DX Coil Cleaning
7 320 330 Duct/Pipe Insulation	8 320 328 Optimize Controls
7 320 332 Window Film (Standard)	8 320 329 Aerosole Duct Sealing
7 320 334 Ceiling Insulation	8 320 330 Duct/Pipe Insulation
7 320 335 Roof Insulation	8 320 332 Window Film (Standard)
7 320 336 Cool Roof - DX	8 320 334 Ceiling Insulation
7 340 344 Aerosole Duct Sealing	8 320 335 Roof Insulation
7 340 345 Duct/Pipe Insulation	8 320 336 Cool Roof - DX
7 340 347 Window Film (Standard)	8 340 344 Aerosole Duct Sealing
7 340 349 Ceiling insulation	8 340 345 Duct/Pipe Insulation
7 340 350 Roof Insulation	8 340 347 Window Film (Standard)
7 340 351 Cool Roof - DX	8 340 349 Ceiling Insulation
7 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	8 340 350 Roof Insulation
7 400 403 Air Handler Optimization	8 340 351 Cool Roof - DX
7 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit	8 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
	8 400 403 Air Handler Optimization

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

8 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit	9 340 351 Cool Roof - DX
8 400 405 Demand Control Ventilation (DCV)	9 400 401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
8 400 406 Energy Recovery Ventilation (ERV)	9 400 403 Air Handler Optimization
8 600 601 High Efficiency Water Heater (electric)	9 400 404 Electronically Commutated Motors (ECM) on an Air Handler Unit
8 600 603 Heat Pump Water Heater (air source)	9 400 405 Demand Control Ventilation (DCV)
8 600 604 Solar Water Heater	9 400 406 Energy Recovery Ventilation (ERV)
8 600 608 Heat Recovery Unit	9 600 601 High Efficiency Water Heater (electric)
8 600 609 Heat Trap	9 600 603 Heat Pump Water Heater (air source)
8 600 610 Hot Water Pipe Insulation	9 600 604 Solar Water Heater
8 700 701 PC Manual Power Management Enabling	9 600 608 Heat Recovery Unit
8 700 702 PC Network Power Management Enabling	9 600 609 Heat Trap
8 710 712 Monitor Power Management Enabling	9 600 610 Hot Water Pipe Insulation
8 720 722 Monitor Power Management Enabling	9 700 701 PC Manual Power Management Enabling
8 730 732 Copier Power Management Enabling	9 700 702 PC Network Power Management Enabling
8 740 741 Printer Power Management Enabling	9 710 712 Monitor Power Management Enabling
8 900 901 Vending Misers (cooled machines only)	9 720 722 Monitor Power Management Enabling
9 110 111 Premium T8, Electronic Ballast	9 900 901 Vending Misers (cooled machines only)
9 110 112 Premium T8, EB, Reflector	
9 110 115 Lighting Control Tuneup	Industrial
9 120 121 ROB Premium T8, 1EB	1 100 101 Compressed Air-O&M
9 120 122 ROB Premium T8, EB, Reflector	1 100 102 Compressed Air - Controls
9 120 124 Lighting Control Tuneup	1 100 103 Compressed Air - System Optimization
9 150 151 PSMH, 250W, magnetic ballast	1 100 104 Compressed Air- Sizing
9 150 153 High Bay T5	1 100 105 Comp Air - Replace 1-5 HP motor
9 160 161 LED Exit Sign	1 100 106 Comp Air - ASD (1-5 hp)
9 300 301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	1 100 107 Comp Air - Motor practices-1 (1-5 HP)
9 300 302 High Efficiency Chiller Motors	1 100 108 Comp Air - Replace 6-100 HP motor
9 300 305 Chiller Tune Up/Diagnostics	1 100 109 Comp Air - ASD (6-100 hp)
9 300 306 VSD for Chiller Pumps and Towers	1 100 110 Comp Air - Motor practices-1 (6-100 HP)
9 300 307 EMS Optimization	1 100 111 Comp Air - Replace 100+ HP motor
9 300 308 Aerosole Duct Sealing	1 100 112 Comp Air - ASD (100+ hp)
9 300 309 Duct/Pipe Insulation	1 100 113 Comp Air - Motor practices-1 (100+ HP)
9 300 311 Window Film (Standard)	1 200 201 Fans - O&M
9 300 313 Ceiling insulation	1 200 202 Fans - Controls
9 300 314 Roof Insulation	1 200 203 Fans - System Optimization
9 300 315 Cool Roof - Chiller	1 200 204 Fans- Improve components
9 320 326 DX Tune Up/ Advanced Diagnostics	1 200 205 Fans - Replace 1-5 HP motor
9 320 327 DX Coil Cleaning	1 200 206 Fans - ASD (1-5 hp)
9 320 328 Optimize Controls	1 200 207 Fans - Motor practices-1 (1-5 HP)
9 320 329 Aerosole Duct Sealing	1 200 208 Fans - Replace 6-100 HP motor
9 320 330 Duct/Pipe Insulation	1 200 209 Fans - ASD (6-100 hp)
9 320 332 Window Film (Standard)	1 200 210 Fans - Motor practices-1 (6-100 HP)
9 320 334 Ceiling Insulation	1 200 211 Fans - Replace 100+ HP motor
9 320 335 Roof Insulation	1 200 212 Fans - ASD (100+ hp)
9 320 336 Cool Roof - DX	1 200 213 Fans - Motor practices-1 (100+ HP)
9 340 344 Aerosole Duct Sealing	1 300 301 Pumps - O&M
9 340 345 Duct/Pipe Insulation	1 300 302 Pumps - Controls
9 340 347 Window Film (Standard)	1 300 303 Pumps - System Optimization
9 340 349 Ceiling Insulation	1 300 304 Pumps - Sizing
9 340 350 Roof Insulation	1 300 305 Pumps - Replace 1-5 HP motor

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

1 300 306 Pumps - ASD (1-5 hp)	10 100 113 Comp Air - Motor practices-1 (100+ HP)
1 300 307 Pumps - Motor practices-1 (1-5 HP)	10 200 201 Fans - O&M
1 300 308 Pumps - Replace 6-100 HP motor	10 200 202 Fans - Controls
1 300 309 Pumps - ASD (6-100 hp)	10 200 203 Fans - System Optimization
1 300 310 Pumps - Motor practices-1 (6-100 HP)	10 200 204 Fans- Improve components
1 300 311 Pumps - Replace 100+ HP motor	10 200 205 Fans - Replace 1-5 HP motor
1 300 312 Pumps - ASD (100+ hp)	10 200 206 Fans - ASD (1-5 hp)
1 300 313 Pumps - Motor practices-1 (100+ HP)	10 200 207 Fans - Motor practices-1 (1-5 HP)
1 400 401 Bakery - Process (Mixing) - O&M	10 200 208 Fans - Replace 6-100 HP motor
1 500 501 Bakery - Process	10 200 209 Fans - ASD (6-100 hp)
1 550 551 Efficient Refrigeration - Operations	10 200 210 Fans - Motor practices-1 (6-100 HP)
1 550 552 Optimization Refrigeration	10 200 211 Fans - Replace 100+ HP motor
1 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	10 200 212 Fans - ASD (100+ hp)
1 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	10 200 213 Fans - Motor practices-1 (100+ HP)
1 700 702 High Efficiency Chiller Motors	10 300 301 Pumps - O&M
1 700 703 EMS - Chiller	10 300 302 Pumps - Controls
1 700 704 Chiller Tune Up/Diagnostics	10 300 303 Pumps - System Optimization
1 700 705 VSD for Chiller Pumps and Towers	10 300 304 Pumps - Sizing
1 700 706 EMS Optimization - Chiller	10 300 305 Pumps - Replace 1-5 HP motor
1 700 707 Aerosole Duct Sealing - Chiller	10 300 306 Pumps - ASD (1-5 hp)
1 700 708 Duct/Pipe Insulation - Chiller	10 300 307 Pumps - Motor practices-1 (1-5 HP)
1 700 709 Window Film (Standard) - Chiller	10 300 308 Pumps - Replace 6-100 HP motor
1 700 710 Roof Insulation - Chiller	10 300 309 Pumps - ASD (6-100 hp)
1 700 711 Cool Roof - Chiller	10 300 310 Pumps - Motor practices-1 (6-100 HP)
1 720 721 DX Packaged System, EER=10.9, 10 tons	10 300 311 Pumps - Replace 100+ HP motor
1 720 722 Hybrid Dessicant-DX System (Trane CDQ)	10 300 312 Pumps - ASD (100+ hp)
1 720 724 DX Tune Up/ Advanced Diagnostics	10 300 313 Pumps - Motor practices-1 (100+ HP)
1 720 725 DX Coil Cleaning	10 400 415 Drives - Process Controls (batch + site)
1 720 726 Optimize Controls	10 400 425 Drives - Process Control
1 720 727 Aerosole Duct Sealing	10 400 426 Efficient drives - rolling
1 720 728 Duct/Pipe Insulation	10 500 505 Efficient electric melting
1 720 729 Window Film (Standard)	10 500 506 Intelligent extruder (DOE)
1 720 730 Roof Insulation	10 500 507 Near Net Shape Casting
1 720 731 Cool Roof - DX	10 500 508 Heating - Process Control
1 800 801 Premium T8, Electronic Ballast	10 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
1 800 802 CFL Hardwired, Modular 18W	10 700 702 High Efficiency Chiller Motors
1 800 804 High Bay T5	10 700 703 EMS - Chiller
1 800 805 Occupancy Sensor	10 700 704 Chiller Tune Up/Diagnostics
1 900 901 Replace V-belts	10 700 705 VSD for Chiller Pumps and Towers
10 100 101 Compressed Air-O&M	10 700 706 EMS Optimization - Chiller
10 100 102 Compressed Air - Controls	10 700 707 Aerosole Duct Sealing - Chiller
10 100 103 Compressed Air - System Optimization	10 700 708 Duct/Pipe insulation - Chiller
10 100 104 Compressed Air- Sizing	10 700 709 Window Film (Standard) - Chiller
10 100 105 Comp Air - Replace 1-5 HP motor	10 700 710 Roof Insulation - Chiller
10 100 106 Comp Air - ASD (1-5 hp)	10 700 711 Cool Roof - Chiller
10 100 107 Comp Air - Motor practices-1 (1-5 HP)	10 720 721 DX Packaged System, EER=10.9, 10 tons
10 100 108 Comp Air - Replace 6-100 HP motor	10 720 722 Hybrid Dessicant-DX System (Trane CDQ)
10 100 109 Comp Air - ASD (6-100 hp)	10 720 724 DX Tune Up/ Advanced Diagnostics
10 100 110 Comp Air - Motor practices-1 (6-100 HP)	10 720 725 DX Coil Cleaning
10 100 111 Comp Air - Replace 100+ HP motor	10 720 726 Optimize Controls
10 100 112 Comp Air - ASD (100+ hp)	10 720 727 Aerosole Duct Sealing

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10 720 728 Duct/Pipe Insulation	11 500 509 Efficient Curing ovens
10 720 729 Window Film (Standard)	11 500 510 Heating - Optimization process (M&T)
10 720 730 Roof Insulation	11 500 511 Heating - Scheduling
10 720 731 Cool Roof - DX	11 600 603 New transformers welding
10 800 801 Premium T8, Electronic Ballast	11 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
10 800 802 CFL Hardwired, Modular 18W	11 700 702 High Efficiency Chiller Motors
10 800 804 High Bay T5	11 700 703 EMS - Chiller
10 800 805 Occupancy Sensor	11 700 704 Chiller Tune Up/Diagnostics
10 900 901 Replace V-belts	11 700 705 VSD for Chiller Pumps and Towers
11 100 101 Compressed Air-O&M	11 700 706 EMS Optimization - Chiller
11 100 102 Compressed Air - Controls	11 700 707 Aerosole Duct Sealing - Chiller
11 100 103 Compressed Air - System Optimization	11 700 708 Duct/Pipe Insulation - Chiller
11 100 104 Compressed Air- Sizing	11 700 709 Window Film (Standard) - Chiller
11 100 105 Comp Air - Replace 1-5 HP motor	11 700 710 Roof Insulation - Chiller
11 100 106 Comp Air - ASD (1-5 hp)	11 700 711 Cool Roof - Chiller
11 100 107 Comp Air - Motor practices-1 (1-5 HP)	11 720 721 DX Packaged System, EER=10.9, 10 tons
11 100 108 Comp Air - Replace 6-100 HP motor	11 720 722 Hybrid Dessicant-DX System (Trane CDQ)
11 100 109 Comp Air - ASD (6-100 hp)	11 720 724 DX Tune Up/ Advanced Diagnostics
11 100 110 Comp Air - Motor practices-1 (6-100 HP)	11 720 725 DX Coil Cleaning
11 100 111 Comp Air - Replace 100+ HP motor	11 720 726 Optimize Controls
11 100 112 Comp Air - ASD (100+ hp)	11 720 727 Aerosole Duct Sealing
11 100 113 Comp Air - Motor practices-1 (100+ HP)	11 720 728 Duct/Pipe Insulation
11 200 201 Fans - O&M	11 720 729 Window Film (Standard)
11 200 202 Fans - Controls	11 720 730 Roof Insulation
11 200 203 Fans - System Optimization	11 720 731 Cool Roof - DX
11 200 204 Fans- Improve components	11 800 801 Premium T8, Electronic Ballast
11 200 205 Fans - Replace 1-5 HP motor	11 800 802 CFL Hardwired, Modular 18W
11 200 206 Fans - ASD (1-5 hp)	11 800 804 High Bay T5
11 200 207 Fans - Motor practices-1 (1-5 HP)	11 800 805 Occupancy Sensor
11 200 208 Fans - Replace 6-100 HP motor	11 900 901 Replace V-belts
11 200 209 Fans - ASD (6-100 hp)	12 100 101 Compressed Air-O&M
11 200 210 Fans - Motor practices-1 (6-100 HP)	12 100 102 Compressed Air - Controls
11 200 211 Fans - Replace 100+ HP motor	12 100 103 Compressed Air - System Optimization
11 200 212 Fans - ASD (100+ hp)	12 100 104 Compressed Air- Sizing
11 200 213 Fans - Motor practices-1 (100+ HP)	12 100 105 Comp Air - Replace 1-5 HP motor
11 300 301 Pumps - O&M	12 100 106 Comp Air - ASD (1-5 hp)
11 300 302 Pumps - Controls	12 100 107 Comp Air - Motor practices-1 (1-5 HP)
11 300 303 Pumps - System Optimization	12 100 108 Comp Air - Replace 6-100 HP motor
11 300 304 Pumps - Sizing	12 100 109 Comp Air - ASD (6-100 hp)
11 300 305 Pumps - Replace 1-5 HP motor	12 100 110 Comp Air - Motor practices-1 (6-100 HP)
11 300 306 Pumps - ASD (1-5 hp)	12 100 111 Comp Air - Replace 100+ HP motor
11 300 307 Pumps - Motor practices-1 (1-5 HP)	12 100 112 Comp Air - ASD (100+ hp)
11 300 308 Pumps - Replace 6-100 HP motor	12 100 113 Comp Air - Motor practices-1 (100+ HP)
11 300 309 Pumps - ASD (6-100 hp)	12 200 201 Fans - O&M
11 300 310 Pumps - Motor practices-1 (6-100 HP)	12 200 202 Fans - Controls
11 300 311 Pumps - Replace 100+ HP motor	12 200 203 Fans - System Optimization
11 300 312 Pumps - ASD (100+ hp)	12 200 204 Fans- Improve components
11 300 313 Pumps - Motor practices-1 (100+ HP)	12 200 205 Fans - Replace 1-5 HP motor
11 400 427 Drives - Optimization process (M&T)	12 200 206 Fans - ASD (1-5 hp)
11 400 428 Drives - Scheduling	12 200 207 Fans - Motor practices-1 (1-5 HP)
11 400 429 Machinery	12 200 208 Fans - Replace 6-100 HP motor

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DSM Savings Using TRC***

12 200 209 Fans - ASD (6-100 hp)	13 100 101 Compressed Air-O&M
12 200 210 Fans - Motor practices-1 (6-100 HP)	13 100 102 Compressed Air - Controls
12 200 211 Fans - Replace 100+ HP motor	13 100 103 Compressed Air - System Optimization
12 200 212 Fans - ASD (100+ hp)	13 100 104 Compressed Air- Sizing
12 200 213 Fans - Motor practices-1 (100+ HP)	13 100 105 Comp Air - Replace 1-5 HP motor
12 300 301 Pumps - O&M	13 100 106 Comp Air - ASD (1-5 hp)
12 300 302 Pumps - Controls	13 100 107 Comp Air - Motor practices-1 (1-5 HP)
12 300 303 Pumps - System Optimization	13 100 108 Comp Air - Replace 6-100 HP motor
12 300 304 Pumps - Sizing	13 100 109 Comp Air - ASD (6-100 hp)
12 300 305 Pumps - Replace 1-5 HP motor	13 100 110 Comp Air - Motor practices-1 (6-100 HP)
12 300 306 Pumps - ASD (1-5 hp)	13 100 111 Comp Air - Replace 100+ HP motor
12 300 307 Pumps - Motor practices-1 (1-5 HP)	13 100 112 Comp Air - ASD (100+ hp)
12 300 308 Pumps - Replace 6-100 HP motor	13 100 113 Comp Air - Motor practices-1 (100+ HP)
12 300 309 Pumps - ASD (6-100 hp)	13 200 201 Fans - O&M
12 300 310 Pumps - Motor practices-1 (6-100 HP)	13 200 202 Fans - Controls
12 300 311 Pumps - Replace 100+ HP motor	13 200 203 Fans - System Optimization
12 300 312 Pumps - ASD (100+ hp)	13 200 204 Fans - Improve components
12 300 313 Pumps - Motor practices-1 (100+ HP)	13 200 205 Fans - Replace 1-5 HP motor
12 400 427 Drives - Optimization process (M&T)	13 200 206 Fans - ASD (1-5 hp)
12 400 428 Drives - Scheduling	13 200 207 Fans - Motor practices-1 (1-5 HP)
12 400 429 Machinery	13 200 208 Fans - Replace 6-100 HP motor
12 500 509 Efficient Curing ovens	13 200 209 Fans - ASD (6-100 hp)
12 500 510 Heating - Optimization process (M&T)	13 200 210 Fans - Motor practices-1 (6-100 HP)
12 500 511 Heating - Scheduling	13 200 211 Fans - Replace 100+ HP motor
12 600 603 New transformers welding	13 200 212 Fans - ASD (100+ hp)
12 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	13 200 213 Fans - Motor practices-1 (100+ HP)
12 700 702 High Efficiency Chiller Motors	13 300 301 Pumps - O&M
12 700 703 EMS - Chiller	13 300 302 Pumps - Controls
12 700 704 Chiller Tune Up/Diagnostics	13 300 303 Pumps - System Optimization
12 700 705 VSD for Chiller Pumps and Towers	13 300 304 Pumps - Sizing
12 700 706 EMS Optimization - Chiller	13 300 305 Pumps - Replace 1-5 HP motor
12 700 707 Aerosole Duct Sealing - Chiller	13 300 306 Pumps - ASD (1-5 hp)
12 700 708 Duct/Pipe Insulation - Chiller	13 300 307 Pumps - Motor practices-1 (1-5 HP)
12 700 709 Window Film (Standard) - Chiller	13 300 308 Pumps - Replace 6-100 HP motor
12 700 710 Roof Insulation - Chiller	13 300 309 Pumps - ASD (6-100 hp)
12 700 711 Cool Roof - Chiller	13 300 310 Pumps - Motor practices-1 (6-100 HP)
12 720 721 DX Packaged System, EER=10.9, 10 tons	13 300 311 Pumps - Replace 100+ HP motor
12 720 722 Hybrid Dessicant-DX System (Trane CDQ)	13 300 312 Pumps - ASD (100+ hp)
12 720 724 DX Tune Up/ Advanced Diagnostics	13 300 313 Pumps - Motor practices-1 (100+ HP)
12 720 725 DX Coil Cleaning	13 400 413 Clean Room - Controls
12 720 726 Optimize Controls	13 400 428 Drives - Scheduling
12 720 727 Aerosole Duct Sealing	13 400 429 Machinery
12 720 728 Duct/Pipe Insulation	13 500 509 Efficient Curing ovens
12 720 729 Window Film (Standard)	13 600 604 Efficient processes (welding, etc.)
12 720 730 Roof Insulation	13 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
12 720 731 Cool Roof - DX	13 700 702 High Efficiency Chiller Motors
12 800 801 Premium T8, Elecctronic Ballast	13 700 703 EMS - Chiller
12 800 802 CFL Hardwired, Modular 18W	13 700 704 Chiller Tune Up/Diagnostics
12 800 804 High Bay T5	13 700 705 VSD for Chiller Pumps and Towers
12 800 805 Occupancy Sensor	13 700 706 EMS Optimization - Chiller
12 900 901 Replace V-belts	13 700 707 Aerosole Duct Sealing - Chiller

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DSM Savings Using TRC***

13 700 708 Duct/Pipe Insulation - Chiller	14 300 307 Pumps - Motor practices-1 (1-5 HP)
13 700 709 Window Film (Standard) - Chiller	14 300 308 Pumps - Replace 6-100 HP motor
13 700 710 Roof Insulation - Chiller	14 300 309 Pumps - ASD (6-100 hp)
13 700 711 Cool Roof - Chiller	14 300 310 Pumps - Motor practices-1 (6-100 HP)
13 720 721 DX Packaged System, EER=10.9, 10 tons	14 300 311 Pumps - Replace 100+ HP motor
13 720 722 Hybrid Dessicant-DX System (Trane CDQ)	14 300 312 Pumps - ASD (100+ hp)
13 720 724 DX Tune Up/ Advanced Diagnostics	14 300 313 Pumps - Motor practices-1 (100+ HP)
13 720 725 DX Coil Cleaning	14 400 427 Drives - Optimization process (M&T)
13 720 726 Optimize Controls	14 400 428 Drives - Scheduling
13 720 727 Aerosole Duct Sealing	14 400 429 Machinery
13 720 728 Duct/Pipe Insulation	14 500 509 Efficient Curing ovens
13 720 729 Window Film (Standard)	14 500 510 Heating - Optimization process (M&T)
13 720 730 Roof Insulation	14 600 603 New transformers welding
13 720 731 Cool Roof - DX	14 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
13 800 801 Premium T8, Electronic Ballast	14 700 702 High Efficiency Chiller Motors
13 800 802 CFL Hardwired, Modular 18W	14 700 703 EMS - Chiller
13 800 804 High Bay T5	14 700 704 Chiller Tune Up/Diagnostics
13 800 805 Occupancy Sensor	14 700 705 VSD for Chiller Pumps and Towers
13 900 901 Replace V-belts	14 700 706 EMS Optimization - Chiller
14 100 101 Compressed Air-O&M	14 700 707 Aerosole Duct Sealing - Chiller
14 100 102 Compressed Air - Controls	14 700 708 Duct/Pipe Insulation - Chiller
14 100 103 Compressed Air - System Optimization	14 700 709 Window Film (Standard) - Chiller
14 100 104 Compressed Air- Sizing	14 700 710 Roof Insulation - Chiller
14 100 105 Comp Air - Replace 1-5 HP motor	14 700 711 Cool Roof - Chiller
14 100 106 Comp Air - ASD (1-5 hp)	14 720 721 DX Packaged System, EER=10.9, 10 tons
14 100 107 Comp Air - Motor practices-1 (1-5 HP)	14 720 722 Hybrid Dessicant-DX System (Trane CDQ)
14 100 108 Comp Air - Replace 6-100 HP motor	14 720 724 DX Tune Up/ Advanced Diagnostics
14 100 109 Comp Air - ASD (6-100 hp)	14 720 725 DX Coil Cleaning
14 100 110 Comp Air - Motor practices-1 (6-100 HP)	14 720 726 Optimize Controls
14 100 111 Comp Air - Replace 100+ HP motor	14 720 727 Aerosole Duct Sealing
14 100 112 Comp Air - ASD (100+ hp)	14 720 728 Duct/Pipe Insulation
14 100 113 Comp Air - Motor practices-1 (100+ HP)	14 720 729 Window Film (Standard)
14 200 201 Fans - O&M	14 720 730 Roof Insulation
14 200 202 Fans - Controls	14 720 731 Cool Roof - DX
14 200 203 Fans - System Optimization	14 800 801 Premium T8, Electronic Ballast
14 200 204 Fans- Improve components	14 800 802 CFL Hardwired, Modular 18W
14 200 205 Fans - Replace 1-5 HP motor	14 800 804 High Bay T5
14 200 206 Fans - ASD (1-5 hp)	14 800 805 Occupancy Sensor
14 200 207 Fans - Motor practices-1 (1-5 HP)	14 900 901 Replace V-belts
14 200 208 Fans - Replace 6-100 HP motor	15 100 101 Compressed Air-O&M
14 200 209 Fans - ASD (6-100 hp)	15 100 102 Compressed Air - Controls
14 200 210 Fans - Motor practices-1 (6-100 HP)	15 100 103 Compressed Air - System Optimization
14 200 211 Fans - Replace 100+ HP motor	15 100 104 Compressed Air- Sizing
14 200 212 Fans - ASD (100+ hp)	15 100 105 Comp Air - Replace 1-5 HP motor
14 200 213 Fans - Motor practices-1 (100+ HP)	15 100 106 Comp Air - ASD (1-5 hp)
14 300 301 Pumps - O&M	15 100 107 Comp Air - Motor practices-1 (1-5 HP)
14 300 302 Pumps - Controls	15 100 108 Comp Air - Replace 6-100 HP motor
14 300 303 Pumps - System Optimization	15 100 109 Comp Air - ASD (6-100 hp)
14 300 304 Pumps - Sizing	15 100 110 Comp Air - Motor practices-1 (6-100 HP)
14 300 305 Pumps - Replace 1-5 HP motor	15 100 111 Comp Air - Replace 100+ HP motor
14 300 306 Pumps - ASD (1-5 hp)	15 100 112 Comp Air - ASD (100+ hp)

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15 100 113 Comp Air - Motor practices-1 (100+ HP)	15 720 730 Roof Insulation
15 200 201 Fans - O&M	15 720 731 Cool Roof - DX
15 200 202 Fans - Controls	15 800 801 Premium T8, Electronic Ballast
15 200 203 Fans - System Optimization	15 800 802 CFL Hardwired, Modular 18W
15 200 204 Fans- Improve components	15 800 804 High Bay T5
15 200 205 Fans - Replace 1-5 HP motor	15 800 805 Occupancy Sensor
15 200 206 Fans - ASD (1-5 hp)	15 900 901 Replace V-belts
15 200 207 Fans - Motor practices-1 (1-5 HP)	16 100 101 Compressed Air-O&M
15 200 208 Fans - Replace 6-100 HP motor	16 100 102 Compressed Air - Controls
15 200 209 Fans - ASD (6-100 hp)	16 100 103 Compressed Air - System Optimization
15 200 210 Fans - Motor practices-1 (6-100 HP)	16 100 104 Compressed Air- Sizing
15 200 211 Fans - Replace 100+ HP motor	16 100 105 Comp Air - Replace 1-5 HP motor
15 200 212 Fans - ASD (100+ hp)	16 100 106 Comp Air - ASD (1-5 hp)
15 200 213 Fans - Motor practices-1 (100+ HP)	16 100 107 Comp Air - Motor practices-1 (1-5 HP)
15 300 301 Pumps - O&M	16 100 108 Comp Air - Replace 6-100 HP motor
15 300 302 Pumps - Controls	16 100 109 Comp Air - ASD (6-100 hp)
15 300 303 Pumps - System Optimization	16 100 110 Comp Air - Motor practices-1 (6-100 HP)
15 300 304 Pumps - Sizing	16 100 111 Comp Air - Replace 100+ HP motor
15 300 305 Pumps - Replace 1-5 HP motor	16 100 112 Comp Air - ASD (100+ hp)
15 300 306 Pumps - ASD (1-5 hp)	16 100 113 Comp Air - Motor practices-1 (100+ HP)
15 300 307 Pumps - Motor practices-1 (1-5 HP)	16 200 201 Fans - O&M
15 300 308 Pumps - Replace 6-100 HP motor	16 200 202 Fans - Controls
15 300 309 Pumps - ASD (6-100 hp)	16 200 203 Fans - System Optimization
15 300 310 Pumps - Motor practices-1 (6-100 HP)	16 200 204 Fans- Improve components
15 300 311 Pumps - Replace 100+ HP motor	16 200 205 Fans - Replace 1-5 HP motor
15 300 312 Pumps - ASD (100+ hp)	16 200 206 Fans - ASD (1-5 hp)
15 300 313 Pumps - Motor practices-1 (100+ HP)	16 200 207 Fans - Motor practices-1 (1-5 HP)
15 400 427 Drives - Optimization process (M&T)	16 200 208 Fans - Replace 6-100 HP motor
15 400 428 Drives - Scheduling	16 200 209 Fans - ASD (6-100 hp)
15 400 429 Machinery	16 200 210 Fans - Motor practices-1 (6-100 HP)
15 500 509 Efficient Curing ovens	16 200 211 Fans - Replace 100+ HP motor
15 600 603 New transformers welding	16 200 212 Fans - ASD (100+ hp)
15 700 701 Centrifugal Chiller, 0.51 KW/ton, 500 tons	16 200 213 Fans - Motor practices-1 (100+ HP)
15 700 702 High Efficiency Chiller Motors	16 300 301 Pumps - O&M
15 700 703 EMS - Chiller	16 300 302 Pumps - Controls
15 700 704 Chiller Tune Up/Diagnostics	16 300 303 Pumps - System Optimization
15 700 705 VSD for Chiller Pumps and Towers	16 300 304 Pumps - Sizing
15 700 706 EMS Optimization - Chiller	16 300 305 Pumps - Replace 1-5 HP motor
15 700 707 Aerosole Duct Sealing - Chiller	16 300 306 Pumps - ASD (1-5 hp)
15 700 708 Duct/Pipe Insulation - Chiller	16 300 307 Pumps - Motor practices-1 (1-5 HP)
15 700 709 Window Film (Standard) - Chiller	16 300 308 Pumps - Replace 6-100 HP motor
15 700 710 Roof insulation - Chiller	16 300 309 Pumps - ASD (6-100 hp)
15 700 711 Cool Roof - Chiller	16 300 310 Pumps - Motor practices-1 (6-100 HP)
15 720 721 DX Packaged System, EER=10.9, 10 tons	16 300 311 Pumps - Replace 100+ HP motor
15 720 722 Hybrid Dessicant-DX System (Trane CDQ)	16 300 312 Pumps - ASD (100+ hp)
15 720 724 DX Tune Up/ Advanced Diagnostics	16 300 313 Pumps - Motor practices-1 (100+ HP)
15 720 725 DX Coil Cleaning	16 400 416 Process Drives - ASD
15 720 726 Optimize Controls	16 400 428 Drives - Scheduling
15 720 727 Aerosole Duct Sealing	16 400 430 Efficient Machinery
15 720 728 Duct/Pipe Insulation	16 500 509 Efficient Curing ovens
15 720 729 Window Film (Standard)	16 600 605 Process control

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DSM Savings Using TRC***

16 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	2 200 213 Fans - Motor practices-1 (100+ HP)
16 700 702 High Efficiency Chiller Motors	2 300 301 Pumps - O&M
16 700 703 EMS - Chiller	2 300 302 Pumps - Controls
16 700 704 Chiller Tune Up/Diagnostics	2 300 303 Pumps - System Optimization
16 700 705 VSD for Chiller Pumps and Towers	2 300 304 Pumps - Sizing
16 700 706 EMS Optimization - Chiller	2 300 305 Pumps - Replace 1-5 HP motor
16 700 707 Aerosole Duct Sealing - Chiller	2 300 306 Pumps - ASD (1-5 hp)
16 700 708 Duct/Pipe Insulation - Chiller	2 300 307 Pumps - Motor practices-1 (1-5 HP)
16 700 709 Window Film (Standard) - Chiller	2 300 308 Pumps - Replace 6-100 HP motor
16 700 710 Roof Insulation - Chiller	2 300 309 Pumps - ASD (6-100 hp)
16 700 711 Cool Roof - Chiller	2 300 310 Pumps - Motor practices-1 (6-100 HP)
16 720 721 DX Packaged System, EER=10.9, 10 tons	2 300 311 Pumps - Replace 100+ HP motor
16 720 722 Hybrid Dessicant-DX System (Trane CDQ)	2 300 312 Pumps - ASD (100+ hp)
16 720 724 DX Tune Up/ Advanced Diagnostics	2 300 313 Pumps - Motor practices-1 (100+ HP)
16 720 725 DX Coil Cleaning	2 400 402 O&M/drives spinning machines
16 720 726 Optimize Controls	2 500 502 Drying (UV/IR)
16 720 727 Aerosole Duct Sealing	2 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
16 720 728 Duct/Pipe Insulation	2 700 702 High Efficiency Chiller Motors
16 720 729 Window Film (Standard)	2 700 703 EMS - Chiller
16 720 730 Roof Insulation	2 700 704 Chiller Tune Up/Diagnostics
16 720 731 Cool Roof - DX	2 700 705 VSD for Chiller Pumps and Towers
16 800 801 Premium T8, Electronic Ballast	2 700 706 EMS Optimization - Chiller
16 800 802 CFL Hardwired, Modular 18W	2 700 707 Aerosole Duct Sealing - Chiller
16 800 804 High Bay T5	2 700 708 Duct/Pipe Insulation - Chiller
16 800 805 Occupancy Sensor	2 700 709 Window Film (Standard) - Chiller
16 900 901 Replace V-belts	2 700 710 Roof Insulation - Chiller
2 100 101 Compressed Air-O&M	2 700 711 Cool Roof - Chiller
2 100 102 Compressed Air - Controls	2 720 721 DX Packaged System, EER=10.9, 10 tons
2 100 103 Compressed Air - System Optimization	2 720 722 Hybrid Dessicant-DX System (Trane CDQ)
2 100 104 Compressed Air- Sizing	2 720 724 DX Tune Up/ Advanced Diagnostics
2 100 105 Comp Air - Replace 1-5 HP motor	2 720 725 DX Coil Cleaning
2 100 106 Comp Air - ASD (1-5 hp)	2 720 726 Optimize Controls
2 100 107 Comp Air - Motor practices-1 (1-5 HP)	2 720 727 Aerosole Duct Sealing
2 100 108 Comp Air - Replace 6-100 HP motor	2 720 728 Duct/Pipe Insulation
2 100 109 Comp Air - ASD (6-100 hp)	2 720 729 Window Film (Standard)
2 100 110 Comp Air - Motor practices-1 (6-100 HP)	2 720 730 Roof insulation
2 100 111 Comp Air - Replace 100+ HP motor	2 720 731 Cool Roof - DX
2 100 112 Comp Air - ASD (100+ hp)	2 800 801 Premium T8, Electronic Ballast
2 100 113 Comp Air - Motor practices-1 (100+ HP)	2 800 802 CFL Hardwired, Modular 18W
2 200 201 Fans - O&M	2 800 804 High Bay T5
2 200 202 Fans - Controls	2 800 805 Occupancy Sensor
2 200 203 Fans - System Optimization	2 900 901 Reptace V-belts
2 200 204 Fans- Improve components	2 900 902 Membranes for wastewater
2 200 205 Fans - Replace 1-5 HP motor	3 100 101 Compressed Air-O&M
2 200 206 Fans - ASD (1-5 hp)	3 100 102 Compressed Air - Controls
2 200 207 Fans - Motor practices-1 (1-5 HP)	3 100 103 Compressed Air - System Optimization
2 200 208 Fans - Replace 6-100 HP motor	3 100 104 Compressed Air- Sizing
2 200 209 Fans - ASD (6-100 hp)	3 100 105 Comp Air - Replace 1-5 HP motor
2 200 210 Fans - Motor practices-1 (6-100 HP)	3 100 106 Comp Air - ASD (1-5 hp)
2 200 211 Fans - Replace 100+ HP motor	3 100 107 Comp Air - Motor practices-1 (1-5 HP)
2 200 212 Fans - ASD (100+ hp)	3 100 108 Comp Air - Replace 6-100 HP motor

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DSM Savings Using TRC***

3 100 109 Comp Air - ASD (6-100 hp)	3 720 726 Optimize Controls
3 100 110 Comp Air - Motor practices-1 (6-100 HP)	3 720 727 Aerosole Duct Sealing
3 100 111 Comp Air - Replace 100+ HP motor	3 720 728 Duct/Pipe Insulation
3 100 112 Comp Air - ASD (100+ hp)	3 720 729 Window Film (Standard)
3 100 113 Comp Air - Motor practices-1 (100+ HP)	3 720 730 Roof Insulation
3 200 201 Fans - O&M	3 720 731 Cool Roof - DX
3 200 202 Fans - Controls	3 800 801 Premium T8, Electronic Ballast
3 200 203 Fans - System Optimization	3 800 802 CFL Hardwired, Modular 18W
3 200 204 Fans - Improve components	3 800 804 High Bay T5
3 200 205 Fans - Replace 1-5 HP motor	3 800 805 Occupancy Sensor
3 200 206 Fans - ASD (1-5 hp)	3 900 901 Replace V-belts
3 200 207 Fans - Motor practices-1 (1-5 HP)	4 100 101 Compressed Air-O&M
3 200 208 Fans - Replace 6-100 HP motor	4 100 102 Compressed Air - Controls
3 200 209 Fans - ASD (6-100 hp)	4 100 103 Compressed Air - System Optimization
3 200 210 Fans - Motor practices-1 (6-100 HP)	4 100 104 Compressed Air- Sizing
3 200 211 Fans - Replace 100+ HP motor	4 100 105 Comp Air - Replace 1-5 HP motor
3 200 212 Fans - ASD (100+ hp)	4 100 106 Comp Air - ASD (1-5 hp)
3 200 213 Fans - Motor practices-1 (100+ HP)	4 100 107 Comp Air - Motor practices-1 (1-5 HP)
3 200 214 Optimize drying process	4 100 108 Comp Air - Replace 6-100 HP motor
3 300 301 Pumps - O&M	4 100 109 Comp Air - ASD (6-100 hp)
3 300 302 Pumps - Controls	4 100 110 Comp Air - Motor practices-1 (6-100 HP)
3 300 303 Pumps - System Optimization	4 100 111 Comp Air - Replace 100+ HP motor
3 300 304 Pumps - Sizing	4 100 112 Comp Air - ASD (100+ hp)
3 300 305 Pumps - Replace 1-5 HP motor	4 100 113 Comp Air - Motor practices-1 (100+ HP)
3 300 306 Pumps - ASD (1-5 hp)	4 200 201 Fans - O&M
3 300 307 Pumps - Motor practices-1 (1-5 HP)	4 200 202 Fans - Controls
3 300 308 Pumps - Replace 6-100 HP motor	4 200 203 Fans - System Optimization
3 300 309 Pumps - ASD (6-100 hp)	4 200 204 Fans - Improve components
3 300 310 Pumps - Motor practices-1 (6-100 HP)	4 200 205 Fans - Replace 1-5 HP motor
3 300 311 Pumps - Replace 100+ HP motor	4 200 206 Fans - ASD (1-5 hp)
3 300 312 Pumps - ASD (100+ hp)	4 200 207 Fans - Motor practices-1 (1-5 HP)
3 300 313 Pumps - Motor practices-1 (100+ HP)	4 200 208 Fans - Replace 6-100 HP motor
3 400 403 Air conveying systems	4 200 209 Fans - ASD (6-100 hp)
3 400 404 Replace V-Belts	4 200 210 Fans - Motor practices-1 (6-100 HP)
3 400 405 Drives - EE motor	4 200 211 Fans - Replace 100+ HP motor
3 500 503 Heat Pumps - Drying	4 200 212 Fans - ASD (100+ hp)
3 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	4 200 213 Fans - Motor practices-1 (100+ HP)
3 700 702 High Efficiency Chiller Motors	4 300 301 Pumps - O&M
3 700 703 EMS - Chiller	4 300 302 Pumps - Controls
3 700 704 Chiller Tune Up/Diagnostics	4 300 303 Pumps - System Optimization
3 700 705 VSD for Chiller Pumps and Towers	4 300 304 Pumps - Sizing
3 700 706 EMS Optimization - Chiller	4 300 305 Pumps - Replace 1-5 HP motor
3 700 707 Aerosole Duct Sealing - Chiller	4 300 306 Pumps - ASD (1-5 hp)
3 700 708 Duct/Pipe Insulation - Chiller	4 300 307 Pumps - Motor practices-1 (1-5 HP)
3 700 709 Window Film (Standard) - Chiller	4 300 308 Pumps - Replace 6-100 HP motor
3 700 710 Roof Insulation - Chiller	4 300 309 Pumps - ASD (6-100 hp)
3 700 711 Cool Roof - Chiller	4 300 310 Pumps - Motor practices-1 (6-100 HP)
3 720 721 DX Packaged System, EER=10.9, 10 tons	4 300 311 Pumps - Replace 100+ HP motor
3 720 722 Hybrid Dessicant-DX System (Trane CDQ)	4 300 312 Pumps - ASD (100+ hp)
3 720 724 DX Tune Up/ Advanced Diagnostics	4 300 313 Pumps - Motor practices-1 (100+ HP)
3 720 725 DX Coil Cleaning	4 400 405 Drives - EE motor

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

4 400 406 Gap Forming papermachine	5 200 210 Fans - Motor practices-1 (6-100 HP)
4 400 407 High Consistency forming	5 200 211 Fans - Replace 100+ HP motor
4 400 408 Optimization control PM	5 200 212 Fans - ASD (100+ hp)
4 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	5 200 213 Fans - Motor practices-1 (100+ HP)
4 700 702 High Efficiency Chiller Motors	5 300 301 Pumps - O&M
4 700 703 EMS - Chiller	5 300 302 Pumps - Controls
4 700 704 Chiller Tune Up/Diagnostics	5 300 303 Pumps - System Optimization
4 700 705 VSD for Chiller Pumps and Towers	5 300 304 Pumps - Sizing
4 700 706 EMS Optimization - Chiller	5 300 305 Pumps - Replace 1-5 HP motor
4 700 707 Aerosole Duct Sealing - Chiller	5 300 306 Pumps - ASD (1-5 hp)
4 700 708 Duct/Pipe Insulation - Chiller	5 300 307 Pumps - Motor practices-1 (1-5 HP)
4 700 709 Window Film (Standard) - Chiller	5 300 308 Pumps - Replace 6-100 HP motor
4 700 710 Roof Insulation - Chiller	5 300 309 Pumps - ASD (6-100 hp)
4 700 711 Cool Roof - Chiller	5 300 310 Pumps - Motor practices-1 (6-100 HP)
4 720 721 DX Packaged System, EER=10.9, 10 tons	5 300 311 Pumps - Replace 100+ HP motor
4 720 722 Hybrid Dessicant-DX System (Trane CDQ)	5 300 312 Pumps - ASD (100+ hp)
4 720 724 DX Tune Up/ Advanced Diagnostics	5 300 313 Pumps - Motor practices-1 (100+ HP)
4 720 725 DX Coil Cleaning	5 400 409 Efficient practices printing press
4 720 726 Optimize Controls	5 400 410 Efficient Printing press (fewer cylinders)
4 720 727 Aerosole Duct Sealing	5 400 411 Light cylinders
4 720 728 Duct/Pipe Insulation	5 400 412 Efficient drives
4 720 729 Window Film (Standard)	5 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
4 720 730 Roof Insulation	5 700 702 High Efficiency Chiller Motors
4 720 731 Cool Roof - DX	5 700 703 EMS - Chiller
4 800 801 Premium T8, Elecctronic Ballast	5 700 704 Chiller Tune Up/Diagnostics
4 800 802 CFL Hardwired, Modular 18W	5 700 705 VSD for Chiller Pumps and Towers
4 800 804 High Bay T5	5 700 706 EMS Optimization - Chiller
4 800 805 Occupancy Sensor	5 700 707 Aerosole Duct Sealing - Chiller
4 900 901 Replace V-belts	5 700 708 Duct/Pipe Insulation - Chiller
5 100 101 Compressed Air-O&M	5 700 709 Window Film (Standard) - Chiller
5 100 102 Compressed Air - Controls	5 700 710 Roof Insulation - Chiller
5 100 103 Compressed Air - System Optimization	5 700 711 Cool Roof - Chiller
5 100 104 Compressed Air- Sizing	5 720 721 DX Packaged System, EER=10.9, 10 tons
5 100 105 Comp Air - Replace 1-5 HP motor	5 720 722 Hybrid Dessicant-DX System (Trane CDQ)
5 100 106 Comp Air - ASD (1-5 hp)	5 720 724 DX Tune Up/ Advanced Diagnostics
5 100 107 Comp Air - Motor practices-1 (1-5 HP)	5 720 725 DX Coil Cleaning
5 100 108 Comp Air - Replace 6-100 HP motor	5 720 726 Optimize Controls
5 100 109 Comp Air - ASD (6-100 hp)	5 720 727 Aerosole Duct Sealing
5 100 110 Comp Air - Motor practices-1 (6-100 HP)	5 720 728 Duct/Pipe Insulation
5 100 111 Comp Air - Replace 100+ HP motor	5 720 729 Window Film (Standard)
5 100 112 Comp Air - ASD (100+ hp)	5 720 730 Roof Insulation
5 100 113 Comp Air - Motor practices-1 (100+ HP)	5 720 731 Cool Roof - DX
5 200 201 Fans - O&M	5 800 801 Premium T8, Electronic Ballast
5 200 202 Fans - Controls	5 800 802 CFL Hardwired, Modular 18W
5 200 203 Fans - System Optimization	5 800 804 High Bay T5
5 200 204 Fans- Improve components	5 800 805 Occupancy Sensor
5 200 205 Fans - Replace 1-5 HP motor	5 900 901 Replace V-belts
5 200 206 Fans - ASD (1-5 hp)	6 100 101 Compressed Air-O&M
5 200 207 Fans - Motor practices-1 (1-5 HP)	6 100 102 Compressed Air - Controls
5 200 208 Fans - Replace 6-100 HP motor	6 100 103 Compressed Air - System Optimization
5 200 209 Fans - ASD (6-100 hp)	6 100 104 Compressed Air- Sizing

