

# SOUTHWESTERN PUBLIC SERVICE COMPANY

## **2010/2011 Energy Efficiency and Load Management Plan**

Prepared in Compliance with the Efficient Use of Energy Act and 17.7.2 NMAC (Energy Efficiency Rule)  
Case No. 09-00352-UT  
~~September, 2009~~  
**Revised March 2011**

**Southwestern Public Service Company**

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## **Glossary of Acronyms and Defined Terms**

<b><u>Acronym/Defined Term</u></b>	<b><u>Meaning</u></b>
2010/11 Plan or Plan	SPS's 2010/2011 Energy Efficiency and Load Management Plan
ADM	ADM Associates, Inc, the third-party selected as the Independent Program Evaluator for the measurement and verification of all New Mexico utility energy efficiency and load management programs
ARCA	American Recycling Centers of America
ASHP	Air-Source Heat Pump
BSC	Business Solutions Center
C&I	Commercial and Industrial
CFL	Compact Fluorescent Light Bulb
Commission	New Mexico Public Regulation Commission
Commission Staff or Staff	Utility Division Staff of the Commission
Customer kW; Customer kWh	Demand and energy savings measured at the customer meter.
Deemed Savings	Expected energy and demand savings attributed to well-known or commercially available energy efficiency and load management devices or measures based on standard engineering calculations, ratings, simulation models or field measurement studies, periodically adjusted as appropriate for New Mexico specific data, including building and household characteristics, and climate conditions in pertinent region(s) within the state
DOE	United States Department of Energy
DSM	Demand-Side Management
EE	Energy Efficiency

<b><u>Acronym/Defined Term</u></b>	<b><u>Meaning</u></b>
EESP	Energy Efficiency Service Provider
EMNRD	New Mexico State Energy, Minerals, and Natural Resources Department
EPAct	Energy Policy Act of 2005
EUEA	New Mexico Efficient Use of Energy Act, as amended by Senate Bill 418 (2007) and House Bill 305 (2008), §§62-17-1 through 62-17-11 NMSA 1978
Generator kW; Generator kWh	Demand and energy savings, respectively, measured at the generator, corrected for transmission line losses and free-rider/drivership.
GWh	Gigawatt-hour, a measure of energy savings
Home Use Study	Study of appliance saturations performed periodically by Wiese Research Associates
HVAC	Heating, Ventilation, and Air Conditioning
Independent Program Evaluator or Evaluator	Person or group selected by an NMPRC-approved Evaluation Committee for the purpose of Measurement and Verification of the installation of cost-effective energy efficiency or load management projects.
ICO	Interruptible Credit Option Program
kW	Kilowatt, a measure of demand
kWh	Kilowatt-hour, a measure of energy
Large Customer	A utility customer at a single, contiguous field, location or facility, regardless of the number of meters at that field, location or facility, with electricity consumption greater than seven thousand megawatt-hours per year
LED	Light-emitting diode
LIHEAP	Low-Income Home Energy Assistance Program

<u>Acronym/Defined Term</u>	<u>Meaning</u>
LM	Load Management
MFA	New Mexico Mortgage Finance Authority
M&V	Measurement and Verification
MWh	Megawatt-hour, a measure of energy savings
NEB	Non-Energy Benefits
NEMA	National Electrical Manufacturers Association
NTG	Net-to-Gross
O&M	Operations and Maintenance
RAP	Resource Action Programs <sup>®</sup>
Rule	NMPRC Energy Efficiency Rule, 17.7.2 NMAC
SEER	Seasonal Energy Efficiency Ratio
Self-Direct Administrator	Person or group selected by SPS to administer and manage cost-effective energy efficiency projects under the Large Customer Efficiency Program.
SPS	Southwestern Public Service Company
SWEEP	Southwest Energy Efficiency Project
TRC	Total Resource Cost
VFD	Variable Frequency Drive
WACC	Weighted Average Cost of Capital
Xcel Energy	Xcel Energy Inc.

## Executive Summary

In accordance with the Efficient Use of Energy Act, as amended by Senate Bill 418 (2007) and House Bill 305 (2008) (NMSA 1978, §62-17-1 through 62-17-11, “EUEA”), and the New Mexico Public Regulation Commission’s (“Commission”) Energy Efficiency Rule (17.7.2 NMAC, “Rule”), Southwestern Public Service Company (“SPS”) respectfully submits for Commission review SPS’s 2010/11 Energy Efficiency and Load Management Plan (“2010/11 Plan” or “Plan”).

The EUEA requires public utilities to obtain all cost-effective and achievable energy efficiency and load management available and a reduction of no less than 5% of 2005 retail sales by 2014 and 10% by 2020. In 2005, SPS’s retail sales were 3,750,469 megawatt-hours (“MWh”). Therefore, the EUEA requirements equate to targets of 187.5 gigawatt-hours (“GWh”) of energy efficiency savings at the customer meter by 2014 and 375 GWh by 2020 at the customer.

This 2010/11 Plan provides SPS’s proposed programs, budgets, and goals for its 2010 and 2011 energy efficiency and load management programs. SPS proposes a portfolio of electric energy efficiency and load management direct impact programs in two main customer segments: Residential (including Low-Income) and Business (including Large Customer). In addition, the 2010/11 Plan includes a Planning & Research Segment, which provides support functions for the direct impact programs. This is the first time that SPS is submitting a two-year plan instead of an annual plan as was filed for 2008 and 2009. SPS believes that there are many advantages to filing a two-year (biennial) plan, including time and cost efficiencies for SPS, the Commission, and Utility Division Staff of the Commission (“Commission Staff”), and program continuity for customers, contractors, and vendors. Programs will be approved for two years providing continuity for customers and less administrative work for both SPS and the Commission.

With this 2010/11 Plan, SPS will add three new programs, and remove one program. Electric Water Heating Rebates, including rebates for solar hot water heating, was added to its Residential Segment in 2010. In addition, from the Uncontested Stipulation, SPS has added Residential and Business Saver’s Switch Programs and moved Air-Source Heat Pumps into the Home Energy Services Program. SPS proposes to continue the following 2009 programs, designated by “EE” for energy efficiency and “LM” for load management:

### *Residential Segment*

- Evaporative Cooling Rebates (EE);
- Home Energy Services (EE);
- Home Lighting & Recycling (EE);
- Low-Income (EE);
- Refrigerator Recycling (EE); and
- School Education Kits (EE).

*Business Segment*

- Cooling Efficiency (EE);
- Custom Efficiency (EE);
- Interruptible Credit Option (LM);
- Large Customer Self-Direct (EE);
- Lighting Efficiency (EE);
- Motor & Drive Efficiency (EE); and
- Small Business Lighting (EE).

For 2010, SPS entered into an Uncontested Stipulation in Case No. 09-00352-UT which set an energy efficiency and load management budget of \$7,800,234 and goals of 14,627 generator kilowatts (“kW”) and 32,473,073 first-year generator kilowatt-hours (“kWh”), distributed among the programs and customer segments as shown in Table 1a below. This forecasted budget represents 2.62% of SPS’s 2008 rate case test year stipulation retail revenues (\$297,222,009), including fuel in base. The portfolio-level Total Resource Cost (“TRC”) Test ratio is forecasted to be 3.56.

**Revised Table 1a: SPS’s 2010 Plan Budgets & Goals**

	2010	Goal Participants	Goal Budget	Goal Customer kW	Goal Net Customer kWh	Goal Net Generator kW	Goal Net Generator kWh	TRC Test
<b>Residential Segment</b>								
Air-Source Heat Pump Rebates	9	\$0	0	0	0	0	0	0.00
Electric Water Heating Rebates	145	\$23,574	48	51,206	7	57,336	1.33	
Evaporative Cooling Rebates	400	\$131,842	685	564,798	442	632,402	23.85	
Home Energy Services	4,000	\$1,746,356	6,539	5,719,967	638	6,404,621	3.06	
Home Lighting & Recycling	37,500	\$754,977	7,800	7,537,355	595	8,439,541	4.07	
Residential Low-Income	2,660	\$295,042	918	847,861	119	949,346	2.10	
Refrigerator Recycling	500	\$131,050	117	524,502	69	587,283	2.95	
Residential Saver’s Switch	855	\$471,607	2,701	6,736	1,035	7,543	2.46	
School Education Kits	2,500	\$145,768	1,841	540,244	18	604,909	2.40	
<b>Residential Segment Total</b>	<b>48,560</b>	<b>\$3,700,214</b>	<b>20,649</b>	<b>15,792,669</b>	<b>2,923</b>	<b>17,682,979</b>	<b>3.44</b>	
<b>Business Segment</b>								
Business Saver’s Switch	82	\$174,929	1,794	8,749	706	9,446	4.53	
Cooling Efficiency	45	\$323,579	535	926,024	438	999,918	3.23	
Custom Efficiency	51	\$935,610	1,075	4,759,018	653	5,138,774	6.25	
Interruptible Credit Option	5	\$109,475	9,163	65,056	7,956	70,247	22.38	
Large Customer-Self Direct	0	\$0	0	0	0	0	0.00	
Lighting Efficiency	144	\$823,871	1,490	5,098,907	1,326	5,505,784	4.02	
Motor & Drive Efficiency	105	\$423,096	511	1,913,200	375	2,065,867	3.22	
Small Business Lighting	45	\$609,388	266	926,152	251	1,000,056	1.34	
<b>Business Segment Total</b>	<b>477</b>	<b>\$3,399,945</b>	<b>14,833</b>	<b>13,697,106</b>	<b>11,705</b>	<b>14,790,094</b>	<b>4.21</b>	
<b>Planning &amp; Research Segment</b>								
Consumer Education	n/a	\$128,730	n/a	n/a	n/a	n/a	n/a	
DSM Planning & Administration	n/a	\$318,000	n/a	n/a	n/a	n/a	n/a	
Market Research	n/a	\$55,300	n/a	n/a	n/a	n/a	n/a	
Measurement & Verification	n/a	\$107,000	n/a	n/a	n/a	n/a	n/a	
Product Development	n/a	\$91,042	n/a	n/a	n/a	n/a	n/a	
<b>Planning &amp; Research Segment Total</b>	<b>n/a</b>	<b>\$700,072</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	
<b>2010 TOTAL</b>	<b>49,037</b>	<b>\$7,800,234</b>	<b>35,482</b>	<b>29,489,775</b>	<b>14,627</b>	<b>32,473,073</b>	<b>3.56</b>	

For 2011, SPS proposes an energy efficiency and load management budget of \$10,886,691 and goals of 13,829 generator kW and 37,357,603 first-year generator kWh, distributed among the programs and customer segments as shown in Table 1b below. This forecasted budget represents 3.66% of SPS's 2008 rate case test year stipulation retail revenues (\$297,222,009), including fuel in base. The portfolio level TRC Test ratio is forecasted to be 2.86.

**Table 1b: SPS's 2011 Plan Budgets & Goals  
(Revised 01/18/2011)**

2011	Electric Participants	Electric Budget	Customer kW	Net Customer kWh	Net Generator kW	Net Generator kWh	TRC Test
<b>Residential Segment</b>							
Consumer Behavior Program (My Account)	15,000	\$251,500	0	0	0	0	0.00
Electric Water Heating Rebates	155	\$23,018	70	75,357	10	84,377	1.85
Evaporative Cooling Rebates	400	\$132,013	685	564,798	442	632,402	24.35
Horne Energy Services	4,345	\$3,257,958	12,978	11,777,269	1,693	13,186,955	3.28
Horne Lighting & Recycling	37,500	\$874,102	8,175	6,441,900	764	7,212,966	5.24
Residential Low-Income	2,660	\$295,042	918	877,631	119	982,679	2.13
Refrigerator Recycling	484	\$144,871	131	544,500	62	609,674	2.04
Residential Saver's Switch	1,710	\$546,883	5,402	13,473	2,071	15,086	0.34
School Education Kits	2,372	\$164,465	2,145	540,604	21	605,311	2.41
<b>Residential Segment Total</b>	<b>64,626</b>	<b>\$5,689,852</b>	<b>30,504</b>	<b>20,835,531</b>	<b>5,180</b>	<b>23,329,449</b>	<b>3.32</b>
<b>Business Segment</b>							
Business Saver's Switch	164	\$193,244	3,588	17,499	1,412	18,895	0.62
Cooling Efficiency	45	\$329,347	535	926,024	438	999,918	3.29
Custom Efficiency	40	\$1,008,913	1,136	4,336,135	853	4,682,145	4.08
Interruptible Credit Option	7	\$260,584	4,500	0	3,908	0	3.36
Large Customer-Self Direct	0	\$0	0	0	0	0	0.00
Lighting Efficiency	170	\$1,032,290	1,588	4,081,018	1,127	4,406,671	2.77
Motor & Drive Efficiency	21	\$400,264	382	1,250,073	256	1,349,825	2.92
Small Business Lighting	91	\$1,137,908	766	2,380,725	655	2,570,699	2.01
<b>Business Segment Total</b>	<b>536</b>	<b>\$4,362,550</b>	<b>12,495</b>	<b>12,991,473</b>	<b>8,648</b>	<b>14,026,154</b>	<b>2.51</b>
<b>Planning &amp; Research Segment</b>							
Business Education		\$110,000					
Consumer Education		\$144,252					
DSM Planning & Administration		\$321,600					
Market Research		\$58,420					
Measurement & Verification		\$107,600					
Product Development		\$92,418					
<b>Planning &amp; Research Segment Total</b>		<b>\$534,290</b>					
<b>2011 TOTAL</b>	<b>65,164</b>	<b>\$10,886,691</b>	<b>43,000</b>	<b>33,827,004</b>	<b>13,829</b>	<b>37,357,603</b>	<b>2.86</b>

Please note that these tables do not include any values for the Large Customer Self-Direct Program because SPS has no historical performance information on which to base goals and does not know who might choose to participate. In the event that a customer requests to participate in the Large Customer Self-Direct Program, SPS will shift budget dollars from the Custom Efficiency Program to accommodate the request.

## I. Portfolio Characteristics

This 2010/11 Plan serves to fulfill SPS's obligations under the EUA and the Rule. The following table shows SPS's verified achievements (for 2008 and 2009), forecasted savings (2010 through 2014), and their related percent of 2005 retail sales to show how SPS intends to meet the targets set forth in the EUA.

**Table 2: SPS Forecasted Goals as a Percent of 2005 Sales  
(Revised 01/18/2011)**

Year	Net Generator GWh Achievement / Forecast	Net Customer GWh Contributing in 2014	Cumulative Net Customer GWh Contributing in 2014 as % of 2005 Sales
2008	3.767	3.355	0.0887%
2009	15.758	14.136	0.4656%
2010	32.473	29.490	1.2519%
2011	37.360	33.830	2.1172%
2012	39.284	35.571	3.1027%
2013	39.284	35.571	4.0693%
2014	39.284	35.571	5.0000%
<b>TOTAL</b>	<b>207.210</b>	<b>187.523</b>	<b>5.0000%</b>

\* 2005 retail sales were 3,750.469 GWh.

### **A. Public Participation**

17.7.2.8(A) NMAC requires the utility to solicit public input from Commission Staff, the New Mexico Attorney General, the New Mexico State Energy, Minerals and Natural Resources Department (“EMNRD”), and other interested parties on the design and implementation of its proposed programs prior to filing its Energy Efficiency and Load Management Plan. In compliance with this requirement, SPS held its Public Advisory Meeting on June 25, 2009 in Santa Fe, New Mexico. SPS representatives gave an overview of the 2010/11 Plan, the proposed programs, goals, and budgets. Representatives of the Southwest Energy Efficiency Project (“SWEEP”), Commission Staff, Western Resource Advocates, Public Service Company of New Mexico, and the EMNRD participated. SPS provided a call-in number for those unable to attend in person. SPS received the following feedback from participants:

**Table 3: SPS Response to Public Meeting Input**

<b>Question/Suggestion</b>	<b>SPS Response</b>
<u>Commission Staff and SWEEP Question</u>	
Under the Refrigerator Recycling Program, how is the vendor that administers the program incentivized to meet program goals?	The SPS contract is structured to pay American Recycling Centers of America (“ARCA”) per unit recycled. ARCA does not receive a monthly administrative fee or any other amount to cover fixed expenses. All costs are included in the cost per unit recycled. ARCA must recruit and recycle enough units in a calendar year to cover its fixed costs. This acts as a performance incentive for the company to be successful in the New Mexico market.
<u>Commission Staff and SWEEP Suggestion</u>	
Under the Home Lighting and Recycling Program, consider re-assessing the net-to-gross (“NTG”) ratio of 90%, given the increase in penetration rates of energy efficient lighting in the New Mexico marketplace.	SPS has re-assessed the NTG and reduced this factor to 83% from 90%. The NTG ratio was decreased because SPS promoted the sale of nearly 100,000 bulbs to the SPS New Mexico service area in 2008, indicating that awareness of energy efficient compact fluorescent light bulbs (“CFLs”) has increased. An 83% NTG was selected because it is consistent with the ratio Xcel Energy used in Colorado, and is conservatively in the range of what SPS believes is appropriate.
<u>Commission Staff and SWEEP Suggestion</u>	
Add solar water heating to the SPS program portfolio.	SPS is offering a new Electric Water Heating Program under this 2010/11 Plan, which will include rebates for solar water heating. The program will pay prescriptive rebates for the installation of qualifying high efficiency electric hot water tanks and solar water heating added to electric hot water systems.
<u>EMNRD Suggestion</u>	
Add information showing Plan budgets as a percentage of SPS’s total revenue.	This information is provided in the Executive Summary on page 3.
<u>Commission Staff Suggestion</u>	
Show the minimum participation necessary for each program to be cost-effective.	Tables 5a and 5b describes the minimum participation necessary for each program included within the Plan to achieve a TRC Test ratio greater than one.

## ***B. Broad Participation within Classes***

SPS recognizes that its customers represent a large variety of end-uses including, but not limited to: residential, irrigation, agricultural processing, oil well pumping, grain elevators, industrial, gas pipeline compression, Cannon Air Force Base, municipal street, guard, and flood lighting, public and parochial schools, and photovoltaic water pumping customers. For the purposes of this 2010/11 Plan, all end-uses have been divided into two customer segments: Residential and Business. Household customers fall into the Residential Segment. Commercial, agricultural, municipal, and industrial customers fall into the Business Segment. The following table describes the number of customers in these segments, as well as the percent of that segment proposed to be served in the 2010/11 Plan, based on participation goals.

**Table 4: Total Number of Customers by Segment (as of August 17, 2009)  
(Revised 10/01/2010)**

<b>Customer Segment</b>	<b>Number of Customers</b>	<b>Forecasted 2010 Participation</b>	<b>Forecasted 2011 Participation</b>	<b>% of Segment Served in 2010</b>	<b>% of Segment Served in 2011</b>
Residential	83,730	48,560	64,626	58%	77%
Business	19,996	477	538	2%	3%
<b>Total</b>	<b>103,726</b>	<b>49,037</b>	<b>65,164</b>	<b>47%</b>	<b>63%</b>

## ***C. Estimated Energy and Demand Savings***

SPS strives to run its energy efficiency and load management programs as cost-effectively as possible and maximize its energy and demand savings at a reasonable cost. The 2010 and 2011 estimated energy and demand savings of the individual programs are shown above in Table 1a and Table 1b, respectively. SPS's proposed goals assume that all programs will operate for a full 12 months. SPS will launch the new program within one month after Plan approval, and will keep it open until the Commission approves a new plan or discontinues the program.

## ***D. Ease of Program Deployment***

SPS will leverage its large institutional infrastructure to bring its energy efficiency programs to the market. Specifically, SPS has internal capabilities in product development, program management, rebate processing, and regulatory administration, which it can rely on to develop, implement, and administer the energy efficiency and load management programs. SPS intends to administer the following programs internally: Cooling Efficiency, Custom Efficiency, Electric Water Heating Rebates, Evaporative Cooling Rebates, Interruptible Credit Option, Large Customer Self-Direct, Lighting Efficiency, Motor & Drive Efficiency, and Residential and Business Saver's Switch. Other programs, including Consumer Behavior Pilot, Home Energy Services, Home Lighting & Recycling, Low-Income,

Refrigerator Recycling, Small Business Lighting, and School Education Kits will be partially or completely administered by third-party providers. All of SPS's energy efficiency and load management programs will be supported by the broader Xcel Energy Inc. ("Xcel Energy") organization.

## ***E. Product Development Process***

Over the past 20 years, Xcel Energy has gained significant expertise in energy efficiency and load management and the design and development of programs. Xcel Energy uses a comprehensive product development process to identify, analyze, prioritize and select the programs to include in its energy efficiency and load management portfolio. The product development process utilizes traditional stage/gate methods in order to foster sound ideas that meet customer needs, both internal and external. The process begins by analyzing service territory characteristics (e.g., number and types of customers, climate, and market potential) to develop a list of relevant programs that Xcel Energy's operating companies have successfully operated in other jurisdictions. The specific stages that the product development process then follows are: Ideation, Framing, Design, Build, Test, and Launch. Ideas are reviewed by management at the transition points between each stage, which allows for proper culling of less effective ideas early in the process before significant work is done. Descriptions of each stage are provided below.

Ideation - The objectives of this stage are to compile ideas for new products from those who are closest to the customers, describe the product concept, and to filter the most viable ideas that will progress to the Framing Stage. This stage begins by asking: "*What idea do you have that will solve a customer concern?*" This stage solicits ideas from several sources and provides a brief explanation of the concept in the form of an Idea Napkin. To progress to Framing, new ideas must pass a prioritization screening process so that only the most promising ideas are worked on in the Framing Stage.

Framing - The objectives of this stage are to evaluate the market opportunity of new product ideas. This stage begins by asking: "*What is the opportunity for this idea?*" The ultimate deliverable of this stage will be a Framing Document, which is the due diligence needed to develop the product case. It will also define project boundaries, and determine strategic fit from a business, technical and market perspective. The primary gate decision here is, "*Does this concept merit spending more resources?*"

Design - Once it has been determined that a new concept is a viable opportunity upon which to spend more resources, the product idea moves to the Design Stage. The objectives of this stage are to refine and validate assumptions made in the Framing Stage, and to more clearly define the product and opportunity. The process to obtain any legal approvals or meet any regulations begins here. The deliverables of this stage are high-level requirements, a Product Case 1.0, and a high-level project plan. The primary gate decision is, "*Should we commit the resources/dollars to build this product or program?*"

Build - Once the product receives design approval, the process moves to the Build Stage. All high-level requirements are broken down into detailed requirements, and the project plan is

refined in order to accomplish physical development of the product and systems. Preliminary launch planning begins in this stage. The deliverable from this stage is a testable product. The primary gate decision is, *“Is the product or program ready for testing and probable launch?”*

Test - Once the product or program has passed the Build Stage, the product is tested against user requirements and usage scenarios to verify desired performance. Operational processes are also tested for flow-through. Testing assesses the readiness for full deployment. Testing could take various forms such as laboratory testing or field trial (pilot testing). Any needed rework of the product before deployment is done in this stage. The deliverables of this stage are: end-to-end validation of test results, operational and product assessments for full deployment, and the complete marketing plan to bring the product to launch. The primary gate decision is, *“Are we ready to proceed with commercialization?”*

Launch - Upon successful testing, the process moves to the Launch Stage. The objectives of this phase are to stabilize all processes, transition the new product into product life cycle, and execute launching the product. The primary decision is, *“Is everything ready from beginning to end that will enable this product to be successful?”*

## **F. Risk of Technologies and Methods**

As discussed above, SPS's affiliated operating companies have extensive experience operating energy efficiency and load management programs in a variety of jurisdictions. This Plan benefits from those years of experience and expertise and allows SPS to have greater confidence in its program proposals. The proposed programs have been offered successfully either in New Mexico or in other jurisdictions. The third-party partnerships are with reputable, long-standing organizations. Therefore, SPS does not perceive a great risk with the technologies or methods it has chosen. However, the New Mexico service area is a relatively new market for energy efficiency and load management programs and SPS is mindful of the challenges associated with that, as well as the effect of the economic downturn on customer participation.

## **G. Programs Studied and Rejected and Future Programs**

SPS continues to draw on the depth of experience in Xcel Energy's other jurisdictions to develop its portfolio for New Mexico. For the 2010/11 Plan, SPS referenced the comments from the Public Participation Meetings June 25, 2009 (for the 2010/11 Plan) and July 8, 2008 (for the 2009 Plan) and June 25, 2009 for ideas on new measures to develop for the 2010/11 Plan. The following programs were reviewed in the Product Development process, but then ultimately excluded from the Plan.

## 1. Studied & Rejected

### a. ENERGY STAR New Homes

SPS considered offering an ENERGY STAR® New Homes Program, but found that its efficiency opportunities are primarily related to gas savings through improved heating and insulation. As an electric-only utility, SPS may neither promote gas savings nor pay for them. ENERGY STAR New Homes would provide small electric savings, but not enough to make the program cost-effective.

Following the Uncontested Stipulation, SPS committed to research and evaluate partnering with a gas company that overlaps SPS service area to develop a joint ENERGY STAR New Homes Program (ESNH) and to add this program in 2011 if feasible and cost-effective. In response, SPS contacted representatives from New Mexico Gas Company (NMGC) and discussed a possible joint program between the two companies in our shared service areas in New Mexico.

After these discussions SPS believes that an ESNH would only prove viable until mid-2011 when the ENERGY STAR standards and the new New Mexico residential state building codes (2009NMECC) become effective. After these standards go into effect, continuing this program will be difficult, if not impossible. Primarily, it will be troublesome for builders to continue their involvement with the program. 2009NMECC will negatively affect participation in the ENERGY STAR New Homes Program. It is projected that the number of ENERGY STAR-rated new homes built will drop considerably once the new ENERGY STAR New Homes 2.5 and 3.0 standards are applied, and that builders who do comply with the new standards will most likely build an ESNH regardless of the utility incentive. This increased free-ridership could cause the program to fail the benefit-cost tests.

In addition to these issues, after holding four meetings in 2009 for homebuilders, SPS has found that participation and interest in energy efficient home building was low. SPS estimates that there are fewer than 300 homes projected to be built in our New Mexico Service area in 2011. Currently, very few, if any, builders in our service area are building ENERGY STAR-rated new homes. Considering the cost of designing, developing, launching, and administering an ENERGY STAR New Homes Program, as well as the time it would take to recruit and train potential ESNH builders, it would not be possible to implement a successful program with NMGC for the six months that the program would be in effect in 2011.

As an additional challenge to the ENERGY STAR New Homes Program, the Department of Energy (“DOE”) is proposing to significantly alter the ENERGY STAR Homes Program participation requirements starting in 2011. Some changes proposed by the DOE, including adding water measures and additional steps to the process, could increase the builder costs by more than \$1,000. Due to the issues discussed above, SPS is not proposing to implement an ENERGY STAR New Homes Program in 2011. Once DOE completes all changes to the program, SPS could again review whether there would be value to offer this program.

As part of the Uncontested Supplemental Stipulation, SPS will add \$15,000 to the Consumer Education budget for ENERGY STAR Homes building and contractor training on high efficiency and ENERGY STAR construction techniques.

SPS proposes to proceed with a plan to hire a regional or national Energy Star Homes expert to perform two to four training sessions throughout its service area in 2011. If SPS does not need the entire \$15,000 to pay for the training sessions, the remainder will not be used for other programs or training. The training sessions will be actively promoted to builders and contractors throughout the SPS New Mexico service area.

***b. Heat Pump Electric Water Heaters***

Under the Uncontested Stipulation, SPS agreed to add Heat Pump Water Heaters to its Electric Water Heating Program.

***c. Saver's Switch***

Under the Uncontested Stipulation, SPS agreed to add Residential and Business Saver's Switch Programs to its 2010/11 Plan.

**2. Future Programs**

SPS believes its proposed 2010/11 Plan provides sufficient program opportunities to cover the most common electric end-uses operated in households and businesses. As new technologies become available, the Product Development team will evaluate them for inclusion in future programs.

***H. Goal Setting***

SPS considered the following factors while developing its energy efficiency program goals and budgets for the 2010/11 Plan:

- Historical and expected participation levels;
- Incremental cost of energy-efficient equipment;
- Results of market potential and home use studies; and
- Cost-effectiveness.

***I. General Marketing***

SPS proposes to market to both the residential and business customer segments based on the number of customers, relative size of each customer, and potential for conservation at the customer site. SPS uses a more personal sales approach for large commercial and industrial ("C&I") customers because they generally have larger and more complex energy efficiency and load management opportunities. Small business customers may work with Xcel

Energy's Business Solutions Center ("BSC") to learn more about program offerings. In contrast, because energy efficiency potential for individual residential customers is relatively small and costs per participant need to be strictly controlled, SPS relies most heavily on mass-market advertising and promotion for this segment.

In addition to formal rebate and incentive programs, SPS maintains a large database of energy information on its website (xcelenergy.com). Customers and the general public are able to access information on the latest technologies and practices available for saving energy. Residential customers can access information on energy saving tips, low/no cost ways to save energy, performing an energy assessment, and calculating appliance energy consumption. Business customers can keep up-to-date on new technologies and access one of several energy advisor or energy assessment tools.

The 2010/11 proposed programs were designed to accommodate diverse customer lifestyles and provide convenient participation and information to assist customers in making wise energy choices. In addition to its direct impact program portfolio, SPS plans to provide consumer education, as well as conduct market research, product development, and planning and administration to support these programs.

#### ***J. Total Resource Cost Test and Avoided Costs***

17.7.2.9(C)(1) NMAC requires that all utility energy efficiency and load management programs be cost-effective. All of the programs proposed by SPS in the 2010/11 Plan are cost-effective (i.e., achieve a TRC Test ratio greater than 1.0) at the estimated budget and participation levels. 17.7.2.9(F) NMAC specifies that all programs, but not all measures, must be cost-effective. Individual program-level TRC results are provided above in Tables 1a and 1b. SPS has also calculated the minimum participation levels necessary in order for the programs to remain cost-effective. These levels are provided in Tables 6a and 6b below. In order to estimate these minimum participation levels, the following steps were taken:

- SPS estimated the portion of each program budget that represents the fixed costs. These are the costs that would need to be spent to offer the program, regardless of the number of participants. All other costs are assumed variable and depend entirely on the ultimate number of participants. For instance, rebates paid to participants are considered to be entirely variable, dependent strictly on the participation in the program. Other costs, like advertising and promotion, are generally considered fixed. The estimation of fixed versus variable costs is subjective; therefore, the results presented here represent our most reasonable estimate.
- Variable TRC benefits for the average participant were calculated. Comparison of the variable TRC costs per participant to the variable TRC benefits per participant resulted in an estimate of the TRC net benefits per participant.
- The TRC net benefits per participant were divided by the program's total fixed costs to determine the number of average participants necessary to exceed the fixed costs, making the program cost-effective. Participants were rounded up to the nearest whole number of participants, resulting in TRC ratios that slightly exceed 1.00.

- The costs for the Planning & Research Segment combined with the minimally cost-effective programs result in a portfolio that is not cost-effective.

The tables below show the estimation of the minimum participation necessary to make each of the programs cost-effective:

**Table 5a: 2010 Minimum Participation to Maintain Cost-Effectiveness  
(As Originally Filed)**

2010	Minimum Number of Participants to Pass TRC	Budget at Minimum Participation	Annual Gen kWh Expected at Minimum Participation	TRC Test
<b>Residential Segment</b>				
Air-Source Heat Pump Rebates	15	\$48,927	81,114	1.00
Electric Water Heating Rebates	67	\$17,360	26,361	1.01
Evaporative Cooling Rebates	10	\$35,541	15,810	1.09
Home Energy Services	111	\$132,715	170,853	1.01
Home Lighting & Recycling	7,500	\$627,876	1,687,908	1.00
Low-Income	273	\$51,046	78,661	1.00
Refrigerator Recycling	153	\$100,963	179,708	1.00
School Education Kits	299	\$26,369	72,347	1.00
<b>Residential Segment</b>	<b>8,428</b>	<b>\$1,040,797</b>	<b>2,312,762</b>	
<b>Business Segment</b>				
Cooling Efficiency	3	\$93,344	66,661	1.06
Custom Efficiency	5	\$297,313	503,801	1.03
Interruptible Credit Option	1	\$66,601	13,724	7.19
Large Customer-Self Direct	0	\$0	0	0.00
Lighting Efficiency	6	\$201,675	229,408	1.08
Motor & Drive Efficiency	9	\$170,396	177,074	1.04
Small Business Lighting	17	\$313,535	377,799	1.02
<b>Business Segment</b>	<b>41</b>	<b>\$1,138,252</b>	<b>1,368,468</b>	
<b>Planning &amp; Research Segment</b>				
Consumer Education		\$128,730		
Market Research		\$55,300		
Measurement & Verification		\$107,000		
Planning & Administration		\$318,000		
Product Development		\$91,042		
<b>Planning &amp; Research Segment</b>		<b>\$700,072</b>		
<b>2010 TOTAL</b>	<b>8,469</b>	<b>\$2,883,733</b>	<b>3,681,230</b>	<b>0.78</b>

**Table 5b: 2011 Minimum Participation to Maintain Cost-Effectiveness  
(Revised 01/18/2011)**

	2011	Minimum Number of Participants to Pass TRC	Budget at Minimum Participation	Annual Gen kWh Expected at Minimum Participation	TRC Test
<b>Residential Segment</b>					
Consumer Behavior Program (My Account)	0	\$251,500	0	0.00	
Electric Water Heating Rebates	38	\$14,693	20,686	1.01	
Evaporative Cooling Rebates	9	\$35,488	14,229	1.01	
Home Energy Services	52	\$127,527	157,853	1.01	
Home Lighting & Recycling	5,130	\$628,502	986,734	1.00	
Refrigerator Recycling	216	\$114,793	272,086	1.00	
Residential Low-Income	205	\$49,070	75,733	1.00	
School Education Kits	204	\$23,422	52,059	1.00	
<b>Residential Segment Total</b>	<b>5,854</b>	<b>\$1,244,994</b>	<b>1,579,379</b>		
<b>Business Segment</b>					
Cooling Efficiency	3	\$95,884	66,661	1.06	
Custom Efficiency	5	\$322,985	585,268	1.09	
Interruptible Credit Option	2	\$125,847	0	1.07	
Large Customer-Self Direct	0	\$0	0	0.00	
Lighting Efficiency	12	\$238,487	311,059	1.06	
Motor & Drive Efficiency	3	\$181,394	192,832	1.17	
Small Business Lighting	9	\$232,241	254,245	1.06	
<b>Business Segment Total</b>	<b>34</b>	<b>\$1,196,838</b>	<b>1,410,066</b>		
<b>Planning &amp; Research Segment</b>					
Consumer Education		\$144,252			
DSM Planning & Administration		\$321,600			
Market Research		\$58,420			
Measurement & Verification		\$107,600			
Product Development		\$92,418			
<b>Planning &amp; Research Segment Total</b>		<b>\$724,290</b>			

Further, 17.7.2.9(G) NMAC requires utilities to “identify and present the assumptions, calculations, and other elements associated with the TRC Test”. The TRC Test requires a variety of assumptions to be made in order to calculate the cost-effectiveness of energy efficiency and load management programs. The following sections describe the assumptions SPS has made in order to perform the cost-effectiveness, energy, and demand savings estimates.

## 1. Avoided Costs

In order to determine the cost-effectiveness of its programs, SPS must first calculate the avoided generation, transmission, distribution, and marginal energy costs associated with the energy efficiency and load management savings.

### *a. Generation*

Avoided generation represents the capital investments avoided or deferred by saving energy rather than generating it. The avoided generation values used in this 2010/11 Plan were derived by Xcel Energy's Resource Planning group. For the energy efficiency avoided generation value, Resource Planning used the latest available price assumptions applied to the latest expansion plan to determine the avoided generation. Table 6 below provides the annual values from 2010 to 2029. For load management programs, the Resource Planning group used a combustion turbine to estimate the avoided generation costs. The 2010 value for this type of generation is estimated to be \$75.64 per kW-yr. This value is escalated annually beyond 2010 using a 1.50% annual escalation factor.

**Table 6: Estimated Annual Avoided Generation Capacity Costs for Energy Efficiency and Load Management Programs  
(As Originally Filed)**

Year	Energy Efficiency (\$/kW-year)	Load Management (\$/kW-year)
2010	\$124.42	\$75.64
2011	\$126.34	\$76.77
2012	\$128.29	\$77.93
2013	\$130.26	\$79.10
2014	\$132.27	\$80.28
2015	\$134.30	\$81.49
2016	\$136.37	\$82.71
2017	\$138.46	\$83.95
2018	\$140.59	\$85.21
2019	\$142.75	\$86.49
2020	\$144.95	\$87.78
2021	\$147.17	\$89.10
2022	\$149.43	\$90.44
2023	\$151.72	\$91.79
2024	\$154.05	\$93.17
2025	\$156.41	\$94.57
2026	\$158.81	\$95.99
2027	\$161.24	\$97.43
2028	\$163.71	\$98.89
2029	\$166.22	\$100.37
2030	\$168.76	\$101.88

### ***b. Transmission and Distribution***

Avoided transmission and distribution refers to the costs avoided by saving electricity rather than having to extend or improve the existing transmission and distribution system to meet increased demand. In the benefit-cost analyses for the 2010/11 Plan, SPS used a combined value of \$31.76 per kW-year for avoided transmission and distribution, escalated at 1.92%. This value was provided by Xcel Energy's Resource Planning group and is consistent with the assumptions used in Xcel Energy's other service areas.

### ***c. Marginal Energy***

The avoided marginal energy costs represent the fuel savings (coal or natural gas) from saving energy rather than generating it. For the 2010/11 Plan, these values were developed by Xcel Energy's Risk Analysis group. They are based on the forecasted hourly marginal energy costs from 2010 to 2030 expected for the SPS system given forecasted market conditions and planned purchases. Two scenarios of marginal energy costs were run – one with the carbon emission costs ordered in Case No. 06-00448-UT (Notice of Inquiry into Adoption of Stage Standardized Carbon Emission Cost) and one without those costs. Table 7 below, provides annual average values for the marginal energy costs. The table also details the value of avoided emissions each year, calculated as the difference between the marginal energy costs with emissions and the marginal energy costs without emissions.

**Table 7: Estimated Annual Avoided Marginal Energy Costs  
(As Originally Filed)**

Year	Marginal Energy Annual Average Without Emissions (\$/kWh)	Avoided Emission Annual Average (\$/kWh)
2010	\$0.0482	\$0.0064
2011	\$0.0537	\$0.0059
2012	\$0.0564	\$0.0063
2013	\$0.0592	\$0.0046
2014	\$0.0607	\$0.0066
2015	\$0.0644	\$0.0058
2016	\$0.0664	\$0.0050
2017	\$0.0699	\$0.0045
2018	\$0.0727	\$0.0049
2019	\$0.0722	\$0.0050
2020	\$0.0716	\$0.0048
2021	\$0.0748	\$0.0058
2022	\$0.0772	\$0.0039
2023	\$0.0805	\$0.0037
2024	\$0.0837	\$0.0050
2025	\$0.0856	\$0.0059
2026	\$0.0924	\$0.0071
2027	\$0.0947	\$0.0075
2028	\$0.0984	\$0.0074
2029	\$0.1024	\$0.0074
2030	\$0.1066	\$0.0074

## 2. Discount Rate/Cost of Capital

SPS used the After-Tax Weighted Average Cost of Capital (“WACC”) of 7.05% as the Discount Rate in its cost-effectiveness analyses. This rate was derived by applying the current tax rate to the Before-Tax WACC rate, which was approved on August 26, 2008 by the Commission in SPS’s previous general rate case (Case No. 07-00319-UT). In SPS’s most recent rate case, Case No. 08-00354-UT, no explicit weighted average cost of capital was approved and, therefore, the WACC was not updated. The table below shows these factors and the calculations used to derive the 7.05% value.

**Table 8: After-tax Weighted Average Cost of Capital  
(As Originally Filed)**

Component	Portion of Capital Structure	Allowed Return	Before-Tax Weighted Average Cost of Capital	Tax Rate	After-Tax Weighted Average Cost of Capital
Long-Term Debt	48.77%	6.26%	3.05%	39.94%	1.83%
Common Equity	51.23%	10.18%	5.22%		5.22%
<b>TOTAL</b>	<b>100.00%</b>		<b>8.27%</b>		<b>7.05%</b>
Calculation Methodology	(A)	(B)	(C) = (A) * (B)	(D)	(E) = (C) * (1 - (D))

## 3. Net-to-Gross

NTG refers to the percent of customers who purchase energy efficient equipment or provide load control who would not have done so without the existence of the utility’s energy efficiency and load management programs. NTG is used to determine the actual amount of energy and demand saved that can be attributed to influence by SPS’s energy efficiency and load management programs. The NTG ratio does not normally reflect the percent of customers who install the efficiency measure; instead, the “Installation Rate” is estimated through the measurement and verification process.

The following tables describe the NTG for each program, by residential and business segments, and its source or justification. NTG factors have been updated based upon recommendations from ADM while verifying program performance for 2008 and 2009.

**Table 9a: Residential Program Net-to-Gross Factors**

Program	<u>2010</u> NTG	Explanation	<u>2011 NTG as recommended by ADM</u>
<b>Electric Water Heating Rebate</b>	100%	SPS has found no evidence of the significant purchase of high-efficiency water heating tanks or solar water heating systems in the SPS-New Mexico service territory. SPS will therefore use an initial estimate of 100% for the NTG for this program.	<u>None</u>
<b>Evaporative Cooling</b>			<u>None</u>
Standard Evaporative Cooling	60%	A recent program evaluation of evaporative cooling in Colorado reports a NTG of 60%. Absent other information, SPS will use this value for its New Mexico program.	<u>None</u>
High Efficiency Evaporative Cooling	100%	SPS surveyed retail stores and contractors that provide and install evaporative cooling in the service area. No one stocks or has immediately available high efficiency evaporative coolers. Therefore, SPS assumed that without this program, the high efficiency coolers would not be available or installed.	<u>None</u>
<b>Home Energy Services</b>	93%	Program was compared to six programs around the country and judged to be most similar to the N Star Res Hi Use Program, which reports a NTG value of 93%. Absent more direct information, SPS will use the same value for its program.	<u>None</u>
<b>Home Lighting &amp; Recycling</b>	83%	SPS has re-assessed the Home Lighting NTG and reduced it to 83% from 90%. SPS has sold nearly 100,000 bulbs in New Mexico in the last two years and believes that awareness of CFLs has increased. An 83% NTG is consistent with what Xcel Energy uses in Colorado, and is conservatively in the range of what SPS believes is appropriate for New Mexico..	<u>80%</u>
<b>Low-Income</b>	100%	The Low-Income Program distributes high-efficiency measures free-of-charge to Low-Income customers that do not have the means to purchase such equipment. As such, it is assumed that the NTG is 100%.	<u>None</u>
<b>Refrigerator Recycling</b>	93%	SPS assumes that the incidence of free-ridership for Refrigerator Recycling will be the same as that of Public Service Company of New Mexico.	<u>75%</u>

**Table 9a: Residential Program Net-to-Gross Factors (cont'd)**

Program	2010 NTG	Explanation	2011 NTG as recommended by ADM
<b>Residential Saver's Switch</b>	<u>100%</u>	SPS will use an NTG of 100% as customers would not cycle their air conditioners on their own without the program.	<u>None</u>
<b>School Education Kits</b>	100%	The School Education Kits Program distributes high-efficiency measures free of charge to elementary school students. As such, SPS assumes that the NTG is 100%.	<u>None</u>

**Table 9b: Business Program Net-to-Gross Factors**

Program	2010 NTG	Explanation	2011 NTG as recommended by ADM
<b>Business Saver's Switch</b>	<u>100%</u>	SPS will use an NTG of 100% as customers would not cycle their air conditioners on their own without the program.	<u>None</u>
<b>Cooling Efficiency</b>	94%	A review of other utilities has shown NTG values in the range of 85% to 100%. SPS assumes that the NTG for its Cooling Efficiency Program is the mean of the utility values, 94%.	<u>None</u>
<b>Custom Efficiency</b>	87%	A review of other utilities has shown a NTG range from 80% to 100%. SPS assumes that the NTG for its Custom Efficiency Program is the mean of the utility values, 87%.	<u>None</u>
<b>Interruptible Credit Option</b>	100%	SPS will use an NTG of 100% for the Interruptible Credit Option Program, as customers would not typically voluntarily reduce their load without the rate reductions offered by the program.	<u>None</u>
<b>Large Customer Self-Direct</b>	87%	SPS will use 87% because it believes this program is most similar to the Custom Efficiency Program.	<u>None</u>
<b>Lighting Efficiency</b>	96%	A review of similar programs at other utilities has shown that they use a NTG of 96%. SPS assumes that the NTG for its Lighting Efficiency Program is similar, and thus will use 96%.	<u>80%</u>
<b>Motor &amp; Drive Efficiency</b>	87%	A review of similar programs at other utilities has shown that they use a NTG in the range of 80% to 100%. SPS assumes that the NTG for its Custom Efficiency Program is the mean of the utility values, 87%.	<u>None</u>
<b>Small Business Lighting</b>	100%	SPS will use a net-to-gross factor of 100% for the Small Business Lighting Program because small business customers have not historically completed energy efficiency projects on their own.	<u>95%</u>

## **4. Transmission Loss Factors**

The Transmission Loss Factor accounts for the energy lost in the form of heat due to resistance while electricity is being transmitted from the generator to the customer. This value becomes important because energy and demand savings are typically measured at the customer meter and must be converted into generator savings to understand their impact on resource planning. SPS uses a weighted average loss factor of 7.39% for the annual energy saved, and a factor of 9.11% at the time of system peak for the annual capacity savings for all business programs. For residential programs, these factors are 10.69% for the annual energy saved, and 12.99% for the annual capacity savings. These factors are consistent with those used in SPS's last filed general rate case (Case No. 08-00354-UT).