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
 DSM Savings Using TRC***

6 100 105 Comp Air - Replace 1-5 HP motor	6 720 721 DX Packaged System, EER=10.9, 10 tons
6 100 106 Comp Air - ASD (1-5 hp)	6 720 722 Hybrid Dessicant-DX System (Trane CDQ)
6 100 107 Comp Air - Motor practices-1 (1-5 HP)	6 720 724 DX Tune Up/ Advanced Diagnostics
6 100 108 Comp Air - Replace 6-100 HP motor	6 720 725 DX Coil Cleaning
6 100 109 Comp Air - ASD (6-100 hp)	6 720 726 Optimize Controls
6 100 110 Comp Air - Motor practices-1 (6-100 HP)	6 720 727 Aerosole Duct Sealing
6 100 111 Comp Air - Replace 100+ HP motor	6 720 728 Duct/Pipe Insulation
6 100 112 Comp Air - ASD (100+ hp)	6 720 729 Window Film (Standard)
6 100 113 Comp Air - Motor practices-1 (100+ HP)	6 720 730 Roof Insulation
6 200 201 Fans - O&M	6 720 731 Cool Roof - DX
6 200 202 Fans - Controls	6 800 801 Premium T8, Electronic Ballast
6 200 203 Fans - System Optimization	6 800 802 CFL Hardwired, Modular 18W
6 200 204 Fans - Improve components	6 800 804 High Bay T5
6 200 205 Fans - Replace 1-5 HP motor	6 800 805 Occupancy Sensor
6 200 206 Fans - ASD (1-5 hp)	7 100 101 Compressed Air-O&M
6 200 207 Fans - Motor practices-1 (1-5 HP)	7 100 102 Compressed Air - Controls
6 200 208 Fans - Replace 6-100 HP motor	7 100 103 Compressed Air - System Optimization
6 200 209 Fans - ASD (6-100 hp)	7 100 104 Compressed Air- Sizing
6 200 210 Fans - Motor practices-1 (6-100 HP)	7 100 105 Comp Air - Replace 1-5 HP motor
6 200 211 Fans - Replace 100+ HP motor	7 100 106 Comp Air - ASD (1-5 hp)
6 200 212 Fans - ASD (100+ hp)	7 100 107 Comp Air - Motor practices-1 (1-5 HP)
6 200 213 Fans - Motor practices-1 (100+ HP)	7 100 108 Comp Air - Replace 6-100 HP motor
6 300 301 Pumps - O&M	7 100 109 Comp Air - ASD (6-100 hp)
6 300 302 Pumps - Controls	7 100 110 Comp Air - Motor practices-1 (6-100 HP)
6 300 303 Pumps - System Optimization	7 100 111 Comp Air - Replace 100+ HP motor
6 300 304 Pumps - Sizing	7 100 112 Comp Air - ASD (100+ hp)
6 300 305 Pumps - Replace 1-5 HP motor	7 100 113 Comp Air - Motor practices-1 (100+ HP)
6 300 306 Pumps - ASD (1-5 hp)	7 100 114 Power recovery
6 300 307 Pumps - Motor practices-1 (1-5 HP)	7 100 115 Refinery Controls
6 300 308 Pumps - Replace 6-100 HP motor	7 200 201 Fans - O&M
6 300 309 Pumps - ASD (6-100 hp)	7 200 202 Fans - Controls
6 300 310 Pumps - Motor practices-1 (6-100 HP)	7 200 203 Fans - System Optimization
6 300 311 Pumps - Replace 100+ HP motor	7 200 204 Fans - Improve components
6 300 312 Pumps - ASD (100+ hp)	7 200 205 Fans - Replace 1-5 HP motor
6 300 313 Pumps - Motor practices-1 (100+ HP)	7 200 206 Fans - ASD (1-5 hp)
6 400 413 Clean Room - Controls	7 200 207 Fans - Motor practices-1 (1-5 HP)
6 400 414 Clean Room - New Designs	7 200 208 Fans - Replace 6-100 HP motor
6 400 415 Drives - Process Controls (batch + site)	7 200 209 Fans - ASD (6-100 hp)
6 400 416 Process Drives - ASD	7 200 210 Fans - Motor practices-1 (6-100 HP)
6 600 601 Other Process Controls (batch + site)	7 200 211 Fans - Replace 100+ HP motor
6 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	7 200 212 Fans - ASD (100+ hp)
6 700 702 High Efficiency Chiller Motors	7 200 213 Fans - Motor practices-1 (100+ HP)
6 700 703 EMS - Chiller	7 200 215 Power recovery
6 700 704 Chiller Tune Up/Diagnostics	7 200 216 Refinery Controls
6 700 705 VSD for Chiller Pumps and Towers	7 300 301 Pumps - O&M
6 700 706 EMS Optimization - Chiller	7 300 302 Pumps - Controls
6 700 707 Aerosole Duct Sealing - Chiller	7 300 303 Pumps - System Optimization
6 700 708 Duct/Pipe Insulation - Chiller	7 300 304 Pumps - Sizing
6 700 709 Window Film (Standard) - Chiller	7 300 305 Pumps - Replace 1-5 HP motor
6 700 710 Roof Insulation - Chiller	7 300 306 Pumps - ASD (1-5 hp)
6 700 711 Cool Roof - Chiller	7 300 307 Pumps - Motor practices-1 (1-5 HP)

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

7 300 308 Pumps - Replace 6-100 HP motor	8 200 202 Fans - Controls
7 300 309 Pumps - ASD (6-100 hp)	8 200 203 Fans - System Optimization
7 300 310 Pumps - Motor practices-1 (6-100 HP)	8 200 204 Fans - Improve components
7 300 311 Pumps - Replace 100+ HP motor	8 200 205 Fans - Replace 1-5 HP motor
7 300 312 Pumps - ASD (100+ hp)	8 200 206 Fans - ASD (1-5 hp)
7 300 313 Pumps - Motor practices-1 (100+ HP)	8 200 207 Fans - Motor practices-1 (1-5 HP)
7 300 314 Power recovery	8 200 208 Fans - Replace 6-100 HP motor
7 300 315 Refinery Controls	8 200 209 Fans - ASD (6-100 hp)
7 600 602 Efficient desalter	8 200 210 Fans - Motor practices-1 (6-100 HP)
7 600 606 Power recovery	8 200 211 Fans - Replace 100+ HP motor
7 600 607 Refinery Controls	8 200 212 Fans - ASD (100+ hp)
7 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	8 200 213 Fans - Motor practices-1 (100+ HP)
7 700 702 High Efficiency Chiller Motors	8 300 301 Pumps - O&M
7 700 703 EMS - Chiller	8 300 302 Pumps - Controls
7 700 704 Chiller Tune Up/Diagnostics	8 300 303 Pumps - System Optimization
7 700 705 VSD for Chiller Pumps and Towers	8 300 304 Pumps - Sizing
7 700 706 EMS Optimization - Chiller	8 300 305 Pumps - Replace 1-5 HP motor
7 700 707 Aerosole Duct Sealing - Chiller	8 300 306 Pumps - ASD (1-5 hp)
7 700 708 Duct/Pipe Insulation - Chiller	8 300 307 Pumps - Motor practices-1 (1-5 HP)
7 700 709 Window Film (Standard) - Chiller	8 300 308 Pumps - Replace 6-100 HP motor
7 700 710 Roof Insulation - Chiller	8 300 309 Pumps - ASD (6-100 hp)
7 700 711 Cool Roof - Chiller	8 300 310 Pumps - Motor practices-1 (6-100 HP)
7 720 721 DX Packaged System, EER=10.9, 10 tons	8 300 311 Pumps - Replace 100+ HP motor
7 720 722 Hybrid Dessicant-DX System (Trane CDQ)	8 300 312 Pumps - ASD (100+ hp)
7 720 724 DX Tune Up/ Advanced Diagnostics	8 300 313 Pumps - Motor practices-1 (100+ HP)
7 720 725 DX Coil Cleaning	8 400 417 O&M - Extruders/Injection Moulding
7 720 726 Optimize Controls	8 400 418 Extruders/injection Moulding-multipump
7 720 727 Aerosole Duct Sealing	8 400 419 Direct drive Extruders
7 720 728 Duct/Pipe Insulation	8 400 420 Injection Moulding - Impulse Cooling
7 720 729 Window Film (Standard)	8 400 421 Injection Moulding - Direct drive
7 720 730 Roof Insulation	8 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
7 720 731 Cool Roof - DX	8 700 702 High Efficiency Chiller Motors
7 800 801 Premium T8, Electronic Ballast	8 700 703 EMS - Chiller
7 800 802 CFL Hardwired, Modular 18W	8 700 704 Chiller Tune Up/Diagnostics
7 800 804 High Bay T5	8 700 705 VSD for Chiller Pumps and Towers
7 800 805 Occupancy Sensor	8 700 706 EMS Optimization - Chiller
7 900 901 Replace V-belts	8 700 707 Aerosole Duct Sealing - Chiller
8 100 101 Compressed Air-O&M	8 700 708 Duct/Pipe Insulation - Chiller
8 100 102 Compressed Air - Controls	8 700 709 Window Film (Standard) - Chiller
8 100 103 Compressed Air - System Optimization	8 700 710 Roof Insulation - Chiller
8 100 104 Compressed Air- Sizing	8 700 711 Cool Roof - Chiller
8 100 105 Comp Air - Replace 1-5 HP motor	8 720 721 DX Packaged System, EER=10.9, 10 tons
8 100 106 Comp Air - ASD (1-5 hp)	8 720 722 Hybrid Dessicant-DX System (Trane CDQ)
8 100 107 Comp Air - Motor practices-1 (1-5 HP)	8 720 724 DX Tune Up/ Advanced Diagnostics
8 100 108 Comp Air - Replace 6-100 HP motor	8 720 725 DX Coil Cleaning
8 100 109 Comp Air - ASD (6-100 hp)	8 720 726 Optimize Controls
8 100 110 Comp Air - Motor practices-1 (6-100 HP)	8 720 727 Aerosole Duct Sealing
8 100 111 Comp Air - Replace 100+ HP motor	8 720 728 Duct/Pipe Insulation
8 100 112 Comp Air - ASD (100+ hp)	8 720 729 Window Film (Standard)
8 100 113 Comp Air - Motor practices-1 (100+ HP)	8 720 730 Roof Insulation
8 200 201 Fans - O&M	8 720 731 Cool Roof - DX

**Exhibit No. (JAM 4) Progress Energy's Projected Economic Amount of
DSM Savings Using TRC***

8 800 801 Premium T8, Electronic Ballast	9 300 308 Pumps - Replace 6-100 HP motor
8 800 802 CFL Hardwired, Modular 18W	9 300 309 Pumps - ASD (6-100 hp)
8 800 804 High Bay T5	9 300 310 Pumps - Motor practices-1 (6-100 HP)
8 800 805 Occupancy Sensor	9 300 311 Pumps - Replace 100+ HP motor
8 900 901 Replace V-belts	9 300 312 Pumps - ASD (100+ hp)
9 100 101 Compressed Air-O&M	9 300 313 Pumps - Motor practices-1 (100+ HP)
9 100 102 Compressed Air - Controls	9 400 405 Drives - EE motor
9 100 103 Compressed Air - System Optimization	9 400 415 Drives - Process Controls (batch + site)
9 100 104 Compressed Air- Sizing	9 400 422 Efficient grinding
9 100 105 Comp Air - Replace 1-5 HP motor	9 400 423 Process control
9 100 106 Comp Air - ASD (1-5 hp)	9 400 424 Process optimization
9 100 107 Comp Air - Motor practices-1 (1-5 HP)	9 500 504 Top-heating (glass)
9 100 108 Comp Air - Replace 6-100 HP motor	9 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
9 100 109 Comp Air - ASD (6-100 hp)	9 700 702 High Efficiency Chiller Motors
9 100 110 Comp Air - Motor practices-1 (6-100 HP)	9 700 703 EMS - Chiller
9 100 111 Comp Air - Replace 100+ HP motor	9 700 704 Chiller Tune Up/Diagnostics
9 100 112 Comp Air - ASD (100+ hp)	9 700 705 VSD for Chiller Pumps and Towers
9 100 113 Comp Air - Motor practices-1 (100+ HP)	9 700 706 EMS Optimization - Chiller
9 200 201 Fans - O&M	9 700 707 Aerosole Duct Sealing - Chiller
9 200 202 Fans - Controls	9 700 708 Duct/Pipe insulation - Chiller
9 200 203 Fans - System Optimization	9 700 709 Window Film (Standard) - Chiller
9 200 204 Fans- Improve components	9 700 710 Roof Insulation - Chiller
9 200 205 Fans - Replace 1-5 HP motor	9 700 711 Cool Roof - Chiller
9 200 206 Fans - ASD (1-5 hp)	9 720 721 DX Packaged System, EER=10.9, 10 tons
9 200 207 Fans - Motor practices-1 (1-5 HP)	9 720 722 Hybrid Dessicant-DX System (Trane CDQ)
9 200 208 Fans - Replace 6-100 HP motor	9 720 724 DX Tune Up/ Advanced Diagnostics
9 200 209 Fans - ASD (6-100 hp)	9 720 725 DX Coil Cleaning
9 200 210 Fans - Motor practices-1 (6-100 HP)	9 720 726 Optimize Controls
9 200 211 Fans - Replace 100+ HP motor	9 720 727 Aerosole Duct Sealing
9 200 212 Fans - ASD (100+ hp)	9 720 728 Duct/Pipe Insulation
9 200 213 Fans - Motor practices-1 (100+ HP)	9 720 729 Window Film (Standard)
9 300 301 Pumps - O&M	9 720 730 Roof Insulation
9 300 302 Pumps - Controls	9 720 731 Cool Roof - DX
9 300 303 Pumps - System Optimization	9 800 801 Premium T8, Electronic Ballast
9 300 304 Pumps - Sizing	9 800 802 CFL Hardwired, Modular 18W
9 300 305 Pumps - Replace 1-5 HP motor	9 800 804 High Bay T5
9 300 306 Pumps - ASD (1-5 hp)	9 800 805 Occupancy Sensor
9 300 307 Pumps - Motor practices-1 (1-5 HP)	9 900 901 Replace V-belts

Exhibit No. (JAM 5) Progress Energy's Projected Annual Bill Impacts on Residential Customers With 1,200 kWh, With No Incremental DSM Added

A forecast of annual residential bills assuming no incremental DSM was computed for a typical residential customer using 1,200 kwh per month. This forecast was based upon Progress Energy's forecast of energy sales consistent with its 2009 Ten-Year Site Plan and rates that reflect all costs that have been previously authorized by the Commission to be recovered along with the base rate increase request currently pending before the Commission. The forecast also reflects future changes in the fuel adjustment clause, capacity cost recovery (CCR), energy conservation cost recovery (ECCR) clause and environmental cost recovery (ECRC) clauses.

The forecast reflects impacts of removing the future forecasted increases in DSM demand and energy savings reflected in the Ten-Year Site Plan. These impacts include revenue requirements associated with changes in supply resources necessary to maintain minimum reserve margins over the forecast period as well as changes in fuel and variable O&M associated with change in energy. The forecast of bills was further adjusted to reflect decreases in DSM program costs to eliminate all future advertising costs, administrative costs and incentive payments for energy efficiency programs and incentive payments associated with incremental forecasted growth in load control programs.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
\$1,993	\$2,092	\$2,050	\$2,170	\$2,293	\$2,493	\$2,469	\$2,186	\$2,119	\$2,186	\$22,051

**Exhibit No. (JAM 6) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using RIM and Participant Tests
With 1,200 kWh Bill Impacts**

Residential

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
SMW	24.57	25.88	27.90	29.33	30.64	33.26	43.28	42.58	39.23	26.09	322.76
WMW	37.68	41.55	43.20	44.30	45.40	45.88	58.53	58.31	55.23	33.06	463.15
GWH	40.22	42.66	46.31	48.75	51.19	57.77	54.85	54.36	47.53	43.88	487.52

Commercial/Industrial

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Totals
SMW	8.77	11.57	21.46	22.49	23.27	23.52	24.04	23.01	21.46	18.24	197.82
WMW	4.74	4.77	10.80	10.84	10.87	10.96	10.92	10.91	10.82	10.77	96.40
GWH	10.42	11.05	12.00	12.63	13.26	14.96	14.21	14.08	12.31	11.37	126.28

Total

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Totals
SMW	33.34	37.44	49.36	51.82	53.91	56.79	67.32	65.59	60.69	44.33	520.57
WMW	42.42	46.32	54.01	55.14	56.27	56.83	69.45	69.23	66.05	43.84	559.55
GWH	50.64	53.71	58.31	61.38	64.45	72.74	69.05	68.44	59.85	55.24	613.80

A forecast of annual residential bills assuming a projected RIM achievable portfolio was computed for a typical residential customer using 1,200 kwh per month. This forecast was based upon Progress Energy's forecast of energy sales consistent with its 2009 Ten-Year Site Plan and rates that reflect all costs that have been previously authorized by the Commission to be recovered along with the base rate increase request currently pending before the Commission. The forecast also reflects future changes in the fuel adjustment clause, capacity cost recovery (CCR), energy conservation cost recovery (ECCR) clause and environmental cost recovery (ECRC) clauses.

**Exhibit No. (JAM 6) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using RIM and Participant Tests
With 1,200 kWh Bill Impacts**

The forecast reflects the impacts of increasing forecasted DSM demand and energy savings reflected in the Ten-Year Site Plan to the level projected in the RIM achievable portfolio. These impacts include revenue requirements associated with changes in supply resources necessary to maintain minimum reserve margins over the forecast period as well as changes in fuel and variable O&M associated with change in energy. The forecast of bills was further adjusted to reflect increases in DSM program costs necessary to support the level of savings forecasted in the RIM achievable portfolio, including increases in advertising costs, administrative costs and incentive payments for energy efficiency programs and incentive payments associated with growth in load control programs.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
\$2,002	\$2,101	\$2,059	\$2,165	\$2,218	\$2,449	\$2,418	\$2,127	\$2,057	\$2,124	\$21,720

**Exhibit No. (JAM 6) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using RIM and Participant Tests
With 1,200 kWh Bill Impacts**

Residential

SF 100 113 AC Maintenance (Indoor Coil Cleaning)
SF 100 116 Duct Repair
SF 100 120 Window Tinting
SF 100 121 Default Window With Sunscreen
SF 100 122 Single Pane Clear Windows to Double Pane Low-E Windows
SF 130 142 Duct Repair
SF 130 147 Default Window With Sunscreen
SF 130 148 Single Pane Clear Windows to Double Pane Low-E Windows
SF 190 191 HE Room Air Conditioner - EER 11
MF 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit
MF 100 122 Single Pane Clear Windows to Double Pane Low-E Windows
MF 130 143 Reflective Roof
MF 130 148 Single Pane Clear Windows to Double Pane Low-E Windows
MF 190 191 HE Room Air Conditioner - EER 11
MF 190 199 Default Window With Sunscreen
MF 190 200 Single Pane Clear Windows to Double Pane Low-E Windows
MH 100 113 AC Maintenance (Indoor Coil Cleaning)
MH 100 114 Proper Refrigerant Charging and Air Flow
MH 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit
MH 100 120 Window Tinting
MH 100 121 Default Window With Sunscreen
MH 100 122 Single Pane Clear Windows to Double Pane Low-E Windows
MH 130 138 AC Maintenance (Outdoor Coil Cleaning)
MH 130 139 AC Maintenance (Indoor Coil Cleaning)
MH 130 140 Proper Refrigerant Charging and Air Flow
MH 130 146 Window Tinting
MH 130 147 Default Window With Sunscreen
MH 130 148 Single Pane Clear Windows to Double Pane Low-E Windows
MH 190 191 HE Room Air Conditioner - EER 11

Commercial

3-340-342 Geothermal Heat Pump, EER=13, 10 tons
6-300-314 Roof Insulation
9-400-406 Energy Recovery Ventilation (ERV)
11-300-313 Ceiling Insulation
8-400-406 Energy Recovery Ventilation (ERV)
8-300-315 Cool Roof - Chiller
1-300-317 Thermal Energy Storage (TES)
5-340-351 Cool Roof - DX
9-300-317 Thermal Energy Storage (TES)

5-320-336 Cool Roof - DX
3-320-336 Cool Roof - DX
1-340-351 Cool Roof - DX
7-400-406 Energy Recovery Ventilation (ERV)
1-320-336 Cool Roof - DX
3-340-351 Cool Roof - DX
6-300-313 Ceiling Insulation
4-300-315 Cool Roof - Chiller
11-300-317 Thermal Energy Storage (TES)
6-300-317 Thermal Energy Storage (TES)
5-300-314 Roof Insulation
1-300-314 Roof Insulation
11-400-406 Energy Recovery Ventilation (ERV)
3-300-314 Roof Insulation
5-300-317 Thermal Energy Storage (TES)
11-340-350 Roof Insulation
10-300-314 Roof Insulation
2-300-315 Cool Roof - Chiller
8-300-317 Thermal Energy Storage (TES)
1-300-313 Ceiling Insulation
5-300-313 Ceiling Insulation
3-300-305 Chiller Tune Up/Diagnostics
3-320-326 DX Tune Up/ Advanced Diagnostics
7-300-315 Cool Roof - Chiller
3-300-313 Ceiling Insulation
8-340-351 Cool Roof - DX
11-340-349 Ceiling Insulation
8-320-336 Cool Roof - DX
10-300-313 Ceiling Insulation
4-300-317 Thermal Energy Storage (TES)
6-340-350 Roof Insulation
6-320-335 Roof insulation
8-300-314 Roof Insulation
10-300-317 Thermal Energy Storage (TES)
4-340-351 Cool Roof - DX
4-320-336 Cool Roof - DX
2-300-317 Thermal Energy Storage (TES)
5-340-342 Geothermal Heat Pump, EER=13, 10 tons
8-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
11-320-335 Roof Insulation
7-300-317 Thermal Energy Storage (TES)
3-300-317 Thermal Energy Storage (TES)
4-300-314 Roof Insulation
6-340-349 Ceiling Insulation
6-320-334 Ceiling Insulation
8-320-326 DX Tune Up/ Advanced Diagnostics
8-300-313 Ceiling Insulation
2-340-351 Cool Roof - DX
1-340-350 Roof Insulation

**Exhibit No. (JAM 6) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using RIM and Participant Tests
With 1,200 kWh Bill Impacts**

2-320-336 Cool Roof - DX	11 200 202 Fans - Controls
1-320-335 Roof Insulation	11 200 203 Fans - System Optimization
11-320-334 Ceiling Insulation	11 200 207 Fans - Motor practices-1 (1-5 HP)
5-340-350 Roof Insulation	11 200 211 Fans - Replace 100+ HP motor
5-320-335 Roof Insulation	11 300 307 Pumps - Motor practices-1 (1-5 HP)
9-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	11 500 509 Efficient Curing ovens
3-320-335 Roof Insulation	11 800 805 Occupancy Sensor
3-340-350 Roof Insulation	12 100 110 Comp Air - Motor practices-1 (6-100 HP)
2-300-314 Roof Insulation	12 200 202 Fans - Controls
6-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	12 200 203 Fans - System Optimization
4-300-313 Ceiling Insulation	12 200 207 Fans - Motor practices-1 (1-5 HP)
10-340-350 Roof Insulation	12 300 311 Pumps - Replace 100+ HP motor
5-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	12 500 509 Efficient Curing ovens
8-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	12 800 805 Occupancy Sensor
1-340-349 Ceiling Insulation	13 100 107 Comp Air - Motor practices-1 (1-5 HP)
10-320-335 Roof Insulation	13 200 202 Fans - Controls
1-320-334 Ceiling Insulation	13 200 203 Fans - System Optimization
5-340-349 Ceiling Insulation	13 400 413 Clean Room - Controls
1-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	13 500 509 Efficient Curing ovens
3-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons	13 800 805 Occupancy Sensor
5-320-334 Ceiling Insulation	14 200 202 Fans - Controls
3-340-349 Ceiling Insulation	14 200 203 Fans - System Optimization
3-320-334 Ceiling Insulation	14 200 207 Fans - Motor practices-1 (1-5 HP)
7-300-314 Roof Insulation	14 500 509 Efficient Curing ovens
8-340-342 Geothermal Heat Pump, EER=13, 10 tons	14 800 805 Occupancy Sensor
10-340-349 Ceiling Insulation	15 200 202 Fans - Controls
10-320-334 Ceiling Insulation	15 200 203 Fans - System Optimization
2-300-313 Ceiling Insulation	15 200 207 Fans - Motor practices-1 (1-5 HP)
8-340-350 Roof Insulation	15 300 307 Pumps - Motor practices-1 (1-5 HP)
8-320-335 Roof Insulation	15 300 311 Pumps - Replace 100+ HP motor
7-300-313 Ceiling Insulation	15 500 509 Efficient Curing ovens
4-340-350 Roof Insulation	15 800 805 Occupancy Sensor
8-340-349 Ceiling Insulation	16 100 107 Comp Air - Motor practices-1 (1-5 HP)
8-320-334 Ceiling Insulation	16 200 202 Fans - Controls
	16 200 210 Fans - Motor practices-1 (6-100 HP)
	16 200 211 Fans - Replace 100+ HP motor
	16 500 509 Efficient Curing ovens
	16 800 805 Occupancy Sensor
Industrial	2 100 110 Comp Air - Motor practices-1 (6-100 HP)
1 100 107 Comp Air - Motor practices-1 (1-5 HP)	2 200 202 Fans - Controls
1 200 202 Fans - Controls	2 200 203 Fans - System Optimization
1 200 203 Fans - System Optimization	2 200 207 Fans - Motor practices-1 (1-5 HP)
1 200 207 Fans - Motor practices-1 (1-5 HP)	2 200 210 Fans - Motor practices-1 (6-100 HP)
1 200 210 Fans - Motor practices-1 (6-100 HP)	2 300 307 Pumps - Motor practices-1 (1-5 HP)
1 550 552 Optimization Refrigeration	2 500 502 Drying (UV/IR)
1 800 805 Occupancy Sensor	2 800 805 Occupancy Sensor
10 200 202 Fans - Controls	2 900 902 Membranes for wastewater
10 200 203 Fans - System Optimization	3 100 110 Comp Air - Motor practices-1 (6-100 HP)
10 300 307 Pumps - Motor practices-1 (1-5 HP)	3 200 202 Fans - Controls
10 500 505 Efficient electric melting	3 200 203 Fans - System Optimization
10 500 508 Heating - Process Control	
10 800 805 Occupancy Sensor	
11 100 110 Comp Air - Motor practices-1 (6-100 HP)	

**Exhibit No. (JAM 6) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using RIM and Participant Tests
With 1,200 kWh Bill Impacts**

3 200 214 Optimize drying process
3 500 503 Heat Pumps - Drying
3 800 805 Occupancy Sensor
4 200 202 Fans - Controls
4 200 207 Fans - Motor practices-1 (1-5 HP)
4 200 210 Fans - Motor practices-1 (6-100 HP)
4 800 805 Occupancy Sensor
5 100 107 Comp Air - Motor practices-1 (1-5 HP)
5 200 202 Fans - Controls
5 200 207 Fans - Motor practices-1 (1-5 HP)
5 200 210 Fans - Motor practices-1 (6-100 HP)
5 400 410 Efficient Printing press (fewer cylinders)
5 400 411 Light cylinders
5 800 805 Occupancy Sensor
8 200 202 Fans - Controls
8 200 203 Fans - System Optimization
8 200 211 Fans - Replace 100+ HP motor
8 300 307 Pumps - Motor practices-1 (1-5 HP)
8 400 418 Extruders/injection Moulding-multipump
8 400 419 Direct drive Extruders
8 400 420 Injection Moulding - Impulse Cooling
8 400 421 Injection Moulding - Direct drive
8 800 805 Occupancy Sensor
9 200 202 Fans - Controls
9 200 203 Fans - System Optimization
9 200 210 Fans - Motor practices-1 (6-100 HP)
9 300 307 Pumps - Motor practices-1 (1-5 HP)
9 300 310 Pumps - Motor practices-1 (6-100 HP)
9 400 424 Process optimization
9 800 805 Occupancy Sensor

**Exhibit No. (JAM 7) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using TRC and Participant Tests
With 1,200 kWh Bill Impacts**

Residential

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
SMW	40.57	42.54	45.49	47.47	49.44	54.76	63.26	62.87	57.35	42.89	506.63
WMW	63.74	69.19	73.21	75.90	78.58	83.31	94.08	93.54	86.03	61.50	779.07
GWH	99.59	105.62	114.68	120.71	126.75	147.87	135.80	129.76	117.69	108.64	1,207.11

Commercial/Industrial

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Totals
SMW	13.70	16.18	25.47	25.92	26.38	27.61	27.06	26.97	25.69	22.31	237.30
WMW	5.25	5.31	11.39	11.46	11.52	11.69	11.62	11.60	11.43	11.33	102.60
GWH	31.14	33.02	35.85	37.74	39.63	46.23	42.46	40.57	36.80	33.97	377.40

Total

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Totals
SMW	54.27	58.72	70.96	73.39	75.81	82.37	90.32	89.84	83.04	65.20	743.93
WMW	68.99	74.50	84.61	87.35	90.10	95.01	105.69	105.14	97.46	72.83	881.68
GWH	130.72	138.64	150.53	158.45	166.37	194.10	178.26	170.33	154.49	142.61	1,584.50

A forecast of annual residential bills assuming a projected TRC achievable portfolio was computed for a typical residential customer using 1,200 kwh per month. This forecast was based upon Progress Energy's forecast of energy sales consistent with its 2009 Ten-Year Site Plan and rates that reflect all costs that have been previously authorized by the Commission to be recovered along with the base rate increase request currently pending before the Commission. The forecast also reflects future changes in the fuel adjustment clause, capacity cost recovery (CCR), energy conservation cost recovery (ECCR) clause and environmental cost recovery (ECR) clauses.

**Exhibit No. (JAM 7) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using TRC and Participant Tests
With 1,200 kWh Bill Impacts**

The forecast reflects the impacts of increasing forecasted DSM demand and energy savings reflected in the Ten-Year Site Plan to the level projected in the TRC achievable portfolio. These impacts include revenue requirements associated with changes in supply resources necessary to maintain minimum reserve margins over the forecast period as well as changes in fuel and variable O&M associated with change in energy. The forecast of bills was further adjusted to reflect increases in DSM program costs necessary to support the level of savings forecasted in the TRC achievable portfolio, including increases in advertising costs, administrative costs and incentive payments for energy efficiency programs and incentive payments associated with growth in load control programs.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
\$2,018	\$2,124	\$2,089	\$2,180	\$2,261	\$2,484	\$2,459	\$2,174	\$2,111	\$2,191	\$22,090

**Exhibit No. (JAM 7) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using TRC and Participant Tests
With 1,200 kWh Bill Impacts**

Residential

SF 190 199 Default Window With Sunscreen
SF 130 148 Single Pane Clear Windows to Double Pane Low-E Windows
MF 130 150 Ceiling R-0 to R-19 Insulation
MF 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)
SF 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)
SF 400 401 Heat Pump Water Heater (EF=2.9)
MH 130 145 Window Film
MH 100 124 Ceiling R-0 to R-19 Insulation
MF 400 410 Water Heater Timeclock
SF 100 122 Single Pane Clear Windows to Double Pane Low-E Windows
MH 800 803 Variable-Speed Pool Pump (<1 hp)
MF 800 803 Variable-Speed Pool Pump (<1 hp)
SF 800 803 Variable-Speed Pool Pump (<1 hp)
MH 130 139 AC Maintenance (Indoor Coil Cleaning)
SF 130 150 Ceiling R-0 to R-19 Insulation
MH 100 119 Window Film
MH 400 410 Water Heater Timeclock
MH 100 113 AC Maintenance (Indoor Coil Cleaning)
MH 130 148 Single Pane Clear Windows to Double Pane Low-E Windows
SF 130 146 Window Tinting
MF 130 145 Window Film
MH 130 150 Ceiling R-0 to R-19 Insulation
SF 190 196 Reflective Roof
SF 100 120 Window Tinting
MF 130 138 AC Maintenance (Outdoor Coil Cleaning)
MH 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)
MF 100 119 Window Film
SF 130 142 Duct Repair
MH 100 122 Single Pane Clear Windows to Double Pane Low-E Windows
MF 100 112 AC Maintenance (Outdoor Coil Cleaning)
MH 190 199 Default Window With Sunscreen
SF 130 139 AC Maintenance (Indoor Coil Cleaning)
SF 400 410 Water Heater Timeclock
SF 100 116 Duct Repair
MH 190 198 Window Tinting
MF 190 200 Single Pane Clear Windows to Double Pane Low-E Windows
MH 130 138 AC Maintenance (Outdoor Coil Cleaning)
SF 100 113 AC Maintenance (Indoor Coil Cleaning)
MF 130 140 Proper Refrigerant Charging and Air Flow
MF 190 191 HE Room Air Conditioner - EER 11
MF 260 251 ROB 2L4'T8, 1EB
SF 260 251 ROB 2L4'T8, 1EB
MH 260 251 ROB 2L4'T8, 1EB
SF 130 147 Default Window With Sunscreen

MH 300 301 HE Refrigerator - Energy Star version of above
SF 300 301 HE Refrigerator - Energy Star version of above
MH 190 191 HE Room Air Conditioner - EER 11
MF 100 114 Proper Refrigerant Charging and Air Flow
MF 190 198 Window Tinting
SF 100 121 Default Window With Sunscreen
MF 190 199 Default Window With Sunscreen
MF 190 196 Reflective Roof
MH 130 147 Default Window With Sunscreen
MF 130 148 Single Pane Clear Windows to Double Pane Low-E Windows
SF 190 191 HE Room Air Conditioner - EER 11
MF 300 301 HE Refrigerator - Energy Star version of above
MH 190 196 Reflective Roof
MF 250 251 ROB 2L4'T8, 1EB
SF 250 251 ROB 2L4'T8, 1EB
MH 250 251 ROB 2L4'T8, 1EB
MH 100 121 Default Window With Sunscreen
MF 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit
MF 100 122 Single Pane Clear Windows to Double Pane Low-E Windows
SF 130 143 Reflective Roof
MF 130 143 Reflective Roof
MH 100 120 Window Tinting
MH 130 140 Proper Refrigerant Charging and Air Flow
MH 130 146 Window Tinting
SF 100 117 Reflective Roof
MH 100 114 Proper Refrigerant Charging and Air Flow
MF 100 117 Reflective Roof
MH 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit
MH 130 143 Reflective Roof
MH 100 117 Reflective Roof
Natural Gas High Energy Water Heater

Commercial

10-400-402 Variable Speed Drive Control
6-320-336 Cool Roof - DX
11-400-403 Air Handler Optimization
6-340-351 Cool Roof - DX
5-600-601 High Efficiency Water Heater (electric)
1-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
2-600-601 High Efficiency Water Heater (electric)
4-320-321 DX Packaged System, EER=10.9, 10 tons
3-400-402 Variable Speed Drive Control
10-300-311 Window Film (Standard)
6-400-402 Variable Speed Drive Control
8-400-402 Variable Speed Drive Control

**Exhibit No. (JAM 7) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using TRC and Participant Tests
With 1,200 kWh Bill Impacts**

10-400-403 Air Handler Optimization
4-600-603 Heat Pump Water Heater (air source)
10-340-342 Geothermal Heat Pump, EER=13, 10 tons
3-340-342 Geothermal Heat Pump, EER=13, 10 tons
6-300-314 Roof Insulation
11-300-305 Chiller Tune Up/Diagnostics
11-320-326 DX Tune Up/ Advanced Diagnostics
3-400-403 Air Handler Optimization
6-320-332 Window Film (Standard)
4-500-513 High R-Value Glass Doors
11-300-313 Ceiling Insulation
8-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
1-600-603 Heat Pump Water Heater (air source)
2-320-321 DX Packaged System, EER=10.9, 10 tons
6-340-347 Window Film (Standard)
5-400-402 Variable Speed Drive Control
3-320-321 DX Packaged System, EER=10.9, 10 tons
9-400-402 Variable Speed Drive Control
6-600-601 High Efficiency Water Heater (electric)
8-300-315 Cool Roof - Chiller
8-400-406 Energy Recovery Ventilation (ERV)
10-600-606 Demand controlled circulating systems
7-320-321 DX Packaged System, EER=10.9, 10 tons
1-400-402 Variable Speed Drive Control
3-360-362 Occupancy Sensor (hotels)
9-300-304 EMS - Chiller
6-320-322 Hybrid Dessicant-DX System (Trane CDQ)
5-340-351 Cool Roof - DX
5-320-336 Cool Roof - DX
4-500-506 Compressor VSD retrofit
1-600-608 Heat Recovery Unit
10-320-321 DX Packaged System, EER=10.9, 10 tons
8-300-311 Window Film (Standard)
5-320-322 Hybrid Dessicant-DX System (Trane CDQ)
6-300-304 EMS - Chiller
11-320-322 Hybrid Dessicant-DX System (Trane CDQ)
5-300-304 EMS - Chiller
2-360-362 Occupancy Sensor (hotels)
3-320-336 Cool Roof - DX
9-300-302 High Efficiency Chiller Motors
1-340-351 Cool Roof - DX
7-400-406 Energy Recovery Ventilation (ERV)
1-300-304 EMS - Chiller
1-320-336 Cool Roof - DX
11-300-304 EMS - Chiller
8-300-304 EMS - Chiller
6-300-305 Chiller Tune Up/Diagnostics
10-320-336 Cool Roof - DX
3-340-351 Cool Roof - DX
6-320-326 DX Tune Up/ Advanced Diagnostics
11-600-603 Heat Pump Water Heater (air source)
6-300-313 Ceiling Insulation
1-320-322 Hybrid Dessicant-DX System (Trane CDQ)
4-300-315 Cool Roof - Chiller
10-340-351 Cool Roof - DX
8-320-322 Hybrid Dessicant-DX System (Trane CDQ)
4-500-501 High-efficiency fan motors
8-600-603 Heat Pump Water Heater (air source)
1-320-332 Window Film (Standard)
5-300-314 Roof Insulation
1-300-314 Roof Insulation
11-300-317 Thermal Energy Storage (TES)
5-320-332 Window Film (Standard)
3-320-332 Window Film (Standard)
6-300-317 Thermal Energy Storage (TES)
11-400-406 Energy Recovery Ventilation (ERV)
9-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
5-340-347 Window Film (Standard)
10-360-362 Occupancy Sensor (hotels)
4-300-311 Window Film (Standard)
1-340-347 Window Film (Standard)
3-300-314 Roof Insulation
7-360-362 Occupancy Sensor (hotels)
3-340-347 Window Film (Standard)
11-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
5-300-317 Thermal Energy Storage (TES)
11-400-402 Variable Speed Drive Control
11-600-608 Heat Recovery Unit
9-320-322 Hybrid Dessicant-DX System (Trane CDQ)
5-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
2-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
11-340-350 Roof Insulation
10-300-314 Roof Insulation
2-300-315 Cool Roof - Chiller
10-320-332 Window Film (Standard)
6-300-302 High Efficiency Chiller Motors
8-320-323 Geothermal Heat Pump, EER=13, 10 tons
3-600-603 Heat Pump Water Heater (air source)
5-300-302 High Efficiency Chiller Motors
11-300-302 High Efficiency Chiller Motors
2-600-603 Heat Pump Water Heater (air source)
2-300-311 Window Film (Standard)
1-320-326 DX Tune Up/ Advanced Diagnostics
1-300-313 Ceiling insulation
1-300-305 Chiller Tune Up/Diagnostics
10-600-603 Heat Pump Water Heater (air source)

**Exhibit No. (JAM 7) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using TRC and Participant Tests
With 1,200 kWh Bill Impacts**

10-340-347 Window Film (Standard)
6-360-361 HE PTAC, EER=9.6, 1 ton
8-300-317 Thermal Energy Storage (TES)
4-300-304 EMS - Chiller
5-300-313 Ceiling Insulation
1-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
5-320-326 DX Tune Up/ Advanced Diagnostics
5-360-361 HE PTAC, EER=9.6, 1 ton
1-300-302 High Efficiency Chiller Motors
8-300-302 High Efficiency Chiller Motors
3-300-305 Chiller Tune Up/Diagnostics
3-320-326 DX Tune Up/ Advanced Diagnostics
5-300-305 Chiller Tune Up/Diagnostics
1-360-361 HE PTAC, EER=9.6, 1 ton
4-320-322 Hybrid Dessicant-DX System (Trane CDQ)
8-360-361 HE PTAC, EER=9.6, 1 ton
3-300-313 Ceiling Insulation
7-300-315 Cool Roof - Chiller
11-340-349 Ceiling Insulation
8-340-351 Cool Roof - DX
8-320-336 Cool Roof - DX
10-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
3-320-322 Hybrid Dessicant-DX System (Trane CDQ)
11-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
4-500-515 Oversized Air Cooled Condenser
2-300-304 EMS - Chiller
10-300-313 Ceiling Insulation
3-300-304 EMS - Chiller
4-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
8-320-332 Window Film (Standard)
4-320-323 Geothermal Heat Pump, EER=13, 10 tons
10-300-305 Chiller Tune Up/Diagnostics
10-320-326 DX Tune Up/ Advanced Diagnostics
2-320-322 Hybrid Dessicant-DX System (Trane CDQ)
6-340-350 Roof Insulation
4-300-317 Thermal Energy Storage (TES)
6-320-335 Roof Insulation
10-320-322 Hybrid Dessicant-DX System (Trane CDQ)
8-300-314 Roof Insulation
8-340-347 Window Film (Standard)
4-340-351 Cool Roof - DX
4-320-336 Cool Roof - DX
9-300-306 VSD for Chiller Pumps and Towers
10-300-317 Thermal Energy Storage (TES)
4-300-302 High Efficiency Chiller Motors
5-340-342 Geothermal Heat Pump, EER=13, 10 tons
6-300-306 VSD for Chiller Pumps and Towers
8-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
11-320-335 Roof Insulation
4-300-314 Roof Insulation
6-340-349 Ceiling Insulation
11-300-306 VSD for Chiller Pumps and Towers
2-300-317 Thermal Energy Storage (TES)
5-300-306 VSD for Chiller Pumps and Towers
8-300-306 VSD for Chiller Pumps and Towers
6-320-334 Ceiling Insulation
3-300-317 Thermal Energy Storage (TES)
7-300-317 Thermal Energy Storage (TES)
1-300-306 VSD for Chiller Pumps and Towers
7-340-341 Packaged HP System, EER=10.9, 10 tons
8-320-326 DX Tune Up/ Advanced Diagnostics
8-300-313 Ceiling Insulation
6-120-121 ROB Premium T8, 1EB
2-340-351 Cool Roof - DX
1-340-350 Roof Insulation
3-300-302 High Efficiency Chiller Motors
2-320-336 Cool Roof - DX
1-320-335 Roof Insulation
11-320-334 Ceiling Insulation
2-300-302 High Efficiency Chiller Motors
5-340-350 Roof Insulation
5-320-335 Roof Insulation
5-120-121 ROB Premium T8, 1EB
9-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
3-320-335 Roof Insulation
3-340-350 Roof Insulation
2-300-314 Roof Insulation
6-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
4-300-313 Ceiling Insulation
11-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
6-110-112 Premium T8, EB, Reflector
10-340-350 Roof Insulation
5-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
7-340-351 Cool Roof - DX
7-320-336 Cool Roof - DX
8-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
1-340-349 Ceiling Insulation
10-320-335 Roof Insulation
1-320-334 Ceiling Insulation
5-340-349 Ceiling Insulation
1-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
3-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
6-120-122 ROB Premium T8, EB, Reflector
5-320-334 Ceiling Insulation
3-340-349 Ceiling Insulation

**Exhibit No. (JAM 7) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using TRC and Participant Tests
With 1,200 kWh Bill Impacts**

3-320-334 Ceiling Insulation
7-300-314 Roof Insulation
8-340-342 Geothermal Heat Pump, EER=13, 10 tons
10-340-349 Ceiling Insulation
10-320-334 Ceiling Insulation
2-300-313 Ceiling Insulation
8-340-350 Roof Insulation
8-320-335 Roof Insulation
7-300-313 Ceiling Insulation
4-340-350 Roof Insulation
8-340-349 Ceiling Insulation
8-320-334 Ceiling Insulation
9-810-811 Efficient Fryer

Industrial

6 100 111 Comp Air - Replace 100+ HP motor
10 500 506 Intelligent extruder (DOE)
11 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
9 300 311 Pumps - Replace 100+ HP motor
4 300 311 Pumps - Replace 100+ HP motor
14 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
9 400 422 Efficient grinding
12 700 710 Roof Insulation - Chiller
3 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
10 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
16 300 311 Pumps - Replace 100+ HP motor
2 700 710 Roof Insulation - Chiller
15 300 311 Pumps - Replace 100+ HP motor
9 100 111 Comp Air - Replace 100+ HP motor
4 100 111 Comp Air - Replace 100+ HP motor
13 300 311 Pumps - Replace 100+ HP motor
5 300 311 Pumps - Replace 100+ HP motor
1 300 311 Pumps - Replace 100+ HP motor
8 300 311 Pumps - Replace 100+ HP motor
12 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
16 100 111 Comp Air - Replace 100+ HP motor
5 400 411 Light cylinders
15 100 111 Comp Air - Replace 100+ HP motor
2 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
13 100 111 Comp Air - Replace 100+ HP motor
5 100 111 Comp Air - Replace 100+ HP motor
1 100 111 Comp Air - Replace 100+ HP motor
11 300 311 Pumps - Replace 100+ HP motor
8 100 111 Comp Air - Replace 100+ HP motor
14 300 311 Pumps - Replace 100+ HP motor
3 300 311 Pumps - Replace 100+ HP motor
10 300 311 Pumps - Replace 100+ HP motor
11 100 111 Comp Air - Replace 100+ HP motor
7 200 211 Fans - Replace 100+ HP motor
14 100 111 Comp Air - Replace 100+ HP motor

3 100 111 Comp Air - Replace 100+ HP motor
6 200 211 Fans - Replace 100+ HP motor
10 100 111 Comp Air - Replace 100+ HP motor
4 720 721 DX Packaged System, EER=10.9, 10 tons
4 720 729 Window Film (Standard)
9 720 721 DX Packaged System, EER=10.9, 10 tons
1 720 721 DX Packaged System, EER=10.9, 10 tons
7 720 721 DX Packaged System, EER=10.9, 10 tons
16 720 721 DX Packaged System, EER=10.9, 10 tons
1 720 729 Window Film (Standard)
6 720 721 DX Packaged System, EER=10.9, 10 tons
9 720 729 Window Film (Standard)
8 720 721 DX Packaged System, EER=10.9, 10 tons
3 200 211 Fans - Replace 100+ HP motor
12 720 721 DX Packaged System, EER=10.9, 10 tons
13 720 721 DX Packaged System, EER=10.9, 10 tons
9 200 211 Fans - Replace 100+ HP motor
15 720 721 DX Packaged System, EER=10.9, 10 tons
3 720 721 DX Packaged System, EER=10.9, 10 tons
4 200 211 Fans - Replace 100+ HP motor
5 720 721 DX Packaged System, EER=10.9, 10 tons
7 720 729 Window Film (Standard)
12 300 311 Pumps - Replace 100+ HP motor
8 720 729 Window Film (Standard)
14 720 721 DX Packaged System, EER=10.9, 10 tons
3 720 729 Window Film (Standard)
16 720 729 Window Film (Standard)
12 720 729 Window Film (Standard)
13 720 729 Window Film (Standard)
11 720 721 DX Packaged System, EER=10.9, 10 tons
6 720 729 Window Film (Standard)
15 720 729 Window Film (Standard)
16 200 211 Fans - Replace 100+ HP motor
5 720 729 Window Film (Standard)
14 720 729 Window Film (Standard)
10 720 721 DX Packaged System, EER=10.9, 10 tons
15 200 211 Fans - Replace 100+ HP motor
11 720 729 Window Film (Standard)
13 200 211 Fans - Replace 100+ HP motor
5 200 211 Fans - Replace 100+ HP motor
7 300 307 Pumps - Motor practices-1 (1-5 HP)
1 200 211 Fans - Replace 100+ HP motor
12 100 111 Comp Air - Replace 100+ HP motor
8 200 211 Fans - Replace 100+ HP motor
4 720 724 DX Tune Up/ Advanced Diagnostics
10 720 729 Window Film (Standard)
6 300 307 Pumps - Motor practices-1 (1-5 HP)
1 720 724 DX Tune Up/ Advanced Diagnostics
9 720 724 DX Tune Up/ Advanced Diagnostics
2 720 721 DX Packaged System, EER=10.9, 10 tons

**Exhibit No. (JAM 7) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using TRC and Participant Tests
With 1,200 kWh Bill Impacts**

7 100 107 Comp Air - Motor practices-1 (1-5 HP)	3 720 730 Roof Insulation
2 720 729 Window Film (Standard)	3 300 307 Pumps - Motor practices-1 (1-5 HP)
7 720 724 DX Tune Up/ Advanced Diagnostics	7 100 114 Power recovery
11 200 211 Fans - Replace 100+ HP motor	15 720 730 Roof Insulation
8 720 724 DX Tune Up/ Advanced Diagnostics	10 300 307 Pumps - Motor practices-1 (1-5 HP)
3 720 724 DX Tune Up/ Advanced Diagnostics	11 100 107 Comp Air - Motor practices-1 (1-5 HP)
16 720 724 DX Tune Up/ Advanced Diagnostics	5 720 730 Roof Insulation
12 720 724 DX Tune Up/ Advanced Diagnostics	14 720 730 Roof Insulation
13 720 724 DX Tune Up/ Advanced Diagnostics	11 720 730 Roof Insulation
6 720 724 DX Tune Up/ Advanced Diagnostics	7 200 207 Fans - Motor practices-1 (1-5 HP)
15 720 724 DX Tune Up/ Advanced Diagnostics	14 100 107 Comp Air - Motor practices-1 (1-5 HP)
6 100 107 Comp Air - Motor practices-1 (1-5 HP)	10 720 730 Roof Insulation
5 720 724 DX Tune Up/ Advanced Diagnostics	3 500 503 Heat Pumps - Drying
14 720 724 DX Tune Up/ Advanced Diagnostics	3 100 107 Comp Air - Motor practices-1 (1-5 HP)
2 300 311 Pumps - Replace 100+ HP motor	6 200 207 Fans - Motor practices-1 (1-5 HP)
14 200 211 Fans - Replace 100+ HP motor	10 100 107 Comp Air - Motor practices-1 (1-5 HP)
11 720 724 DX Tune Up/ Advanced Diagnostics	8 400 421 Injection Molding - Direct drive
9 300 307 Pumps - Motor practices-1 (1-5 HP)	2 720 730 Roof Insulation
4 300 307 Pumps - Motor practices-1 (1-5 HP)	10 400 415 Drives - Process Controls (batch + site)
10 200 211 Fans - Replace 100+ HP motor	7 700 704 Chiller Tune Up/Diagnostics
10 720 724 DX Tune Up/ Advanced Diagnostics	6 700 704 Chiller Tune Up/Diagnostics
16 300 307 Pumps - Motor practices-1 (1-5 HP)	2 200 211 Fans - Replace 100+ HP motor
2 100 111 Comp Air - Replace 100+ HP motor	3 200 207 Fans - Motor practices-1 (1-5 HP)
15 300 307 Pumps - Motor practices-1 (1-5 HP)	9 200 207 Fans - Motor practices-1 (1-5 HP)
9 100 107 Comp Air - Motor practices-1 (1-5 HP)	4 200 207 Fans - Motor practices-1 (1-5 HP)
4 100 107 Comp Air - Motor practices-1 (1-5 HP)	9 700 704 Chiller Tune Up/Diagnostics
2 720 724 DX Tune Up/ Advanced Diagnostics	4 700 704 Chiller Tune Up/Diagnostics
13 300 307 Pumps - Motor practices-1 (1-5 HP)	12 300 307 Pumps - Motor practices-1 (1-5 HP)
5 300 307 Pumps - Motor practices-1 (1-5 HP)	16 700 704 Chiller Tune Up/Diagnostics
1 300 307 Pumps - Motor practices-1 (1-5 HP)	15 700 704 Chiller Tune Up/Diagnostics
8 300 307 Pumps - Motor practices-1 (1-5 HP)	16 200 207 Fans - Motor practices-1 (1-5 HP)
16 100 107 Comp Air - Motor practices-1 (1-5 HP)	13 700 704 Chiller Tune Up/Diagnostics
15 100 107 Comp Air - Motor practices-1 (1-5 HP)	5 700 704 Chiller Tune Up/Diagnostics
7 300 314 Power recovery	1 700 704 Chiller Tune Up/Diagnostics
13 100 107 Comp Air - Motor practices-1 (1-5 HP)	8 700 704 Chiller Tune Up/Diagnostics
5 100 107 Comp Air - Motor practices-1 (1-5 HP)	15 200 207 Fans - Motor practices-1 (1-5 HP)
1 100 107 Comp Air - Motor practices-1 (1-5 HP)	11 700 704 Chiller Tune Up/Diagnostics
4 720 730 Roof Insulation	13 200 207 Fans - Motor practices-1 (1-5 HP)
11 300 307 Pumps - Motor practices-1 (1-5 HP)	5 200 207 Fans - Motor practices-1 (1-5 HP)
8 100 107 Comp Air - Motor practices-1 (1-5 HP)	1 200 207 Fans - Motor practices-1 (1-5 HP)
1 720 730 Roof Insulation	14 700 704 Chiller Tune Up/Diagnostics
9 720 730 Roof Insulation	12 100 107 Comp Air - Motor practices-1 (1-5 HP)
12 200 211 Fans - Replace 100+ HP motor	8 200 207 Fans - Motor practices-1 (1-5 HP)
14 300 307 Pumps - Motor practices-1 (1-5 HP)	3 700 704 Chiller Tune Up/Diagnostics
7 720 730 Roof Insulation	10 700 704 Chiller Tune Up/Diagnostics
16 720 730 Roof Insulation	7 200 215 Power recovery
8 720 730 Roof Insulation	11 200 207 Fans - Motor practices-1 (1-5 HP)
6 720 730 Roof Insulation	12 700 704 Chiller Tune Up/Diagnostics
12 720 730 Roof Insulation	7 300 313 Pumps - Motor practices-1 (100+ HP)
13 720 730 Roof Insulation	14 200 207 Fans - Motor practices-1 (1-5 HP)

**Exhibit No. (JAM 7) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using TRC and Participant Tests
With 1,200 kWh Bill Impacts**

2 300 307 Pumps - Motor practices-1 (1-5 HP)	10 300 313 Pumps - Motor practices-1 (100+ HP)
2 700 704 Chiller Tune Up/Diagnostics	8 300 310 Pumps - Motor practices-1 (6-100 HP)
6 300 313 Pumps - Motor practices-1 (100+ HP)	16 100 110 Comp Air - Motor practices-1 (6-100 HP)
10 200 207 Fans - Motor practices-1 (1-5 HP)	15 100 110 Comp Air - Motor practices-1 (6-100 HP)
6 400 414 Clean Room - New Designs	2 200 207 Fans - Motor practices-1 (1-5 HP)
2 100 107 Comp Air - Motor practices-1 (1-5 HP)	13 100 110 Comp Air - Motor practices-1 (6-100 HP)
7 700 703 EMS - Chiller	5 100 110 Comp Air - Motor practices-1 (6-100 HP)
6 700 703 EMS - Chiller	1 100 110 Comp Air - Motor practices-1 (6-100 HP)
7 300 310 Pumps - Motor practices-1 (6-100 HP)	11 300 310 Pumps - Motor practices-1 (6-100 HP)
9 700 703 EMS - Chiller	8 100 110 Comp Air - Motor practices-1 (6-100 HP)
9 300 313 Pumps - Motor practices-1 (100+ HP)	16 400 416 Process Drives - ASD
4 700 703 EMS - Chiller	6 400 415 Drives - Process Controls (batch + site)
4 300 313 Pumps - Motor practices-1 (100+ HP)	14 300 310 Pumps - Motor practices-1 (6-100 HP)
16 700 703 EMS - Chiller	6 600 601 Other Process Controls (batch + site)
15 700 703 EMS - Chiller	3 300 310 Pumps - Motor practices-1 (6-100 HP)
6 300 310 Pumps - Motor practices-1 (6-100 HP)	10 300 310 Pumps - Motor practices-1 (6-100 HP)
13 700 703 EMS - Chiller	11 100 110 Comp Air - Motor practices-1 (6-100 HP)
5 700 703 EMS - Chiller	16 600 605 Process control
1 700 703 EMS - Chiller	14 100 110 Comp Air - Motor practices-1 (6-100 HP)
8 700 703 EMS - Chiller	7 800 805 Occupancy Sensor
16 300 313 Pumps - Motor practices-1 (100+ HP)	6 800 805 Occupancy Sensor
7 600 606 Power recovery	9 800 805 Occupancy Sensor
11 700 703 EMS - Chiller	7 200 202 Fans - Controls
15 300 313 Pumps - Motor practices-1 (100+ HP)	12 300 313 Pumps - Motor practices-1 (100+ HP)
7 100 110 Comp Air - Motor practices-1 (6-100 HP)	3 100 110 Comp Air - Motor practices-1 (6-100 HP)
8 400 419 Direct drive Extruders	10 100 110 Comp Air - Motor practices-1 (6-100 HP)
14 700 703 EMS - Chiller	7 200 203 Fans - System Optimization
13 300 313 Pumps - Motor practices-1 (100+ HP)	6 200 202 Fans - Controls
5 300 313 Pumps - Motor practices-1 (100+ HP)	6 200 203 Fans - System Optimization
1 300 313 Pumps - Motor practices-1 (100+ HP)	9 400 424 Process optimization
3 700 703 EMS - Chiller	8 400 420 Injection Molding - Impulse Cooling
10 700 703 EMS - Chiller	4 800 805 Occupancy Sensor
12 200 207 Fans - Motor practices-1 (1-5 HP)	3 200 203 Fans - System Optimization
8 300 313 Pumps - Motor practices-1 (100+ HP)	3 200 202 Fans - Controls
6 100 110 Comp Air - Motor practices-1 (6-100 HP)	9 200 202 Fans - Controls
9 300 310 Pumps - Motor practices-1 (6-100 HP)	12 300 310 Pumps - Motor practices-1 (6-100 HP)
4 300 310 Pumps - Motor practices-1 (6-100 HP)	4 200 202 Fans - Controls
6 400 416 Process Drives - ASD	7 700 702 High Efficiency Chiller Motors
11 300 313 Pumps - Motor practices-1 (100+ HP)	6 700 702 High Efficiency Chiller Motors
12 700 703 EMS - Chiller	4 200 203 Fans - System Optimization
16 300 310 Pumps - Motor practices-1 (6-100 HP)	5 200 203 Fans - System Optimization
14 300 313 Pumps - Motor practices-1 (100+ HP)	16 200 203 Fans - System Optimization
15 300 310 Pumps - Motor practices-1 (6-100 HP)	9 200 203 Fans - System Optimization
2 700 703 EMS - Chiller	4 720 722 Hybrid Dessicant-DX System (Trane CDQ)
9 100 110 Comp Air - Motor practices-1 (6-100 HP)	16 200 202 Fans - Controls
4 100 110 Comp Air - Motor practices-1 (6-100 HP)	2 300 313 Pumps - Motor practices-1 (100+ HP)
13 300 310 Pumps - Motor practices-1 (6-100 HP)	15 200 203 Fans - System Optimization
5 300 310 Pumps - Motor practices-1 (6-100 HP)	8 800 805 Occupancy Sensor
1 300 310 Pumps - Motor practices-1 (6-100 HP)	9 700 702 High Efficiency Chiller Motors
3 300 313 Pumps - Motor practices-1 (100+ HP)	13 200 203 Fans - System Optimization

**Exhibit No. (JAM 7) Progress Energy's Projected Achievable Goal Scenario
Amount of DSM Savings Using TRC and Participant Tests
With 1,200 kWh Bill Impacts**

4 700 702 High Efficiency Chiller Motors	11 200 203 Fans - System Optimization
9 720 722 Hybrid Dessicant-DX System (Trane CDQ)	11 200 202 Fans - Controls
1 720 722 Hybrid Dessicant-DX System (Trane CDQ)	11 500 509 Efficient Curing ovens
7 720 722 Hybrid Dessicant-DX System (Trane CDQ)	2 300 310 Pumps - Motor practices-1 (6-100 HP)
15 200 202 Fans - Controls	14 200 202 Fans - Controls
16 700 702 High Efficiency Chiller Motors	10 200 203 Fans - System Optimization
12 100 110 Comp Air - Motor practices-1 (6-100 HP)	14 800 805 Occupancy Sensor
1 200 203 Fans - System Optimization	2 720 722 Hybrid Dessicant-DX System (Trane CDQ)
16 720 722 Hybrid Dessicant-DX System (Trane CDQ)	10 200 202 Fans - Controls
6 720 722 Hybrid Dessicant-DX System (Trane CDQ)	14 500 509 Efficient Curing ovens
13 200 202 Fans - Controls	12 700 702 High Efficiency Chiller Motors
5 200 202 Fans - Controls	3 800 805 Occupancy Sensor
8 720 722 Hybrid Dessicant-DX System (Trane CDQ)	9 200 210 Fans - Motor practices-1 (6-100 HP)
1 200 202 Fans - Controls	4 200 210 Fans - Motor practices-1 (6-100 HP)
15 700 702 High Efficiency Chiller Motors	2 100 110 Comp Air - Motor practices-1 (6-100 HP)
16 800 805 Occupancy Sensor	2 700 702 High Efficiency Chiller Motors
12 720 722 Hybrid Dessicant-DX System (Trane CDQ)	1 550 552 Optimization Refrigeration
8 200 203 Fans - System Optimization	16 200 210 Fans - Motor practices-1 (6-100 HP)
13 720 722 Hybrid Dessicant-DX System (Trane CDQ)	7 100 115 Refinery Controls
13 700 702 High Efficiency Chiller Motors	8 400 418 Extruders/injection Moulding-multipump
5 700 702 High Efficiency Chiller Motors	15 200 210 Fans - Motor practices-1 (6-100 HP)
1 700 702 High Efficiency Chiller Motors	13 200 210 Fans - Motor practices-1 (6-100 HP)
15 720 722 Hybrid Dessicant-DX System (Trane CDQ)	5 200 210 Fans - Motor practices-1 (6-100 HP)
3 720 722 Hybrid Dessicant-DX System (Trane CDQ)	1 200 210 Fans - Motor practices-1 (6-100 HP)
8 700 702 High Efficiency Chiller Motors	8 200 210 Fans - Motor practices-1 (6-100 HP)
8 200 202 Fans - Controls	3 200 214 Optimize drying process
5 720 722 Hybrid Dessicant-DX System (Trane CDQ)	11 200 210 Fans - Motor practices-1 (6-100 HP)
10 800 805 Occupancy Sensor	12 200 202 Fans - Controls
15 800 805 Occupancy Sensor	12 500 509 Efficient Curing ovens
16 500 509 Efficient Curing ovens	12 800 805 Occupancy Sensor
5 400 410 Efficient Printing press (fewer cylinders)	2 500 502 Drying (UV/IR)
13 800 805 Occupancy Sensor	14 200 210 Fans - Motor practices-1 (6-100 HP)
14 720 722 Hybrid Dessicant-DX System (Trane CDQ)	3 200 210 Fans - Motor practices-1 (6-100 HP)
7 200 210 Fans - Motor practices-1 (6-100 HP)	10 200 210 Fans - Motor practices-1 (6-100 HP)
11 700 702 High Efficiency Chiller Motors	10 500 508 Heating - Process Control
11 720 722 Hybrid Dessicant-DX System (Trane CDQ)	10 400 425 Drives - Process Control
15 500 509 Efficient Curing ovens	2 200 203 Fans - System Optimization
14 700 702 High Efficiency Chiller Motors	2 200 202 Fans - Controls
13 400 413 Clean Room - Controls	2 800 805 Occupancy Sensor
1 800 805 Occupancy Sensor	12 200 210 Fans - Motor practices-1 (6-100 HP)
13 500 509 Efficient Curing ovens	10 500 505 Efficient electric melting
14 200 203 Fans - System Optimization	2 900 902 Membranes for wastewater
3 700 702 High Efficiency Chiller Motors	2 200 210 Fans - Motor practices-1 (6-100 HP)
5 800 805 Occupancy Sensor	
12 200 203 Fans - System Optimization	
10 720 722 Hybrid Dessicant-DX System (Trane CDQ)	
10 700 702 High Efficiency Chiller Motors	
6 200 210 Fans - Motor practices-1 (6-100 HP)	
11 800 805 Occupancy Sensor	
4 400 408 Optimization control PM	

Exhibit No. (JAM 8) Progress Energy's Sensitivity Analysis

RIM	Summer System Peak			Winter System Peak			Annual Energy		
	Technical Potential	Economic Potential		Technical Potential	Economic Potential		Technical Potential	Economic Potential	
	(MW)	(MW)	(%)	(MW)	(MW)	(%)	(GWh)	(GWh)	(%)
Residential									
Base	2,140	2,015	94%	1,479	1,336	90%	8,232	6,476	79%
Low Capital	2,140	2,015	94%	1,479	1,336	90%	8,232	6,476	79%
High Capital	2,140	2,007	94%	1,479	1,339	91%	8,232	6,443	78%
\$0 Carbon	2,140	1,374	64%	1,479	1,074	73%	8,232	4,416	54%
Low Fuel/Carbon	2,140	999	47%	1,479	1,034	70%	8,232	2,927	36%
High Fuel/Carbon	2,140	2,140	100%	1,479	1,479	100%	8,232	8,232	100%
Commercial									
Base	743	694	93%	371	330	89%	3,648	3,526	97%
Low Capital	743	743	100%	371	353	95%	3,648	3,648	100%
High Capital	743	643	87%	371	308	83%	3,648	3,262	89%
\$0 Carbon	743	498	67%	371	277	75%	3,648	2,484	68%
Low Fuel/Carbon	743	320	43%	371	238	64%	3,648	1,482	41%
High Fuel/Carbon	743	743	100%	371	371	100%	3,648	3,648	100%
Industrial									
Base	60	50	84%	47	38	80%	471	410	87%
Low Capital	60	55	92%	47	41	88%	471	451	96%
High Capital	60	45	75%	47	34	72%	471	367	78%
\$0 Carbon	60	31	52%	47	29	62%	471	264	56%
Low Fuel/Carbon	60	22	37%	47	26	56%	471	167	35%
High Fuel/Carbon	60	60	100%	47	47	100%	471	471	100%
Total									
Base	2,942	2,760	94%	1,897	1,704	90%	12,351	10,412	84%
Low Capital	2,942	2,813	96%	1,897	1,730	91%	12,351	10,575	86%
High Capital	2,942	2,695	92%	1,897	1,681	89%	12,351	10,072	82%
\$0 Carbon	2,942	1,903	65%	1,897	1,380	73%	12,351	7,164	58%
Low Fuel/Carbon	2,942	1,341	46%	1,897	1,298	68%	12,351	4,575	37%
High Fuel/Carbon	2,942	2,942	100%	1,897	1,897	100%	12,351	12,351	100%

Exhibit No. (JAM 8) Progress Energy's Sensitivity Analysis

TRC	Summer System Peak			Winter System Peak			Annual Energy		
	Technical Potential	Economic Potential		Technical Potential	Economic Potential		Technical Potential	Economic Potential	
	(MW)	(MW)	(%)	(MW)	(MW)	(%)	(GWh)	(GWh)	(%)
Residential									
Base	2,140	1,539	72%	1,479	721	49%	8,232	6,194	75%
Low Capital	2,140	1,539	72%	1,479	721	49%	8,232	6,194	75%
High Capital	2,140	1,532	72%	1,479	717	48%	8,232	6,180	75%
\$0 Carbon	2,140	1,530	71%	1,479	687	46%	8,232	5,896	72%
Low Fuel/Carbon	2,140	1,467	69%	1,479	656	44%	8,232	5,782	70%
High Fuel/Carbon	2,140	1,757	82%	1,479	840	57%	8,232	6,970	85%
Commercial									
Base	743	505	68%	371	253	68%	3,648	2,280	63%
Low Capital	743	540	73%	371	271	73%	3,648	2,440	67%
High Capital	743	468	63%	371	234	63%	3,648	2,116	58%
\$0 Carbon	743	467	63%	371	234	63%	3,648	2,114	58%
Low Fuel/Carbon	743	448	60%	371	214	58%	3,648	1,979	54%
High Fuel/Carbon	743	617	83%	371	315	85%	3,648	2,745	75%
Industrial									
Base	60	37	61%	47	29	61%	471	265	56%
Low Capital	60	40	67%	47	32	68%	471	291	62%
High Capital	60	33	55%	47	26	55%	471	238	51%
\$0 Carbon	60	33	55%	47	26	55%	471	238	50%
Low Fuel/Carbon	60	31	52%	47	24	50%	471	223	47%
High Fuel/Carbon	60	46	77%	47	37	79%	471	328	70%
Total									
Base	2,942	2,080	71%	1,897	1,002	53%	12,351	8,739	71%
Low Capital	2,942	2,119	72%	1,897	1,023	54%	12,351	8,925	72%
High Capital	2,942	2,032	69%	1,897	976	51%	12,351	8,534	69%
\$0 Carbon	2,942	2,029	69%	1,897	947	50%	12,351	8,248	67%
Low Fuel/Carbon	2,942	1,946	66%	1,897	894	47%	12,351	7,984	65%
High Fuel/Carbon	2,942	2,420	82%	1,897	1,192	63%	12,351	10,044	81%

Exhibit No. (JAM 9) Measure List Used for Analysis

Residential EE

14 SEER Split-System Air Conditioner
15 SEER Split-System Air Conditioner
17 SEER Split-System Air Conditioner
19 SEER Split-System Air Conditioner
14 SEER Split-System Heat Pump
15 SEER Split-System Heat Pump
17 SEER Split-System Heat Pump
13 EER Geothermal Heat Pump
HVAC Proper Sizing
Attic Venting
Sealed Attic w/Sprayed Foam Insulated Roof Deck
AC Maintenance (Outdoor Coil Cleaning)
AC Maintenance (Indoor Coil Cleaning)
Proper Refrigerant Charging and Air Flow
Electronically Commutated Motors (ECM) on an Air Handler Unit
Duct Repair
Reflective Roof
Radiant Barrier
Window Film
Window Tinting
Default Window With Sunscreen
Single Pane Clear Windows to Double Pane Low-E Windows
Double Pane Clear Windows to Double Pane Low-E Windows
Ceiling R-0 to R-19 Insulation
Ceiling R-19 to R-39 Insulation
Wall 2x4 R-0 to Blow-In R-13 Insulation
Weather Strip/Caulk w/Blower Door
HE Room Air Conditioner – EER 11
HE Room Air Conditioner – EER 12
CFL (18-Watt Integral Ballast)
Premium T8, Electronic Ballast
Photocell/time clock
HE Refrigerator – Energy Star version of above
HE Freezer
Heat Pump Water Heater (EF=2.9)
HE Water Heater (EF=0.93)
Solar Water Heat
AC Heat Recovery Units
Low Flow Showerhead
Pipe Wrap
Faucet Aerators
Water Heater Blanket
Water Heater Temperature Check and Adjustment
Water Heater Time clock
Heat Trap
Energy Star CW CEE Tier 1 (MEF=1.8)
Energy Star CW CEE Tier 2 (MEF=2.0)
Energy Star CW CEE Tier 3 (MEF=2.2)
High Efficiency CD (EF=3.01 w/moisture sensor)

Energy Star DW (EF=0.68)
Two Speed Pool Pump (1.5 HP)
High Efficiency One Speed Pool Pump (1.5 HP)
Variable-Speed Pool Pump (<1 HP)
PV-Powered Pool Pumps
Energy Star TV
Energy Star TV
Energy Star Set-Top Box
Energy Star DVD Player
Energy Star VCR
Energy Star Desktop PC
Energy Star Laptop PC
Natural Gas High Energy Water Heater
Natural Gas Demand Tankless Water Heater

Commercial EE

Premium T8, Electronic Ballast
Premium T8, EB, Reflector
Occupancy Sensor
Continuous Dimming
Lighting Control Tune-up
CFL Screw-in 18W
CFL Hardwired, Modular 18W
SPMH, 250W, magnetic ballast
PSMH, 250 W, electronic ballast
High Bay T5
LED Exit Sign
High Pressure Sodium 250W Lamp
Outdoor Lighting Controls (Photocell/Time clock)
Centrifugal Chiller, 0.51 kW/ton, 500 tons
High Efficiency Chiller Motors
EMS – Chiller
Chiller Tune Up/Diagnostics
VSD for Chiller Pumps and Towers
EMS Optimization
Aerosol Duct Sealing
Duct/Pipe Insulation
Window Film (Standard)
Ceiling Insulation
Roof Insulation
Cool Roof
Thermal Energy Storage (TES)
DX Packaged System, EER=10.9, 10 tons
Hybrid Desiccant DX System (Trane CDQ)
Geothermal Heat Pump, EER-13, 10 tons
DX Tune Up/Advanced Diagnostics
DX Coil Cleaning
Optimize Controls
Packaged HP System, EER-10.9, 10 tons
Geothermal Heat Pump, EER-13, 10 tons
HE PTAC, EER=9.6, 1 ton
Occupancy Sensor (hotels)
High Efficiency Fan Motor, 15 HP, 1800 rpm, 92.4%

Exhibit No. (JAM 9) Measure List Used for Analysis

Variable Speed Drive Control
Air Handler Optimization
Electronically Commutated Motors (ECM) on an Air Handler Unit
Demand Control Ventilation (DCV)
Energy Recovery Ventilation (ERV)
Separate Makeup Air/Exhaust Hoods AC
High-efficiency fan motors
Strip curtains for walk-ins
Night covers for display cases
Evaporator fan controller for MT walk-ins
Efficient compressor motor
Compressor VSD retrofit
Floating head pressure controls
Refrigeration commissioning
Demand Hot Gas Defrost
Demand Defrost Electric
Anti-sweat (humidistat) controls
High R-Value Glass Doors
Multiplex Compressor System
Oversized Air Cooled condenser
Freezer-Cooler Replacement Gaskets
LED Display Lighting
High Efficiency Water Heater (electric)
Heat Pump Water Heater (air source)
Solar Water Heater
Demand controlled circulating systems
Heat Recovery Unit
Heat Trap
Hot Water Pipe Insulation
PC Manual Power Management Enabling
PC Network Power Management Enabling
Energy Star or Better CRT Monitor
CRT Monitor Power management Enabling
Energy Star or Better LCD Monitor
LCD Monitor Power Management Enabling
Energy Star or Better Copier
Copier Power Management Enabling
Printer Power Management Enabling
Convection Oven
Efficient Fryer
Vending Misers (cooled machines only)
Compressed Air – O&M
Compressed Air – Controls
Compressed Air – System Optimization
Compressed Air – Sizing
Comp Air – Replace 1-5 HP motor
Comp Air – ASD (1-5 HP)
Comp Air – Motor practices-1 (1-5 HP)
Comp Air – Replace 6-100 HP motor
Comp Air – ASD (6-100 HP)
Comp Air – Motor practices – 1 (6-100 HP)
Comp Air – Replace 100+ HP motor
Comp Air – ASD (100+ HP)
Comp Air – Motor practices-1 (100+ HP)
Power recovery
Refinery Controls
Fans – O&M
Fans – Controls
Fans – System Optimization
Fans – Improve components
Fans – Replace 1-5 HP Motor
Fans – ASD (1-5 HP)
Fans – Motor practices – 1 (1-5 HP)
Fans – Replace 6-100 HP Motor
Fans – ASD (6-100 HP)
Fans – Motor practices – 1 (6-100 HP)
Fans – Replace 100+ HP motor

Industrial EE
Fans – ASD (100+ HP)
Fans – Motor practices-1 (100+ MP)
Optimize drying process
Pumps – O&M
Pumps – Controls
Pumps – System Optimization
Pumps – Sizing
Pumps – Replace 1-5 HP Motor
Pumps – ASD (1-5 HP)
Pumps – Motor practices-1 (1-5 HP)
Pumps – Replace 6-100 HP Motor
Pumps – ASD (6-100 HP)
Pumps – Motor practices-1 (100+ HP)
Pumps – Replace 100+ HP Motor
Pumps – ASD (100+ HP)
Pumps – Motor practices-1 (100+ HP)
Low Pressure Nozzle
Micro Watering System
Pump Retrofit – Irrigation
Bakery – Process (Mixing) – O&M
O&M/drives spinning machines
Air conveying systems
Replace V-Belts
Drives – EE motor
Gap Forming paper machine
High Consistency forming
Optimization control PM
Efficient practices printing press
Efficient Printing press 9fewer cylinders)
Light cylinders
Efficient drives
Clean Room – Controls
Clean Room – New Designs
Drives – Process Controls (batch + site)
Process Drives – ASD

Exhibit No. (JAM 9) Measure List Used for Analysis

O&M – Extruders/Injection Molding
Extruders/Injection Molding-multi pump
Direct drive extruders
Injection Molding – Impulse Cooling
Injection Molding – Direct drive
Efficient grinding
Process Control
Process Optimization
Drives – Process Control
Efficient Drives – Rolling
Drives – Optimization Process (M&T)
Drives – Scheduling
Machinery
Efficient Machinery
Bakery – Process
Drying (UV/IR)
Heat Pumps – Drying
Top-heating (Glass)
Efficient Electric Melting
Intelligent Extruder (DOE)
Near Net Shape Casting
Heating – Process Control
Efficient Curing Ovens
Heating – Optimization Process (M&T)
Heating – Scheduling
Efficient Refrigeration – Operations
Optimization Refrigeration
Other Process Controls (batch & site)
Efficient Desalter
New Transformers Welding
Efficient Processes (Welding, etc.)
Process control
Centrifugal Chiller, 0.51 kW/ton, 500 tons
High Efficiency Chiller Motors
EMS – Chiller
Chiller Tune Up/Diagnostics
VSD for Chiller Pumps and Towers
EMS Optimization – Chiller
Aerosol Duct Sealing – Chiller
Duct/Pipe Insulation – chiller
Window Film (Standard) Chiller
Roof Insulation – Chiller
Cool Roof – Chiller
Thermal Energy Storage (TES) – Chiller
DX Packaged System, EER = 10.9m 10 tons
Hybrid Desiccant DX system (Trane CD Q)
Geothermal Heat Pump, EER=13, 10 tons
DX Tune Up/Advanced Diagnostics
DX Coil Cleaning
Optimize Controls
Premium T8, Electronic Ballast
CFL Hardwired, Modular 18W
CFL Screw-in 18W

High bay T5
Occupancy Sensor
Replace V-belts
Membranes for wastewater

Residential DR

Switch – Cycling Program
Switch – Shedding Program
Smart Thermostats
In Home Display with Peak threshold Warning System
& Pre-Set Control Strategies
On-Off Switching via low-power wireless
communication technology

Commercial/Industrial DR

Automated control Strategies
Direct Load Control System

Residential PV

Rooftop Solar PV

Commercial PV

Rooftop Solar PV
PV Mounted on Commercial Parking Lot Shade
Structures

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
For Achievable Study Analysis**

RIM

Residential

MF 190 203 Ceiling R-19 to R-38 Insulation	SF 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)
MF 130 151 Ceiling R-19 to R-38 Insulation	MH 100 126 Wall 2x4 R-0 to Blow-In R-13 Insulation
MF 100 125 Ceiling R-19 to R-38 Insulation	SF 700 701 Energy Star DW (EF=0.68)
MH 190 203 Ceiling R-19 to R-38 Insulation	MH 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)
MH 100 125 Ceiling R-19 to R-38 Insulation	MF 130 145 Window Film
MH 130 151 Ceiling R-19 to R-38 Insulation	MF 250 251 ROB 2L4'T8, 1EB
SF 190 203 Ceiling R-19 to R-38 Insulation	SF 250 251 ROB 2L4'T8, 1EB
MF 190 204 Wall 2x4 R-0 to Blow-In R-13 Insulation	MH 250 251 ROB 2L4'T8, 1EB
MF 400 406 Pipe Wrap	SF 100 126 Wall 2x4 R-0 to Blow-In R-13 Insulation
SF 190 204 Wall 2x4 R-0 to Blow-In R-13 Insulation	MH 130 152 Wall 2x4 R-0 to Blow-In R-13 Insulation
MH 190 204 Wall 2x4 R-0 to Blow-In R-13 Insulation	MF 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)
SF 130 151 Ceiling R-19 to R-38 Insulation	SF 190 198 Window Tinting
SF 100 125 Ceiling R-19 to R-38 Insulation	SF 130 144 Radiant Barrier
MH 400 406 Pipe Wrap	SF 130 152 Wall 2x4 R-0 to Blow-In R-13 Insulation
SF 190 197 Window Film	MH 300 301 HE Refrigerator - Energy Star version of above
SF 400 406 Pipe Wrap	SF 300 301 HE Refrigerator - Energy Star version of above
MF 400 403 Solar Water Heat	SF 100 118 Radiant Barrier
MH 190 205 Weather Strip/Caulk w/Blower Door	MF 100 119 Window Film
MH 400 403 Solar Water Heat	MF 300 301 HE Refrigerator - Energy Star version of above
MF 190 205 Weather Strip/Caulk w/Blower Door	MH 130 145 Window Film
MF 500 503 Energy Star CW CEE Tier 3 (MEF=2.2)	SF 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)
SF 500 503 Energy Star CW CEE Tier 3 (MEF=2.2)	MH 400 410 Water Heater Timeclock
SF 190 205 Weather Strip/Caulk w/Blower Door	MH 130 144 Radiant Barrier
SF 350 351 HE Freezer	MF 130 131 14 SEER Split-System Heat Pump
MH 350 351 HE Freezer	MH 700 701 Energy Star DW (EF=0.68)
MF 130 153 Weather Strip/Caulk w/Blower Door	MF 700 701 Energy Star DW (EF=0.68)
MF 400 409 Water Heater Temperature Check and Adjustment	MF 400 410 Water Heater Timeclock
MH 400 409 Water Heater Temperature Check and Adjustment	MF 100 118 Radiant Barrier
MF 100 127 Weather Strip/Caulk w/Blower Door	MH 500 503 Energy Star CW CEE Tier 3 (MEF=2.2)
MF 100 126 Wall 2x4 R-0 to Blow-In R-13 Insulation	MF 100 111 Sealed Attic w/Sprayed Foam Insulated Roof Deck
MH 130 153 Weather Strip/Caulk w/Blower Door	MF 190 202 Ceiling R-0 to R-19 insulation
SF 400 403 Solar Water Heat	SF 400 410 Water Heater Timeclock
MF 130 152 Wall 2x4 R-0 to Blow-In R-13 Insulation	MH 400 401 Heat Pump Water Heater (EF=2.9)
MH 100 127 Weather Strip/Caulk w/Blower Door	SF 100 111 Sealed Attic w/Sprayed Foam Insulated Roof Deck
MF 350 351 HE Freezer	MH 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)
SF 130 153 Weather Strip/Caulk w/Blower Door	MH 100 119 Window Film
SF 100 127 Weather Strip/Caulk w/Blower Door	MF 130 150 Ceiling R-0 to R-19 Insulation
MH 190 197 Window Film	MH 100 111 Sealed Attic w/Sprayed Foam Insulated Roof Deck
MF 190 197 Window Film	SF 400 401 Heat Pump Water Heater (EF=2.9)
SF 100 119 Window Film	MF 400 401 Heat Pump Water Heater (EF=2.9)
SF 130 145 Window Film	MF 130 139 AC Maintenance (Indoor Coil Cleaning)
MF 130 144 Radiant Barrier	MF 100 104 19 SEER Split-System Air Conditioner
MF 260 251 ROB 2L4'T8, 1EB	MF 100 106 15 SEER Split-System Heat Pump
SF 260 251 ROB 2L4'T8, 1EB	MF 100 102 15 SEER Split-System Air Conditioner
MH 260 251 ROB 2L4'T8, 1EB	
MF 500 502 Energy Star CW CEE Tier 2 (MEF=2.0)	

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
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SF 130 137 Sealed Attics	MH 130 132 15 SEER Split-System Heat Pump
MH 190 196 Reflective Roof	MH 100 103 17 SEER Split-System Air Conditioner
MF 100 113 AC Maintenance (Indoor Coil Cleaning)	SF 130 133 17 SEER Split-System Heat Pump
MF 130 138 AC Maintenance (Outdoor Coil Cleaning)	SF 130 131 14 SEER Split-System Heat Pump
MH 800 804 PV-Powered Pool Pumps	MH 100 106 15 SEER Split-System Heat Pump
SF 800 804 PV-Powered Pool Pumps	SF 100 107 17 SEER Split-System Heat Pump
MF 800 804 PV-Powered Pool Pumps	SF 100 104 19 SEER Split-System Air Conditioner
MF 800 803 Variable-Speed Pool Pump (<1 hp)	MH 100 102 15 SEER Split-System Air Conditioner
MH 800 803 Variable-Speed Pool Pump (<1 hp)	SF 130 132 15 SEER Split-System Heat Pump
SF 800 803 Variable-Speed Pool Pump (<1 hp)	MF 190 192 HE Room Air Conditioner - EER 12
MH 400 404 AC Heat Recovery Units	SF 100 103 17 SEER Split-System Air Conditioner
SF 100 117 Reflective Roof	MH 190 192 HE Room Air Conditioner - EER 12
SF 190 202 Ceiling R-0 to R-19 Insulation	MF 130 142 Duct Repair
SF 190 196 Reflective Roof	SF 100 106 15 SEER Split-System Heat Pump
MH 130 137 Sealed Attics	MF 100 105 14 SEER Split-System Heat Pump
MF 190 196 Reflective Roof	MF 100 116 Duct Repair
MF 100 101 14 SEER Split-System Air Conditioner	MH 100 101 14 SEER Split-System Air Conditioner
MF 100 107 17 SEER Split-System Heat Pump	SF 190 192 HE Room Air Conditioner - EER 12
MF 130 140 Proper Refrigerant Charging and Air Flow	SF 100 102 15 SEER Split-System Air Conditioner
MF 100 112 AC Maintenance (Outdoor Coil Cleaning)	MH 100 105 14 SEER Split-System Heat Pump
MH 100 117 Reflective Roof	MH 130 142 Duct Repair
MH 190 202 Ceiling R-0 to R-19 Insulation	SF 100 124 Ceiling R-0 to R-19 Insulation
MH 130 143 Reflective Roof	SF 100 105 14 SEER Split-System Heat Pump
MF 400 404 AC Heat Recovery Units	SF 100 101 14 SEER Split-System Air Conditioner
MF 100 117 Reflective Roof	MH 100 116 Duct Repair
SF 130 150 Ceiling R-0 to R-19 Insulation	Natural Gas High Energy Water Heater
MF 130 137 Sealed Attics	Natural Gas Demand Tankless Water Heater
MH 100 118 Radient Barrier	Rooftop Solar PV
MH 100 124 Ceiling R-0 to R-19 Insulation	
SF 190 199 Default Window With Sunscreen	Commercial
MH 130 150 Ceiling R-0 to R-19 Insulation	10-110-113 Occupancy Sensor
SF 400 404 AC Heat Recovery Units	10-110-114 Continuous Dimming
MF 100 114 Proper Refrigerant Charging and Air Flow	10-120-123 Occupancy Sensor
SF 130 146 Window Tinting	10-120-124 Lighting Control Tuneup
SF 130 143 Reflective Roof	10-200-201 High Pressure Sodium 250W Lamp
MH 190 200 Single Pane Clear Windows to Double Pane Low-E Windows	10-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
SF 130 139 AC Maintenance (Indoor Coil Cleaning)	10-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
SF 190 200 Single Pane Clear Windows to Double Pane Low-E Windows	10-300-305 Chiller Tune Up/Diagnostics
MF 190 198 Window Tinting	10-300-311 Window Film (Standard)
MF 100 124 Ceiling R-0 to R-19 Insulation	10-300-315 Cool Roof - Chiller
MH 190 198 Window Tinting	10-320-321 DX Packaged System, EER=10.9, 10 tons
MH 190 199 Default Window With Sunscreen	10-320-322 Hybrid Dessicant-DX System (Trane CDQ)
MF 130 133 17 SEER Split-System Heat Pump	10-320-323 Geothermal Heat Pump, EER=13, 10 tons
MH 130 131 14 SEER Split-System Heat Pump	10-320-326 DX Tune Up/ Advanced Diagnostics
MH 130 133 17 SEER Split-System Heat Pump	10-320-332 Window Film (Standard)
MF 100 103 17 SEER Split-System Air Conditioner	10-320-336 Cool Roof - DX
MF 130 132 15 SEER Split-System Heat Pump	10-340-341 Packaged HP System, EER=10.9, 10 tons
MH 100 104 19 SEER Split-System Air Conditioner	10-340-342 Geothermal Heat Pump, EER=13, 10 tons
MH 100 107 17 SEER Split-System Heat Pump	10-340-347 Window Film (Standard)
	10-340-351 Cool Roof - DX
	10-360-362 Occupancy Sensor (hotels)