## **5. Non-Energy Benefits**

Non-energy benefits (“NEBs”) are those savings to the customer or utility that result from participation in an energy efficiency or load management program, but that are not directly related to the consumption of fuel (e.g., electricity, natural gas, propane, wood, etc.). Such NEBs may include savings from reduced outages, arrearages, or incremental operation and maintenance (“O&M”) savings of labor, maintenance, or materials. SPS has included certain NEBs in its benefit-cost analyses when they are easily quantified and verified, and when they may have significant impact on the TRC Test. Specifically, SPS has included incremental O&M in the following benefit-cost analyses:

- The Custom Efficiency Program includes O&M savings as a placeholder. The O&M value was derived from the average O&M of projects completed in the Custom Efficiency Program in Xcel Energy's other jurisdictions. The customized projects typically result in O&M savings related to labor and/or maintenance.
- The Residential and Low-Income Evaporative Cooling Programs include O&M costs to account for water consumption due to the purchase of an evaporative cooler versus refrigerated air units.
- The Business Cooling Efficiency Program includes O&M for evaporative cooling units to account for the extra maintenance for these units compared to refrigerated air units.
- The Lighting Efficiency and Small Business Lighting Programs include additional O&M participant costs due to the increased heating costs that occur with installing more efficient lighting systems.
- The School Education Kits Program includes O&M participant savings for reduced water consumption achieved by installing a high-efficiency, low-flow showerhead and aerator.

## **6. System Benefits**

System benefits refer to the benefits derived by everyone served by SPS's electrical system as a result of SPS offering energy efficiency and load management programs. By definition, cost-effective energy efficiency and load management programs deliver system benefits to all

customers by reducing or alleviating the need to build new generation, transmission, or distribution to meet growing customer demand. While the participants in these programs will reap the additional benefit of a decrease in their electricity consumption, all customers will benefit from the system reductions.

## **II. Program Delivery and Administration**

### ***A. General Marketing and Outreach Plan***

SPS has developed an extensive marketing and outreach plan to target residential, low-income, business, and large customers throughout the service area. The following sections describe the plans specific to each customer segment.

#### **1. Residential Segment**

The focus during 2010 and 2011 will be to build awareness and interest in energy efficiency since the program offerings are still fairly new to homeowners and renters. Efficiency messages will be promoted through a variety of channels, including through:

- Efficient equipment distributors and installation contractors;
- Advertising, bill inserts, newsletters, and direct mail campaigns;
- Internet and email marketing;
- Residential call center; and
- Joint promotions with the Consumer Education and other efficiency programs.

#### **2. Business Segment**

SPS will use a wide variety of channels and marketing tactics to reach its business customers and trade allies. The ultimate goal is to increase program awareness and knowledge with customers and trade partners, drive equipment stocking practices, and increase program participation.

SPS will use the following channels to interact with customers:

- Account Managers – Account managers will work with SPS's large, managed account customers to inform them of energy efficiency programs, help them identify qualifying energy efficiency opportunities, and walk them through the participation process. This channel is very important for the customized programs due to the participation requirements and complexities of analyzing energy savings.
- Business Solutions Center (BSC) – The BSC will handle all of the interactions with SPS's small and mid-sized non-managed account customers. The BSC will educate business customers about the efficiency programs and cross-sell energy efficiency on incoming calls for utility issues. The BSC will also guide customers through the application process and prepare paperwork for rebate submission. This channel is vital due to the number of business customers served.
- Trade Relations Manager – The trade relations manager will conduct outreach to trade partners, including distributors, wholesalers and installation contractors. This position educates local and regional trade partners on programs through personal

- meetings, workshops, and training sessions. They also provide valuable feedback on new technologies and program improvements.
- Third-Party Program Implementers – For certain programs, such as Small Business Lighting, SPS will rely on the third-party program implementer to perform the primary marketing and outreach. While BSC representatives will be available to introduce customers to the variety of efficiency programs available, the third-party implementer will be on the front-line meeting with customers and promoting the programs similar to the way that Account Managers work with the large customers.

SPS will use the following marketing tactics to notify and educate customers about the programs:

- Program collateral including feature sheets, case studies, rebate application, and engineering analysis worksheets;
- Newsletters;
- Presentations to Chambers of Commerce, trade organizations, and architectural and engineering firms; and
- Targeted campaigns via direct mail or email to customers and trade allies.

SPS faces a number of challenges in engaging the Business Segment to participate in its programs. In the past, SPS has found this segment to be slow to respond to energy efficiency offerings for a variety of reasons. First, New Mexico businesses have historically enjoyed relatively inexpensive energy, which gives them no reason to seek to lower their bills, and very little bill reduction when they implement more efficient practices. Second, the SPS service territory is rural and relatively resistant to environmental messaging, due to living in a rural landscape. And finally, business customers, in general, have difficulty accepting the calculated benefits of energy efficiency. These customers therefore require more education and a longer acceptance time prior to participation in the programs. SPS has found that the average business energy efficiency project has a sales cycle of 12 to 18 months, meaning that customers generally require that long to decide to proceed, implement, and complete their projects. With their added resistance to energy efficiency, these sales times can be even longer. Given these issues, SPS has renewed its focus on awareness and project pipeline building in order to gain momentum over time and result in greater participation and energy savings in future years.

SPS remains committed to delivering cost-effective projects in the future. To that end, SPS is implementing strategies to accelerate customer acceptance going forward. SPS's efforts to improve business performance include:

- Continuing building general energy efficiency and program awareness with customers;
- Expanding trade outreach to increase the number of energy efficiency proponents in its service territory;
- Increasing large customer planning and sales efforts; and
- Continuing to aggressively market the new Small Business Lighting and Motor & Drive Efficiency Programs launched in mid-2009.

SPS is confident that these activities will significantly augment the work already started in New Mexico and build a strong pipeline of energy efficiency projects for completion in future years.

## ***B. Roles and Responsibilities***

SPS typically uses resources from several different internal departments to administer its energy efficiency and load management programs. Specifically, the following employees contribute to the process:

- Market Research Analyst – performs and oversees research on the energy efficiency market to help guide program planning;
- Product Developer – identifies and develops the proposed programs;
- Program Manager – manages overall program marketing and performance tracking;
- Account Manager – interacts with large business customers to promote programs;
- Trade Relations Manager – works with the trade (vendors, contractors, and manufacturers) to educate them about the programs;
- Energy Efficiency Engineer – reviews Custom Efficiency and Large Customer Self-Direct applications, and helps to develop and refine product deemed savings and technical assumptions;
- Rebate Processor – reviews/approves applications and invoices, pays rebates; and
- Regulatory Analyst – performs benefit-cost analyses, drafts and manages program filings, and corresponds with regulators.

In addition, SPS works with outside groups such as equipment vendors and manufacturers, community agencies, third-party administrators, and contractors as noted in the individual program descriptions.

## ***C. Reporting Process***

SPS filed its first annual report reflecting its 2008 program year on August 1, 2009. SPS will provide similar reports for the 2010/11 Plan on the annual due dates following the program years. Listed below are the details provided in this report:

- Actual expenditures and achievements of the preceding calendar year;
- Reporting requirements as stated in 17.7.2.13 NMAC and from the Final Order in Case No. 07-00376-UT;
- Reconciliation information for the Energy Efficiency Tariff Rider;
- Program descriptions, including an explanation of deviations from goal and changes during 2008, organized into the Residential, Low-Income, Business, Large Customer, and Planning & Research Segments; and
- Benefit-cost analyses for the Residential, Low-Income, Business, and Large Customer programs, as well as the overall portfolio.

## **D. Cost Recovery**

The EUA authorizes utilities to receive cost recovery for qualified energy efficiency and load management expenditures up to \$75,000 per customer per year. To recover its costs, SPS is proposing a loss factor-adjusted Energy Efficiency Tariff Rider charge applied to the energy consumption at each of four service levels. The Rider at these service levels are summarized in Tables 10a and 10b below. The Energy Efficiency Tariff Rider will approximate contemporaneous cost recovery of the 2010/11 Plan expenditures. Expenditures and cost recovery will be recorded through a tracking mechanism, the “Tracker”. In its Annual Report filed on or before August May 1 of each year, SPS will include the tracker showing any under- or over-recovery. The Tariff Rider will be revised with each Plan to recover:

- any true-up required from the previous year’s recovery;
- forecasted expenditures for the next calendar year; and
- any approved disincentive mitigation for the previous year.

**Table 10a: Proposed Energy Efficiency Tariff Rider Values**

<b>Rate Schedule</b>	<b>Rate (\$/kWh)</b>
Residential Service, Residential Heating Service, Residential Water Heating Service, Small General Service, Small Municipal and School Service, Municipal Street Lighting Service, Area Lighting Service	\$0.002862
Secondary General Service, Large Municipal and School Service	\$0.002849
Primary General Service	\$0.002821
Large General Service – Transmission	\$0.002630

**Table 10b: Proposed Energy Efficiency Tariff Rider Values**  
**(Revised 1/18/2011, Including \$3.3 million)**

<b>Rate Schedule</b>	<b>Rate (\$/kWh)</b>
Residential Service, Residential Heating Service, Residential Water Heating Service, Small General Service, Small Municipal and School Service, Municipal Street Lighting Service, Area Lighting Service	\$0.0043533931
Secondary General Service, Large Municipal and School Service	\$0.0043333913
Primary General Service	\$0.0042913875
Large General Service – Transmission	\$0.0040003612

## 1. Rate Impact and Customer Bill Impact

The following table shows the estimated average monthly bill impact of the proposed tariff rider:

**Table 10c: Estimated Average Bill Impact of Proposed kWh Tariff Rider**  
**(Revised 10/01/2010, Excluding \$3.3 million)**

Average Customer Impacts – kWh Rider			
<b>Rate Schedule</b>	<b>Monthly Bill excluding EER</b>	<b>Monthly EER Charge</b>	<b>Charge as % of Bill</b>
Residential Lighting Tariff 1018.14 @ 500 kWh	\$ 49.07	\$ 1.43	2.92%
Residential Lighting Tariff 1018.14 @ 1,000 kWh	\$ 92.54	\$ 2.86	3.09%
Small General Service Tariff 3110.15 at 1,500 kWh	\$ 126.97	\$ 4.30	3.38%
Secondary General Service Tariff 4060.1 @ 50 kW, 20,000 kWh	\$ 1,532.66	\$ 56.98	3.72%
Large General Service Transmission Tariff 4110.2 @ 4,000 kW, 800,000 kWh	\$ 62,264.00	\$ 2,104.00	3.38%

**Table 10d: Estimated Average Bill Impact of Proposed kWh Tariff Rider  
(Revised 01/18/2011, Including \$3.3 million)**

Average Customer Impacts - kWh Rider			
Rate Schedule	Monthly Bill excluding EER	Monthly EER Charge	Charge as % of Bill
Residential Lighting Tariff 1018.14 @ 500 kWh	\$ 50.53 49.07	\$ 0.72 1.97	1.43% 4.01%
Residential Lighting Tariff 1018.14 @ 1,000 kWh	\$ 95.46 92.54	\$ 1.44 3.93	1.50% 4.25%
Small General Service Tariff 3110.15 at 1,500 kWh	\$ 131.35 126.97	\$ 2.15 5.90	1.64% 4.64%
Secondary General Service Tariff 4060.1 @ 50 kW, 20,000 kWh	\$ 1,590.74 1,532.66	\$ 28.58 78.26	1.80% 5.11%
Large General Service Transmission Tariff 4110.2 @ 4,000 kW, 800,000 kWh	\$ 64,408.00 62,264.00	\$ 1,056.00 2,889.60	1.64% 4.64%

The proposed \$0.002202 per kWh rate would add approximately \$2.20 to a 1,000 kWh residential lighting customer bill, for a total monthly bill of \$79.87. At a percentage based 2.8510%, the rate would add approximately \$2.21 for a total monthly bill of \$79.88.

Without the \$3.3 million disincentive/incentive incorporated, the proposed \$0.002862 EE Rider rate would add approximately \$0.62 to a 750 kWh residential lighting customer bill, for a total monthly bill of \$72.95, and \$0.82 to a 1,000 kWh residential lighting customer bill, for a total monthly bill of \$95.40.

With the \$3.3 million disincentive/incentive incorporated, the proposed \$0.0043533931 per kWh rate would add approximately \$0.724.42 to a 500 kWh residential lighting customer bill, for a total monthly bill of \$51.2573.76, and \$1.4489 to a 1,000 kWh residential lighting customer bill, for a total monthly bill of \$96.8947.

## 2. Shared/Allocated Program Costs

Several sections in the Rule address the allocation of indirect program costs. In general, 17.7.2.9(H) NMAC indicates that to the extent possible, costs shared among individual programs, such as Market Research, Measurement and Verification (“M&V”), Planning & Administration, and Product Development, shall be allocated to individual programs in proportion to the direct costs assigned to those programs, unless the utility demonstrates that another allocation method is more appropriate. In accordance with this requirement, SPS has allocated the projected direct program costs associated with M&V, marketing and promotion, rebates, labor, and utility administration to the individual program budgets. However, the indirect costs of Consumer Education, Market Research, M&V, Planning & Administration, and Product Development were kept out of the individual program budgets. It should be

noted that the inclusion of indirect program costs as currently proposed results in a cost-effective portfolio with a 2010 TRC Test result of 3.56 and 2011 TRC Test result of 2.863.69.

SPS believes that this is the most appropriate treatment of costs not specific to a particular program for several reasons:

- First, such costs are often not directly related to individual programs. Therefore, to use the direct costs of those particular programs as an allocation method would not be accurate.
- Second, these types of costs are often irregular, with large expenses in some years and almost no expenditures in other years. If SPS must allocate these charges to the programs, regardless of magnitude, it may result in certain programs becoming non-cost-effective.
- Third, given the variation in these costs from year-to-year, and the suggested method to allocate based on direct program costs, it would be very difficult for SPS to manage individual program budgets and insure their cost-effectiveness because program managers would not know how much to expect from these indirect programs.
- Finally, it would be most administratively efficient for SPS to manage the indirect costs outside of the individual programs. SPS's internal accounting system uses individual accounting codes for each indirect program as well as for each direct-impact program. These indirect costs could not be allocated directly to the programs, but would first be charged to their subject area, and then allocated to the programs, creating a two-step accounting process instead of one.

### **3. Budget Categories**

SPS intends to use the following five budget categories to track and report its annual expenditures for each energy efficiency and load management program:

- **Total Incentives** – The total dollars paid in rebates to customers.
- **Internal Administration** – This category includes the costs for:
  - Project Delivery – to deliver the program to the customer including Program Manager labor and costs;
  - Utility Administration – to administer the program internally, including Rebate Processing and Planning & Administration;
  - Other Project Administration – internal costs not covered in any other cost category; and
  - Research & Development – internal costs to develop the programs.
- **Third-Party Delivery** – Used only when a third-party implements the program. This should include all costs that the third-party incurs, minus the cost of the energy efficient equipment, which should be counted as a rebate.
- **Promotion** – Costs to promote the programs.
- **M&V** – Costs to perform M&V on the programs.

The following tables describe SPS's proposed program expenditures split into the proposed budget categories listed above.

**Table 11a: SPS's 2010 Program Costs By Budget Category**

	2010	Total Incentive	Internal Admin.	Third-Party Delivery	Promotion	M&V	Total Program Costs
<b>Residential Segment</b>							
Air-Source Heat Pump Rebates	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electric Water Heating Rebates	\$9,563	\$6,430	\$0	\$6,000	\$1,581	\$23,574	
Evaporative Cooling Rebates	\$84,000	\$8,710	\$0	\$32,842	\$6,290	\$131,842	
Home Energy Services	\$1,492,839	\$73,209	\$36,144	\$3,000	\$141,164	\$1,746,356	
Home Lighting & Recycling	\$157,500	\$67,762	\$105,000	\$378,725	\$45,990	\$754,977	
Low-Income	\$132,722	\$15,329	\$110,290	\$18,900	\$17,801	\$295,042	
Refrigerator Recycling	\$25,000	\$12,050	\$57,500	\$30,000	\$6,500	\$131,050	
Residential Saver's Switch	\$0	\$127,607	\$247,500	\$47,500	\$49,000	\$471,607	
School Education Kits	\$32,250	\$10,700	\$95,250	\$0	\$7,568	\$145,768	
<b>Residential Segment Total</b>	<b>\$1,933,873</b>	<b>\$321,796</b>	<b>\$651,684</b>	<b>\$516,967</b>	<b>\$275,894</b>	<b>\$3,700,214</b>	
<b>Business Segment</b>							
Business Saver's Switch	\$0	\$50,629	\$66,000	\$13,800	\$44,500	\$174,929	
Cooling Efficiency	\$208,918	\$60,269	\$1,000	\$24,942	\$28,450	\$323,579	
Custom Efficiency	\$597,838	\$154,601	\$93,200	\$44,942	\$45,029	\$935,610	
Interruptible Credit Option	\$0	\$60,435	\$0	\$14,750	\$34,290	\$109,475	
Large Customer-Self Direct	\$0	\$0	\$0	\$0	\$0	\$0	
Lighting Efficiency	\$591,642	\$154,749	\$2,400	\$45,500	\$29,580	\$823,871	
Motor & Drive Efficiency	\$258,501	\$80,237	\$56,247	\$23,486	\$4,625	\$423,096	
Small Business Lighting	\$89,613	\$85,795	\$377,700	\$22,500	\$33,780	\$609,388	
<b>Business Segment Total</b>	<b>\$1,746,511</b>	<b>\$646,715</b>	<b>\$596,547</b>	<b>\$189,920</b>	<b>\$220,254</b>	<b>\$3,399,948</b>	
<b>Planning &amp; Research Segment</b>							
Consumer Education	\$0	\$7,347	\$0	\$121,383	\$0	\$128,730	
DSM Planning & Administration	\$0	\$318,000	\$0	\$0	\$0	\$318,000	
Market Research	\$0	\$55,300	\$0	\$0	\$0	\$55,300	
Measurement & Verification	\$0	\$0	\$0	\$0	\$107,000	\$107,000	
Product Development	\$0	\$91,042	\$0	\$0	\$0	\$91,042	
<b>Planning &amp; Research Segment Total</b>	<b>\$0</b>	<b>\$471,689</b>	<b>\$0</b>	<b>\$121,383</b>	<b>\$107,000</b>	<b>\$700,072</b>	
<b>2010 TOTAL</b>	<b>\$3,680,384</b>	<b>\$1,440,200</b>	<b>\$1,248,231</b>	<b>\$828,270</b>	<b>\$603,148</b>	<b>\$7,800,234</b>	
<b>% of TOTAL BUDGET</b>	<b>47%</b>	<b>18%</b>	<b>16%</b>	<b>11%</b>	<b>8%</b>		

**Table11b: SPS's 2011 Program Costs By Budget Category  
(Revised 01/18/2011)**

2011	Total Incentive	Internal Admin.	Third-Party Delivery	Promotion	M&V	Total Program Costs
<b>Residential Segment</b>						
Consumer Behavior Program (My Account)	\$0	\$60,000	\$191,500	\$0	\$0	\$251,500
Electric Water Heating Rebates	\$14,063	\$1,255	\$0	\$6,120	\$1,581	\$23,018
Evaporative Cooling Rebates	\$84,000	\$8,808	\$0	\$32,915	\$6,290	\$132,013
Home Energy Services	\$2,455,848	\$137,144	\$500,396	\$4,570	\$160,000	\$3,257,958
Home Lighting & Recycling	\$172,500	\$68,208	\$133,500	\$453,864	\$46,030	\$874,102
Low-Income	\$132,722	\$15,329	\$110,290	\$18,900	\$17,801	\$295,042
Refrigerator Recycling	\$36,700	\$12,291	\$58,650	\$30,600	\$6,630	\$144,871
Residential Saver's Switch	\$72,000	\$128,483	\$247,500	\$47,700	\$51,200	\$546,883
School Education Kits	\$48,246	\$10,700	\$97,800	\$0	\$7,719	\$164,465
<b>Residential Segment Total</b>	<b>\$3,016,078</b>	<b>\$442,218</b>	<b>\$1,339,636</b>	<b>\$594,669</b>	<b>\$297,251</b>	<b>\$5,689,852</b>
<b>Business Segment</b>						
Business Saver's Switch	\$16,000	\$51,164	\$66,000	\$13,880	\$46,200	\$193,244
Cooling Efficiency	\$212,751	\$61,971	\$1,000	\$25,175	\$28,450	\$329,347
Custom Efficiency	\$632,255	\$158,297	\$100,400	\$55,375	\$62,586	\$1,008,913
Interruptible Credit Option	\$171,340	\$60,435	\$0	\$14,750	\$14,059	\$260,584
Large Customer-Self Direct	\$0	\$0	\$0	\$0	\$0	\$0
Lighting Efficiency	\$741,328	\$173,482	\$42,000	\$45,900	\$29,580	\$1,032,290
Motor & Drive Efficiency	\$162,292	\$175,085	\$0	\$57,539	\$5,348	\$400,264
Small Business Lighting	\$399,856	\$87,722	\$593,850	\$22,700	\$33,780	\$1,137,908
<b>Business Segment Total</b>	<b>\$2,335,822</b>	<b>\$768,156</b>	<b>\$803,250</b>	<b>\$235,319</b>	<b>\$220,003</b>	<b>\$4,362,550</b>
<b>Planning &amp; Research Segment Total</b>						
Business Education	\$0	\$0	\$0	\$110,000	\$0	\$110,000
Consumer Education	\$0	\$7,603	\$0	\$136,649	\$0	\$144,252
DSM Planning & Administration	\$0	\$321,600	\$0	\$0	\$0	\$321,600
Market Research	\$0	\$58,420	\$0	\$0	\$0	\$58,420
Measurement & Verification	\$0	\$0	\$0	\$0	\$107,600	\$107,600
Product Development	\$0	\$92,418	\$0	\$0	\$0	\$92,418
<b>Planning &amp; Research Segment Total</b>	<b>\$0</b>	<b>\$450,041</b>	<b>\$0</b>	<b>\$136,649</b>	<b>\$107,600</b>	<b>\$724,290</b>
<b>2011 TOTAL</b>	<b>\$5,351,900</b>	<b>\$1,690,414</b>	<b>\$2,142,886</b>	<b>\$1,076,637</b>	<b>\$624,854</b>	<b>\$10,886,691</b>
<b>% of TOTAL BUDGET</b>	<b>49%</b>	<b>16%</b>	<b>20%</b>	<b>10%</b>	<b>6%</b>	

### **III. Program Details**

#### ***A. Residential Segment***

The Residential Segment includes over 83,000 single-family dwellings, apartments and condominiums in southeastern New Mexico. The marketing strategy for the Residential Segment is to build awareness and provide consumers a variety of efficiency offerings, including direct impact products, indirect-impact services, and educational tools. SPS will target this customer segment through the use of strategically placed advertising, bill inserts, community outreach, events at local retailers, and content on the Xcel Energy website (xcelenergy.com).

SPS proposes to offer Residential customers nine energy efficiency programs in the 2010/11 Plan. Six programs will continue from 2009: Evaporative Cooling Rebates, Home Energy Services, Home Lighting & Recycling, Low-Income, Refrigerator Recycling, and School Education Kits. SPS will add the Electric Water Heating and Saver's Switch as new programs in 2010. The following sections detail each of the proposed programs.

#### **1. Air-Source Heat Pump Rebate**

##### ***a. Program Description***

As an outcome of the Uncontested Stipulation, the existing Air-Source Heat Pump (ASHP) Rebate Program has been merged as measure within the Home Energy Services Program. As a result, the budgets for the 2010 and 2011 ASHP Program (\$53,051 and \$53,258, respectively) have been transferred to the Home Energy Services Program, and the ASHP Program has been closed.

#### **2. Consumer Behavior Pilot**

##### ***a. Program Description***

Southwestern Public Service (SPS) will begin a Customer Behavior Pilot in 2011 to quantify how residential customer energy usage is affected by providing 15,000 customers with feedback regarding their energy consumption. The feedback communication strategies are intended to result in a permanent decrease in energy usage by inducing changes in the behavior of the end-user and an increased or earlier adoption of energy efficient technologies and energy efficient practices that remain even after the feedback program stimulus is removed. The Consumer Behavioral Pilot will determine when, how, and why customers may change their consumption behavior when provided with information by utilizing different kinds of energy use feedback and frequencies.

The program will begin in sometime in mid to late 2011 and consist of set up, data gathering and report delivery. We will quantify and claim energy savings in subsequent years as we focus on interpretation, development and M&V.

This pilot will focus on testing energy use feedback options for residential customers to better understand behavior-based energy conservation and what can be achieved by providing residential customers better feedback on their energy use. The proposed pilot will use various forms, frequencies and content of feedback on paper reports mailed periodically to better understand which works better and why.

If we can better understand how to address, motivate and support customers in their efforts, while operating within our statutory requirements, achieving some savings from many customers may go a long way toward meeting energy efficiency goals. SPS is anticipating results from this project that will enable us to capture these untapped residential savings and help move us toward our goals.

Key questions addressed by the pilot:

- How much can we reduce residential electricity use by providing periodic feedback, motivation and recommendations targeted by market segment?
- Do the reductions in energy use achieved by providing feedback persist over time?
- Can likely high savers be identified and targeted in advance to maximize product cost-effectiveness?
- How do customers perceive the types of feedback, and what actions (behavioral, low-cost, capital investment) account for the savings achieved?

The objectives of the Consumer Behavior Program are to:

- To educate SPS customers about energy usage and conservation allowing them to make behavioral choices in their homes;
- To provide on-line access and test the difference in effectiveness by directly mailing a home energy report to some SPS customers up to six times per year;
- To develop awareness of energy conservation among all SPS customers and encourage enrollment and participation in the energy conservation programs; and
- To track and measure the energy savings that occurs as a result of participating in the Behavior Pilot including the persistence of savings over time.

**Table 12: Proposed Consumer Behavior Pilot Goals**

<b>Consumer Behavior Pilot</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
<u>Budget</u>	<u>N/A</u>	<u>\$251,500</u>
<u>Generator kW</u>	<u>N/A</u>	<u>0 kW</u>
<u>Generator kWh</u>	<u>N/A</u>	<u>0 kWh</u>
<u>Participation</u>	<u>N/A</u>	<u>15,000</u>

Future Plans

The Pilot is based primarily on OPOWER's Home Energy Reports feedback system. SPS has also implemented an online application, My Account, which provides customers online access to their account information. The My Account site was activated September 13, 2010.

Additional features that are being considered for development may enable My Account site to provide SPS customers with feedback on their energy usage along with conservation information to aid them in making behavioral choices in their homes to lower their energy usage and bills.

Additional My Account site features that are being considered include:

- Online Energy Audits, Carbon Calculator, Household Energy Usage Report, household energy usage comparisons and benchmarking.

The My Account site may be a long-term approach to providing SPS customers with energy usage information, feedback on energy conservation measures and provides provide sophisticated tools to help them act on the information they receive. However, since these features are not yet developed, we have concern about committing to this option for 2011. Therefore, we have chosen the OPOWER alternative to meet the requirements in the Stipulation, but will continue working towards a long term solution.

### Budget

<b><u>Households</u></b>	<b><u>15,000</u></b>
<u>Delivery Costs Yr. 1 (required)</u>	<u>\$191,500</u>
<u>M&amp;V Third-Party</u>	<u>\$0</u>
<u>IT Upgrade N M share</u>	<u>\$25,000</u>
<u>SPS Set up (required)</u>	<u>\$20,000</u>
<u>SPS Admin (required)</u>	<u>\$15,000</u>
<b><u>Year 1 Total</u></b>	<b><u>\$251,500.00</u></b>
<u>Delivery Costs Yr 2. (required)</u>	<u>\$165,000</u>
<u>M&amp;V Third-Party (required)</u>	<u>\$70,000</u>
<u>SPS Admin (required)</u>	<u>\$15,000</u>
<b><u>Year 2 Total</u></b>	<b><u>\$250,000.00</u></b>
<u>Delivery Yr. 3 (optional)</u>	<u>165,000</u>
<u>M&amp;V Third-Party (required)</u>	<u>\$70,000</u>
<u>SPS Admin (required)</u>	<u>\$15,000</u>
<b><u>Year 3 Total</u></b>	<b><u>\$250,000.00</u></b>
<u>M&amp;V Yr. 3 (optional)</u>	<u>\$70,000</u>
<u>SPS Administration (optional)</u>	<u>\$7,500</u>
<b><u>Year 4 Total</u></b>	<b><u>\$77,500</u></b>

M&V Party Vendor currently ADM

Based on previous research and currently active pilot projects throughout the country, SPS expects to measure first-year reductions in electricity use averaging 2%. If these savings persist, they can make a significant contribution toward New Mexico's goals for energy savings in the residential sector.

Changes for 2010/11

This program is new for 2011.

**b. Rebate Levels**

Rebates are not offered as part of this pilot product.

**c. Program Administration**

Customer engagement will occur through random selection of 15,000 participants and a statistically significant and homogeneous non-contact control group of approximately the same size. Customers will be informed of their selection at the beginning of the pilot and will be offered the opportunity to withdraw from the participant group. The control group customers will never be contacted or influenced by any contact with this study. Our goal is to estimate the impact of large-scale feedback products, so participants will be selected from the general population and recruited in a manner that minimizes self-selection bias. Selected participants will be provided an “opt out” opportunity if they choose not to participate in the pilot. Appropriate control and comparison groups will allow us to isolate effects attributable to each strategy.

Home energy reports are designed to work together to drive efficiency gains and maximize engagement. The reports provide customers with contextualized energy use, and targeted action steps, leading to a sustainable drop in electricity use. On a monthly basis, usage data provided by SPS will generate the appropriate analysis to create personalized reports for all 15,000 participants. After the personalized reports have been created, they will be printed and mailed in an SPS branded envelope to customers.

Following the receipt of the report, customers may choose to call SPS customer service representatives about questions regarding their energy usage or to inquire about participation in other products. The representatives will be trained to handle these inquiries and will have access to a special help system that specifically provides support for this energy feedback product. For customers who can benefit, their enrollment in other SPS energy efficiency products or services will be handled through the usual SPS channels. Customers will be selected to receive reports on a varying frequency with the average customer receiving up to seven reports in the first year of the product.

The persistence of savings from feedback is key to this program’s cost-effectiveness. To assess persistence, SPS will monitor results for up to three program years after start-up. In past studies by other utilities, similar programs have been run for up to a two-year period with consistent savings delivered throughout the period. Ongoing measurement of these programs will continue to be monitored by SPS.

#### **d. Marketing & Outreach Plan**

The marketing and outreach will focus on the 15,000 participants and will be determined as needed. These policies will likely be related to:

- Customer selection, volunteers, removal, moving, changes in lifestyle etc.;
- Customer confidentiality;
- Inquiries about data analytics, methodologies, comparison to history, etc.; and
- Customer requests for help to improve energy use.

Since there are no financial rewards or rebates at this time, these questions will be minimized. We may consider various incentives and rebates in the future to enhance the product performance and/or endurance but we are not proposing them now. The pilot will study the persistence of the behaviors to determine what the true lifetime should be.

Customers will be tracked for the entire test period. SPS will calculate and recognize savings periodically using a comparison of the Participant Group and the Control Group as it occurs and only if it occurs. SPS will track standard rebates by customer/account and will subtract the energy saved through these product participations from the Consumer Behavior results to prevent double-counting. SPS will also survey participants to see if they have purchased any rebated appliances, furnaces etc. that may contribute to the savings. These savings, if measured to be significant, will also be subtracted from the Pilot total to prevent double counting.

#### **Estimated Timeline**

	2011						
	Feb	Mar	Apr	May	Jun	Jul	Aug
<b>Regulatory Approval</b>	-	-	-	-	-	-	-
Establish Scope of Work	-	-	-	-	-	-	-
Negotiate Contract - IT Sourcing	-	-	-	-	-	-	-
Finalize Contract - Legal Review	-	-	-	-	-	-	-
IT Requirements Analysis	-	-	-	-	-	-	-
Select participant & Control Group Samples	-	-	-	-	-	-	-
Complete data transfer preps	-	-	-	-	-	-	-
Data Extraction & Transfer to OPower	-	-	-	-	-	-	-
Customer Support	-	-	-	-	-	-	-
ID Staff for call receipts	-	-	-	-	-	-	-
Training for reps	-	-	-	-	-	-	-
FAQ	-	-	-	-	-	-	-
Content Approvals	-	-	-	-	-	-	-
First Home Energy Report - written	-	-	-	-	-	-	-
Inclusion letter/opt out	-	-	-	-	-	-	-
Begin Data Collection	-	-	-	-	-	-	-

Estimated timeline – dependent on internal Xcel Energy IT project workload

#### ***e. Measurement & Verification Plan***

SPS will work with ADM to validate the methodologies used in the determination of the energy savings resulting from this Pilot. Evaluation, Measurement and Verification of energy performance is one of the key outcomes for this product. Meter data for all participants, comparison homes, and control homes will be file-transferred via secure FTP for continuous analysis and performance reporting.

Savings for the product will be measured compared to a Control Group of approximately 15,000 to 20,000 non-participant customers that are uninformed by any direct action of this pilot. Rigorous measurement and verification will help us assess and fine-tune the product's effectiveness, and help ensure that SPS can accurately document energy-efficiency savings for credit.

This M&V approach sets up a test group which receives energy feedback and a separate control group which does not, enabling us to gather information on how consumers are affected by:

- Energy usage in kWh; and
- Incremental participation in other energy-efficiency products.

#### ***f. Cost-Effectiveness Tests***

The projected timeline for this program is such that the first mailing will not occur until mid to late 2011. The first measurement of the savings will not occur until early in 2012, so the energy savings and benefit-cost analysis for the first program year will be filed in 2012.

### **2.3. Electric Water Heating Rebate (New Program)**

#### ***a. Program Description***

SPS is offering the Electric Water Heating Rebate Program for the first time in 2010. This program will use rebates to encourage residential customers to choose qualifying high efficiency electric water heating tanks, heat pump water heaters, and solar water heating added to electric water heating systems. Approximately 40% of SPS's New Mexico customers use electricity for domestic hot water heating. Qualifying equipment standard electric water heaters must will have an energy factor of 0.95 or greater. Heat pump water heaters must have an energy factor of 1.7 or greater; solar water heaters must have a solar fraction greater than 0.5. Eligible customers are those with existing electric water heaters or new homes that choose to install one of the qualifying electric water heating options.

**Table 13: Proposed Electric Water Heating Rebate Goals**

<b>Electric Water Heating</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$23,574	\$23,018
Generator kW	7 kW	10 kW
Generator kWh	57,049 kWh	84,377 kWh
Participation	145	155

Budget

The budgets for the program were based on prescriptive water heating programs in other states adjusted for the New Mexico market size and the qualifying technologies offered through this program. SPS anticipates the initial penetration of the program to be small and to increase as customers learn that SPS rebates higher efficiency options.

Changes for 2010/11

This is a new program for 2010. Per the Uncontested Stipulation, SPS has added heat pump water heaters to this Program. SPS will provide five rebates for heat pump water heaters and five for solar water heaters, instead of ten rebates for solar water heaters. Rebate offerings for new home construction will be limited to solar and heat pump water heaters. Rebates for electric resistance water heaters will be permitted only in existing homes with electric water heating. The 2010 and 2011 budgets and participation goals remain unchanged.

SPS will be reducing the incremental cost assumption for its solar hot water heating measure from \$1,785 to \$1,150 based on updated market conditions. This results in an increase in the TRC ratio from 1.59 to 1.85. This change does not impact the budget, energy or demand goals in 2011.

***b. Rebate Structure***

SPS will pay rebates ranging from \$75 for a high efficiency tank water heater to \$450 for solar water heating. Rebates are subject to change. Rebates values are listed on the rebate form found on the Xcel Energy website (xcelenergy.com).

***c. Program Administration***

SPS will administer the Electric Water Heating Program internally. Customers will choose qualifying equipment and use their own installers. Once installation is complete, customers may apply for rebates directly to SPS using rebate forms available on the Xcel Energy website.

***d. Marketing & Outreach Plan***

Since this is a new program, SPS will begin the marketing process by creating awareness of the program with equipment manufacturers, distributors, retailers, and contractors who install water heaters. Following the campaign for trade awareness, SPS will communicate with

customers through selective consumer advertising to provide further information about the program. Depending on customer response and budget availability, SPS will consider using direct mail advertising.

**e. Measurement & Verification Plan**

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

**f. Cost-Effectiveness Tests**

See Appendix A for the 2010 and 2011 Electric Water Heater Rebate Program benefit-cost analyses. Please note that at the time of this filing, the federal government is offering a tax credit on the cost of a new solar system. For the purposes of these analyses, SPS has assumed the federal tax credit (30%) to be an offset to the purchase cost of a new or additional water heating system.

**3.4. Evaporative Cooling Rebate**

**a. Program Description**

The Evaporative Cooling Rebate Program provides a cash rebate to SPS customers who purchase evaporative cooling equipment for residential use. This program strives to increase energy efficiency in residential homes by encouraging consumers to purchase evaporative coolers rather than central air conditioning. Because not all local retailers and contractors carry high efficiency evaporative cooling units, the overall goals of the 2010/11 program are two-fold: to educate customers on the benefits of using an evaporative cooler, and to encourage retailers and contractors to stock high efficiency units.

Only new, permanently installed direct, indirect, or two-stage evaporative cooling units qualify for the program. Portable coolers or systems with vapor compression backup are not eligible, nor is used or reconditioned equipment. Customers need not be replacing an existing evaporative cooling or air conditioning unit.

**Table 14: Proposed Evaporative Cooling Goals**

<b>Evaporative Cooling</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$131,842	\$132,013
Generator kW	442 kW	442 kW
Generator kWh	632,402 kWh	632,402 kWh
Participation	400	400

### Budget

SPS increased the budget for its 2010 and 2011 Evaporative Cooling Rebate Program based on its experience with the program in 2009. In 2010 and 2011, the majority of funds will go towards customer rebates and program promotion. Per the Uncontested Stipulation, the budget was increased for 2010 and 2011 to accommodate higher rebates for the high-efficiency evaporative cooling units.

### Changes for 2010/11

Due to the popularity of this program in 2009, SPS is increasing the budget and goals for 2010 and 2011. Per the Uncontested Stipulation, SPS has increased the maximum rebate from \$500 to \$1,000 per unit for Tier 2 evaporative cooling units, and increased the program budget to accommodate the higher rebates.

#### ***b. Rebate Structure***

The Evaporative Cooling Program offers a tiered rebate structure. Customers will receive up to \$1,000, depending on the equipment purchased, as follows:

- **Tier 1:** Qualifying evaporative cooling units must have a minimum Industry Standard Rated airflow of 2,500 cubic feet per minute. The rebate amount will be the lesser of \$200, or the purchase price of the unit, not including taxes and ancillary items such as hoses.
- **Tier 2:** Qualifying evaporative cooling units must have a minimum Media Saturation Effectiveness of 85% or above. The units must be installed with a remote thermostat and a periodic purge water control. Units with periodic purge water control pumps sold separately do not qualify for the rebate.

Rebate forms are available through the equipment vendor, installation contractor, the Xcel Energy website, and the Xcel Energy call center. The rebate application must include the original receipt. Rebates may be paid to the customer, or they can be assigned to the contractor as partial payment for high efficiency equipment.

#### ***c. Program Administration***

SPS will administer the Evaporative Cooling Program internally. Customers will purchase the qualifying equipment and have it installed by the contractor of their choice. SPS will maintain a list of preferred vendors who will assist customers to determine eligible equipment, complete rebate applications, and answer technical questions.

#### ***d. Marketing & Outreach Plan***

The Evaporative Cooling Program will include the following strategic marketing efforts:

- Local newspaper advertising – historical efforts have yielded increased participation in the mid-summer;
- Internet ads that will track number of “hits”;

- Monthly customer e-mail updates;
- Radio advertisements;
- Bill inserts in the spring and mid-summer; and
- Packets to all contractors in the New Mexico area detailing the program and its benefits.

SPS will target local dealers and retailers in SPS's New Mexico service area to receive program literature and promote the program. Retailers in New Mexico will be an essential part of customer awareness efforts and will receive information on program changes regularly. In addition, SPS will communicate program details to the dealer and distributor channels. Other trade activities may include: training sessions on program specifics, program-related mailings, and technical support for navigating computer programs.

#### **e. Measurement & Verification Plan**

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program. The homeowner or homebuilder must agree to inspections of the installed unit for M&V purposes. Under the Uncontested Stipulation, SPS agreed to request that the Independent M&V Evaluator prioritize an assessment of the net-to-gross ratio for Tier 1 evaporative cooling units.

#### **f. Cost-Effectiveness Tests**

See Appendix A for the 2010 and 2011 Evaporative Cooling Program benefit-cost analyses.

### **4.5. Home Energy Services**

#### **a. Program Description**

The Home Energy Services Program provides incentives to energy efficiency service providers ("EESPs" or "Contractors") for the installation of a range of upgrades that save energy and reduce costs for existing residential households. Qualifying customers will receive attic insulation, air infiltration reduction, duct leakage repairs, radiant barrier (insulation), energy efficient showerheads, air source heat pumps, and high efficiency central air conditioners.

The primary objective of this program is to achieve cost-effective reductions in energy consumption in residential homes. Additional objectives of the program are to:

- Encourage private sector delivery of energy efficiency products and services;
- Utilize a whole-house approach to upgrade efficiently; and

- Significantly reduce barriers to participation by streamlining program procedures and M&V requirements.

SPS will partner with qualifying EESPs to deliver these services to residential households. EESPs must apply to the program and be approved in order to participate. SPS will require EESPs to receive pre-approval for targeted multi-family sites prior to installation of any energy efficiency components for which an incentive will be requested.

Note that a separate Home Energy Services offering will be provided to low-income customers. The low-income offering will use the same qualified contractors and offer similar services. Low-income HES also offers an evaporative cooling component. Contractors involved in evaporative cooling installation (outside of the Low-Income Program) will need to go through the stand alone Evaporative Cooling Rebates Program, offered by SPS.

**Table 15: Proposed Home Energy Services Goals**

<b>Home Energy Services</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$1,746,356	<u>\$3,257,958</u> <u>1,721,857</u>
Generator kW	638 kW	<u>1,693</u> <u>634</u> kW
Generator kWh	6,404,621 kWh	<u>13,186,955</u> <u>6,336,271</u> kWh
Participation	4,000	4,345000

#### Budget

The Home Energy Services Program devotes the bulk of its budget towards contractor incentives and third-party administration. Per the Uncontested Stipulation, SPS increased the HES Program budget by \$8,000 per year in 2010 and 2011 to pay contractors for NATE certification. SPS added an additional \$6,000 per year to pay for a third-party cooling consultant to inspect up to 10% of all ASHP and central air conditioning installations in 2010 and 2011 to verify quality installations.

#### Changes for 2010/11

SPS is making several changes to the program starting in 2010:

SPS is adding a new energy efficiency radiant barrier measure to the program starting in 2010 since this is a cost effective measure that adds to the customer appeal of this whole house measure.

~~In 2010, SPS will also add an energy efficient showerhead pilot at a cost of \$25,000 to the HES Program since they are cost effective measures that add to the customer appeal of this whole house program approach to energy efficiency. Approximately 260 showerheads will be installed. An evaluation study will be performed on the showerhead pilot in the later part of 2010 to evaluate the customer acceptance, technical assumptions, persistence, water savings, cost effectiveness, and economic viability in the marketplace. The study's budget is estimated at \$10,000 which is included within the \$25,000 showerhead pilot budget. The study will be completed by the end of October 2010. If the evaluation results show that showerheads are viable, based on the evaluated measures mentioned above, SPS will propose adding showerheads permanently to the HES Program in 2011. The 2011 budget for this measure, if added, will not exceed \$138,000.~~

The stand alone residential Air-Source Heat Pump (ASHP) Program will be folded into the Home Energy Services Program in 2010. The ASHP individual budget, goals and participants will be added to the overall HES Program budget, goals, and participants.

Air-source heat pumps and central air conditioning will be the two types of cooling measures allowed in the program. To improve the effectiveness of these measures, SPS will require all HES contractors who have cooling installers to earn a cooling installation certification through North America Technician Excellence (NATE) prior to any installations in 2010 and 2011. SPS has increased the budget by approximately \$8,000/year to provide training and host a certification exam so all new air-source heat pumps and central air conditioners are installed to maximize efficiency. Any new cooling installers and/or HES contractors added to the program through 2010 and 2011 will have to either prove existing NATE certification or have their cooling employees pass certification before any installations are completed.

SPS will conduct a random third-party inspection of a sample of air-source heat pump and central air conditioning installations to verify a quality installation. This inspection will also document if the NATE training is being used and to support the increased energy savings per unit that SPS is claiming. The program budget increases by \$6,000/year to pay for the random inspection of up to 10% of air source heat pumps and up to 10% of central air conditioners.

As seen in 2010, the Home Energy Service Program (HES) has been popular in SPS's New Mexico service area and has performed well above the program's original budget and goals. SPS was granted an approval to increase its 2010 HES budget by \$1,250,000 on September 9, 2010. SPS proposes to increase the program budget and goals further in 2011 in order to let the program flourish and meet the strong customer demand. In particular, SPS proposes to increase its budget by \$1,536,101 and goal savings by 1,062 kW and 6,850,684 kWh over the original stipulated amounts. Participation is anticipated to increase by 345 in 2011. Including the participant O&M water savings, the TRC for the program is expected to be 3.28.

In addition, SPS launched a Showerhead Pilot in 2010 to test the energy savings associated with energy efficient showerheads as opposed to standard showerheads typical in the market. Due to a late start in 2010, SPS was not able to complete the evaluation of the pilot. The final results will be available in a final report by November 1, 2010. If the pilot proves successful, SPS will launch a Showerhead measure within its Home Energy Services Program for 2011. The proposed 2011 HES budget already includes funding for the additional measure. If the pilot is not successful, SPS will discontinue the energy efficient showerhead measure in 2011. In this case, the budget within the HES Program intended for the showerheads measure will be re directed to other measures within the program. SPS will clarify its plan for 2011 when filing the results of the 2010 Showerhead Pilot.

The 2010 showerhead pilot was successful and will be permanently added as a measure to the HES program starting in 2011. Net-to-Gross was high at 93.6%, demand savings was .057 kW compared to the projected .030 kW, and energy savings exceeded the projected 252 kWh and brought in 499kWh per year per showerhead.

The 2011 guidelines include:

- Contractors will be responsible for both purchasing and installing their own low-flow showerheads. This is similar to the other equipment installed in customer homes through the HES program.
- The showerheads purchased must meet the 1.5 gallons per minute requirement to be eligible for the program
- Showerheads will be installed only in homes with electric water heaters.
- The contractors will verify the type of water heater and inform the customer prior to installation.