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
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10-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
10-400-402 Variable Speed Drive Control
10-400-403 Air Handler Optimization
10-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
10-400-405 Demand Control Ventilation (DCV)
10-400-406 Energy Recovery Ventilation (ERV)
10-600-601 High Efficiency Water Heater (electric)
10-600-603 Heat Pump Water Heater (air source)
10-600-604 Solar Water Heater
10-600-606 Demand controlled circulating systems
10-600-610 Hot Water Pipe Insulation
10-720-722 Monitor Power Management Enabling
10-800-801 Convection Oven
10-810-811 Efficient Fryer
1-110-113 Occupancy Sensor
11-110-113 Occupancy Sensor
11-120-123 Occupancy Sensor
11-200-201 High Pressure Sodium 250W Lamp
11-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
1-120-123 Occupancy Sensor
11-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
11-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
11-300-302 High Efficiency Chiller Motors
11-300-304 EMS - Chiller
11-300-305 Chiller Tune Up/Diagnostics
11-300-306 VSD for Chiller Pumps and Towers
11-300-307 EMS Optimization
11-300-311 Window Film (Standard)
11-300-314 Roof Insulation
11-300-315 Cool Roof - Chiller
11-320-321 DX Packaged System, EER=10.9, 10 tons
11-320-322 Hybrid Dessicant-DX System (Trane CDQ)
11-320-323 Geothermal Heat Pump, EER=13, 10 tons
11-320-326 DX Tune Up/ Advanced Diagnostics
11-320-332 Window Film (Standard)
11-320-336 Cool Roof - DX
11-340-341 Packaged HP System, EER=10.9, 10 tons
11-340-342 Geothermal Heat Pump, EER=13, 10 tons
11-340-347 Window Film (Standard)
11-340-351 Cool Roof - DX
11-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
11-400-402 Variable Speed Drive Control
11-400-403 Air Handler Optimization
11-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
11-400-405 Demand Control Ventilation (DCV)
11-600-601 High Efficiency Water Heater (electric)
11-600-603 Heat Pump Water Heater (air source)
11-600-604 Solar Water Heater
11-600-606 Demand controlled circulating systems
11-600-608 Heat Recovery Unit
11-600-610 Hot Water Pipe Insulation
11-720-722 Monitor Power Management Enabling
11-800-801 Convection Oven
11-810-811 Efficient Fryer
2-110-113 Occupancy Sensor
2-120-123 Occupancy Sensor
2-200-201 High Pressure Sodium 250W Lamp
2-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
2-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
2-300-302 High Efficiency Chiller Motors
2-300-304 EMS - Chiller
2-300-311 Window Film (Standard)
2-320-321 DX Packaged System, EER=10.9, 10 tons
2-320-322 Hybrid Dessicant-DX System (Trane CDQ)
2-340-341 Packaged HP System, EER=10.9, 10 tons
2-360-362 Occupancy Sensor (hotels)
11-600-604 Solar Water Heater
11-600-606 Demand controlled circulating systems
11-600-608 Heat Recovery Unit
11-800-801 Convection Oven
1-200-201 High Pressure Sodium 250W Lamp
1-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
1-300-302 High Efficiency Chiller Motors
1-300-304 EMS - Chiller
1-300-305 Chiller Tune Up/Diagnostics
1-300-306 VSD for Chiller Pumps and Towers
1-300-311 Window Film (Standard)
1-300-315 Cool Roof - Chiller
1-320-321 DX Packaged System, EER=10.9, 10 tons
1-320-322 Hybrid Dessicant-DX System (Trane CDQ)
1-320-323 Geothermal Heat Pump, EER=13, 10 tons
1-320-326 DX Tune Up/ Advanced Diagnostics
1-320-332 Window Film (Standard)
1-340-341 Packaged HP System, EER=10.9, 10 tons
1-340-342 Geothermal Heat Pump, EER=13, 10 tons
1-340-347 Window Film (Standard)
1-360-361 HE PTAC, EER=9.6, 1 ton
1-360-362 Occupancy Sensor (hotels)
1-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
1-400-402 Variable Speed Drive Control
1-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
1-400-405 Demand Control Ventilation (DCV)
1-400-406 Energy Recovery Ventilation (ERV)
1-600-601 High Efficiency Water Heater (electric)
1-600-603 Heat Pump Water Heater (air source)
1-600-604 Solar Water Heater
1-600-606 Demand controlled circulating systems
1-600-608 Heat Recovery Unit
1-600-610 Hot Water Pipe Insulation
1-720-722 Monitor Power Management Enabling
1-800-801 Convection Oven
1-810-811 Efficient Fryer
2-110-113 Occupancy Sensor
2-120-123 Occupancy Sensor
2-200-201 High Pressure Sodium 250W Lamp
2-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
2-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
2-300-302 High Efficiency Chiller Motors
2-300-304 EMS - Chiller
2-300-311 Window Film (Standard)
2-320-321 DX Packaged System, EER=10.9, 10 tons
2-320-322 Hybrid Dessicant-DX System (Trane CDQ)
2-340-341 Packaged HP System, EER=10.9, 10 tons
2-360-362 Occupancy Sensor (hotels)

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
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2-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	4-320-322 Hybrid Dessicant-DX System (Trane CDQ)
2-400-402 Variable Speed Drive Control	4-320-323 Geothermal Heat Pump, EER=13, 10 tons
2-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit	4-340-341 Packaged HP System, EER=10.9, 10 tons
2-400-405 Demand Control Ventilation (DCV)	4-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
2-400-406 Energy Recovery Ventilation (ERV)	4-400-405 Demand Control Ventilation (DCV)
2-600-601 High Efficiency Water Heater (electric)	4-400-406 Energy Recovery Ventilation (ERV)
2-600-603 Heat Pump Water Heater (air source)	4-500-501 High-efficiency fan motors
2-600-604 Solar Water Heater	4-500-504 Evaporator fan controller for MT walk-ins
2-600-606 Demand controlled circulating systems	4-500-506 Compressor VSD retrofit
2-600-610 Hot Water Pipe Insulation	4-500-513 High R-Value Glass Doors
2-720-722 Monitor Power Management Enabling	4-500-514 Multiplex Compressor System
2-800-801 Convection Oven	4-500-515 Oversized Air Cooled Condenser
2-810-811 Efficient Fryer	4-500-517 LED Display Lighting
3-110-113 Occupancy Sensor	4-600-601 High Efficiency Water Heater (electric)
3-120-123 Occupancy Sensor	4-600-603 Heat Pump Water Heater (air source)
3-200-201 High Pressure Sodium 250W Lamp	4-600-604 Solar Water Heater
3-210-211 Outdoor Lighting Controls (Photocell/Timeclock)	4-600-606 Demand controlled circulating systems
3-300-302 High Efficiency Chiller Motors	4-600-610 Hot Water Pipe Insulation
3-300-304 EMS - Chiller	4-720-722 Monitor Power Management Enabling
3-300-311 Window Film (Standard)	4-800-801 Convection Oven
3-300-315 Cool Roof - Chiller	4-810-811 Efficient Fryer
3-320-321 DX Packaged System, EER=10.9, 10 tons	5-110-113 Occupancy Sensor
3-320-322 Hybrid Dessicant-DX System (Trane CDQ)	5-120-121 ROB Premium T8, 1EB
3-320-323 Geothermal Heat Pump, EER=13, 10 tons	5-120-123 Occupancy Sensor
3-320-332 Window Film (Standard)	5-200-201 High Pressure Sodium 250W Lamp
3-340-341 Packaged HP System, EER=10.9, 10 tons	5-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
3-340-347 Window Film (Standard)	5-300-302 High Efficiency Chiller Motors
3-360-362 Occupancy Sensor (hotels)	5-300-304 EMS - Chiller
3-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	5-300-305 Chiller Tune Up/Diagnostics
3-400-402 Variable Speed Drive Control	5-300-306 VSD for Chiller Pumps and Towers
3-400-403 Air Handler Optimization	5-300-311 Window Film (Standard)
3-400-405 Demand Control Ventilation (DCV)	5-300-315 Cool Roof - Chiller
3-400-406 Energy Recovery Ventilation (ERV)	5-320-321 DX Packaged System, EER=10.9, 10 tons
3-600-601 High Efficiency Water Heater (electric)	5-320-322 Hybrid Dessicant-DX System (Trane CDQ)
3-600-603 Heat Pump Water Heater (air source)	5-320-323 Geothermal Heat Pump, EER=13, 10 tons
3-600-604 Solar Water Heater	5-320-326 DX Tune Up/ Advanced Diagnostics
3-600-606 Demand controlled circulating systems	5-320-332 Window Film (Standard)
3-600-608 Heat Recovery Unit	5-340-341 Packaged HP System, EER=10.9, 10 tons
3-600-610 Hot Water Pipe Insulation	5-340-347 Window Film (Standard)
3-720-722 Monitor Power Management Enabling	5-360-361 HE PTAC, EER=9.6, 1 ton
3-800-801 Convection Oven	5-360-362 Occupancy Sensor (hotels)
3-810-811 Efficient Fryer	5-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
4-110-113 Occupancy Sensor	5-400-402 Variable Speed Drive Control
4-120-123 Occupancy Sensor	5-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
4-200-201 High Pressure Sodium 250W Lamp	5-400-405 Demand Control Ventilation (DCV)
4-210-211 Outdoor Lighting Controls (Photocell/Timeclock)	5-400-406 Energy Recovery Ventilation (ERV)
4-300-302 High Efficiency Chiller Motors	5-600-601 High Efficiency Water Heater (electric)
4-300-304 EMS - Chiller	5-600-604 Solar Water Heater
4-300-311 Window Film (Standard)	5-600-606 Demand controlled circulating systems
4-320-321 DX Packaged System, EER=10.9, 10 tons	

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5-600-610 Hot Water Pipe Insulation	7-720-722 Monitor Power Management Enabling
5-720-722 Monitor Power Management Enabling	7-800-801 Convection Oven
5-800-801 Convection Oven	7-810-811 Efficient Fryer
5-810-811 Efficient Fryer	8-110-113 Occupancy Sensor
6-110-112 Premium T8, EB, Reflector	8-120-123 Occupancy Sensor
6-110-113 Occupancy Sensor	8-200-201 High Pressure Sodium 250W Lamp
6-120-121 ROB Premium T8, 1EB	8-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
6-120-122 ROB Premium T8, EB, Reflector	8-300-302 High Efficiency Chiller Motors
6-120-123 Occupancy Sensor	8-300-304 EMS - Chiller
6-200-201 High Pressure Sodium 250W Lamp	8-300-306 VSD for Chiller Pumps and Towers
6-300-302 High Efficiency Chiller Motors	8-300-311 Window Film (Standard)
6-300-304 EMS - Chiller	8-320-321 DX Packaged System, EER=10.9, 10 tons
6-300-305 Chiller Tune Up/Diagnostics	8-320-322 Hybrid Dessicant-DX System (Trane CDQ)
6-300-306 VSD for Chiller Pumps and Towers	8-320-323 Geothermal Heat Pump, EER=13, 10 tons
6-300-311 Window Film (Standard)	8-320-332 Window Film (Standard)
6-300-315 Cool Roof - Chiller	8-340-341 Packaged HP System, EER=10.9, 10 tons
6-320-321 DX Packaged System, EER=10.9, 10 tons	8-340-347 Window Film (Standard)
6-320-322 Hybrid Dessicant-DX System (Trane CDQ)	8-360-361 HE PTAC, EER=9.6, 1 ton
6-320-323 Geothermal Heat Pump, EER=13, 10 tons	8-360-362 Occupancy Sensor (hotels)
6-320-326 DX Tune Up/ Advanced Diagnostics	8-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
6-320-332 Window Film (Standard)	8-400-402 Variable Speed Drive Control
6-320-336 Cool Roof - DX	8-400-405 Demand Control Ventilation (DCV)
6-340-341 Packaged HP System, EER=10.9, 10 tons	8-600-601 High Efficiency Water Heater (electric)
6-340-342 Geothermal Heat Pump, EER=13, 10 tons	8-600-603 Heat Pump Water Heater (air source)
6-340-347 Window Film (Standard)	8-600-604 Solar Water Heater
6-340-351 Cool Roof - DX	8-600-610 Hot Water Pipe Insulation
6-360-361 HE PTAC, EER=9.6, 1 ton	8-720-722 Monitor Power Management Enabling
6-360-362 Occupancy Sensor (hotels)	8-800-801 Convection Oven
6-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	8-810-811 Efficient Fryer
6-400-402 Variable Speed Drive Control	9-110-113 Occupancy Sensor
6-400-405 Demand Control Ventilation (DCV)	9-110-114 Continuous Dimming
6-400-406 Energy Recovery Ventilation (ERV)	9-120-123 Occupancy Sensor
6-600-601 High Efficiency Water Heater (electric)	9-120-124 Lighting Control Tuneup
6-600-604 Solar Water Heater	9-200-201 High Pressure Sodium 250W Lamp
6-600-608 Heat Recovery Unit	9-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
6-600-610 Hot Water Pipe Insulation	9-300-302 High Efficiency Chiller Motors
6-720-722 Monitor Power Management Enabling	9-300-304 EMS - Chiller
6-800-801 Convection Oven	9-300-305 Chiller Tune Up/Diagnostics
6-810-811 Efficient Fryer	9-300-306 VSD for Chiller Pumps and Towers
7-110-113 Occupancy Sensor	9-300-307 EMS Optimization
7-120-123 Occupancy Sensor	9-300-311 Window Film (Standard)
7-200-201 High Pressure Sodium 250W Lamp	9-300-313 Ceiling Insulation
7-210-211 Outdoor Lighting Controls (Photocell/Timeclock)	9-300-314 Roof Insulation
7-320-321 DX Packaged System, EER=10.9, 10 tons	9-300-315 Cool Roof - Chiller
7-320-336 Cool Roof - DX	9-320-321 DX Packaged System, EER=10.9, 10 tons
7-340-341 Packaged HP System, EER=10.9, 10 tons	9-320-322 Hybrid Dessicant-DX System (Trane CDQ)
7-340-351 Cool Roof - DX	9-320-323 Geothermal Heat Pump, EER=13, 10 tons
7-360-362 Occupancy Sensor (hotels)	9-320-326 DX Tune Up/ Advanced Diagnostics
7-400-405 Demand Control Ventilation (DCV)	9-320-328 Optimize Controls
7-600-604 Solar Water Heater	9-320-332 Window Film (Standard)
7-600-610 Hot Water Pipe Insulation	9-320-334 Ceiling Insulation

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9-320-335 Roof Insulation	1 720 722 Hybrid Dessicant-DX System (Trane CDQ)
9-320-336 Cool Roof - DX	1 720 723 Geothermal Heat Pump, EER=13, 10 tons
9-340-341 Packaged HP System, EER=10.9, 10 tons	1 720 724 DX Tune Up/ Advanced Diagnostics
9-340-342 Geothermal Heat Pump, EER=13, 10 tons	1 720 728 Duct/Pipe Insulation
9-340-347 Window Film (Standard)	1 720 729 Window Film (Standard)
9-340-349 Ceiling Insulation	1 720 730 Roof Insulation
9-340-350 Roof Insulation	1 720 731 Cool Roof - DX
9-340-351 Cool Roof - DX	10 100 105 Comp Air - Replace 1-5 HP motor
9-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	10 100 106 Comp Air - ASD (1-5 hp)
9-400-402 Variable Speed Drive Control	10 100 107 Comp Air - Motor practices-1 (1-5 HP)
9-400-403 Air Handler Optimization	10 100 108 Comp Air - Replace 6-100 HP motor
9-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit	10 100 110 Comp Air - Motor practices-1 (6-100 HP)
9-400-405 Demand Control Ventilation (DCV)	10 100 111 Comp Air - Replace 100+ HP motor
9-600-601 High Efficiency Water Heater (electric)	10 200 205 Fans - Replace 1-5 HP motor
9-600-603 Heat Pump Water Heater (air source)	10 200 206 Fans - ASD (1-5 hp)
9-600-604 Solar Water Heater	10 200 207 Fans - Motor practices-1 (1-5 HP)
9-600-606 Demand controlled circulating systems	10 200 208 Fans - Replace 6-100 HP motor
9-600-608 Heat Recovery Unit	10 200 210 Fans - Motor practices-1 (6-100 HP)
9-600-610 Hot Water Pipe Insulation	10 200 211 Fans - Replace 100+ HP motor
9-720-722 Monitor Power Management Enabling	10 300 305 Pumps - Replace 1-5 HP motor
9-800-801 Convection Oven	10 300 306 Pumps - ASD (1-5 hp)
Rooftop Solar PV	10 300 308 Pumps - Replace 6-100 HP motor
PV Mounted on Commercial Parking Lot Shade Structures	10 300 310 Pumps - Motor practices-1 (6-100 HP)
	10 300 311 Pumps - Replace 100+ HP motor
	10 300 313 Pumps - Motor practices-1 (100+ HP)
Industrial	10 400 415 Drives - Process Controls (batch + site)
1 100 105 Comp Air - Replace 1-5 HP motor	10 400 425 Drives - Process Control
1 100 106 Comp Air - ASD (1-5 hp)	10 500 506 Intelligent extruder (DOE)
1 100 108 Comp Air - Replace 6-100 HP motor	10 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
1 100 110 Comp Air - Motor practices-1 (6-100 HP)	10 700 702 High Efficiency Chiller Motors
1 100 111 Comp Air - Replace 100+ HP motor	10 700 703 EMS - Chiller
1 200 205 Fans - Replace 1-5 HP motor	10 700 704 Chiller Tune Up/Diagnostics
1 200 206 Fans - ASD (1-5 hp)	10 700 708 Duct/Pipe Insulation - Chiller
1 200 208 Fans - Replace 6-100 HP motor	10 700 709 Window Film (Standard) - Chiller
1 200 211 Fans - Replace 100+ HP motor	10 700 710 Roof Insulation - Chiller
1 300 305 Pumps - Replace 1-5 HP motor	10 700 711 Cool Roof - Chiller
1 300 306 Pumps - ASD (1-5 hp)	10 720 721 DX Packaged System, EER=10.9, 10 tons
1 300 307 Pumps - Motor practices-1 (1-5 HP)	10 720 722 Hybrid Dessicant-DX System (Trane CDQ)
1 300 308 Pumps - Replace 6-100 HP motor	10 720 723 Geothermal Heat Pump, EER=13, 10 tons
1 300 310 Pumps - Motor practices-1 (6-100 HP)	10 720 724 DX Tune Up/ Advanced Diagnostics
1 300 311 Pumps - Replace 100+ HP motor	10 720 728 Duct/Pipe Insulation
1 300 313 Pumps - Motor practices-1 (100+ HP)	10 720 729 Window Film (Standard)
1 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	10 720 730 Roof Insulation
1 700 702 High Efficiency Chiller Motors	10 720 731 Cool Roof - DX
1 700 703 EMS - Chiller	11 100 105 Comp Air - Replace 1-5 HP motor
1 700 704 Chiller Tune Up/Diagnostics	11 100 106 Comp Air - ASD (1-5 hp)
1 700 708 Duct/Pipe Insulation - Chiller	11 100 107 Comp Air - Motor practices-1 (1-5 HP)
1 700 709 Window Film (Standard) - Chiller	11 100 108 Comp Air - Replace 6-100 HP motor
1 700 710 Roof Insulation - Chiller	11 100 111 Comp Air - Replace 100+ HP motor
1 700 711 Cool Roof - Chiller	11 200 205 Fans - Replace 1-5 HP motor
1 720 721 DX Packaged System, EER=10.9, 10 tons	11 200 206 Fans - ASD (1-5 hp)

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
For Achievable Study Analysis**

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|---|---|
| 11 200 208 Fans - Replace 6-100 HP motor | 12 720 724 DX Tune Up/ Advanced Diagnostics |
| 11 200 210 Fans - Motor practices-1 (6-100 HP) | 12 720 728 Duct/Pipe Insulation |
| 11 300 305 Pumps - Replace 1-5 HP motor | 12 720 729 Window Film (Standard) |
| 11 300 306 Pumps - ASD (1-5 hp) | 12 720 730 Roof Insulation |
| 11 300 308 Pumps - Replace 6-100 HP motor | 12 720 731 Cool Roof - DX |
| 11 300 310 Pumps - Motor practices-1 (6-100 HP) | 13 100 105 Comp Air - Replace 1-5 HP motor |
| 11 300 311 Pumps - Replace 100+ HP motor | 13 100 106 Comp Air - ASD (1-5 hp) |
| 11 300 313 Pumps - Motor practices-1 (100+ HP) | 13 100 108 Comp Air - Replace 6-100 HP motor |
| 11 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons | 13 100 110 Comp Air - Motor practices-1 (6-100 HP) |
| 11 700 702 High Efficiency Chiller Motors | 13 100 111 Comp Air - Replace 100+ HP motor |
| 11 700 703 EMS - Chiller | 13 200 205 Fans - Replace 1-5 HP motor |
| 11 700 704 Chiller Tune Up/Diagnostics | 13 200 206 Fans - ASD (1-5 hp) |
| 11 700 708 Duct/Pipe Insulation - Chiller | 13 200 207 Fans - Motor practices-1 (1-5 HP) |
| 11 700 709 Window Film (Standard) - Chiller | 13 200 208 Fans - Replace 6-100 HP motor |
| 11 700 710 Roof Insulation - Chiller | 13 200 210 Fans - Motor practices-1 (6-100 HP) |
| 11 700 711 Cool Roof - Chiller | 13 200 211 Fans - Replace 100+ HP motor |
| 11 720 721 DX Packaged System, EER=10.9, 10 tons | 13 300 305 Pumps - Replace 1-5 HP motor |
| 11 720 722 Hybrid Dessicant-DX System (Trane CDQ) | 13 300 306 Pumps - ASD (1-5 hp) |
| 11 720 723 Geothermal Heat Pump, EER=13, 10 tons | 13 300 307 Pumps - Motor practices-1 (1-5 HP) |
| 11 720 724 DX Tune Up/ Advanced Diagnostics | 13 300 308 Pumps - Replace 6-100 HP motor |
| 11 720 728 Duct/Pipe Insulation | 13 300 310 Pumps - Motor practices-1 (6-100 HP) |
| 11 720 729 Window Film (Standard) | 13 300 311 Pumps - Replace 100+ HP motor |
| 11 720 730 Roof Insulation | 13 300 313 Pumps - Motor practices-1 (100+ HP) |
| 11 720 731 Cool Roof - DX | 13 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons |
| 12 100 105 Comp Air - Replace 1-5 HP motor | 13 700 702 High Efficiency Chiller Motors |
| 12 100 106 Comp Air - ASD (1-5 hp) | 13 700 703 EMS - Chiller |
| 12 100 107 Comp Air - Motor practices-1 (1-5 HP) | 13 700 704 Chiller Tune Up/Diagnostics |
| 12 100 108 Comp Air - Replace 6-100 HP motor | 13 700 708 Duct/Pipe Insulation - Chiller |
| 12 100 111 Comp Air - Replace 100+ HP motor | 13 700 709 Window Film (Standard) - Chiller |
| 12 200 205 Fans - Replace 1-5 HP motor | 13 700 710 Roof Insulation - Chiller |
| 12 200 206 Fans - ASD (1-5 hp) | 13 700 711 Cool Roof - Chiller |
| 12 200 208 Fans - Replace 6-100 HP motor | 13 720 721 DX Packaged System, EER=10.9, 10 tons |
| 12 200 210 Fans - Motor practices-1 (6-100 HP) | 13 720 722 Hybrid Dessicant-DX System (Trane CDQ) |
| 12 200 211 Fans - Replace 100+ HP motor | 13 720 723 Geothermal Heat Pump, EER=13, 10 tons |
| 12 300 305 Pumps - Replace 1-5 HP motor | 13 720 724 DX Tune Up/ Advanced Diagnostics |
| 12 300 306 Pumps - ASD (1-5 hp) | 13 720 728 Duct/Pipe Insulation |
| 12 300 307 Pumps - Motor practices-1 (1-5 HP) | 13 720 729 Window Film (Standard) |
| 12 300 308 Pumps - Replace 6-100 HP motor | 13 720 730 Roof Insulation |
| 12 300 310 Pumps - Motor practices-1 (6-100 HP) | 13 720 731 Cool Roof - DX |
| 12 300 313 Pumps - Motor practices-1 (100+ HP) | 14 100 105 Comp Air - Replace 1-5 HP motor |
| 12 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons | 14 100 106 Comp Air - ASD (1-5 hp) |
| 12 700 702 High Efficiency Chiller Motors | 14 100 107 Comp Air - Motor practices-1 (1-5 HP) |
| 12 700 703 EMS - Chiller | 14 100 108 Comp Air - Replace 6-100 HP motor |
| 12 700 704 Chiller Tune Up/Diagnostics | 14 100 110 Comp Air - Motor practices-1 (6-100 HP) |
| 12 700 708 Duct/Pipe Insulation - Chiller | 14 100 111 Comp Air - Replace 100+ HP motor |
| 12 700 709 Window Film (Standard) - Chiller | 14 200 205 Fans - Replace 1-5 HP motor |
| 12 700 710 Roof Insulation - Chiller | 14 200 206 Fans - ASD (1-5 hp) |
| 12 700 711 Cool Roof - Chiller | 14 200 208 Fans - Replace 6-100 HP motor |
| 12 720 721 DX Packaged System, EER=10.9, 10 tons | 14 200 210 Fans - Motor practices-1 (6-100 HP) |
| 12 720 722 Hybrid Dessicant-DX System (Trane CDQ) | 14 200 211 Fans - Replace 100+ HP motor |
| 12 720 723 Geothermal Heat Pump, EER=13, 10 tons | 14 300 305 Pumps - Replace 1-5 HP motor |

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
For Achievable Study Analysis**

14 300 306 Pumps - ASD (1-5 hp)	15 720 729 Window Film (Standard)
14 300 307 Pumps - Motor practices-1 (1-5 HP)	15 720 730 Roof Insulation
14 300 308 Pumps - Replace 6-100 HP motor	15 720 731 Cool Roof - DX
14 300 310 Pumps - Motor practices-1 (6-100 HP)	16 100 105 Comp Air - Replace 1-5 HP motor
14 300 311 Pumps - Replace 100+ HP motor	16 100 106 Comp Air - ASD (1-5 hp)
14 300 313 Pumps - Motor practices-1 (100+ HP)	16 100 108 Comp Air - Replace 6-100 HP motor
14 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	16 100 110 Comp Air - Motor practices-1 (6-100 HP)
14 700 702 High Efficiency Chiller Motors	16 100 111 Comp Air - Replace 100+ HP motor
14 700 703 EMS - Chiller	16 200 203 Fans - System Optimization
14 700 704 Chiller Tune Up/Diagnostics	16 200 205 Fans - Replace 1-5 HP motor
14 700 708 Duct/Pipe Insulation - Chiller	16 200 206 Fans - ASD (1-5 hp)
14 700 709 Window Film (Standard) - Chiller	16 200 207 Fans - Motor practices-1 (1-5 HP)
14 700 710 Roof Insulation - Chiller	16 200 208 Fans - Replace 6-100 HP motor
14 700 711 Cool Roof - Chiller	16 300 305 Pumps - Replace 1-5 HP motor
14 720 721 DX Packaged System, EER=10.9, 10 tons	16 300 306 Pumps - ASD (1-5 hp)
14 720 722 Hybrid Dessicant-DX System (Trane CDQ)	16 300 307 Pumps - Motor practices-1 (1-5 HP)
14 720 723 Geothermal Heat Pump, EER=13, 10 tons	16 300 308 Pumps - Replace 6-100 HP motor
14 720 724 DX Tune Up/ Advanced Diagnostics	16 300 310 Pumps - Motor practices-1 (6-100 HP)
14 720 728 Duct/Pipe Insulation	16 300 311 Pumps - Replace 100+ HP motor
14 720 729 Window Film (Standard)	16 300 313 Pumps - Motor practices-1 (100+ HP)
14 720 730 Roof Insulation	16 400 416 Process Drives - ASD
14 720 731 Cool Roof - DX	16 600 605 Process control
15 100 105 Comp Air - Replace 1-5 HP motor	16 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
15 100 106 Comp Air - ASD (1-5 hp)	16 700 702 High Efficiency Chiller Motors
15 100 107 Comp Air - Motor practices-1 (1-5 HP)	16 700 703 EMS - Chiller
15 100 108 Comp Air - Replace 6-100 HP motor	16 700 704 Chiller Tune Up/Diagnostics
15 100 110 Comp Air - Motor practices-1 (6-100 HP)	16 700 708 Duct/Pipe Insulation - Chiller
15 100 111 Comp Air - Replace 100+ HP motor	16 700 709 Window Film (Standard) - Chiller
15 200 205 Fans - Replace 1-5 HP motor	16 700 710 Roof Insulation - Chiller
15 200 206 Fans - ASD (1-5 hp)	16 700 711 Cool Roof - Chiller
15 200 208 Fans - Replace 6-100 HP motor	16 720 721 DX Packaged System, EER=10.9, 10 tons
15 200 210 Fans - Motor practices-1 (6-100 HP)	16 720 722 Hybrid Dessicant-DX System (Trane CDQ)
15 200 211 Fans - Replace 100+ HP motor	16 720 723 Geothermal Heat Pump, EER=13, 10 tons
15 300 305 Pumps - Replace 1-5 HP motor	16 720 724 DX Tune Up/ Advanced Diagnostics
15 300 306 Pumps - ASD (1-5 hp)	16 720 728 Duct/Pipe Insulation
15 300 308 Pumps - Replace 6-100 HP motor	16 720 729 Window Film (Standard)
15 300 310 Pumps - Motor practices-1 (6-100 HP)	16 720 730 Roof Insulation
15 300 313 Pumps - Motor practices-1 (100+ HP)	16 720 731 Cool Roof - DX
15 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	2 100 105 Comp Air - Replace 1-5 HP motor
15 700 702 High Efficiency Chiller Motors	2 100 106 Comp Air - ASD (1-5 hp)
15 700 703 EMS - Chiller	2 100 107 Comp Air - Motor practices-1 (1-5 HP)
15 700 704 Chiller Tune Up/Diagnostics	2 100 108 Comp Air - Replace 6-100 HP motor
15 700 708 Duct/Pipe Insulation - Chiller	2 100 111 Comp Air - Replace 100+ HP motor
15 700 709 Window Film (Standard) - Chiller	2 200 205 Fans - Replace 1-5 HP motor
15 700 710 Roof Insulation - Chiller	2 200 206 Fans - ASD (1-5 hp)
15 700 711 Cool Roof - Chiller	2 200 208 Fans - Replace 6-100 HP motor
15 720 721 DX Packaged System, EER=10.9, 10 tons	2 200 211 Fans - Replace 100+ HP motor
15 720 722 Hybrid Dessicant-DX System (Trane CDQ)	2 300 305 Pumps - Replace 1-5 HP motor
15 720 723 Geothermal Heat Pump, EER=13, 10 tons	2 300 306 Pumps - ASD (1-5 hp)
15 720 724 DX Tune Up/ Advanced Diagnostics	2 300 308 Pumps - Replace 6-100 HP motor
15 720 728 Duct/Pipe Insulation	2 300 310 Pumps - Motor practices-1 (6-100 HP)

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
For Achievable Study Analysis**

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| 2 300 311 Pumps - Replace 100+ HP motor | 3 720 731 Cool Roof - DX |
| 2 300 313 Pumps - Motor practices-1 (100+ HP) | 4 100 105 Comp Air - Replace 1-5 HP motor |
| 2 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons | 4 100 106 Comp Air - ASD (1-5 hp) |
| 2 700 702 High Efficiency Chiller Motors | 4 100 107 Comp Air - Motor practices-1 (1-5 HP) |
| 2 700 703 EMS - Chiller | 4 100 108 Comp Air - Replace 6-100 HP motor |
| 2 700 704 Chiller Tune Up/Diagnostics | 4 100 110 Comp Air - Motor practices-1 (6-100 HP) |
| 2 700 708 Duct/Pipe Insulation - Chiller | 4 100 111 Comp Air - Replace 100+ HP motor |
| 2 700 709 Window Film (Standard) - Chiller | 4 200 203 Fans - System Optimization |
| 2 700 710 Roof Insulation - Chiller | 4 200 205 Fans - Replace 1-5 HP motor |
| 2 700 711 Cool Roof - Chiller | 4 200 206 Fans - ASD (1-5 hp) |
| 2 720 721 DX Packaged System, EER=10.9, 10 tons | 4 200 208 Fans - Replace 6-100 HP motor |
| 2 720 722 Hybrid Dessicant-DX System (Trane CDQ) | 4 200 211 Fans - Replace 100+ HP motor |
| 2 720 723 Geothermal Heat Pump, EER=13, 10 tons | 4 300 305 Pumps - Replace 1-5 HP motor |
| 2 720 724 DX Tune Up/ Advanced Diagnostics | 4 300 306 Pumps - ASD (1-5 hp) |
| 2 720 728 Duct/Pipe Insulation | 4 300 307 Pumps - Motor practices-1 (1-5 HP) |
| 2 720 729 Window Film (Standard) | 4 300 308 Pumps - Replace 6-100 HP motor |
| 2 720 730 Roof Insulation | 4 300 310 Pumps - Motor practices-1 (6-100 HP) |
| 2 720 731 Cool Roof - DX | 4 300 311 Pumps - Replace 100+ HP motor |
| 3 100 105 Comp Air - Replace 1-5 HP motor | 4 300 313 Pumps - Motor practices-1 (100+ HP) |
| 3 100 106 Comp Air - ASD (1-5 hp) | 4 400 408 Optimization control PM |
| 3 100 107 Comp Air - Motor practices-1 (1-5 HP) | 4 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons |
| 3 100 108 Comp Air - Replace 6-100 HP motor | 4 700 702 High Efficiency Chiller Motors |
| 3 100 111 Comp Air - Replace 100+ HP motor | 4 700 703 EMS - Chiller |
| 3 200 205 Fans - Replace 1-5 HP motor | 4 700 704 Chiller Tune Up/Diagnostics |
| 3 200 206 Fans - ASD (1-5 hp) | 4 700 708 Duct/Pipe Insulation - Chiller |
| 3 200 207 Fans - Motor practices-1 (1-5 HP) | 4 700 709 Window Film (Standard) - Chiller |
| 3 200 208 Fans - Replace 6-100 HP motor | 4 700 710 Roof Insulation - Chiller |
| 3 200 210 Fans - Motor practices-1 (6-100 HP) | 4 700 711 Cool Roof - Chiller |
| 3 200 211 Fans - Replace 100+ HP motor | 4 720 721 DX Packaged System, EER=10.9, 10 tons |
| 3 300 305 Pumps - Replace 1-5 HP motor | 4 720 722 Hybrid Dessicant-DX System (Trane CDQ) |
| 3 300 306 Pumps - ASD (1-5 hp) | 4 720 723 Geothermal Heat Pump, EER=13, 10 tons |
| 3 300 307 Pumps - Motor practices-1 (1-5 HP) | 4 720 724 DX Tune Up/ Advanced Diagnostics |
| 3 300 308 Pumps - Replace 6-100 HP motor | 4 720 728 Duct/Pipe Insulation |
| 3 300 310 Pumps - Motor practices-1 (6-100 HP) | 4 720 729 Window Film (Standard) |
| 3 300 311 Pumps - Replace 100+ HP motor | 4 720 730 Roof Insulation |
| 3 300 313 Pumps - Motor practices-1 (100+ HP) | 4 720 731 Cool Roof - DX |
| 3 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons | 5 100 105 Comp Air - Replace 1-5 HP motor |
| 3 700 702 High Efficiency Chiller Motors | 5 100 106 Comp Air - ASD (1-5 hp) |
| 3 700 703 EMS - Chiller | 5 100 108 Comp Air - Replace 6-100 HP motor |
| 3 700 704 Chiller Tune Up/Diagnostics | 5 100 110 Comp Air - Motor practices-1 (6-100 HP) |
| 3 700 708 Duct/Pipe Insulation - Chiller | 5 100 111 Comp Air - Replace 100+ HP motor |
| 3 700 709 Window Film (Standard) - Chiller | 5 200 203 Fans - System Optimization |
| 3 700 710 Roof Insulation - Chiller | 5 200 205 Fans - Replace 1-5 HP motor |
| 3 700 711 Cool Roof - Chiller | 5 200 206 Fans - ASD (1-5 hp) |
| 3 720 721 DX Packaged System, EER=10.9, 10 tons | 5 200 208 Fans - Replace 6-100 HP motor |
| 3 720 722 Hybrid Dessicant-DX System (Trane CDQ) | 5 200 211 Fans - Replace 100+ HP motor |
| 3 720 723 Geothermal Heat Pump, EER=13, 10 tons | 5 300 305 Pumps - Replace 1-5 HP motor |
| 3 720 724 DX Tune Up/ Advanced Diagnostics | 5 300 306 Pumps - ASD (1-5 hp) |
| 3 720 728 Duct/Pipe Insulation | 5 300 307 Pumps - Motor practices-1 (1-5 HP) |
| 3 720 729 Window Film (Standard) | 5 300 308 Pumps - Replace 6-100 HP motor |
| 3 720 730 Roof Insulation | 5 300 310 Pumps - Motor practices-1 (6-100 HP) |

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
For Achievable Study Analysis**

5 300 311 Pumps - Replace 100+ HP motor	6 720 721 DX Packaged System, EER=10.9, 10 tons
5 300 313 Pumps - Motor practices-1 (100+ HP)	6 720 722 Hybrid Dessicant-DX System (Trane CDQ)
5 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	6 720 723 Geothermal Heat Pump, EER=13, 10 tons
5 700 702 High Efficiency Chiller Motors	6 720 724 DX Tune Up/ Advanced Diagnostics
5 700 703 EMS - Chiller	6 720 728 Duct/Pipe Insulation
5 700 704 Chiller Tune Up/Diagnostics	6 720 729 Window Film (Standard)
5 700 708 Duct/Pipe Insulation - Chiller	6 720 730 Roof Insulation
5 700 709 Window Film (Standard) - Chiller	6 720 731 Cool Roof - DX
5 700 710 Roof Insulation - Chiller	6 800 805 Occupancy Sensor
5 700 711 Cool Roof - Chiller	7 100 105 Comp Air - Replace 1-5 HP motor
5 720 721 DX Packaged System, EER=10.9, 10 tons	7 100 106 Comp Air - ASD (1-5 hp)
5 720 722 Hybrid Dessicant-DX System (Trane CDQ)	7 100 107 Comp Air - Motor practices-1 (1-5 HP)
5 720 723 Geothermal Heat Pump, EER=13, 10 tons	7 100 108 Comp Air - Replace 6-100 HP motor
5 720 724 DX Tune Up/ Advanced Diagnostics	7 100 110 Comp Air - Motor practices-1 (6-100 HP)
5 720 728 Duct/Pipe Insulation	7 100 111 Comp Air - Replace 100+ HP motor
5 720 729 Window Film (Standard)	7 100 114 Power recovery
5 720 730 Roof Insulation	7 100 115 Refinery Controls
5 720 731 Cool Roof - DX	7 200 202 Fans - Controls
6 100 105 Comp Air - Replace 1-5 HP motor	7 200 203 Fans - System Optimization
6 100 106 Comp Air - ASD (1-5 hp)	7 200 205 Fans - Replace 1-5 HP motor
6 100 107 Comp Air - Motor practices-1 (1-5 HP)	7 200 206 Fans - ASD (1-5 hp)
6 100 108 Comp Air - Replace 6-100 HP motor	7 200 207 Fans - Motor practices-1 (1-5 HP)
6 100 110 Comp Air - Motor practices-1 (6-100 HP)	7 200 208 Fans - Replace 6-100 HP motor
6 100 111 Comp Air - Replace 100+ HP motor	7 200 210 Fans - Motor practices-1 (6-100 HP)
6 200 202 Fans - Controls	7 200 211 Fans - Replace 100+ HP motor
6 200 203 Fans - System Optimization	7 200 215 Power recovery
6 200 205 Fans - Replace 1-5 HP motor	7 300 305 Pumps - Replace 1-5 HP motor
6 200 206 Fans - ASD (1-5 hp)	7 300 306 Pumps - ASD (1-5 hp)
6 200 207 Fans - Motor practices-1 (1-5 HP)	7 300 307 Pumps - Motor practices-1 (1-5 HP)
6 200 208 Fans - Replace 6-100 HP motor	7 300 308 Pumps - Replace 6-100 HP motor
6 200 210 Fans - Motor practices-1 (6-100 HP)	7 300 310 Pumps - Motor practices-1 (6-100 HP)
6 200 211 Fans - Replace 100+ HP motor	7 300 311 Pumps - Replace 100+ HP motor
6 300 305 Pumps - Replace 1-5 HP motor	7 300 313 Pumps - Motor practices-1 (100+ HP)
6 300 306 Pumps - ASD (1-5 hp)	7 300 314 Power recovery
6 300 307 Pumps - Motor practices-1 (1-5 HP)	7 600 606 Power recovery
6 300 308 Pumps - Replace 6-100 HP motor	7 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
6 300 310 Pumps - Motor practices-1 (6-100 HP)	7 700 702 High Efficiency Chiller Motors
6 300 311 Pumps - Replace 100+ HP motor	7 700 703 EMS - Chiller
6 300 313 Pumps - Motor practices-1 (100+ HP)	7 700 704 Chiller Tune Up/Diagnostics
6 400 414 Clean Room - New Designs	7 700 708 Duct/Pipe Insulation - Chiller
6 400 415 Drives - Process Controls (batch + site)	7 700 709 Window Film (Standard) - Chiller
6 400 416 Process Drives - ASD	7 700 710 Roof Insulation - Chiller
6 600 601 Other Process Controls (batch + site)	7 700 711 Cool Roof - Chiller
6 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	7 720 721 DX Packaged System, EER=10.9, 10 tons
6 700 702 High Efficiency Chiller Motors	7 720 722 Hybrid Dessicant-DX System (Trane CDQ)
6 700 703 EMS - Chiller	7 720 723 Geothermal Heat Pump, EER=13, 10 tons
6 700 704 Chiller Tune Up/Diagnostics	7 720 724 DX Tune Up/ Advanced Diagnostics
6 700 708 Duct/Pipe Insulation - Chiller	7 720 728 Duct/Pipe Insulation
6 700 709 Window Film (Standard) - Chiller	7 720 729 Window Film (Standard)
6 700 710 Roof Insulation - Chiller	7 720 730 Roof Insulation
6 700 711 Cool Roof - Chiller	7 720 731 Cool Roof - DX

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
For Achievable Study Analysis**

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| 7 800 805 Occupancy Sensor | 9 400 422 Efficient grinding |
| 8 100 105 Comp Air - Replace 1-5 HP motor | 9 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons |
| 8 100 106 Comp Air - ASD (1-5 hp) | 9 700 702 High Efficiency Chiller Motors |
| 8 100 107 Comp Air - Motor practices-1 (1-5 HP) | 9 700 703 EMS - Chiller |
| 8 100 108 Comp Air - Replace 6-100 HP motor | 9 700 704 Chiller Tune Up/Diagnostics |
| 8 100 110 Comp Air - Motor practices-1 (6-100 HP) | 9 700 708 Duct/Pipe Insulation - Chiller |
| 8 100 111 Comp Air - Replace 100+ HP motor | 9 700 709 Window Film (Standard) - Chiller |
| 8 200 205 Fans - Replace 1-5 HP motor | 9 700 710 Roof Insulation - Chiller |
| 8 200 206 Fans - ASD (1-5 hp) | 9 700 711 Cool Roof - Chiller |
| 8 200 207 Fans - Motor practices-1 (1-5 HP) | 9 720 721 DX Packaged System, EER=10.9, 10 tons |
| 8 200 208 Fans - Replace 6-100 HP motor | 9 720 722 Hybrid Dessicant-DX System (Trane CDQ) |
| 8 200 210 Fans - Motor practices-1 (6-100 HP) | 9 720 723 Geothermal Heat Pump, EER=13, 10 tons |
| 8 300 305 Pumps - Replace 1-5 HP motor | 9 720 724 DX Tune Up/ Advanced Diagnostics |
| 8 300 306 Pumps - ASD (1-5 hp) | 9 720 728 Duct/Pipe Insulation |
| 8 300 308 Pumps - Replace 6-100 HP motor | 9 720 729 Window Film (Standard) |
| 8 300 310 Pumps - Motor practices-1 (6-100 HP) | 9 720 730 Roof Insulation |
| 8 300 311 Pumps - Replace 100+ HP motor | 9 720 731 Cool Roof - DX |
| 8 300 313 Pumps - Motor practices-1 (100+ HP) | |
| 8 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons | |
| 8 700 702 High Efficiency Chiller Motors | |
| 8 700 703 EMS - Chiller | |
| 8 700 704 Chiller Tune Up/Diagnostics | |
| 8 700 708 Duct/Pipe Insulation - Chiller | |
| 8 700 709 Window Film (Standard) - Chiller | |
| 8 700 710 Roof Insulation - Chiller | |
| 8 700 711 Cool Roof - Chiller | |
| 8 720 721 DX Packaged System, EER=10.9, 10 tons | |
| 8 720 722 Hybrid Dessicant-DX System (Trane CDQ) | |
| 8 720 723 Geothermal Heat Pump, EER=13, 10 tons | |
| 8 720 724 DX Tune Up/ Advanced Diagnostics | |
| 8 720 728 Duct/Pipe Insulation | |
| 8 720 729 Window Film (Standard) | |
| 8 720 730 Roof Insulation | |
| 8 720 731 Cool Roof - DX | |
| 9 100 105 Comp Air - Replace 1-5 HP motor | |
| 9 100 106 Comp Air - ASD (1-5 hp) | |
| 9 100 107 Comp Air - Motor practices-1 (1-5 HP) | |
| 9 100 108 Comp Air - Replace 6-100 HP motor | |
| 9 100 110 Comp Air - Motor practices-1 (6-100 HP) | |
| 9 100 111 Comp Air - Replace 100+ HP motor | |
| 9 200 205 Fans - Replace 1-5 HP motor | |
| 9 200 206 Fans - ASD (1-5 hp) | |
| 9 200 207 Fans - Motor practices-1 (1-5 HP) | |
| 9 200 208 Fans - Replace 6-100 HP motor | |
| 9 200 211 Fans - Replace 100+ HP motor | |
| 9 300 305 Pumps - Replace 1-5 HP motor | |
| 9 300 306 Pumps - ASD (1-5 hp) | |
| 9 300 308 Pumps - Replace 6-100 HP motor | |
| 9 300 311 Pumps - Replace 100+ HP motor | |
| 9 300 313 Pumps - Motor practices-1 (100+ HP) | |
| 9 400 415 Drives - Process Controls (batch + site) | |

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
For Achievable Study Analysis**

TRC

Residential

MH 100 116 Duct Repair	MH 190 192 HE Room Air Conditioner - EER 12
SF 100 101 14 SEER Split-System Air Conditioner	SF 130 153 Weather Strip/Caulk w/Blower Door
MF 190 197 Window Film	SF 100 106 15 SEER Split-System Heat Pump
MF 350 351 HE Freezer	MH 400 404 AC Heat Recovery Units
SF 100 105 14 SEER Split-System Heat Pump	SF 130 145 Window Film
MF 100 124 Ceiling R-0 to R-19 Insulation	SF 100 103 17 SEER Split-System Air Conditioner
MH 400 409 Water Heater Temperature Check and Adjustment	MF 190 192 HE Room Air Conditioner - EER 12
MF 100 113 AC Maintenance (Indoor Coil Cleaning)	MF 400 406 Pipe Wrap
SF 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)	MF 400 404 AC Heat Recovery Units
MH 190 202 Ceiling R-0 to R-19 Insulation	MF 100 101 14 SEER Split-System Air Conditioner
SF 190 202 Ceiling R-0 to R-19 Insulation	SF 100 119 Window Film
SF 100 124 Ceiling R-0 to R-19 Insulation	MH 100 118 Radiant Barrier
MF 400 409 Water Heater Temperature Check and Adjustment	SF 500 503 Energy Star CW CEE Tier 3 (MEF=2.2)
MF 130 139 AC Maintenance (Indoor Coil Cleaning)	MF 500 503 Energy Star CW CEE Tier 3 (MEF=2.2)
MH 400 401 Heat Pump Water Heater (EF=2.9)	MH 100 102 15 SEER Split-System Air Conditioner
MH 130 142 Duct Repair	MH 130 137 Sealed Attics
MH 190 200 Single Pane Clear Windows to Double Pane Low-E Windows	MH 100 127 Weather Strip/Caulk w/Blower Door
SF 350 351 HE Freezer	SF 130 132 15 SEER Split-System Heat Pump
MH 350 351 HE Freezer	MH 130 144 Radiant Barrier
MF 400 401 Heat Pump Water Heater (EF=2.9)	SF 100 104 19 SEER Split-System Air Conditioner
SF 400 406 Pipe Wrap	MH 100 106 15 SEER Split-System Heat Pump
MF 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)	MH 130 153 Weather Strip/Caulk w/Blower Door
MF 190 202 Ceiling R-0 to R-19 Insulation	MF 100 127 Weather Strip/Caulk w/Blower Door
SF 400 404 AC Heat Recovery Units	MF 100 118 Radiant Barrier
MH 100 105 14 SEER Split-System Heat Pump	SF 100 107 17 SEER Split-System Heat Pump
SF 190 198 Window Tinting	MF 100 102 15 SEER Split-System Air Conditioner
SF 190 192 HE Room Air Conditioner - EER 12	MH 100 103 17 SEER Split-System Air Conditioner
SF 700 701 Energy Star DW (EF=0.68)	SF 130 131 14 SEER Split-System Heat Pump
MH 190 197 Window Film	MF 130 137 Sealed Attics
SF 100 127 Weather Strip/Caulk w/Blower Door	MF 130 153 Weather Strip/Caulk w/Blower Door
MH 100 101 14 SEER Split-System Air Conditioner	MH 100 111 Sealed Attic w/Sprayed Foam Insulated Roof Deck
SF 100 102 15 SEER Split-System Air Conditioner	SF 130 133 17 SEER Split-System Heat Pump
MH 600 610 High Efficiency CD (EF=3.01 w/moisture sensor)	MF 100 106 15 SEER Split-System Heat Pump
MF 100 116 Duct Repair	SF 100 118 Radiant Barrier
SF 190 200 Single Pane Clear Windows to Double Pane Low-E Windows	SF 190 205 Weather Strip/Caulk w/Blower Door
MH 500 503 Energy Star CW CEE Tier 3 (MEF=2.2)	SF 800 804 PV-Powered Pool Pumps
MF 100 105 14 SEER Split-System Heat Pump	MF 800 804 PV-Powered Pool Pumps
MF 130 142 Duct Repair	MH 800 804 PV-Powered Pool Pumps
MF 700 701 Energy Star DW (EF=0.68)	MH 130 132 15 SEER Split-System Heat Pump
MH 700 701 Energy Star DW (EF=0.68)	MF 100 103 17 SEER Split-System Air Conditioner
MH 400 406 Pipe Wrap	MH 100 104 19 SEER Split-System Air Conditioner
	MH 100 107 17 SEER Split-System Heat Pump
	MF 130 132 15 SEER Split-System Heat Pump
	SF 190 197 Window Film
	MF 190 205 Weather Strip/Caulk w/Blower Door
	MF 100 111 Sealed Attic w/Sprayed Foam Insulated Roof Deck
	MH 190 205 Weather Strip/Caulk w/Blower Door
	SF 130 144 Radiant Barrier

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
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SF 100 111 Sealed Attic w/Sprayed Foam Insulated Roof Deck	9-600-606 Demand controlled circulating systems
MH 130 131 14 SEER Split-System Heat Pump	7-810-811 Efficient Fryer
MH 130 133 17 SEER Split-System Heat Pump	11-800-801 Convection Oven
SF 130 137 Sealed Attics	8-720-722 Monitor Power Management Enabling
MF 100 104 19 SEER Split-System Air Conditioner	6-800-801 Convection Oven
MF 100 107 17 SEER Split-System Heat Pump	11-720-722 Monitor Power Management Enabling
MF 130 144 Radiant Barrier	7-720-722 Monitor Power Management Enabling
MF 130 131 14 SEER Split-System Heat Pump	9-600-608 Heat Recovery Unit
MF 130 133 17 SEER Split-System Heat Pump	8-800-801 Convection Oven
MF 100 126 Wall 2x4 R-0 to Blow-In R-13 Insulation	1-600-604 Solar Water Heater
MF 130 152 Wall 2x4 R-0 to Blow-In R-13 Insulation	5-720-722 Monitor Power Management Enabling
SF 400 403 Solar Water Heat	4-600-604 Solar Water Heater
MF 190 204 Wall 2x4 R-0 to Blow-In R-13 Insulation	3-600-604 Solar Water Heater
MH 100 125 Ceiling R-19 to R-38 Insulation	3-600-606 Demand controlled circulating systems
MH 130 151 Ceiling R-19 to R-38 Insulation	11-600-604 Solar Water Heater
MH 190 203 Ceiling R-19 to R-38 Insulation	9-600-601 High Efficiency Water Heater (electric)
SF 190 203 Ceiling R-19 to R-38 Insulation	1-720-722 Monitor Power Management Enabling
MH 400 403 Solar Water Heat	5-800-801 Convection Oven
MH 100 126 Wall 2x4 R-0 to Blow-In R-13 Insulation	1-600-606 Demand controlled circulating systems
SF 100 125 Ceiling R-19 to R-38 Insulation	6-720-722 Monitor Power Management Enabling
MH 130 152 Wall 2x4 R-0 to Blow-In R-13 Insulation	10-800-801 Convection Oven
SF 130 151 Ceiling R-19 to R-38 Insulation	1-600-610 Hot Water Pipe Insulation
MF 190 203 Ceiling R-19 to R-38 Insulation	6-600-604 Solar Water Heater
MF 100 125 Ceiling R-19 to R-38 Insulation	11-600-606 Demand controlled circulating systems
MF 400 403 Solar Water Heat	3-600-610 Hot Water Pipe Insulation
MF 130 151 Ceiling R-19 to R-38 Insulation	4-600-610 Hot Water Pipe Insulation
SF 100 126 Wall 2x4 R-0 to Blow-In R-13 Insulation	11-600-610 Hot Water Pipe Insulation
SF 130 152 Wall 2x4 R-0 to Blow-In R-13 Insulation	10-600-604 Solar Water Heater
MH 190 204 Wall 2x4 R-0 to Blow-In R-13 Insulation	4-810-811 Efficient Fryer
SF 190 204 Wall 2x4 R-0 to Blow-In R-13 Insulation	8-600-604 Solar Water Heater
Natural Gas Demand Tankless Water Heater	5-600-604 Solar Water Heater
Rooftop Solar PV	2-600-604 Solar Water Heater
	7-800-801 Convection Oven
	6-600-610 Hot Water Pipe Insulation
Commercial	4-600-606 Demand controlled circulating systems
9-800-801 Convection Oven	2-600-606 Demand controlled circulating systems
8-810-811 Efficient Fryer	9-400-405 Demand Control Ventilation (DCV)
1-810-811 Efficient Fryer	5-600-610 Hot Water Pipe Insulation
10-810-811 Efficient Fryer	9-300-311 Window Film (Standard)
6-810-811 Efficient Fryer	10-600-610 Hot Water Pipe Insulation
3-810-811 Efficient Fryer	9-300-307 EMS Optimization
9-600-604 Solar Water Heater	9-300-315 Cool Roof - Chiller
9-600-610 Hot Water Pipe Insulation	2-200-201 High Pressure Sodium 250W Lamp
10-720-722 Monitor Power Management Enabling	8-600-610 Hot Water Pipe Insulation
4-720-722 Monitor Power Management Enabling	2-600-610 Hot Water Pipe Insulation
5-810-811 Efficient Fryer	10-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
3-800-801 Convection Oven	9-320-328 Optimize Controls
2-720-722 Monitor Power Management Enabling	9-320-332 Window Film (Standard)
3-720-722 Monitor Power Management Enabling	11-200-201 High Pressure Sodium 250W Lamp
1-800-801 Convection Oven	9-400-403 Air Handler Optimization
9-720-722 Monitor Power Management Enabling	3-600-608 Heat Recovery Unit

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
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4-800-801 Convection Oven
3-400-405 Demand Control Ventilation (DCV)
2-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
9-320-336 Cool Roof - DX
6-400-405 Demand Control Ventilation (DCV)
10-200-201 High Pressure Sodium 250W Lamp
9-300-314 Roof Insulation
7-600-604 Solar Water Heater
9-320-326 DX Tune Up/ Advanced Diagnostics
1-400-405 Demand Control Ventilation (DCV)
10-400-405 Demand Control Ventilation (DCV)
9-340-347 Window Film (Standard)
9-340-351 Cool Roof - DX
5-400-405 Demand Control Ventilation (DCV)
1-600-601 High Efficiency Water Heater (electric)
9-340-341 Packaged HP System, EER=10.9, 10 tons
2-400-405 Demand Control Ventilation (DCV)
9-110-114 Continuous Dimming
10-110-114 Continuous Dimming
5-600-606 Demand controlled circulating systems
6-340-341 Packaged HP System, EER=10.9, 10 tons
1-200-201 High Pressure Sodium 250W Lamp
11-340-341 Packaged HP System, EER=10.9, 10 tons
11-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
5-340-341 Packaged HP System, EER=10.9, 10 tons
2-800-801 Convection Oven
6-320-323 Geothermal Heat Pump, EER=13, 10 tons
5-200-201 High Pressure Sodium 250W Lamp
2-810-811 Efficient Fryer
8-200-201 High Pressure Sodium 250W Lamp
1-340-341 Packaged HP System, EER=10.9, 10 tons
8-340-341 Packaged HP System, EER=10.9, 10 tons
11-320-323 Geothermal Heat Pump, EER=13, 10 tons
5-320-323 Geothermal Heat Pump, EER=13, 10 tons
9-300-305 Chiller Tune Up/Diagnostics
4-600-601 High Efficiency Water Heater (electric)
7-200-201 High Pressure Sodium 250W Lamp
1-320-323 Geothermal Heat Pump, EER=13, 10 tons
3-600-601 High Efficiency Water Heater (electric)
9-300-313 Ceiling Insulation
9-600-603 Heat Pump Water Heater (air source)
5-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
9-320-323 Geothermal Heat Pump, EER=13, 10 tons
3-200-201 High Pressure Sodium 250W Lamp
9-200-201 High Pressure Sodium 250W Lamp
11-600-601 High Efficiency Water Heater (electric)
4-340-341 Packaged HP System, EER=10.9, 10 tons
11-400-405 Demand Control Ventilation (DCV)
4-400-405 Demand Control Ventilation (DCV)
4-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
11-300-315 Cool Roof - Chiller
9-340-350 Roof Insulation
1-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
3-340-341 Packaged HP System, EER=10.9, 10 tons
2-340-341 Packaged HP System, EER=10.9, 10 tons
6-200-201 High Pressure Sodium 250W Lamp
10-340-341 Packaged HP System, EER=10.9, 10 tons
3-320-323 Geothermal Heat Pump, EER=13, 10 tons
11-300-311 Window Film (Standard)
9-120-123 Occupancy Sensor
4-200-201 High Pressure Sodium 250W Lamp
5-120-123 Occupancy Sensor
10-120-123 Occupancy Sensor
8-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
4-120-123 Occupancy Sensor
6-120-123 Occupancy Sensor
10-320-323 Geothermal Heat Pump, EER=13, 10 tons
7-120-123 Occupancy Sensor
4-500-504 Evaporator fan controller for MT walk-ins
5-110-113 Occupancy Sensor
9-110-113 Occupancy Sensor
3-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
9-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
2-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
10-110-113 Occupancy Sensor
6-110-113 Occupancy Sensor
4-500-517 LED Display Lighting
2-120-123 Occupancy Sensor
7-110-113 Occupancy Sensor
4-110-113 Occupancy Sensor
9-320-335 Roof Insulation
11-300-307 EMS Optimization
6-300-315 Cool Roof - Chiller
9-120-124 Lighting Control Tuneup
3-120-123 Occupancy Sensor
8-120-123 Occupancy Sensor
9-340-349 Ceiling Insulation
7-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
2-110-113 Occupancy Sensor
2-400-406 Energy Recovery Ventilation (ERV)
11-120-123 Occupancy Sensor
6-300-311 Window Film (Standard)
6-340-342 Geothermal Heat Pump, EER=13, 10 tons
5-400-406 Energy Recovery Ventilation (ERV)
6-600-608 Heat Recovery Unit
8-110-113 Occupancy Sensor
11-340-342 Geothermal Heat Pump, EER=13, 10 tons
3-110-113 Occupancy Sensor
8-400-405 Demand Control Ventilation (DCV)
1-400-406 Energy Recovery Ventilation (ERV)
11-110-113 Occupancy Sensor
9-210-211 Outdoor Lighting Controls (Photocell/Timeclock)

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11-200-202 Outdoor Lighting Controls (Photocell/Timeclock)	
7-600-610 Hot Water Pipe Insulation	
5-320-321 DX Packaged System, EER=10.9, 10 tons	
4-500-514 Multiplex Compressor System	
10-120-124 Lighting Control Tuneup	
6-400-406 Energy Recovery Ventilation (ERV)	
2-400-402 Variable Speed Drive Control	
6-320-321 DX Packaged System, EER=10.9, 10 tons	
11-320-336 Cool Roof - DX	
8-320-321 DX Packaged System, EER=10.9, 10 tons	
1-120-123 Occupancy Sensor	
1-340-342 Geothermal Heat Pump, EER=13, 10 tons	
11-340-351 Cool Roof - DX	
11-320-321 DX Packaged System, EER=10.9, 10 tons	
1-320-321 DX Packaged System, EER=10.9, 10 tons	
9-320-334 Ceiling Insulation	
9-320-321 DX Packaged System, EER=10.9, 10 tons	
7-400-405 Demand Control Ventilation (DCV)	
9-340-342 Geothermal Heat Pump, EER=13, 10 tons	
6-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	
5-300-315 Cool Roof - Chiller	
10-200-202 Outdoor Lighting Controls (Photocell/Timeclock)	
2-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	
3-400-406 Energy Recovery Ventilation (ERV)	
11-300-314 Roof Insulation	
1-300-315 Cool Roof - Chiller	
10-400-406 Energy Recovery Ventilation (ERV)	
6-360-362 Occupancy Sensor (hotels)	
4-400-406 Energy Recovery Ventilation (ERV)	
10-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	
1-110-113 Occupancy Sensor	
3-300-315 Cool Roof - Chiller	
8-600-601 High Efficiency Water Heater (electric)	
11-320-332 Window Film (Standard)	
10-300-315 Cool Roof - Chiller	
5-300-311 Window Film (Standard)	
8-360-362 Occupancy Sensor (hotels)	
3-300-311 Window Film (Standard)	
5-360-362 Occupancy Sensor (hotels)	
10-600-601 High Efficiency Water Heater (electric)	
1-360-362 Occupancy Sensor (hotels)	
1-300-311 Window Film (Standard)	
11-340-347 Window Film (Standard)	
3-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	
5-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	
1-300-317 Thermal Energy Storage (TES)	
9-300-317 Thermal Energy Storage (TES)	
9-400-406 Energy Recovery Ventilation (ERV)	
Rooftop Solar PV	
PV Mounted on Commercial Parking Lot Shad Structures	
	Industrial
	1 100 105 Comp Air - Replace 1-5 HP motor
	1 100 106 Comp Air - ASD (1-5 hp)
	1 100 108 Comp Air - Replace 6-100 HP motor
	1 200 205 Fans - Replace 1-5 HP motor
	1 200 206 Fans - ASD (1-5 hp)
	1 200 208 Fans - Replace 6-100 HP motor
	1 300 305 Pumps - Replace 1-5 HP motor
	1 300 306 Pumps - ASD (1-5 hp)
	1 300 308 Pumps - Replace 6-100 HP motor
	1 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
	1 700 708 Duct/Pipe Insulation - Chiller
	1 700 709 Window Film (Standard) - Chiller
	1 700 710 Roof Insulation - Chiller
	1 700 711 Cool Roof - Chiller
	1 720 723 Geothermal Heat Pump, EER=13, 10 tons
	1 720 728 Duct/Pipe Insulation
	1 720 731 Cool Roof - DX
	10 100 105 Comp Air - Replace 1-5 HP motor
	10 100 106 Comp Air - ASD (1-5 hp)
	10 100 108 Comp Air - Replace 6-100 HP motor
	10 200 205 Fans - Replace 1-5 HP motor
	10 200 206 Fans - ASD (1-5 hp)
	10 200 208 Fans - Replace 6-100 HP motor
	10 300 305 Pumps - Replace 1-5 HP motor
	10 300 306 Pumps - ASD (1-5 hp)
	10 300 308 Pumps - Replace 6-100 HP motor
	10 700 708 Duct/Pipe Insulation - Chiller
	10 700 709 Window Film (Standard) - Chiller
	10 700 710 Roof Insulation - Chiller
	10 700 711 Cool Roof - Chiller
	10 720 723 Geothermal Heat Pump, EER=13, 10 tons
	10 720 728 Duct/Pipe Insulation
	10 720 731 Cool Roof - DX
	11 100 105 Comp Air - Replace 1-5 HP motor
	11 100 106 Comp Air - ASD (1-5 hp)
	11 100 108 Comp Air - Replace 6-100 HP motor
	11 200 205 Fans - Replace 1-5 HP motor
	11 200 206 Fans - ASD (1-5 hp)
	11 200 208 Fans - Replace 6-100 HP motor
	11 300 305 Pumps - Replace 1-5 HP motor
	11 300 306 Pumps - ASD (1-5 hp)
	11 300 308 Pumps - Replace 6-100 HP motor
	11 700 708 Duct/Pipe Insulation - Chiller
	11 700 709 Window Film (Standard) - Chiller
	11 700 710 Roof Insulation - Chiller
	11 700 711 Cool Roof - Chiller
	11 720 723 Geothermal Heat Pump, EER=13, 10 tons
	11 720 728 Duct/Pipe Insulation
	11 720 731 Cool Roof - DX

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
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12 100 105	Comp Air - Replace 1-5 HP motor	15 200 205	Fans - Replace 1-5 HP motor
12 100 106	Comp Air - ASD (1-5 hp)	15 200 206	Fans - ASD (1-5 hp)
12 100 108	Comp Air - Replace 6-100 HP motor	15 200 208	Fans - Replace 6-100 HP motor
12 200 205	Fans - Replace 1-5 HP motor	15 300 305	Pumps - Replace 1-5 HP motor
12 200 206	Fans - ASD (1-5 hp)	15 300 306	Pumps - ASD (1-5 hp)
12 200 208	Fans - Replace 6-100 HP motor	15 300 308	Pumps - Replace 6-100 HP motor
12 300 305	Pumps - Replace 1-5 HP motor	15 700 701	Centrifugal Chiller, 0.51 kW/ton, 500 tons
12 300 306	Pumps - ASD (1-5 hp)	15 700 708	Duct/Pipe Insulation - Chiller
12 300 308	Pumps - Replace 6-100 HP motor	15 700 709	Window Film (Standard) - Chiller
12 700 708	Duct/Pipe Insulation - Chiller	15 700 710	Roof Insulation - Chiller
12 700 709	Window Film (Standard) - Chiller	15 700 711	Cool Roof - Chiller
12 700 711	Cool Roof - Chiller	15 720 723	Geothermal Heat Pump, EER=13, 10 tons
12 720 723	Geothermal Heat Pump, EER=13, 10 tons	15 720 728	Duct/Pipe Insulation
12 720 728	Duct/Pipe Insulation	15 720 731	Cool Roof - DX
12 720 731	Cool Roof - DX	16 100 105	Comp Air - Replace 1-5 HP motor
13 100 105	Comp Air - Replace 1-5 HP motor	16 100 106	Comp Air - ASD (1-5 hp)
13 100 106	Comp Air - ASD (1-5 hp)	16 100 108	Comp Air - Replace 6-100 HP motor
13 100 108	Comp Air - Replace 6-100 HP motor	16 200 205	Fans - Replace 1-5 HP motor
13 200 205	Fans - Replace 1-5 HP motor	16 200 206	Fans - ASD (1-5 hp)
13 200 206	Fans - ASD (1-5 hp)	16 200 208	Fans - Replace 6-100 HP motor
13 200 208	Fans - Replace 6-100 HP motor	16 300 305	Pumps - Replace 1-5 HP motor
13 300 305	Pumps - Replace 1-5 HP motor	16 300 306	Pumps - ASD (1-5 hp)
13 300 306	Pumps - ASD (1-5 hp)	16 300 308	Pumps - Replace 6-100 HP motor
13 300 308	Pumps - Replace 6-100 HP motor	16 700 701	Centrifugal Chiller, 0.51 kW/ton, 500 tons
13 700 701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	16 700 708	Duct/Pipe Insulation - Chiller
13 700 708	Duct/Pipe Insulation - Chiller	16 700 709	Window Film (Standard) - Chiller
13 700 709	Window Film (Standard) - Chiller	16 700 710	Roof Insulation - Chiller
13 700 710	Roof Insulation - Chiller	16 700 711	Cool Roof - Chiller
13 700 711	Cool Roof - Chiller	16 720 723	Geothermal Heat Pump, EER=13, 10 tons
13 720 723	Geothermal Heat Pump, EER=13, 10 tons	16 720 728	Duct/Pipe Insulation
13 720 728	Duct/Pipe Insulation	16 720 731	Cool Roof - DX
13 720 731	Cool Roof - DX	2 100 105	Comp Air - Replace 1-5 HP motor
14 100 105	Comp Air - Replace 1-5 HP motor	2 100 106	Comp Air - ASD (1-5 hp)
14 100 106	Comp Air - ASD (1-5 hp)	2 100 108	Comp Air - Replace 6-100 HP motor
14 100 108	Comp Air - Replace 6-100 HP motor	2 200 205	Fans - Replace 1-5 HP motor
14 200 205	Fans - Replace 1-5 HP motor	2 200 206	Fans - ASD (1-5 hp)
14 200 206	Fans - ASD (1-5 hp)	2 200 208	Fans - Replace 6-100 HP motor
14 200 208	Fans - Replace 6-100 HP motor	2 300 305	Pumps - Replace 1-5 HP motor
14 300 305	Pumps - Replace 1-5 HP motor	2 300 306	Pumps - ASD (1-5 hp)
14 300 306	Pumps - ASD (1-5 hp)	2 300 308	Pumps - Replace 6-100 HP motor
14 300 308	Pumps - Replace 6-100 HP motor	2 700 708	Duct/Pipe Insulation - Chiller
14 700 708	Duct/Pipe Insulation - Chiller	2 700 709	Window Film (Standard) - Chiller
14 700 709	Window Film (Standard) - Chiller	2 700 711	Cool Roof - Chiller
14 700 710	Roof Insulation - Chiller	2 720 723	Geothermal Heat Pump, EER=13, 10 tons
14 700 711	Cool Roof - Chiller	2 720 728	Duct/Pipe Insulation
14 720 723	Geothermal Heat Pump, EER=13, 10 tons	2 720 731	Cool Roof - DX
14 720 728	Duct/Pipe Insulation	3 100 105	Comp Air - Replace 1-5 HP motor
14 720 731	Cool Roof - DX	3 100 106	Comp Air - ASD (1-5 hp)
15 100 105	Comp Air - Replace 1-5 HP motor	3 100 108	Comp Air - Replace 6-100 HP motor
15 100 106	Comp Air - ASD (1-5 hp)	3 200 205	Fans - Replace 1-5 HP motor
15 100 108	Comp Air - Replace 6-100 HP motor	3 200 206	Fans - ASD (1-5 hp)

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3 200 208 Fans - Replace 6-100 HP motor	6 300 305 Pumps - Replace 1-5 HP motor
3 300 305 Pumps - Replace 1-5 HP motor	6 300 306 Pumps - ASD (1-5 hp)
3 300 306 Pumps - ASD (1-5 hp)	6 300 308 Pumps - Replace 6-100 HP motor
3 300 308 Pumps - Replace 6-100 HP motor	6 300 311 Pumps - Replace 100+ HP motor
3 700 708 Duct/Pipe Insulation - Chiller	6 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
3 700 709 Window Film (Standard) - Chiller	6 700 708 Duct/Pipe Insulation - Chiller
3 700 710 Roof Insulation - Chiller	6 700 709 Window Film (Standard) - Chiller
3 700 711 Cool Roof - Chiller	6 700 710 Roof Insulation - Chiller
3 720 723 Geothermal Heat Pump, EER=13, 10 tons	6 700 711 Cool Roof - Chiller
3 720 728 Duct/Pipe Insulation	6 720 723 Geothermal Heat Pump, EER=13, 10 tons
3 720 731 Cool Roof - DX	6 720 728 Duct/Pipe Insulation
4 100 105 Comp Air - Replace 1-5 HP motor	6 720 731 Cool Roof - DX
4 100 106 Comp Air - ASD (1-5 hp)	7 100 105 Comp Air - Replace 1-5 HP motor
4 100 108 Comp Air - Replace 6-100 HP motor	7 100 106 Comp Air - ASD (1-5 hp)
4 200 205 Fans - Replace 1-5 HP motor	7 100 108 Comp Air - Replace 6-100 HP motor
4 200 206 Fans - ASD (1-5 hp)	7 100 111 Comp Air - Replace 100+ HP motor
4 200 208 Fans - Replace 6-100 HP motor	7 200 205 Fans - Replace 1-5 HP motor
4 300 305 Pumps - Replace 1-5 HP motor	7 200 206 Fans - ASD (1-5 hp)
4 300 306 Pumps - ASD (1-5 hp)	7 200 208 Fans - Replace 6-100 HP motor
4 300 308 Pumps - Replace 6-100 HP motor	7 300 305 Pumps - Replace 1-5 HP motor
4 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	7 300 306 Pumps - ASD (1-5 hp)
4 700 708 Duct/Pipe Insulation - Chiller	7 300 308 Pumps - Replace 6-100 HP motor
4 700 709 Window Film (Standard) - Chiller	7 300 311 Pumps - Replace 100+ HP motor
4 700 710 Roof Insulation - Chiller	7 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
4 700 711 Cool Roof - Chiller	7 700 708 Duct/Pipe Insulation - Chiller
4 720 723 Geothermal Heat Pump, EER=13, 10 tons	7 700 709 Window Film (Standard) - Chiller
4 720 728 Duct/Pipe insulation	7 700 710 Roof Insulation - Chiller
4 720 731 Cool Roof - DX	7 700 711 Cool Roof - Chiller
5 100 105 Comp Air - Replace 1-5 HP motor	7 720 723 Geothermal Heat Pump, EER=13, 10 tons
5 100 106 Comp Air - ASD (1-5 hp)	7 720 728 Duct/Pipe Insulation
5 100 108 Comp Air - Replace 6-100 HP motor	7 720 731 Cool Roof - DX
5 200 205 Fans - Replace 1-5 HP motor	8 100 105 Comp Air - Replace 1-5 HP motor
5 200 206 Fans - ASD (1-5 hp)	8 100 106 Comp Air - ASD (1-5 hp)
5 200 208 Fans - Replace 6-100 HP motor	8 100 108 Comp Air - Replace 6-100 HP motor
5 300 305 Pumps - Replace 1-5 HP motor	8 200 205 Fans - Replace 1-5 HP motor
5 300 306 Pumps - ASD (1-5 hp)	8 200 206 Fans - ASD (1-5 hp)
5 300 308 Pumps - Replace 6-100 HP motor	8 200 208 Fans - Replace 6-100 HP motor
5 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons	8 300 305 Pumps - Replace 1-5 HP motor
5 700 708 Duct/Pipe Insulation - Chiller	8 300 306 Pumps - ASD (1-5 hp)
5 700 709 Window Film (Standard) - Chiller	8 300 308 Pumps - Replace 6-100 HP motor
5 700 710 Roof Insulation - Chiller	8 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
5 700 711 Cool Roof - Chiller	8 700 708 Duct/Pipe Insulation - Chiller
5 720 723 Geothermal Heat Pump, EER=13, 10 tons	8 700 709 Window Film (Standard) - Chiller
5 720 728 Duct/Pipe Insulation	8 700 710 Roof Insulation - Chiller
5 720 731 Cool Roof - DX	8 700 711 Cool Roof - Chiller
6 100 105 Comp Air - Replace 1-5 HP motor	8 720 723 Geothermal Heat Pump, EER=13, 10 tons
6 100 106 Comp Air - ASD (1-5 hp)	8 720 728 Duct/Pipe Insulation
6 100 108 Comp Air - Replace 6-100 HP motor	8 720 731 Cool Roof - DX
6 200 205 Fans - Replace 1-5 HP motor	9 100 105 Comp Air - Replace 1-5 HP motor
6 200 206 Fans - ASD (1-5 hp)	9 100 106 Comp Air - ASD (1-5 hp)
6 200 208 Fans - Replace 6-100 HP motor	9 100 108 Comp Air - Replace 6-100 HP motor

**Exhibit No. (JAM 10) Measures Not Found Cost Effective
For Achievable Study Analysis**

- 9 200 205 Fans - Replace 1-5 HP motor
- 9 200 206 Fans - ASD (1-5 hp)
- 9 200 208 Fans - Replace 6-100 HP motor
- 9 300 305 Pumps - Replace 1-5 HP motor
- 9 300 306 Pumps - ASD (1-5 hp)
- 9 300 308 Pumps - Replace 6-100 HP motor
- 9 400 415 Drives - Process Controls (batch + site)
- 9 700 701 Centrifugal Chiller, 0.51 kW/ton, 500 tons
- 9 700 708 Duct/Pipe Insulation - Chiller
- 9 700 709 Window Film (Standard) - Chiller
- 9 700 710 Roof Insulation - Chiller
- 9 700 711 Cool Roof - Chiller
- 9 720 723 Geothermal Heat Pump, EER=13, 10 tons
- 9 720 728 Duct/Pipe Insulation
- 9 720 731 Cool Roof - DX

Exhibit No. (JAM 11) Energy Management Upgrades

The Residential and Commercial Energy Management Programs (EMP) are existing voluntary customer programs that allow PEF to reduce peak demand and defer generation construction. The Commercial program was restricted to existing customers in 2000. Peak demand is reduced by interrupting service to selected electrical equipment with radio controlled switches installed on the customers' premises. Qualified equipment includes heat pumps, air conditioners with electric strip elements, water heaters, and pool pumps. These controlled interruptions are at PEF's option, during specified time periods, and coincident with hours of peak demand. In return, participating customers receive an incentive on their monthly bill. All terms, conditions, and incentives with the EMP are offered under a Commission approved tariff.

PEF's existing system is a one-way communications (paging) direct load control program with no direct feedback. It provides PEF with about 700 MW of Winter load reduction and 300 MWs of Summer load. Close to 400,000 customers currently participate in the program requiring over 500,000 control switches, the majority being original analog switches. The technology used by this system was first installed in the early 1980's and is now over 25 years old. The system is based on a 154 MHz, analog paging network and was updated in 1992 to add digital transmission to analog paging. New 1992 equipment consisted of head-end located simulcast equipment, 28 field transmitters and 6 field monitor-receivers – all manufactured by Motorola. Motorola

Exhibit No. (JAM 11) Energy Management Upgrades

discontinued manufacturing and support of the equipment in the mid 90's and no longer provides any factory or field technical support. Technical support is only available from individual consultants on a best effort basis.

While the system has served PEF well and upgrades have been made over the years, certain key components are becoming obsolete. New or reconditioned spare parts are not maintained or available from Motorola or any other manufacturing sources. Spare parts are only available from surplus suppliers who buy decommissioned equipment as salvage for resale with little or no warranty. The simulcast controller is the critical component as it services the entire system. Spare simulcast controller equipment is maintained; however, it is of the same age and vintage as the in-service unit.

Load control switches consist of about 70% one-way analog switches that are no longer manufactured and 30% one-way analog/digital switches that are approaching end-of-life. The load control switch manufacturer has announced they will only be supporting their new two-way smart grid-ready switch.

PEF is in a unique position where we need to start replacing this older direct load control system with a newer and more cost effective two-way communications system that can allow future integration with Smart Grid technologies.

Exhibit No. (JAM 11) Energy Management Upgrades

Next Generation System

PEF plans to systemically change out the antiquated equipment over the next ten years and replace it with a digital two-way communications based system that will be compatible with future Smart Grid technologies. This approach is being utilized to allow present and future use of certain Smart Grid functions that can include:

- Communicating digital information to or from utility and/or customer side devices
- Provide advanced monitoring and verification
- Enable grid efficiencies and improve power quality
- Integration and managing distributed generation including renewable energy and storage
- Enabling residential time-of-use pricing

PEF believes that the appropriate "Smart Grid" compatible technology will greatly enhance our ability to maintain the existing levels of load under control and will allow us to offer new and enhance existing DSM programs for our residential and commercial customers. We also understand that there are many "Smart Grid" technologies to evaluate and they all vary in maturity and capability. PEF recognizes that transitioning our current system to one that is "Smart Grid" compatible will require careful planning and implementation strategies to ensure an efficient and cost effective system is

Exhibit No. (JAM 11) Energy Management Upgrades

installed. Therefore, PEF is planning to transition the existing one-way direct load control infrastructure to a "Smart Grid" compatible system over the next ten years using the following approach:

- Change out existing one-way switches to new digital two-way communication capable switches that can continue to communicate with the existing system and can be converted over to a new digital two-way communication system
- Deploy a new digital two-way communications system and associated IT systems beginning with targeted commercial customers, and then expanding to existing residential direct load control customers
- Provide targeted Commercial customer's energy usage/cost awareness and enhanced demand response programs described below
- Evaluate and, if beneficial, plan and implement new distribution grid system efficiency and demand response systems.
- Evaluate and, if beneficial, plan and implement new systems and programs that support residential customer awareness and behavior changes based on price or other incentives at some future time

This approach will allow PEF to continue one-way communications with the existing paging system while converting to a digital two-way communication platform. New

Exhibit No. (JAM 11) Energy Management Upgrades

customers will also have the new digital two-way switches installed during this transition.

Commercial Energy Management

The Commercial Energy Management demand response program has two components. The first utilizes customer owned or PEF provided in-premise automated energy management technologies to curtail customer load upon PEF request. This program will be a scaled deployment with limited participation the first two years, then participation will be increased over the next 8 years. The program will provide peak incentives to commercial customers that can curtail their load during PEF system peaks. The implementation of a commercial peak incentive that pays for use would be necessary to support these Commercial demand response programs. This component will require two-way communications to notify the customer when curtailment is required plus provide the necessary monitoring and verification for baseline and curtailment demand calculations. The two-way communications system is planned to be integrated with the residential system.

The second component of the program will be offered to targeted commercial customers using PEF's existing TOU tariff. This component also requires two-way communications as well as smart meters. In-Premise automation technology along with

Exhibit No. (JAM 11) Energy Management Upgrades

possible web tools will be offered to these customers. This program component is designed to provide customer's energy usage/cost awareness and allow these customers to have the necessary information and ability to effectively shift load from higher cost periods.

As stated above, the two-way communications system used for this commercial program is planned to be integrated with the new two-way residential load management communications infrastructure. This integrated system, that is Smart Grid compatible, can enable future opportunities for additional DSM programs that will help our customers better manage their energy use well into the future.

Energy Use Awareness

Energy usage awareness studies throughout the nation have indicated that providing customers with more immediate energy usage data would allow them to make better decisions on how and when they use energy. PEF plans to evaluate providing qualified residential customers more current energy usage information and cost information. This service may be provided in different formats depending on customer desires, cost effectiveness, and available technology sometime in the future.

Exhibit No. (JAM 11) Energy Management Upgrades

PEF also plans to offer this type of energy awareness to targeted commercial customers as part of a new commercial demand response program described previously.

Residential Customer Behavior/Dynamic Pricing

Studies are beginning to show that dynamic pricing can influence customers to reduce/shift electric load. PEF believes these studies provide an indication that additional potential residential load reduction could be achieved with the proper customer communications and in-premise automation technology. PEF will evaluate these type of residential demand response programs to determine their cost effectiveness for possible future implementation.

Exhibit No. (JAM 12) PEF Renewable Energy Initiative

The Renewable Energy Program was launched in 2007 and designed to support the installation of new solar photovoltaic (PV) and solar water heating systems within PEF's service territory. The originally designed program consisted of two measures, Solar Water Heating with EnergyWise and SolarWise for Schools. These voluntary customer participation programs leveraged the benefits of the residential demand response program with solar energy. This innovative integration has supported more than 1,500 new solar water heating systems and the installation of solar arrays totaling 8 kW, along with energy education curriculum, at local schools.

Solar Photovoltaics

Progress Energy began researching solar photovoltaic arrays with an Econ Substation project in 1988. Since then, Progress Energy has partnered with schools, businesses, and residential customers to install over 1000 kW of solar energy within our service territory. Progress Energy has used the knowledge gained from these projects, as well as information from industry experts and research foundations to design two new programs and make an enhancement to an existing measure focused on this technology. An emphasis to integrate energy efficiency and renewables helps to ensure this "green" initiative is installed on efficient "green" homes.

Exhibit No. (JAM 12) PEF Renewable Energy Initiative

SunSense for Homes (Residential Solar Photovoltaic)

SunSense provides an incentive to residential customers who install a new solar photovoltaic (PV) array on their home. Participants will receive a rebate of a \$1.50 per watt to offset a portion of the system cost for an array installed after the program start date. This rebate is based on the system design rating and when combined with state and federal incentives for solar energy will further advance this technology and industry, while providing immediate solar benefit for our customers and the state. The total of all incentives (e.g. utility, state, federal) cannot exceed the cost of the system. Annual participation will be capped at 1,000 kW. The program requires adequate solar exposure for proper system operation and participation in a home energy audit (completion of the Home Energy Check - HEC). The energy audit will recommend additional energy efficiency and demand response measures specifically associated with the customer's home and energy usage trends. The program goal is to advance renewable energy and encourage residential energy audits recognizing energy efficiency is the most cost effective green initiative.

SunSense for Business (Commercial Solar Photovoltaic)

In addition to a residential customer's interest and desire for solar energy opportunities, commercial customers are often faced with the challenges of corporate social responsibilities and environmental stewardship. SunSense for Business provides

Exhibit No. (JAM 12) PEF Renewable Energy Initiative

commercial customers installing solar PV with on-going energy payments associated with a 20 year sell all contract. These payments offset a portion of the system cost for a solar array installed on their facility and when combined with state and federal incentives for solar energy will further advance this technology and industry, while providing immediate solar benefit for our customers and the state. Annual participation will be capped at 5,000 kW. Program requirements include adequate solar exposure for proper system operation and participation in a business energy audit (completion of the Business Energy Check - BEC). The energy audit will recommend additional energy efficiency and demand response measures specifically associated with the customer's business and energy usage trends. The program goal is to advance renewable energy and to promote and encourage residential energy audits recognizing energy efficiency is the most cost effective green initiative.

SolarWise for Schools Program

During the 2007 Demand Side Management (DSM) program expansion SolarWise for Schools was created. This program leverages the positive elements of the SunSmart School program and expands solar photovoltaic (PV) array installations to schools throughout Progress Energy Florida's service territory. To further enhance participation a school SolarWise Fundraiser initiative has been developed. This initiative aligns with typical school fundraising campaigns and provides a target for new SolarWise for Schools, and therefore EnergyWise, participation. Once the targeted sign-up level is

Exhibit No. (JAM 12) PEF Renewable Energy Initiative

achieved the school earns a new solar photovoltaic array, installed at no cost to the school. In addition, an energy curriculum and tracking system to monitor the PV system's energy production accompany the system. The first SolarWise school fundraisers are scheduled for Fall 2009 in Central Florida.

Solar Water Heating

In 2007, Progress Energy Florida launched a Solar Water Heating with EnergyWise program that leveraged the benefits of residential demand response and solar energy. In order to further the participation in this program, enhancements are being announced.

Solar Water Heating with EnergyWise (Residential Solar Thermal)

The residential Solar Water Heating with EnergyWise program was originally implemented in February, 2007 and has been a successful program with more than 1,500 participants. The program provides an incentive for residential customers to install a new solar water heating system on their homes and participate in the residential demand response program, EnergyWise. To further increase participation, Progress Energy Florida has designed an increase in the customer incentive from \$450 to \$500. Additionally, by partnering with the Carbon Footprint program, hospitality sector customer contributions and event promotion will further promote the success of this

Exhibit No. (JAM 12) PEF Renewable Energy Initiative

program. Together these enhancements will help to grow the existing participant levels over the next ten years.

The opportunity to advance and participate with renewable energy, specifically solar energy, has been requested by our customers, regulators, local and state government. The Renewable Energy Program provides an innovative, unique option for our customers to actively participate with solar energy technologies, while leveraging the benefits of energy efficiency and demand response programs.