The goal will be to install 1,185 showerheads within the projected total HES goal of 4,345 participants. The showerhead goal is based on research that estimates the percentage of electric water heater use in the SPS New Mexico service area. In addition, the HES Program cost effectiveness analysis includes O&M participant savings of \$19.80 per showerhead per year for reduced water consumption achieved by installing the showerhead.

The budget for 2011 will be \$75,000 for 1,185 showerheads. The budget breakdown follows:

**Table 15a: Budget Breakdown of HES Showerhead Measure**

<u>Budget</u>	<u>Amount</u>
<u>Total Incentive</u>	<u>\$6,859</u>
<u>Internal Admin</u>	<u>\$500</u>
<u>Third Party Delivery</u>	<u>\$63,891</u>
<u>M&amp;V</u>	<u>\$3,750</u>
<b><u>TOTAL</u></b>	<b><u>\$75,000</u></b>

#### ***b. Rebate Structure***

Incentives are paid to contractors on the basis of deemed savings per measure performed. SPS will pay the approved EESPs an incentive of up to \$0.190 per customer kWh and \$556.50 per customer kW for installing approved efficiency components in customer homes. To determine the total rebate, each project will be evaluated individually based on the efficiency components incorporated and the summer demand and annual energy savings achieved.

Payments are available for the following measures; duct efficiency improvement, infiltration control, insulation, efficient central air conditioner and air-source heat pump installation, energy efficient showerhead installation, and radiant barriers.

Applications for payment after completion of components must identify the EESP, describe the scope and location of work, the number and type of components installed, the time period for completion of work, the payment requested and the energy demand and consumption savings expected by the installed components.

Some of the measures offered in the Home Energy Services Program are also rebated through other programs in SPS's portfolio. In these cases, where multiple programs rebate the same measures, SPS will offer a standardized rebate for that measure, regardless of the program through which it comes.

#### ***c. Program Administration***

SPS will administer the Home Energy Services Program, and will contract with third-party EESPs to perform all marketing and installations for this program. SPS will hold a series of workshops, advertised in public media and through direct mailings, to explain the program, its process, and the requirements to participate.

In order to be approved as an EESP, each contractor will be required to demonstrate a commitment to fulfilling program objectives and competency in completing the proposed project. To do so, EESPs will be required to submit the following information as part of the application process:

- A description of the EESP's firm, including relevant experience, areas of expertise, and references;
- A work plan that covers the design, implementation, project schedule, operation, and management of the project, including M&V of the project (the amount of detail required in this work plan will vary with project size);
- Evidence of credit rating;
- Proof of applicable insurance, licenses, and permits;
- A valid New Mexico Contractor's License (GB-2, or GB-98);
- A New Mexico tax number;
- A valid New Mexico business license; and
- SPS-approved certification for at least one person on each work crew.
- Proof of existing NATE certification for any cooling/air-source heat pump technicians on staff who will participate in the HES program. If no certifications exist, the EESP will have to provide names of all these technicians who will then be added to an upcoming NATE training and certification process.

Starting in 2010, SPS will contract with a third party consultant to randomly inspect up to 10% of air-source heat pump and central air conditioner installations. The consultant will be independent from all EESP's.

#### ***d. Marketing & Outreach Plan***

SPS will rely on the approved contractors to market the program to individual customers. Additionally, SPS will conduct outreach for the program sponsors through a variety of

marketing methods, including brochures, workshops, advertising, bill inserts, and other appropriate means.

#### **e. Measurement & Verification Plan**

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program. Per the Uncontested Stipulation, SPS will budget \$6,000 for a third-party cooling consultant to verify quality installation of ASHPs and central air conditioners, and \$10,000 specifically for the evaluation of the 2010 Showerhead Pilot.

#### **f. Cost-Effectiveness Tests**

See Appendix A (replacement) for the 2010 and 2011 Home Energy Services Program benefit-cost analyses. Home Energy Services

### **5.6. Home Lighting & Recycling**

#### **a. Program Description**

Compact fluorescent light bulbs are an economical and easy way for customers to save electricity. The Home Lighting & Recycling Program offers two ways customers can obtain CFLs: customers may either purchase CFLs through limited-time discount promotions with local retailers, and through a mail-order sales program, as discussed below:

**Retail Discount Promotions** - SPS promotes CFLs by offering in-store retail discounts. In these promotions, the bulb manufacturer, retailer, and SPS combine funds to offer instant rebates enabling customers to purchase a CFL for the discounted price of approximately \$1.00. The process is easy—the customer purchases a bulb as they normally would and receives the discounted price at the register.

**Mail Order Sales** - The Mail Order Sales channel offers customers the ability to purchase a wide variety of CFLs on the web at competitive prices. Many types of CFLs are available from the website, including twist, globe, decorative, A-line, 3-way, bug lights, full spectrum, dimmable, and torchiere. SPS promotes the bulbs through direct mail, newsletters, bill inserts, and the Internet and offers an incentive for customers to buy in quantity. Customers can order bulbs via mail, phone, Internet, and fax. The customer pays the vendor directly and the bulbs are delivered to the customer's home. SPS provides this channel because it believes that it is important to encourage customers to go beyond purchasing the typical twist CFLs and to find models and styles that will work throughout their homes.

**CFL Recycling** - The CFL recycling component of the Home Lighting & Recycling Program provides customers an environmentally friendly method to dispose of CFLs.

Customers can bring spent CFLs to the designated retailer, Ace Hardware, and recycle them free of charge. The retailer will store bulbs in a covered bin until it is full. Once full, the retailer will order a new bin and ship the full, prepaid bulb container to the recycling center.

SPS is aware of its reliance on compact fluorescent light bulbs for much of its Residential achievement, and also acknowledges upcoming changes at the federal level that will impact the program. Specifically, the Energy Independence and Security Act of 2007 requires lighting manufacturers to make improvements to light bulbs (increase the lumens per watt by approximately 30% by 2014). Despite the fact that manufacturers can already meet this requirement with CFLs, many are developing more efficient incandescent bulbs because customers prefer their lighting quality. These incandescent bulbs will replace existing inefficient incandescent bulbs, but will still be less efficient than CFLs.

SPS believes that even the new, more efficient incandescent bulbs will provide opportunities for efficiency improvement. When the more efficient incandescents become the standard baseline for light bulbs, SPS will lose some of the energy savings it has normally obtained through CFL sales. However, energy efficient incandescent bulbs may still be replaced with CFLs, which provide longer lifetimes and additional energy savings over the new standard (energy efficient incandescent bulbs). SPS will continue to monitor developments on a national level and may adjust the program during the 2010/2011 period if significant market changes occur.

**Table 16: Proposed Home Lighting & Recycling Goals**

<b>Home Lighting</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$754,977	\$799,102 <del>874,102</del>
Generator kW	595 kW	595 <del>764</del> kW
Generator kWh	8,439,541 kWh	7,444,629 <del>7,212,966</del> kWh
Participation	37,500	37,500

#### Budget

The cost per CFL is based on the annual program budget divided by the number of CFLs in the goal. The annual budget consists of the following costs:

- Third-party implementation services to contract and coordinate retail campaigns with lighting manufacturers and retailers;
- Advertising and promotional expenses to build awareness through radio and newspaper advertising, bill inserts, and newsletters;
- Point-of-purchase signage and in-store educational events to create awareness and educate customers on the benefits;
- Incentives that SPS pairs with retailer and manufacturing incentives to buy-down the price of CFLs to as little as \$1.00 per bulb; and
- Measurement and verification costs to pay the third-party vendor who will evaluate all SPS programs.

In 2008, SPS launched the Home Lighting Program with a budget of approximately \$14 per bulb sold. This budget included substantial funds dedicated to contingency plans in case SPS

needed to conduct additional marketing to encourage customers to purchase CFLs. Instead, SPS found that customers were receptive to CFLs without implementing a contingency plan. As a result, the 2008 and 2009 expenditures were approximately \$6 per bulb, substantially less than budgeted. For 2010 and 2011, SPS is proposing a budget of approximately \$6 per unit and is committed to continuing to seek out ways to reduce the budget further.

#### Changes for 2010/11

SPS has re-assessed the NTG for the Home Lighting & Recycling Program and has reduced this factor to 83% from 90%. The NTG ratio was decreased because SPS believes that the awareness of CFLs has increased as a direct result of its program having sold nearly 100,000 bulbs in New Mexico in the last two years. An 83% NTG was selected because it is consistent with what is used in Colorado, and is conservatively in the range of what SPS believes is appropriate at this point in time.

As a result of the measurement and verification analysis performed by ADM on SPS's 2009 Home Lighting Program, SPS will be changing the following technical assumptions for 2011:

- The program net-to-gross value will be reduced from 83% to 80%.
- The program operating hours will be changed from 864 (2009) and 1,027 (2010) hours to 985 hours.
- The program weighted average coincidence factor will be increased from 8% to 10.2%.

In addition, as a result of these changes, two additional adjustments are being made to the technical assumptions:

- The average wattage of an efficient bulb will be reduced from 16 W to 13 W.
- The buy-down per bulb will be increased from \$1.05 to \$1.15.

As a result of these proposed changes, the Home Lighting Program budget will be increased by \$75,000 and the energy and demand goals will decrease by 231,663 kWh and increase by 169 kW, respectively. There are no changes proposed to the participation goal. With these changes, the TRC ratio will increase from 4.14 to 5.24 for 2011. Several components of the budget were increased to help ensure that the goals would be met based on 2010 challenges. Specifically, the rebate budget was increased to help attract more participation from potential new retailers and more involvement from existing retailers, and the promotion budget was increased to provide additional contingency funding for promotion and advertising should the program experience a shortfall in participation/sales of CFLs.

#### ***b. Rebate Structure***

The Home Lighting & Recycling Program does not offer a direct rebate to customers. Rather, customers receive discounts at the time of purchase of CFLs from vendors. SPS encourages retailers to use rebate coupons that allow SPS to track sale and customer data. Ace Hardware has agreed to use these coupons. The larger retailers do not use coupons or

rebate forms because of the increased processing time and costs associated with them. However, they are supportive of the partnership with SPS and provide detailed sales reports of the number of bulbs sold.

#### ***c. Program Administration***

While SPS administers the Home Lighting & Recycling Program internally, it partners with a number of third-parties to assist in delivery of the CFLs, including:

- Wisconsin Energy Conservation Corporation manages the retail discount promotions on behalf of SPS. This group is responsible for issuing the request for proposal on behalf of SPS to retailers and manufacturers to select a good mix of retailer partners and CFL brands. The current retail partners include Home Depot, Sam's Club, Ace Hardware, and Albertsons. This will promote optimal pricing and help reduce free-ridership by using a diverse set of retailers, including big box, mass merchandiser, hardware, and grocery outlets. Wisconsin Energy Conservation Corporation also works with the retailers to develop retailer-specific promotional materials, train the store managers, and track the results of the promotions.
- Service Lighting, a lighting vendor, operates and maintains the web sales and manages the inventory of CFLs.
- SPS uses Mercury Technologies, a recycling center, to safely dispose of bulbs once they are collected from the retail partner. Mercury Technologies is known to be a leader in the industry because they separate the CFL components by hand to ensure that hazardous materials do not end up in the groundwater or soil. Mercury Technologies also provides bins made of recycled material and recycles the bins, as well as the bulbs, that the bulbs are shipped in. They also provide certificates of proper recycling.

#### ***d. Marketing & Outreach Plan***

The retail discounts that are offered for limited periods during the year, drive most of SPS's CFL sales. This channel offers the lowest prices and reaches the most customers, as it is promoted through media and retailers themselves. To further promote retail discounts, SPS participates in the ENERGY STAR Change A Light, Change the World campaign in the fall of every year. This campaign was initiated by the Environmental Protection Agency and encourages utility sponsors nationwide to engage in retail discount promotions during the fall, when consumers are using their lights more. The campaign leverages a nationwide effort providing economies of scale in promotion costs and offers a consistent message across various sponsors. The bulbs are promoted through advertising and public relations efforts.

SPS will also look for opportunities to do educational, local and community-focused events during these Retail Discount promotions. SPS will market retail discount promotions through bill inserts, advertising, point of purchase displays and events.

SPS collaborates with several organizations to monitor and incorporate best practices into lighting program design. These activities include: serving on the lighting committee for Consortium for Energy Efficiency and as leader for the Lighting Vision Group, participating annually in the national ENERGY STAR Lighting meeting, and interfacing and working with the American Council for an Energy Efficient Economy, Environmental Protection Agency, ENERGY STAR and E-Source.

**e. *Measurement & Verification Plan***

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

**f. *Cost-Effectiveness Tests***

See Appendix A for the 2010 and 2011 Home Lighting & Recycling Program benefit-cost analyses.

**6.7. Low-Income**

**a. *Program Description***

The Low-Income Program will serve residential customers with household incomes of up to 200 percent of the federal poverty level. The purpose of this program is to provide lower-income customers in the New Mexico service area with the education and energy efficiency measures necessary to help lower energy costs and improve the comfort and safety of their dwellings.

SPS believes it is important to offer energy efficiency programs dedicated to the specific needs of low-income customers. In 2010/11, the Low-Income Program will continue to offer the following opportunity:

**Home Lighting Giveaway** - The Home Lighting Giveaway provides compact fluorescent light bulbs to low-income homes. This offering has been coordinated through local Low-Income Home Energy Assistance Program (“LIHEAP”) agencies. When a customer applies for utility assistance, participating LIHEAP agencies will distribute bulbs (in packs with two 13 watt and two 18 watt bulbs) to the participant, while simultaneously educating the customer on the importance of installation and energy savings that can be achieved with CFLs. For the Low-Income Home Lighting Giveaway, each customer who receives up to 4, four-packs (16 bulbs) will be counted as one participant. It is assumed that each LIHEAP customer will receive up to four packages of CFLs and that 4,000 customers will participate in 2010. Starting in 2011, the Home Lighting Giveaway component will be moved to the Home Energy Services component. The HES third party installation contractors will install CFLs at qualifying customers homes. This change is being made due to the difficulty of

finding new income qualified customers through LIHEAP agencies. Feedback from the agencies is that the same residents come back annually seeking payment assistance and receiving the free CFLs. As a result, the funding for this component will be moved and fulfilled through the HES component.

SPS will also launch the following as a new offering in 2010 (note: Evaporative Cooling Installation and Refrigerator Upgrade measures were offered in previous years):

**Home Energy Services** - This offering is modeled on the Residential Home Energy Services Program. It will provide incentives to contractors who make improvements to the shell and electrical components of low-income homes. Prior to installing CFLs in the home, HES contractors must install at least two of the following shell measures: attic insulation, infiltration reduction, or duct sealing. If two of the three shell components are not needed, the customer cannot be a participant in the CFL measure of the Low-Income Program. If two of the three available shell measures are completed, the customer may also receive up to ten CFL light bulbs. Full participation requirements can be found at [www.xcelefficiency.com](http://www.xcelefficiency.com).

This HES offering under the Low-Income Program will be administered by SPS and delivered by the same contractors who participate in the Residential Home Energy Services Program. For this HES offering, contractors will be required to income-qualify customers when they make the initial call for service. The contractor will collect a signed, low-income self-certification form along with documentation that proves eligibility from the customer before any measures are performed on the home. Incentives will be paid for energy and summer demand improvements as described in the Residential Home Energy Services Program and will only be paid for homes with required components documented. Low-income homes with electric heating but without electric refrigerated cooling may participate in the shell improvement measures; however, contractors will be paid only for the heating savings and CFLs, if installed. Participants may receive evaporative cooling equipment and installations only if they do not already own a properly functioning evaporative cooling or central air conditioning unit. Participants may receive a free upgrade from old, inefficient refrigerators to ENERGY STAR model if the customer owns and regularly uses the refrigerator being replaced. The old refrigerator must have been manufactured prior to 2001, be in working condition, and be the primary refrigerator for the home.

Low-income customers are also eligible for all of the other programs offered in the Residential Segment. SPS will continue to partner with HES contractors, local LIHEAP agencies, and independent energy service companies to provide these services to customers.

**Table 17: Proposed Low-Income Goals**

<b>Low-Income</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$295,042	\$295,042
Generator kW	119 kW	119 kW
Generator kWh	947,346 kWh	<del>901,602</del> <sup>982,679</sup> kWh
Participation	2,660	2,660

### Budget

The majority of the budget for the Low-Income Program goes to the third-party administrators and efficiency measures. The budget for 2010 and 2011 funds will be split between the program components slightly differently than in 2009 to reflect the new Home Energy Services component. Also, the low-income lighting budget will be divided between the LIHEAP organization and the Home Energy Services components to have the maximum impact.

### Changes for 2010/11

SPS has added the Home Energy Services offering to its Low-Income Program to provide low-income customers with more comprehensive services for their homes, as well as facilitate the identification of homes in need. In addition, both the individual evaporative cooling installation offer and refrigerator upgrade offer, available through New Mexico Mortgage Finance Authority prior to 2010, have been moved to within the Home Energy Services offering of the Low-Income Program. As a result, MFA will no longer administer any of the low-income measures because administration, rebate tracking, and payment will be simplified by adding these measures to the Low-Income Home Energy Services component. Any old refrigerators replaced through this program will be properly recycled by the third-party contractor implementing the Refrigerator Recycling Program.

In addition, per the Uncontested Stipulation, SPS is increasing the annual budget by \$50,000 to accommodate additional participation. The additional funds will allow for more homes to be upgraded through the Low-Income Home Energy Services offering.

For 2011, Xcel Energy will move administration of the Low-Income Home Lighting Giveaway entirely under the Low-Income Home Energy Services Program. In 2010, administration of the Low-Income Refrigerator Upgrades and Low-Income Evaporative Cooling Installation were moved from the Mortgage Finance Authority to being administered under the Low-Income Home Energy Services Program. Administration of the Low-Income Home Lighting Giveaway was shared by Low-Income Home Energy Services and the New Mexico LIHEAP agencies in 2010. However, due to the fact that the LIHEAP market was becoming saturated, and LIHEAP agencies had trouble distributing all of the bulbs provided by SPS, we believe it will be more successful to move the distribution of the CFL's under one administrator.

In addition, as a result of the measurement and verification analysis performed by ADM on SPS's 2009 Low-Income Program, SPS will be increasing the operating hours for the Home Lighting Giveaway from 773 to 892 hours. This recommendation came from the 2005 KEMA CFL Metering Study. This change results in an increase to the energy goal of 81,077 kWh. This increase in operating hours is off-set by a reduction in the lifetime assumption for the bulbs. The reduction in lifetime reduces the net-present-value of lifetime system benefits, reducing the TRC ratio slightly to 2.13 for 2011. No budget or participation changes are proposed for this program.

***b. Rebate Structure***

Low-income participants will receive efficiency measures at no cost, and therefore, will not receive a rebate.

***c. Program Administration***

SPS plans to partner with several agencies and contractors to administer this program. HES contractors as well as local LIHEAP agencies, will help to identify potential customers and administer the Low-Income Home Energy Services and Home Lighting Giveaway offerings. SPS will continue the Lighting Giveaway offering but will look for other opportunities to identify income-qualified customers other than using LIHEAP requests. SPS will consider this change since it is believed LIHEAP participants are usually the same customers every year. If other opportunities are not identified by mid-2010, SPS will redirect the remaining Lighting Giveaway funds to do additional Low-Income HES homes.

Note: Contractors involved in Evaporative Cooling Installation (outside of the Low-Income Program) will need to go through the stand alone residential Evaporative Cooling Rebate Program, offered by SPS.

***d. Marketing & Outreach Plan***

SPS's call center representatives will be trained to discuss low-income opportunities with customers experiencing ability-to-pay problems. If a customer notifies SPS of an ability-to-pay problem, the customer will be directed to a local agency that might be able to assist. Historically, SPS has worked with LIHEAP, Southern New Mexico Community Action Agency, New Mexico Division of Vocational Rehabilitation, Salvation Army, San Jose Catholic Church, Faith Christian Family Church, Home Education and Livelihood Program, and Kingswood Methodist Church. Once selected, the contracted community agencies or Home Energy Services contractors will be solely responsible for all marketing and outreach, including providing:

- Supporting customer collateral as needed (English & Spanish);
- CFLs for installation related to home weatherization services; and
- Upgrades for qualifying customers as part of the home weatherization visit/upgrade.

***e. Measurement & Verification Plan***

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

***f. Cost-Effectiveness Tests***

See Appendix A for the 2010 and 2011 Low-Income Program benefit-cost analyses.

## **7.8. Refrigerator Recycling**

### ***a. Program Description***

The Refrigerator Recycling Program is designed to decrease the number of inefficient secondary refrigerators in residential households. This program focuses on reducing energy usage by educating customers on how much energy secondary refrigerators are using, and encouraging them to dispose of their operable, inefficient secondary refrigerators in an environmentally safe and compliant manner. Eligible participants include residential electric customers in the New Mexico service area.

#### **Qualifying Appliances:**

All refrigerator units must meet the following requirements in order to participate in the program and be picked up for recycling:

- Must be an operational secondary refrigerator unit. No primary units will be allowed;
- Operational is defined as in working order and used as a secondary unit for at least two months prior to pick up (to avoid recycling of old units when customer has recently purchased a new refrigerator and is looking for a means to dispose of their old unit);
- Refrigerators must be capable of freezing water;
- Refrigerator must be plugged in the night before the pick-up date (customer will receive a call from the third-party provider to remind them of this policy);
- Refrigerators must be no smaller than 10 cubic feet or no larger than 30 cubic feet;
- Limit of two refrigerators per household.

**Table 18: Proposed Refrigerator Recycling Goals**

<b>Refrigerator Recycling</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$131,050	\$144,871 <del>433,471</del> 132,371
Generator kW	69 kW	69 <del>62</del> kW
Generator kWh	587,283 kWh	587,283 <del>609,674</del> kWh
Participation	500	500 <del>484</del>

#### **Budget**

The majority of the Refrigerator Recycling Program budget will be paid to the third-party contractor for administration of the program. The remainder of the budget is intended for program promotion, measurement and verification, and internal labor.

#### **Changes for 2010/11**

SPS reduced the goals for the Refrigerator Recycling Program for 2010 and 2011 due to continuing challenges with identifying customers to participate in the program. SPS has implemented a number of marketing tactics, including two seasonal bill inserts, a print and radio ad campaign, and web marketing to introduce customers to the program. Per the

Uncontested Stipulation, the budgets for 2010 and 2011 were increased by \$7,500 each year to accommodate the increase in rebate from \$35 to \$50 per unit.

As a result of the measurement and verification analysis performed by ADM on SPS's 2009 Refrigerator Recycling Program, SPS will be changing the following technical assumptions for 2011:

- The program net-to-gross value will be reduced from 93% to 75%.
- The weighted average program lifetime will be reduced from 13 to 5.43 years.

Two additional technical assumptions changes are being made in order to accommodate ADM's recommended changes mentioned above:

- The assumed wattage for the baseline refrigerator will be increased from 234 to 270 W.
- The weighted average operating hours for the program will be increased from 4,818 to 5,556 hours.

These proposed changes result in an \$800 reduction to the program budget and a goal savings reduction of 7 kW and an increase of 22,392 kWh. Program participation decreased by 16 for 2011 to better reflect market conditions. The budget decreased due to the lower participant goal and the associated rebate. The kW decreased slightly because of the impacts from the NTG, wattage and operating hours changes. As a result of these changes, the Refrigerator Recycling TRC ratio was reduced to 2.05.

As part of the Uncontested Supplemental Stipulation, in order to stimulate more participation and meet 2011 goals in this under-performing program, SPS will review this program during 2011 and decide if any changes need to be made to the implementation methods. In addition, SPS will increase the rebate in 2011 to \$75.00 per refrigerator (from \$50.00 in 2010). This increases the budget by approximately \$12,500.

### ***b. Rebate Structure***

Customers with qualifying units will receive a rebate of \$50 for their participation and will not be directly responsible for any costs associated with pick-up, transportation, disposal, or proper recycling of their refrigerator.

### ***c. Program Administration***

SPS will administer the Refrigerator Recycling Program internally with the assistance of the third-party contractor, Appliance Recycling of America. ARCA will be responsible for receiving and processing customer requests. Marketing messages will direct customers to contact the third-party provider via toll-free telephone number or online request form. ARCA will dispatch personnel, who have passed Xcel Energy's security screening process, to pick up the refrigerator. Customers will receive their \$50 rebate check within about four to six weeks.

#### ***d. Marketing and Outreach Plan***

Customers will continue to learn about this program through various marketing channels such as bill inserts, Update Newsletters, Xcel Energy's website, radio advertising, and local print media. The program is available to customers year round; however, the marketing strategy will focus on spring and summer campaigns since these are typically the strongest promotional months for similar programs nationally. SPS will incorporate social marketing to identify potential participants and thereby drive program activity. In addition, SPS will cross-promote the benefits of recycling with the Consumer Education program.

#### ***e. Measurement & Verification Plan***

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program. ARCA will conduct tracking and reporting for this program, including:

- Weekly reports that identify program participation;
- Model and serial numbers for all recycled units;
- Participant information such as name, address, phone, and customer account number;
- Total number of units collected or rejected by address;
- Data on rejected participants; and
- Provide any required reporting set forth by any federal, state or local applicable regulatory agency.

#### ***f. Cost-Effectiveness Tests***

See Appendix A for the 2010 and 2011 Refrigerator Recycling Program benefit-cost analyses.

### **8.9. School Education Kits**

#### ***a. Program Description***

School Education Kits is a turnkey educational program that combines energy efficiency curriculum for teachers with easy-to-install energy efficiency and water-saving measures for students to install at home. SPS intends to reach all fifth grade students in its New Mexico service area with this annual program.

In 2010 and 2011, the School Education Kits Program will provide the following classroom materials to each student participant:

- Natural Resources Fact Chart;

- Digital Water / Air Thermometer;
- Furnace air filter alarm;
- High Efficiency Showerhead (1.5 gpm);
- Kitchen Aerator (1.5 gpm);
- Toilet Leak Detector Tablets;
- Compact Fluorescent Bulb (14 Watt – 60 Watt Equivalent);
- Compact Fluorescent Bulb (19 Watt – 75 Watt Equivalent);
- Flow Rate Test Bag;
- Low-Use Night Light;
- Mini Tape Measure;
- Parent Comment Card; and
- Wristband Postcard.

The program provides direct-impact conservation as part of an education program, building awareness of energy conservation in children, and providing energy efficiency programs to customers of all income levels.

**Table 19: Proposed School Education Kits Goals**

School Education Kits	2010 Goal	2011 Goal
Budget	\$145,768	\$149,483 <u>164,465</u>
Generator kW	18 kW	18-21 kW
Generator kWh	604,909 kWh	604,909 <u>605,311</u> kWh
Participation	2,500	2,500 <u>2,372</u>

#### Budget

The majority of the School Education Kits Program budget will be paid to the third-party contractor for administration of the program. The remainder of the budget is designated for the cost of the kits, measurement and verification, and internal labor.

#### Changes for 2010/11

SPS will reduce the number of participants for this program in 2010/11 to reflect the number of fifth grade students in its service territory.

As a result of the measurement and verification analysis performed by ADM on SPS's 2009 School Education Kits Program, SPS will be changing the following technical assumptions for 2011:

- The program operating hours will be changed from 864 (2009) and 1,027 (2010) hours to 985 hours.
- The weighted average lifetime of measures will change from 6 years (2009) and 7 years (2010) to 10.2 years.
- The program weighted average coincidence factor will be increased from 8% to 10.2%.
- The installation rate of showerheads will change from 65% to 63%.
- The installation rate of faucet aerators will change from 62% to 60%.

In addition, as a result of these recommendations, SPS proposes that instead of using an average wattage, SPS will distinguish between the 13 W and the 18 W compact fluorescent light bulbs based on ADM recommendations. These technical assumption changes result in a budget increase of \$14,982 and goals savings increases of 3 kW and 402 kWh. Subsequently, proposed participation will decrease by 128 participants in order to align with goal savings. The TRC ratio will remain at 2.41 for 2011.

***b. Rebate Structure***

The School Education Kits Program does not pay a rebate, but rather provides free energy efficiency curriculum and activity kits to participating classrooms.

***c. Program Administration***

The program will be marketed and administered by Resource Action Programs (“RAP”), who has managed this program for the previous program cycles as well. RAP assumes all responsibility for curriculum and kit development, outreach to teachers, delivery of materials, and participant survey. SPS pays a flat rate per kit to cover all of RAP’s services.

***d. Marketing and Outreach Plan***

RAP will manage all aspects of the School Education Kits Program marketing and outreach activities. They will identify the schools that are within the SPS-New Mexico service area and determine the approximate number of eligible teachers and students. They will send out customized marketing materials to help enroll the classrooms. The materials explain the program, while providing teachers with helpful tips to teach the energy efficiency curriculum to their students. Kits will also provide teachers with information about how and why SPS sponsors this program offering. As in the past, RAP and SPS will continue to work together to determine the strategic approach for identifying schools.

***e. Measurement & Verification Plan***

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program. In addition, RAP performs pre- and post-surveys to provide installation data on the program. These surveys allow RAP to:

- Confirm installation of energy and water saving devices. These results will be used, along with deemed savings estimates, to determine the demand and energy savings from the kits based on students and teacher responses identifying the number of CFL’s, low-flow showerheads, and faucet aerators that were installed, and;
- Identify each student’s electricity provider.

#### ***f. Cost-Effectiveness Tests***

See Appendix A for the 2010 and 2011 Refrigerator Recycling Program benefit-cost analyses.

### **910. Residential Saver's Switch**

#### ***a. Program Description***

Saver's Switch is a demand response program that offers bill credits as an incentive for residential customers to allow SPS to control operation of their central air conditioners and electric water heaters on days when the system is approaching its peak. Beginning in 2011, residential participants will receive a \$40 annual reduction on their October bill for participating. A residential customer choosing to enroll an electric water heater will receive an additional \$15 reduction on their October bill.

This program is generally utilized on hot summer days when SPS's load is expected to reach near-peak capacity. Saver's Switch helps reduce the impact of escalating demand and price for peak electricity.

When the program is activated, a control signal is sent to interrupt the air conditioning load during peak periods, typically in the afternoons on weekdays. For air conditioners, the program deploys switches utilizing an "adaptive algorithm" cycling strategy. This strategy allows the switches to "learn" how a customer's air conditioning is being operated in order to achieve a 50% reduction in load. For enrolled electric water heaters, the entire load is shed for the duration of the control period.

In addition to New Mexico, Xcel Energy offers the Saver's Switch Program in Colorado, Minnesota, Wisconsin, North Dakota, South Dakota, and Texas.

**Table 19a: Proposed Residential Saver's Switch Goals**

<b>Residential Saver's Switch</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$471,607	\$546,883
Generator kW	1,035 kW	<u>1,0352,071 kW</u>
Generator kWh	7,543 kWh	<u>7,54315,086 kWh</u>
Participation	855	<u>8551,710</u>

Based on our experience with the Saver's Switch Program in Texas and Colorado, SPS estimates that about 5% of participating residential customers will have more than one air conditioner. Thus, the goal of 900 installed switches equals an estimated 855 participating customers. The annual \$40 incentive for participation remains the same regardless of the number of enrolled air conditioners.

#### **Budget**

The primary costs associated with operating the Saver's Switch Program are driven by the number of participants expected, and include:

- The cost of switches;
- The cost of installations;
- Marketing expenses; and
- Rebates to participating customers.

The 2011 budget is higher than 2010 because we are paying customer credits in 2011. Due to the anticipated timing of the program launch in New Mexico, SPS does not expect to have Saver's Switches installed in time for the 2010 summer peak control season. As a result, there will be ~~minimal no~~ energy and demand savings associated with the program in the summer of 2010. The switches will, however, provide full energy and demand savings in subsequent years. The cost-benefit analysis for the program, which considers the impact of the switches over the useful lifetime of the switches, will use a deemed assumption for system impacts to estimate the cost-effectiveness of the program for 2010 and 2011. The cost-benefit analyses included in this filing compares the avoided revenue requirements over the lifetime of the switches from these anticipated system impacts against the cost that SPS will incur marketing the program, and purchasing and installing switches in 2010 and 2011 in anticipation of future control seasons.

#### Changes for 2010/11

SPS originally included a budget for Saver's Switch in 2009. However, problems were found with existing communication technology interacting with the Saver's Switch devices and, therefore, SPS filed a motion in 2009 to terminate the program with the Commission. SPS also did not initially include Saver's Switch in the 2010/11 Plan. SPS continued to look for solutions and has identified a switch and communications network that will cost-effectively support this program.

Xcel Energy expects to install the switches planned for 2010 in the fourth quarter of the year. As a result, switches will not be in place to provide load relief or energy savings during the 2010 control season. The benefits for 2011 reflect the cumulative switch installations for both 2010 and 2011. This results in an increase of 855 participants and 1,035 kW and 7,543 kWh in demand and energy savings

#### ***b. Rebate Structure***

Rebates will vary based on whether the customer is in the residential or commercial class, as well as what type of equipment they enroll. Residential customers will receive \$40 for their air conditioner and \$15 for their electric water heater. Residential customers may only enroll their water heater if their air conditioner is also enrolled. All rebates are paid on the October customer bill so long as the customer is enrolled before August 1<sup>st</sup> of that year.

#### ***c. Program Administration***

The Saver's Switch Program is promoted to customers using a variety of channels. Customers may sign up for the program via a mail-in form, phone, or the Xcel Energy website. Applications are generally processed and switches installed within six to eight weeks.

A contracted third-party will handle equipment installation, removal, and associated service calls. Due to variations in air conditioner age and location, the installer will make the final on-site determination as to whether the customer qualifies for the program.

The Saver's Switch Program has the following additional requirements:

- The program does not offer customers the choice of opting out of individual control days. The one exception is in the case of medical emergencies where customers can be removed from the program on very short notice.
- When a customer moves into a premise with a pre-existing switch, they are automatically enrolled in the program, but notified that they may opt-out.

#### ***d. Marketing & Outreach Plan***

SPS estimates that about 62,000 electric residential customers in New Mexico have central air conditioning. Where possible (i.e., in direct mail and telemarketing), SPS will direct its promotional efforts towards those customers identified as likely to have central air conditioning.

SPS will use the following marketing channels to promote participation:

- Bill inserts and newsletters to customers;
- Direct mail, including e-mail marketing; and
- Telemarketing.

In addition, SPS will consider offering an up-front incentive to new participants, depending on initial customer interest.

#### ***e. Measurement & Verification Plan***

SPS's load research organization will lead an annual research project to design samples and install metering at sites in order to evaluate the load relief achieved from existing and new Saver's Switch units. This is done with a data logger installed onsite to monitor an air conditioner's energy use and how that use changes on a control day. The results are used to document the extent of load relief achieved during a control day. A third-party will collect the data.

Our proposed plan is to have SPS provide the interval-metering data to the Independent Program Evaluator for the samples of Saver's Switch customers. The Independent Program Evaluator will use this interval-metered data to analyze the gross and net savings impacts of

the program by November 30 of each year for the previous summer and winter interruptions. In addition, the Independent Program Evaluator may perform more comprehensive evaluations surveying customers at least once during a three-year period in order to provide recommendations for improvements to the program delivery and marketing process and net-to-gross ratios. For 2010 achievements, there will not be a sample in place during the summer season in order to provide a validated estimate of the actual system demand impacts from the switches in time for the 2010 status report. For the 2010 achievements SPS proposes that the deemed savings included in this filing, which are based on M&V provided by an Independent Program Evaluator of the Company's program in Colorado, will be used to estimate the impact of the switches installed in 2010 throughout the lifetime of those switches. M&V results from the Independent Program Evaluator for New Mexico switches will not be applied until the 2011 Status Report, at which time they will be applied to 2011 achievements.

#### ***f. Cost-Effectiveness Tests***

See Appendix A (replacement) for the 2010 and 2011 program benefit-cost analyses. For 2011, the benefit-cost analysis is limited to the population expected to be installed at the end of the year, limited to a single year. This change was made to correspond to the preferred method of reporting annual achievements, which includes reporting the impacts of the population of load management programs installed by the end of the each year. The single-year analysis shows the program is not cost-effective when limited to this timeframe, due to large initial costs related to recruiting participants and installing switches in 2011. A life-cycle analysis of the switches installed in 2011 is also included, which shows that despite not being cost-effective when compared to the benefits for a single year, the benefits expected over the lifetime of the switch greatly exceed the costs expected over this lifetime.

## ***B. Business Segment***

SPS has nearly 20,000 commercial, industrial, and agricultural customers in its Business Segment in New Mexico. This customer group consumes a substantial share of the total energy in the service area, and, as such, represents the majority of the untapped energy efficiency and load management potential for the region. As a result, SPS will target its business customers for a significant portion of the planned energy efficiency achievements in the 2010/11 Plan. It is expected that the Business Segment will account for 4638% of SPS's total electric energy savings achievements.

With the 2010/11 Plan, SPS will add one new program to the Business Segment, Saver's Switch, and will continue to offer six existing business programs:

- Cooling Efficiency;
- Custom Efficiency;
- Large Customer Self-Direct;
- Lighting Efficiency;
- Motor & Drive Efficiency; and
- Small Business LightingEfficiency.

In its continuing effort to refine and improve its product offerings for the 2010/11 Plan addition, SPS proposes the following changes to existing programs in the business portfolio:

- Within the Cooling Efficiency Program, SPS will add rebates for direct, indirect, or hybrid evaporative coolers.
- Within the Motor & Drive Efficiency Program, SPS will add rebates for small air compressors, no loss air drains, and motor controllers and will add an educational component to the program.
- Within the Custom Efficiency Program, SPS will add a large customer study component to help identify major opportunities and educate customers on the benefits of energy efficiency.

Through the public participation process, SPS was asked to ensure that its energy efficiency and load management portfolio addresses the needs of the agricultural sector in general, and irrigators in particular. SPS believes that its Custom Efficiency and Motor & Drive Efficiency Programs are most likely to meet the needs of agricultural customers. Many energy efficiency opportunities that do not qualify for SPS's prescriptive programs may qualify under the Custom Efficiency Program. SPS's account management team will help customers identify those opportunities and utilize these programs.

The Business Segment currently benefits from low cost (per unit of energy/demand saved) energy efficiency and load management opportunities available in the marketplace. Despite these opportunities, business customers experience a number of barriers to participation in these types of programs. Business customers often have little or no capital to invest in

projects; they want very short payback periods for their projects; and their projects have very long lead times. To combat these barriers, SPS's account managers, trade allies, energy services companies, and Business Solutions Center are trained to address the specific needs of business customers. SPS commonly assigns an account manager to its larger, more complex customers, while directing smaller business customers to the BSC. Although participation by the largest business customers often requires personal visits, SPS will also draw on newsletters, customer events, trade ally events, direct mail, email communications, and Xcel Energy's website to reach customers.

## 1. Business Saver's Switch

### a. *Program Description*

Saver's Switch is a demand response program that offers bill credits as an incentive for commercial customers to allow SPS to control operation of their central air conditioners on days when the system is approaching its peak. Beginning in 2011, Commercial customers in the program receive an annual bill reduction equivalent to \$20 per enrolled ton of air conditioning.

This program is generally utilized on hot summer days when SPS's load is expected to reach near-peak capacity. Saver's Switch helps reduce the impact of escalating demand and price for peak electricity.

When the program is activated, a control signal is sent to interrupt the air conditioning load during peak periods, typically in the afternoons on weekdays. For air conditioners, the program deploys switches utilizing an "adaptive algorithm" cycling strategy. This strategy allows the switches to "learn" how a customer's air conditioning is being operated in order to achieve a 50% reduction in load.

In addition to New Mexico, Xcel Energy offers the Saver's Switch Program in Colorado, Minnesota, Wisconsin, North Dakota, South Dakota, and Texas.

**Table 26 a: Proposed Saver's Switch Goals**

<b>Saver's Switch -Business</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$174,929	\$193,244
Generator kW	706 kW	<u>706-1,412</u> kW
Generator kWh	9,448 kWh	<u>9,448</u> 18,895 kWh
Participation	82	<u>82</u> 164

Historically, the average commercial participant in the Saver's Switch Program has 2-3 enrolled air conditioning units. The assumption made for Saver's Switch in New Mexico is 2.43 air conditioners per participant. The goal of 200 installed switches, therefore, indicates an estimated 82 participating customers.

### Budget

The primary costs associated with operating the Saver's Switch Program are driven by the number of participants expected, and include:

- The cost of switches;
- The cost of installations;
- Marketing expenses; and
- Rebates to participating customers.

The 2011 budget is higher than 2010 because we are paying customer credits in 2011. Due to the anticipated timing of the program launch in New Mexico, SPS will not have Saver's Switches installed in time for the 2010 summer peak control season. As a result, there will be ~~minimal~~no energy and demand savings associated with the program in the summer of 2010. The switches will, however, provide full energy and demand savings in subsequent years. The cost-benefit analysis for the program, which considers the impact of the switches over the useful lifetime of the switches, will use a deemed assumption for system impacts to estimate the cost-effectiveness of the program for 2010 and 2011. The cost-benefit analyses included in this filing compares the avoided revenue requirements over the lifetime of the switches from these anticipated system impacts against the cost that SPS will incur marketing the program, and purchasing and installing switches in 2010 and 2011 in anticipation of future control seasons.

### Changes for 2010/11

SPS originally included a budget for Saver's Switch in 2009. However problems were discovered with existing communication technology interacting with the Saver's Switch devices and, therefore, filed a motion in 2009 to terminate the program with the Commission. SPS also did not initially include Saver's Switch in the 2010/11 Plan. SPS continued to look for solutions and has identified a switch and communications network that will cost-effectively support this program.

Xcel Energy expects to install the switches planned for 2010 in the fourth quarter of the year. As a result, switches will not be in place to provide load relief or energy savings during the 2010 control season. The benefits for 2011 reflect the cumulative switch installations for both 2010 and 2011. This results in an increase of 82 participants and 706 kW and 9,448 kWh in goal savings.

#### ***b. Rebate Structure***

Commercial customers will receive \$20 per ton of air conditioning. All rebates are paid on the October customer bill so long as the customer is enrolled before August 1<sup>st</sup> of that year.

#### ***c. Program Administration***

The Saver's Switch Program is promoted to customers using a variety of channels. Customers may sign up for the program via a mail-in form, phone, or the Xcel Energy

website. Applications are generally processed and switches installed within six to eight weeks.

A contracted third-party will handle equipment installation, removal, and associated service calls. Due to variations in air conditioner age and location, the installer will make the final on-site determination as to whether the customer qualifies for the program.

The Saver's Switch Program has the following additional requirements:

- The program does not offer customers the choice of opting out of individual control days. The one exception is in the case of medical emergencies where customers can be removed from the program on very short notice.
- When a customer moves into a premise with a pre-existing switch, they are automatically enrolled in the program, but notified that they may opt-out.

#### ***d. Marketing & Outreach Plan***

SPS estimates that about 14,500 commercial electric customers in New Mexico have central air conditioning. Where possible (i.e., in direct mail and telemarketing), SPS will direct its promotional efforts towards those customers identified as likely to have central air conditioning.

SPS will use the following marketing channels to promote participation:

- Bill inserts and newsletters to customers;
- Direct mail, including e-mail marketing; and
- Telemarketing.

In addition, SPS will consider offering an up-front incentive to new participants, depending on initial customer interest.

#### ***e. Measurement & Verification Plan***

SPS's load research organization will lead an annual research project to design samples and install metering at sites in order to evaluate the load relief achieved from existing and new Saver's Switch units. This is done with a data logger installed onsite to monitor an air conditioner's energy use and how that use changes on a control day. The results are used to document the extent of load relief achieved during a control day. A third party will collect the data.

Our proposed plan is to have SPS provide the interval-metering data to the Independent Program Evaluator for the samples of Saver's Switch customers. The Independent Program Evaluator will use this interval-metered data to analyze the gross and net savings impacts of the program by November 30 of each year for the previous summer and winter interruptions. In addition, the Independent Program Evaluator may perform more comprehensive evaluations surveying customers at least once during a three-year period in order to provide

recommendations for improvements to the program delivery and marketing process and net-to-gross ratios. For 2010 achievements, there will not be a sample in place during the summer season in order to provide a validated estimate of the actual system demand impacts from the switches in time for the 2010 status report. For the 2010 achievements SPS proposes that the deemed savings included in this filing, which are based on M&V provided by an Independent Program Evaluator of the Company's program in Colorado, will be used to estimate the impact of the switches installed in 2010 throughout the lifetime of those switches. M&V results from the Independent Program Evaluator for New Mexico switches will not be applied until the 2011 status report, at which time they will be applied to 2011 achievements.

#### ***f. Cost-Effectiveness Tests***

See Appendix A (replacement) for the 2010 and 2011 program benefit-cost analyses. For 2011, the benefit-cost analysis is limited to the population expected to be installed at the end of the year, limited to a single year. This change was made to correspond to the preferred method of reporting annual achievements, which includes reporting the impacts of the population of load management programs installed by the end of the each year. The single-year analysis shows the program is not cost-effective when limited to this timeframe, due to large initial costs related to recruiting participants and installing switches in 2011. A life-cycle analysis of the switches installed in 2011 is also included, and shows that despite not being cost-effective when compared to the benefits for a single year, the benefits expected over the lifetime of the switch greatly exceed the costs expected over this lifetime.

### **2. 1. Cooling Efficiency**

#### ***a. Program Description***

The Cooling Efficiency Program encourages SPS business customers to choose the most efficient air conditioning equipment to meet their needs. The program offers rebates in both new construction and retrofit applications. Eligible equipment includes:

- Chillers (air cooled, centrifugal and screw/scroll);
- Direct Expansion Units (rooftop units, condensing units and split systems);
- Evaporative Cooling;
- Hotel Room Controllers;
- Packaged Terminal Air Conditioners;
- Rooftop Unit Economizers; and
- Water Source Heat Pumps.

This program has broad applicability within the Business Segment, as cooling is typically the second or third largest user of electricity in a facility.

Program participants will benefit from newer equipment, which is more reliable and has lower maintenance costs as well as lower utility bills in the form of energy savings and rebates that help to buy down the initial capital cost and shorten payback periods. Xcel

Energy used the guidelines of the International Energy Conservation Code 2006 for equipment definitions, standard formulas and minimum recommended efficiencies. These sources along with historical experience, allow us to develop influential prescriptive rebates that encourage the most efficient choice of equipment in the majority of equipment categories.