Exhibit No. (JAM 13) Neighborhood Energy Saver Plus Initiative

In conjunction with the 2007 DSM program expansion, Progress Energy launched its Neighborhood Energy Saver (NES) program. This innovative program provided weatherization and energy saving measures to residents of low-income communities. In addition to 16 NES measures, residents were given various educational tools to assist them in continuing their energy efficiency behavior. PEF works with local governments and community organizations yearly to qualify low income communities within its service territory. Qualified communities are invited to attend locally held NES kick-off events to inform residents of the energy efficiency NES measures PEF offers. In the days following the event, a "door-to-door" canvassing approach is used to implement measures at no cost and educate NES residents on energy. This canvassing approach has proven to minimize program costs, maximize participation and visibility while ensuring sustainable energy savings year after year.

The NES program consists of 16 measures including compact fluorescent lighting, water heater insulation, refrigerator coil brush, weather stripping, foam insulation and many more. The combination of these measures can make a significant impact on the customer's energy bill; a reduction of \$200 per year is not uncommon. Over the past two years, 10 communities and a total of 5,000 residents have participated in this unique program. This experience has allowed Progress Energy to develop additional energy conservation measures to further enhance and provide direct and sustainable

Exhibit No. (JAM 13) Neighborhood Energy Saver Plus Initiative

benefit to low-income customers. These additional measures include electric water heater replacement, attic insulation, window film, solar screen, and reflective roof.

The addition of these new measures will further assist low-income customers in reducing their energy bill. Increased savings and increased comfort, along with the empowerment to make positive decisions with managing their energy usage are only a few of the value added benefits derived from the NES program. NES emphasizes energy education with every opportunity, from initial communication through measure installation. This educational commitment reinforces NES and solidifies its sustainability in recommended behavioral changes, leaving customers with the tools and means to continue being energy efficient.

Exhibit No. (JAM 14) Carbon Footprint Initiative

The hospitality sector and business community, concerned for environmental stewardship and social responsibility, have identified the need for their meetings, events, and conferences to be carbon free. Currently, carbon offsets can be purchased from various companies on the World Wide Web; however these dollars are typically aggregated and used to build renewable energy projects located in other states or provides additional income for existing generation. These purchased offsets do not support the local community or facility hosting the meeting or event.

In 2008, McDonald's Corporation, Orange County, and PEF collaborated to develop a pilot to offset the carbon emissions from a planned convention at the Orange County Convention Center (OCCC). The pilot calculated the carbon emissions from the event and used the equivalent carbon offset market expense dollars to provide an additional incentive for our Solar Water Heating with EnergyWise program. By leveraging an existing renewable energy initiative measure and providing additional incentives, Progress Energy was able to install over 120 new solar water heating systems partnered with our EnergyWise program; twice the pilot goal. The added benefit to this initiative is that the local community benefited from the incentives and the direct result of the reduction in carbon emissions (i.e. carbon offsets). The success of this pilot confirms the feasibility and market for a new commercial sector initiative called the "Carbon Footprint Initiative."

Exhibit No. (JAM 14) Carbon Footprint Initiative

This new initiative is targeted toward conference centers, hotels, day event facilities, event planners or guests using such facilities. The objective is to offer an understandable, straightforward process so that customers hosting events or conferences at these facilities could market the event as having an individual carbon free footprint. To achieve this, the participating customers will work with PEF commercial service representatives to estimate the carbon dioxide emission levels associated with the event. Algorithms have been developed for calculating the carbon emissions associated with on-site electric consumption and travel. The customer would then have the option to pay a particular amount based on prices of carbon equivalent offsets and have this money directed toward our low-income energy efficiency and/or renewable energy programs. Progress Energy would provide a certificate, signage or other recognition that the event had offset its carbon use while conferencing in Florida.

This voluntary participation initiative provides a value added resource to the hospitality sector through the confirmation and promotion that their event was carbon free. The contributions for this service are passed on to our customers through enhanced incentives for measure implementations and additional funding for our low income and renewable energy programs.

Exhibit No. (JAM 15) Business Energy Saver Initiative

Based on the success of the Neighborhood Energy Saver (NES) program and the need to address the energy savings for our small business customers in a unique manner, Progress Energy piloted the Business Energy Saver (BES) program in the economically targeted Midtown area of St. Petersburg. The pilot sought to identify cost-effective measures for assisting small businesses, located within lower income communities, in reducing wasted energy consumption and using electricity more efficiently. The pilot was a collaborative effort with the City of St. Petersburg's Business Assistance Center, Eckerd College, and Progress Energy Florida. The collaboration achieved the following:

- Provided resources necessary to identify businesses meeting the program criteria
- Offered an opportunity for students from the Corporate Social Responsibility class of Eckerd College to have on-site auditing experience with Progress Energy Advisors
- Class students learned about energy efficiency and how important it was to be involved with local business
- Enabled business owners to interact one-on-one and learn simple, effective methods to manage their energy use, improve their bottom line, and help the environment

Exhibit No. (JAM 15) Business Energy Saver Initiative

- Implement a comprehensive collection of measures including: HVAC tune-up, refrigerator coil cleaning, compact fluorescent lighting, occupancy sensors, and many more.
- Empowered the business owners to make good decisions on managing their energy usage through recommended behavioral changes

The successful completion of the pilot supported the development for this new and unique energy-saving program to help local small businesses manage their energy costs and their bottom lines through the implementation of energy efficiency measures, education, and recommended behavioral changes. The Business Energy Saver Initiative was developed to address the needs of the qualified small-business customer by providing energy efficiency measure implementation at no-cost to the business owner, and reducing wasted energy to improve their bottom line. In addition to the installation of no cost measures, the customers benefit from the one-on-one interactions and from the education on how to further save energy by utilizing recommended behavioral changes. By incorporating this educational component, the energy savings are sustainable and become lasting economic support year after year. In this way, the energy savings provided to the small businesses, through this program, enhance economic development for the local community.

Exhibit No. (JAM 15) Business Energy Saver Initiative

The BES program is designed to assist qualified small businesses to become energy efficient and to increase awareness of energy conservation methods. Replication of the collaborative model between local government and educational institutions established in the pilot will be implemented with each BES program application, whenever possible. A comprehensive package of conservation measures has been established to meet the needs of this underserved market segment. It is ideally suited to run in conjunction with another DSM program that targets targeted communities. The Neighborhood Energy Saver program provides similar energy saving measures to residential customers within a low-income community. When run concurrently within a single neighborhood, costs are minimized and the economic development enhancements are maximized.

Exhibit No. (JAM 16) Customer Awareness and Education Initiatives

PEF will continue with all of its existing education initiatives and strategies and will add the following to support new or expanded programs:

- **Low Income Education Workshop**

In January 2010, PEF will introduce The "Low Bill" Energy Education and Utility Bill Assistance Workshop to inform, educate and empower low income customers to use the energy in their homes more efficiently and reduce their energy consumption. It will feature interactive hands on workstations consisting of educational DSM displays. Participants will receive a DSM energy-efficiency tool kit consisting of: one refrigerator thermometer, one pack of weather-stripping, two compact fluorescent light bulbs, one hot water gauge, one pack of switch and wall plate sealers and tips on how to save energy. The workshop will also incorporate customer assistance programs provided by Progress Energy, and services available by local Social Service agencies. PEF will attempt to sponsor a minimum of 8 workshops per year.

- **Social Media and Web Tools**

PEF is exploring the use of new and emerging media such as social media including Twitter, Facebook and other blogs; as well as search engine optimization and search words to promote energy efficiency.

Exhibit No. (JAM 16) Customer Awareness and Education Initiatives

- **\$1 Billion Saved**

In June 2009, PEF hits a milestone, having saved its customers \$1 billion from energy efficiency. Customers will be invited to “join in on the savings” and participate in DSM programs in a celebration that will be communicated throughout the year by tagging existing advertising messages, creating news media opportunities, web messaging, bill messages, etc.

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

Residential

_SF 100 109 HVAC Proper Sizing
_SF 100 112 AC Maintenance (Outdoor Coil Cleaning)
_SF 100 114 Proper Refrigerant Charging and Air Flow
_SF 100 115 Electronically Commutated Motors (ECM) on an Air Handler Unit
_SF 130 135 HVAC Proper Sizing
_SF 130 138 AC Maintenance (Outdoor Coil Cleaning)
_SF 130 140 Proper Refrigerant Charging and Air Flow
_SF 130 141 Electronically Commutated Motors (ECM) on an Air Handler Unit
_SF 220 221 CFL (18-Watt integral ballast), 0.5 hr/day
_SF 230 231 CFL (18-Watt integral ballast), 2.5 hr/day
_SF 240 241 CFL (18-Watt integral ballast), 6.0 hr/day
_SF 250 252 RET 2L4'T8, 1EB
_SF 260 252 RET 2L4'T8, 1EB
_SF 400 405 Low Flow Showerhead
_SF 400 407 Faucet Aerators
_SF 400 408 Water Heater Blanket
_SF 400 409 Water Heater Temperature Check and Adjustment
_SF 400 411 Heat Trap
_SF 800 801 Two Speed Pool Pump (1.5 hp)
_SF 800 802 High Efficiency One Speed Pool Pump (1.5 hp)
_SF 900 901 Energy Star TV
_SF 910 911 Energy Star TV
_SF 920 921 Energy Star Set-Top Box
_SF 930 931 Energy Star DVD Player
_SF 940 941 Energy Star VCR
_SF 950 951 Energy Star Desktop PC
_SF 960 961 Energy Star Laptop PC
MF 100 109 HVAC Proper Sizing
MF 100 120 Window Tinting
MF 100 121 Default Window With Sunscreen
MF 130 135 HVAC Proper Sizing
MF 130 141 Electronically Commutated Motors (ECM) on an Air Handler Unit
MF 130 146 Window Tinting
MF 130 147 Default Window With Sunscreen
MF 220 221 CFL (18-Watt integral ballast), 0.5 hr/day
MF 230 231 CFL (18-Watt integral ballast), 2.5 hr/day
MF 240 241 CFL (18-Watt integral ballast), 6.0 hr/day
MF 250 252 RET 2L4'T8, 1EB
MF 260 252 RET 2L4'T8, 1EB
MF 400 405 Low Flow Showerhead
MF 400 407 Faucet Aerators
MF 400 408 Water Heater Blanket
MF 400 411 Heat Trap
MF 800 801 Two Speed Pool Pump (1.5 hp)

MF 800 802 High Efficiency One Speed Pool Pump (1.5 hp)
MF 900 901 Energy Star TV
MF 910 911 Energy Star TV
MF 920 921 Energy Star Set-Top Box
MF 930 931 Energy Star DVD Player
MF 940 941 Energy Star VCR
MF 950 951 Energy Star Desktop PC
MF 960 961 Energy Star Laptop PC
MH 100 109 HVAC Proper Sizing
MH 100 112 AC Maintenance (Outdoor Coil Cleaning)
MH 130 135 HVAC Proper Sizing
MH 130 141 Electronically Commutated Motors (ECM) on an Air Handler Unit
MH 220 221 CFL (18-Watt integral ballast), 0.5 hr/day
MH 230 231 CFL (18-Watt integral ballast), 2.5 hr/day
MH 240 241 CFL (18-Watt integral ballast), 6.0 hr/day
MH 250 252 RET 2L4'T8, 1EB
MH 260 252 RET 2L4'T8, 1EB
MH 400 405 Low Flow Showerhead
MH 400 407 Faucet Aerators
MH 400 408 Water Heater Blanket
MH 400 411 Heat Trap
MH 800 801 Two Speed Pool Pump (1.5 hp)
MH 800 802 High Efficiency One Speed Pool Pump (1.5 hp)
MH 900 901 Energy Star TV
MH 910 911 Energy Star TV
MH 920 921 Energy Star Set-Top Box
MH 930 931 Energy Star DVD Player
MH 940 941 Energy Star VCR
MH 950 951 Energy Star Desktop PC
MH 960 961 Energy Star Laptop PC

Commercial

10-110-111 Premium T8, Electronic Ballast
10-110-112 Premium T8, EB, Reflector
10-110-115 Lighting Control Tuneup
10-120-121 ROB Premium T8, 1EB
10-120-122 ROB Premium T8, EB, Reflector
10-130-131 CFL Screw-in 18W
10-140-141 CFL Hardwired, Modular 18W
10-150-151 PSMH, 250W, magnetic ballast
10-150-153 High Bay T5
10-160-161 LED Exit Sign
10-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
10-300-302 High Efficiency Chiller Motors
10-300-304 EMS - Chiller
10-300-306 VSD for Chiller Pumps and Towers
10-300-307 EMS Optimization
10-300-308 Aerosole Duct Sealing

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

10-300-309 Duct/Pipe Insulation	1-160-161 LED Exit Sign
10-320-327 DX Coil Cleaning	11-700-701 PC Manual Power Management Enabling
10-320-328 Optimize Controls	11-700-702 PC Network Power Management Enabling
10-320-329 Aerosole Duct Sealing	11-710-711 Energy Star or Better Monitor
10-320-330 Duct/Pipe Insulation	11-710-712 Monitor Power Management Enabling
10-340-344 Aerosole Duct Sealing	11-720-721 Energy Star or Better Monitor
10-340-345 Duct/Pipe Insulation	11-730-731 Energy Star or Better Copier
10-360-361 HE PTAC, EER=9.6, 1 ton	11-730-732 Copier Power Management Enabling
10-600-608 Heat Recovery Unit	11-740-741 Printer Power Management Enabling
10-600-609 Heat Trap	11-900-901 Vending Misers (cooled machines only)
10-700-701 PC Manual Power Management Enabling	11-900-901 Vending Misers (cooled machines only)
10-700-702 PC Network Power Management Enabling	1-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
10-710-711 Energy Star or Better Monitor	1-300-307 EMS Optimization
10-710-712 Monitor Power Management Enabling	1-300-308 Aerosole Duct Sealing
10-720-721 Energy Star or Better Monitor	1-300-309 Duct/Pipe Insulation
10-730-731 Energy Star or Better Copier	1-320-327 DX Coil Cleaning
10-730-732 Copier Power Management Enabling	1-320-328 Optimize Controls
10-740-741 Printer Power Management Enabling	1-320-329 Aerosole Duct Sealing
10-900-901 Vending Misers (cooled machines only)	1-320-330 Duct/Pipe Insulation
1-110-111 Premium T8, Elecctronic Ballast	1-340-344 Aerosole Duct Sealing
1-110-112 Premium T8, EB, Reflector	1-340-345 Duct/Pipe Insulation
1-110-114 Continuous Dimming	1-400-403 Air Handler Optimization
1-110-115 Lighting Control Tuneup	1-600-609 Heat Trap
11-110-111 Premium T8, Elecctronic Ballast	1-700-701 PC Manual Power Management Enabling
11-110-112 Premium T8, EB, Reflector	1-700-702 PC Network Power Management Enabling
11-110-114 Continuous Dimming	1-710-711 Energy Star or Better Monitor
11-110-115 Lighting Control Tuneup	1-710-712 Monitor Power Management Enabling
11-120-121 ROB Premium T8, 1EB	1-720-721 Energy Star or Better Monitor
11-120-122 ROB Premium T8, EB, Reflector	1-730-731 Energy Star or Better Copier
11-120-124 Lighting Control Tuneup	1-730-732 Copier Power Management Enabling
11-130-131 CFL Screw-in 18W	1-740-741 Printer Power Management Enabling
11-140-141 CFL Hardwired, Modular 18W	1-900-901 Vending Misers (cooled machines only)
11-150-151 PSMH, 250W, magnetic ballast	2-110-111 Premium T8, Elecctronic Ballast
11-150-153 High Bay T5	2-110-112 Premium T8, EB, Reflector
11-160-161 LED Exit Sign	2-110-114 Continuous Dimming
1-120-121 ROB Premium T8, 1EB	2-110-115 Lighting Control Tuneup
1-120-122 ROB Premium T8, EB, Reflector	2-120-121 ROB Premium T8, 1EB
1-120-124 Lighting Control Tuneup	2-120-122 ROB Premium T8, EB, Reflector
11-300-308 Aerosole Duct Sealing	2-120-124 Lighting Control Tuneup
11-300-309 Duct/Pipe Insulation	2-130-131 CFL Screw-in 18W
1-130-131 CFL Screw-in 18W	2-140-141 CFL Hardwired, Modular 18W
11-320-327 DX Coil Cleaning	2-150-151 PSMH, 250W, magnetic ballast
11-320-328 Optimize Controls	2-150-153 High Bay T5
11-320-329 Aerosole Duct Sealing	2-160-161 LED Exit Sign
11-320-330 Duct/Pipe Insulation	2-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
11-340-344 Aerosole Duct Sealing	2-300-305 Chiller Tune Up/Diagnostics
11-340-345 Duct/Pipe Insulation	2-300-306 VSD for Chiller Pumps and Towers
1-140-141 CFL Hardwired, Modular 18W	2-300-307 EMS Optimization
1-150-151 PSMH, 250W, magnetic ballast	2-300-308 Aerosole Duct Sealing
1-150-153 High Bay T5	2-300-309 Duct/Pipe Insulation
11-600-609 Heat Trap	2-320-323 Geothermal Heat Pump, EER=13, 10 tons

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

- 2-320-326 DX Tune Up/ Advanced Diagnostics
- 2-320-327 DX Coil Cleaning
- 2-320-328 Optimize Controls
- 2-320-329 Aerosole Duct Sealing
- 2-320-330 Duct/Pipe Insulation
- 2-320-332 Window Film (Standard)
- 2-320-334 Ceiling Insulation
- 2-320-335 Roof Insulation
- 2-340-342 Geothermal Heat Pump, EER=13, 10 tons
- 2-340-344 Aerosole Duct Sealing
- 2-340-345 Duct/Pipe Insulation
- 2-340-347 Window Film (Standard)
- 2-340-349 Ceiling Insulation
- 2-340-350 Roof Insulation
- 2-360-361 HE PTAC, EER=9.6, 1 ton
- 2-400-403 Air Handler Optimization
- 2-400-407 Separate Makeup Air / Exhaust Hoods AC
- 2-600-608 Heat Recovery Unit
- 2-600-609 Heat Trap
- 2-700-701 PC Manual Power Management Enabling
- 2-700-702 PC Network Power Management Enabling
- 2-710-711 Energy Star or Better Monitor
- 2-710-712 Monitor Power Management Enabling
- 2-720-721 Energy Star or Better Monitor
- 2-730-731 Energy Star or Better Copier
- 2-730-732 Copier Power Management Enabling
- 2-740-741 Printer Power Management Enabling
- 2-900-901 Vending Misers (cooled machines only)
- 3-110-111 Premium T8, Electronic Ballast
- 3-110-112 Premium T8, EB, Reflector
- 3-110-114 Continuous Dimming
- 3-110-115 Lighting Control Tuneup
- 3-120-121 ROB Premium T8, 1EB
- 3-120-122 ROB Premium T8, EB, Reflector
- 3-120-124 Lighting Control Tuneup
- 3-130-131 CFL Screw-in 18W
- 3-140-141 CFL Hardwired, Modular 18W
- 3-150-151 PSMH, 250W, magnetic ballast
- 3-150-153 High Bay T5
- 3-160-161 LED Exit Sign
- 3-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
- 3-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
- 3-300-306 VSD for Chiller Pumps and Towers
- 3-300-307 EMS Optimization
- 3-300-308 Aerosole Duct Sealing
- 3-300-309 Duct/Pipe Insulation
- 3-320-327 DX Coil Cleaning
- 3-320-328 Optimize Controls
- 3-320-329 Aerosole Duct Sealing
- 3-320-330 Duct/Pipe Insulation
- 3-340-344 Aerosole Duct Sealing
- 3-340-345 Duct/Pipe Insulation
- 3-360-361 HE PTAC, EER=9.6, 1 ton
- 3-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
- 3-600-609 Heat Trap
- 3-700-701 PC Manual Power Management Enabling
- 3-700-702 PC Network Power Management Enabling
- 3-710-711 Energy Star or Better Monitor
- 3-710-712 Monitor Power Management Enabling
- 3-720-721 Energy Star or Better Monitor
- 3-730-731 Energy Star or Better Copier
- 3-730-732 Copier Power Management Enabling
- 3-740-741 Printer Power Management Enabling
- 3-900-901 Vending Misers (cooled machines only)
- 4-110-111 Premium T8, Electronic Ballast
- 4-110-112 Premium T8, EB, Reflector
- 4-110-114 Continuous Dimming
- 4-110-115 Lighting Control Tuneup
- 4-120-121 ROB Premium T8, 1EB
- 4-120-122 ROB Premium T8, EB, Reflector
- 4-120-124 Lighting Control Tuneup
- 4-130-131 CFL Screw-in 18W
- 4-140-141 CFL Hardwired, Modular 18W
- 4-150-151 PSMH, 250W, magnetic ballast
- 4-150-153 High Bay T5
- 4-160-161 LED Exit Sign
- 4-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
- 4-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons
- 4-300-305 Chiller Tune Up/Diagnostics
- 4-300-306 VSD for Chiller Pumps and Towers
- 4-300-307 EMS Optimization
- 4-300-308 Aerosole Duct Sealing
- 4-300-309 Duct/Pipe Insulation
- 4-320-326 DX Tune Up/ Advanced Diagnostics
- 4-320-327 DX Coil Cleaning
- 4-320-328 Optimize Controls
- 4-320-329 Aerosole Duct Sealing
- 4-320-330 Duct/Pipe Insulation
- 4-320-332 Window Film (Standard)
- 4-320-334 Ceiling Insulation
- 4-320-335 Roof Insulation
- 4-340-342 Geothermal Heat Pump, EER=13, 10 tons
- 4-340-344 Aerosole Duct Sealing
- 4-340-345 Duct/Pipe Insulation
- 4-340-347 Window Film (Standard)
- 4-340-349 Ceiling Insulation
- 4-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%
- 4-400-402 Variable Speed Drive Control
- 4-400-403 Air Handler Optimization
- 4-400-407 Separate Makeup Air / Exhaust Hoods AC
- 4-500-502 Strip curtains for walk-ins

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

- 4-500-503 Night covers for display cases
- 4-500-505 Efficient compressor motor
- 4-500-507 Floating head pressure controls
- 4-500-508 Refrigeration Commissioning
- 4-500-509 Demand Hot Gas Defrost
- 4-500-510 Demand Defrost Electric
- 4-500-511 Anti-sweat (humidistat) controls
- 4-500-516 Freezer-Cooler Replacement Gaskets
- 4-600-608 Heat Recovery Unit
- 4-600-609 Heat Trap
- 4-700-701 PC Manual Power Management Enabling
- 4-700-702 PC Network Power Management Enabling
- 4-710-711 Energy Star or Better Monitor
- 4-710-712 Monitor Power Management Enabling
- 4-720-721 Energy Star or Better Monitor
- 4-730-731 Energy Star or Better Copier
- 4-730-732 Copier Power Management Enabling
- 4-740-741 Printer Power Management Enabling
- 4-900-901 Vending Misers (cooled machines only)
- 5-110-111 Premium T8, Electronic Ballast
- 5-110-112 Premium T8, EB, Reflector
- 5-110-114 Continuous Dimming
- 5-110-115 Lighting Control Tuneup
- 5-120-122 ROB Premium T8, EB, Reflector
- 5-120-124 Lighting Control Tuneup
- 5-130-131 CFL Screw-in 18W
- 5-140-141 CFL Hardwired, Modular 18W
- 5-150-151 PSMH, 250W, magnetic ballast
- 5-150-153 High Bay T5
- 5-160-161 LED Exit Sign
- 5-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
- 5-300-307 EMS Optimization
- 5-300-308 Aerosole Duct Sealing
- 5-300-309 Duct/Pipe Insulation
- 5-320-327 DX Coil Cleaning
- 5-320-328 Optimize Controls
- 5-320-329 Aerosole Duct Sealing
- 5-320-330 Duct/Pipe Insulation
- 5-340-344 Aerosole Duct Sealing
- 5-340-345 Duct/Pipe Insulation
- 5-400-403 Air Handler Optimization
- 5-600-603 Heat Pump Water Heater (air source)
- 5-600-608 Heat Recovery Unit
- 5-600-609 Heat Trap
- 5-700-701 PC Manual Power Management Enabling
- 5-700-702 PC Network Power Management Enabling
- 5-710-711 Energy Star or Better Monitor
- 5-710-712 Monitor Power Management Enabling
- 5-720-721 Energy Star or Better Monitor
- 5-730-731 Energy Star or Better Copier
- 5-730-732 Copier Power Management Enabling
- 5-740-741 Printer Power Management Enabling
- 5-900-901 Vending Misers (cooled machines only)
- 6-110-111 Premium T8, Electronic Ballast
- 6-110-114 Continuous Dimming
- 6-110-115 Lighting Control Tuneup
- 6-120-124 Lighting Control Tuneup
- 6-130-131 CFL Screw-in 18W
- 6-140-141 CFL Hardwired, Modular 18W
- 6-150-151 PSMH, 250W, magnetic ballast
- 6-150-153 High Bay T5
- 6-160-161 LED Exit Sign
- 6-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
- 6-210-211 Outdoor Lighting Controls (Photocell/Timeclock)
- 6-300-307 EMS Optimization
- 6-300-308 Aerosole Duct Sealing
- 6-300-309 Duct/Pipe Insulation
- 6-320-327 DX Coil Cleaning
- 6-320-328 Optimize Controls
- 6-320-329 Aerosole Duct Sealing
- 6-320-330 Duct/Pipe Insulation
- 6-340-344 Aerosole Duct Sealing
- 6-340-345 Duct/Pipe Insulation
- 6-400-403 Air Handler Optimization
- 6-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit
- 6-600-603 Heat Pump Water Heater (air source)
- 6-600-606 Demand controlled circulating systems
- 6-600-609 Heat Trap
- 6-700-701 PC Manual Power Management Enabling
- 6-700-702 PC Network Power Management Enabling
- 6-710-711 Energy Star or Better Monitor
- 6-710-712 Monitor Power Management Enabling
- 6-720-721 Energy Star or Better Monitor
- 6-730-731 Energy Star or Better Copier
- 6-730-732 Copier Power Management Enabling
- 6-740-741 Printer Power Management Enabling
- 6-900-901 Vending Misers (cooled machines only)
- 7-110-111 Premium T8, Electronic Ballast
- 7-110-112 Premium T8, EB, Reflector
- 7-110-114 Continuous Dimming
- 7-110-115 Lighting Control Tuneup
- 7-120-121 ROB Premium T8, 1EB
- 7-120-122 ROB Premium T8, EB, Reflector
- 7-120-124 Lighting Control Tuneup
- 7-130-131 CFL Screw-in 18W
- 7-140-141 CFL Hardwired, Modular 18W
- 7-150-151 PSMH, 250W, magnetic ballast
- 7-150-153 High Bay T5
- 7-160-161 LED Exit Sign
- 7-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
- 7-300-301 Centrifugal Chiller, 0.51 kW/ton, 500 tons

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

7-300-302 High Efficiency Chiller Motors	8-140-141 CFL Hardwired, Modular 18W
7-300-304 EMS - Chiller	8-150-151 PSMH, 250W, magnetic ballast
7-300-305 Chiller Tune Up/Diagnostics	8-150-153 High Bay T5
7-300-306 VSD for Chiller Pumps and Towers	8-160-161 LED Exit Sign
7-300-307 EMS Optimization	8-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
7-300-308 Aerosole Duct Sealing	8-300-305 Chiller Tune Up/Diagnostics
7-300-309 Duct/Pipe Insulation	8-300-307 EMS Optimization
7-300-311 Window Film (Standard)	8-300-308 Aerosole Duct Sealing
7-320-323 Geothermal Heat Pump, EER=13, 10 tons	8-300-309 Duct/Pipe Insulation
7-320-326 DX Tune Up/ Advanced Diagnostics	8-320-327 DX Coil Cleaning
7-320-327 DX Coil Cleaning	8-320-328 Optimize Controls
7-320-328 Optimize Controls	8-320-329 Aerosole Duct Sealing
7-320-329 Aerosole Duct Sealing	8-320-330 Duct/Pipe Insulation
7-320-330 Duct/Pipe Insulation	8-340-344 Aerosole Duct Sealing
7-320-332 Window Film (Standard)	8-340-345 Duct/Pipe Insulation
7-320-334 Ceiling Insulation	8-400-403 Air Handler Optimization
7-320-335 Roof Insulation	8-600-606 Demand controlled circulating systems
7-340-342 Geothermal Heat Pump, EER=13, 10 tons	8-600-608 Heat Recovery Unit
7-340-344 Aerosole Duct Sealing	8-600-609 Heat Trap
7-340-345 Duct/Pipe Insulation	8-700-701 PC Manual Power Management Enabling
7-340-347 Window Film (Standard)	8-700-702 PC Network Power Management Enabling
7-340-349 Ceiling Insulation	8-710-711 Energy Star or Better Monitor
7-340-350 Roof Insulation	8-710-712 Monitor Power Management Enabling
7-360-361 HE PTAC, EER=9.6, 1 ton	8-720-721 Energy Star or Better Monitor
7-400-401 High Efficiency Fan Motor, 15hp, 1800rpm, 92.4%	8-730-731 Energy Star or Better Copier
7-400-402 Variable Speed Drive Control	8-730-732 Copier Power Management Enabling
7-400-403 Air Handler Optimization	8-740-741 Printer Power Management Enabling
7-400-404 Electronically Commutated Motors (ECM) on an Air Handler Unit	8-900-901 Vending Misers (cooled machines only)
7-600-601 High Efficiency Water Heater (electric)	9-110-111 Premium T8, Electronic Ballast
7-600-603 Heat Pump Water Heater (air source)	9-110-112 Premium T8, EB, Reflector
7-600-606 Demand controlled circulating systems	9-110-115 Lighting Control Tuneup
7-600-608 Heat Recovery Unit	9-120-121 ROB Premium T8, 1EB
7-600-609 Heat Trap	9-120-122 ROB Premium T8, EB, Reflector
7-700-701 PC Manual Power Management Enabling	9-130-131 CFL Screw-in 18W
7-700-702 PC Network Power Management Enabling	9-140-141 CFL Hardwired, Modular 18W
7-710-711 Energy Star or Better Monitor	9-150-151 PSMH, 250W, magnetic ballast
7-710-712 Monitor Power Management Enabling	9-150-153 High Bay T5
7-720-721 Energy Star or Better Monitor	9-160-161 LED Exit Sign
7-730-731 Energy Star or Better Copier	9-200-202 Outdoor Lighting Controls (Photocell/Timeclock)
7-730-732 Copier Power Management Enabling	9-300-308 Aerosole Duct Sealing
7-740-741 Printer Power Management Enabling	9-300-309 Duct/Pipe Insulation
7-900-901 Vending Misers (cooled machines only)	9-320-327 DX Coil Cleaning
8-110-111 Premium T8, Electronic Ballast	9-320-329 Aerosole Duct Sealing
8-110-112 Premium T8, EB, Reflector	9-320-330 Duct/Pipe Insulation
8-110-114 Continuous Dimming	9-340-344 Aerosole Duct Sealing
8-110-115 Lighting Control Tuneup	9-340-345 Duct/Pipe Insulation
8-120-121 ROB Premium T8, 1EB	9-600-609 Heat Trap
8-120-122 ROB Premium T8, EB, Reflector	9-700-701 PC Manual Power Management Enabling
8-120-124 Lighting Control Tuneup	9-700-702 PC Network Power Management Enabling
8-130-131 CFL Screw-in 18W	9-710-711 Energy Star or Better Monitor
	9-710-712 Monitor Power Management Enabling

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

9-720-721 Energy Star or Better Monitor
9-730-731 Energy Star or Better Copier
9-730-732 Copier Power Management Enabling
9-740-741 Printer Power Management Enabling
9-900-901 Vending Misers (cooled machines only)

Industrial

5 800 803 CFL Screw-in 18W
14 800 803 CFL Screw-in 18W
1 800 803 CFL Screw-in 18W
7 800 803 CFL Screw-in 18W
13 800 803 CFL Screw-in 18W
15 800 803 CFL Screw-in 18W
10 800 803 CFL Screw-in 18W
12 800 803 CFL Screw-in 18W
9 800 803 CFL Screw-in 18W
11 800 803 CFL Screw-in 18W
2 800 803 CFL Screw-in 18W
16 800 803 CFL Screw-in 18W
8 800 803 CFL Screw-in 18W
3 800 803 CFL Screw-in 18W
4 800 803 CFL Screw-in 18W
6 800 803 CFL Screw-in 18W
7 200 209 Fans - ASD (6-100 hp)
6 200 209 Fans - ASD (6-100 hp)
9 200 209 Fans - ASD (6-100 hp)
4 200 209 Fans - ASD (6-100 hp)
16 200 209 Fans - ASD (6-100 hp)
15 200 209 Fans - ASD (6-100 hp)
13 200 209 Fans - ASD (6-100 hp)
5 200 209 Fans - ASD (6-100 hp)
1 200 209 Fans - ASD (6-100 hp)
8 200 209 Fans - ASD (6-100 hp)
11 200 209 Fans - ASD (6-100 hp)
14 200 209 Fans - ASD (6-100 hp)
3 200 209 Fans - ASD (6-100 hp)
10 200 209 Fans - ASD (6-100 hp)
12 200 209 Fans - ASD (6-100 hp)
2 200 209 Fans - ASD (6-100 hp)
7 300 309 Pumps - ASD (6-100 hp)
6 300 309 Pumps - ASD (6-100 hp)
9 300 309 Pumps - ASD (6-100 hp)
4 300 309 Pumps - ASD (6-100 hp)
16 300 309 Pumps - ASD (6-100 hp)
15 300 309 Pumps - ASD (6-100 hp)
13 300 309 Pumps - ASD (6-100 hp)
5 300 309 Pumps - ASD (6-100 hp)
1 300 309 Pumps - ASD (6-100 hp)
8 300 309 Pumps - ASD (6-100 hp)
11 300 309 Pumps - ASD (6-100 hp)
14 300 309 Pumps - ASD (6-100 hp)

3 300 309 Pumps - ASD (6-100 hp)
10 300 309 Pumps - ASD (6-100 hp)
12 300 309 Pumps - ASD (6-100 hp)
2 300 309 Pumps - ASD (6-100 hp)
7 100 109 Comp Air - ASD (6-100 hp)
6 100 109 Comp Air - ASD (6-100 hp)
9 100 109 Comp Air - ASD (6-100 hp)
4 100 109 Comp Air - ASD (6-100 hp)
16 100 109 Comp Air - ASD (6-100 hp)
15 100 109 Comp Air - ASD (6-100 hp)
13 100 109 Comp Air - ASD (6-100 hp)
5 100 109 Comp Air - ASD (6-100 hp)
1 100 109 Comp Air - ASD (6-100 hp)
8 100 109 Comp Air - ASD (6-100 hp)
11 100 109 Comp Air - ASD (6-100 hp)
14 100 109 Comp Air - ASD (6-100 hp)
3 100 109 Comp Air - ASD (6-100 hp)
10 100 109 Comp Air - ASD (6-100 hp)
12 100 109 Comp Air - ASD (6-100 hp)
2 100 109 Comp Air - ASD (6-100 hp)
7 720 727 Aerosole Duct Sealing
6 720 727 Aerosole Duct Sealing
9 720 727 Aerosole Duct Sealing
4 720 727 Aerosole Duct Sealing
16 720 727 Aerosole Duct Sealing
15 720 727 Aerosole Duct Sealing
13 720 727 Aerosole Duct Sealing
5 720 727 Aerosole Duct Sealing
1 720 727 Aerosole Duct Sealing
8 720 727 Aerosole Duct Sealing
11 720 727 Aerosole Duct Sealing
14 720 727 Aerosole Duct Sealing
3 720 727 Aerosole Duct Sealing
10 720 727 Aerosole Duct Sealing
12 720 727 Aerosole Duct Sealing
2 720 727 Aerosole Duct Sealing
8 400 417 O&M - Extruders/Injection Moulding
2 300 301 Pumps - O&M
12 300 301 Pumps - O&M
10 300 301 Pumps - O&M
3 300 301 Pumps - O&M
14 300 301 Pumps - O&M
11 300 301 Pumps - O&M
8 300 301 Pumps - O&M
5 300 301 Pumps - O&M
1 300 301 Pumps - O&M
13 300 301 Pumps - O&M
15 300 301 Pumps - O&M
16 300 301 Pumps - O&M
9 300 301 Pumps - O&M
4 300 301 Pumps - O&M

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

7 300 301 Pumps - O&M	1 550 551 Efficient Refrigeration - Operations
6 300 301 Pumps - O&M	2 100 101 Compressed Air-O&M
1 400 401 Bakery - Process (Mixing) - O&M	12 100 101 Compressed Air-O&M
2 100 104 Compressed Air- Sizing	10 100 101 Compressed Air-O&M
12 100 104 Compressed Air- Sizing	3 100 101 Compressed Air-O&M
10 100 104 Compressed Air- Sizing	14 100 101 Compressed Air-O&M
3 100 104 Compressed Air- Sizing	11 100 101 Compressed Air-O&M
14 100 104 Compressed Air- Sizing	8 100 101 Compressed Air-O&M
11 100 104 Compressed Air- Sizing	5 100 101 Compressed Air-O&M
8 100 104 Compressed Air- Sizing	1 100 101 Compressed Air-O&M
5 100 104 Compressed Air- Sizing	13 100 101 Compressed Air-O&M
1 100 104 Compressed Air- Sizing	15 100 101 Compressed Air-O&M
13 100 104 Compressed Air- Sizing	16 100 101 Compressed Air-O&M
15 100 104 Compressed Air- Sizing	4 100 101 Compressed Air-O&M
16 100 104 Compressed Air- Sizing	9 100 101 Compressed Air-O&M
9 100 104 Compressed Air- Sizing	7 100 101 Compressed Air-O&M
4 100 104 Compressed Air- Sizing	6 100 101 Compressed Air-O&M
7 100 104 Compressed Air- Sizing	3 400 403 Air conveying systems
6 100 104 Compressed Air- Sizing	5 800 801 Premium T8, Electronic Ballast
6 720 725 DX Coil Cleaning	16 800 801 Premium T8, Electronic Ballast
5 720 725 DX Coil Cleaning	15 800 801 Premium T8, Electronic Ballast
10 720 725 DX Coil Cleaning	14 800 801 Premium T8, Electronic Ballast
7 720 725 DX Coil Cleaning	13 800 801 Premium T8, Electronic Ballast
11 720 725 DX Coil Cleaning	2 800 801 Premium T8, Electronic Ballast
15 720 725 DX Coil Cleaning	3 800 801 Premium T8, Electronic Ballast
14 720 725 DX Coil Cleaning	12 800 801 Premium T8, Electronic Ballast
13 720 725 DX Coil Cleaning	7 800 801 Premium T8, Electronic Ballast
16 720 725 DX Coil Cleaning	6 800 801 Premium T8, Electronic Ballast
12 720 725 DX Coil Cleaning	11 800 801 Premium T8, Electronic Ballast
8 720 725 DX Coil Cleaning	4 800 801 Premium T8, Electronic Ballast
2 720 725 DX Coil Cleaning	1 800 801 Premium T8, Electronic Ballast
9 720 725 DX Coil Cleaning	8 800 801 Premium T8, Electronic Ballast
1 720 725 DX Coil Cleaning	9 800 801 Premium T8, Electronic Ballast
3 720 725 DX Coil Cleaning	14 400 427 Drives - Optimization process (M&T)
4 720 725 DX Coil Cleaning	14 500 510 Heating - Optimization process (M&T)
2 200 201 Fans - O&M	10 800 801 Premium T8, Electronic Ballast
12 200 201 Fans - O&M	15 400 427 Drives - Optimization process (M&T)
10 200 201 Fans - O&M	12 400 427 Drives - Optimization process (M&T)
3 200 201 Fans - O&M	12 500 510 Heating - Optimization process (M&T)
14 200 201 Fans - O&M	11 400 427 Drives - Optimization process (M&T)
11 200 201 Fans - O&M	11 500 510 Heating - Optimization process (M&T)
8 200 201 Fans - O&M	2 300 302 Pumps - Controls
5 200 201 Fans - O&M	12 300 302 Pumps - Controls
1 200 201 Fans - O&M	10 300 302 Pumps - Controls
13 200 201 Fans - O&M	3 300 302 Pumps - Controls
15 200 201 Fans - O&M	14 300 302 Pumps - Controls
16 200 201 Fans - O&M	11 300 302 Pumps - Controls
9 200 201 Fans - O&M	8 300 302 Pumps - Controls
4 200 201 Fans - O&M	5 300 302 Pumps - Controls
7 200 201 Fans - O&M	1 300 302 Pumps - Controls
6 200 201 Fans - O&M	13 300 302 Pumps - Controls

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

- | | |
|---|--|
| 15 300 302 Pumps - Controls | 8 200 212 Fans - ASD (100+ hp) |
| 16 300 302 Pumps - Controls | 11 200 212 Fans - ASD (100+ hp) |
| 9 300 302 Pumps - Controls | 14 200 212 Fans - ASD (100+ hp) |
| 4 300 302 Pumps - Controls | 3 200 212 Fans - ASD (100+ hp) |
| 7 300 302 Pumps - Controls | 10 200 212 Fans - ASD (100+ hp) |
| 6 300 302 Pumps - Controls | 12 200 212 Fans - ASD (100+ hp) |
| 7 700 707 Aerosole Duct Sealing - Chiller | 2 200 212 Fans - ASD (100+ hp) |
| 6 700 707 Aerosole Duct Sealing - Chiller | 4 400 407 High Consistency forming |
| 9 700 707 Aerosole Duct Sealing - Chiller | 2 800 804 High Bay T5 |
| 4 700 707 Aerosole Duct Sealing - Chiller | 3 800 804 High Bay T5 |
| 16 700 707 Aerosole Duct Sealing - Chiller | 12 800 804 High Bay T5 |
| 15 700 707 Aerosole Duct Sealing - Chiller | 1 800 804 High Bay T5 |
| 13 700 707 Aerosole Duct Sealing - Chiller | 4 400 406 Gap Forming papermachine |
| 5 700 707 Aerosole Duct Sealing - Chiller | 11 800 804 High Bay T5 |
| 1 700 707 Aerosole Duct Sealing - Chiller | 14 800 804 High Bay T5 |
| 8 700 707 Aerosole Duct Sealing - Chiller | 15 800 804 High Bay T5 |
| 11 700 707 Aerosole Duct Sealing - Chiller | 4 800 804 High Bay T5 |
| 14 700 707 Aerosole Duct Sealing - Chiller | 10 800 804 High Bay T5 |
| 3 700 707 Aerosole Duct Sealing - Chiller | 5 800 804 High Bay T5 |
| 10 700 707 Aerosole Duct Sealing - Chiller | 13 800 804 High Bay T5 |
| 12 700 707 Aerosole Duct Sealing - Chiller | 5 400 409 Efficient practices printing press |
| 2 700 707 Aerosole Duct Sealing - Chiller | 16 800 804 High Bay T5 |
| 2 100 103 Compressed Air - System Optimization | 8 800 804 High Bay T5 |
| 12 100 103 Compressed Air - System Optimization | 9 500 504 Top-heating (glass) |
| 10 100 103 Compressed Air - System Optimization | 2 200 204 Fans- Improve components |
| 3 100 103 Compressed Air - System Optimization | 12 200 204 Fans- Improve components |
| 14 100 103 Compressed Air - System Optimization | 10 200 204 Fans- Improve components |
| 11 100 103 Compressed Air - System Optimization | 3 200 204 Fans- Improve components |
| 8 100 103 Compressed Air - System Optimization | 14 200 204 Fans- Improve components |
| 5 100 103 Compressed Air - System Optimization | 11 200 204 Fans- Improve components |
| 1 100 103 Compressed Air - System Optimization | 8 200 204 Fans- Improve components |
| 13 100 103 Compressed Air - System Optimization | 5 200 204 Fans- Improve components |
| 15 100 103 Compressed Air - System Optimization | 1 200 204 Fans- Improve components |
| 16 100 103 Compressed Air - System Optimization | 13 200 204 Fans- Improve components |
| 4 100 103 Compressed Air - System Optimization | 15 200 204 Fans- Improve components |
| 9 100 103 Compressed Air - System Optimization | 16 200 204 Fans- Improve components |
| 6 100 103 Compressed Air - System Optimization | 9 200 204 Fans- Improve components |
| 7 100 103 Compressed Air - System Optimization | 4 200 204 Fans- Improve components |
| 10 500 507 Near Net Shape Casting | 7 200 204 Fans- Improve components |
| 9 800 804 High Bay T5 | 6 200 204 Fans- Improve components |
| 7 800 804 High Bay T5 | 1 500 501 Bakery - Process |
| 6 800 804 High Bay T5 | 9 400 423 Process control |
| 7 200 212 Fans - ASD (100+ hp) | 3 400 404 Replace V-Belts |
| 6 200 212 Fans - ASD (100+ hp) | 2 300 304 Pumps - Sizing |
| 9 200 212 Fans - ASD (100+ hp) | 12 300 304 Pumps - Sizing |
| 4 200 212 Fans - ASD (100+ hp) | 10 300 304 Pumps - Sizing |
| 16 200 212 Fans - ASD (100+ hp) | 3 300 304 Pumps - Sizing |
| 15 200 212 Fans - ASD (100+ hp) | 14 300 304 Pumps - Sizing |
| 13 200 212 Fans - ASD (100+ hp) | 11 300 304 Pumps - Sizing |
| 5 200 212 Fans - ASD (100+ hp) | 8 300 304 Pumps - Sizing |
| 1 200 212 Fans - ASD (100+ hp) | 5 300 304 Pumps - Sizing |

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

1 300 304 Pumps - Sizing	2 720 726 Optimize Controls
13 300 304 Pumps - Sizing	9 720 726 Optimize Controls
15 300 304 Pumps - Sizing	1 720 726 Optimize Controls
16 300 304 Pumps - Sizing	3 720 726 Optimize Controls
4 300 304 Pumps - Sizing	4 720 726 Optimize Controls
9 300 304 Pumps - Sizing	9 400 405 Drives - EE motor
7 300 304 Pumps - Sizing	7 600 607 Refinery Controls
6 300 304 Pumps - Sizing	2 200 213 Fans - Motor practices-1 (100+ HP)
7 300 312 Pumps - ASD (100+ hp)	12 200 213 Fans - Motor practices-1 (100+ HP)
6 300 312 Pumps - ASD (100+ hp)	10 200 213 Fans - Motor practices-1 (100+ HP)
9 300 312 Pumps - ASD (100+ hp)	3 200 213 Fans - Motor practices-1 (100+ HP)
4 300 312 Pumps - ASD (100+ hp)	14 200 213 Fans - Motor practices-1 (100+ HP)
16 300 312 Pumps - ASD (100+ hp)	11 200 213 Fans - Motor practices-1 (100+ HP)
15 300 312 Pumps - ASD (100+ hp)	8 200 213 Fans - Motor practices-1 (100+ HP)
13 300 312 Pumps - ASD (100+ hp)	5 200 213 Fans - Motor practices-1 (100+ HP)
5 300 312 Pumps - ASD (100+ hp)	1 200 213 Fans - Motor practices-1 (100+ HP)
1 300 312 Pumps - ASD (100+ hp)	13 200 213 Fans - Motor practices-1 (100+ HP)
8 300 312 Pumps - ASD (100+ hp)	15 200 213 Fans - Motor practices-1 (100+ HP)
11 300 312 Pumps - ASD (100+ hp)	16 200 213 Fans - Motor practices-1 (100+ HP)
14 300 312 Pumps - ASD (100+ hp)	4 200 213 Fans - Motor practices-1 (100+ HP)
3 300 312 Pumps - ASD (100+ hp)	9 200 213 Fans - Motor practices-1 (100+ HP)
10 300 312 Pumps - ASD (100+ hp)	6 200 213 Fans - Motor practices-1 (100+ HP)
12 300 312 Pumps - ASD (100+ hp)	16 800 802 CFL Hardwired, Modular 18W
2 300 312 Pumps - ASD (100+ hp)	5 800 802 CFL Hardwired, Modular 18W
7 100 112 Comp Air - ASD (100+ hp)	13 800 802 CFL Hardwired, Modular 18W
6 100 112 Comp Air - ASD (100+ hp)	5 900 901 Replace V-belts
9 100 112 Comp Air - ASD (100+ hp)	14 900 901 Replace V-belts
4 100 112 Comp Air - ASD (100+ hp)	1 900 901 Replace V-belts
16 100 112 Comp Air - ASD (100+ hp)	7 900 901 Replace V-belts
15 100 112 Comp Air - ASD (100+ hp)	13 900 901 Replace V-belts
13 100 112 Comp Air - ASD (100+ hp)	15 900 901 Replace V-belts
5 100 112 Comp Air - ASD (100+ hp)	10 900 901 Replace V-belts
1 100 112 Comp Air - ASD (100+ hp)	12 900 901 Replace V-belts
8 100 112 Comp Air - ASD (100+ hp)	9 900 901 Replace V-belts
11 100 112 Comp Air - ASD (100+ hp)	11 900 901 Replace V-belts
14 100 112 Comp Air - ASD (100+ hp)	2 900 901 Replace V-belts
3 100 112 Comp Air - ASD (100+ hp)	16 900 901 Replace V-belts
10 100 112 Comp Air - ASD (100+ hp)	8 900 901 Replace V-belts
12 100 112 Comp Air - ASD (100+ hp)	3 900 901 Replace V-belts
2 100 112 Comp Air - ASD (100+ hp)	4 900 901 Replace V-belts
6 720 726 Optimize Controls	15 800 802 CFL Hardwired, Modular 18W
5 720 726 Optimize Controls	14 800 802 CFL Hardwired, Modular 18W
10 720 726 Optimize Controls	8 800 802 CFL Hardwired, Modular 18W
7 720 726 Optimize Controls	10 400 426 Efficient drives - rolling
11 720 726 Optimize Controls	12 800 802 CFL Hardwired, Modular 18W
15 720 726 Optimize Controls	11 800 802 CFL Hardwired, Modular 18W
14 720 726 Optimize Controls	7 200 213 Fans - Motor practices-1 (100+ HP)
13 720 726 Optimize Controls	3 800 802 CFL Hardwired, Modular 18W
16 720 726 Optimize Controls	2 800 802 CFL Hardwired, Modular 18W
12 720 726 Optimize Controls	4 800 802 CFL Hardwired, Modular 18W
8 720 726 Optimize Controls	1 800 802 CFL Hardwired, Modular 18W

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

10 800 802 CFL Hardwired, Modular 18W	13 100 102 Compressed Air - Controls
7 800 802 CFL Hardwired, Modular 18W	15 100 102 Compressed Air - Controls
6 800 802 CFL Hardwired, Modular 18W	16 100 102 Compressed Air - Controls
9 800 802 CFL Hardwired, Modular 18W	4 100 102 Compressed Air - Controls
7 200 216 Refinery Controls	9 100 102 Compressed Air - Controls
5 400 412 Efficient drives	6 100 102 Compressed Air - Controls
14 400 429 Machinery	7 100 102 Compressed Air - Controls
7 700 706 EMS Optimization - Chiller	3 400 405 Drives - EE motor
6 700 706 EMS Optimization - Chiller	16 400 428 Drives - Scheduling
9 700 706 EMS Optimization - Chiller	13 400 428 Drives - Scheduling
4 700 706 EMS Optimization - Chiller	7 300 315 Refinery Controls
16 700 706 EMS Optimization - Chiller	7 700 705 VSD for Chiller Pumps and Towers
15 700 706 EMS Optimization - Chiller	6 700 705 VSD for Chiller Pumps and Towers
13 700 706 EMS Optimization - Chiller	9 700 705 VSD for Chiller Pumps and Towers
5 700 706 EMS Optimization - Chiller	4 700 705 VSD for Chiller Pumps and Towers
1 700 706 EMS Optimization - Chiller	16 700 705 VSD for Chiller Pumps and Towers
8 700 706 EMS Optimization - Chiller	15 700 705 VSD for Chiller Pumps and Towers
11 700 706 EMS Optimization - Chiller	13 700 705 VSD for Chiller Pumps and Towers
14 700 706 EMS Optimization - Chiller	5 700 705 VSD for Chiller Pumps and Towers
3 700 706 EMS Optimization - Chiller	1 700 705 VSD for Chiller Pumps and Towers
10 700 706 EMS Optimization - Chiller	8 700 705 VSD for Chiller Pumps and Towers
12 700 706 EMS Optimization - Chiller	11 700 705 VSD for Chiller Pumps and Towers
2 700 706 EMS Optimization - Chiller	14 700 705 VSD for Chiller Pumps and Towers
15 400 429 Machinery	3 700 705 VSD for Chiller Pumps and Towers
12 400 429 Machinery	10 700 705 VSD for Chiller Pumps and Towers
11 400 429 Machinery	12 700 705 VSD for Chiller Pumps and Towers
13 400 429 Machinery	2 700 705 VSD for Chiller Pumps and Towers
16 400 430 Efficient Machinery	2 300 303 Pumps - System Optimization
14 600 603 New transformers welding	12 300 303 Pumps - System Optimization
13 600 604 Efficient processes (welding, etc.)	10 300 303 Pumps - System Optimization
15 600 603 New transformers welding	3 300 303 Pumps - System Optimization
12 600 603 New transformers welding	14 300 303 Pumps - System Optimization
11 600 603 New transformers welding	11 300 303 Pumps - System Optimization
11 500 511 Heating - Scheduling	8 300 303 Pumps - System Optimization
12 500 511 Heating - Scheduling	5 300 303 Pumps - System Optimization
4 400 405 Drives - EE motor	1 300 303 Pumps - System Optimization
14 400 428 Drives - Scheduling	13 300 303 Pumps - System Optimization
15 400 428 Drives - Scheduling	15 300 303 Pumps - System Optimization
11 400 428 Drives - Scheduling	16 300 303 Pumps - System Optimization
12 400 428 Drives - Scheduling	4 300 303 Pumps - System Optimization
2 400 402 O&M/drives spinning machines	9 300 303 Pumps - System Optimization
7 600 602 Efficient desalter	6 300 303 Pumps - System Optimization
2 100 102 Compressed Air - Controls	7 300 303 Pumps - System Optimization
12 100 102 Compressed Air - Controls	6 400 413 Clean Room - Controls
10 100 102 Compressed Air - Controls	2 100 113 Comp Air - Motor practices-1 (100+ HP)
3 100 102 Compressed Air - Controls	12 100 113 Comp Air - Motor practices-1 (100+ HP)
14 100 102 Compressed Air - Controls	10 100 113 Comp Air - Motor practices-1 (100+ HP)
11 100 102 Compressed Air - Controls	3 100 113 Comp Air - Motor practices-1 (100+ HP)
8 100 102 Compressed Air - Controls	14 100 113 Comp Air - Motor practices-1 (100+ HP)
5 100 102 Compressed Air - Controls	11 100 113 Comp Air - Motor practices-1 (100+ HP)
1 100 102 Compressed Air - Controls	8 100 113 Comp Air - Motor practices-1 (100+ HP)

**Exhibit No. (JAM 17) List of Measures That Are Eliminated
Based on 2 Year Payback Criteria**

5 100 113 Comp Air - Motor practices-1 (100+ HP)
1 100 113 Comp Air - Motor practices-1 (100+ HP)
13 100 113 Comp Air - Motor practices-1 (100+ HP)
15 100 113 Comp Air - Motor practices-1 (100+ HP)
16 100 113 Comp Air - Motor practices-1 (100+ HP)
4 100 113 Comp Air - Motor practices-1 (100+ HP)
9 100 113 Comp Air - Motor practices-1 (100+ HP)
6 100 113 Comp Air - Motor practices-1 (100+ HP)
7 100 113 Comp Air - Motor practices-1 (100+ HP)

Exhibit No. (JAM 18) Itron Inc.'s Direct Testimony & Exhibits

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **IN RE: COMMISSION REVIEW OF NUMERIC CONSERVATION GOALS**

3 **DIRECT TESTIMONY OF MIKE RUFO**

4 **DOCKET NO. 080407-EG (Florida Power & Light Company)**

5 **DOCKET NO. 080408-EG (Progress Energy Florida, Inc.)**

6 **DOCKET NO. 080409-EG (Tampa Electric Company)**

7 **DOCKET NO. 080410-EG (Gulf Power Company)**

8 **DOCKET NO. 080411-EG (Florida Public Utilities Company)**

9 **DOCKET NO. 080412-EG (Orlando Utilities Commission)**

10 **DOCKET NO. 080413-EG (JEA)**

11
12 **Q: Please state your name, title and business address.**

13 A. My name is Mike Rufo. I am Managing Director in the Consulting and Analysis
14 Group at Itron, Inc. (Itron), 1111 Broadway Street, Suite 1800, Oakland, California
15 94607.

16 **Q: Please describe your education, work experience and qualifications.**

17 A: I graduated with full honors from Sonoma State University in 1985 with a Bachelor's
18 degree in Environmental Studies and Planning with an Energy Management
19 emphasis. I received a Master's Degree in Technology and Human Affairs from
20 Washington University in St. Louis in 1986. I am currently a Managing Director of
21 Itron's Consulting and Analysis (C&A) group, which specializes in the analysis of
22 energy efficiency (EE), demand response (DR), distributed generation, resource
23 planning, and advanced metering infrastructure (AMI)/SmartGrid. Previously, I was

1 Senior Vice President at Quantum Consulting, Inc. and Vice President at XENERGY,
2 Inc. (now KEMA, Inc.). I have been employed as an energy consultant since 1987.
3 Since that time, I have conducted numerous EE potential studies, energy program
4 evaluations, energy-related market assessments, energy program best practice
5 assessments, as well as analyses of energy market restructuring.

6
7 Organizations for which I have conducted EE potential or EE goals studies include
8 the Public Utilities Commission of Texas (PUCT), PNM (Public Service New
9 Mexico), California Public Utilities Commission (CPUC), California Energy
10 Commission, Energy Foundation, Group Endesa, Idaho Power, Los Angeles
11 Department of Water & Power, Portland General Electric Company, Pacific Gas &
12 Electric Company, Sacramento Municipal Utilities District, San Diego Gas & Electric
13 Company, and Southern California Edison Company. I have also contributed to a
14 number of other potential studies as a subcontractor including studies for Connecticut
15 Energy Conservation Management Board, New Zealand, New Jersey, Rhode Island,
16 San Antonio (City Public Service), and Xcel Energy (Colorado).

17
18 I have been conducting EE potential studies since 1989. I recently led the National
19 Energy Efficiency Best Practices project (www.eebestpractices.com), which produced
20 the most systematic and comprehensive assessment of energy programs in the
21 country. I have evaluated a wide variety of EE and DR programs ranging from
22 standard performance contracting programs to critical peak pricing. I conducted the
23 industry's first comprehensive analyses of EE measure costs as part of the Database

1 for Energy Efficiency Resources (DEER) projects throughout the 1990s. I am also
2 co-directing a comprehensive update of the DEER that includes unit energy savings
3 estimates, measure impact load shapes, net-to-gross ratios, and effective useful lives
4 for thousands of measure-market segment combinations.

5 **Q: Please describe Itron's Consulting and Analysis Group, including its history,**
6 **organization and services provided.**

7 A: Itron is made up of the former consulting practices of Regional Economic Research,
8 Inc. (RER) and Quantum Consulting, Inc. Itron's C&A group includes over 50
9 professional staff with expertise in economics, engineering, statistics, energy policy,
10 business management, and related fields. Itron's C&A group has provided consulting
11 services to the energy industry since the early 1980s, primarily to electric and gas
12 utilities and related public and private sector institutions.

13
14 Itron's C&A group has extensive experience and proven success managing consulting
15 contracts ranging from small projects to large multi-year, multi-million dollar efforts.
16 These projects have been conducted for a variety of clients including Florida Power
17 & Light Company (FPL), We Energies, Pacific Gas & Electric Company, Baltimore
18 Gas & Electric Company, Southern California Edison, CPUC, PUCT, and many
19 others.

20
21 Itron acquired Quantum Consulting (QC) in April 2006. RER joined Itron in October
22 2002. QC and RER staff developed and refined some of the industry's most
23 important evaluation, planning, and forecasting tools and approaches including

1 conditional demand (CDA) and statistically-adjusted engineering (SAE) models,
2 discrete choice and net-to-gross methodologies, the duty-cycle approach to load
3 control impacts, the COMMEND and REEPS end-use forecasting models, industry-
4 leading EE potential models, and end-use metering data cleaning and analysis
5 techniques, among others. Itron C&A staff have authored some of the industry's
6 most influential projects and reports including the *2001 Framework for Assessing*
7 *Publicly Funded Energy Efficiency Programs*, the national *Energy Efficiency*
8 *Program Best Practices Project*, the *California Secret Surplus Study*, the *California*
9 *End Use Survey*, the DEER, and the Electric Power Research Institute (EPRI) Duty
10 Cycle method for load control impact analysis, among others.

11
12 Itron's C&A staff has extensive experience in performing potential studies and is a
13 proven industry leader in this area. During its early experience in this area in the late
14 1980s through the mid 1990s, C&A developed a sophisticated computer model called
15 Assessment of Energy Technologies (ASSET™). The model has been used in a wide
16 range of EE potential studies. Itron staff members have also contributed to the
17 development of other widely used demand side management (DSM) potential models,
18 including DSM ASSYST, which is the model used for this study.

19 **Q: What specific projects or studies has Itron undertaken to assess EE potential?**

20 Itron has conducted numerous potential studies for various clients over the past few
21 years. The most recent potential studies conducted by Itron are listed in Exhibit MR-
22 1 attached to my testimony.

1 **Q: What is the purpose of your testimony in this proceeding?**

2 A: The purpose of my testimony is to present and summarize the methodology, input
3 data, and findings contained in the studies of technical potential and achievable
4 potential for cost-effective EE and load management for the seven utilities subject to
5 the requirements of the Florida Energy Efficiency and Conservation Act (FEECA).

6 **Q: What exhibits are you sponsoring?**

7 A: I am sponsoring Exhibits MR-1 through MR-11, which are attached to my testimony.

8 **Q: What is the scope of work for which Itron was retained?**

9 A: Itron's contract with the FEECA utilities was to assess the technical, economic, and
10 achievable potential for electric energy and peak demand savings from EE and DR
11 measures, as well as customer-scale photovoltaic (PV) and solar thermal installations
12 in the service territories of the seven FEECA utilities. This scope of work included
13 the development of end-use baseline data, development of measure cost and savings
14 data, collection of building characteristics and end-use saturation data via on-site
15 surveys of commercial customers, estimation of technical potential, estimation of
16 economic potential, and estimation of achievable potential.

17

18 The analytic boundaries of Itron's potential estimates were limited to residential,
19 commercial, and industrial customers of the seven FEECA utilities. Chapter 2 of
20 each FEECA utility's technical potential report provides a detailed discussion of the
21 analytic boundaries of Itron's study.

22

1 **Q: How, if at all, did the work performed by Itron differ across the seven FEECA**
2 **utilities?**

3 A: Itron performed the same work for all seven FEECA utilities with one key exception.
4 For Florida Public Utilities (FPU), Orlando Utilities Commission (OUC), and JEA,
5 Itron performed the Rate Impact Measure (RIM) and the Total Resource Cost (TRC)
6 cost-effectiveness analyses for efficiency measures using avoided cost and retail rate
7 forecasts provided by each respective utility. Based on those cost-effectiveness
8 results, Itron then estimated the achievable potential for EE for FPU, OUC, and JEA.

9
10 In the case of FPL, Progress Energy Florida, Inc. (PEF), Tampa Electric Company
11 (TECO), and Gulf Power Company (Gulf), Itron provided the measure data inputs
12 required for those utilities to conduct RIM and TRC cost-effectiveness testing for
13 efficiency measures themselves. These utilities chose to do their own cost-
14 effectiveness testing to maintain consistency with cost-effectiveness models and
15 assumptions used in other internal planning and analysis processes at each utility.
16 Based on the cost-effectiveness results as produced and delivered by those utilities to
17 Itron, Itron then estimated achievable potential for EE measures that were determined
18 to be cost-effective for FPL, PEF, TECO, and Gulf.

19 **Q: Was Itron retained to advocate policy positions before this commission?**

20 A: No, Itron was retained to provide the technical and achievable potentials based on
21 industry-recognized, unbiased methods and modeling processes in accordance with
22 the direction provided by the FEECA utilities.

23

1 **Q: What studies have been or will be produced in the scope of Itron's work?**

2 A: The studies are listed in Exhibit MR-2 attached to my testimony.

3 **Q: Are any of the reports listed in Exhibit MR-2 attached to your testimony as**
4 **separate exhibits?**

5 A: Yes, the forecast of total achievable potential for all of the FEECA utilities is attached
6 as Exhibit MR-3. The forecasts of achievable potential for each of the FEECA
7 utilities are attached as Exhibits MR-4 through MR-10. The Technical Potential
8 Studies for Electric Energy and Peak Demand Savings in Florida and for each of the
9 FEECA utilities have been filed with the Commission and are part of staff's
10 composite exhibit.

11 **Q: What were the major steps in the analytical work Itron performed?**

12 A: The major steps in Itron's analytic work were as follows. The first step was to
13 identify and select the EE, DR, and PV measures to be analyzed in the study. Once
14 measure identification and selection was completed, the next step was to develop
15 measure cost and savings data for each in-scope measure and develop baseline
16 estimates of end-use energy consumption and peak demand savings for all in-scope
17 market segments. Using this end-use baseline and measure data, Itron then estimated
18 technical potential.

19

20 The next step was to assess the cost-effectiveness for each measure based on the
21 results of the technical potential analysis using the RIM and TRC tests. As described
22 earlier, Itron conducted the cost-effectiveness analysis for FPU, OUC, and JEA using
23 avoided cost and retail rate forecasts provided by those utilities. Itron also

1 determined the maximum incentive levels for each measure for FPU, OUC, and JEA
2 according to the incentive scenarios defined by the FEECA utilities.

3
4 For FPL, PEF, TECO, and Gulf, Itron provided the measure data inputs required for
5 calculating RIM and TRC ratios, and those utilities conducted the cost-effectiveness
6 and maximum incentive calculations themselves and provided the results to Itron.

7
8 The final step was to estimate the achievable potential for the measures that passed
9 the cost-effectiveness criteria established by the FEECA utilities under various
10 scenarios of measure incentive levels.

11 12 **MEASURE IDENTIFICATION AND SELECTION**

13 **Q: Please explain the process by which DSM measures were identified for**
14 **assessment in the Itron Studies.**

15 **A:** The development of the final measure scope was an iterative process that began with
16 the minimum list of measures provided by the FEECA utilities in Appendix A of the
17 original Request for Proposals. Itron then proposed additional measures that had
18 been recently analyzed in previous potential studies conducted in other jurisdictions,
19 as well as additional measures from knowledge of existing DSM programs
20 administered by FPL. Other FEECA utilities also proposed additional measures
21 based on their own current program offerings. Similarly, Southern Alliance for Clean
22 Energy/Natural Resources Defense Council (SACE/NRDC) proposed additional

1 measures based on reviews of the current technology research literature, pilot
2 programs in other jurisdictions, and trade literature.

3
4 In general, the scope of measures proposed for consideration in the study was limited
5 to measures that are currently available in the Florida market for which
6 independently-verified cost and savings data are available. In this sense, non-
7 commercialized technologies were specifically excluded from the study.

8
9 Once the master list of proposed measures was compiled, Itron conducted
10 assessments of data availability and measure-specific modeling issues and
11 communicated the findings of these assessments to the study collaborative. The
12 FEECA utilities and SACE/NRDC provided responses to these findings. These
13 pieces formed the basis for a series of conference calls designed to either reach
14 consensus among the study collaborative or determine further action items required to
15 finalize the data assessment.

16 **Q: How were DR measures identified?**

17 A: For this study, DR measures were identified using a combination of literature review,
18 reviews of current DR program activities of the FEECA utilities, and discussions with
19 FEECA utilities about the near-term outlook for AMI and DR programs in their
20 respective service territories.

21 **Q: How were the customer-scale PV technologies identified?**

22 A: Customer-scale PV measures were identified by explicitly considering the following
23 characteristics related to PV electric systems: 1) PV material type, 2) energy storage,

1 3) tracking versus fixed systems, 4) array mounting design, 5) host sites, and 6) on
2 versus off grid systems. Each of these PV system characteristics is described in more
3 detail on pages 5-1 and 5-2 of each FEECA utility's technical potential report. After
4 discussions with the FEECA utilities, Itron defined one residential rooftop PV
5 system, one commercial rooftop PV system, and one ground-mounted PV system in
6 commercial parking lots for purposes of assessing customer-scale PV potential.

7 **Q: Was the process of measure identification and selection appropriate for the**
8 **objectives of the study?**

9 A: Yes, the measure identification and selection process was appropriate for the
10 objectives of the study. The final measures list was comprehensive and, indeed,
11 included a significant number of measures that Itron had not previously analyzed in
12 potential studies conducted for other clients.

13 **Q: Did it allow for the assessment of the full Technical Potential of the FEECA**
14 **utilities?**

15 A: Yes, the final measure list was broad enough to allow for a reasonable assessment of
16 the full technical potential of DSM measures for the FEECA utilities.

17 **Q: How many measures did this measure identification and selection process cause**
18 **Itron to analyze that it had not previously assessed?**

19 A: The final measures list included 25 residential measures and 24 commercial measures
20 that Itron had not previously analyzed.

21 **Q: Ultimately, how many DSM measures were identified for analysis?**

22 A: The study considered 257 unique EE measures (including 61 residential measures, 78
23 commercial measures, and 118 industrial measures), seven (7) unique DR measures

1 (five (5) residential measures and two (2) commercial/industrial measures), and three
2 (3) unique PV measures (one (1) residential and two (2) commercial).

3
4 The final list included some measures that are likely to face significant supply
5 constraints in near term, e.g., Seasonal Energy Efficiency Ratio (SEER) 19 central air
6 conditioners, hybrid desiccant-direct expansion cooling systems, and heat pump water
7 heaters. The final EE measures list also included some end-use specific renewable
8 energy measures, e.g., solar water heating and PV-powered pool pumps. These
9 renewable measures were included in the efficiency analysis (rather than the PV
10 analysis) because they affect end-use specific loads, rather than whole building loads,
11 and can therefore be treated the same as efficiency measures in the DSM ASSYST
12 modeling framework.

13 **Q: Once measures were selected by the collaborative, what was the next step in**
14 **Itron's analysis?**

15 **A:** The next step in Itron's analysis was to develop bottom-up baselines of current
16 energy use and peak demand at the end-use and technology level in the market
17 segments of interest. Section 3-3 of each FEECA utility's technical potential report
18 contains detailed discussions of the baseline data required to establish bottom-up
19 modeling baselines and presents the building type and end-use definitions used in the
20 study. Once bottom-up baselines were established, Itron then used data on actual
21 total sales and system peak demand provided by the FEECA utilities to ensure that all
22 of the bottom-up end-use energy and peak demand estimates correctly sum to within
23 a reasonable range of actual sales and observed system peak demand.

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TECHNICAL POTENTIAL

Q: Please define Technical Potential.

A: Technical potential is defined in this study as the complete penetration of all measures analyzed in applications where they were deemed technically feasible from an engineering perspective.

It is important to note several key caveats to interpreting and evaluating technical potential estimates. First, it should be understood that technical potential is a theoretical construct that represents the upper bound of EE potential from a technical feasibility sense, regardless of cost, acceptability to customers, or normal replacement rates of equipment. Specifically, feasibility limits measure installation to opportunities where installation is feasible from an engineering perspective and physically practical with respect to constraints such as available space, noise considerations, and lighting level requirements, among other things. However, technical potential does not account for other important real-world constraints such as product availability, contractor/vendor capacity, cost-effectiveness, customer preferences, or normal equipment replacement rates. In this way, technical potential does not reflect – and is not intended to reflect – the amount of EE potential that is achievable through voluntary, utility programs and should not be evaluated as such.

It is also important to note that, as defined, technical potential does not have a time dimension associated with it and, in this way, should be viewed as a snapshot of the

1 technically feasible efficiency resource given available information on measures and
2 the size of the feasible and eligible market.

3 **Q: What Technical Potential Reports did Itron generate?**

4 A: Itron generated and delivered the technical potential reports listed in Exhibit MR-2.

5 **Q: Do these Itron Technical Potential Reports provide a detailed description of**
6 **Itron's methodology, data, and assumptions?**

7 A: Yes, each technical potential report provides detailed descriptions of Itron's
8 methodology as well as the input data and assumptions used in the study.

9 **Q: Do these Technical Potential reports identify the full Technical Potential for the**
10 **FEECA utilities?**

11 A: Yes, each technical potential report identifies the full technical potential of the
12 measures analyzed for each FEECA utility.

13 **Q: Please summarize the methodology, data, and assumptions used to develop the**
14 **Technical Potential of EE measures for the FEECA utilities.**

15 A: Total technical potential is developed from estimates of the technical potential of
16 individual measures as they are applied to discrete market segments (commercial
17 building types, residential dwelling types, etc.). The core equation used to calculate
18 the technical potential for energy savings from each individual efficiency measure is
19 shown below (using a commercial measure example).

$$\begin{array}{c} \text{Technical} \\ \text{Potential} \\ \text{(GWh)} \end{array} = \underbrace{\left(\begin{array}{c} \text{Units of} \\ \text{Consumption} \\ \text{(10e6 ft}^2\text{)} \end{array} \right) \left(\begin{array}{c} \text{End-use Tech} \\ \text{Saturation} \\ \text{(\%)} \end{array} \right) \left(\begin{array}{c} \text{Base Tech} \\ \text{EUI} \\ \text{(kWh/ft}^2\text{)} \end{array} \right)}_{\text{Baseline Data}} \underbrace{\left(\begin{array}{c} 1 \\ \text{- Saturation} \\ \text{(\%)} \end{array} \right) \left(\begin{array}{c} \text{Measure} \\ \text{Feasibility} \\ \text{(\%)} \end{array} \right) \left(\begin{array}{c} \text{Measure} \\ \text{Impacts} \\ \text{(\%)} \end{array} \right)}_{\text{Measure Data}}$$

20

1 As the equation shows, technical potential is estimated by interacting “baseline data”
2 that describe current, end-use energy consumption in a given market segment with
3 “measure data” that describe the energy savings impacts, feasibility, and current
4 saturation of a given measure in a given market segment.

5
6 By treating measures independently, their relative cost-effectiveness is analyzed
7 without making assumptions about the order or combinations in which they might be
8 implemented in customer premises. However, total technical potential across
9 measures cannot be accurately estimated by simply summing the individual measure
10 potentials directly, since some savings would be double-counted. For example, the
11 savings from a measure that reduces heat gain into a building, such as window film,
12 are partially dependent on other measures that affect the efficiency of the system
13 being used to cool the building, such as a high-efficiency chiller – the more efficient
14 the chiller, the less energy saved from the application of the window film.

15
16 In the second step of the DSM ASSYST modeling framework, total cumulative
17 technical potential is estimated using a supply curve approach. The critical aspect of
18 supply curves is that total potential savings from any given measure are calculated
19 incrementally with respect to measures that precede them. This incremental
20 accounting of measure costs and savings takes into account interactive effects
21 between multiple measures applied to the same end use, such as those described
22 above in the case of efficient chillers and window film measures.

1 The methodology and data used to estimate the technical potential of EE measures is
2 described in more detail in section 3.2 of each FEECA utility's technical potential
3 report.

4 **Q: Please summarize the methodology, sources of data and assumptions used to**
5 **develop Technical Potential for DR measures for the FEECA utilities.**

6 A: The methodology used to develop technical potential estimates for DR measures was
7 based on an "engineering" approach that relies on a bottom-up engineering
8 accounting of DR potential by end-use and DR-enabling technology. This approach
9 is analogous to the approach used for estimating EE potential and is readily
10 applicable to utility-controlled DR resources (e.g., direct load control).

11

12 In this approach, developing technical potential estimates for DR programs requires
13 making judgments about the fraction of buildings that are likely to be integrated into
14 new communications networks (ranging from simple one-way paging to advanced
15 communications networks), the rate choices available to these customers, and the
16 advanced DR technologies likely to be available to each customer class. In this
17 analysis, the availability of communication networks, advanced DR technologies, and
18 dynamic pricing tariffs is driven by technical feasibility of deployment over a 10-year
19 period without consideration of policy or economic factors.

1

2

Using a residential example, the core equation used for estimating DR technical

3

potential is:

$$\begin{array}{c}
 \text{Technical Potential} = \\
 \text{(MW)}
 \end{array}
 \begin{array}{c}
 \text{Baseline Data} \\
 \left(\begin{array}{c} \text{Units of} \\ \text{Consumption} \\ \text{(Households)} \end{array} \right)
 \left(\begin{array}{c} \text{End-use Tech} \\ \text{Saturation} \\ \text{(\%)} \end{array} \right)
 \left(\begin{array}{c} \text{Base Tech} \\ \text{EUI} \\ \text{(kW per} \\ \text{Household)} \end{array} \right)
 \end{array}
 \begin{array}{c}
 \text{DR Measure Data} \\
 \left(\begin{array}{c} \text{Communication} \\ \text{Network} \\ \text{(\%)} \end{array} \right)
 \left(\begin{array}{c} \text{Tariff} \\ \text{(\%)} \end{array} \right)
 \left(\begin{array}{c} \text{DR} \\ \text{Technology} \\ \text{(\%)} \end{array} \right)
 \left(\begin{array}{c} \text{Demand} \\ \text{Reduction} \\ \text{(\%)} \end{array} \right)
 \end{array}$$

4

5

This equation is analogous to the equation used for estimating the EE technical

6

potential. The baseline data used for estimating DR technical potential is the same as

7

that used for estimating the EE technical potential. As such, it should be understood

8

that the technical potential estimates for EE and DR are not strictly additive, since

9

efficiency improvements reduce the baseline peak demand available to be reduced in

10

DR programs.

11

12

In order to estimate technical potential, therefore, it is necessary to develop estimates

13

for three key factors for each DR program considered: 1) the availability of

14

communication networks, 2) the availability of advanced DR technologies, and 3) the

15

availability of dynamic pricing tariffs. For DR programs and strategies beyond

16

traditional direct load control programs, however, comprehensive data to support such

17

estimates was not readily available for this study, largely due to the relative newness

18

of advanced DR technologies, dynamic tariffs, and advanced communications

19

networks. Additionally, the scope of Itron's study did not support primary data

20

development for advanced DR measures. As such, Itron developed a scenario-based,

1 assumption-driven analysis framework in order to develop the DR measure data
2 required to estimate technical potential. In this approach, Itron developed an initial
3 set of straw-man values for each factor that was then presented to each of the FEECA
4 utilities. The utilities' feedback was then utilized as the basis for the final parameters.
5 The analysis results were then presented to the FEECA utilities, and Itron
6 incorporated these comments in the final results. The final set of key assumptions is
7 shown in section 4.2 of each FEECA utility's technical potential report.

8 **Q: Please explain the methodology, sources of data and assumptions used to develop**
9 **Technical Potential for PV measures for the FEECA utilities.**

10 The analytic methodology used to estimate technical potential for PV measures
11 consisted of first estimating total roof area suitable for siting customer-scale PV
12 systems and then translating this roof area into estimates of annual electricity
13 generation and power output coincident with the electric system summer and winter
14 peaks. For commercial buildings, the total roof area also is used to estimate parking
15 lot area over which parking shade structures might hold PV systems.

16
17 The form of the PV core equation is similar, but not identical, to that of the EE and
18 DR core equations. The core equation used for estimating PV technical potential is
19 (for a commercial sector example):

$$\begin{array}{c}
 \text{Technical} \\
 \text{Potential} \\
 \text{(GWh)}
 \end{array}
 =
 \underbrace{\left(\begin{array}{c} \text{Floor space} \\ \text{(10e6ft}^2 \end{array} \right) \left(\begin{array}{c} \text{Roof space} \\ \text{Ratio} \\ \text{(\%)} \end{array} \right)}_{\text{Baseline Data}}
 \underbrace{\left(\begin{array}{c} 1 - \text{Measure} \\ \text{Saturation} \\ \text{(\%)} \end{array} \right) \left(\begin{array}{c} \text{Measure} \\ \text{Feasibility} \\ \text{(\%)} \end{array} \right) \left(\begin{array}{c} \text{Measure} \\ \text{Size} \\ \text{(kW/ft}^2 \end{array} \right) \left(\begin{array}{c} \text{Measure} \\ \text{Impacts} \\ \text{(kWh/kW)} \end{array} \right)}_{\text{Measure Data}}$$

1
2 Because PV potential is not correlated with baseline energy consumption but rather
3 the non-energy physical characteristics of buildings and facilities, the “baseline data”
4 for PV potential analysis is available roof space. Estimates of the technical potential
5 for peak generation (as opposed to annual energy generation) are calculated by
6 adjusting the units of the measure impacts term to be a ratio of kW output at the time
7 of system coincident peak to the nominal, rated PV system size. The peak impact
8 factors are derived from PV hourly generation profile data that are then used to
9 estimate PV power output at the time of system coincident peak load. Note that it is
10 not necessary to use supply curve modeling in the PV technical potential assessment
11 because whereas EE measures are subject to substantial interactive effects, the PV
12 measures are not.

13
14 The baseline and measure data used to estimate the technical potential of PV
15 measures are described in more detail in sections 5.3 and 5.4 of each FEECA utility’s
16 technical potential report.

1 **Q: Once Technical Potential estimates were developed, what was the next step in**
2 **your analysis?**

3 A: The next step in the analysis was to conduct cost-effectiveness screenings at the
4 measure level and determine the incentive levels to be applied in the adoption
5 forecast.

6
7 **ECONOMIC COST-EFFECTIVENESS SCREENINGS**
8 **AND INCENTIVE LEVEL ESTIMATION**

9 **Q: How was economic potential defined and estimated for this study?**

10 A: For this study, economic potential was defined as the technical potential of all
11 measures determined to be cost-effective according to two different cost-effectiveness
12 tests, the RIM test and the TRC test. In the RIM “portfolio” case, measures were
13 defined as being cost-effective if the calculated RIM value was greater than or equal
14 to 1.01. Measures with RIM values less than 1.01 were excluded from the RIM
15 “portfolio” and screened from the achievable potential analysis. Likewise, in the
16 TRC “portfolio” case, measures were defined as being cost-effective if the calculated
17 TRC value was greater than or equal to 1.01. Measures with TRC values less than
18 1.01 were excluded from the TRC “portfolio” and screened from the achievable
19 potential analysis.

20
21 It is important to note that for the purpose of evaluating cost-effectiveness to estimate
22 economic potential, the measure-specific RIM values were calculated without
23 administrative costs or incentive costs in the denominator. Similarly, the measure-

1 specific TRC values were calculated without administrative costs in the denominator.
2 (Incentives are not considered in the TRC test). In this respect, the cost-effectiveness
3 screening was based on purposefully liberal implementations of the standard RIM and
4 TRC tests.

5 **Q: Were any additional screening criteria for estimating Achievable Potential used**
6 **for this study?**

7 A: Yes, in addition to the aforementioned purely economic screening based on the RIM
8 and TRC tests, measures that demonstrated simple payback periods of less than two
9 years with no incentive applications were excluded from the RIM and TRC
10 “portfolios” and screened from the achievable potential analyses. Additionally,
11 measures with Participant Test values of less than 1.01 were also screened from the
12 achievable potential analysis.

13
14 FPL, PEF, TECO, and Gulf also conducted a second phase of screening based on the
15 RIM and TRC test results with administrative costs included in the denominator.
16 Measures with RIM values less than 1.01 (inclusive of administrative costs) were
17 excluded from the RIM “portfolio” and screened from the achievable potential
18 analyses. Similarly, measures with TRC values less than 1.01 (inclusive of
19 administrative costs) were excluded from the TRC “portfolio” and screened from the
20 achievable potential analyses.

1 **Q: After these additional screenings were performed, what was the next major**
2 **activity?**

3 A: The next major activity was to determine the measure incentive scenarios to be
4 modeled in the adoption forecast. This activity was performed by the FEECA utilities.

5 **Q: What incentive scenarios were defined for this study?**

6 A: The FEECA utilities defined three measure incentive scenarios – low, mid, and high –
7 for the TRC and RIM portfolios, respectively.

8

9 For the RIM portfolio, the measure incentives in the high case were defined as the
10 lesser of the incentive level that produces a simple payback period to the customer of
11 two years or the maximum incentive allowable that produces a RIM ratio of 1.01
12 (max RIM). The measure incentives in the mid case were defined as the lesser of
13 50% of incremental measure cost or max RIM. The measure incentives in the low
14 case were defined as the lesser of 33% of incremental measure cost and max RIM.

15

16 For the TRC portfolio, the measure incentives in the high case were defined as the
17 lesser of the incentive level that produces a simple payback period to the customer of
18 two years or 100% incremental measure cost (max TRC). The measure incentives in
19 the mid case were defined as the lesser of 50% of incremental cost and the incentive
20 level that produces a simple payback period to the customer of two years. The
21 measure incentives in the low case were defined as the lesser of 33% of incremental
22 cost and the incentive level that produces a simple payback period to the customer of
23 two years.

1 **Q: How were the incentive levels determined for the municipal utilities?**

2 A: For FPU, OUC, and JEA, Itron calculated the incentive levels according to the
3 incentive scenario defined by the FEECA utilities. Specifically, Itron used the
4 measure cost and savings data developed in the technical potential phase of the study
5 together with avoided costs and retail rate forecasts provided by FPU, OUC, and JEA
6 to determine RIM and TRC ratios, simple payback periods, and other metrics required
7 to calculate measure incentives according to the incentive scenarios defined above.

8 **Q: What was the next step in the development of Achievable Potential?**

9 A: After cost-effectiveness screenings and incentive level estimation was complete, the
10 next step in the study was to forecast customer adoption of all passing measures and
11 estimate the energy and peak demand savings impacts of utility-funded incentive
12 programs for the period 2010-2019.

13

14

ACHIEVABLE POTENTIAL

15 **Q: Please explain the methodology and models used by Itron to develop Achievable**
16 **Potential estimates for the cost-effective EE measures.**

17 A: I will summarize the methodology and models used by Itron to develop achievable
18 potential for EE measures. A more detailed explanation is attached to my testimony
19 as Exhibit MR-11.

20

21 Itron used KEMA's DSM ASSYST model to develop the achievable potential
22 estimates. The achievable potential model of DSM ASSYST was developed in the
23 mid-1990s. The DSM ASSYST achievable potential model has been used by Itron

1 and KEMA staff on a wide variety of EE potential and goals-setting related projects
2 over the past decade, including most of the projects referenced previously in my
3 testimony. This particular achievable potential model has a number of important
4 features and characteristics that make it one of the leading, if not the leading, model
5 of this type in the industry. These features include the following:

- 6 ▪ Incorporation of both program information and incentive effects on measure
7 adoption;
- 8 ▪ Stock accounting of both physical stock and the fraction of the remaining
9 market that is aware and knowledgeable of each measure;
- 10 ▪ Measure adoption curves that reflect both direct and indirect economic factors;
- 11 ▪ Internal methodological consistency between forecasts of program adoptions
12 and naturally-occurring adoptions; and
- 13 ▪ The ability to assign and calibrate adoption curves to individual measures.

14
15 Itron used a method of estimating adoption of EE measures that applies both to
16 program and naturally-occurring analyses. Note that naturally occurring includes
17 “free riders” and is an estimate of the amount of efficiency adoptions predicted to
18 occur without further program interventions. Whether as a result of natural market
19 forces or aided by a program intervention, the rate at which measures are adopted is
20 modeled in the method as a function of the following factors:

- 21 ▪ The availability of the adoption opportunity as a function of capital equipment
22 turnover rates and changes in building stock over time;
- 23 ▪ Customer awareness and knowledge of the efficiency measure;

- 1 ▪ The cost-effectiveness of the efficiency measure; and
- 2 ▪ The relative importance of indirect costs and benefits associated with the
- 3 efficiency measure.

4 Only measures that pass the measure screening criteria are put into the penetration
5 model for estimation of customer adoption.

6

7 A critically important step in the achievable potential methodology is to calibrate the
8 adoption estimates to actual program adoptions as much as possible. For this study,
9 program accomplishments were received from the FEECA utilities and used in this
10 calibration process. Summer peak results were initially calibrated primarily using
11 FPL's recent accomplishments. In addition, for several utilities winter peak results
12 were of equal or greater importance than summer peak. Recent program results for
13 PEF, a winter peaking utility with a strong winter peak focus to their programs, were
14 used to calibrate the adoption results for measures with significant winter impacts.
15 The calibration process utilized was iterative. Itron began with measure-specific
16 adoption curves developed from other recent Itron and KEMA potential studies. Itron
17 then compared the results from using these curves to the FEECA utilities' recent
18 program results. Adjustments were then made to some of the adoption curves to
19 obtain results that better align with actual program accomplishments in Florida. This
20 process was repeated in consultation with the FEECA utilities until the utilities and
21 Itron agreed that the results were consistent with program experience in Florida.

1 Q: **Please explain the methodology and models used by Itron to develop Achievable**
 2 **Potential estimates for PV and DR measures.**

3 A: In the case of PV measures, Itron did not produce estimates of achievable potential
 4 due to the fact that PV measures did not pass the cost-effectiveness criteria
 5 established by the FEECA utilities for purposes of this study, i.e. TRC, RIM, and/or
 6 Participant tests.