While every attempt is made to create prescriptive rebates for high efficiency options, some energy saving solutions require individual evaluations to determine cost-effectiveness. These projects are evaluated under the Custom Efficiency process and require pre-approval, following all of the policies of the Custom Efficiency Program.

**Table 20: Proposed Cooling Efficiency Goals**

<b>Cooling Efficiency</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$323,579	<u>\$329,347</u> <u>340,517</u> <u>325,514</u>
Generator kW	438 kW	<u>458</u> <u>-438</u> kW
Generator kWh	999,918 kWh	<u>1,029,392</u> <u>999,918</u> kWh
Participation	45	4560

#### Budget

Once goals were established, the budget process started with historical cost and participation information from similar programs to project budgets. Discussions were then held with local stakeholders and other external resources to determine expenditures and market equipment costs. Comparative spending analysis for the previous year was also considered, but is not a determining factor, since other external variables like promotions, materials and staffing exist. Experience from other jurisdictions is also used for benchmarking purposes.

For the Cooling Efficiency Program, rebates, labor, promotions and consulting drive most of the budget. The following was used to identify these specific drivers.

- Rebates: Developed using the average project rebate cost from the detailed technical assumptions and multiplying by anticipated participation.
- Labor Charges: Determined by estimating the number of full-time employees needed to manage the program and execute the marketing strategy and rebate process.
- Promotions: The estimated promotional budget anticipates several customer and trade communications during the year.
- Consulting: Consulting and professional services from the University of Wisconsin's Heating, Ventilating, Air Conditioning and Refrigeration Consortium are used.
- Variation: Increased dollars were budgeted each year for marketing, promotions and program execution to achieve higher goals.

#### Changes for 2010/11

The Cooling Efficiency Program is dedicating more dollars to growing customer awareness and participation through various channels including advertising, increased rebates, and vendor incentives. Per the Uncontested Stipulation, SPS increased the number of participants in 2011 from 45 to 60, and increased vendor trade incentives from \$24,000 to \$32,000.

As a result of the measurement and verification analysis performed by ADM on SPS's 2009 Cooling Efficiency Program, SPS will be changing the following technical assumption for 2011:

- The measure lifetime for water source heat pumps will be reduced from 20 to 15 years.

In addition, SPS is proposing to scale back its Cooling Efficiency Program in order to better reflect market conditions and to accommodate increased spending in other residential and business programs that are having greater market acceptance. The proposed reduction results in a decrease of 15 participants along with a budget reduction of \$15,003. Goal savings are proposed to be reduced by 20 kW and 29,474 kWh. As a result, the TRC ratio will increase slightly to 3.29.

As part of the Uncontested Supplemental Stipulation, in order to stimulate more participation in this program and meet 2011 goals, SPS will double the rebates for direct expansion (DX) units less than 5.4 tons. An additional \$3,833 will be added to the current budget.

### ***b. Rebate Structure***

The Cooling Efficiency Program provides prescriptive rebates to encourage customers to purchase high efficiency equipment. In addition, incentives are provided to vendors to stimulate increased participation. When setting the rebate levels, SPS aims to balance the cost-effectiveness of the program with the potential influence of the rebate on customers. The proposed rebate levels are higher than what have historically been offered in New Mexico, and thus require a larger investment for the incremental savings. For example, proposed rebates are \$50/ton (versus the current \$14/ton rebate) due to code changes requiring customers to purchase higher minimum qualifying efficiencies. Actual program requirements and rebate amounts are subject to change based on new information. The most up-to-date rebate information is included in the program application, which can be found at [xcelenergy.com](http://xcelenergy.com).

### ***c. Program Administration***

The Cooling Efficiency Program is administered through SPS's internal program and account management teams. Customers learn about the program and its benefits through newsletters, direct mail, trade allies, Xcel Energy account managers, and Business Solutions Center representatives. Applications for the program are available both on Xcel Energy's website ([xcelenergy.com](http://xcelenergy.com)) and from trade allies. Customers may apply for rebates by completing the application and providing a detailed invoice for the newly installed efficient equipment. The equipment must be new and meet all the qualifications detailed on the application. After the customer has installed the equipment, the application and invoice must be submitted to Xcel Energy within twelve months of the invoice date. Once the paperwork is completed and submitted, rebate checks will be mailed to the customer within six to eight weeks. Participants in the program may submit their application to their account manager or the Business Solutions Center.

#### ***d. Marketing and Outreach Plan***

The Cooling Efficiency Program creates a base level of awareness and knowledge in the marketplace through newsletters and direct mail to customers and trade allies. These tactics make customers aware of the key benefits of energy efficiency, its applicability to cooling systems, and gives the trade a platform from which to educate customers on high efficiency solutions for their particular applications. The program provides literature and tools for the customers and trade allies to evaluate rebates and incorporate them into purchase decisions. SPS Account Managers and Business Solutions Center representatives educate customers on energy efficiency, evaluate rebate potential, and assist in the rebate application process. The trade can find similar assistance through SPS's Trade Relations Manager.

Marketing communications will revolve around the benefits of energy efficiency through paybacks, lifecycle costs, and environmental benefits. Cooling is a major factor in customer energy consumption and SPS aims to help its customers understand the benefits of cutting costs by choosing high efficient equipment. Newer cooling equipment is typically more efficient, more reliable, and may have more effective controls than an older system providing both energy and non-energy benefits to the end user.

SPS uses information from generally accepted sources such as ENERGY STAR, the American Society of Heating, Refrigeration, and Air Conditioning Engineers, the Federal Energy Management Program, and others to educate customers on no- and low-cost ways to save energy, such as maintenance and capital investments like system replacement.

Methods used to reach and educate customers and trade allies include:

- Xcel Energy website ([xcelenergy.com](http://xcelenergy.com)): Provides a description of the program offering and links to program collateral;
- Collateral available: Program brochure, applications, and a maintenance checklist;
- Direct mailings: Informational pieces to gain awareness and understanding of the program offerings;
- Email campaigns: SPS representatives can send brief emails to customers to gain interest in the program;
- Newsletters: Another medium to gain customer and trade awareness and participation in the program; and
- Trade Relations: The Trade Relations Manager educates and informs the trade of new offerings and program changes through in person visits as well as ongoing communication.

To reach its energy savings goal, the Cooling Efficiency Program needs to continue to educate customers and increase awareness in the program offerings. It is also necessary to partner with the trade and position customer incentives as a tool to increase their sales volumes. The trade is one of SPS's greatest assets in continuing to educate customers on the benefits of energy efficient equipment. SPS's internal sales force is also an essential part of assisting customers with program participation and understanding.

### **e. *Measurement & Verification Plan***

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. The customized savings reported through this program will be calculated using the individual project assumptions determined through the custom analysis process detailed in the Custom Efficiency section of this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

### **f. *Cost-Effectiveness Tests***

See Appendix A for the 2010 and 2011 Cooling Efficiency Program benefit-cost analyses.

## **3. 2.—Custom Efficiency**

### **a. *Program Description***

The Custom Efficiency Program is designed to provide SPS's business customers rebates on a wide variety of unique or unusual equipment and process improvements that are not covered by the prescriptive programs. Rebates may be offered for measures that exceed standard efficiency options. The rebate reduces the incremental project cost of the higher efficiency option, thereby encouraging customers to choose the more energy efficient option. Since energy applications and building system complexity can vary greatly by customer type, it is important for customers to have a customized energy efficiency option to help them implement cost-effective energy efficiency measures.

The Custom Efficiency Program follows a strict process to ensure the integrity of projects. The review process involves the following steps:

1. Application – Prior to purchase and installation of equipment, customers must submit an application and receive pre-approval of their projects. The application form requests a description of the project, operating hours, and costs.
2. Pre-Approval – To qualify for a rebate, projects must be cost-effective using the TRC Test. Xcel Energy's engineering team reviews the proposal with emphasis on the proposed system's demand and energy savings relative to industry standards and the interactive energy effects of the system components. Non-energy benefits, such as maintenance savings and reduced water consumption, are considered in the analysis.
3. Pre-Approval Notification – Typically, within approximately 10 business days after receiving the complete proposal information, SPS determines whether or not the project qualifies and notifies the customer of the decision and the rebate amount (if project is pre-approved).
4. Implementation – Once the customer has received pre-approval, they may purchase and install their new energy efficient equipment or process improvement.
5. Post-Project Review & Payment of Rebate – Upon completion of the project, the customer notifies SPS. If the project has undergone any changes of scope or

equipment, a second engineering analysis is performed to determine whether the project still qualifies under the program guidelines and what level of rebate is owed.

**Table 21: Proposed Custom Efficiency Goals**

Custom Efficiency	2010 Goal	2011 Goal
Budget	\$935,610	\$1,314,2981,008,913
Generator kW	653 kW	913-853 kW
Generator kWh	5,138,774 kWh	6,496,7724,682,145 kWh
Participation	51	6440

#### Budget

Program impact goals need to be established prior to building program budgets. In order to do this, SPS analyzes historical data, projects in the pipeline, and economic conditions. SPS also includes other variables such as promotions needed to reach goals, rebate levels and staffing. Participation levels are based on estimated average project size and types of mix of technologies expected to participate.

#### Changes for 2010/11

Per the Uncontested Stipulation, SPS reduced its 2010 budget by \$10,000. This change did not affect the participation or savings goals. Beginning in 2010, SPS will add an evaluation component to its Custom Efficiency Program in order to introduce large commercial and industrial customers to energy efficiency opportunities and build the program pipeline for future years. The engineering study product is modeled after the Process Efficiency Program that Xcel Energy offers in other jurisdictions. The goals of this new evaluation component, called the Large C&I Study Project are to:

- Increase awareness of energy consumption and conservation opportunities among customers;
- Identify and develop specific conservation opportunities;
- Drive customers to implement identified measures through existing prescriptive and customized rebate programs; and
- Drive customers to implement low capital and or short payback measures even though they may not qualify for an implementation rebate under other programs.

This effort has several phases, which are defined in a Memorandum of Understanding that is customized to reflect the needs of the specific customer.

**Phase 1:** Identification – Interested C&I customers will receive a free, one-day, on-site energy assessment performed by SPS staff and a contract vendor. At the end of the assessment, the customer will receive a detailed report identifying their energy consumption habits and conservation opportunities.

**Phase 2:** Scoping – SPS will provide support and resources to further define and provide recommendations for energy savings opportunities identified in Phase 1. SPS requires the customer to pay no more than \$7,500 towards these efforts.

**Phase 3:** Implementation – Implementation of measures scoped in Phase 2 will typically follow one of two paths. Customers implementing measures that qualify for rebates under one of the prescriptive rebate programs (Lighting Efficiency, Motor & Drive Efficiency, etc.) or the Custom Efficiency Program will receive rebates in accordance with the appropriate program. Customers who implement measures scoped in Phase 2 that do not meet program requirements will not receive a rebate, however, SPS will count the energy and demand savings resulting from implementation.

Initially, SPS will target customers with aggregated annual consumption greater than 10 GWh for participation. These C&I customers typically offer the largest potential conservation opportunities per study dollar spent. Account managers will contact eligible customers and describe the product to solicit participation. Based on Xcel Energy's experience with similar projects, SPS expects project lifecycles to be greater than twelve months. Therefore, during the initial year, SPS anticipates higher levels of study funding and administrative costs relative to the implemented conservation than will be experienced in later years of the product.

SPS is proposing a reduction to its Custom Efficiency Program in 2011 in order to better reflect market conditions and to accommodate increased spending to other residential and business programs that are having greater market acceptance. The proposed reduction results in a budget reduction of \$305,385 and goal savings reductions of 60 kW and 1,814,626 kWh. Proposed participation will decrease by 24 participants, and the TRC will decrease to 4.08.

#### ***b. Rebate Structure***

The Custom Efficiency Program offers rebates based on calculated savings for projects that have been pre-approved and do not fall under any of SPS's prescriptive programs. Rebates are up to \$400 per kW saved. Customers may obtain the rebate application from the website ([www.xcelenergy.com](http://www.xcelenergy.com)), by contacting their account manager, or by calling the Business Solutions Center.

#### ***c. Program Administration***

The Custom Efficiency Program will be administered by SPS using its internal account managers to encourage participation and the internal engineering team to conduct project analysis to determine rebate eligibility.

#### ***d. Marketing and Outreach Plan***

SPS markets the Custom Efficiency Program primarily through account managers, using their direct relationships with customers. In addition, SPS may use some of the following strategies in the 2010/11 Plan:

Trade activities:

- Meetings with the trade;

- Energy Exchange trade newsletter; and
- Ongoing visits by SPS Trade Relations Managers.

Customer activities:

- Visits with additional engineering resources as needed;
- Direct mail; and
- Customer newsletter.

In addition, SPS has developed a wealth of marketing collateral for the Custom Efficiency Program, including program brochures, list of potential projects, and worksheets to assist with the rebate application. This information is available on the Xcel Energy website and in hard copy format for customers, trade allies, and anyone else who is interested.

#### ***e. Measurement & Verification Plan***

The savings for this customized program will be calculated using project-specific technical assumptions. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

#### ***f. Cost-Effectiveness Tests***

See Appendix A for the 2010 and 2011 Custom Efficiency Program benefit-cost analyses.

### **3.4. Interruptible Credit Option**

#### ***a. Program Description***

The Interruptible Credit Option (“ICO”) Program will offer incentives to New Mexico business customers who allow SPS to interrupt their load when notified. Customers are notified during periods of high demand, such as hot summer days, that SPS will interrupt their load. In return, customers receive a monthly bill credit, which varies depending on how much load they are willing to interrupt and how far in advance that they receive notification. Interruption periods are triggered by capacity, contingency and/or economic constraints. By participating in this program, ICO customers will help reduce the amount of electricity needed, which helps SPS meet electric system requirements at critical times.

Customers may enroll or bid (depending on which contract option they choose) between January 1 and May 1 of each year. To qualify, customers must have an interruptible demand, and contract interruptible load, of at least 500–300 kW during the months of June, July, August, and September. To participate, customers must sign an ICO contract, which will specify the number of hours they contract to be interrupted each year, and their advance notice option, and contract firm demand selected. The options include 40 hours, 80 hours, or 160 hours of annual interruption. Customers also have an advance notice interruption option of ‘one-hour’, and ‘no-notice’. Customers must install a phone line that is connected to their meter, which allows SPS to provide near real-time usage information. Customers who select

the no notice option must pay for the Company to install equipment that will provide 'physical control' over their interruptible load.

~~The ICO contract term is three years and will automatically renew for rolling three year periods. A three year written notice is required to cancel. Any time during the first year of service under this schedule, a customer may opt to cancel their contract by returning all monthly credits paid by SPS, up until the date of cancellation. No additional payment will be assessed.~~

There are two ICO contract terms offered, the three-year and summer-only (SOICO) options. The three-year plan will automatically renew for rolling three-year periods with a three-year written notice required to cancel. Any time during the first year of service under this schedule, a customer may opt to cancel their contract by returning all monthly credits paid by SPS, up until the date of cancellation. No additional payment will be assessed. The SOICO option is available to customers in a summer-only contract term which must be renewed each year and cannot be cancelled during the contract year.

Another option offered customers is the voluntary load reduction purchase option (VLRPO). This option provides SPS with an additional power purchase resource to more efficiently manage system requirements during exceptional periods. During such periods, New Mexico customers will have the opportunity to provide voluntary load reduction and receive pricing associated with energy supply markets. Use of this service will be limited to exceptional situations when enough lead time is available to reach agreement on specific terms with customers. This voluntary option is available to customers who agree to provide load reduction in amounts of 500 kilowatts or greater. Customer under this option shall complete an Enabling Agreement with SPS to establish general terms for payments to customer for voluntary load reductions. Availability is subject to SPS approval.

Completion of the Enabling Agreement qualifies the customer to submit an offer to participate in any Buyback Period specified by SPS. The VLRPO option uses an Enabling Agreement to establish the general terms for purchases which apply to all customers under the Program at all times. The Enabling Agreement expedites the purchase process by leaving only specific terms to be determined before a specific Buyback Period. Customers who have an Enabling Agreement with SPS have the option, but are under no obligation, to offer to sell energy to SPS during any Buyback Period. Likewise, SPS has the option, but not the obligation, to accept any offer by customer. If a customer is interested in selling energy to SPS, the Enabling Agreement provides the structure and procedures for establishing the price and quantity for a specific energy purchase by SPS. SPS expects the use of this service will normally occur during summer periods of very high temperature and humidity conditions or during periods of significant and extended difficulties with regional generation or transmission systems.

**Table 22: Proposed ICO, SOICO, & VLRPO Goals**

<b>ICO</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$109,475	\$260,584
Generator kW	7,956 kW	3,908 kW
Generator kWh	70,247 kWh	0 kWh

Participation	5	7
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### Budget

The budget for this program was established based on the amount of contracted load and the number of hours of load SPS anticipates to receive in 2010 and 2011. SPS is basing the customer and budget forecasts on experience gained from other business interruptible programs it has offered.

The customer promotion budget includes the development of marketing materials such as customer ICO System Guides, program features, and benefits collateral. The budget also includes spending for customer meetings to introduce the program, as well as annual training for both customers and SPS Account Managers. This annual training will ensure that all involved in the program are updated on the latest enhancements and revisions to the program. The budget also includes system upgrades, maintenance, testing, and training associated with the technology needed to support the program.

### Changes for 2010/11

SPS included a budget for ICO in 2009 to prepare the program for launch in 2010. Therefore, while this is not the first time that ICO has been included in SPS's energy efficiency and load management portfolio, 2010 is the first year that SPS will accept customers into the program. This program replaces a business interruptible program that SPS previously offered in New Mexico outside of its energy efficiency and load management portfolio. That program ~~will terminate~~ at the end of 2009, at which point customers ~~may~~ were eligible to enroll in the new program.

Due to the need for interruptible load in New Mexico and the lack of success in attracting participants to the current ICO Program, SPS has added two new options to the ICO Program for 2011: a summer-only option (SOICO) and a voluntary-control option (VLRPO). The SOICO measure will be available to customers on a summer-only contract term, which must be renewed each year, and cannot be cancelled during the contract year. Customers will bid their interrupt options and price each year by March 15<sup>th</sup>. SPS will consider the bids against forecasted supply-side costs before accepting the customer's bid.

Another option offered customers will be the Voluntary Load Reduction Purchase Option (VLRPO). This option provides SPS with an additional power purchase resource to more efficiently manage system requirements during exceptional periods. During such periods, New Mexico customers will have the option to provide voluntary load reduction and receive pricing associated with current energy supply markets. Use of this service will be limited to exceptional situations when enough lead time is available to reach agreement on specific terms with customers.

For 2011, while adding two options to the program, SPS is projecting participation to remain largely the same while reducing savings by 6,371 kW and 90,751 kWh from previous plan projections. Additionally, program costs will increase by \$153,287 in order to properly include estimated customer credits for the program. These credits were not included in the prior 2011 Plan. The TRC will be reduced to 3.36.

### **a.b. Rebate Structure**

Customers in the ICO Program do not receive a rebate. Instead, they will receive a monthly credit for their demand charges for each kW they contract to be interrupted~~the interruptible load they provide~~. The customer's credit calculation is based on the lesser of their contracted interruptible load ~~and or~~ their interruptible demand for each month. Credits vary by season and are higher in the summer months. Other factors that influence the monthly credits rate received~~include the type of service the customer uses receives, the interrupt notice they choose (1-hour or no-notice), and the number of annual interruptible hours agreed to under the contract (40, 80, or 160 hours per year)~~~~(primary, secondary, sub-transmission, or backbone transmission)~~ and the ~~interrupt notice option they choose (1 hour or No Notice)~~. Customers in SOICO will receive a monthly credit (June through September) for the interruptible load they provide. Customers in VLRPO will not receive a rebate. Instead, SPS will compensate participating customers for voluntarily reducing their load at prices negotiated at the time of the load reduction.

### **b.c. Program Administration**

SPS will administer and manage the ICO Program internally. All contracts, marketing/sales, billing processes, program training, credit record maintenance, energy market administration, and load control procedures are handled internally. Most operational work is also completed internally. ~~The Company utilizes an interruption system to notify customers of events, and The program receives consultation from Cannon Systems, who provides the customers event notification system and customer with energy trend information. The VLRPO system will notify customers of events, offer energy prices, and provide the customer the opportunity to accept, reject, or negotiate the energy price offer.~~

Data is maintained and available on short-term, non-firm sales made during economic interruptions to show hourly needs of the system and costs of alternatives available to system operators, as required by Paragraph L of the Recommended Decision in Case No. 08-00333-UT. SPS will use the following process to determine when to call an interruption:

- a. Each operating day, SPS operators evaluate the margin between total available resources (power plants, transmission, market options, and purchase power contracts) and forecasted loads plus required operating reserves.
- b. When the margins fall between SPS's largest power plant (Tolk) and 200 MW, SPS must evaluate whether to call upon the ICO buy-through option.
- c. When the margin falls below 200 MW, SPS may call a capacity interruption.
- d. If SPS calls an interruption through the ICO buy-through option, then the avoided cost is calculated based on the marginal unit (or purchase power contract) in SPS's portfolio.
- e. The price is then broadcast to the ICO participants to facilitate their decision as to whether to buy-through or reduce their loads.
- f. The buy-through cost is then calculated from actual operating data for billing purposes.

#### **c.d. Marketing & Outreach Plan**

Because of the size of the customers eligible for this program, SPS will market the program primarily through its account managers. Account Managers will contact and meet with potential qualifying customers to introduce customers to the various program options, discuss program requirements and responsibilities, and ensure the program is a good fit. The account managers will play a crucial role by interacting with customers on a regular basis to ensure customer satisfaction.

In addition, SPS will use the following marketing materials to communicate the features and benefits of the program:

- ~~The New Mexico ICO System Guide~~ – This guide will be provided to new customers when trained on the program an annual basis and to existing customers on an as-needed basis to serve as a valuable reference in navigating the ICO system.
- ~~Electric Rate Savings ICO~~ Feature Sheet – This piece will summarize the program features and benefits, and help potential customers determine their qualification status.
- ~~Electric Rate Savings ICO Savings~~ Credit Sheet – This reference will outline the various control options, and assist customers in understanding the savings they could realize by participating in the program.
- New Mexico ICO Website on [xcelenergy.com](http://xcelenergy.com) – Comprehensive program information will be included on the Xcel Energy website for potential customers. This site will be updated annually or whenever there are program updates.
- VLRPO Feature Sheet -- This piece will summarize the program features and benefits, and help potential customers determine their qualification status.
- New Mexico VLRPO User's Manual – This manual will be provided to new customers when trained on the program and to existing customers on an as-needed basis to serve as a valuable reference in navigating the VLRPO system.

For a program of this nature, it is not only important to promote the program to potential customers, but to also provide participants with ongoing support and communication. The marketing of this program is viewed as an on-going process that includes initial discussion to recruit participants, then ongoing communication to ensure customers realize the program value and can continue to reap the benefits of the program.

SPS faces certain challenges while promoting this program, including: recruiting customers with large enough curtailable load to qualify, assuring customers that they can shed load and still operate efficiently, and convincing specific industries (i.e., oil and gas production) to participate when it is more economical to continue production rather than interrupt their operation.

#### **d.e. Measurement & Verification Plan**

The savings for this customized program will be calculated using project-specific technical assumptions. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

#### **e.f. Cost-Effectiveness Tests**

See Appendix A (replacement) for the 2010 and 2011 Interruptible Credit Option Program benefit-cost analyses. For 2011 the benefit-cost analysis is limited to the population expected to be installed at the end of the year, limited to a single year. This change was made to correspond to the preferred method of reporting annual achievements, which includes reporting the impacts of the population of load management programs installed by the end of the each year. Additionally, the analysis shows that the program will also reduce rates as the total system benefits (\$299,985) exceed the sum of utility costs and the bill reductions paid to participants (\$260,584).

### **4.5. Large Customer Self-Direct**

#### ***a. Program Description***

The Large Customer Self-Direct Program is available to SPS customers with contiguous facilities that use over 7,000 MWh per year. These large customers account for 47% of the peak kW and 55% of the annual consumption of the entire commercial and industrial customer base, but only account for 0.2% of total commercial and industrial premises. Customers will have the opportunity to either self-direct their own energy efficiency projects or opt-out of the energy efficiency tariff rider if they can prove they have completed all cost-effective conservation. Self-direct participants of this program are also eligible for the other Business Segment programs.

The Large Customer Self-Direct Program entitles customers who use more than 7,000 MWh per year at a single (Large Customer), contiguous facility to apply for either:

- A bill credit of up to 70% of the energy efficiency tariff rider charges for approved incremental expenditures made towards cost-effective energy efficiency or load management; or
- An exemption of up to 70% of the energy efficiency tariff rider charges for 24 months if the customer demonstrates that it has exhausted all cost-effective energy efficiency or load management projects at its facility.

In this context, what is considered cost-effective means projects with a simple payback period of more than one year, but less than seven years.

The Self-Direct option will be available to any SPS Large Customer. To claim a credit, the customer must submit to the Self-Direct Administrator an energy efficiency project description, along with relevant engineering studies showing the projected savings, expenditures, and cost effectiveness, by November 30 of the year preceding the installation of the project. To claim an exemption, the customer must submit to the Self-Direct

Administrator a detailed engineering study showing the absence of cost-effective energy efficiency investments and an affidavit confirming the results of the engineering study from the Independent Program Evaluator by November 30 of the year preceding the exemption.

An energy efficiency project must reduce electric energy consumption or peak demand and be cost-effective in order to qualify for a credit. Large Customers will be able to receive the credit only after expenditures have been made, the project has been completed, and an Independent Program Evaluator has determined that the efficiency measures are properly installed and are able to deliver the expected energy or peak demand savings. For projects that take more than one year to complete, annual credits for operating energy efficiency measures will be determined by the Independent Program Evaluator. Eligible expenses incurred in excess of \$52,500 in any year may be recovered in the subsequent year.

Eligible expenses are actual expenses reasonably incurred by a Large Customer in connection with construction, installation, or implementation of an eligible project, including but not limited to, equipment costs, engineering and consulting expenses, and finance charges. Energy efficiency expenses are eligible only to the extent that incremental expenses are incurred to achieve energy efficiency levels that exceed industry standards as determined by the Independent Program Evaluator based on practices set forth in section 17.7.2.13(E) NMAC.

**Table 23: Proposed Large Customer Self-Direct Goals**

<b>Large Customer</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	TBD	TBD
Generator kW	TBD	TBD
Generator kWh	TBD	TBD
Participation	TBD	TBD

Budget

A budget was created for 2010/11 under the Custom Efficiency Program that includes internal labor costs to work with any Large Customer that chooses to participate in the program. SPS does not propose any goals for the Large Customer Self-Direct Program because it is unknown at this time which and how many customers will participate.

Changes for 2010/11

None.

***b. Rebate Structure***

Customers will be eligible for a bill credit of up to 70% of the energy efficiency tariff rider charges for incremental expenditures made towards cost-effective energy efficiency or load management measures, or an exemption of up to 70% of the energy efficiency tariff rider for 24 months if the customer demonstrates that it has exhausted all cost-effective energy efficiency or load management projects at its facility.

### ***c. Program Administration***

The Large Customer Self-Direct Program allows customers to identify and administer their own energy efficiency and load management projects. As such, the program is not administered in the same way as SPS's other programs.

### ***d. Marketing & Outreach Plan***

Marketing and outreach for the Large Customer Self-Direct Program is similar to that for the Custom Efficiency Program. SPS's account managers will meet with Large Customers to continue educating them about the Large Customer Self-Direct Program. They will also inform customers of the energy efficiency programs in general and gauge the customer's interest in the Large Customer Self-Direct offering. This program is marketed through account managers, as it is likely to generate unique and complex energy efficiency projects. If a Large Customer decides to participate in the Self-Direct option, SPS will make technical experts available to assist in determining the validity of the project.

### ***e. Measurement & Verification Plan***

Savings from the Large Customer Self-Direct Program will be calculated savings based on project-specific technical assumptions. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

### ***f. Cost-Effectiveness Tests***

In accordance with the 17.7.2.11(C) NMAC, the Large Customer Self-Direct Program is not subject to the same cost-effectiveness tests as SPS's other proposed programs. Rather, the Rule states that in order to be cost-effective, Self-Direct projects must achieve a payback of greater than one year but less than seven years. For this reason, no cost-effectiveness analyses other than assessments of paybacks are conducted for the individual projects. However, the Large Customer Self-Direct Program achievements will be included in the overall portfolio-level benefit-cost analysis.

## **6. 5.—Lighting Efficiency**

### ***a. Program Description***

The Lighting Efficiency Program offers rebates to SPS's commercial and industrial customers who purchase and install qualifying energy-efficient lighting products in existing or new construction buildings. Rebates are offered to encourage customers to purchase energy-efficient lighting by lowering the up-front premium costs associated with this equipment.

For businesses, the cost of lighting is a main component of energy bills. Installing energy efficient lighting, or reducing the number of lights needed, can significantly lower energy

bills. The main goals of energy efficient lighting are to ensure good visibility for the task required, increase productivity and safety for employees, provide an attractive and comfortable work environment, and reduce operating and maintenance costs.

**Table 24: Proposed Lighting Efficiency Goals**

<b>Lighting Efficiency</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$823,871	\$1,032,290 <u>959,092</u> <u>1,017,</u> <u>290</u>
Generator kW	1,326 kW	4,558 <u>1,127</u> kW
Generator kWh	5,505,784 kWh	6,370,013 <u>4,406,671</u> kWh
Participation	144	17065

#### Budget

Program budgets were derived after goals were established. For the Lighting Efficiency Program, rebates, labor, and promotional expenses drive the majority of the budget. The following was used to identify these specific drivers.

- Rebates: The majority of the Lighting Efficiency budget is dedicated to rebates, so the energy savings goal is the main contributor to the overall budget. The rebate budget is an average of all the rebate amounts by lighting technology (or end-use), which has been tracked in previous years.
- Labor Charges: Determined by estimating the number of full-time employees needed to manage the program and execute the marketing strategy and rebate process.
- Marketing and Promotion: Cross-promotional vehicles used to reach the business customers including print, web, direct mail, and email marketing efforts.

#### Changes for 2010/11

Per the Uncontested Stipulation, vendor incentives were increased from \$1,800 to \$119,772 in 2010 and from \$1,800 to \$145,986 in 2011.

In 2011, the Lighting Efficiency Program will add the following lighting measures to respond to trade and customer demand for emerging technology:

- ENERGY STAR-qualified light emitting diode (LED) lamps;
- ENERGY-STAR-qualified LED luminaires, e.g. LED Downlights;
- LED canopy and soffit lighting; and
- LED refrigerated case lighting.

Other LED lighting measures not on the above list can still be evaluated through the Custom Efficiency Program, which requires pre-approval.

In addition, as a result of the measurement and verification analysis performed by ADM on SPS's 2009 Lighting Efficiency Program, SPS will be changing the following technical assumptions for 2011:

- The net-to-gross values for the Retrofit, New Construction, and Lighting Redesign components will be changed from 96% to 80%.
- The weighted average measure lifetime for the program will be changed from 18 to 15.
- The HVAC Interactive Factor will change from 1.11/1.19 to 1.10/1.30.
- Operating hours will be determined for each project, rather than using the program weighted average of 3,102 hours.
- The weighted average coincidence factor for the program will be reduced from 88.58% to 82.66%.
- The coincidence factor used for elementary school projects will be reduced to zero.

These changes result in a proposed budget increase of \$58,198, five additional participants, and goal savings reductions of 431 kW and 1,963,342 for 2011. The TRC will decrease to 2.79.

As part of the Uncontested Supplemental Stipulation, in order to stimulate more participation and meet 2011 goals for this program, SPS will offer an additional 50 percent “bonus” rebate, paid to the vendor, for T12-to-T8 retrofits, T12-to-T5 retrofits, T12-to-T8 delamping, or T12-to-refrigerated LED case lighting. The goal of the bonus contractor rebate will be to further incentivize removal of T12 fluorescent fixtures from the market. An additional \$15,000 in rebate dollars will be added to the current budget.

### ***b. Rebate Structure***

There are three ways business customers can lower their lighting costs and earn rebates:

#### **1. Retrofit Rebates (prescriptive)**

Rebates are available for existing facilities of any size to help offset the cost of installing new equipment that is more energy efficient than the current lighting system. Rebates are based on a one-for-one replacement of existing fixtures. In addition, incentives are provided to vendors to stimulate increased participation. Lighting retrofits can be beneficial in situations such as employees complaining of eyestrain from improperly lit conditions, or where high-energy bills are a concern.

A common retrofit application is replacing an existing fluorescent T12 system in a typical office space with more efficient T8 fluorescent lamps and a high-efficiency electronic ballast. In some instances, the number of lamps installed per fixture can be reduced, while still providing ample light levels. This can yield significant energy savings. In warehouse buildings, or spaces with high ceilings, replacing a High Intensity Discharge lighting system, such as mercury vapor, high-pressure sodium, metal halide and pulse-start metal halide, with high-bay fluorescent options can reduce energy costs and improve light levels. In addition, many other lighting retrofit scenarios exist that may qualify for a rebate. Please refer to the technical assumptions in Appendix B for more detail.

## **2. New Construction Rebates (prescriptive)**

Rebates are available for new facilities of any size as well as existing facilities going through a major renovation. There are several lighting options available to building owners and architects. Influencing better energy efficient lighting options in the first place is the goal of the program. Fluorescent high-bay fixtures, low-wattage T8 lamps, and CFLs are a few of the technologies rebated for new construction facilities.

Prescriptive rebates are easy for customers and trade allies to use, as they do not require pre-approval or a significant amount of analysis or documentation. Prescriptive rebates are also a cost-effective means to deliver the program. As a result, SPS strives to provide prescriptive rebates for as many measures as feasible and to continually evaluate the options to expand these rebates as appropriate.

## **3. Custom Efficiency**

Energy saving lighting projects that do not fit into the prescriptive rebate structures will be reviewed through the Custom Efficiency Program. Pre-approval is required before equipment purchase and installation. Examples of projects that would be reviewed through the Custom Efficiency Program are light-emitting diode (“LED”) light sources (other than LED exit signs, which are covered under the prescriptive rebate), retrofit situations (where it is not a one-for-one replacement of the existing fixtures), and day lighting.

The Lighting Efficiency Program provides prescriptive rebates for the following equipment:

- Fluorescent fixtures;
- Compact Fluorescent Lamps;
- High-bay fluorescent fixtures;
- High Intensity Discharge fixtures;
- Controls;
- LED exit signs, traffic balls and arrows (red and green) and pedestrian signals; and
- Parking garage fixtures.

Please refer to the lighting technical assumptions in Appendix B for specific qualifications and rebate levels.

### ***c. Program Administration***

The application process for the prescriptive retrofit and new construction programs is similar to SPS's other prescriptive programs. Customers may apply for rebates by completing the application and providing a detailed invoice for the newly installed equipment. The customers may apply for a rebate after the equipment has been purchased and installed. The replacement of fixtures for retrofit situations must be a one-for-one replacement that will result in energy savings. If the retrofit is not a one-for-one replacement but still results in energy savings, customers may apply for pre-approval through the Custom Efficiency Program. The equipment must be new and meet all the qualifications detailed on the

application. After the customer has installed the equipment, the application and invoice must be submitted to SPS within twelve months of the invoice date. Once the paperwork is completed and submitted, rebate checks will be mailed to the customer as indicated on the application within six to eight weeks.

#### ***d. Marketing and Outreach Plan***

Lighting touches all business customers and is typically among the easiest and most cost-effective efficiency opportunities to implement. As a result, the program is marketed individually, but is also commonly featured in cross-program marketing pieces.

Customers may hear of the Lighting Efficiency Program through several channels, including the Xcel Energy website, direct mail, email promotions, newsletters or through the lighting trade. Company account managers work directly with the largest customers to help them identify energy saving opportunities in lighting, and the Business Solutions Center is available for all business customers, particularly the small business customers who need information on the rebate programs.

In addition, several collateral pieces are available on the Xcel Energy website. These pieces are geared toward both large and small business customers as well as the trade. The website offers information on lighting technologies, case studies of successful lighting upgrades, and external sources highlighting reasons to pursue lighting upgrades or implement efficient lighting sources. These include:

- Prescriptive Rebate Applications – Applications are designed to include all program requirements, rebate levels, and additional information to help complete the form and attach needed documentation quickly and easily.
- Lighting Efficiency Program Brochure – This is available on the Lighting Efficiency web page and is used by the account managers to describe the program, discuss reasons to upgrade to more efficient lighting and identify projects in facilities.
- Resource Documents – The Lighting Efficiency web page also links to several documents on energy-efficient lighting technologies, written by outside organizations such as E-Source, to further identify lighting efficiency sources and opportunities.

SPS also builds relationships with the lighting trade to reach customers. SPS expects they will actively promote the programs because the rebates help provide credibility for their projects and aid in closing the sales.

#### ***e. Measurement & Verification Plan***

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. The customized savings reported through this program will be calculated using the individual project assumptions determined through the custom analysis process detailed in the Custom Efficiency section of this Plan. In

accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

#### ***f. Cost-Effectiveness Tests***

See Appendix A for the 2010 and 2011 Lighting Efficiency Program benefit-cost analyses.

### **6.7. Motor & Drive Efficiency**

#### ***a. Program Description***

The Motor & Drive Efficiency Program is designed to reduce the barriers that prevent customers from purchasing high efficiency motors and variable frequency drives (“VFDs”). To overcome these barriers, SPS offers rebates to customers who install National Electrical Manufacturers Association (“NEMA”) Premium Efficiency® motors and variable frequency drives in existing and new construction facilities. Eligible equipment includes: high efficiency motors, variable frequency/adjustable speed drives, constant speed motor controllers, energy efficient compressed air equipment upgrades, no loss air drains, and education via a motor inventory assessment.

The benefits of installing premium efficiency motors and VFDs include:

- Reduced downtime that can be caused by motor failure;
- Increased reliability since premium motors are manufactured with high quality materials and standards, which reduce internal losses and heat;
- Longer warranties than standard motors;
- Longer product lifetimes, allowing customers to save on capital expenses; and
- Increased productivity due to reduced maintenance activities and fewer repairs.

**Table 25: Proposed Motor & Drive Efficiency Goals**

<b>Motor &amp; Drive Efficiency</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$423,096	\$468,491 <del>400,264</del>
Generator kW	375 kW	393 <del>256</del> kW
Generator kWh	2,065,867 kWh	2,218,856 <del>1,349,825</del> kWh
Participation	105	113 <del>21</del>

#### **Budget**

Budget development is a compilation of historical cost and participation information and external resources, coupled with stakeholder discussion. Comparative spending analysis of past year activity is generally conducted but is not the determining factor, since other external variables like promotions, materials, and staffing exist. An examination of expenditure levels for this program in other jurisdictions is used as a cross-reference. Rebates, labor, and promotional expenses drive the majority of the budget. The following was used to identify these specific drivers:

- Rebates: The rebate budget is an average of all the rebate amounts by technology (or end-use), based upon historical or anticipated activity
- Labor Charges: Determined by estimating the number of full-time employees needed to manage the program and execute the marketing strategy and rebate process.
- Marketing and Promotion: Cross-promotional vehicles used to reach the business customers including print, web, direct mail, and email marketing efforts.

#### Changes for 2010/11

SPS has added the following new measures to its 2010/11 Motor & Drive Efficiency Program:

- Motor Controllers – Constant speed motor controllers can be used for motors that have low motor load factors and constant speed operation. Examples are escalators, moving walkways, mixing equipment, and conveyor belts that typically cannot be shut off or slowed down during normal business operation.
- Compressed Air Systems with Integrated Drives – Customers can upgrade their existing (operating) smaller compressed air system with a high-efficiency compressor system that has an integrated, manufacturer (factory) assembled variable frequency drive. (Note that after-market installed drives for air compressors would fall under the Custom Efficiency Program.)
- No Loss Drains for Compressed Air Systems – These no air loss drain valves use proximity switches that allow the valve to measure the presence of condensate and remove it with no loss of compressed air.
- Motor Inventory – This is an effort to help educate and drive additional participation toward the prescriptive program through the use of assorted financial metrics around simple payback, internal rate of return, benefit/cost ratio analysis, and integrates available rebate information. Within this component, SPS will help the customer prioritize the recommended actions based on information that encompasses energy impact analysis, as well as identify and prioritize specific energy and cost savings opportunities.

In January 2011, the U.S. Department of Energy will increase the minimum standard efficiency for new motors. The NEMA Premium efficiency level will become the new minimum efficiency standard and the less efficient Energy Policy Act of 2005 (“EPAct”) motors will no longer be produced, though EPAct inventory will still be available for customers to purchase for at least an additional six months after the enacted legislation. Due to these changes, SPS proposes to discontinue the New Motors – Plan A component of the Motor & Drive Efficiency Program. SPS will continue to honor rebate applications received for New Motors – Plan A components purchased prior to January 1, 2011 and take demand and energy impact credit per the 2010 program guidelines through December 31, 2011.

The remaining motor products, listed below, will be available for rebate without changes:

- New Motors – Plan A – Enhanced;
- Upgrade Motors – Plan B;
- Upgrade Motors – Plan B – Enhanced; and

- Custom Motors.

In addition to the discontinuation of the New Motors – Plan A option, SPS has decreased the overall program goals and budgets to reflect the realities of both the market, and customer and trade response. Despite increased marketing efforts during the first three quarters in 2010, SPS has only increased participation from three customers to ten. The Company is optimistically stretching for 20 total participants in 2011, and the budget reflects increased marketing efforts via customer awareness and outreach efforts.

Finally, SPS plans to move Pump-Off Controllers (POCs) into the prescriptive component of the Motor & Drive Efficiency Program. SPS has received Custom Efficiency Program applications for oil well pump-off controllers since 2009. In order to simplify the process and encourage more activity from this measure, the Company used information provided through previous M&V to develop prescriptive rebates and deemed savings for Oil Well Pump-Off Controllers within the Motor & Drive Efficiency Program.

These changes results in a proposed budget decrease of \$68,227 and goal savings reductions of 137 kW and 869,031 kWh. In addition, participation for this program will decrease by 92, and the TRC will be reduced to 2.92.

***b. Rebate Structure***

SPS will pay prescriptive and custom rebates for the purchase and installation of high-efficiency motor and drive products. Rebates vary by measure. Actual rebate values can be found on the rebate application form, which is available on the Xcel Energy website ([xcelenergy.com](http://xcelenergy.com)).

In January 2011, the U.S. Department of Energy will increase the minimum standard efficiency for new motors. The NEMA Premium efficiency level will become the new minimum efficiency standard and the less efficient Energy Policy Act of 2005 (“EPAct”) motors will no longer be produced. Because SPS expects retailers will retain an inventory of EPAct motors for some time after the change, it will continue to offer a rebate through 2011 to persuade customers to purchase the higher efficiency NEMA Premium motors.

***c. Program Administration***

SPS will administer the Motor & Drive Efficiency Program internally. Customers may work with their Account Manager or the Business Solutions Center to submit a rebate application for the purchase and installation of new high efficiency motors and drives.

***d. Marketing and Outreach Plan***

SPS utilizes newsletters, customer events, direct mail, email communications, and awareness advertising to reach its business segment customers. In addition, internal Account Managers and representatives in the Business Solutions Center are trained to promote the Motor & Drive Efficiency Program to customers. SPS participates in customer fairs, trade shows, and

customer meetings, and works with trade organizations and service providers to raise customer awareness throughout the year in conjunction with other groups.

To overcome market barriers, marketing materials specifically address factors such as the importance of planning for a motor failure, the need for taking inventory of existing equipment, and the need to develop an understanding for when to replace or rewind a particular motor. These marketing factors are based on insights from primary and secondary research regarding customer needs.

SPS plans to continue collaborative efforts with the following organizations:

- Motor Decision Matters<sup>SM</sup> – This is a national public-awareness campaign sponsored by a consortium of motor manufacturers, motor service centers, trade associations, electric utilities and government agencies of which SPS is a contributor.
- National Electrical Manufacturers Association – The member companies established premium energy efficiency motor thresholds to provide energy efficient products that meet the needs and applications of users and original equipment manufacturers based on a consensus definition of "premium efficiency" and use of the NEMA Premium logo for premium products. The NEMA Premium labeled electric motors will assist purchasers to optimize motor systems efficiency, reduce electrical power consumption and costs, and improve system reliability. SPS is a contributor to this organization and participates in applicable forums.
- The Electrical Apparatus Service Association, Inc. – This is an international trade organization of over 2,100 electromechanical sales and service firms in 58 countries. Through its many engineering and educational programs, this association provides members with a means of keeping up to date on materials, equipment, and state-of-the-art technology. SPS is a contributor to this organization and participates in applicable forums.

#### **e. Measurement & Verification Plan**

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. The customized savings reported through this program will be calculated using the individual project assumptions determined through the custom analysis process detailed in the Custom Efficiency section of this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

#### **f. Cost-Effectiveness Tests**

See Appendix A for the 2010 and 2011 Motor & Drive Efficiency Program benefit-cost analyses.

## **7.8. Small Business Lighting**

### ***a. Program Description***

The Small Business Lighting Program was launched in August 2009. The program offers free lighting audits and attractive rebates for lighting upgrades and special services to small and mid-sized business facilities with peak demand of up to 400 kW in SPS's New Mexico service area. In addition to lighting, the customer is informed of other energy-saving opportunities available for rebates such as heating, ventilation, cooling, motors, and the recommissioning of their existing equipment.

This program focuses on saving energy through the installation of energy-efficient lighting retrofits. The program specifically targets barriers that often prevent small businesses from investing in energy efficiency products, such as: limited financial resources and time, limited knowledge of lighting products, and a lack of access to quality contractors. To address these issues, the program offers:

- Intensive outreach to bring assistance to the customer, rather than relying on the customer to seek it out;
- Simple, one-stop services that hold customer time requirements to a minimum;
- Computerized lighting audits and reporting systems that generate site-specific feedback and reports;
- Objective recommendations from qualified lighting professionals; and
- Substantial incentives.

**Table 26: Proposed Small Business Lighting Goals**

<b>Small Business Lighting</b>	<b>2010 Goal</b>	<b>2011 Goal</b>
Budget	\$609,388	\$611,5151,137,908
Generator kW	251 kW	251-655 kW
Generator kWh	1,000,056 kWh	1,000,0562,570,699 kWh
Participation	45	4591

#### **Budget**

Program budgets were derived after goals were established. For the Small Business Lighting Program, outside consulting services and rebates drive the majority of the budget. The following was used to identify these specific drivers:

- Outside consulting services – A competitive bidding process selected the contractor implementing the program. Payment to the contractor is driven by performance. It is also assumed that the contractor achieves the program's annual energy savings goal.
- Rebates – The rebate budget is an average of all the rebate amounts by lighting technology, which has been tracked in previous years.

### Changes for 2010/11

SPS has modified some of the rebate levels that were approved in 2009 to reflect changes in the market place.

SPS has experienced growing awareness, interest, and opportunity in the Small Business Lighting Program among trade partners and small business customers. With this increased interest, SPS will increase its 2011 energy goals from the previously planned 1 GWh to 2.6 GWh. The proposed program budget will increase from \$611,515 to \$1,137,908 to cover additional customer rebates and compensate Franklin Energy for developing small business lighting opportunities. In addition, the number of participants will increase by 46 for 2011 and the TRC will increase to 2.01.

In 2011, the program will add the following lighting measures to respond to trade and customer demand for emerging technology:

- ENERGY STAR-qualified light emitting diode (LED) lamps;
- ENERGY-STAR-qualified LED luminaires, e.g. LED Downlights;
- LED canopy and soffit lighting; and
- LED refrigerated case lighting.

Note: other LED lighting measures not on the above list can still be evaluated through the Custom Efficiency Program, which requires pre-approval.

In addition, as a result of the measurement and verification analysis performed by ADM on SPS's 2009 Small Business Lighting Program, SPS will be changing the following technical assumptions for 2011:

- The program net-to-gross value will be reduced from 100% to 95%.
- The weighted average measure lifetime for the program will be changed from 18 to 15.
- The HVAC Interactive Factor will change from 1.11/1.19 to 1.10/1.30.
- Operating hours will be determined for each project, rather than using the program weighted average of 3,154 hours.
- The weighted average coincidence factor for the program will be reduced from 88.58% to 82.66%.
- The coincidence factor used for elementary school projects will be reduced to zero.

### ***b. Rebate Structure***

The application process for the Small Business Lighting Program is similar to the prescriptive part of SPS's Lighting Efficiency Program. Customers may apply for rebates by completing the application and providing a detailed invoice for the newly installed equipment. The program does not require pre-approval for participation. Once the paperwork is completed and submitted, rebate checks are mailed to the customer within six to eight weeks. Rebates in the Small Business Lighting Program are aligned with those paid through the Lighting Efficiency Program and are calculated using an assumed one-to-one

lamp or fixture replacement. Please refer to the Technical Assumptions in Appendix B of this Plan for individual rebate values.

#### ***c. Program Administration***

SPS selects a third-party implementer through a competitive request-for-proposal process to deliver this program. The implementer provides a walk-through audit of each participant's facility focusing on the lighting systems, as well as a report with recommendations about areas for potential energy savings. The implementer also serves as the liaison between the customer and the contractor during the retrofit and completes and submits all rebate paperwork. The implementer follows the program guidelines listed below:

- Customer is to receive a free lighting audit when they agree to participate in the program;
- Implementer looks for other energy savings opportunities during the audit and, at a minimum, makes customers aware of other rebate opportunities;
- Implementer builds a network of qualified contractors, approved by SPS, to aid the customer in implementation of lighting retrofits;
- Implementer serves as a liaison between the customer and the contractor; and
- Implementer follows up with the customer to ensure that recommended measures get implemented and assists the customer as needed to hire a contractor and apply for rebates.

SPS is compensating the implementer in two ways. During the initial start-up phase, the implementer is compensated on a fixed price basis. This period is expected to last three to six months. Once this stage is complete, the implementer is paid based on performance that is tied directly to SPS goals for demand reduction and energy savings.

#### ***d. Marketing & Outreach Plan***

Historically, small business customers have been found to have low participation in energy efficiency programs due to barriers such as:

- Lack of awareness of energy savings potential in lighting system upgrades;
- Lack of time to complete all the necessary steps to upgrade lighting system;
- Lack of capital to make lighting improvements;
- Uncertainty of value when facility is not owner-occupied; and
- Limited availability of qualified contractors due to small margins on small lighting projects.

SPS promotes the Small Business Lighting Program through several channels, including the Xcel Energy website, direct mail, email promotions and through the lighting trade. The Business Solutions Center is available for all business customers, particularly the small business customers, who may need information on the rebate programs. SPS also hopes to use telemarketing and referrals from contractors, customers, and account management staff to reach customers. In addition, SPS expects that the program implementer will aggressively

promote the program to increase participation. The implementer is required to meet the energy savings goals for which they are contracted and determines the marketing strategies needed to meet them.

**e. *Measurement & Verification Plan***

The savings for this prescriptive program will be calculated using deemed savings algorithms, provided directly to the Independent Program Evaluator, and forecasted technical assumptions, provided in Appendix B to this Plan. The customized savings reported through this program will be calculated using the individual project assumptions determined through the custom analysis process detailed in the Custom Efficiency section of this Plan. In accordance with 17.7.2.13(E)(3) NMAC, SPS will cooperate with the Independent Program Evaluator in its efforts to measure and verify this program.

**f. *Cost-Effectiveness Tests***

See Appendix A (replacement) for the 2010 and 2011 Small Business Lighting Program benefit-cost analyses.

## **C. Planning & Research Segment**

The Planning & Research Segment consists of internal company functions (not customer-facing), which support the direct impact energy efficiency and load management programs. The Segment includes energy efficiency-related expenses for Consumer Education, Market Research, Measurement, & Verification, Planning & Administration, and Product Development. The overall objectives of the Planning & Research Segment are to:

- Provide strategic direction for SPS's energy efficiency and load management programs;
- Ensure regulatory compliance with energy efficiency and load management legislation and rules;
- Guide SPS internal policy issues related to energy efficiency and load management;
- Evaluate program technical assumptions, program achievements, cost-effectiveness, and marketing strategies;
- Provide segment and target market information;
- Analyze overall effects of SPS's energy efficiency and load management portfolio on customer usage and overall system peak demand and system energy usage;
- Measure customer satisfaction with SPS's energy efficiency and load management efforts; and
- Develop new energy efficiency and load management programs.

Because of the indirect and non-customer facing nature of the Planning & Research Segment, the normal program categories (i.e., rebate structure, program administration, marketing & outreach, Measurement & Verification, and cost-effectiveness) do not apply. The following sections are limited to a description of each program.

### **1. Consumer Education**

Consumer Education is an indirect program that focuses primarily on creating public awareness of energy efficiency while providing residential customers with information on what they can do in their daily lives to reduce energy usage. The program will also support the various energy efficiency and load management products SPS will offer to residential customers. SPS employs a variety of resources and channels to communicate conservation and energy efficiency messages, including the Xcel Energy website, print, direct mail, radio, and events.

The Consumer Education Program is targeted towards New Mexico residential electric customers. SPS uses this program to promote energy efficiency through:

- Community-based events, such as home shows and conservation events;
- Messaging through local newspaper websites and local radio stations;
- Targeted communications to address seasonal usage challenges;

- Conservation messaging through newsletters and bill inserts to residential customers; and
- Publication of reference education materials (in English and Spanish).

SPS has approximately 83,000 residential customers in its New Mexico service territory. SPS plans to touch 80% of the residential customer base, or about 70,000 customers, through bill inserts, community events, and conservation advertising.

#### Budget

SPS's budget for this program is \$128,730 in 2010 and \$129,252 in 2011. The budget was developed based on past experience building awareness and community outreach in New Mexico. The primary costs associated with the Consumer Education Program are based on projected costs for reaching customers through the communication channels and tactics discussed above.

#### Changes for 2010/11

As part of the Uncontested Supplemental Stipulation, SPS will add \$15,000 to the Consumer Education budget for ENERGY STAR Homes building and contractor training on high efficiency and ENERGY STAR construction techniques.

SPS proposes to proceed with a plan to hire a regional or national ENERGY STAR Homes expert to perform two to four training sessions throughout its service area in 2011. If SPS does not need the entire \$15,000 to pay for the training sessions, the remainder will not be used for other programs or training. The training sessions will be actively promoted to builders and contractors throughout the SPS New Mexico service area.

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## **2. Business Education (New in 2011)**

As part of the Uncontested Supplemental Stipulation, SPS proposes funding for an oil and gas industry expert to evaluate energy efficiency opportunities at customer sites. Xcel Energy operating companies offers study funding in other jurisdictions and has had success because it creates a prioritized list of projects so customers can evaluate and gain approval for upgrades.

technical detail (to help in preparing applications and analysis) and gives SPS representatives specific knowledge on the customer's operations to engage in relevant energy efficiency opportunities.

SPS is currently working with a consultant through the Large Customer Study component of the Custom Efficiency program who has a 35-year history with oil and gas engineering. This consultant is on a time and materials contract. If this offering is unsuccessful in engaging customers to evaluate energy efficiency opportunities at their site(s), the budget will not be spent thereby lowering the risk to ratepayers.

For these reasons SPS believes that targeting the study funding at oil and gas customers in New Mexico will be effective in engaging the industry in energy efficient upgrades. The proposal has the following components:

In order to stimulate participation in SPS's DSM business programs, a new indirect line item will be added to the portfolio to contract an oil and gas consultant to perform the following tasks with a total new line item budget of \$110,000.

1. Collect/analyze operation and consumption profiles of 15 oil & gas companies (producers and pipelines);
2. Consultant will accompany SPS Account Managers on site visits (15 sites at 3 per week);
3. Prepare 10 site reports that include recommended energy efficiency projects, estimated project costs, estimated energy savings, and estimated payback period by project, along with information on rebates available or likely to be available for project implementation; and
4. Teach a course on oil and gas energy efficiency potential for both account managers and customers.

At the conclusion of the consultant's work, SPS will prepare and disseminate a report to interested parties summarizing the consultant's findings regarding cost effective energy savings potential in the oil and gas sector without revealing confidential information concerning individual companies. In addition, one year after the conclusion of the consultant's work, SPS will prepare and disseminate a report to interested parties summarizing actions taken and energy savings achieved, or in the process of being achieved, as a result of this effort without revealing any confidential information concerning individual companies.

### **2.3. Market Research**

The Market Research group oversees a variety of research efforts that are used to assist SPS with energy efficiency and load management decision-making. These research functions are needed to provide overall support for clarifying issues and for thoroughly understanding both current and potential customers. Often, similar information is collected over multiple service territories so that comparisons are possible. SPS also relies on industry information (such as

the Oil Field Gas Characterization Study conducted by SWEEP in 2008), as well as trade and professional networks to inform business decisions.

In 2010 and 2011, the Market Research group plans to conduct several projects and studies as described below:

- *Home Use Study [2010]* – Quantitative research about New Mexico residential customers to gauge appliance saturation.
- *DSM Awareness, Attitude & Usage (AAU) Studies [2011]* – Quantitative research to gauge the energy awareness and energy efficient behaviors of New Mexico customers.
- *Dun & Bradstreet Business List Purchase [2010 & 2011]* – Quarterly update on the demographics of existing business customers. This updated information can then be used to understand, profile, and target marketing efforts more effectively.
- *E-Source Membership [2010 & 2011]* – Robust repository of secondary and syndicated research resources for national marketing studies, research services, and consulting services.
- *Custom Research [2010 & 2011]* – Qualitative and quantitative research with selected audiences to gauge pressing energy efficiency and load management research questions at that point in time.

#### Budget

Based on past experience and the projects listed above, the Market Research developed the budget forecasts for 2010 and 2011 budgets as follows:

- In 2010, \$45,400 for outside research support and \$9,900 for internal labor; and
- In 2011, \$48,120 for outside research support, and \$10,300 for internal labor.

#### Changes for 2010/11

In 2010 and 2011, Market Research will focus on secondary and syndicated research, rather than customized research, as has been done in past years. This is a cost-savings approach that will allow SPS to gather a wider variety of information at a lower cost.

### **3.4. Measurement and Verification**

17.7.2.13 (E) NMAC requires that all energy efficiency and load management programs be subject to measurement and verification through an Independent Program Evaluator (the “Evaluator”), where M&V is defined as “activities to determine or approximate with a high degree of certainty the actual demand and energy reductions from energy efficiency and load management programs.” Under the direction of the Commission and Evaluation Committee, the Evaluator will conduct an analysis of each program and provide a report on their findings. SPS will facilitate the measurement and verification of all of its direct impact energy efficiency and load management programs according to the requirements set forth in the New Mexico rules and statutes.

#### ***a. Selection of the Independent Program Evaluator***

As a member of the Evaluation Committee, SPS has worked with the Commission to develop selection criteria and a contract for the Independent Program Evaluator. At the time of this filing, the Commission had approved a standard utility contract and selected ADM Associates, Inc. (“ADM”) as the Independent Program Evaluator. It is anticipated that ADM will prepare and present a specific plan to measure and verify each of SPS’s 2008, 2009, and 2010 energy efficiency and load management programs as soon as possible after contract execution. It is also anticipated that a decision will be made by the Evaluation Committee prior to 2011 as to whether to extend the current ADM contract to encompass 2011 M&V or re-start the bidding process. In either case, SPS expects that the Independent Program Evaluator will have completed an M&V Report with verified savings and verified cost-effectiveness results for all 2010 and 2011 programs prior to the annual status reports for each of these years.

### ***b. Measurement & Verification Process***

In 2010 and 2011, SPS will require M&V of both its prescriptive programs (deemed savings) and its customized programs (calculated savings). The Evaluator will provide an individual M&V Plan for each program describing both the annual and comprehensive plans according to the program characteristics. The following are guidelines as to the type of M&V methodologies that would be recommended by SPS for each category of energy efficiency and load management programs:

#### Prescriptive Programs

The gross savings from prescriptive programs, which are determined using deemed savings technical assumptions, will be verified each year based on the factors identified in the deemed savings algorithm. These algorithms and underlying deemed savings assumptions will be provided to the Independent Program Evaluator to assist in its review. As part of their responsibilities, the Evaluator will assist the Commission in their review of these deemed savings technical assumptions. The Evaluator will perform comprehensive evaluations of programs at least once every three years. The comprehensive evaluations will be for the purposes of analyzing the program processes and the net impacts. Through the comprehensive evaluation, the Evaluator will recommend any necessary changes to the technical assumptions, program delivery and marketing strategies, and net-to-gross ratios.

#### Customized Programs

For the customized programs (e.g., Custom Efficiency and Large Customer Self-Direct), SPS will analyze each project’s savings separately, employing both internal and external engineers to calculate and provide expert engineering reviews. For projects that have energy savings greater than one GWh per year, SPS will perform pre- and post-metering of the efficiency measure or process. If metering is not physically or economically feasible, engineering models, or other regression analyses will be employed to calculate the savings of each project. The Evaluator will perform comprehensive evaluations of the customer programs at least once every three years to recommend improvements to the program processes and to establish net-to-gross ratios going forward.

#### Load Management Programs

To monitor its load management programs, SPS will provide interval-metering data for a census of the ICO customers. The Evaluator will use this data to analyze the gross and net savings impacts of the program by November 30 of each year for the previous summer and winter interruptions. In addition, the Evaluator may perform more comprehensive evaluations surveying customers at least once during a three-year period in order to provide recommendations for improvements to the program delivery and marketing processes and net-to-gross ratios.

### ***c. Portfolio-Level M&V***

It is also anticipated that the Evaluator will assess the cost-effectiveness of all programs each year prior to the annual status report filing. In compliance with reporting requirements, the Evaluator's M&V Report will include:

- Expenditure documentation, at both the total portfolio and individual program levels;
- Measured and verified savings;
- Cost-effectiveness of all of SPS's energy efficiency and load management programs;
- Deemed savings assumptions and all other assumptions used by the Evaluator;
- Description of the M&V process, including confirmation that:
  - measures were actually installed;
  - installations meet reasonable quality standards; and
  - measures are operating correctly and are expected to generate the predicted savings.

#### **Budget**

The 2010 and 2011 budgets for indirect M&V expenses are \$107,000 and \$107,600, respectively. The budgets include the following:

- \$32,000 in 2010 and \$32,600 in 2011 for internal labor and expenses to provide project management of the entire M&V process and to interface with the Evaluator, and ensure internally that proper M&V and data tracking is in place.
- \$75,000 each year is estimated to be charged by the Evaluator for preparing reports, reviewing technical assumptions, and preparing discovery responses, testimony and participating in hearings if needed.

In addition, each program has included a budget for direct program-related M&V costs, estimated at approximately five percent of total program costs. The total budgeted costs, including both the indirect program category as well as the individual program M&V budgets equal \$513,895 in 2010 and \$541,669 in 2011. This represents about 6% of the portfolio budget for each of the two years.

#### **Changes for 2010/11**

None.

## **4.5. Planning & Administration**

Planning & Administration provides procedures for effectively addressing the requirements of the energy efficiency and load management regulatory processes. It manages all regulatory filings, directs and carries out benefit-cost analyses, provides tracking and reporting of energy efficiency and load management achievements and expenditures, and analyzes and prepares cost recovery reports. Outside legal services are used in preparation and filing of regulatory reports and are included in this function as well. In addition, Planning & Administration supports the energy efficiency and load management components of resource planning, participates in rulemaking, and provides internal policy guidance. These functions are needed to ensure a cohesive and high-quality energy efficiency portfolio that meets legal requirements as well as the expectations of SPS's customers, regulators, and staff.

#### Budget

The 2010 and 2011 budgets include funds for: internal labor to prepare filings and benefit-cost analyses, outside legal services to support energy efficiency and load management filings and hearings, outside consultants to help in preparing regulatory status reports, plans, and supporting testimony, and employee expenses related to travel to and from New Mexico. For 2010, the total budget is \$318,000. This includes \$168,000 for internal labor, employee expenses, and outside consulting plus \$150,000 for outside legal services. For 2011, the total budget is \$321,600. This includes \$171,600 for internal labor, employee expenses, and outside consulting plus \$150,000 for outside legal services. The total costs for 2010 and 2011 were decreased by about 9% from the 2009 budget of \$344,000 due to expected efficiencies from filing a two-year plan instead of an annual plan.

#### Changes for 2010/11

None.

### **5.6. Product Development**

The Product Development group identifies, assesses, and develops new energy efficiency and load management products and services that can be offered to customers in SPS's New Mexico service area. The product development process starts with ideas and concepts from customers, regulators, energy professionals, interest groups, and Xcel Energy staff. These ideas are then carefully screened and only ideas with the most potential are selected for the development process.

#### Budget

The 2010 and 2011 budgets include funds for internal labor as well as outside consultant support. The Product Development group forecasts spending \$91,042 in 2010 and \$92,418 in 2011 for the aforementioned work.

#### Changes for 2010/11

The Product Development group worked on the following new measures and programs for the 2010/11 Plan:

- The Water Heating Rebates Program has been added to the Residential Segment;

- The Home Energy Services component has been added to the Low-Income Program;
- Evaporative Cooling has been added to the Cooling Efficiency Program;
- Five to 40 hp VFD compressed air and no loss drains, motor controllers and motor management have been added to the Motor & Drive Efficiency Program; and
- Large Commercial & Industrial Study option has been added to the Custom Efficiency Program.

The Product Development group also assisted with an assessment and reconfiguration of the Residential Home Energy Services Program. More detail on each of these program changes is provided within the specific program description.

**ENERGY STAR Retailer Incentive Program:** As part of the Uncontested Supplemental Stipulation, SPS commits to working with PNM and EPE during the first six months of 2011 on development of a cost effective statewide program that will incent multiple retailers such as Wal-Mart, Kmart, Sears, Target, Lowes, Home Depot, and Sam's Club to promote and discount certain ENERGY STAR appliances. Provided that the program after development is cost effective and feasible for implementation, the program will be filed in SPS's next energy efficiency plan for 2012, unless it is included in a joint utility program application filing by SPS and other utilities. SPS has \$92,418 budgeted for Product Development in the 2011 Plan and will utilize up to \$25,000 of those existing funds in the development of this potential new program. Therefore, no new funds are required.

## IV. Conclusion

In accordance with the EUA, SPS respectfully submits for Commission review its 2010/11 Energy Efficiency and Load Management Plan. ~~SPS proposes to offer 17 cost-effective energy efficiency and load management programs in 2011. SPS is offering 15 direct impact programs (14 are programs continuing from 2009, while one is a new program).~~ These include:

### *Residential Segment*

- Consumer Behavior Pilot (EE)
- Electric Water Heating Rebates (EE);
- Evaporative Cooling Rebates (EE);
- Home Energy Services (EE);
- Home Lighting & Recycling (EE);
- Low-Income (EE);
- Refrigerator Recycling (EE);
- Residential Saver's Switch (LM); and
- School Education Kits (EE).

### *Business Segment*

- Business Saver's Switch (LM);
- Cooling Efficiency (EE);
- Custom Efficiency (EE);
- Interruptible Credit Option (LM);
- Large Customer Self-Direct (EE);
- Lighting Efficiency (EE);
- Motor & Drive Efficiency (EE); and
- Small Business Lighting (EE).

These programs were designed to offer SPS's customers opportunities for broad participation and the ability to reduce their energy consumption and peak demand. SPS gathered input on the proposed 2010/11 Plan program design from Commission Staff, the Attorney General, the New Mexico State Energy, Minerals, and Natural Resources Department, and other interested stakeholders, including large customers, environmental, and low-income advocates. Each of the programs passes the TRC Test with a ratio greater than one, while the overall portfolio results in a ratio of 3.56 in 2010 and 2.863.69 in 2011.

SPS has provided two appendices to this Plan:

- Appendix A contains the cost-effectiveness analyses of the individual programs, the customer segments, and the portfolio as a whole; and
- Appendix B presents the detailed forecasted technical assumptions on which the energy and demand savings projections and the cost-effectiveness analyses were calculated.

## Appendix A: Total Resource Cost Test Results

Table A1 provides a summary of the present value of costs and benefits for each of the proposed energy efficiency programs, the quotient of which yields the TRC Test result. The following pages provide the budgets, savings, and technical assumptions that combine to calculate the TRC Test ratios for the portfolio, each customer segment, and each program. Please note that for the reasons discussed above, SPS has not provided TRC analyses for the Large Customer Self-Direct Program or the Planning & Research Segment. However, the costs of the Planning & Research Segment are included in the overall portfolio-level analysis. The benefit-cost analyses that follow reflect all program changes that have been proposed for the 2011 Plan.

**Table A1: Present Value Costs and Benefits of 2010 Programs**

2010	TRC Test	PV Costs	PV Benefits	PV Net Benefits	Gen kWh Lifetime
<b>Residential Segment</b>					
Air Source Heat Pump Rebates	0.00	\$ -	\$ -	\$ -	0
Electric Water Heating Rebates	1.33	\$ 36,795	\$ 48,908	\$ 12,112	839,002
Evaporative Cooling Rebates	23.85	\$ 62,232	\$ 1,484,032	\$ 1,421,800	6,324,017
Home Energy Services	3.06	\$ 1,734,246	\$ 5,307,024	\$ 3,572,778	91,607,974
Home Lighting & Recycling	4.07	\$ 790,452	\$ 3,214,590	\$ 2,424,138	57,517,012
Residential Low-Income	2.10	\$ 303,346	\$ 638,285	\$ 334,940	10,178,530
Refrigerators Recycling	2.95	\$ 106,050	\$ 312,792	\$ 206,742	4,698,261
Residential Saver's Switch	2.46	\$ 471,607	\$ 1,158,445	\$ 686,838	113,142
School Education Kits	2.40	\$ 86,589	\$ 207,956	\$ 121,367	3,804,115
<b>Residential Segment Total</b>	<b>3.44</b>	<b>\$ 3,591,317</b>	<b>\$ 12,372,031</b>	<b>\$ 8,780,714</b>	<b>175,082,052</b>
<b>Business Segment</b>					
Business Saver's Switch	4.53	\$ 174,929	\$ 792,734	\$ 617,805	141,715
Cooling Efficiency	3.23	\$ 529,459	\$ 1,707,893	\$ 1,178,434	19,247,531
Custom Efficiency	6.25	\$ 735,304	\$ 4,593,478	\$ 3,858,174	80,165,915
Interruptible Credit Option	22.38	\$ 109,475	\$ 2,450,499	\$ 2,341,024	210,740
Large Customer-Self Direct	0.00	\$ -	\$ -	\$ -	0
Lighting Efficiency	4.02	\$ 1,477,519	\$ 5,934,334	\$ 4,456,815	84,491,487
Motor & Drive Efficiency	3.22	\$ 784,479	\$ 2,528,757	\$ 1,744,278	41,317,345
Small Business Lighting	1.34	\$ 684,709	\$ 917,089	\$ 232,381	12,646,522
<b>Business Segment Total</b>	<b>4.21</b>	<b>\$ 4,495,874</b>	<b>\$ 18,924,784</b>	<b>\$ 14,428,911</b>	<b>238,221,256</b>
<b>Planning &amp; Research Segment</b>					
<b>Planning &amp; Research Segment Total</b>		<b>\$ 700,072</b>			
<b>2010 TOTAL</b>	<b>3.56</b>	<b>\$ 7,800,234</b>	<b>\$ 31,296,816</b>	<b>\$ 22,509,553</b>	<b>413,303,308</b>

**Table A2: Present Value Costs and Benefits of 2011 Programs  
(Revised 01/18/2011)**

2011	TRC Test	PV Costs	PV Benefits	PV Net Benefits	Gen kWh Lifetime
<b>Residential Segment</b>					
Consumer Behavior Program	0.00	\$ 251,500	\$ -	\$ -	0
Electric Water Heating Rebates	1.85	\$ 41,424	\$ 76,797	\$ 35,373	1,284,175
Evaporative Cooling Rebates	24.35	\$ 62,404	\$ 1,519,290	\$ 1,456,887	6,324,017
Home Energy Services	3.28	\$ 3,444,233	\$ 11,299,559	\$ 7,855,326	176,412,659
Home Lighting & Recycling	5.24	\$ 887,602	\$ 4,654,611	\$ 3,767,009	73,228,082
Residential Low-Income	2.13	\$ 303,346	\$ 646,192	\$ 342,846	9,862,284
Refrigerator Recycling	2.04	\$ 108,571	\$ 221,767	\$ 113,196	3,310,531
Residential Saver's Switch	0.34	\$ 474,883	\$ 159,857	\$ (315,026)	15,086
School Education Kits	2.41	\$ 108,316	\$ 260,689	\$ 152,373	4,371,624
<b>Residential Segment Total</b>	<b>3.32</b>	<b>\$ 5,682,279</b>	<b>\$ 18,838,762</b>	<b>\$ 13,156,483</b>	<b>274,505,456</b>
<b>Business Segment</b>					
Business Saver's Switch	0.62	\$ 177,244	\$ 109,514	\$ (67,730)	18,895
Cooling Efficiency	3.29	\$ 531,394	\$ 1,747,688	\$ 1,216,294	19,162,972
Custom Efficiency	4.08	\$ 938,791	\$ 3,827,376	\$ 2,888,585	58,926,168
Interruptible Credit Option	3.36	\$ 89,244	\$ 299,985	\$ 210,741	0
Large Customer-Self Direct	0.00	\$ -	\$ -	\$ -	0
Lighting Efficiency	2.77	\$ 1,591,849	\$ 4,407,195	\$ 2,815,346	55,169,447
Motor & Drive Efficiency	2.92	\$ 589,535	\$ 1,724,352	\$ 1,134,817	26,996,497
Small Business Lighting	2.01	\$ 1,365,148	\$ 2,739,732	\$ 1,374,585	34,694,016
<b>Business Segment Total</b>	<b>2.51</b>	<b>\$ 5,283,204</b>	<b>\$ 14,855,542</b>	<b>\$ 9,572,638</b>	<b>194,967,996</b>
<b>Planning &amp; Research Segment</b>					
<b>Planning &amp; Research Segment Total</b>		<b>\$794,049</b>			
<b>2011 TOTAL</b>	<b>2.86</b>	<b>\$ 11,799,773</b>	<b>\$33,694,604</b>	<b>\$ 21,894,831</b>	<b>469,776,452</b>

## Appendix B: Program Assumptions

The following table provides a summary of the program-level technical assumptions SPS used in the cost-effectiveness analyses. The technical assumptions that follow reflect all program changes that have been proposed for the 2011 Plan.

**Table B: Summary of 2011 Program Assumptions & Savings Per Participant  
(Revised 01/18/2011)**

	<u>Measure</u>	<u>Net Annual Gen kWh</u>	<u>Net Annual Peak Gen kW</u>	<u>Sys. Peak</u>	<u>Loss Factor</u>	<u>Loss Factor</u>
		<u>Life</u>	<u>Savings / Participant</u>	<u>Savings / Participant</u>	<u>Coin. Factor</u>	<u>(Energy)</u>
Electric Water Heating Rebates	15	544	0.064	12%	12.99%	10.69%
Evaporative Cooling Rebates	10	1,581	1.105	93%	12.99%	10.69%
Home Energy Services	13	3,036	0.390	35%	12.99%	10.69%
Home Lighting & Recycling	10	192	0.020	10%	12.99%	10.69%
Low-Income	10	369	0.045	19%	12.99%	10.69%
Refrigerator Recycling	5	1,260	0.128	55%	12.99%	10.69%
Residential Saver's Switch	1	9	1.211	33%	12.99%	10.69%
School Education Kits	7	255	0.009	0%	12.99%	10.69%
<b>Residential Segment</b>	<b>12</b>	<b>361</b>	<b>0.080</b>	<b>32%</b>	<b>12.99%</b>	<b>10.69%</b>
Business Saver's Switch	1	115	8.609	36%	9.11%	7.39%
Cooling Efficiency	19	22,220	9.738	86%	9.11%	7.39%
Custom Efficiency	13	117,054	21.320	99%	9.11%	7.39%
Interruptible Credit Option	1	0	558.225	79%	9.11%	7.39%
Large Customer-Self Direct	N/A	N/A	N/A	N/A	N/A	N/A
Lighting Efficiency	13	25,922	6.632	81%	9.11%	7.39%
Motor & Drive Efficiency	20	64,277	12.174	70%	9.11%	7.39%
Small Business Lighting	13	28,249	7.196	82%	9.11%	7.39%
<b>Business Segment</b>	<b>14</b>	<b>26,075</b>	<b>16.075</b>	<b>98%</b>	<b>9.11%</b>	<b>7.39%</b>

The following pages provide the assumptions used to estimate the expected impacts of the 2010 and 2011 energy efficiency and load management programs. The Forecasted Technical Assumptions detail the baseline and efficient products, the expected savings by measure resulting from the incremental difference between baseline and efficient products, and SPS's forecasts of the impacts of the expected participation by measure applied to these base technical assumptions to develop the predicted total program impacts. For custom measures, the forecasted impacts are based on average per project impacts multiplied by a forecasted number of projects based on past history of custom measures. Since SPS does not have a long history with custom measures in New Mexico, SPS used Xcel Energy's experience with custom projects from other service areas as a guide.

## 2010 PORTFOLIO TOTAL

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$9,258,824
Transmission & Distribution Capacity	\$2,926,832
Marginal Energy	\$17,617,103
Avoided Emissions	\$1,494,056
System Benefits (Avoided Costs) Subtotal	\$31,296,816
<b>Total Benefits</b>	<b>\$31,296,816</b>
<i>Utility Program Costs</i>	
Total Incentive	\$3,680,384
Internal Administration	\$1,440,200
Third-Party Delivery	\$1,248,231
Promotion	\$828,270
M&V	\$603,148
Utility Program Costs Subtotal	\$7,800,234
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$6,077,017
Incremental O&M Costs	(\$1,580,890)
Costs Subtotal	\$4,496,127
<i>Reductions to Costs</i>	
Participant Rebates	(\$3,509,098)
Reductions to Costs Subtotal	(\$3,509,098)
Participant Costs Subtotal	\$987,029
<b>Total Costs</b>	<b>\$8,787,263</b>
<b>Net Benefit (Cost)</b>	<b>\$22,509,553</b>
<b>Benefit/Cost Ratio</b>	<b>3.56</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	38.97%
Gross Load Factor at Customer	E	10.71%
Net-to-Gross (Energy)	F	88.60%
Net-to-Gross (Demand)	G	95.33%
Transmission Loss Factor (Energy)	H	9.19%
Transmission Loss Factor (Demand)	I	9.89%
TRC Net Benefit (Cost)	J	\$634
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.4122 kW
Gross Annual kWh Saved at Customer	(B x E x C)	938 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	831 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	915 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.72 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.30 kW
Gross Annual kWh Saved at Customer	(B x E x L)	679 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	601 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	662 kWh

#### Program Summary All Participants

Total Participants	M	49,037
<b>Total Budget</b>	<b>N</b>	<b>\$7,800,234</b>
Gross kW Saved at Customer	(M x L)	35,482 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>14,627 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	33,283,290 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	29,489,775 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>32,473,073 kWh</b>
TRC Net Benefits	(M x L x J)	\$22,509,553

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## 2011 PORTFOLIO TOTAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$8,378,843
Transmission & Distribution Capacity	\$2,049,557
Marginal Energy	\$21,546,859
Avoided Emissions	\$1,719,345
System Benefits (Avoided Costs) Subtotal	\$33,694,604
<b>Total Benefits</b>	<b>\$33,694,604</b>
<i>Utility Program Costs</i>	
Total Incentive	\$5,351,900
Internal Administration	\$1,690,414
Third-Party Delivery	\$2,142,886
Promotion	\$1,076,637
M&V	\$624,854
Utility Program Costs Subtotal	\$10,886,691
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$7,136,067
Incremental O&M Costs	(\$982,378)
Costs Subtotal	\$6,153,689
<i>Reductions to Costs</i>	
Participant Rebates	(\$5,135,182)
Reductions to Costs Subtotal	(\$5,135,182)
Participant Costs Subtotal	\$1,018,507
<b>Total Costs</b>	<b>\$11,905,198</b>
<b>Net Benefit (Cost)</b>	<b>\$21,789,406</b>
<b>Benefit/Cost Ratio</b>	<b>2.83</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

2011

ELECTRIC

GOAL

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	31.14%
Gross Load Factor at Customer	E	10.34%
Net-to-Gross (Energy)	F	86.83%
Net-to-Gross (Demand)	G	92.36%
Transmission Loss Factor (Energy)	H	9.45%
Transmission Loss Factor (Demand)	I	10.56%
TRC Net Benefit (Cost)	J	\$507
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.3216 kW
Gross Annual kWh Saved at Customer	(B x E x C)	906 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	787 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	869 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.66 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.21 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	598 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	519 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	573 kWh

#### Program Summary All Participants

Total Participants	M	65,164
<b>Total Budget</b>	<b>N</b>	<b>\$10,886,691</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L.)	43,000 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>13,829 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	38,958,878 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	33,829,539 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>37,360,441 kWh</b>
TRC Net Benefits	(M x L x J)	\$21,789,406

Utility Program Cost per kWh Lifetime

\$0.0232

Utility Program Cost per kW at Generator

\$787

**RESIDENTIAL SEGMENT TOTAL**
**2010**
**ELECTRIC**
**GOAL**
**Net Present Worth Benefit Analysis**
**2010 Cost Benefit Summary  
Analysis For Total Program**

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$2,948,274
Transmission & Distribution Capacity	\$907,527
Marginal Energy	\$7,817,760
Avoided Emissions	\$698,471
System Benefits (Avoided Costs) Subtotal	\$12,372,031
<b>Total Benefits</b>	<b>\$12,372,031</b>
<i>Utility Program Costs</i>	
Total Incentive	\$1,933,873
Internal Administration	\$321,796
Third-Party Delivery	\$651,684
Promotion	\$516,967
M&V	\$275,894
Utility Program Costs Subtotal	\$3,700,214
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$1,879,661
Incremental O&M Costs	(\$54,685)
Costs Subtotal	\$1,824,976
<i>Reductions to Costs</i>	
Participant Rebates	(\$1,933,873)
Reductions to Costs Subtotal	(\$1,933,873)
Participant Costs Subtotal	(\$108,897)
<b>Total Costs</b>	<b>\$3,591,317</b>
<b>Net Benefit (Cost)</b>	<b>\$8,780,714</b>
<b>Benefit/Cost Ratio</b>	<b>3.44</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

**Input Summary and Totals**
**Program "Inputs" per Customer kW**

Lifetime (Weighted on Generator kWh)	A	10 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	14.28%
Gross Load Factor at Customer	E	10.05%
Net-to-Gross (Energy)	F	86.88%
Net-to-Gross (Demand)	G	86.26%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$425
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.1415 kW
Gross Annual kWh Saved at Customer	(B x E x C)	880 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	765 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	856 kWh

**Program Summary per Participant**

Gross kW Saved at Customer	L	0.43 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x L)	374 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	325 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	364 kWh

**Program Summary All Participants**

Total Participants	M	48,560
<b>Total Budget</b>	<b>N</b>	<b>\$3,700,214</b>
Gross kW Saved at Customer	(M x L)	20,649 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>2,923 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	18,177,830 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	15,792,669 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>17,682,979 kWh</b>
TRC Net Benefits	(M x L x J)	\$8,780,714

**Utility Program Cost per kWh Lifetime**
**Utility Program Cost per kW at Generator**

RESIDENTIAL SEGMENT TOTAL		2011	ELECTRIC	GOAL
<b>Net Present Worth Benefit Analysis</b>				
<b>2011 Cost Benefit Summary</b>				
<b>Analysis For Total Program</b>				
	Total Resource Cost Test (\$)			
<i>System Benefits (Avoided Costs)</i>				
Generation Capacity	\$3,967,208			
Transmission & Distribution Capacity	\$998,027			
Marginal Energy	\$12,835,952			
Avoided Emissions	\$1,037,575			
System Benefits (Avoided Costs) Subtotal	\$18,838,762			
<b>Total Benefits</b>	<b>\$18,838,762</b>			
<i>Utility Program Costs</i>				
Total Incentive	\$3,016,078			
Internal Administration	\$442,218			
Third-Party Delivery	\$1,339,636			
Promotion	\$594,669			
M&V	\$297,251			
Utility Program Costs Subtotal	\$5,689,852			
<i>Participant Costs</i>				
<i>Costs</i>				
Incremental Capital Costs	\$3,146,179			
Incremental O&M Costs	(\$50,296)			
Costs Subtotal	\$3,095,883			
<i>Reductions to Costs</i>				
Participant Rebates	(\$2,998,031)			
Reductions to Costs Subtotal	(\$2,998,031)			
Participant Costs Subtotal	\$97,852			
<b>Total Costs</b>	<b>\$5,787,704</b>			
<b>Net Benefit (Cost)</b>	<b>\$13,051,058</b>			
<b>Benefit/Cost Ratio</b>	<b>3.25</b>			
Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.				
<b>Input Summary and Totals</b>				
<b>Program "Inputs" per Customer kW</b>				
Lifetime (Weighted on Generator kWh)	A			12 years
Annual Hours	B			8,760
Gross Customer kW	C			1 kW
Generator Peak Coincidence Factor	D			16.57%
Gross Load Factor at Customer	E			8.94%
Net-to-Gross (Energy)	F			87.26%
Net-to-Gross (Demand)	G			89.18%
Transmission Loss Factor (Energy)	H			10.69%
Transmission Loss Factor (Demand)	I			12.99%
TRC Net Benefit (Cost)	J			\$428
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)			0.1698 kW
Gross Annual kWh Saved at Customer	(B x E x C)			783 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)			683 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)			765 kWh
<b>Program Summary per Participant</b>				
Gross kW Saved at Customer	L			0.47 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)			0.08 kW
Gross Annual kWh Saved at Customer	(B x E x L)			370 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))			322 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)			361 kWh
<b>Program Summary All Participants</b>				
Total Participants	M			64,626
<b>Total Budget</b>	<b>N</b>			<b>\$5,689,852</b>
Gross kW Saved at Customer	(M x L)			30,505 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>			<b>5,181 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M			23,881,683 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M			20,838,065 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>			<b>23,332,287 kWh</b>
TRC Net Benefits	(M x L x J)			\$13,051,058
<b>Utility Program Cost per kWh Lifetime</b>				<b>\$0.0207</b>
<b>Utility Program Cost per kW at Generator</b>				<b>\$1,098</b>

## ELECTRIC WATER HEATING REBATES

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$8,408
Transmission & Distribution Capacity	\$2,195
Marginal Energy	\$35,372
Avoided Emissions	\$2,932
System Benefits (Avoided Costs) Subtotal	\$48,908
<b>Total Benefits</b>	<b>\$48,908</b>
<i>Utility Program Costs</i>	
Total Incentive	\$9,563
Internal Administration	\$6,430
Third-Party Delivery	\$0
Promotion	\$6,000
M&V	\$1,581
Utility Program Costs Subtotal	\$23,574
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$21,425
Incremental O&M Costs	\$1,359
Costs Subtotal	\$22,784
<i>Reductions to Costs</i>	
Participant Rebates	(\$9,563)
Reductions to Costs Subtotal	(\$9,563)
Participant Costs Subtotal	\$13,222
<b>Total Costs</b>	<b>\$36,795</b>
<b>Net Benefit (Cost)</b>	<b>\$12,112</b>
<b>Benefit/Cost Ratio</b>	<b>1.33</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.24%
Gross Load Factor at Customer	E	12.24%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$254
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.1407 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,073 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	1,073 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	1,201 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.33 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x L)	353 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	353 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	395 kWh

#### Program Summary All Participants

Total Participants	M	145
<b>Total Budget</b>	<b>N</b>	<b>\$23,574</b>
Gross kW Saved at Customer	(M x L)	48 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>7 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	51,206 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	51,206 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>57,336 kWh</b>
TRC Net Benefits	(M x L x J)	\$12,112

Utility Program Cost per kWh Lifetime	\$0.0281
Utility Program Cost per kW at Generator	\$3,509

## ELECTRIC WATER HEATING REBATES

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$13,255
Transmission & Distribution Capacity	\$3,477
Marginal Energy	\$55,752
Avoided Emissions	\$4,313
System Benefits (Avoided Costs) Subtotal	\$76,797
<b>Total Benefits</b>	<b>\$76,797</b>
<i>Utility Program Costs</i>	
Total Incentive	\$14,063
Internal Administration	\$1,255
Third-Party Delivery	\$0
Promotion	\$6,120
M&V	\$1,581
Utility Program Costs Subtotal	\$23,018
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$29,750
Incremental O&M Costs	\$2,719
Costs Subtotal	\$32,469
<i>Reductions to Costs</i>	
Participant Rebates	(\$14,063)
Reductions to Costs Subtotal	(\$14,063)
Participant Costs Subtotal	\$18,406
<b>Total Costs</b>	<b>\$41,424</b>
<b>Net Benefit (Cost)</b>	<b>\$35,373</b>
<b>Benefit/Cost Ratio</b>	<b>1.85</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.24%
Gross Load Factor at Customer	E	12.24%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$503
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.1407 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,073 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	1,073 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	1,201 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.45 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	486 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	486 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	544 kWh

#### Program Summary All Participants

Total Participants	M	155
<b>Total Budget</b>	<b>N</b>	<b>\$23,018</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L.)	70 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L.) x D / (1 - I)) x M</b>	<b>10 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	75,357 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	75,357 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>84,377 kWh</b>
TRC Net Benefits	(M x L x J)	\$35,373

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## EVAPORATIVE COOLING REBATES

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$726,606
Transmission & Distribution Capacity	\$188,363
Marginal Energy	\$522,860
Avoided Emissions	\$46,204
System Benefits (Avoided Costs) Subtotal	\$1,484,032
<b>Total Benefits</b>	<b>\$1,484,032</b>
<i>Utility Program Costs</i>	
Total Incentive	\$84,000
Internal Administration	\$8,710
Third-Party Delivery	\$0
Promotion	\$32,842
M&V	\$6,290
Utility Program Costs Subtotal	\$131,842
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$11,497
Incremental O&M Costs	\$2,894
Costs Subtotal	\$14,391
<i>Reductions to Costs</i>	
Participant Rebates	(\$84,000)
Reductions to Costs Subtotal	(\$84,000)
Participant Costs Subtotal	(\$69,609)
<b>Total Costs</b>	<b>\$62,232</b>
<b>Net Benefit (Cost)</b>	<b>\$1,421,800</b>
<b>Benefit/Cost Ratio</b>	<b>23.85</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	10 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	93.00%
Gross Load Factor at Customer	E	15.60%
Net-to-Gross (Energy)	F	60.33%
Net-to-Gross (Demand)	G	60.33%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$2,075
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.6449 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,366 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	824 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	923 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	1.71 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	1.10 kW
Gross Annual kWh Saved at Customer	(B x E x L)	2,340 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	1,412 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	1,581 kWh

#### Program Summary All Participants

Total Participants	M	400
<b>Total Budget</b>	<b>N</b>	<b>\$131,842</b>
Gross kW Saved at Customer	(M x L)	685 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>442 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	936,150 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	564,798 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>632,402 kWh</b>
TRC Net Benefits	(M x L x J)	\$1,421,800

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## EVAPORATIVE COOLING REBATES

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$737,786
Transmission & Distribution Capacity	\$191,980
Marginal Energy	\$544,727
Avoided Emissions	\$44,797
System Benefits (Avoided Costs) Subtotal	\$1,519,290
<b>Total Benefits</b>	<b>\$1,519,290</b>
<i>Utility Program Costs</i>	
Total Incentive	\$84,000
Internal Administration	\$8,808
Third-Party Delivery	\$0
Promotion	\$32,915
M&V	\$6,290
Utility Program Costs Subtotal	\$132,013
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$11,497
Incremental O&M Costs	\$2,894
Costs Subtotal	\$14,391
<i>Reductions to Costs</i>	
Participant Rebates	(\$84,000)
Reductions to Costs Subtotal	(\$84,000)
Participant Costs Subtotal	(\$69,609)
<b>Total Costs</b>	<b>\$62,404</b>
<b>Net Benefit (Cost)</b>	<b>\$1,456,887</b>
<b>Benefit/Cost Ratio</b>	<b>24.35</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	10 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	93.00%
Gross Load Factor at Customer	E	15.60%
Net-to-Gross (Energy)	F	60.33%
Net-to-Gross (Demand)	G	60.33%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$2,126
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.6449 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,366 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	824 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	923 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	1.71 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	1.10 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	2,340 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	1,412 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	1,581 kWh