7
 8 In the case of DR measures, Itron used a scenario-based, assumption-driven
 9 forecasting approach. The core equation used for estimating DR achievable potential
 10 is (example is for the residential sector):

$$\begin{matrix} 11 \\ 12 \end{matrix}
 \left(\begin{matrix} \text{Achievable} \\ \text{Potential} \\ \text{(MW)} \end{matrix} \right) = \left(\begin{matrix} \text{Units of} \\ \text{Consumption} \\ \text{(Households)} \end{matrix} \right) \left(\begin{matrix} \text{End-use} \\ \text{Technology} \\ \text{Saturation} \\ \text{(\%)} \end{matrix} \right) \left(\begin{matrix} \text{Base Tech} \\ \text{EUI} \\ \text{(kW per} \\ \text{Household)} \end{matrix} \right) \left(\begin{matrix} \text{Communication} \\ \text{Network} \\ \text{(\%)} \end{matrix} \right) \left(\begin{matrix} \text{Tariff} \\ \text{(\%)} \end{matrix} \right) \left(\begin{matrix} \text{DR} \\ \text{Tech} \\ \text{(\%)} \end{matrix} \right) \left(\begin{matrix} \text{Program} \\ \text{Participation} \\ \text{Rate} \\ \text{(\%)} \end{matrix} \right) \left(\begin{matrix} \text{Load} \\ \text{Reduction} \\ \text{(\%)} \end{matrix} \right)$$

13 The methodology for estimating the first six quantities in the identity shown above
 14 was described previously in this testimony. The methodology for estimating the last
 15 two quantities – program participation and load reduction – is described here.

16
 17 For this study, program participation is viewed from the perspective of a “typical”
 18 year of a mature program, with the understanding that a multiyear ramp-up period
 19 will be necessary, and that ongoing participation may be subject to fluctuations due to
 20 factors both within and outside of the program administrator’s control. Although
 21 various quantitative methods are available for estimating DR program participation,
 22 this study used a combination of expert judgment and internal projections from the

1 FEECA utilities to develop the assumptions used for future program participation for
2 DR programs.

3
4 Similar to DR program participation, customer load reductions during DR events may
5 vary yearly, seasonally, and from event to event. The operational trigger for using
6 DR programs is usually a system reliability event. Consequently, predicting the
7 number of DR events (i.e. when the trigger conditions occur) and the circumstances
8 in which they are dispatched is uncertain. For this study, load reduction is viewed
9 from the perspective of average expected reductions over multiple events, with the
10 understanding that size of load reductions will vary from event to event and may be
11 subject to fluctuations due to factors both within and out of the program operator's
12 and customer's control.

13
14 Itron used two different methods to estimate customer load reductions during DR
15 events for Critical Peak Pricing (CPP) tariffs and direct load control (DLC) programs,
16 respectively. In the case of CPP tariffs, Itron used an "economic" analysis approach
17 to estimate load reduction. The "economic" approach relies on empirical modeling of
18 the customer's likely behavior in response to economic signals (e.g., the difference
19 between critical peak event and non-event on-peak prices). The "economic"
20 approach consists of estimating price elasticities from the consumption data of
21 customers exposed to varying prices or tariffs. The price elasticities are then used for
22 estimating the load reduction. Assumptions about DR program design (specifically,
23 CPP) and price elasticities (used in the "economic" approach) were developed on the

1 basis of an extensive literature review of existing programs in different parts of the
2 U.S. and were reviewed with and approved by all seven FEECA utilities.

3
4 In the case of DLC programs, Itron used an “engineering” analysis approach to
5 estimate customer load reductions. The “engineering” approach consists of explicit
6 “bottom-up” accounting of end-uses, applicability of DR technologies, and historical
7 estimates of observed load reductions. Assumptions about load reductions from DLC
8 programs were developed in collaboration with the FEECA utilities based on past
9 evaluations of existing DLC programs.

10
11 Given the assumption-driven forecasting framework used to estimate achievable
12 potential for DR measures in this study, an important aspect of the analysis was the
13 use of scenarios to capture a range of assumptions and outcomes, particularly with
14 regard to future program participation in CPP tariffs. While the scenarios developed
15 for this study should be properly viewed as a subset of possible future outcomes
16 (rather than a comprehensive assessment of all possible future outcomes), it should be
17 noted that the scenarios were designed to reflect the range of possible outcomes that
18 is consistent with expert judgment (based on past program experience) and each
19 utility’s internal analysis, ongoing projects, future plans, and projections.

20 **Q: Please explain how the residential and commercial new construction market**
21 **segments were addressed in the analysis of Achievable Potential.**

22 A: The residential and commercial new construction market segments were modeled as
23 separate market segments in the achievable potential study, using the same supply-

1 curve and adoption forecasting methodologies that were applied to the residential and
2 commercial existing construction markets. The only differences between the new
3 construction and existing construction analyses for the residential and commercial
4 sectors were related to the baseline data, the measure data, and the population data.
5 Each of these differences is described in more detail below.

6
7 In the new construction analyses, the baseline end-use energy intensities (kWh/home
8 for residential and kWh/square foot for commercial) were adjusted to reflect
9 minimum code baselines for new construction in Florida. Specifically, the residential
10 heating, ventilation, and air conditioning (HVAC) baselines were adjusted to reflect
11 the 13 SEER federal minimum efficiency standard for central air conditioners and
12 heat pumps. In commercial new construction, the lighting, HVAC, and refrigeration
13 baselines were adjusted to reflect end-use energy intensities consistent with the 2007
14 Florida Building Code.

15
16 The second key difference in the new construction analyses was the list of EE
17 measures modeled. In residential new construction, the achievable potential forecast
18 was based on a direct subset of the measures modeled in the existing construction
19 analysis reflecting only those measures that were applicable to residential new
20 construction. For example, the AC Maintenance and Proper Refrigerant Charging
21 measures were not applicable to new construction and were thus removed from the
22 analysis. Similarly, the R-0 to R-19 Ceiling Insulation measure was not applicable to
23 new construction due to minimum code requirements. In commercial new

1 construction, the FEECA utilities choose to consider measure “packages” that
2 reflected integrated design approaches with whole-building energy reduction targets
3 rather than a direct subset of the itemized measures considered in the commercial
4 existing construction analysis. These measure “packages” were defined to achieve
5 the following energy reduction targets relative to code: 15% more efficient lighting,
6 25% more efficient lighting, 10% more efficient cooling and ventilation, 30% more
7 efficient cooling and ventilation, 10% more efficient commercial refrigeration, and
8 20% more efficient commercial refrigeration.

9
10 The third key difference in the new construction analyses was the population data
11 used to estimate the size of the eligible market. For the existing construction
12 analyses, the eligible market was defined by the current residential and commercial
13 building stocks for each FEECA utility. For the new construction analysis, the
14 eligible market was defined by the annual new construction rates expected for each
15 FEECA utility. For this study, Itron developed estimates of annual residential and
16 commercial new construction rates based on the revised load forecasts developed by
17 each FEECA utility for their 2009 Ten-Year Site Plan filings submitted in April 2009.

18 **Q: Are the methodology and models Itron employed to develop Achievable**
19 **Potential estimates for the FEECA utilities analytically sound?**

20 A: Yes, the methods and models used by Itron are analytically sound. The methods and
21 models used have a history of success because they appropriately blend theory and
22 practice. The models use advanced stock and awareness accounting along with
23 measure-specific adoption curves that reflect real-world differences in end user

1 adoption of efficiency measures as a function of direct and indirect measure
2 attributes. The calibration of the adoption models to the FEECA utilities' actual
3 program experience provides an additional important grounding to the study results.

4 **Q: Have these methodologies and models been relied upon by other commissions or**
5 **governmental agencies?**

6 A: Yes, these methods and models have been used by Itron and KEMA to develop EE
7 potential estimates and EE goals in a variety of jurisdictions. For example, the
8 methods and models were used to conduct the potential studies in California that were
9 used by the CPUC to set EE goals for 2004-2011. The methods and models were also
10 used to complete a report on EE goals for the Texas Legislature pursuant to a contract
11 with the PUCT. The methods and models have been used for many other related
12 projects including those for Xcel Energy (Colorado), PNM, Idaho Power, Los
13 Angeles Department of Water & Power, Northwestern Energy, as well as many
14 others.

15 **Q: Can you summarize your estimates of the amount of EE and demand reduction**
16 **that can reasonably be achieved by the FEECA utilities?**

17 A: Across the seven FEECA utilities, Itron estimates that the 10-year cumulative savings
18 potential for the RIM-based EE portfolios modeled to range from 1,413 GWh to
19 2,967 GWh of electric energy consumption, 410 to 1,049 MW of system coincident
20 summer peak demand, and 243 to 478 MW of system coincident winter peak demand,
21 depending on the level of incentive levels assumed. For the TRC-based EE portfolios
22 modeled, Itron estimates 10-year cumulative savings potential to range from 1,850 to
23 4,901 GWh of electric energy consumption, 466 to 1,571 MW of system coincident

1 summer peak demand, and 264 to 1,017 MW of system coincident winter peak
2 demand, depending on the incentive levels assumed.

3
4 For DR, Itron estimates that the 10-year cumulative savings potential for the DR
5 programs modeled to range from 540 to 564 MW of system coincident summer peak
6 demand and 365 to 492 MW of system coincident winter peak demand, depending on
7 the relative participation in CPP tariffs and DLC programs assumed. Note that the
8 DR savings potential is additional and incremental to the existing DR resources in the
9 FEECA utilities.

10 **Q: Please describe the sensitivity and robustness of the estimates of Achievable**
11 **Potential to variations in your assumptions.**

12 A: As noted previously, achievable potential results were developed for several
13 scenarios. Use of multiple scenarios is an effective and common way of testing
14 sensitivities and increasing the robustness of results. Achievable potential estimates
15 are sensitive to a variety of factors including measure costs, measure savings,
16 program information and knowledge building activities, program incentives, and non-
17 energy measure costs and benefits. Differences in incentive levels and cost
18 effectiveness tests are the defining elements of these scenarios. By their nature as
19 forecasts of end user adoption over a 10-year period, there is of course uncertainty
20 associated with these and all such estimates. Calibration of the achievable potential
21 results to program adoptions in recent FEECA utility programs is an important part of
22 the study and serves to increase the reliability of the results by tying them to actual
23 customer measure adoption rather than simply hypothesized adoption levels. In

1 addition, the adoption methods and curves used for this study are informed by the
2 results of similar work conducted by the project team for many other clients. The
3 Itron and KEMA team's adoption forecasts have been shown to be robust over time
4 as evidenced by comparison of our previous studies' results with subsequent actual
5 portfolio accomplishments.

6 **Q: Are these estimates of Achievable Potential a reasonable basis for FEECA**
7 **utilities to propose DSM Goals?**

8 A: Yes, Itron's study results provide directly relevant estimates of achievable potential
9 for the measures passing the cost-effectiveness and screening criteria. These
10 estimates are a reasonable basis for FEECA utilities to propose DSM goals. FEECA
11 utilities can use these results in conjunction with their own assessments of their
12 utility's resource needs, along with their recent actual program and portfolio
13 experiences, to develop their goals.

14 **Q: Does this conclude your testimony?**

15 A: Yes, this concludes my testimony.
16
17

Recent Potential Studies Conducted by Itron

Project Name	Client	Year	Lead Firm - Description
Potential Studies			
Assessment of the Feasible and Achievable Levels of Electricity Savings from Investor Owned Utilities in Texas: 2009-2018	Texas Public Utilities Commission	2008	Itron worked with a team of nine investor-owned utilities and the state's public utility commission to develop estimates of economic and achievable potential to save electricity and peak demand. High and low estimates of achievable savings were compared to the Legislature's goal targets for 2012 and 2015. Energy efficiency-related policy questions were also investigated and addressed.
California PUC Energy Efficiency Savings Goal Support Study	California Public Utilities Commission	2008	Itron conducted an innovative scenario analysis of energy efficiency potential that includes a variety of policy instruments (e.g., utility resource programs, states and federal codes & standards (C&S), C&S compliance improvement, and market transformation strategies). This scenario analysis includes a range of savings estimates for each policy instrument and utilizes an end use model that blends rich bottom-up efficiency model results (like those from Itron's ASSET model and KEMA's DSM ASSYST) into a flexible top-down tool that enables "what if" analysis on both efficiency potential and changes in end use service demands (e.g., increases in illumination levels, plug loads, house size, etc.). Itron's work will be the technical centerpiece of the CPUC's energy savings proceeding in spring 2008.
California IOU Energy Efficiency Savings Potential Study Update	Pacific Gas & Electric Company	2008	In this project, coordinated by PG&E on behalf of the California investor-owned utilities, Itron updated its 2006 CA IOU potential study using the latest energy savings, costs, market saturation, and end user measure adoption data available in the industry. Itron developed and consolidated 10- and 20-year estimates of technical, economic, and market energy potential for 16 climate zones, consolidated to service areas. Itron used its ASSET model to update the potential for new, retrofit, and replace-on-burnout energy efficiency measures with existing residential and commercial customers. The results of the market potential analysis were calibrated to actual 2004-2005 gas and electric program results. The final report included estimates of market potential under alternative program incentive levels. This project was overseen by an Advisory Committee consisting of electric and gas utility staff as well as staff from the CEC and the CPUC. The results are being used by the CPUC as a key input into their 2012-2020 energy efficiency goal-setting process.
DSM Potential Study	Public Service New Mexico	2006	Itron and KEMA conducted this DSM potential study that covered all customer segments. The study includes a 10-year forecast of several achievable potential scenarios along, with regulatory and stakeholder working group support. This study includes estimates of load control as well as energy efficiency potential. Itron also provided technical support on development of residential, commercial, and industrial mail surveys developed to provide PNM-specific saturation data for the analysis.

Recent Potential Studies Conducted by Itron

Project Name	Client	Year	Lead Firm - Description
Sacramento Municipal Utility District EE Potential Study	Sacramento Municipal Utility District	2006	This study was designed to estimate the technical, economic, and market potential for energy efficiency measures in SMUD's service area. Market potential was estimated under a variety of incentive scenarios. Forecasts of technical, economic, and market potential are being developed using ASSET.
DSM Potentials Support for CIP Filing and IRP Process Xcel Energy	Xcel Energy	2002 & 2004	In this project, which is the last in a long series of studies performed for Xcel, Itron provided support for Xcel's CIP filing and its IRP process. This study was designed to estimate the technical and achievable potential for residential, commercial, and industrial DSM in Xcel's service area.
Energy Efficiency Potential Study	Los Angeles Water and Power	2005	Itron and KEMA conducted this comprehensive EE potential study that was closely reviewed by senior LADWP management and Board members. The study included a program best practices gap analysis with portfolio recommendations.
Residential and Commercial Achievable Potential	Florida Power & Light Company	2005	Itron developed five-year forecasts of achievable potential for FPL's core energy efficiency program measures. These forecasts were thoroughly reviewed by FPL staff and serve as the basis for the company's five-year goals.
DSM Potential Study	Xcel Energy - Colorado	2005 - 2006	KEMA and Itron conducted a comprehensive DSM potential study that included targeted primary data collection, including on-site surveys. Project included several presentations to a large stakeholder group.
Idaho Power DSM Potential Study	Idaho Power	2003	Itron and KEMA conducted a combined energy efficiency and demand response potential study for Idaho Power. This study included development of end use consumption and saturation baselines. In addition to energy efficiency measures, potential was estimated for several classes of demand response resources including load control, pricing programs, bidding, and interruptible programs.

Studies Within the Scope of Itron's Work

Technical Potential

- 1) Technical Potential for Electric Energy and Peak Demand Savings in Florida (Staff's composite exhibit)
- 2) Technical Potential for Electric Energy and Peak Demand Savings for Florida Power & Light Company
- 3) Technical Potential for Electric Energy and Peak Demand Savings for Progress Energy of Florida
- 4) Technical Potential for Electric Energy and Peak Demand Savings for Tampa Electric Company
- 5) Technical Potential for Electric Energy and Peak Demand Savings for Gulf Power Company
- 6) Technical Potential for Electric Energy and Peak Demand Savings for JEA
- 7) Technical Potential for Electric Energy and Peak Demand Savings for Orlando Utilities Commission
- 8) Technical Potential for Electric Energy and Peak Demand Savings for Florida Public Utilities Company

Analytic Forecasts

- 1) Forecasts of Net Achievable Savings Potential in 2019 from Energy Efficiency and Demand Response Measures for all FEECA Utilities (Exhibit MR-3)
- 2) Forecasts of Net Achievable Savings Potential in 2019 from Energy Efficiency and Demand Response Measures for Florida Power & Light Company(Exhibit MR-4)
- 3) Forecasts of Net Achievable Savings Potential in 2019 from Energy Efficiency and Demand Response Measures for Progress Energy of Florida (Exhibit MR-5)
- 4) Forecasts of Net Achievable Savings Potential in 2019 from Energy Efficiency and Demand Response Measures for Tampa Electric Company (Exhibit MR-6)
- 5) Forecasts of Net Achievable Savings Potential in 2019 from Energy Efficiency and Demand Response Measures for Gulf Power Company (Exhibit MR-7)
- 6) Forecasts of Net Achievable Savings Potential in 2019 from Energy Efficiency and Demand Response Measures for JEA (Exhibit MR-8)
- 7) Forecasts of Net Achievable Savings Potential in 2019 from Energy Efficiency and Demand Response Measures for Orlando Utilities Commission (Exhibit MR-9)
- 8) Forecasts of Net Achievable Savings Potential in 2019 from Energy Efficiency and Demand Response Measures for Florida Public Utilities Company (Exhibit MR-10)

Achievable Potential

- 1) Achievable Potential for Electric Energy and Peak Demand Savings for FEECA Utilities
- 2) Achievable Potential for Electric Energy and Peak Demand Savings for Florida Power & Light Company
- 3) Achievable Potential for Electric Energy and Peak Demand Savings for Progress Energy of Florida
- 4) Achievable Potential for Electric Energy and Peak Demand Savings for Tampa Electric Company
- 5) Achievable Potential for Electric Energy and Peak Demand Savings for Gulf Power Company
- 6) Achievable Potential for Electric Energy and Peak Demand Savings for JEA
- 7) Achievable Potential for Electric Energy and Peak Demand Savings for Orlando Utilities Commission
- 8) Achievable Potential for Electric Energy and Peak Demand Savings for Florida Public Utilities Company
- 9) Equipment and Saturation Report: Florida Commercial On-Site Survey

FEECA Utilities Total - Program Net Achievable Savings Potential in 2019

	<i>Incentive Scenarios</i>						
	RIM-L	RIM-M	RIM-H	TRC-L	TRC-M	TRC-H	
Energy Efficiency							
Residential							
Annual GWh		652	805	988	884	1,116	2,384
System Coincident Summer MW		283	357	451	306	402	899
System Coincident Winter MW		208	270	359	224	293	886
Commercial							
Annual GWh		481	675	1,613	642	988	2,022
System Coincident Summer MW		86	133	503	112	184	575
System Coincident Winter MW		20	29	93	22	33	84
Industrial							
Annual GWh		40	57	74	55	85	148
System Coincident Summer MW		5	7	9	6	10	19
System Coincident Winter MW		4	6	8	6	9	13
Total							
Annual GWh		1,174	1,536	2,675	1,581	2,190	4,554
System Coincident Summer MW		373	497	963	424	596	1,492
System Coincident Winter MW		232	305	460	252	335	983

	<i>CPP/TOU Enrollment Scenarios</i>	
	High CPP	Low CPP
	Low DLC	High DLC
Demand Response		
Residential		
System Coincident Summer MW	290	253
System Coincident Winter MW	338	265
Commercial		
System Coincident Summer MW	220	220
System Coincident Winter MW	119	72
Industrial		
System Coincident Summer MW	36	31
System Coincident Winter MW	23	16
Total		
System Coincident Summer MW	545	504
System Coincident Winter MW	481	353

Florida Power & Light Company - Program Net Achievable Savings Potential in 2019

	<i>Incentive Scenarios</i>					
	RIM-L	RIM-M	RIM-H	TRC-L	TRC-M	TRC-H
Energy Efficiency						
Residential						
Annual GWh	183.20	258.65	354.63	241.68	330.26	790.28
System Coincident Summer MW	84.42	123.38	175.35	88.56	127.72	353.20
System Coincident Winter MW	23.51	45.17	89.02	28.77	49.37	246.73
Commercial						
Annual GWh	344.48	486.02	1289.49	368.21	583.67	1298.94
System Coincident Summer MW	54.55	84.66	401.62	59.56	101.19	403.91
System Coincident Winter MW	15.18	22.11	79.06	12.66	19.01	57.78
Industrial						
Annual GWh	25.86	39.68	56.15	25.32	39.49	87.80
System Coincident Summer MW	3.03	4.55	6.63	2.97	4.57	11.63
System Coincident Winter MW	2.70	4.26	6.27	2.61	4.08	7.66

	<i>CPP/TOU Enrollment Scenarios</i>	
	High CPP Low DLC	Low CPP High DLC
Demand Response		
Residential		
System Coincident Summer MW	43.12	120.82
System Coincident Winter MW	41.02	109.24
Commercial		
System Coincident Summer MW	66.26	159.09
System Coincident Winter MW	23.38	49.28
Industrial		
System Coincident Summer MW	10.60	24.04
System Coincident Winter MW	5.29	11.59

Progress Energy Florida - Program Net Achievable Savings Potential in 2019

	Incentive Scenarios					
	RIM-L	RIM-M	RIM-H	TRC-L	TRC-M	TRC-H
Energy Efficiency						
Residential						
Annual GWh	372.10	433.51	487.52	425.07	516.22	1207.11
System Coincident Summer MW	156.97	185.04	210.27	136.83	173.02	394.14
System Coincident Winter MW	159.01	196.42	220.36	163.79	201.67	536.30
Commercial						
Annual GWh	20.31	35.59	119.89	82.58	133.62	351.08
System Coincident Summer MW	7.63	13.66	50.85	15.87	26.93	87.99
System Coincident Winter MW	0.54	1.14	5.79	2.16	3.68	10.28
Industrial						
Annual GWh	4.97	5.91	6.39	8.15	16.34	26.32
System Coincident Summer MW	0.58	0.74	0.82	0.92	1.85	3.16
System Coincident Winter MW	0.58	0.67	0.71	0.85	1.69	2.42

	CPP/TOU Enrollment Scenarios	
	High CPP, Low DLC	Low CPP, High DLC
Demand Response		
Residential		
System Coincident Summer MW	194.04	55.90
System Coincident Winter MW	233.41	65.12
Commercial		
System Coincident Summer MW	127.67	26.65
System Coincident Winter MW	82.30	11.39
Industrial		
System Coincident Summer MW	22.46	3.94
System Coincident Winter MW	16.12	2.45

Tampa Electric Company - Program Net Achievable Savings Potential in 2019

<i>Energy Efficiency</i>	Incentive Scenarios					
	RIM-L	RIM-M	RIM-H	TRC-L	TRC-M	TRC-H
Residential						
Annual GWh	51.56	54.56	59.03	80.01	101.15	133.94
System Coincident Summer MW	25.51	27.00	29.19	36.28	45.99	63.00
System Coincident Winter MW	21.43	21.95	23.39	23.90	31.25	53.67
Commercial						
Annual GWh	81.60	106.04	136.49	88.29	124.33	166.20
System Coincident Summer MW	16.95	24.54	35.27	17.46	26.22	38.44
System Coincident Winter MW	3.12	3.96	4.72	3.68	5.04	6.54
Industrial						
Annual GWh	4.80	5.67	6.25	6.14	8.57	10.09
System Coincident Summer MW	0.58	0.72	0.82	0.67	0.98	1.23
System Coincident Winter MW	0.52	0.61	0.66	0.65	0.91	0.96

<i>Demand Response</i>	CPP/TOU Enrollment Scenarios	
	High CPP, Low DLC	Low CPP, High DLC
Residential		
System Coincident Summer MW	4.07	0.75
System Coincident Winter MW	5.13	0.94
Commercial		
System Coincident Summer MW	11.28	12.41
System Coincident Winter MW	6.19	4.10
Industrial		
System Coincident Summer MW	1.06	0.88
System Coincident Winter MW	0.81	0.54

Gulf Power Company - Program Net Achievable Savings Potential in 2019

<i>Energy Efficiency</i>	<i>Incentive Scenarios</i>					
	RIM-L	RIM-M	RIM-H	TRC-L	TRC-M	TRC-H
Residential						
Annual GWh	45.28	57.82	86.79	58.63	78.24	153.91
System Coincident Summer MW	15.83	21.50	35.69	17.15	23.80	51.94
System Coincident Winter MW	3.63	6.12	25.93	5.37	8.87	47.50
Commercial						
Annual GWh	34.84	47.01	66.79	36.47	53.71	89.45
System Coincident Summer MW	6.77	10.22	15.65	6.84	10.59	18.51
System Coincident Winter MW	1.19	1.70	2.93	1.33	2.03	5.44
Industrial						
Annual GWh	4.51	5.40	5.42	5.74	7.23	8.64
System Coincident Summer MW	0.44	0.53	0.54	0.52	0.66	0.86
System Coincident Winter MW	0.56	0.67	0.67	0.69	0.86	0.91

<i>Demand Response</i>	<i>CPP/TOU Enrollment Scenarios</i>	
	High CPP, Low DLC	Low CPP, High DLC
Residential		
System Coincident Summer MW	11.29	7.02
System Coincident Winter MW	13.28	7.87
Commercial		
System Coincident Summer MW	5.16	6.18
System Coincident Winter MW	2.84	1.96
Industrial		
System Coincident Summer MW	0.54	0.46
System Coincident Winter MW	0.55	0.37

JEA - Program Net Achievable Savings Potential in 2019

<i>Energy Efficiency</i>	<i>Incentive Scenarios</i>					
	RIM-L	RIM-M	RIM-H	TRC-L	TRC-M	TRC-H
Residential						
Annual GWh	0.00	0.00	0.00	52.08	59.01	64.66
System Coincident Summer MW	0.00	0.00	0.00	17.63	19.96	23.46
System Coincident Winter MW	0.00	0.00	0.00	1.59	1.90	1.87
Commercial						
Annual GWh	0.00	0.00	0.00	35.95	50.39	62.46
System Coincident Summer MW	0.00	0.00	0.00	7.05	10.64	14.22
System Coincident Winter MW	0.00	0.00	0.00	1.04	1.51	1.83
Industrial						
Annual GWh	0.00	0.00	0.00	6.90	10.07	11.39
System Coincident Summer MW	0.00	0.00	0.00	0.88	1.30	1.52
System Coincident Winter MW	0.00	0.00	0.00	0.66	0.96	1.03

<i>Demand Response</i>	<i>CPP/TOU Enrollment Scenarios</i>	
	High CPP, Low DLC	Low CPP, High DLC
Residential		
System Coincident Summer MW	30.20	64.43
System Coincident Winter MW	37.00	77.48
Commercial		
System Coincident Summer MW	4.71	9.70
System Coincident Winter MW	1.75	2.98
Industrial		
System Coincident Summer MW	0.77	1.45
System Coincident Winter MW	0.41	0.72

Orlando Utilities Commission - Program Net Achievable Savings Potential in 2019

	<i>Incentive Scenarios</i>					
	RIM-L	RIM-M	RIM-H	TRC-L	TRC-M	TRC-H
Energy Efficiency						
Residential						
Annual GWh	0.00	0.00	0.00	23.38	27.03	28.75
System Coincident Summer MW	0.00	0.00	0.00	8.57	10.73	11.68
System Coincident Winter MW	0.00	0.00	0.00	0.27	0.02	-0.20
Commercial						
Annual GWh	0.00	0.00	0.00	25.47	36.70	47.45
System Coincident Summer MW	0.00	0.00	0.00	4.36	6.83	9.88
System Coincident Winter MW	0.00	0.00	0.00	0.87	1.22	1.73
Industrial						
Annual GWh	0.00	0.00	0.00	1.70	2.37	2.62
System Coincident Summer MW	0.00	0.00	0.00	0.21	0.30	0.34
System Coincident Winter MW	0.00	0.00	0.00	0.18	0.24	0.26

	<i>CPP/TOU Enrollment Scenarios</i>	
	High CPP, Low DLC	Low CPP, High DLC
Demand Response		
Residential		
System Coincident Summer MW	6.22	3.79
System Coincident Winter MW	7.23	4.12
Commercial		
System Coincident Summer MW	4.36	4.99
System Coincident Winter MW	2.71	1.78
Industrial		
System Coincident Summer MW	0.20	0.20
System Coincident Winter MW	0.13	0.11

Florida Public Utilities Company - Program Net Achievable Savings Potential in 2019

<i>Energy Efficiency</i>	<i>Incentive Scenarios</i>					
	RIM-L	RIM-M	RIM-H	TRC-L	TRC-M	TRC-H
Residential						
Annual GWh	0.00	0.00	0.00	3.58	4.55	5.14
System Coincident Summer MW	0.00	0.00	0.00	0.69	1.00	1.25
System Coincident Winter MW	0.00	0.00	0.00	0.34	0.39	0.40
Commercial						
Annual GWh	0.00	0.00	0.00	4.58	5.70	6.87
System Coincident Summer MW	0.00	0.00	0.00	0.91	1.22	1.60
System Coincident Winter MW	0.00	0.00	0.00	0.11	0.14	0.15
Industrial						
Annual GWh	0.00	0.00	0.00	0.84	0.88	0.92
System Coincident Summer MW	0.00	0.00	0.00	0.09	0.09	0.10
System Coincident Winter MW	0.00	0.00	0.00	0.09	0.09	0.10

<i>Demand Response</i>	<i>CPP/TOU Enrollment Scenarios</i>	
	High CPP, Low DLC	Low CPP, High DLC
Residential		
System Coincident Summer MW	0.77	0.47
System Coincident Winter MW	0.93	0.54
Commercial		
System Coincident Summer MW	0.47	0.54
System Coincident Winter MW	0.24	0.17
Industrial		
System Coincident Summer MW	0.09	0.06
System Coincident Winter MW	0.07	0.04

Achievable Potential Method

Itron used KEMA's DSM ASSYST model to develop the achievable potential estimates. The achievable potential module of DSM ASSYST was developed in the mid-1990s by staff at KEMA and Itron (these staff, including myself, were then employed at XENERGY Inc., later acquired by KEMA Inc.). The DSM ASSYST achievable potential model has been used by Itron and KEMA staff on a wide variety of energy efficiency potential and goals-setting related projects over the past decade, including most of the projects referenced previously in my testimony. This particular achievable potential model has a number of important features and characteristics that make it one of the leading, if not the, leading model of this type in the industry. These include the following:

- Incorporation of both program information and incentive effects on measure adoption;
- Stock accounting of both physical stock and the fraction of the remaining market that is aware and knowledgeable of each measure;
- Measure adoption curves that reflect both energy economics and non-economic factors;
- Internal methodological consistency between forecasts of program adoptions and naturally-occurring adoptions; and
- The ability to assign and calibrate adoption curves to individual measures.

Adoption Method Overview

We use a method of estimating adoption of energy efficiency measures that applies both to our program and naturally occurring analyses. Whether as a result of natural market forces or aided by a program intervention, the rate at which measures are adopted is modeled in our method as a function of the following factors:

- The availability of the adoption opportunity as a function of capital equipment turnover rates and changes in building stock over time;
- Customer awareness and knowledge of the efficiency measure;
- The cost-effectiveness of the efficiency measure; and
- The relative importance of indirect costs and benefits associated with the efficiency measure.

The method employed is executed in the measure penetration module of KEMA's DSM ASSYST model. Only measures that pass the measure screening criteria are put into the penetration module for estimation of customer adoption.

Availability

The model uses a stock accounting algorithm that handles capital turnover and stock decay over a period of up to 20 years. Using the commercial sector as an example, in the first step of our achievable potential method, we calculate the number of customers for whom each measure will apply. The input to this calculation is the total floor space (alternatively, households for residential and base kWh for industrial) available for the measure from the technical potential analysis, i.e., the total floor space multiplied by the applicability, not complete, and feasibility factors described in our Technical Potential report. We call this the eligible stock. The stock algorithm keeps track of the amount of floor space available for each efficiency measure in each year based on the total eligible stock and whether the application is new construction, retrofit, or replace-on-burnout.¹

Retrofit measures are available for implementation by the entire eligible stock. The eligible stock is reduced over time as a function of adoptions² and building decay.³ Replace-on-burnout measures are available only on an annual basis, approximated as equal to the inverse of the service life.⁴ The annual portion of the eligible market that does not accept the replace-on-burnout measure does not have an opportunity again until the end of the service life.

¹ Replace-on-burnout measures are defined as the efficiency opportunities that are available only when the base equipment turns over at the end of its service life. For example, a high-efficiency chiller measure is usually only considered at the end of the life of an existing chiller. By contrast, retrofit measures are defined to be constantly available, for example, application of a window film to existing glazing.

² That is, each square foot that adopts the retrofit measure is removed from the eligible stock for retrofit in the subsequent year.

³ An input to the model is the rate of decay of the existing floor space. Floor space typically decays at a very slow rate.

⁴ For example, a base-case technology with a service life of 15 years is only available for replacement to a high-efficiency alternative each year at the rate of 1/15 times the total eligible stock. For example, the fraction of the market that does not adopt the high-efficiency measure in year t will not be available to adopt the efficient alternative again until year $t + 15$.

New construction applications are available for implementation in the first year. Those customers that do not accept the measure are given subsequent opportunities corresponding to whether the measure is a replacement or retrofit-type measure.

Awareness and Knowledge

In our modeling framework, customers cannot adopt an efficient measure merely because there is stock available for conversion. Before they can make the adoption choice, they must be aware and knowledgeable about the efficiency measure's costs, savings, and other characteristics. Thus, in the second stage of the process, the model calculates the portion of the available market that is informed. An initial user-specified parameter sets the initial level of awareness for each measure. Awareness levels can vary by measure as a function of the relative cost effectiveness of the measure. More cost-effective measures have higher awareness levels than less cost-effective measures, all else being equal.

Incremental increases in awareness are estimated in the model as a function of the amount of money spent on awareness and knowledge building and how well those knowledge-building resources are directed to target markets.

The model also controls for information retention. An information decay parameter in the model is used to control for the percentage of customers that will retain program information from one year to the next. Information retention is based on the characteristics of the target audience and the temporal effectiveness of the marketing techniques employed.

Measure Adoption

The portion of the total market that is available and informed can now face the choice of whether or not to adopt a particular measure. Only those customers for whom a measure is available for implementation (stage 1) and, of those customers, only those who have been informed about the program/measure (stage 2), are in a position to make the implementation decision.

In the third stage of our penetration process, the model calculates the fraction of the market that adopts each efficiency measure as a function of the participant test, since this represents the end user's perspective. The participant test is a benefit-cost ratio that is calculated as follows:

$$\text{Benefits} = \sum_{i=1}^N \frac{\text{Customer Bill Savings } (\$)_i}{(1+d)^{i-1}} \qquad \text{Eqn. 2-3}$$

$$\text{Costs} = \sum_{t=1}^N \frac{\text{Participant Costs } (\$)_t}{(1+d)^{t-1}} \quad \text{Eqn. 2-4}$$

where:

- d = the discount rate
- t = time (in years)
- n = 20 years

We use a normalized measure life of 20 years in order to compare the cost-effectiveness associated with measures with different service lives. Measures with lives shorter than 20 years are “re-installed” in our analysis as many times as necessary to reach the normalized 20-year life of the analysis. For example, the costs for a measure with a 10-year lifetime would include the costs in Year 1 plus the present value of the costs of installing the measure again in Year 11. The benefits would be the present value of the 20-year stream of avoided costs reductions associated with the measure.

The bill reductions are calculated by multiplying measure energy savings and customer peak demand impacts by retail energy and demand rates over the life of the measure.

The model uses measure implementation curves to estimate the percentage of the informed market that will accept each measure based on the participant’s benefit-cost ratio. The model provides enough flexibility so that each measure in each market segment can have a separate implementation rate curve. The functional form used for the implementation curves is:

$$y = \frac{a}{\left(1 + e^{-\frac{\ln x}{a}}\right) \times \left(1 + e^{-\ln(bx)}\right)} \quad \text{Eqn. 2-5}$$

where:

- y = the fraction of the market that installs a measure in a given year from the pool of informed applicable customers;
- x = the customer’s benefit-cost ratio for the measure;
- a = the maximum annual acceptance rate for the technology;
- b = the inflection point of the curve. It is generally 1 over the benefit-cost ratio that will give a value of 1/2 the maximum value; and

d, c = parameters that determines the general shape (slope) of the curve.

The primary curves utilized in our model are shown in Exhibit A. These curves produce base year program results that are calibrated to actual measure implementation results associated with major IOU commercial efficiency programs over the past several years. Different curves are used to reflect different levels of indirect costs (also called market barriers) and benefits for different efficiency measures. A list of market barriers is shown in Exhibit C. The implicit premise of efficiency programs is that it is the existence of these barriers that necessitates program interventions to increase the adoption of energy efficiency measures. [For more information on market barriers see Eto, Prahl, and Schlegel (1997), Golove and Eto (1996), DeCanio (2000), and DeCanio (1998).]

Note that for the moderate, high, and extremely high barrier curves, the participant benefit-cost ratios have to be very high before significant adoption occurs. This is because the referential participant benefit-cost ratios are calculated using a 15-percent discount rate. A consumer discount rate of roughly this level reflects likely adoption if there were no market barriers or market failures, as reflected in the no-barriers curve in the figure (i.e., under the no barriers curve roughly half the market adopts with a participant B-C ratio of 1.0 using the 15 percent discount rate). Real-world program and market experience shows, however, that actual adoption behavior does not follow the no barrier curve for the vast majority of measures. Instead, most measure adoption levels observed in real markets and programs correlate with implicit discount rates several times those that would be expected in a perfect market (i.e., a market without barriers to the adoption of efficiency measures).⁵

The model estimates adoption under both naturally occurring and program intervention situations. There are only two differences between the naturally occurring and program analyses. First, in

⁵ For some, it is easier to consider adoption as a function of simple payback. However, the relationship between payback and the participant benefit-cost ratio varies depending on measure life and discount rate; hence, we prefer to us B-C ratios. For comparison purposes, a long-lived measure of 15 years and a 15-percent discount rate, the equivalent payback at which half of the market would adopt a measure is roughly 6 months, based on the low barrier curve in the exhibit (or roughly 2 years based on the low barrier curve). At a 1-year payback, one-quarter of the market would adopt the measure on the high barrier curve. The curves reflect the real-world observation that implicit discount rates can be well over 100 percent (see, for example, Train, Kenneth, 1985. "Discount Rates in Consumers' Energy Related Decisions: A Review of the Literature," *Energy* 10(12): 1243-1253; Train, K. and T. Atherton, "Rebates, Loans, and Customers' Choice of Appliance Efficiency Level: Combining Stated- and Revealed-Preference Data," *Energy Journal*, Vol. 16, No. 1, 1995, pp. 55-69.

any program intervention case in which measure incentives are provided, the participant benefit-cost ratios are adjusted based on the incentives. Thus, if an incentive that pays 50 percent of the incremental measure cost is applied in the program analysis, the participant benefit-cost ratio for that measure will double (since the costs have been halved). The effect on the amount of adoption estimated depends on where the pre- and post-incentive benefit-cost ratios fall on the curve. This effect is illustrated in Exhibit B.

Achievable potential energy efficiency forecasts were developed for each of the scenarios defined previously. The results vary principally as a function of the differences in measure-specific incentive levels and inclusion/exclusion measure screening results across scenarios.

Exhibit A

Example Measure Implementation Curves Used in Adoption Model

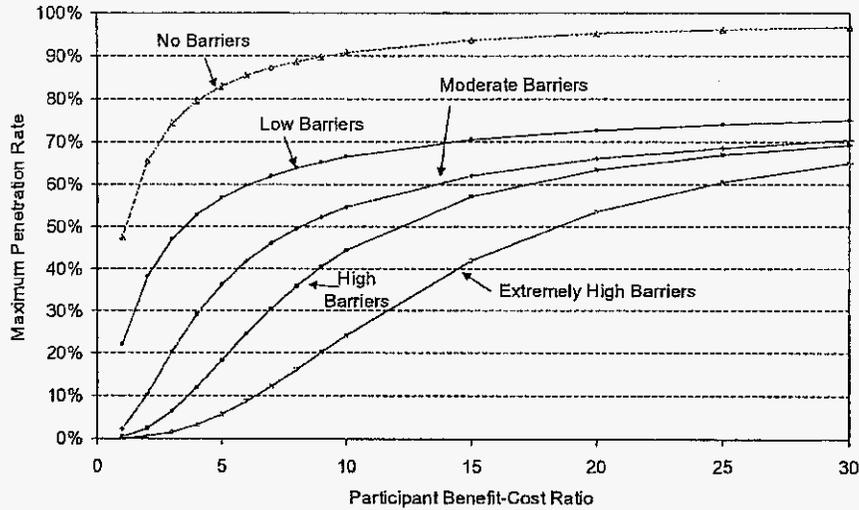


Exhibit B

Illustration of Effect of Incentives on Adoption Level as Characterized in Implementation Curves

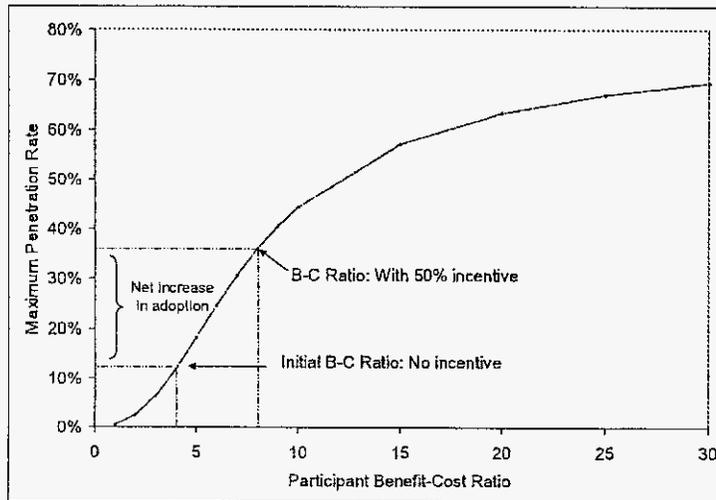


Exhibit C

Summary Description of Market Barriers from Eto, Prahl, and Schlegel (1997)Barrier	Description
Information or Search Costs	The costs of identifying energy-efficient products or services or of learning about energy-efficient practices, including the value of time spent finding out about or locating a product or service or hiring someone else to do so.
Performance Uncertainties	The difficulties consumers face in evaluating claims about future benefits. Closely related to high search costs, in that acquiring the information needed to evaluate claims regarding future performance is rarely costless.
Asymmetric Information and Opportunism	The tendency of sellers of energy-efficient products or services to have more and better information about their offerings than do consumers, which, combined with potential incentives to mislead, can lead to sub-optimal purchasing behavior.
Hassle or Transaction Costs	The indirect costs of acquiring energy efficiency, including the time, materials and labor involved in obtaining or contracting for an energy-efficient product or service. (Distinct from search costs in that it refers to what happens once a product has been located.)
Hidden Costs	Unexpected costs associated with reliance on or operation of energy-efficient products or services - for example, extra operating and maintenance costs.
Access to Financing	The difficulties associated with the lending industry's historic inability to account for the unique features of loans for energy savings products (i.e., that future reductions in utility bills increase the borrower's ability to repay a loan) in underwriting procedures.
Bounded Rationality	The behavior of an individual during the decision-making process that either seems or actually is inconsistent with the individual's goals.
Organization Practices or Customs	Organizational behavior or systems of practice that discourage or inhibit cost-effective energy efficiency decisions, for example, procurement rules that make it difficult to act on energy efficiency decisions based on economic merit.
Misplaced or Split incentives	Cases in which the incentives of an agent charged with purchasing energy efficiency are not aligned with those of the persons who would benefit from the purchase.
Product or Service Unavailability	The failure of manufacturers, distributors or vendors to make a product or service available in a given area or market. May result from collusion, bounded rationality, or supply constraints.
Externalities	Costs that are associated with transactions, but which are not reflected in the price paid in the transaction.
Non-externality Pricing	Factors other than externalities that move prices away from marginal cost. An example arises when utility commodity prices are set using ratemaking practices based on average (rather than marginal) costs.
Inseparability of Product Features	The difficulties consumers sometimes face in acquiring desirable energy efficiency features in products without also acquiring (and paying for) additional undesired features that increase the total cost of the product beyond what the consumer is willing to pay.
Irreversibility	The difficulty of reversing a purchase decision in light of new information that may become available, which may deter the initial purchase, for example, if energy prices decline, one cannot resell insulation that has been blown into a wall.

Achievable Potential Calibration

A critically important step in the achievable potential methodology is to calibrate the adoption estimates to actual program adoptions as much as possible. For this study, program accomplishments were received from the FEECA utilities and used in the calibration process. Summer peak results were calibrated primarily using FPL's recent accomplishments. In addition, for several utilities winter peak results were of equal or greater importance than summer peak. Recent program results for Progress Energy, a winter peaking utility with a strong winter peak focus to their programs, were used to calibrate the adoption results for measures with significant winter impacts. The calibration process utilized is iterative. We began with measure-specific adoption curves developed from other recent Itron and KEMA potential studies. We then compared the results from using these curves to FEECA utilities' recent program results. Adjustments were then made to some of the adoption curves to obtain results that better align with actual program accomplishments in Florida. This process was repeated in consultation with the FEECA utilities until the utilities and Itron agreed that the results were consistent with program experience in Florida.