#### Program Summary All Participants

Total Participants	M	400
<b>Total Budget</b>	<b>N</b>	<b>\$132,013</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L.)	685 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L.) x D / (1 - I)) x M</b>	<b>442 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	936,150 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	564,798 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>632,402 kWh</b>
TRC Net Benefits	(M x L x J)	\$1,456,887

Utility Program Cost per kWh Lifetime

\$0.0209

Utility Program Cost per kW at Generator

\$299

**HOME ENERGY SERVICES**
**2010**
**ELECTRIC**
**GOAL**
**Net Present Worth Benefit Analysis**
**2010 Cost Benefit Summary  
Analysis For Total Program**

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$826,330
Transmission & Distribution Capacity	\$219,923
Marginal Energy	\$3,936,828
Avoided Emissions	\$523,942
System Benefits (Avoided Costs) Subtotal	\$5,307,024
<b>Total Benefits</b>	<b>\$5,307,024</b>
<i>Utility Program Costs</i>	
Total Incentive	\$1,492,839
Internal Administration	\$73,209
Third-Party Delivery	\$36,144
Promotion	\$3,000
M&V	\$141,164
Utility Program Costs Subtotal	\$1,746,356
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$1,480,729
Incremental O&M Costs	\$0
Costs Subtotal	\$1,480,729
<i>Reductions to Costs</i>	
Participant Rebates	(\$1,492,839)
Reductions to Costs Subtotal	(\$1,492,839)
Participant Costs Subtotal	(\$12,110)
<b>Total Costs</b>	<b>\$1,734,246</b>
<b>Net Benefit (Cost)</b>	<b>\$3,572,778</b>
<b>Benefit/Cost Ratio</b>	<b>3.06</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

**Input Summary and Totals**
**Program "Inputs" per Customer kW**

Lifetime (Weighted on Generator kWh)	A	14 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	9.13%
Gross Load Factor at Customer	E	10.74%
Net-to-Gross (Energy)	F	93.00%
Net-to-Gross (Demand)	G	93.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$546
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.0976 kW
Gross Annual kWh Saved at Customer	(B x E x C)	941 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	875 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	979 kWh

**Program Summary per Participant**

Gross kW Saved at Customer	L	1.63 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.16 kW
Gross Annual kWh Saved at Customer	(B x E x L)	1,538 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	1,430 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	1,601 kWh

**Program Summary All Participants**

Total Participants	M	4,000
<b>Total Budget</b>	<b>N</b>	<b>\$1,746,356</b>
Gross kW Saved at Customer	(M x L)	6,539 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>638 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	6,150,502 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	5,719,967 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>6,404,621 kWh</b>
TRC Net Benefits	(M x L x J)	\$3,572,778

**Utility Program Cost per kWh Lifetime**
**Utility Program Cost per kW at Generator**

## HOME ENERGY SERVICES

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis 2011 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$2,117,332
Transmission & Distribution Capacity	\$558,980
Marginal Energy	\$8,001,566
Avoided Emissions	\$621,681
System Benefits (Avoided Costs) Subtotal	\$11,299,559
<b>Total Benefits</b>	<b>\$11,299,559</b>
<i>Utility Program Costs</i>	
Total Incentive	\$2,455,848
Internal Administration	\$137,144
Third-Party Delivery	\$500,396
Promotion	\$4,570
M&V	\$160,000
Utility Program Costs Subtotal	\$3,257,958
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$2,747,548
Incremental O&M Costs	\$0
Costs Subtotal	\$2,747,548
<i>Reductions to Costs</i>	
Participant Rebates	(\$2,455,848)
Reductions to Costs Subtotal	(\$2,455,848)
Participant Costs Subtotal	\$291,700
<b>Total Costs</b>	<b>\$3,549,658</b>
<b>Net Benefit (Cost)</b>	<b>\$7,749,901</b>
<b>Benefit/Cost Ratio</b>	<b>3.18</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.20%
Gross Load Factor at Customer	E	11.14%
Net-to-Gross (Energy)	F	93.05%
Net-to-Gross (Demand)	G	93.04%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$597
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.1304 kW
Gross Annual kWh Saved at Customer	(B x E x C)	975 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	908 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	1,016 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	2.99 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.39 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	2,914 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	2,711 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	3,036 kWh

#### Program Summary All Participants

Total Participants	M	4,345
<b>Total Budget</b>	<b>N</b>	<b>\$3,257,958</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L.)	12,979 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>1,693 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	12,660,094 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	11,779,804 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>13,189,793 kWh</b>
TRC Net Benefits	(M x L x J)	\$7,749,901

Utility Program Cost per kWh Lifetime

\$0.0185

Utility Program Cost per kW at Generator

\$1,925

## HOME LIGHTING & RECYCLING

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$390,930
Transmission & Distribution Capacity	\$100,845
Marginal Energy	\$2,475,060
Avoided Emissions	\$247,755
System Benefits (Avoided Costs) Subtotal	\$3,214,590
<b>Total Benefits</b>	<b>\$3,214,590</b>
<i>Utility Program Costs</i>	
Total Incentive	\$157,500
Internal Administration	\$67,762
Third-Party Delivery	\$105,000
Promotion	\$378,725
M&V	\$45,990
Utility Program Costs Subtotal	\$754,977
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$192,975
Incremental O&M Costs	\$0
Costs Subtotal	\$192,975
<i>Reductions to Costs</i>	
Participant Rebates	(\$157,500)
Reductions to Costs Subtotal	(\$157,500)
Participant Costs Subtotal	\$35,475
<b>Total Costs</b>	<b>\$790,452</b>
<b>Net Benefit (Cost)</b>	<b>\$2,424,138</b>
<b>Benefit/Cost Ratio</b>	<b>4.07</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	7 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	8.00%
Gross Load Factor at Customer	E	13.29%
Net-to-Gross (Energy)	F	83.00%
Net-to-Gross (Demand)	G	83.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$311
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.0763 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,164 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	966 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	1,082 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.21 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.02 kW
Gross Annual kWh Saved at Customer	(B x E x L)	242 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	201 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	225 kWh

#### Program Summary All Participants

Total Participants	M	37,500
<b>Total Budget</b>		
Gross kW Saved at Customer	(M x L)	7,800 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>595 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	9,081,150 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	7,537,355 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>8,439,541 kWh</b>
TRC Net Benefits	(M x L x J)	\$2,424,138

Utility Program Cost per kWh Lifetime	\$0.0131
Utility Program Cost per kW at Generator	\$1,268

**HOME LIGHTING & RECYCLING**
**2011**
**ELECTRIC**
**GOAL**
**Net Present Worth Benefit Analysis**
**2011 Cost Benefit Summary**
**Analysis For Total Program**

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$765,539
Transmission & Distribution Capacity	\$198,239
Marginal Energy	\$3,394,802
Avoided Emissions	\$296,031
System Benefits (Avoided Costs) Subtotal	\$4,654,611
<b>Total Benefits</b>	<b>\$4,654,611</b>
<i>Utility Program Costs</i>	
Total Incentive	\$172,500
Internal Administration	\$68,208
Third-Party Delivery	\$133,500
Promotion	\$453,864
M&V	\$46,030
Utility Program Costs Subtotal	\$874,102
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$186,000
Incremental O&M Costs	\$0
Costs Subtotal	\$186,000
<i>Reductions to Costs</i>	
Participant Rebates	(\$172,500)
Reductions to Costs Subtotal	(\$172,500)
Participant Costs Subtotal	\$13,500
<b>Total Costs</b>	<b>\$887,602</b>
<b>Net Benefit (Cost)</b>	<b>\$3,767,009</b>
<b>Benefit/Cost Ratio</b>	<b>5.24</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

**Input Summary and Totals**
**Program "Inputs" per Customer kW**

Lifetime (Weighted on Generator kWh)	A	10 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.17%
Gross Load Factor at Customer	E	11.24%
Net-to-Gross (Energy)	F	80.00%
Net-to-Gross (Demand)	G	80.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$461
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.0935 kW
Gross Annual kWh Saved at Customer	(B x E x C)	985 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	788 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	882 kWh

**Program Summary per Participant**

Gross kW Saved at Customer	L	0.22 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.02 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	215 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	172 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	192 kWh

**Program Summary All Participants**

Total Participants	M	37,500
<b>Total Budget</b>	<b>N</b>	<b>\$874,102</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L.)	8,175 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L.) x D / (1 - I)) x M</b>	<b>764 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	8,052,375 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	6,441,900 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>7,212,966 kWh</b>
TRC Net Benefits	(M x L x J)	\$3,767,009

**Utility Program Cost per kWh Lifetime**
**Utility Program Cost per kW at Generator**

**Net Present Worth Benefit Analysis**  
**2010 Cost Benefit Summary**  
**Analysis For Total Program**

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$120,605
Transmission & Distribution Capacity	\$31,340
Marginal Energy	\$447,194
Avoided Emissions	\$39,147
System Benefits (Avoided Costs) Subtotal	\$638,285
<b>Total Benefits</b>	<b>\$638,285</b>
<i>Utility Program Costs</i>	
Total Incentive	\$132,722
Internal Administration	\$15,329
Third-Party Delivery	\$110,290
Promotion	\$18,900
M&V	\$17,801
Utility Program Costs Subtotal	\$295,042
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$140,785
Incremental O&M Costs	\$241
Costs Subtotal	\$141,026
<i>Reductions to Costs</i>	
Participant Rebates	(\$132,722)
Reductions to Costs Subtotal	(\$132,722)
Participant Costs Subtotal	\$8,304
<b>Total Costs</b>	<b>\$303,346</b>
<b>Net Benefit (Cost)</b>	<b>\$334,940</b>
<b>Benefit/Cost Ratio</b>	<b>2.10</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

**Input Summary and Totals**

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	11.27%
Gross Load Factor at Customer	E	10.54%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$365
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.1295 kW
Gross Annual kWh Saved at Customer	(B x E x C)	923 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	923 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	1,034 kWh
Program Summary per Participant		
Gross kW Saved at Customer	L	0.35 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.04 kW
Gross Annual kWh Saved at Customer	(B x E x L)	319 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	319 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	357 kWh
Program Summary All Participants		
Total Participants	M	2,660
<b>Total Budget</b>	<b>N</b>	<b>\$295,042</b>
Gross kW Saved at Customer	(M x L)	918 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>119 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	847,861 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	847,861 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>949,346 kWh</b>
TRC Net Benefits	(M x L x J)	\$334,940
<b>Utility Program Cost per kWh Lifetime</b>		<b>\$0.0290</b>
<b>Utility Program Cost per kW at Generator</b>		<b>\$2,480</b>

## LOW-INCOME

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis 2011 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$118,272
Transmission & Distribution Capacity	\$30,825
Marginal Energy	\$459,961
Avoided Emissions	\$37,135
System Benefits (Avoided Costs) Subtotal	\$646,192
<b>Total Benefits</b>	<b>\$646,192</b>
<i>Utility Program Costs</i>	
Total Incentive	\$132,722
Internal Administration	\$15,329
Third-Party Delivery	\$110,290
Promotion	\$18,900
M&V	\$17,801
Utility Program Costs Subtotal	\$295,042
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$140,785
Incremental O&M Costs	\$241
Costs Subtotal	\$141,026
<i>Reductions to Costs</i>	
Participant Rebates	(\$132,722)
Reductions to Costs Subtotal	(\$132,722)
Participant Costs Subtotal	\$8,304
<b>Total Costs</b>	<b>\$303,346</b>
<b>Net Benefit (Cost)</b>	<b>\$342,846</b>
<b>Benefit/Cost Ratio</b>	<b>2.13</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	10 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	11.27%
Gross Load Factor at Customer	E	10.91%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$373
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.1295 kW
Gross Annual kWh Saved at Customer	(B x E x C)	956 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	956 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	1,070 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.35 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.04 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	330 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	330 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	369 kWh

#### Program Summary All Participants

Total Participants	M	2,660
<b>Total Budget</b>	<b>N</b>	<b>\$295,042</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L.)	918 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L.) x D / (1 - I)) x M</b>	<b>119 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	877,631 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	877,631 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>982,679 kWh</b>
TRC Net Benefits	(M x L x J)	\$342,846

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## REFRIGERATOR RECYCLING

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$57,348
Transmission & Distribution Capacity	\$14,820
Marginal Energy	\$220,201
Avoided Emissions	\$20,423
System Benefits (Avoided Costs) Subtotal	\$312,792
<b>Total Benefits</b>	<b>\$312,792</b>
<i>Utility Program Costs</i>	
Total Incentive	\$25,000
Internal Administration	\$12,050
Third-Party Delivery	\$57,500
Promotion	\$30,000
M&V	\$6,500
Utility Program Costs Subtotal	\$131,050
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$0
Incremental O&M Costs	\$0
Costs Subtotal	\$0
<i>Reductions to Costs</i>	
Participant Rebates	(\$25,000)
Reductions to Costs Subtotal	(\$25,000)
Participant Costs Subtotal	(\$25,000)
<b>Total Costs</b>	<b>\$106,050</b>
<b>Net Benefit (Cost)</b>	<b>\$206,742</b>
<b>Benefit/Cost Ratio</b>	<b>2.95</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	8 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	55.00%
Gross Load Factor at Customer	E	55.00%
Net-to-Gross (Energy)	F	93.00%
Net-to-Gross (Demand)	G	93.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$1,766
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.5879 kW
Gross Annual kWh Saved at Customer	(B x E x C)	4,818 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	4,481 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	5,017 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.23 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.14 kW
Gross Annual kWh Saved at Customer	(B x E x L)	1,128 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	1,049 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	1,175 kWh

#### Program Summary All Participants

Total Participants	M	500
<b>Total Budget</b>	<b>N</b>	<b>\$131,050</b>
Gross kW Saved at Customer	(M x L)	117 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>69 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	563,981 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	524,502 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>587,283 kWh</b>
TRC Net Benefits	(M x L x J)	\$206,742

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## REFRIGERATOR RECYCLING

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$35,533
Transmission & Distribution Capacity	\$9,217
Marginal Energy	\$163,131
Avoided Emissions	\$13,887
System Benefits (Avoided Costs) Subtotal	\$221,767
<b>Total Benefits</b>	<b>\$221,767</b>
<i>Utility Program Costs</i>	
Total Incentive	\$36,700
Internal Administration	\$12,291
Third-Party Delivery	\$58,650
Promotion	\$30,600
M&V	\$6,630
Utility Program Costs Subtotal	\$144,871
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$0
Incremental O&M Costs	\$0
Costs Subtotal	\$0
<i>Reductions to Costs</i>	
Participant Rebates	(\$36,300)
Reductions to Costs Subtotal	(\$36,300)
Participant Costs Subtotal	(\$36,300)
<b>Total Costs</b>	<b>\$108,571</b>
<b>Net Benefit (Cost)</b>	<b>\$113,196</b>
<b>Benefit/Cost Ratio</b>	<b>2.04</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	5 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	55.00%
Gross Load Factor at Customer	E	63.42%
Net-to-Gross (Energy)	F	75.00%
Net-to-Gross (Demand)	G	75.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$866
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.4741 kW
Gross Annual kWh Saved at Customer	(B x E x C)	5,556 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	4,167 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	4,665 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.27 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.13 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	1,500 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	1,125 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	1,260 kWh

#### Program Summary All Participants

Total Participants	M	484
<b>Total Budget</b>	<b>N</b>	<b>\$144,871</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L.)	131 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L.) x D / (1 - I)) x M</b>	<b>62 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	726,000 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	544,500 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>609,674 kWh</b>
TRC Net Benefits	(M x L x J)	\$113,196

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

**SAVER'S SWITCH - RESIDENTIAL**
**2011**
**ELECTRIC**
**GOAL**
**Net Present Worth Benefit Analysis**
**2011 Cost Benefit Summary  
Analysis For Total Program**

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$158,957
Transmission & Distribution Capacity	\$0
Marginal Energy	\$811
Avoided Emissions	\$90
System Benefits (Avoided Costs) Subtotal	\$159,857
<b>Total Benefits</b>	<b>\$159,857</b>
<i>Utility Program Costs</i>	
Total Incentive	\$72,000
Internal Administration	\$128,483
Third-Party Delivery	\$247,500
Promotion	\$47,700
M&V	\$51,200
Utility Program Costs Subtotal	\$546,883
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$0
Incremental O&M Costs	\$0
Costs Subtotal	\$0
<i>Reductions to Costs</i>	
Participant Rebates	(\$72,000)
Reductions to Costs Subtotal	(\$72,000)
Participant Costs Subtotal	(\$72,000)
<b>Total Costs</b>	<b>\$474,883</b>
<b>Net Benefit (Cost)</b>	<b>(\$315,026)</b>
<b>Benefit/Cost Ratio</b>	<b>0.34</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

**Input Summary and Totals**
**Program "Inputs" per Customer kW**

Lifetime (Weighted on Generator kWh)	A	1 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	33.35%
Gross Load Factor at Customer	E	0.03%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	(\$58)
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.3833 kW
Gross Annual kWh Saved at Customer	(B x E x C)	2 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	2 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	3 kWh

**Program Summary per Participant**

Gross kW Saved at Customer	L	3.16 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	1.21 kW
Gross Annual kWh Saved at Customer	(B x E x L)	8 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	8 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	9 kWh

**Program Summary All Participants**

Total Participants	M	1,710
<b>Total Budget</b>	<b>N</b>	<b>\$546,883</b>
Gross kW Saved at Customer	(M x L)	5,402 kW
Net Coincident kW Saved at Generator	((G x L) x D / (1 - I)) x M	2,071 kW
Gross Annual kWh Saved at Customer	(B x E x L) x M	13,473 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	13,473 kWh
Net Annual kWh Saved at Generator	((F x (B x E x L)) / (1 - H)) x M	15,086 kWh
TRC Net Benefits	(M x L x J)	(\$315,026)

Utility Program Cost per kWh Lifetime	\$36.2521
Utility Program Cost per kW at Generator	\$264

## SAVER'S SWITCH - RESIDENTIAL (LIFE-CYCLE ANALYSIS)

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$712,200
Transmission & Distribution Capacity	\$0
Marginal Energy	\$4,266
Avoided Emissions	\$337
System Benefits (Avoided Costs) Subtotal	\$716,803
<b>Total Benefits</b>	<b>\$716,803</b>
<i>Utility Program Costs</i>	
Total Incentive	\$371,912
Internal Administration	\$128,483
Third-Party Delivery	\$247,500
Promotion	\$47,700
M&V	\$51,200
Utility Program Costs Subtotal	\$846,795
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$0
Incremental O&M Costs	\$0
Costs Subtotal	\$0
<i>Reductions to Costs</i>	
Participant Rebates	(\$371,912)
Reductions to Costs Subtotal	(\$371,912)
Participant Costs Subtotal	(\$371,912)
<b>Total Costs</b>	<b>\$474,883</b>
<b>Net Benefit (Cost)</b>	<b>\$241,920</b>
<b>Benefit/Cost Ratio</b>	<b>1.51</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	33.35%
Gross Load Factor at Customer	E	0.03%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	0.00%
Transmission Loss Factor (Demand)	I	0.00%
TRC Net Benefit (Cost)	J	\$90
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.3335 kW
Gross Annual kWh Saved at Customer	(B x E x C)	2 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	2 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	2 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	3.16 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	1.05 kW
Gross Annual kWh Saved at Customer	(B x E x L)	8 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	8 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	8 kWh

#### Program Summary All Participants

Total Participants	M	855
<b>Total Budget</b>	<b>N</b>	<b>\$546,883</b>
Gross kW Saved at Customer	(M x L)	2,701 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>901 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	6,736 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	6,736 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>6,736 kWh</b>
<b>TRC Net Benefits</b>	<b>(M x L x J)</b>	<b>\$241,920</b>

Utility Program Cost per kWh Lifetime	\$5.4122
Utility Program Cost per kW at Generator	\$607

## SCHOOL EDUCATION KITS

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$11,618
Transmission & Distribution Capacity	\$2,997
Marginal Energy	\$175,657
Avoided Emissions	\$17,684
System Benefits (Avoided Costs) Subtotal	\$207,956
<b>Total Benefits</b>	<b>\$207,956</b>
<i>Utility Program Costs</i>	
Total Incentive	\$32,250
Internal Administration	\$10,700
Third-Party Delivery	\$95,250
Promotion	\$0
M&V	\$7,568
Utility Program Costs Subtotal	\$145,768
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$32,250
Incremental O&M Costs	(\$59,179)
Costs Subtotal	(\$26,929)
<i>Reductions to Costs</i>	
Participant Rebates	(\$32,250)
Reductions to Costs Subtotal	(\$32,250)
Participant Costs Subtotal	(\$59,179)
<b>Total Costs</b>	<b>\$86,589</b>
<b>Net Benefit (Cost)</b>	<b>\$121,367</b>
<b>Benefit/Cost Ratio</b>	<b>2.40</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	6 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.84%
Gross Load Factor at Customer	E	3.35%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$66
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.0096 kW
Gross Annual kWh Saved at Customer	(B x E x C)	294 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	294 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	329 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.74 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.01 kW
Gross Annual kWh Saved at Customer	(B x E x L)	216 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	216 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	242 kWh

#### Program Summary All Participants

Total Participants	M	2,500
<b>Total Budget</b>	<b>N</b>	<b>\$145,768</b>
Gross kW Saved at Customer	(M x L)	1,841 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>18 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	540,244 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	540,244 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>604,909 kWh</b>
TRC Net Benefits	(M x L x J)	\$121,367

#### Utility Program Cost per kWh Lifetime

Utility Program Cost per kWh Lifetime	\$0.0383
Utility Program Cost per kWh at Generator	\$8,240

## SCHOOL EDUCATION KITS

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$20,534
Transmission & Distribution Capacity	\$5,310
Marginal Energy	\$215,202
Avoided Emissions	\$19,642
System Benefits (Avoided Costs) Subtotal	\$260,689
<b>Total Benefits</b>	<b>\$260,689</b>
<i>Utility Program Costs</i>	
Total Incentive	\$48,246
Internal Administration	\$10,700
Third-Party Delivery	\$97,800
Promotion	\$0
M&V	\$7,719
Utility Program Costs Subtotal	\$164,465
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$30,599
Incremental O&M Costs	(\$56,149)
Costs Subtotal	(\$25,550)
<i>Reductions to Costs</i>	
Participant Rebates	(\$30,599)
Reductions to Costs Subtotal	(\$30,599)
Participant Costs Subtotal	(\$56,149)
<b>Total Costs</b>	<b>\$108,316</b>
<b>Net Benefit (Cost)</b>	<b>\$152,373</b>
<b>Benefit/Cost Ratio</b>	<b>2.41</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	7 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.83%
Gross Load Factor at Customer	E	2.88%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	10.69%
Transmission Loss Factor (Demand)	I	12.99%
TRC Net Benefit (Cost)	J	\$71
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.0096 kW
Gross Annual kWh Saved at Customer	(B x E x C)	252 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	252 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	282 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	0.90 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	0.01 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	228 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	228 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	255 kWh

#### Program Summary All Participants

Total Participants	M	2,372
<b>Total Budget</b>	<b>N</b>	<b>\$164,465</b>
Gross kW Saved at Customer	(M x L.)	2,145 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>21 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	540,604 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	540,604 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>605,311 kWh</b>
TRC Net Benefits	(M x L x J)	\$152,373

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

BUSINESS SEGMENT TOTAL		2010	ELECTRIC	GOAL
<b>Net Present Worth Benefit Analysis</b>				
<b>2010 Cost Benefit Summary</b>				
<b>Analysis For Total Program</b>				
	Total Resource Cost Test (\$)			
<i>System Benefits (Avoided Costs)</i>				
Generation Capacity	\$6,310,550			
Transmission & Distribution Capacity	\$2,019,305			
Marginal Energy	\$9,799,343			
Avoided Emissions	\$795,585			
System Benefits (Avoided Costs) Subtotal	\$18,924,784			
<b>Total Benefits</b>	<b>\$18,924,784</b>			
<i>Utility Program Costs</i>				
Total Incentive	\$1,746,511			
Internal Administration	\$646,715			
Third-Party Delivery	\$596,547			
Promotion	\$189,920			
M&V	\$220,254			
Utility Program Costs Subtotal	\$3,399,948			
<i>Participant Costs</i>				
<i>Costs</i>				
Incremental Capital Costs	\$4,197,356			
Incremental O&M Costs	(\$1,526,205)			
Costs Subtotal	\$2,671,151			
<i>Reductions to Costs</i>				
Participant Rebates	(\$1,575,225)			
Reductions to Costs Subtotal	(\$1,575,225)			
Participant Costs Subtotal	\$1,095,926			
<b>Total Costs</b>	<b>\$4,495,874</b>			
<b>Net Benefit (Cost)</b>	<b>\$14,428,911</b>			
<b>Benefit/Cost Ratio</b>	<b>4.21</b>			
<i>Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.</i>				
<b>Input Summary and Totals</b>				
<b>Program "Inputs" per Customer kW</b>				
Lifetime (Weighted on Generator kWh)	A			16 years
Annual Hours	B			8,760
Gross Customer kW	C			1 kW
Generator Peak Coincidence Factor	D			73.34%
Gross Load Factor at Customer	E			11.63%
Net-to-Gross (Energy)	F			90.68%
Net-to-Gross (Demand)	G			97.79%
Transmission Loss Factor (Energy)	H			7.39%
Transmission Loss Factor (Demand)	I			9.11%
TRC Net Benefit (Cost)	J			\$973
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)			0.7891 kW
Gross Annual kWh Saved at Customer	(B x E x C)			1,018 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)			923 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)			997 kWh
<b>Program Summary per Participant</b>				
Gross kW Saved at Customer	L			31.09 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)			24.53 kW
Gross Annual kWh Saved at Customer	(B x E x L)			31,660 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))			28,708 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)			30,999 kWh
<b>Program Summary All Participants</b>				
Total Participants	M			477
<b>Total Budget</b>	<b>N</b>			<b>\$3,399,948</b>
Gross kW Saved at Customer	(M x L)			14,833 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>			<b>11,705 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M			15,105,460 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M			13,697,106 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>			<b>14,790,094 kWh</b>
TRC Net Benefits	(M x L x J)			\$14,428,911
<b>Utility Program Cost per kWh Lifetime</b>				<b>\$0.0143</b>
<b>Utility Program Cost per kW at Generator</b>				<b>\$290</b>

BUSINESS SEGMENT TOTAL		2011	ELECTRIC	GOAL
<b>Net Present Worth Benefit Analysis</b>				
<b>2011 Cost Benefit Summary</b>				
<b>Analysis For Total Program</b>				
	Total Resource Cost Test (\$)			
<i>System Benefits (Avoided Costs)</i>				
Generation Capacity	\$4,411,635			
Transmission & Distribution Capacity	\$1,051,530			
Marginal Energy	\$8,710,907			
Avoided Emissions	\$681,770			
System Benefits (Avoided Costs) Subtotal	\$14,855,842			
<b>Total Benefits</b>	<b>\$14,855,842</b>			
<i>Utility Program Costs</i>				
Total Incentive	\$2,335,822			
Internal Administration	\$768,156			
Third-Party Delivery	\$803,250			
Promotion	\$235,319			
M&V	\$220,003			
Utility Program Costs Subtotal	\$4,362,550			
<i>Participant Costs</i>				
<i>Costs</i>				
Incremental Capital Costs	\$3,989,888			
Incremental O&M Costs	(\$932,082)			
Costs Subtotal	\$3,057,806			
<i>Reductions to Costs</i>				
Participant Rebates	(\$2,137,151)			
Reductions to Costs Subtotal	(\$2,137,151)			
Participant Costs Subtotal	\$920,655			
<b>Total Costs</b>	<b>\$5,283,204</b>			
<b>Net Benefit (Cost)</b>	<b>\$9,572,638</b>			
<b>Benefit/Cost Ratio</b>	<b>2.81</b>			
Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.				
<b>Input Summary and Totals</b>				
<b>Program "Inputs" per Customer kW</b>				
Lifetime (Weighted on Generator kWh)	A			14 years
Annual Hours	B			8,760
Gross Customer kW	C			1 kW
Generator Peak Coincidence Factor	D			66.71%
Gross Load Factor at Customer	E			13.77%
Net-to-Gross (Energy)	F			86.17%
Net-to-Gross (Demand)	G			94.30%
Transmission Loss Factor (Energy)	H			7.39%
Transmission Loss Factor (Demand)	I			9.11%
TRC Net Benefit (Cost)	J			\$766
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)			0.6921 kW
Gross Annual kWh Saved at Customer	(B x E x C)			1,207 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)			1,040 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)			1,123 kWh
<b>Program Summary per Participant</b>				
Gross kW Saved at Customer	L			23.23 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)			16.08 kW
Gross Annual kWh Saved at Customer	(B x E x L)			28,025 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))			24,148 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)			26,075 kWh
<b>Program Summary All Participants</b>				
Total Participants	M			538
<b>Total Budget</b>	<b>N</b>			<b>\$4,362,550</b>
Gross kW Saved at Customer	(M x L)			12,495 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>			<b>8,648 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M			15,077,195 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M			12,991,473 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>			<b>14,028,154 kWh</b>
TRC Net Benefits	(M x L x J)			\$9,572,638
<b>Utility Program Cost per kWh Lifetime</b>				<b>\$0.0224</b>
<b>Utility Program Cost per kW at Generator</b>				<b>\$504</b>

## Net Present Worth Benefit Analysis

## 2011 Cost Benefit Summary

## Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$108,386
Transmission & Distribution Capacity	\$0
Marginal Energy	\$1,016
Avoided Emissions	\$112
System Benefits (Avoided Costs) Subtotal	\$109,514
<b>Total Benefits</b>	<b>\$109,514</b>
<i>Utility Program Costs</i>	
Total Incentive	\$16,000
Internal Administration	\$51,164
Third-Party Delivery	\$66,000
Promotion	\$13,880
M&V	\$46,200
Utility Program Costs Subtotal	\$193,244
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$0
Incremental O&M Costs	\$0
Costs Subtotal	\$0
<i>Reductions to Costs</i>	
Participant Rebates	(\$16,000)
Reductions to Costs Subtotal	(\$16,000)
Participant Costs Subtotal	(\$16,000)
<b>Total Costs</b>	<b>\$177,244</b>
<b>Net Benefit (Cost)</b>	<b>(\$67,730)</b>
<b>Benefit/Cost Ratio</b>	<b>0.62</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

## Input Summary and Totals

## Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	1 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	35.76%
Gross Load Factor at Customer	E	0.06%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	(\$19)
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.3935 kW
Gross Annual kWh Saved at Customer	(B x E x C)	5 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	5 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	5 kWh

## Program Summary per Participant

Gross kW Saved at Customer	L	21.88 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	8.61 kW
Gross Annual kWh Saved at Customer	(B x E x L)	107 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	107 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	115 kWh

## Program Summary All Participants

Total Participants	M	164
<b>Total Budget</b>	<b>N</b>	<b>\$193,244</b>
Gross kW Saved at Customer	(M x L)	3,588 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>1,412 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	17,499 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	17,499 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>18,895 kWh</b>
TRC Net Benefits	(M x L x J)	(\$67,730)

## Utility Program Cost per kWh Lifetime

## Utility Program Cost per kW at Generator

## SAVER'S SWITCH - BUSINESS (LIFE-CYCLE ANALYSIS)

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$507,275
Transmission & Distribution Capacity	\$0
Marginal Energy	\$5,541
Avoided Emissions	\$438
System Benefits (Avoided Costs) Subtotal	\$513,253
<b>Total Benefits</b>	<b>\$513,253</b>
<i>Utility Program Costs</i>	
Total Incentive	\$82,647
Internal Administration	\$51,164
Third-Party Delivery	\$66,000
Promotion	\$13,880
M&V	\$46,200
Utility Program Costs Subtotal	\$259,891
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$0
Incremental O&M Costs	\$0
Costs Subtotal	\$0
<i>Reductions to Costs</i>	
Participant Rebates	(\$82,647)
Reductions to Costs Subtotal	(\$82,647)
Participant Costs Subtotal	(\$82,647)
<b>Total Costs</b>	<b>\$177,244</b>
<b>Net Benefit (Cost)</b>	<b>\$336,009</b>
<b>Benefit/Cost Ratio</b>	<b>2.90</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	35.76%
Gross Load Factor at Customer	E	0.06%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	0.00%
Transmission Loss Factor (Demand)	I	0.00%
TRC Net Benefit (Cost)	J	\$187
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.3576 kW
Gross Annual kWh Saved at Customer	(B x E x C)	5 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	5 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	5 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	21.88 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	7.82 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	107 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	107 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	107 kWh

#### Program Summary All Participants

Total Participants	M	82
<b>Total Budget</b>	<b>N</b>	<b>\$193,244</b>
Gross kW Saved at Customer	(M x L.)	1,794 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L.) x D / (1 - I)) x M</b>	<b>642 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	8,749 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	8,749 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>8,749 kWh</b>
TRC Net Benefits	(M x L x J)	\$336,009

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## COOLING EFFICIENCY

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$665,017
Transmission & Distribution Capacity	\$174,692
Marginal Energy	\$803,691
Avoided Emissions	\$64,494
System Benefits (Avoided Costs) Subtotal	\$1,707,893
<b>Total Benefits</b>	<b>\$1,707,893</b>
<i>Utility Program Costs</i>	
Total Incentive	\$208,918
Internal Administration	\$60,269
Third-Party Delivery	\$1,000
Promotion	\$24,942
M&V	\$28,450
Utility Program Costs Subtotal	\$323,579
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$364,906
Incremental O&M Costs	\$25,891
Costs Subtotal	\$390,798
<i>Reductions to Costs</i>	
Participant Rebates	(\$184,918)
Reductions to Costs Subtotal	(\$184,918)
Participant Costs Subtotal	\$205,880
<b>Total Costs</b>	<b>\$529,459</b>
<b>Net Benefit (Cost)</b>	<b>\$1,178,434</b>
<b>Benefit/Cost Ratio</b>	<b>3.23</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	19 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	81.45%
Gross Load Factor at Customer	E	22.03%
Net-to-Gross (Energy)	F	89.74%
Net-to-Gross (Demand)	G	91.44%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$2,203
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.8194 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,929 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	1,732 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	1,870 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	11.88 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	9.74 kW
Gross Annual kWh Saved at Customer	(B x E x L)	22,931 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	20,578 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	22,220 kWh

#### Program Summary All Participants

Total Participants	M	45
<b>Total Budget</b>		
Gross kW Saved at Customer	(M x L)	535 kW
<b>Net Coincident kW Saved at Generator</b>	((G x L) x D / (1 - I)) x M	438 kW
Gross Annual kWh Saved at Customer	(B x E x L) x M	1,031,877 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	926,024 kWh
<b>Net Annual kWh Saved at Generator</b>	((F x (B x E x L)) / (1 - H)) x M	999,918 kWh
<b>TRC Net Benefits</b>	(M x L x J)	\$1,178,434

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## COOLING EFFICIENCY

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$672,852
Transmission & Distribution Capacity	\$177,417
Marginal Energy	\$833,406
Avoided Emissions	\$64,013
System Benefits (Avoided Costs) Subtotal	\$1,747,688
<b>Total Benefits</b>	<b>\$1,747,688</b>
<i>Utility Program Costs</i>	
Total Incentive	\$212,751
Internal Administration	\$61,971
Third-Party Delivery	\$1,000
Promotion	\$25,175
M&V	\$28,450
Utility Program Costs Subtotal	\$329,347
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$364,906
Incremental O&M Costs	\$25,891
Costs Subtotal	\$390,798
<i>Reductions to Costs</i>	
Participant Rebates	(\$188,751)
Reductions to Costs Subtotal	(\$188,751)
Participant Costs Subtotal	\$202,047
<b>Total Costs</b>	<b>\$531,394</b>
<b>Net Benefit (Cost)</b>	<b>\$1,216,294</b>
<b>Benefit/Cost Ratio</b>	<b>3.29</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	19 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	81.45%
Gross Load Factor at Customer	E	22.03%
Net-to-Gross (Energy)	F	89.74%
Net-to-Gross (Demand)	G	91.44%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$2,274
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.8194 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,929 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	1,732 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	1,870 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	11.88 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	9.74 kW
Gross Annual kWh Saved at Customer	(B x E x L)	22,931 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	20,578 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	22,220 kWh

#### Program Summary All Participants

Total Participants	M	45
<b>Total Budget</b>	<b>N</b>	<b>\$329,347</b>
Gross kW Saved at Customer	(M x L)	535 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>438 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	1,031,877 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	926,024 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>999,918 kWh</b>
TRC Net Benefits	(M x L x J)	\$1,216,294

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## CUSTOM EFFICIENCY

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$840,234
Transmission & Distribution Capacity	\$219,538
Marginal Energy	\$3,269,878
Avoided Emissions	\$263,828
System Benefits (Avoided Costs) Subtotal	\$4,593,478
<b>Total Benefits</b>	<b>\$4,593,478</b>
<i>Utility Program Costs</i>	
Total Incentive	\$597,838
Internal Administration	\$154,601
Third-Party Delivery	\$93,200
Promotion	\$44,942
M&V	\$45,029
Utility Program Costs Subtotal	\$935,610
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$1,949,338
Incremental O&M Costs	(\$1,571,807)
Costs Subtotal	\$377,531
<i>Reductions to Costs</i>	
Participant Rebates	(\$577,837)
Reductions to Costs Subtotal	(\$577,837)
Participant Costs Subtotal	(\$200,306)
<b>Total Costs</b>	<b>\$735,304</b>
<b>Net Benefit (Cost)</b>	<b>\$3,858,174</b>
<b>Benefit/Cost Ratio</b>	<b>6.25</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	16 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	63.44%
Gross Load Factor at Customer	E	58.11%
Net-to-Gross (Energy)	F	87.00%
Net-to-Gross (Demand)	G	87.00%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$3,591
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.6073 kW
Gross Annual kWh Saved at Customer	(B x E x C)	5,091 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	4,429 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	4,782 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	21.07 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	12.79 kW
Gross Annual kWh Saved at Customer	(B x E x L)	107,258 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	93,314 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	100,760 kWh

#### Program Summary All Participants

Total Participants	M	51
<b>Total Budget</b>	<b>N</b>	<b>\$935,610</b>
Gross kW Saved at Customer	(M x L)	1,075 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>653 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	5,470,136 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	4,759,018 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>5,138,774 kWh</b>
TRC Net Benefits	(M x L x J)	\$3,858,174

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## CUSTOM EFFICIENCY

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis 2011 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$829,965
Transmission & Distribution Capacity	\$216,562
Marginal Energy	\$2,576,650
Avoided Emissions	\$204,199
System Benefits (Avoided Costs) Subtotal	\$3,827,376
<b>Total Benefits</b>	<b>\$3,827,376</b>
<i>Utility Program Costs</i>	
Total Incentive	\$632,255
Internal Administration	\$158,297
Third-Party Delivery	\$100,400
Promotion	\$55,375
M&V	\$62,586
Utility Program Costs Subtotal	\$1,008,913
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$1,524,512
Incremental O&M Costs	(\$982,379)
Costs Subtotal	\$542,132
<i>Reductions to Costs</i>	
Participant Rebates	(\$612,255)
Reductions to Costs Subtotal	(\$612,255)
Participant Costs Subtotal	(\$70,122)
<b>Total Costs</b>	<b>\$938,791</b>
<b>Net Benefit (Cost)</b>	<b>\$2,888,585</b>
<b>Benefit/Cost Ratio</b>	<b>4.08</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.40%
Gross Load Factor at Customer	E	50.07%
Net-to-Gross (Energy)	F	87.00%
Net-to-Gross (Demand)	G	87.00%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$2,542
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.7504 kW
Gross Annual kWh Saved at Customer	(B x E x C)	4,386 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	3,816 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	4,120 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	28.41 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	21.32 kW
Gross Annual kWh Saved at Customer	(B x E x L)	124,602 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	108,403 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	117,054 kWh

#### Program Summary All Participants

Total Participants	M	40
<b>Total Budget</b>	<b>N</b>	<b>\$1,008,913</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L)	1,136 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>853 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	4,984,063 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	4,336,135 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>4,682,145 kWh</b>
TRC Net Benefits	(M x L x J)	\$2,888,585

Utility Program Cost per kWh Lifetime

\$0.0171

Utility Program Cost per kW at Generator

\$1,183

## INTERRUPTIBLE CREDIT OPTION

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$1,713,499
Transmission & Distribution Capacity	\$722,471
Marginal Energy	\$13,053
Avoided Emissions	\$1,477
System Benefits (Avoided Costs) Subtotal	\$2,450,499
<b>Total Benefits</b>	<b>\$2,450,499</b>
<i>Utility Program Costs</i>	
Total Incentive	\$0
Internal Administration	\$60,435
Third-Party Delivery	\$0
Promotion	\$14,750
M&V	\$34,290
Utility Program Costs Subtotal	\$109,475
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$0
Incremental O&M Costs	\$0
Costs Subtotal	\$0
<i>Reductions to Costs</i>	
Participant Rebates	\$0
Reductions to Costs Subtotal	\$0
Participant Costs Subtotal	\$0
<b>Total Costs</b>	<b>\$109,475</b>
<b>Net Benefit (Cost)</b>	<b>\$2,341,024</b>
<b>Benefit/Cost Ratio</b>	<b>22.38</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	3 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.92%
Gross Load Factor at Customer	E	0.08%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$255
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.8684 kW
Gross Annual kWh Saved at Customer	(B x E x C)	7 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	7 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	8 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	1790.17 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	1554.49 kW
Gross Annual kWh Saved at Customer	(B x E x L)	12,710 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	12,710 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	13,724 kWh

#### Program Summary All Participants

Total Participants	M	5
<b>Total Budget</b>	<b>N</b>	<b>\$109,475</b>
Gross kW Saved at Customer	(M x L)	9,163 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>7,956 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	65,056 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	65,056 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>70,247 kWh</b>
TRC Net Benefits	(M x L x J)	\$2,341,024

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## INTERRUPTIBLE CREDIT OPTION

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$299,985
Transmission & Distribution Capacity	\$0
Marginal Energy	\$0
Avoided Emissions	\$0
System Benefits (Avoided Costs) Subtotal	\$299,985
<b>Total Benefits</b>	<b>\$299,985</b>
<i>Utility Program Costs</i>	
Total Incentive	\$171,340
Internal Administration	\$60,435
Third-Party Delivery	\$0
Promotion	\$14,750
M&V	\$14,059
Utility Program Costs Subtotal	\$260,584
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$0
Incremental O&M Costs	\$0
Costs Subtotal	\$0
<i>Reductions to Costs</i>	
Participant Rebates	(\$171,340)
Reductions to Costs Subtotal	(\$171,340)
Participant Costs Subtotal	(\$171,340)
<b>Total Costs</b>	<b>\$89,244</b>
<b>Net Benefit (Cost)</b>	<b>\$210,741</b>
<b>Benefit/Cost Ratio</b>	<b>3.36</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	1 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.92%
Gross Load Factor at Customer	E	0.00%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$47
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.8684 kW
Gross Annual kWh Saved at Customer	(B x E x C)	- kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	- kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	- kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	642.86 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	558.23 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	0 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	0 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	0 kWh

#### Program Summary All Participants

Total Participants	M	7
<b>Total Budget</b>	<b>N</b>	<b>\$260,584</b>
Gross kW Saved at Customer	(M x L.)	4,500 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L.) x D / (1 - I)) x M</b>	<b>3,908 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	0 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	0 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>0 kWh</b>
TRC Net Benefits	(M x L x J)	\$210,741

#### Utility Program Cost per kWh Lifetime

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#### Utility Program Cost per kW at Generator

\$67

## LIGHTING EFFICIENCY

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$1,683,921
Transmission & Distribution Capacity	\$440,827
Marginal Energy	\$3,521,191
Avoided Emissions	\$288,395
System Benefits (Avoided Costs) Subtotal	\$5,934,334
<b>Total Benefits</b>	<b>\$5,934,334</b>
<i>Utility Program Costs</i>	
Total Incentive	\$591,642
Internal Administration	\$154,749
Third-Party Delivery	\$2,400
Promotion	\$45,500
M&V	\$29,580
Utility Program Costs Subtotal	\$823,871
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$1,108,899
Incremental O&M Costs	\$16,619
Costs Subtotal	\$1,125,518
<i>Reductions to Costs</i>	
Participant Rebates	(\$471,870)
Reductions to Costs Subtotal	(\$471,870)
Participant Costs Subtotal	\$653,649
<b>Total Costs</b>	<b>\$1,477,519</b>
<b>Net Benefit (Cost)</b>	<b>\$4,456,815</b>
<b>Benefit/Cost Ratio</b>	<b>4.02</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	85.16%
Gross Load Factor at Customer	E	41.41%
Net-to-Gross (Energy)	F	94.35%
Net-to-Gross (Demand)	G	95.00%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$2,992
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.8901 kW
Gross Annual kWh Saved at Customer	(B x E x C)	3,628 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	3,423 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	3,696 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	10.35 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	9.21 kW
Gross Annual kWh Saved at Customer	(B x E x L)	37,531 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	35,409 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	38,235 kWh

#### Program Summary All Participants

Total Participants	M	144
<b>Total Budget</b>	<b>N</b>	<b>\$823,871</b>
Gross kW Saved at Customer	(M x L)	1,490 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>1,326 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	5,404,409 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	5,098,907 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>5,505,784 kWh</b>
TRC Net Benefits	(M x L x J)	\$4,456,815

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## LIGHTING EFFICIENCY

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$1,289,437
Transmission & Distribution Capacity	\$338,806
Marginal Energy	\$2,576,797
Avoided Emissions	\$202,155
System Benefits (Avoided Costs) Subtotal	\$4,407,195
<b>Total Benefits</b>	<b>\$4,407,195</b>
<i>Utility Program Costs</i>	
Total Incentive	\$741,328
Internal Administration	\$173,482
Third-Party Delivery	\$42,000
Promotion	\$45,900
M&V	\$29,580
Utility Program Costs Subtotal	\$1,032,290
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$1,140,114
Incremental O&M Costs	\$14,786
Costs Subtotal	\$1,154,901
<i>Reductions to Costs</i>	
Participant Rebates	(\$595,342)
Reductions to Costs Subtotal	(\$595,342)
Participant Costs Subtotal	\$559,559
<b>Total Costs</b>	<b>\$1,591,849</b>
<b>Net Benefit (Cost)</b>	<b>\$2,815,346</b>
<b>Benefit/Cost Ratio</b>	<b>2.77</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	80.55%
Gross Load Factor at Customer	E	36.59%
Net-to-Gross (Energy)	F	80.17%
Net-to-Gross (Demand)	G	80.09%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$1,773
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.7098 kW
Gross Annual kWh Saved at Customer	(B x E x C)	3,205 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	2,569 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	2,774 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	9.34 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	6.63 kW
Gross Annual kWh Saved at Customer	(B x E x L)	29,944 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	24,006 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	25,922 kWh

#### Program Summary All Participants

Total Participants	M	170
<b>Total Budget</b>	<b>N</b>	<b>\$1,032,290</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L)	1,588 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>1,127 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	5,090,417 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	4,081,018 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>4,406,671 kWh</b>
TRC Net Benefits	(M x L x J)	\$2,815,346

Utility Program Cost per kWh Lifetime

\$0.0187

Utility Program Cost per kW at Generator

\$916

## MOTOR & DRIVE EFFICIENCY

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$591,094
Transmission & Distribution Capacity	\$155,418
Marginal Energy	\$1,650,444
Avoided Emissions	\$131,801
System Benefits (Avoided Costs) Subtotal	\$2,528,757
<b>Total Benefits</b>	<b>\$2,528,757</b>
<i>Utility Program Costs</i>	
Total Incentive	\$258,501
Internal Administration	\$80,237
Third-Party Delivery	\$56,247
Promotion	\$23,486
M&V	\$4,625
Utility Program Costs Subtotal	\$423,096
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$613,570
Incremental O&M Costs	\$0
Costs Subtotal	\$613,570
<i>Reductions to Costs</i>	
Participant Rebates	(\$252,187)
Reductions to Costs Subtotal	(\$252,187)
Participant Costs Subtotal	\$361,383
<b>Total Costs</b>	<b>\$784,479</b>
<b>Net Benefit (Cost)</b>	<b>\$1,744,278</b>
<b>Benefit/Cost Ratio</b>	<b>3.22</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	20 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.64%
Gross Load Factor at Customer	E	49.13%
Net-to-Gross (Energy)	F	87.00%
Net-to-Gross (Demand)	G	87.00%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$3,414
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.7336 kW
Gross Annual kWh Saved at Customer	(B x E x C)	4,304 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	3,744 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	4,043 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	4.87 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	3.57 kW
Gross Annual kWh Saved at Customer	(B x E x L)	20,944 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	18,221 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	19,675 kWh

#### Program Summary All Participants

Total Participants	M	105
<b>Total Budget</b>		
Gross kW Saved at Customer	(M x L)	511 kW
Net Coincident kW Saved at Generator	((G x L) x D / (1 - I)) x M	375 kW
Gross Annual kWh Saved at Customer	(B x E x L) x M	2,199,080 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	1,913,200 kWh
Net Annual kWh Saved at Generator	((F x (B x E x L)) / (1 - H)) x M	2,065,867 kWh
TRC Net Benefits	(M x L x J)	\$1,744,278

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## MOTOR & DRIVE EFFICIENCY

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$409,325
Transmission & Distribution Capacity	\$108,032
Marginal Energy	\$1,121,173
Avoided Emissions	\$85,822
System Benefits (Avoided Costs) Subtotal	\$1,724,352
<b>Total Benefits</b>	<b>\$1,724,352</b>
<i>Utility Program Costs</i>	
Total Incentive	\$162,292
Internal Administration	\$175,085
Third-Party Delivery	\$0
Promotion	\$57,539
M&V	\$5,348
Utility Program Costs Subtotal	\$400,264
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$344,079
Incremental O&M Costs	\$0
Costs Subtotal	\$344,079
<i>Reductions to Costs</i>	
Participant Rebates	(\$154,808)
Reductions to Costs Subtotal	(\$154,808)
Participant Costs Subtotal	\$189,271
<b>Total Costs</b>	<b>\$589,535</b>
<b>Net Benefit (Cost)</b>	<b>\$1,134,817</b>
<b>Benefit/Cost Ratio</b>	<b>2.92</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	20 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	70.00%
Gross Load Factor at Customer	E	42.99%
Net-to-Gross (Energy)	F	87.00%
Net-to-Gross (Demand)	G	87.00%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$2,974
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.6701 kW
Gross Annual kWh Saved at Customer	(B x E x C)	3,766 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	3,277 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	3,538 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	18.17 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	12.17 kW
Gross Annual kWh Saved at Customer	(B x E x L.)	68,422 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.))	59,527 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L.)) / (1 - H)	64,277 kWh

#### Program Summary All Participants

Total Participants	M	21
<b>Total Budget</b>	<b>N</b>	<b>\$400,264</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L.)	382 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L.) x D / (1 - I)) x M</b>	<b>256 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L.) x M	1,436,865 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L.)) x M	1,250,073 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L.)) / (1 - H)) x M</b>	<b>1,349,825 kWh</b>
TRC Net Benefits	(M x L x J)	\$1,134,817

Utility Program Cost per kWh Lifetime

\$0.0148

Utility Program Cost per kW at Generator

\$1,566

## SMALL BUSINESS LIGHTING

2010

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2010 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$266,915
Transmission & Distribution Capacity	\$69,723
Marginal Energy	\$535,341
Avoided Emissions	\$45,110
System Benefits (Avoided Costs) Subtotal	\$917,089
<b>Total Benefits</b>	<b>\$917,089</b>
<i>Utility Program Costs</i>	
Total Incentive	\$89,613
Internal Administration	\$85,795
Third-Party Delivery	\$377,700
Promotion	\$22,500
M&V	\$33,780
Utility Program Costs Subtotal	\$609,388
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$160,642
Incremental O&M Costs	\$3,092
Costs Subtotal	\$163,734
<i>Reductions to Costs</i>	
Participant Rebates	(\$88,413)
Reductions to Costs Subtotal	(\$88,413)
Participant Costs Subtotal	\$75,321
<b>Total Costs</b>	<b>\$684,709</b>
<b>Net Benefit (Cost)</b>	<b>\$232,381</b>
<b>Benefit/Cost Ratio</b>	<b>1.34</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	85.65%
Gross Load Factor at Customer	E	39.76%
Net-to-Gross (Energy)	F	100.00%
Net-to-Gross (Demand)	G	100.00%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$874
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.9424 kW
Gross Annual kWh Saved at Customer	(B x E x C)	3,483 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	3,483 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	3,761 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	5.91 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	5.57 kW
Gross Annual kWh Saved at Customer	(B x E x L)	20,581 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	20,581 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	22,223 kWh

#### Program Summary All Participants

Total Participants	M	45
<b>Total Budget</b>	<b>N</b>	<b>\$609,388</b>
Gross kW Saved at Customer	(M x L)	266 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>251 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	926,152 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	926,152 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>1,000,056 kWh</b>
TRC Net Benefits	(M x L x J)	\$232,381

#### Utility Program Cost per kWh Lifetime

#### Utility Program Cost per kW at Generator

## SMALL BUSINESS LIGHTING

2011

ELECTRIC

GOAL

### Net Present Worth Benefit Analysis

#### 2011 Cost Benefit Summary

#### Analysis For Total Program

	Total Resource Cost Test (\$)
<i>System Benefits (Avoided Costs)</i>	
Generation Capacity	\$801,685
Transmission & Distribution Capacity	\$210,713
Marginal Energy	\$1,601,866
Avoided Emissions	\$125,469
System Benefits (Avoided Costs) Subtotal	\$2,739,732
<b>Total Benefits</b>	<b>\$2,739,732</b>
<i>Utility Program Costs</i>	
Total Incentive	\$399,856
Internal Administration	\$87,722
Third-Party Delivery	\$593,850
Promotion	\$22,700
M&V	\$33,780
Utility Program Costs Subtotal	\$1,137,908
<i>Participant Costs</i>	
<i>Costs</i>	
Incremental Capital Costs	\$616,277
Incremental O&M Costs	\$9,619
Costs Subtotal	\$625,896
<i>Reductions to Costs</i>	
Participant Rebates	(\$398,656)
Reductions to Costs Subtotal	(\$398,656)
Participant Costs Subtotal	\$227,240
<b>Total Costs</b>	<b>\$1,365,148</b>
<b>Net Benefit (Cost)</b>	<b>\$1,374,585</b>
<b>Benefit/Cost Ratio</b>	<b>2.01</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

### Input Summary and Totals

#### Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13 years
Annual Hours	B	8,760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	81.94%
Gross Load Factor at Customer	E	37.48%
Net-to-Gross (Energy)	F	94.61%
Net-to-Gross (Demand)	G	94.78%
Transmission Loss Factor (Energy)	H	7.39%
Transmission Loss Factor (Demand)	I	9.11%
TRC Net Benefit (Cost)	J	\$1,794
Net Coincident kW Saved at Generator	(D x C x G) / (1 - I)	0.8545 kW
Gross Annual kWh Saved at Customer	(B x E x C)	3,284 kWh
Net Annual kWh Saved at Customer	(B x E x C x F)	3,107 kWh
Net Annual kWh Saved at Generator	(B x E x C x F) / (1 - H)	3,354 kWh

#### Program Summary per Participant

Gross kW Saved at Customer	L	8.42 kW
Net Coincident kW Saved at Generator	(G x L) x D / (1 - I)	7.20 kW
Gross Annual kWh Saved at Customer	(B x E x L)	27,654 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L))	26,162 kWh
Net Annual kWh Saved at Generator	(F x (B x E x L)) / (1 - H)	28,249 kWh

#### Program Summary All Participants

Total Participants	M	91
<b>Total Budget</b>	<b>N</b>	<b>\$1,137,908</b>
<i>Gross kW Saved at Customer</i>		
Gross kW Saved at Customer	(M x L)	766 kW
<b>Net Coincident kW Saved at Generator</b>	<b>((G x L) x D / (1 - I)) x M</b>	<b>655 kW</b>
Gross Annual kWh Saved at Customer	(B x E x L) x M	2,516,473 kWh
Net Annual kWh Saved at Customer	(F x (B x E x L)) x M	2,380,725 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>((F x (B x E x L)) / (1 - H)) x M</b>	<b>2,570,699 kWh</b>
TRC Net Benefits	(M x L x J)	\$1,374,585

Utility Program Cost per kWh Lifetime

\$0.0328

Utility Program Cost per kW at Generator

\$1,738

**Forecasted Technical Assumptions - 2010**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Hours of Operation per year	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Incremental Cost Payback Period w/o Rebate	Incremental Cost Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Rebated Lifetime cost /Cust KWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2010	Units 2010	Participants 2011	Units 2011	Forecast Install Rate	NTG	
<b>BUSINESS</b>																										
<b>COOLING EFFICIENCY</b>		<b>Watts</b>		<b>Watts</b>																						
<b>Cooling Efficiency - TOTAL</b>	<b>56490</b>		<b>68374</b>		<b>1,929</b>					<b>Years</b>	<b>Years</b>	<b>kWh</b>				<b>kW</b>	<b>kW</b>				<b>45</b>		<b>60</b>			
DX Units less than 5.4 tons	Unit size 3.7 tons, 14.1 SEER, 12 EER	4216	Unit size 3.7 tons, 10 SEER, 8.5 EER	5952	20	1,317	\$274	\$4,500	\$611	2.15	1.19	2,286	\$0.1198	\$0.0060	1.74	1.72	\$0.00	\$0.00	90%	7	14	12	20	100%	94%	
DX Units 5.5-11.3 tons	Unit size 10 tons, 13.1 SEER, 11.1 EER	12318	Unit size 10 tons, 11.9 SEER, 10.1 EER	13538	20	1,341	\$620	\$13,500	\$1,500	7.48	4.39	1,636	\$0.3790	\$0.0190	1.22	1.21	\$0.00	\$0.00	90%	7	13	12	18	100%	94%	
DX Units 11.4-19.9 tons	Unit size 15.6 tons, 13.1 SEER, 11.1 EER	19216	Unit size 15.6 tons, 11.2 SEER, 9.5 EER	22453	20	1,326	\$1,030	\$22,500	\$2,184	4.12	2.18	4,293	\$0.2398	\$0.0120	3.24	3.20	\$0.00	\$0.00	90%	6	9	6	9	100%	94%	
DX Units 20-63.3 tons	Unit size 30.7 tons, 12.2 SEER, 10.4 EER	40362	Unit size 30.7 tons, 10.9 SEER, 9.3 EER	45136	20	1,336	\$1,535	\$45,000	\$3,838	4.89	2.94	6,378	\$0.2407	\$0.0120	4.77	4.73	\$0.00	\$0.00	90%	7	9	7	9	100%	94%	
DX Units greater than 63.3 tons	Unit size 174 tons, 11.3 SEER, 9.6 EER	247825	Unit size 174 tons, 10.6 SEER, 9 EER	264347	20	1,308	\$8,700	\$187,500	\$19,140	7.11	3.88	21,609	\$0.4026	\$0.0201	16.52	16.36	\$0.00	\$0.00	90%	5	5	5	5	100%	94%	
Hotel Room Controllers	Hotel Room w/ Smart HVAC Thermostat	0	Hotel Room w/ Standard HVAC Thermostat	1580	15	322	\$75	\$0	\$300	1.62	1.22	509	\$0.1474	\$0.0098	1.58	0.10	\$0.00	\$0.00	6%	0	0	0	0	100%	94%	
RTU w/ Demand Control Ventilation	RTU with Demand Control	4503	RTU with Standard Economizer	9006	20	1,039	\$628	\$1,000	\$1,500	2.21	1.29	4,680	\$0.1342	\$0.0067	4.50	4.46	\$0.00	\$0.00	90%	3	12	3	12	100%	94%	
Water-source Heat Pumps	Unit size 2.5 tons, 14.4 SEER, 13 EER	2308	Unit size 2.5 tons, 12.4 SEER, 11.2 EER	2679	20	1,604	\$105	\$4,500	\$500	7.63	6.02	595	\$0.1765	\$0.0088	0.37	0.37	\$0.00	\$0.00	90%	3	28	8	40	100%	94%	
PTAC	Condensing Units size 1.1 tons, 13.5 SEER, 11.5 EER	1308	Condensing Units 1.1 tons, 10.7 SEER, 9.1 EER	1653	20	1,314	\$86	\$1,125	\$188	3.33	1.81	453	\$0.1894	\$0.0095	0.34	0.34	\$0.00	\$0.00	90%	0	0	0	0	100%	94%	
Scroll/Screw Chiller < 150 tons	Chiller size 7.7 tons, 0.61 full load kW/ton, 0.50 IPLV	47031	Chiller size 7.7 tons, 0.79 full load kW/ton, 0.78 IPLV	60909	20	2,683	\$4,433	\$75,000	\$7,710	2.45	1.04	37,228	\$0.1191	\$0.0060	13.88	13.74	\$0.00	\$0.00	90%	0	0	0	0	100%	94%	
Scroll/Screw chiller 150 to 300 tons	Chiller size 225 tons, 0.54 full load kW/ton, 0.45 IPLV	121500	Chiller size 225 tons, 0.72 full load kW/ton, 0.71 IPLV	162000	20	2,456	\$12,938	\$108,000	\$22,500	2.57	1.09	99,462	\$0.1301	\$0.0065	40.50	40.10	\$0.00	\$0.00	90%	0	0	0	0	100%	94%	
Centrifugal Chillers < 150 tons	Chiller size 125 tons, 0.60 full load kW/ton, 0.57 IPLV	75000	Chiller size 125 tons, 0.70 full load kW/ton, 0.70 IPLV	87500	20	2,261	\$5,175	\$75,000	\$12,500	4.82	2.83	28,266	\$0.1831	\$0.0092	12.50	12.38	\$0.00	\$0.00	90%	0	0	0	0	100%	94%	
Centrifugal Chillers 150- 300 tons	Chiller size 225 tons, 0.55 full load kW/ton, 0.51 IPLV	123032	Chiller size 225 tons, 0.63 full load kW/ton, 0.63 IPLV	142650	20	2,363	\$8,306	\$135,000	\$22,500	5.41	3.41	46,362	\$0.1792	\$0.0090	19.62	19.43	\$0.00	\$0.00	90%	0	0	0	0	100%	94%	
Centrifugal Chillers > 300 tons	Chiller size 300 tons, 0.55 full load kW/ton, 0.52 IPLV	409500	Chiller size 300 tons, 0.58 full load kW/ton, 0.59 IPLV	432291	20	3,413	\$16,875	\$450,000	\$56,250	9.45	6.62	77,784	\$0.2169	\$0.0108	22.79	22.57	\$0.00	\$0.00	90%	0	0	0	0	100%	94%	
Air-Cooled Chillers - avg. capacity 250 tons	Air-cooled chiller average capacity 250 tons, 1.15 kW/ton	338443	Air-cooled chiller average capacity 250 tons, 1.26 kW/ton	401647	20	3,275	\$3,125	\$250,000	\$10,000	0.62	0.43	206,967	\$0.0151	\$0.0008	63.20	62.59	\$0.00	\$0.00	90%	0	0	0	0	100%	94%	
Cooling Studies	Customer has Study	0	No Study	0	0	0	\$2,001	\$0	\$2,668			0		-	0.00	0.00	\$0.00	\$0.00	0%	0	0	0	0	100%	94%	
Tier 1 - Direct Evaporative Cooling- TOTAL	Standard Direct Evaporative Cooler	1783	Standard Roof-top Unit	11974	10	1,547	\$746	\$11,250	-\$7,880	-4.44	-4.86	15,763	\$0.0474	\$0.0047	10.19	10.09	\$746.42	\$0.00	90%	4	4	4	4	100%	94%	
Tier 2 - Advanced Evaporative Cooling (Indirect or Hybrid) - TOTAL	Indirect or Hybrid Evaporative Cooler	6500	Standard Roof-top Unit	13538	10	1,552	\$1,890	\$13,500	\$30,758	25.07	23.53	10,921	\$0.1731	\$0.0173	7.04	6.97	\$945.00	\$0.00	90%	1	1	1	1	100%	94%	
<b>Custom Cooling - Total</b>																				<b>51</b>		<b>64</b>				
Custom Cooling	Varies by project	207633	varies by project	321497	20	2,756	\$45,546	\$124,924	\$96,712	3.68	1.95	313,863	\$0.1451	\$0.0073	113.86	87.58	\$0.00	\$0.00	70%	2	2	2	2	100%	87%	
<b>CUSTOM EFFICIENCY</b>	<b>Watts</b>		<b>Watts</b>							<b>Years</b>	<b>Years</b>	<b>kWh</b>				<b>kW</b>	<b>kW</b>									
<b>Custom Efficiency - TOTAL</b>	<b>465282</b>		<b>486351</b>		<b>5,091</b>					<b>107,258</b>						<b>21.07</b>				<b>51</b>		<b>64</b>				
Custom Efficiency	New Equipment	99277	Old or less efficient systems or equipment	119861	16	5,242	\$8,234	\$9,045	\$42,252	5.93	4.77	107,894	\$0.0763	\$0.0047	20.58	13.64	\$3,978.46	\$0.00	60%	48	48	56	56	100%	87%	
Engineering Studies	Completed Studies	0	No Studies	0	0	0	\$91,311	\$0	\$98,811			0		-	0.00	0.00	\$0.00	\$0.00	0%	2	2	5	5	100%	87%	
Implemented Measures Identified in Studies with Payback less than 9 Months	High Efficiency Equipment	18964106	Existing Equipment	19050589	6	3,367	\$0	\$0	\$14,920	0.67	0.67	291,205	\$0.0000	\$0.0000	86.48	95.15	\$0.00	\$0.00	100%	1	1	3	3	100%	87%	
<b>LARGE CUSTOMER - SELF DIRECT</b>	<b>Watts</b>		<b>Watts</b>							<b>Years</b>	<b>Years</b>	<b>kWh</b>				<b>kW</b>	<b>kW</b>									
Self Direct - TOTAL		-																								
Large Customer-Self Direct																										100% 90%
<b>LIGHTING EFFICIENCY</b>	<b>Watts</b>		<b>Watts</b>							<b>Years</b>	<b>Years</b>	<b>kWh</b>				<b>kW</b>	<b>kW</b>									
<b>Lighting Efficiency - Total</b>	<b>12188</b>		<b>22533</b>		<b>3,628</b>					<b>37,531</b>						<b>10.35</b>				<b>144</b>		<b>165</b>				
Retrofit																										
T8 Ballasts, 4 ft. or less, 1 and 2 lamp	T8 1 and 2 Lamp systems	49	T12 1 and 2 Lamp systems, incandescents	98	18	3,240	\$18	\$0	\$42	3.45	1.99	157	\$0.1144	\$0.0064	0.05	0.05	\$0.00	-\$0.08	86%	7	1900	11	2900	100%	96%	
T8 Ballasts, 4 ft. or less, 3 and 4 lamp	T8 Lighting Systems	115	T12 3 and 4 Lamp systems	180	18	3,240	\$24	\$0	\$56	3.38	1.92	211	\$0.1139	\$0.0063	0.07	0.06	\$0.00	-\$0.10	86%	8	1700	10	2000	100%	96%	
T8 Ballasts, Length > 4 ft. and <= 8 ft, 1 lamp	T8 8 FT 1 Lamp systems	61	T12 8 FT 1 Lamp systems	121	18	3,240	\$28	\$0	\$93	6.15	4.31	194	\$0.1440	\$0.0080	0.06	0.06	\$0.00	-\$0.09	86%	1	16	1	16	100%	96%	
T8 Ballasts, Length > 4 ft. and <= 8 ft, 2 lamp	T8 8 FT 2 Lamp Systems	122	T12 8 FT 2 Lamp systems	212	18	3,240	\$28	\$0	\$103	4.52	3.30	293	\$0.0956	\$0.0053	0.09	0.09	\$0.00	-\$0.14	86%	1	20	1	20	100%	96%	
T8 to T8 Optimization	T8 with less lamps (3,2,1)	62	T8 with more lamps (4,3,2)	104	18	3,240	\$12	\$0	\$46	4.32	3.19	136	\$0.0881	\$0.0049	0.04	0.04	\$0.00	-\$0.07	86%	1	300	1	300	100%	96%	
T8 Optimization 1 and 2 Lamp	T8 Lighting Systems with less lamps	49	T12 Fluorescents with more lamps	98	18	3,240	\$20	\$0	\$41	3.33	1.72	159	\$0.1254	\$0.0070	0.05	0.05	\$0.00	-\$0.08	86%	9	2300	10	2700	100%	96%	

**Forecasted Technical Assumptions - 2010**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Hours of Operation per year	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Incremental Cost Payback Period w/o Rebate	Incremental Cost Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Lifetime cost /Cust KWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2010	Units 2010	Participants 2011	Units 2011	Forecast Install Rate	NTG
T8 Optimization 3 and 4 Lamp	T8 Lighting Systems with less lamps	99	T12 Fluorescents with more lamps	184	18	3,240	\$26	\$0	\$53	2.49	1.28	275	\$0.0944	\$0.0052	0.08	0.08	\$0.00	-\$0.13	86%	6	900	8	1300	100%	96%
T5 Ballasts 1 and 2 Lamp	T5 1 and 2 Lamp Lighting Systems	52	T12 Fluorescents	77	18	3,240	\$18	\$0	\$42	6.57	3.76	82	\$0.2200	\$0.0122	0.03	0.02	\$0.00	-\$0.04	86%	1	100	1	100	100%	96%
T5 Ballasts 3 and 4 Lamp	T5 Lighting Systems	143	T12 Fluorescents	162	18	3,240	\$24	\$0	\$70	14.75	9.69	61	\$0.3950	\$0.0219	0.02	0.02	\$0.00	-\$0.03	86%	1	50	1	50	100%	96%
Compact Fluorescent Lamps (CFL), Equal to or less than 18W Pin Based	Compact Fluorescent Fixture 18W or less Pin Based	15	Incandescent	49	18	3,240	\$25	\$0	\$84	9.73	6.84	111	\$0.2254	\$0.0125	0.03	0.03	\$0.00	-\$0.05	86%	1	50	1	50	100%	96%
Screw IN CFL Equal to or less than 18 Watts	Screw IN CFL Equal to or less than 18 Watts	14	Incandescent	57	3	3,240	\$1	\$0	\$4	0.33	0.23	137	\$0.0073	\$0.0024	0.04	0.04	\$0.00	-\$0.07	86%	9	2800	10	2968	100%	96%
CFL, 19 to 32 Watt Pin Based	Pin Based Compact Fluorescent 19 to 32 Watts	37	Incandescent	128	18	3,240	\$30	\$0	\$76	3.30	2.00	294	\$0.1019	\$0.0057	0.09	0.09	\$0.00	-\$0.14	86%	1	75	1	75	100%	96%
Screw IN CFL 19 to 32 Watts	Screw IN CFL 19 to 32 Watts	33	Incandescent	118	5	3,240	\$2	\$0	\$5	0.23	0.14	276	\$0.0073	\$0.0015	0.09	0.08	\$0.00	-\$0.14	86%	5	750	5	750	100%	96%
CFL, 33 Watt or more, Pin Based	Pin Based Compact Fluorescent Fixtures 33 Watts or more	72	Incandescent	314	18	3,240	\$35	\$0	\$103	1.68	1.11	786	\$0.0445	\$0.0025	0.24	0.23	\$0.00	-\$0.38	86%	1	75	1	75	100%	96%
Screw In CFL 33 to 56 Watts	Screw In CFL 33 to 56 Watts	67	Incandescent	194	5	3,240	\$3	\$0	\$16	0.50	0.41	411	\$0.0073	\$0.0015	0.13	0.12	\$0.00	-\$0.20	86%	4	448	5	500	100%	96%
HID, 151 to 250W	Metal Halide	270	Mercury Vapor, High Pressure Sodium	382	18	3,240	\$30	\$0	\$161	5.72	4.65	360	\$0.0832	\$0.0046	0.11	0.10	\$0.00	-\$0.18	86%	1	5	1	5	100%	96%
HID, 251 to 1000W	Lighting High Intensity Discharge 250 to 1000 Watts	590	Mercury Vapor, High Pressure Sodium	1410	18	3,240	\$45	\$0	\$253	1.22	1.00	2,657	\$0.0169	\$0.0009	0.82	0.77	\$0.00	-\$1.29	86%	1	5	1	5	100%	96%
Pulse-Start Metal Halide, <= 175W	175W or Less Pulse Start Metal Halide	238	Metal Halide	438	18	3,240	\$60	\$0	\$161	3.18	2.00	648	\$0.0926	\$0.0051	0.20	0.19	\$0.00	-\$0.32	86%	1	5	1	5	100%	96%
Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	300	Metal Halide	378	18	3,240	\$90	\$0	\$280	14.12	9.58	254	\$0.3544	\$0.0197	0.08	0.07	\$0.00	-\$0.12	86%	1	10	1	10	100%	96%
Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide	488	Metal Halide	589	18	3,240	\$100	\$0	\$283	11.01	7.12	329	\$0.3038	\$0.0169	0.10	0.10	\$0.00	-\$0.16	86%	1	15	1	15	100%	96%
Pulse-Start Metal Halide, 750W+	Pulse Start Metal Halide	1053	Metal Halide	1404	18	3,240	\$120	\$0	\$381	4.28	2.93	1,139	\$0.1054	\$0.0059	0.35	0.33	\$0.00	-\$0.56	86%	1	5	1	5	100%	96%
High Bay Fluorescent Fixtures with Electronic Ballasts replacing 250W HID systems	High Bay Fluorescent Fixtures with Electronic Ballasts replacing 250W HID systems	180	250W Lamp HID	367	18	3,240	\$85	\$0	\$188	3.97	2.18	607	\$0.1401	\$0.0078	0.19	0.18	\$0.00	-\$0.30	86%	3	200	4	250	100%	96%
High Bay Fluorescent fixtures with Electronic Ballasts replacing 310-400W HID Systems	High Bay Fluorescent fixtures with Electronic Ballasts replacing 310-400W HID Systems	322	HID: 320, 350, 400W Lamp	561	18	3,240	\$125	\$0	\$278	4.57	2.51	778	\$0.1608	\$0.0089	0.24	0.23	\$0.00	-\$0.38	86%	15	850	23	1250	100%	96%
High Bay Fluorescents replacing 750 Watt HID	High Bay Fluorescents with Electronic Ballasts replacing 750W HID Systems	517	HID: 750W Lamp	1082	18	3,240	\$175	\$0	\$405	2.84	1.61	1,829	\$0.0957	\$0.0053	0.56	0.53	\$0.00	-\$0.89	86%	6	150	6	150	100%	96%
High Bay Fluorescents replacing 1000 Watt HID	High Bay Fluorescent fixtures with Electronic Ballasts replacing 1000W HID Systems	757	HID: 1000W Lamp	1419	18	3,240	\$175	\$0	\$407	2.43	1.39	2,145	\$0.0816	\$0.0045	0.66	0.62	\$0.00	-\$1.05	86%	1	20	1	20	100%	96%
Wall mount occupancy sensor	Lighting System with Occupancy Sensor	192	Lighting System without Occupancy Sensor	275	18	3,240	\$25	\$0	\$125	5.99	4.79	267	\$0.0936	\$0.0052	0.08	0.08	\$0.00	-\$0.13	86%	1	100	1	100	100%	96%
Ceiling mount occupancy sensor	Lighting System with Occupancy Sensor	192	Lighting System without Occupancy Sensor	275	18	3,240	\$50	\$0	\$125	5.99	3.60	267	\$0.1872	\$0.0104	0.08	0.08	\$0.00	-\$0.13	86%	4	600	4	700	100%	96%
Photocell	Lighting System with Photocell	400	Lighting System without Photocell	496	18	3,240	\$25	\$0	\$65	2.66	1.63	313	\$0.0798	\$0.0044	0.10	0.09	\$0.00	-\$0.15	86%	1	25	1	25	100%	96%
Exit sign retrofit and replacement	LED	2	Incandescent	45	18	6,760	\$25	\$0	\$80	3.65	2.51	376	\$0.0665	\$0.0037	0.04	0.05	\$0.00	-\$0.07	100%	1	250	1	250	100%	96%
Low Wattage T8 4' lamps	T8 25W-28W Lamps	29	T8 32W Lamps	35	8	3,240	\$1	\$0	\$2	1.31	0.65	20	\$0.0510	\$0.0062	0.01	0.01	\$0.00	-\$0.01	86%	3	7000	4	8000	100%	96%
Low Wattage CFL Plug In Type	PL 40W CFL	32	PL 40W CFL	52	8	3,240	\$4	\$0	\$10	1.94	1.12	63	\$0.0636	\$0.0077	0.02	0.02	\$0.00	-\$0.03	86%	1	25	1	25	100%	96%
Integrated 25W Ceramic Metal Halide	Ceramic Metal Halide	32	Incandescent	97	7	3,240	\$25	\$0	\$57	3.48	1.96	210	\$0.1193	\$0.0170	0.06	0.06	\$0.00	-\$0.10	86%	1	125	1	150	100%	96%
Ceramic Metal Halide <=150W	Ceramic Metal Halide	67	Incandescent	236	18	3,240	\$50	\$0	\$141	3.31	2.14	546	\$0.0916	\$0.0051	0.17	0.16	\$0.00	-\$0.27	86%	1	75	1	75	100%	96%
Ceramic Metal Halide 151-250W	Ceramic Metal Halide	294	Incandescent	474	18	3,240	\$80	\$0	\$248	5.45	3.70	582	\$0.1373	\$0.0076	0.18	0.17	\$0.00	-\$0.28	86%	1	50	1	50	100%	96%
Ceramic Metal Halide 251W+	Ceramic Metal Halide	509	Metal Halide	924	18	3,240	\$100	\$0	\$292	2.78	1.83	1,345	\$0.0743	\$0.0041	0.42	0.39	\$0.00	-\$0.66	86%	2	50	2	50	100%	96%
LED Pedestrian Signals -9" (Walk/Don't Walk)	LED Pedestrian Signals -9" (Walk/Don't Walk)	8	Pedestrian Signals - Large	69	18	4,380	\$30	\$0	\$78	4.18	2.57	267	\$0.1123	\$0.0062	0.06	0.06	\$0.00	-\$0.10	86%	1	125	1	150	100%	96%
LED Pedestrian Signals -12" (Walk/Don't Walk)	LED Pedestrian Signals 12" (Walk/Don't Walk)	10	Pedestrian Signals - Large	116	18	4,380	\$40	\$0	\$107	3.30	2.06	464	\$0.0862	\$0.0048	0.11	0.06	\$0.00	-\$0.00	50%	1	25	1	25	100%	96%
LED Traffic Balls and Arrows - 8"	LED Traffic Balls and Arrows - 8" Red	8	Incandescent Traffic Balls and Arrows 8" Red	69	18	4,820	\$25	\$0	\$68	3.41	2.16	294	\$0.0850	\$0.0047	0.06	0.04	\$0.00	-\$0.00	55%	1	50	1	50	100%	96%
LED Traffic Balls and Arrows - 12"	LED Traffic Balls and Arrows - 12" Red	11	Incandescent Traffic Balls and Arrows 12" Red	135	18	4,820	\$32	\$0	\$87	2.15	1.36	598	\$0.0535	\$0.0030	0.12	0.08	\$0.00	-\$0.00	55%	1	50	1	50	100%	96%
LED Traffic Balls and Arrows - 8" Green	LED Traffic Balls and Arrows - 8" Green	8	Incandescent Traffic Balls and Arrows 8" Green	69	18	3,675	\$25	\$0	\$68	4.08	2.58	224	\$0.1115	\$0.0062	0.06	0.03	\$0.00	-\$0.00	42%	1	50	1	50	100%	96%

**Forecasted Technical Assumptions - 2010**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Hours of Operation per year	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Incremental Cost Payback Period w/o Rebate	Incremental Cost Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Rebated Lifetime cost /Cust KWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2010	Units 2010	Participants 2011	Units 2011	Forecast Install Rate	NTG	
LED Traffic Balls and Arrows - 12" Green	LED Traffic Balls and Arrows - 12" Green	11	Incandescent Traffic Balls and Arrows 12" Green	135	18	3,675	\$32	\$0	\$87	2.57	1.62	456	\$0.0702	\$0.0039	0.12	0.06	\$0.00	\$0.00	42%	1	50	1	50	100%	96%	
LED Traffic Arrows - 12" Red	LED Traffic Arrows - 12" Red	11	Incandescent Traffic Balls and Arrows 12" Red	135	18	7,885	\$50	\$0	\$134	2.30	1.44	978	\$0.0511	\$0.0028	0.12	0.12	\$0.00	\$0.00	90%	1	50	1	50	100%	96%	
Parking Garages - Replace Metal Halide >> 250W with High Efficiency	4L-4F T8, 8ft Strip fixture, standard B.F. ballast	107	250 Watt Metal Halide	285	15	8,760	\$0	\$0	\$305	3.36	3.36	1,559	\$0.0000	\$0.0000	0.18	0.20	\$0.00	\$0.00	100%	0	0	0	0	100%	96%	
Parking Garages Replace High Intensity Discharge with High Efficiency Fluorescent	High Efficiency Fluorescent T8 or T5 Systems	104	150W or 175W High Intensity Discharge	197	18	8,760	\$125	\$0	\$335	7.08	4.44	812	\$0.1539	\$0.0085	0.09	0.10	\$0.00	\$0.00	100%	1	5	1	5	100%	96%	
Parking Garage Low Wattage T8 Lamps replacing 32W lamps	T8 25W and 28W Lamps	23	T8 32W Lamps	27	4	8,760	\$1	\$0	\$2	0.94	0.47	36	\$0.0274	\$0.0069	0.00	0.00	\$0.00	\$0.00	100%	1	275	1	300	100%	96%	
<b>New Construction</b>																										
CFL Equal to or less than 18Watt Pin Based	New Construction Compact Fluorescent Equal to or Less than 18W	17	Incandescent	57	5	3,240	\$10	\$2	\$33	3.25	2.26	129	\$0.0776	\$0.0155	0.04	0.04	\$0.00	-\$0.06	86%	1	75	1	75	100%	96%	
NC Screw In CFL 19 to 32 Watts	NC Screw In CFL 19 to 32 Watts	33	Incandescent	118	5	3,240	\$2	\$2	\$4	0.20	0.11	276	\$0.0073	\$0.0015	0.09	0.08	\$0.00	-\$0.13	86%	1	150	1	150	100%	96%	
NC Screw-in CFL Equal to or Less than 18 Watts	NC Screw-in CFL Equal to or Less than 18 Watts	17	Incandescent	57	5	3,240	\$1	\$2	\$2	0.20	0.10	129	\$0.0078	\$0.0016	0.04	0.04	\$0.00	-\$0.06	86%	1	250	1	250	100%	96%	
CFL 19-32 Watt Pin Based	New Construction Compact Fluorescent 19-32 Watts	38	Incandescent	123	18	3,240	\$15	\$36	\$40	1.85	1.16	277	\$0.0542	\$0.0030	0.09	0.08	\$0.00	-\$0.13	86%	1	100	1	100	100%	96%	
Screw In CFL 33 Watts or more	NC Screw In CFL 33 Watts or more	67	Incandescent	195	5	3,240	\$3	\$2	\$16	0.49	0.40	414	\$0.0072	\$0.0014	0.13	0.12	\$0.00	-\$0.20	86%	1	50	1	50	100%	96%	
New Construction Pin Based Compact Fluorescent 33 Watts or more	New Construction Pin Based Compact Fluorescent 33 Watts or more	66	Incandescent	217	18	3,240	\$20	\$47	\$50	1.31	0.78	490	\$0.0409	\$0.0023	0.15	0.14	\$0.00	-\$0.24	86%	1	50	1	50	100%	96%	
Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	274	High Pressure Sodium, Metal Halide	376	18	3,240	\$12	\$191	\$30	1.15	0.69	333	\$0.0360	\$0.0020	0.10	0.10	\$0.00	-\$0.16	86%	1	5	1	5	100%	96%	
Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide 320 to 749W	508	High Pressure Sodium, Mercury Vapor, Metal Halide	590	18	3,240	\$12	\$253	\$30	1.44	0.87	266	\$0.0451	\$0.0025	0.08	0.08	\$0.00	-\$0.13	86%	1	5	1	5	100%	96%	
Pulse-Start Metal Halide, 750W+	750W Pulse Start Metal Halide	1053	1000W Metal Halide	1393	18	3,240	\$28	\$351	\$70	0.81	0.49	1,102	\$0.0254	\$0.0014	0.34	0.32	\$0.00	-\$0.54	86%	1	5	1	5	100%	96%	
High Bay Fluorescents <= 300 Watts	New Construction High Bay Less Than 300W	301	Metal Halide	592	18	3,240	\$40	\$180	\$88	1.20	0.66	943	\$0.0424	\$0.0024	0.29	0.27	\$0.00	-\$0.46	86%	2	100	2	100	100%	96%	
High Bay Fluorescents <= 610 Watts	New Construction High Bay Less than 610W	637	Metal Halide	1099	18	3,240	\$40	\$270	\$138	1.18	0.84	1,498	\$0.0267	\$0.0015	0.46	0.44	\$0.00	-\$0.73	86%	1	15	1	15	100%	96%	
High Bay Fluorescents <= 900 Watts	New Construction High Bay Less Than 900W	859	Metal Halide	1402	18	3,251	\$65	\$361	\$173	1.54	0.96	1,441	\$0.0451	\$0.0025	0.44	0.42	\$0.00	-\$0.70	86%	1	15	1	15	100%	96%	
Low Wattage T8	Low Wattage T8 Lamps	29	Standard T8 32 watt lamps	35	8	3,240	\$1	\$2	\$2	1.31	0.65	20	\$0.0510	\$0.0062	0.01	0.01	\$0.00	-\$0.01	86%	1	450	1	500	100%	96%	
Low Wattage CFL Plg In Type	PL 25W CFL	32	PL 40W CFL	52	8	3,240	\$1	\$7	\$3	0.51	0.31	63	\$0.0159	\$0.0019	0.02	0.02	\$0.00	-\$0.03	86%	1	5	1	5	100%	96%	
Integrated 25W Ceramic Metal Halide	Ceramic Metal Halide	32	Incandescent	97	7	3,240	\$15	\$15	\$45	2.75	1.83	210	\$0.0716	\$0.0102	0.06	0.06	\$0.00	-\$0.10	86%	1	25	1	25	100%	96%	
Ceramic Metal Halide <= 150W	Ceramic Metal Halide <= 150 Watts	66	Incandescent	235	18	3,240	\$45	\$59	\$145	3.41	2.35	546	\$0.0824	\$0.0046	0.17	0.16	\$0.00	-\$0.10	86%	1	25	1	25	100%	96%	
Ceramic Metal Halide 151-250W	Ceramic Metal Halide 151 to 250 Watts	300	Metal Halide	483	18	3,240	\$55	\$192	\$152	3.28	2.09	593	\$0.0928	\$0.0052	0.18	0.17	\$0.00	-\$0.29	86%	1	5	1	5	100%	96%	
Ceramic Metal Halide 251W-	Ceramic Metal Halide	505	Metal Halide	590	18	3,240	\$20	\$253	\$42	1.95	1.02	273	\$0.0732	\$0.0041	0.08	0.08	\$0.00	-\$0.13	86%	1	5	1	5	100%	96%	
<b>Custom Lighting</b>																										
Custom Lighting	High Efficiency Lighting	23848	Existing Lower Efficiency Lighting	44505	18	6,006	\$8,263	\$0	\$26,207	3.32	2.27	124,064	\$0.0666	\$0.0037	20.66	19.45	\$0.00	\$0.00	86%	13	8	13	8	100%	87%	
<b>Lighting Redesign</b>																										
Lighting Redesign Implementation	Improved Light Levels	52601	Excessive Light Levels	101391	18	5,055	\$19,252	\$0	\$96,424	5.85	4.68	246,648	\$0.0781	\$0.0043	48.79	45.94	\$0.00	-\$13.42	86%	0	0	0	0	100%	96%	
Lighting Redesign Study	0	0	0	0	0	0	\$5,357	\$0	\$7,142	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.00	0.00	\$0.00	0%	0	0	0	0	100%	96%		
<b>MOTOR &amp; DRIVE EFFICIENCY</b>																										
Motor Efficiency -Total	Watts	23901	Watts	28767		4,304							20,944			4.87				105		113				
NEMA Premium Plan A - New Motors (1-500HP)	NEMA Premium Efficient Motors	12575	Earlier than or EPACT Efficient Motors	12762	20	3,995	\$87	\$0	\$170	3.15	1.53	747	\$0.1163	\$0.0058	0.19	0.16	\$0.00	\$0.00	78%	17	50	17	50	100%	87%	
NEMA Premium Plan B - Replacement Motors (1-500HP)	NEMA Premium Efficient Motors	14410	Earlier than or EPACT Efficient Motors	15153	20	4,274	\$878	\$0	\$2,068	9.23	5.31	3,178	\$0.2764	\$0.0138	0.74	0.64	\$0.00	\$0.00	78%	38	60	38	60	100%	87%	
Enhanced NEMA Premium Plan A - New Motors (1-500HP)	Enhanced NEMA Premium Efficient Motors	16176	EPACT Efficient Motors	16573	20	4,529	\$155	\$0	\$256	2.06	0.81	1,797	\$0.0865	\$0.0043	0.40	0.34	\$0.00	\$0.00	78%	1	1	1	1	100%	87%	
Enhanced NEMA Premium Plan B - Replacement Motors (1-500HP)	Enhanced NEMA Premium Efficient Motors	16176	Earlier than or EPACT Efficient Motors	17203	20	4,629	\$1,058	\$0	\$2,506	7.68	4.44	4,752	\$0.2225	\$0.0111	1.03	0.88	\$0.00	\$0.00	78%	1	1	1	1	100%	87%	
ASD's (1-200HP)	Equipment supplied with ASD/VFD	11415	Equipment without an ASD/VFD	17037	20	5,211	\$2,158	\$0	\$4,601	2.37	1.26	29,299	\$0.0737	\$0.0037	5.62	4.82	\$0.00	\$0.00	78%	12	35	12	35	100%	87%	
Constant Speed Motor Controller (5hp to 500 hp)	Motor with Variable Voltage Controller	4601	Motor with Voltage Controller	6069	20	4,483	\$338	\$0	\$1,311	2.87	2.13	6,582	\$0.0513	\$0.0026	1.47	1.26	\$0.00	\$0.00	78%	17	17	17	17	100%	87%	

**Forecasted Technical Assumptions - 2010**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Hours of Operation per year	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Incremental Cost Payback Period w/o Rebate	Incremental Cost Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Lifetime cost /Cust KWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2010	Units 2010	Participants 2011	Units 2011	Forecast Install Rate	NTG
VFD Air Compressor Systems (5hp to 40 hp)	Compressed air system with integrated variable frequency drive	12748	Modulation or load no-load with less than 3gal of storage per CFM of Capacity	18692	20	3,079	\$4,250	\$0	\$18,847	12.91	10.00	18,302	\$0.2322	\$0.0116	5.94	5.81	\$0.00	\$0.00	89%	12	12	12	12	100%	87%
No Air Loss Compressed Air Drains	No-Air Loss Drains	0	Electronic Solenoid/Timed Drains	530	20	7,682	\$100	\$125	\$323	1.32	0.91	4,071	\$0.0246	\$0.0012	0.53	0.51	\$0.00	\$0.00	88%	6	30	14	70	100%	87%
Custom Motors (>=501HP) / ASD's (>=201HP)	New Equipment	353190	Old or less efficient systems or equipment	499814	20	3,310	\$58,650	\$12,500	\$150,751	4.01	2.45	485,361	\$0.1208	\$0.0060	146.62	107.95	\$0.00	\$0.00	67%	1	1	1	1	100%	87%
<b>SMALL BUSINESS LIGHTING</b>	<b>Watts</b>	<b>Watts</b>								<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
<b>Small Business Lighting - Total</b>	<b>5070</b>	<b>10978</b>				<b>3,483</b>					<b>20,581</b>				<b>5.91</b>					<b>45</b>	<b>45</b>				
T8 Ballasts, 4 ft. or less, 1 and 2 lamp	T8 1 and 2 Lamp systems	49	T12 1 and 2 Lamp systems, incandescents	98	18	3,240	\$27	\$0	\$42	3.45	1.26	157	\$0.1715	\$0.0095	0.05	0.05	\$0.00	-\$0.08	86%	1	300	1	300	100%	100%
T8 Ballasts, 4 ft. or less, 3 and 4 lamp	T8 Lighting Systems	115	T12 3 and 4 Lamp systems	180	18	3,240	\$36	\$0	\$56	3.38	1.19	211	\$0.1709	\$0.0095	0.07	0.06	\$0.00	-\$0.10	86%	1	125	1	125	100%	100%
T8 Ballasts, Length > 4 ft. and <= 8 ft., 1 lamp	T8 8 FT 1 Lamp systems	61	T12 8 Ft 1 Lamp systems	121	18	3,240	\$42	\$0	\$93	6.15	3.39	194	\$0.2160	\$0.0120	0.06	0.06	\$0.00	-\$0.09	86%	1	5	1	5	100%	100%
T8 Ballasts, Length > 4 ft. and <= 8 ft., 2 lamp	T8 8 Ft 2 Lamp Systems	122	T12 8 Ft 2 Lamp systems	212	18	3,240	\$42	\$0	\$103	4.52	2.69	293	\$0.1433	\$0.0080	0.09	0.09	\$0.00	-\$0.14	86%	1	5	1	5	100%	100%
T8 to T8 Optimization	T8 with less lamps (3,2,1)	62	T8 with more lamps (4,3,2)	104	18	3,240	\$18	\$0	\$46	4.32	2.63	136	\$0.1322	\$0.0073	0.04	0.04	\$0.00	-\$0.07	86%	1	10	1	10	100%	100%
T8 Optimization 1 and 2 Lamp	T8 Lighting Systems with less lamps	49	T12 Fluorescents with more lamps	98	18	3,240	\$30	\$0	\$41	3.33	0.92	159	\$0.1882	\$0.0105	0.05	0.05	\$0.00	-\$0.08	86%	1	275	1	275	100%	100%
T8 Optimization 3 and 4 Lamp	T8 Lighting Systems with less lamps	99	T12 Fluorescents with more lamps	184	18	3,240	\$40	\$0	\$53	2.49	0.63	275	\$0.1453	\$0.0081	0.08	0.08	\$0.00	-\$0.13	86%	1	100	1	100	100%	100%
T5 Ballasts 1 and 2 Lamp	T5 1 and 2 Lamp Lighting Systems	52	T12 Fluorescents	77	18	3,240	\$27	\$0	\$42	6.57	2.35	82	\$0.3300	\$0.0183	0.03	0.02	\$0.00	-\$0.04	86%	1	15	1	15	100%	100%
T5 Ballasts 3 and 4 Lamp	T5 Lighting Systems	143	T12 Fluorescents	162	18	3,240	\$36	\$0	\$70	14.75	7.17	61	\$0.5925	\$0.0329	0.02	0.02	\$0.00	-\$0.03	86%	1	5	1	5	100%	100%
Compact Fluorescent Lamps (CFL), Equal to or less than 18W Pin Based	Compact Fluorescent Lamps (CFL), Equal to or less than 18W Pin Based	15	Incandescent	49	18	3,240	\$38	\$0	\$84	9.73	5.34	111	\$0.3426	\$0.0190	0.03	0.03	\$0.00	-\$0.05	86%	1	25	1	25	100%	100%
Screw IN CFL Equal to or less than 18 Watts	Screw IN CFL Equal to or less than 18 Watts	14	Incandescent	57	3	3,240	\$1	\$0	\$4	0.33	0.23	137	\$0.0073	\$0.0024	0.04	0.04	\$0.00	-\$0.07	86%	3	1000	3	1000	100%	100%
CFL, 19 to 32 Watt Pin Based	Pin Based Compact Fluorescent 19 to 32 Watts	37	Incandescent	128	18	3,240	\$45	\$0	\$76	3.30	1.34	294	\$0.1528	\$0.0085	0.09	0.09	\$0.00	-\$0.14	86%	1	100	1	100	100%	100%
Screw IN CFL 19 to 32 Watts	Screw IN CFL 19 to 32 Watts	33	Incandescent	118	5	3,240	\$2	\$0	\$5	0.23	0.14	276	\$0.0073	\$0.0015	0.09	0.08	\$0.00	-\$0.14	86%	3	536	3	536	100%	100%
Pin Based Compact Fluorescent Fixtures 33 Watts or more	Pin Based Compact Fluorescent Fixtures 33 Watts or more	72	Incandescent	314	18	3,240	\$48	\$0	\$103	1.68	0.90	786	\$0.0610	\$0.0034	0.24	0.23	\$0.00	-\$0.38	86%	1	75	1	75	100%	100%
Screw In CFL 33 to 56 Watts	Screw In CFL 33 to 56 Watts	67	Incandescent	194	5	3,240	\$3	\$0	\$16	0.50	0.41	411	\$0.0073	\$0.0015	0.13	0.12	\$0.00	-\$0.20	86%	2	160	2	160	100%	100%
HID, 151 to 250W	Metal Halide	270	Mercury Vapor, High Pressure Sodium	382	18	3,240	\$45	\$0	\$161	5.72	4.12	360	\$0.1249	\$0.0069	0.11	0.10	\$0.00	-\$0.18	86%	1	1	1	1	100%	100%
HID, 251 to 1000W	Lighting High Intensity Discharge 250 to 1000 Watts	590	Mercury Vapor, High Pressure Sodium	1410	18	3,240	\$68	\$0	\$253	1.22	0.89	2,657	\$0.0256	\$0.0014	0.82	0.77	\$0.00	-\$1.29	86%	1	1	1	1	100%	100%
Pulse-Start Metal Halide, <= 175W	175W or Less Pulse Start Metal Halide	238	Metal Halide	438	18	3,240	\$90	\$0	\$161	3.18	1.40	648	\$0.1388	\$0.0077	0.20	0.19	\$0.00	-\$0.32	86%	1	1	1	1	100%	100%
Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	300	Metal Halide	378	18	3,240	\$135	\$0	\$280	14.12	7.31	254	\$0.5316	\$0.0295	0.08	0.07	\$0.00	-\$0.12	86%	1	5	1	5	100%	100%
Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide	488	Metal Halide	589	18	3,240	\$150	\$0	\$283	11.01	5.17	329	\$0.4557	\$0.0253	0.10	0.10	\$0.00	-\$0.16	86%	1	1	1	1	100%	100%
Pulse-Start Metal Halide, 750W+	Pulse Start Metal Halide	1053	Metal Halide	1404	18	3,240	\$180	\$0	\$381	4.28	2.26	1,139	\$0.1580	\$0.0088	0.35	0.33	\$0.00	-\$0.56	86%	1	1	1	1	100%	100%
High Bay Fluorescent Fixtures with Electronic Ballasts replacing 250W HID Systems	High Bay Fluorescent Fixtures with Electronic Ballasts replacing 250W HID Systems	180	250W Lamp HID	367	18	3,240	\$128	\$0	\$188	3.97	1.27	607	\$0.2110	\$0.0117	0.19	0.18	\$0.00	-\$0.30	86%	1	50	1	50	100%	100%
High Bay Fluorescent fixtures with Electronic Ballasts replacing 310-400W HID Systems	High Bay Fluorescent fixtures with Electronic Ballasts replacing 310-400W HID Systems	322	HID: 320, 350, 400W Lamp	561	18	3,240	\$188	\$0	\$278	4.57	1.47	778	\$0.2418	\$0.0134	0.24	0.23	\$0.00	-\$0.38	86%	2	100	2	100	100%	100%
High Bay Fluorescents replacing 750 Watt HID	High Bay Fluorescents replacing 750 Watt HID	517	HID: 750W Lamp	1082	18	3,240	\$263	\$0	\$405	2.84	0.99	1,829	\$0.1438	\$0.0080	0.56	0.53	\$0.00	-\$0.89	86%	1	5	1	5	100%	100%
High Bay Fluorescents replacing 1000 Watt HID	High Bay Fluorescents replacing 1000 Watt HID	757	HID: 1000W Lamp	1419	18	3,240	\$263	\$0	\$407	2.43	0.86	2,145	\$0.1226	\$0.0068	0.66	0.62	\$0.00	-\$1.05	86%	1	1	1	1	100%	100%
Wall mount occupancy sensor	Lighting System with Occupancy Sensor	192	Lighting System without Occupancy Sensor	275	18	3,240	\$38	\$0	\$125	5.99	4.17	267	\$0.1423	\$0.0079	0.08	0.08	\$0.00	-\$0.13	86%	1	20	1	20	100%	100%
Ceiling mount occupancy sensor	Lighting System with Occupancy Sensor	192	Lighting System without Occupancy Sensor	275	18	3,240	\$75	\$0	\$125	5.99	2.40	267	\$0.2808	\$0.0156	0.08	0.08	\$0.00	-\$0.13	86%	1	100	1	100	100%	100%

**Forecasted Technical Assumptions - 2010**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Hours of Operation per year	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Incremental Cost Payback Period w/o Rebate	Incremental Cost Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust KWh Saved	Lifetime cost /Cust KWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2010	Units 2010	Participants 2011	Units 2011	Forecast Install Rate	NTG
Photocell	Lighting System with Photocell	400	Lighting System without Photocell	496	18	3,240	\$38	\$0	\$65	2.66	1.10	313	\$0.1212	\$0.0067	0.10	0.09	\$0.00	-\$0.15	86%	1	5	1	5	100%	100%
Exit sign retrofit and replacement	1 F.D.	2	Incandescent	45	18	8,760	\$38	\$0	\$80	3.65	1.92	376	\$0.1011	\$0.0056	0.04	0.05	\$0.00	-\$0.07	100%	1	25	1	25	100%	100%
Low Wattage T8 4' lamps	T8 25W and 28W Lamps	29	T8 32W Lamps	35	8	3,240	\$1	\$0	\$2	1.31	0.65	20	\$0.0510	\$0.0062	0.01	0.01	\$0.00	-\$0.01	86%	1	500	1	500	100%	100%
Low Wattage CFL Plug In Type	PL 40W CFLs	32	PL 40W CFLs	52	8	3,240	\$4	\$0	\$10	1.84	1.12	63	\$0.0936	\$0.0077	0.02	0.02	\$0.00	-\$0.03	86%	1	5	1	5	100%	100%
Integrated 25W Ceramic Metal Halide	Ceramic Metal Halide	32	Incandescent	97	7	3,240	\$38	\$0	\$57	3.48	1.16	210	\$0.1814	\$0.0259	0.06	0.06	\$0.00	-\$0.10	86%	1	10	1	10	100%	100%
Ceramic Metal Halide <=150W	Ceramic Metal Halide	67	Incandescent	236	18	3,240	\$75	\$0	\$141	3.31	1.55	546	\$0.1373	\$0.0076	0.17	0.16	\$0.00	-\$0.27	86%	1	25	1	25	100%	100%
Ceramic Metal Halide 151-250W	Ceramic Metal Halide	294	Incandescent	474	18	3,240	\$120	\$0	\$248	5.45	2.82	582	\$0.2060	\$0.0114	0.18	0.17	\$0.00	-\$0.28	86%	1	10	1	10	100%	100%
Ceramic Metal Halide 251W+	Ceramic Metal Halide	509	Metal Halide	924	18	3,240	\$150	\$0	\$292	2.78	1.35	1,345	\$0.1115	\$0.0062	0.42	0.39	\$0.00	-\$0.66	86%	1	5	1	5	100%	100%
Custom Lighting	High Efficiency Lighting	23848	Existing Lower Efficiency Lighting	44505	18	6,006	\$8,264	\$0	\$26,207	3.32	2.27	124,064	\$0.0666	\$0.0037	20.66	19.45	\$0.00	-\$32.62	86%	2	1	2	1	100%	100%
Parking Garages - Replace Metal Halide => 250W with High Efficiency Fluorescent	4L 4ft T8, 8ft Strip fixture, standard B.F. ballast	107	250 Watt Metal Halide	285	15	8,760	\$0	\$0	\$305	3.36	3.36	1,559	\$0.0000	\$0.0000	0.18	0.20	\$0.00	\$0.00	100%	0	0	0	0	100%	100%
Parking Garages Replace High Intensity Discharge with High Efficiency Fluorescent	High Efficiency Fluorescent T8 or T5 Systems	104	150W or 175W High Intensity Discharge	197	18	8,760	\$188	\$0	\$335	7.08	3.11	812	\$0.2315	\$0.0129	0.09	0.10	\$0.00	\$0.00	100%	1	2	1	2	100%	100%
Parking Garage Low Wattage T8 Lamps replacing 32W lamps	T8 25W and 28W Lamps	23	T8 32W Lamps	27	4	8,760	\$1	\$0	\$2	0.94	0.47	36	\$0.0274	\$0.0069	0.00	0.00	\$0.00	\$0.00	100%	1	25	1	25	100%	100%
<b>SAVER'S SWITCH - BUSINESS</b>		<b>Watts</b>	<b>Watts</b>							<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
Business - New Installation Average Customer- AC only - Smart Switch	Utility Load Control for control period	0	No Control, No Switch	8970	15	5	\$0	\$0	\$0	0.00	0.00	44	\$0.0000	\$0.0000	8.97	3.53	\$0.00	\$0.00	36%	82	200	82	200	100%	100%
<b>INTERRUPTIBLE CREDIT OPTION</b>		<b>Watts</b>	<b>Watts</b>							<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
ICO - Average New Customer	Utility Load Control for control period	0	No Control	1790167	3	7	\$0	\$0	\$0	0.00	0.00	12,710	\$0.0000	\$0.0000	1,790.17	1,554.49	\$0.00	\$0.00	79%	5	5	7	7	100%	100%
<b>RESIDENTIAL</b>																									
<b>AIR SOURCE HEAT PUMP REBATES</b>		<b>Watts</b>	<b>Watts</b>							<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
Air-Source Heat Pump Rebates - <b>TOTAL</b>		3648	5254		2,954								4,830			4.64				20	20				
Installation of new Air-Source Heat Pump 3.5 T - 14.5 SEER 0.2 HPSF	ENERGY STAR SEER/HPSF 14.5/0.2	4100	Conventional SEER/HPSF 14.5/0.2	6254	12	2,954	\$246	\$3,800	\$300	1.08	0.20	3,407	\$0.0719	\$0.0069	4.16	4.04	\$0.00	\$0.00	76%	0	4	0	0	100%	100%
Installation of new Air-Source Heat Pump 3.5 T - 15 SEER 0.2 HPSF	ENERGY STAR SEER/HPSF 15/0.2	4263	Conventional SEER/HPSF 15/0.2	6254	12	2,954	\$473	\$3,800	\$1,600	4.44	3.13	4,402	\$0.1073	\$0.0089	4.49	4.34	\$0.00	\$0.00	76%	40	40	40	40	100%	100%
Installation of new Air-Source Heat Pump 3.5 T - 18.6 SEER 0.3 HPSF	ENERGY STAR SEER/HPSF 18.6/0.3	3473	Conventional SEER/HPSF 18.6/0.3	6254	12	2,954	\$700	\$3,800	\$3,000	0.97	7.44	5,257	\$0.1332	\$0.0114	4.78	4.56	\$0.00	\$0.00	76%	40	40	40	40	100%	100%
<b>ELECTRIC WATER HEATING REBATES</b>		<b>Watts</b>	<b>Watts</b>							<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
Electric Water Heating Rebates - <b>TOTAL</b>		4171	4500		1,073								353			0.33				145	155				
Resistance, Highly Insulated Tank 50% & 40 & 50 gallon Tanks	Energy Factor (EF) = 0.95	4313	Elec Resis EF = 0.9106 Fed Std - blended	4500	13	1,073	\$38	\$650	\$50	3.05	0.76	200	\$0.1871	\$0.0144	0.19	0.03	\$0.00	\$0.00	12%	135	135	135	135	100%	100%
Solar water heating package for domestic water heating (ENERGY STAR info) for national market; Solar Fraction = 0.50 for national markets	Solar water heating package 32 sf	2272	Electric resistance water heating EF = 0.9106	4500	20	1,073	\$450	-\$650	\$1,785	9.13	6.83	2,389	\$0.1883	\$0.0094	2.23	0.31	\$0.00	\$0.00	12%	5	5	10	10	100%	100%
Heat Pump Water Heaters	Energy Factor (EF) = 2.19	2224	Elec Resis EF = 0.9106 Fed Std - blended	4500	13	1,073	\$450	\$650	\$1,150	5.76	3.51	2,441	\$0.1844	\$0.0142	2.28	0.28	\$0.00	-\$32.62	12%	5	5	10	10	100%	100%
<b>EVAPORATIVE COOLING REBATES</b>		<b>Watts</b>	<b>Watts</b>							<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
Evaporative Cooling Rebates - <b>TOTAL</b>		124	1837		1,366								2,340			1.71				400	400				
1.5 ton Standard Evaporative Cooler replacing 1.5 ton Standard Window AC Units (Tier 1)	Standard Evaporative Coolers (1.5 tons)	117	Standard Window AC Units (1.5 tons)	1837	10	1,366	\$200	\$574	\$37	0.19	-0.85	2,350	\$0.0851	\$0.0085	1.72	1.84	-\$1.72	\$0.00	93%	395	395	395	395	100%	60%
1.5 Ton High Efficiency Evaporative cooler replacing 1.5 ton Standard Window AC Units (Tier 2)	High Effic Evaporative Coolers (1.5 tons)	699	Standard Window AC Units (1.5 tons)	1837	10	1,366	\$1,000	\$574	\$546	4.29	0.36	1,554	\$0.3217	\$0.0322	1.14	1.22	-\$1.13	\$0.00	93%	5	5	5	5	100%	100%

**Forecasted Technical Assumptions - 2010**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Hours of Operation per year	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Incremental Cost Payback Period w/o Rebate	Incremental Cost Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Lifetime cost /Cust KWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2010	Units 2010	Participants 2011	Units 2011	Forecast Install Rate	NTG
<b>HOME ENERGY SERVICES</b>	<b>Watts</b>	<b>Watts</b>								<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
<b>Home Energy Services - TOTAL</b>	<b>15981</b>	<b>17615</b>			<b>941</b>							<b>1,538</b>			<b>1.63</b>				<b>4000</b>	<b>4000</b>					
Ceiling Insulation R-11 to R 30 Elec Resist Htg, A/C cooling HEATING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	18268	R-11 in attic over top floor conditioned space	20128	20	874	\$309	\$0	\$407	3.06	0.74	1,625	\$0.1900	\$0.0095	1.86	0.00	\$0.00	0%	109	250	109	250	100%	93%	
Ceiling Insulation R-11 to R 30 ASHP Heating & cooling HEATING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	12788	R-11 in attic over top floor conditioned space	13739	20	874	\$158	\$0	\$407	5.99	3.67	831	\$0.1900	\$0.0095	0.95	0.00		0%	109	250	109	250	100%	93%	
Ceiling Insulation R-11 to R 30 Elec Resist Htg, A/C cooling COOLING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	3864	R-11 in attic over top floor conditioned space	4270	20	1,355	\$330	\$0	\$509	11.31	3.96	550	\$0.6007	\$0.0300	0.41	0.43		93%	109	250	109	250	100%	93%	
Ceiling Insulation R-11 to R 30 ASHP Heating & cooling COOLING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	3864	R-11 in attic over top floor conditioned space	4270	20	1,355	\$330	\$0	\$509	11.31	3.96	550	\$0.6007	\$0.0300	0.41	0.43		93%	109	250	109	250	100%	93%	
ACH leakage reduced 0.7 to 0.5 Elec Resistance HEATING	Reduce air infiltration	18404	Leaky thermal envelope	20128	10	874	\$286	\$0	\$322	2.61	0.29	1,506	\$0.1900	\$0.0190	1.72	0.00		0%	262	600	262	600	100%	93%	
ACH leakage reduced 0.7 to 0.5 ASHP HEATING	Reduce air infiltration	12833	Leaky thermal envelope	13739	10	874	\$150	\$0	\$322	4.97	2.65	791	\$0.1900	\$0.0190	0.91	0.00		0%	262	600	262	600	100%	93%	
ACH leakage reduced 0.7 to 0.5 Elec Resistance COOLING	Reduce air infiltration	4222	Leaky thermal envelope	4270	10	1,355	\$40	\$0	\$53	9.88	2.54	66	\$0.6007	\$0.0601	0.05	0.05		93%	262	600	262	600	100%	93%	
ACH leakage reduced 0.7 to 0.5 ASHP COOLING	Reduce air infiltration	4222	Leaky thermal envelope	4270	10	1,355	\$40	\$0	\$53	9.88	2.54	66	\$0.6007	\$0.0601	0.05	0.05		93%	262	600	262	600	100%	93%	
Reduce duct leakage by 50% Elec Resistance HEATING by 50%	Reduced duct leakage	17637	Leaking ducts	20128	15	874	\$276	\$0	\$276	1.55	0.00	2,176	\$0.1270	\$0.0085	2.49	0.00	\$0.00	0%	350	800	350	800	100%	93%	
Reduce duct leakage by 50% ASHP HEATING by 50%	Reduced duct leakage	11720	Leaking ducts	13739	15	874	\$276	\$0	\$276	1.92	0.00	1,764	\$0.1566	\$0.0104	2.02	0.00	\$0.00	0%	350	800	350	800	100%	93%	
Reduce duct leakage by 50% Elec Resistance COOLING by 50%	Reduced duct leakage	4091	Leaking ducts	4270	15	1,355	\$97	\$0	\$97	4.88	0.00	243	\$0.3994	\$0.0266	0.18	0.19	\$0.00	93%	350	800	350	800	100%	93%	
Reduce duct leakage by 50% ASHP COOLING by 50%	Reduced duct leakage	4091	Leaking ducts	4270	15	1,355	\$97	\$0	\$97	4.88	0.00	243	\$0.3994	\$0.0266	0.18	0.19	\$0.00	93%	350	800	350	800	100%	93%	
HE Energy Star Air Conditioner 14.5 SEER Unit 3.5 tons	Install HE Energy Star 14.5 SEER Unit 3.5 tons	2802	Install Base 13 SEER Unit 3.5 tons	3285	14	1,355	\$393	\$4,484	\$539	10.08	2.74	654	\$0.6007	\$0.0429	0.48	0.51		93%	17	40	17	40	100%	93%	
Quality Install HE Energy Star Air Conditioner 14.5 SEER Unit 3.5 tons	Quality Install	2121	Non-Quality Install HE Energy Star Air Conditioner 14.5 SEER Unit 3.5 tons	2802	7	1,314	\$75	\$0	\$75	1.02	0.00	895	\$0.0838	\$0.0120	0.68	0.72		93%	17	40	17	40	100%	93%	
Installation of new Air Source Heat Pump 3.5 T 14.5 SEER 8.2 HPSF	ENERGY STAR SEER/HPSF 14 5/8.2	4100	Conventional SEER/HPSF 13/7.7	5254	12	2,951	\$300	\$3,800	\$300	1.08	0.00	3,407	\$0.0881	\$0.0073	1.15	1.01	\$0.00	76%	0	0	0	0	100%	93%	
Installation of new Air Source Heat Pump 3.5 T 15 SEER 8.2 HPSF	ENERGY STAR SEER/HPSF 15/9	3763	Conventional SEER/HPSF 13/7.7	5254	12	2,951	\$1,600	\$3,800	\$1,600	4.44	0.00	4,402	\$0.3635	\$0.0303	1.49	1.31	\$0.00	76%	4	10	4	10	100%	93%	
Installation of new Air Source Heat Pump 3.5 T 18.6 SEER 9.3 HPSF	ENERGY STAR SEER/HPSF 18/6/9.3	3473	Conventional SEER/HPSF 13/7.7	5254	12	2,951	\$1,990	\$3,800	\$3,900	9.07	4.44	5,257	\$0.3786	\$0.0315	1.78	1.56	\$0.00	76%	4	10	4	10	100%	93%	
Quality install 3.5 T 14.5 SEER ASHP	Quality Install	3400	Non-quality Installation of new Air Source Heat Pump 3.5 T 14.5 SEER 8.2 HPSF	4100	6	3,075	\$75	\$0	\$75	0.43	0.00	2,152	\$0.0348	\$0.0058	0.70	0.74		93%	0	0	0	0	100%	93%	
Quality install 3.5 T 15 SEER ASHP	Quality Install	3091	Non-quality Installation of new Air Source Heat Pump 3.5 T 15 SEER 9 HPSF	3763	6	2,747	\$75	\$0	\$75	0.50	0.00	1,846	\$0.0406	\$0.0068	0.67	0.72		93%	4	10	4	10	100%	93%	
Quality install 3.5 T 18.6 SEER ASHP	Quality Install	2827	Non-quality Installation of new Air Source Heat Pump 3.5 T 18.6 SEER 9.3 HPSF	3473	6	2,102	\$75	\$0	\$75	0.68	0.00	1,358	\$0.0552	\$0.0092	0.65	0.69		93%	4	10	4	10	100%	93%	
Programmable Thermostats	Estar Programmable T Stat	2608	Non-programmable T stat	2684	44	5,424	\$60	\$0	\$60	1.48	0.00	413	\$0.1240	\$0.0140	0.08	0.08	\$0.00	93%	44	4	44	4	100%	93%	
Radiant Barriers	Radiant Barrier Installed in Attic	4667	No Radiant Barrier	4932	20	2,951	\$297	\$0	\$458	7.14	2.51	784	\$0.3786	\$0.0189	0.27	0.28	\$0.00	93%	4	10	4	10	100%	93%	
Low Flow Showerheads	Low Flow Shower head - 1.5 GPM	43	Federal Maximum Standard flow rate 2.5 GPM	72	6	8,760	\$6	\$0	\$6	0.28	0.00	252	\$0.0229	\$0.0038	0.03	0.03	\$6.77		93%	1049	260	1049	0	100%	93%
Compact Fluorescent Lighting Package of 10 Low Income Only - 2010	High efficiency CFL lighting 10 bulbs	155	baseline is 10 incandescent bulbs	675	7	1,105	\$0	\$1	\$41	0.86	0.86	574	\$0.0000	\$0.0000	0.52	0.05		8%	0	0	0	0	100%	93%	
Compact Fluorescent Lighting Package of 10 Low Income Only - 2011	High efficiency CFL lighting 10 bulbs	155	baseline is 10 incandescent bulbs	675	7	1,105	\$0	\$1	\$41	0.86	0.86	574	\$0.0000	\$0.0000	0.52	0.05		8%	0	0	0	0	100%	93%	

**Forecasted Technical Assumptions - 2010**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Hours of Operation per year	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Incremental Cost Payback Period w/o Rebate	Incremental Cost Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Lifetime cost /Cust KWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2010	Units 2010	Participants 2011	Units 2011	Forecast Install Rate	NTG
<b>HOME LIGHTING &amp; RECYCLING</b>																									
<b>Home Lighting &amp; Recycling - Totals</b>		<b>Watts</b>		<b>Watts</b>						<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
Residential Home Lighting 2010	Average wattage of 4 CFL bulbs purchased by customer	62	Average wattage of 4 incandescent bulbs to be changed	270		1,164						242			0.21						37500		37500		
Residential Home Lighting 2011	Average wattage of 4 CFL bulbs purchased by customer	16	Average wattage of 4 incandescent bulbs to be changed	68	7	1,164	\$1	\$1	\$2	0.31	0.10	61	\$0.0173	\$0.0025	0.05	0.00	\$0.00	8%	37500	150000	0	0	100%	83%	
Refrigerator Recycling - Totals		<b>Watts</b>		<b>Watts</b>						<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
Refrigerator Recycling - second refrigerator	removal of second refrigerator	0	existing secondary unit - age mostly >10 years	234	8	4,818	\$50	\$0	\$0	0.00	-0.38	1,128	\$0.0310	\$0.0039	0.23	0.15	\$0.00	\$0.00	55%	500	500	500	500	100%	93%
<b>SCHOOL EDUCATION KITS</b>																									
<b>School Education Kits - Totals</b>		<b>Watts</b>		<b>Watts</b>						<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>					2500		2500		
Living Wise Kit-CFLs	High efficiency CFL lighting (2 bulbs; 1 13W; 1 18W)	31	baseline is 2 incandescent bulbs (1 60W & 1 75W)	135	7	1,210	\$5	\$0	\$5	0.48	0.00	126	\$0.0397	\$0.0058	0.10	0.01	\$0.00	\$0.00	8%	833	2500	833	2500	74%	100%
Living Wise Kit-Shower heads	Low Flow Shower head - 1.5 GPM	1332	Federal Minimum Standard flow rate 2.5 GPM	1800	6	340	\$6	\$0	\$6	0.44	0.00	159	\$0.0364	\$0.0061	0.47	0.00	\$4.25	\$0.00	0%	833	2500	833	2500	65%	100%
Living Wise Kit-Faucet Aerators	1.5 GPM flow rate aerator	1227	Federal Minimum Standard flow rate 2.2 GPM	1800	5	55	\$2	\$0	\$2	0.82	0.00	32	\$0.0673	\$0.0135	0.57	0.00	\$0.84	\$0.00	0%	833	2500	833	2500	62%	100%
<b>SAVER'S SWITCH - RESIDENTIAL</b>																									
Residential - New Installation Averag Customer- AC only - Smart Switch	Utility Load Control for control period	0	No Control, No Switch	3000	15	2	\$0	\$0	\$0	0.00	0.00	5	\$0.0000	\$0.0000	3.00	1.13	\$0.00	\$0.00	33%	810	810	810	810	100%	100%
Residential - New Installation Averag Customer - AC and WH - Smart Switch	Utility Load Control for control period	0	No Control, No Switch	6020	15	11	\$0	\$0	\$0	0.00	0.00	68	\$0.0000	\$0.0000	6.02	1.33	\$0.00	\$0.00	39%	45	45	45	45	100%	100%
<b>LOW-INCOME RESIDENTIAL</b>																									
<b>Low-Income - Totals</b>		<b>1431</b>		<b>1776</b>						<b>923</b>					<b>319</b>		<b>0.35</b>				<b>2660</b>		<b>2660</b>		
<b>Low-Income CFL Giveaway</b>		<b>Watts</b>		<b>Watts</b>						<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
Pack of 4 CFLs provided to customer for installation 2010	Average per bulb wattage of 4 bulb pack of CFLs per participant (2 - 13 watt and 2 - 18 watt)	16	Average per bulb wattage of 4 incandescent bulbs replaced by participant (2 - 60W and 2-75W)	68	9	855	\$2	\$0	\$2	0.56	0.00	44	\$0.0461	\$0.0053	0.05	0.00	\$0.00	\$0.00	8%	2500	10000	0	0	100%	100%
Pack of 4 CFLs provided to customer for installation 2011	Average per bulb wattage of 4 bulb pack of CFLs per participant (2 - 13 watt and 2 - 18 watt)	16	Average per bulb wattage of 4 incandescent bulbs replaced by participant (2 - 60W and 2-75W)	68	10	773	\$2	\$0	\$2	0.62	0.00	40	\$0.0510	\$0.0053	0.05	0.00	\$0.00	\$0.00	8%	0	0	2500	10000	100%	100%
<b>Low-Income Refrigerator Upgrades</b>																									
Refrigerator Replacements	2008 Energy Star standard refrigerator	110	existing unit vintage from 7-18 years old	234	13	4,818	\$683	\$0	\$683	13.94	0.00	599	\$1.1401	\$0.0877	0.12	0.08	\$0.00	\$0.00	55%	40	40	40	40	100%	100%
<b>Low-Income Home Energy Services</b>																									
Ceiling Insulation R-11 to R 30 Elec Resist Htg, A/C cooling	Upgrade ceiling insulation levels per DOE R-30 on top floor	18268	R-11 in attic over top floor conditioned space	20128	20	874	\$309	\$0	\$407	3.06	0.74	1,625	\$0.1900	\$0.0095	1.86	0.00	\$0.00	\$0.00	0%	1	5	1	5	100%	100%
Ceiling Insulation R-11 to R 30 ASHP Heating & cooling	Upgrade ceiling insulation levels per DOE R-30 on top floor	12788	R-11 in attic over top floor conditioned space	13739	20	874	\$158	\$0	\$407	5.99	3.67	831	\$0.1900	\$0.0095	0.95	0.00	\$0.00	\$0.00	0%	3	15	3	15	100%	100%
Ceiling Insulation R-11 to R 30 Elec Resist Htg, A/C cooling	Upgrade ceiling insulation levels per DOE R-30 on top floor	3996	R-11 in attic over top floor conditioned space	4401	20	1,355	\$330	\$0	\$509	11.31	3.96	550	\$0.6007	\$0.0300	0.41	0.43	\$0.00	\$0.00	93%	1	5	1	5	100%	100%
Ceiling Insulation R-11 to R 30 ASHP Heating & cooling	Upgrade ceiling insulation levels per DOE R-30 on top floor	3996	R-11 in attic over top floor conditioned space	4401	20	1,355	\$330	\$0	\$509	11.31	3.96	550	\$0.6007	\$0.0300	0.41	0.43	\$0.00	\$0.00	93%	3	15	3	15	100%	100%
ACH leakage reduced 0.7 to 0.5 Elec Resistance HEATING	Reduce air infiltration	18404	Leaky thermal envelope	20128	10	874	\$286	\$0	\$322	2.61	0.29	1,506	\$0.1900	\$0.0190	1.72	0.00	\$0.00	\$0.00	0%	6	27	6	27	100%	100%
ACH leakage reduced 0.7 to 0.5 ASHP HEATING	Reduce air infiltration	12833	Leaky thermal envelope	13739	10	874	\$150	\$0	\$322	4.97	2.65	791	\$0.1900	\$0.0190	0.91	0.00	\$0.00	\$0.00	0%	16	73	16	73	100%	100%
ACH leakage reduced 0.7 to 0.5 Elec Resistance COOLING	Reduce air infiltration	4353	Leaky thermal envelope	4401	10	1,355	\$40	\$0	\$53	9.88	2.54	66	\$0.6007	\$0.0601	0.05	0.05	\$0.00	\$0.00	93%	6	27	6	27	100%	100%
ACH leakage reduced 0.7 to 0.5 ASHP COOLING	Reduce air infiltration	4353	Leaky thermal envelope	4401	10	1,355	\$40	\$0	\$53	9.88	2.54	66	\$0.6007	\$0.0601	0.05	0.05	\$0.00	\$0.00	93%	16	73	16	73	100%	100%
Reduce duct leakage by 50% Elec Resistance HEATING	Reduced duct leakage by 50%	17637	Leaking ducts	20128	15	874	\$276	\$0	\$276	1.55	0.00	2,176	\$0.1270	\$0.0085	2.49	0.00	\$0.00	\$0.00	0%	5	22	5	22	100%	100%

**Forecasted Technical Assumptions - 2010**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Hours of Operation per year	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Incremental Cost Payback Period w/o Rebate	Incremental Cost Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Rebated Lifetime cost /Cust KWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2010	Units 2010	Participants 2011	Units 2011	Forecast Install Rate	NTG
Reduce duct leakage by 50% ASHP HEATING	Reduced duct leakage by 50%	11720	Leaking ducts	13739	15	874	\$276	\$0	\$276	1.92	0.00	1,764	\$0.1566	\$0.0104	2.02	0.00	\$0.00	\$0.00	0%	13	58	13	58	100%	100%
Reduce duct leakage by 50% Elec Resistance COOLING	Reduced duct leakage by 50%	4222	Leaking ducts	4401	15	1,355	\$97	\$0	\$97	4.88	0.00	243	\$0.3994	\$0.0266	0.18	0.19	\$0.00	\$0.00	93%	5	22	5	22	100%	100%
Reduce duct leakage by 50% ASHP COOLING	Reduced duct leakage by 50%	4222	Leaking ducts	4401	15	1,355	\$97	\$0	\$97	4.88	0.00	243	\$0.3994	\$0.0266	0.18	0.19	\$0.00	\$0.00	93%	13	58	13	58	100%	100%
Install HE Energy Star 14.5 SEER Unit 3.5 tons	Install HE Energy Star 14.5 SEER Unit 3.5 SEER Unit 3.5 tons	2802	Install Base 13 SEER Unit 3.5 tons	3285	14	1,355	\$393	\$4,484	\$539	10.08	2.74	654	\$0.6007	\$0.0429	0.48	0.51	\$0.00	\$0.00	93%	0	0	0	0	100%	100%
Compact Fluorescent Lighting Package of 10 Low Income Only - 2010	High efficiency CFL lighting 10 bulbs	155	baseline is 10 incandescent bulbs	675	7	1,105	\$41	\$0	\$41	0.86	0.00	574	\$0.0705	\$0.0097	0.52	0.05	\$0.00	\$0.00	8%	10	45		0	100%	100%
Compact Fluorescent Lighting Package of 10 Low Income Only - 2011	High efficiency CFL lighting 10 bulbs	155	baseline is 10 incandescent bulbs	675	7	1,105	\$41	\$0	\$41	0.86	0.00	574	\$0.0705	\$0.0102	0.52	0.05	\$0.00	\$0.00	8%	0	0	10	45	100%	100%
<b>Low-Income Evaporative Cooling Rebates</b>			<b>Watts</b>							<b>Years</b>	<b>Years</b>	<b>kWh</b>			<b>kW</b>	<b>kW</b>									
1.5 ton Standard Evaporative Cooler replacing 1.5 ton Standard Window AC Units (Tier 1)	Standard Evaporative Coolers (1.5 tons)	117	Standard Window AC Units (1.5 tons)	1837	10	1,366	\$1,000	\$726	\$275	1.43	-3.77	2,350	\$0.4255	\$0.0425	1.72	1.84	-\$1.72	\$0.00	93%	20	20	20	20	100%	100%

Forecasted Technical Assumptions - 2011

**Forecasted Technical Assumptions - 2011**

Type of Measure	Self Calculating Fields																		Units 2011	NTG	Forecast Install Rate	Realization Rate							
	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Cost Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Reduced Lifetime cost /Cust kWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011						
Engineering Studies	Completed Studies	0	0	No Studies	0	0	0	\$91,311	\$0	\$98,811	#DIV/0!	92%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.00	0.00	\$0.00	\$0.00	0%	4	4	87%	100%	100%		
Implemented Measures Identified in Studies with Payback less than 9 Months	High Efficiency Equipment	18964106	3367	Existing Equipment	19050589	3,367	6	\$0	\$0	\$14,920	\$0	0%	0.67	0.67	291,205	\$0.0000	\$0.0000	86.48	95.15	\$0.00	\$0.00	100%	6	6	87%	100%	100%		
<b>LARGE CUSTOMER - SELF DIRECT</b>	<b>Watts</b>			<b>Watts</b>														<b>kW</b>	<b>kW</b>										
Self Direct - TOTAL	-																												
Large Customer-Self Direct																										90%	100%	100%	
<b>LIGHTING EFFICIENCY</b>	<b>Watts</b>			<b>Watts</b>														<b>kW</b>	<b>kW</b>								170		
<i>Lighting Efficiency - Total</i>																													
<i>Retrofit</i>																													
T8 Ballasts, 4 ft. or less, 1 and 2 lamp	T8 1 and 2 Lamp systems	49	3102	T12 1 and 2 Lamp systems, incandescents	98	3,102	15	\$18	\$0	\$42	\$0	42%	3.54	2.04	151	\$0.1193	\$0.0080	0.05	0.04	\$0.00	-\$0.08	83%	11	3100	80%	100%	100%		
T8 Ballasts, 4 ft. or less, 3 and 4 lamp	T8 Lighting Systems	115	3102	T12 3 and 4 Lamp systems	180	3,102	15	\$24	\$0	\$56	\$0	43%	3.46	1.96	202	\$0.1188	\$0.0079	0.07	0.06	\$0.00	-\$0.10	83%	4	1000	80%	100%	100%		
T8 Ballasts, Length > 4 ft. and <= 8 ft. 1 lamp	T8 8 Ft 1 Lamp systems	61	3102	T12 8 Ft 1 Lamp systems	121	3,102	15	\$28	\$0	\$93	\$0	30%	6.30	4.42	186	\$0.1502	\$0.0100	0.06	0.05	\$0.00	-\$0.09	83%	2	40	80%	100%	100%		
T8 Ballasts, Length > 4 ft. and <= 8 ft. 2 lamp	T8 8 Ft 2 Lamp Systems	122	3102	T12 8 Ft 2 Lamp systems	212	3,102	15	\$28	\$0	\$103	\$0	27%	4.63	3.38	281	\$0.0997	\$0.0066	0.09	0.08	\$0.00	-\$0.14	83%	1	25	80%	100%	100%		
T8 to T8 Optimization	T8 with less lamps (4,3,2)	62	3102	T8 with more lamps (4,3,2)	105	3,102	15	\$12	\$0	\$46	\$0	26%	4.43	3.27	131	\$0.0919	\$0.0061	0.04	0.04	\$0.00	-\$0.07	83%	1	300	80%	100%	100%		
T8 Optimization 1 and 2 Lamp	T8 Lighting Systems with less lamps	49	3102	T12 Fluorescents with more lamps	99	3,102	15	\$20	\$0	\$41	\$0	48%	3.41	1.76	153	\$0.1308	\$0.0087	0.05	0.04	\$0.00	-\$0.08	83%	10	2700	80%	100%	100%		
T8 Optimization 3 and 4 Lamp	T8 Lighting Systems with less lamps	99	3102	T12 Fluorescents with more lamps	184	3,102	15	\$26	\$0	\$53	\$0	49%	2.55	1.31	264	\$0.0985	\$0.0066	0.09	0.08	\$0.00	-\$0.13	83%	3	525	80%	100%	100%		
T5 Ballasts 1 and 2 Lamp	T5 1 and 2 Lamp Lighting Systems	52	3102	T12 Fluorescents	77	3,102	15	\$18	\$0	\$42	\$0	43%	6.73	3.84	79	\$0.2292	\$0.0153	0.03	0.02	\$0.00	-\$0.04	83%	1	50	80%	100%	100%		
T5 Ballasts 3 and 4 Lamp	T5 Lighting Systems	143	3102	T12 Fluorescents	162	3,102	15	\$24	\$0	\$70	\$0	34%	15.11	9.93	58	\$0.4120	\$0.0275	0.02	0.02	\$0.00	-\$0.03	83%	1	20	80%	100%	100%		
Compact Fluorescent Lamps (CFL), Equal to or less than 18W Pin Based	Compact Fluorescent 18W or less Pin Based	15	3102	Incandescent	49	3,102	15	\$25	\$0	\$84	\$0	30%	9.97	7.01	106	\$0.2351	\$0.0157	0.03	0.03	\$0.00	-\$0.05	83%	1	50	80%	100%	100%		
Screw In CFL Equal to or less than 18 Watts	Screw In CFL Equal to or less than 18 Watts	14	3102	Incandescent	57	3,102	3	\$1	\$0	\$4	\$0	29%	0.33	0.24	132	\$0.0076	\$0.0024	0.04	0.04	\$0.00	-\$0.07	83%	11	3500	80%	100%	100%		
CFL, 19 to 32 Watt Pin Based	Pin Based Compact Fluorescent 19 to 32 Watts	37	3102	Incandescent	128	3,102	15	\$30	\$0	\$76	\$0	40%	3.38	2.04	282	\$0.1063	\$0.0071	0.09	0.08	\$0.00	-\$0.14	83%	1	50	80%	100%	100%		
Screw In CFL 19 to 32 Watts	Screw In CFL 19 to 32 Watts	33	3102	Incandescent	118	3,102	5	\$2	\$0	\$5	\$0	40%	0.24	0.14	265	\$0.0076	\$0.0015	0.09	0.08	\$0.00	-\$0.14	83%	5	750	80%	100%	100%		
CFL, 33 Watt or more, Pin Based	Pin Based Compact Fluorescent Fixtures 33 Watts or more	72	3102	Incandescent	315	3,102	15	\$35	\$0	\$103	\$0	34%	1.72	1.14	754	\$0.0464	\$0.0031	0.24	0.22	\$0.00	-\$0.38	83%	1	50	80%	100%	100%		
Screw In CFL 33 to 56 Watts	Screw In CFL 33 to 56 Watts	67	3102	Incandescent	194	3,102	5	\$3	\$0	\$16	\$0	19%	0.51	0.42	394	\$0.0076	\$0.0015	0.13	0.12	\$0.00	-\$0.20	83%	3	350	80%	100%	100%		
HID, 151 to 250W	Metal Halide	271	3102	Mercury Vapor, High Pressure Sodium	382	3,102	15	\$30	\$0	\$161	\$0	19%	5.86	4.77	346	\$0.0868	\$0.0058	0.11	0.10	\$0.00	-\$0.18	83%	1	5	80%	100%	100%		
HID, 251 to 1000W	Lighting High Intensity Discharge 250 to 1000 Watts	591	3102	Mercury Vapor, High Pressure Sodium	1412	3,102	15	\$45	\$0	\$253	\$0	18%	1.25	1.03	2,547	\$0.0177	\$0.0012	0.82	0.75	\$0.00	-\$1.29	83%	1	5	80%	100%	100%		
Pulse-Start Metal Halide, <= 175W	175W or Less Pulse Start Metal Halide	238	3102	Metal Halide	438	3,102	15	\$60	\$0	\$161	\$0	37%	3.26	2.04	622	\$0.0965	\$0.0064	0.20	0.18	\$0.00	-\$0.32	83%	1	5	80%	100%	100%		
Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	301	3102	Metal Halide	373	3,102	15	\$90	\$0	\$280	\$0	32%	14.47	9.82	243	\$0.3695	\$0.0246	0.09	0.07	\$0.00	-\$0.12	83%	1	10	80%	100%	100%		
Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide	489	3102	Metal Halide	590	3,102	15	\$100	\$0	\$283	\$0	35%	11.28	7.29	316	\$0.3169	\$0.0211	0.10	0.09	\$0.00	-\$0.16	83%	1	15	80%	100%	100%		
Pulse-Start Metal Halide, 750W+	Pulse Start Metal Halide	1054	3102	Metal Halide	1406	3,102	15	\$120	\$0	\$381	\$0	31%	4.39	3.01	1,092	\$0.1099	\$0.0073	0.35	0.32	\$0.00	-\$0.56	83%	1	5	80%	100%	100%		

**Forecasted Technical Assumptions - 2011**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Rebate Lifetime cost /Cust kWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate
<i>Self Calculating Fields</i>																											
High Bay Fluorescent Fixtures with Electronic Ballasts replacing 350W HID systems	High Bay Fluorescent Fixtures with Electronic Ballasts replacing 250W HID systems	180	3102	250W Lamp HID	368	3,102	15	\$85	\$0	\$188	\$0	45%	4.07	2.23	582	\$0.1461	\$0.0097	0.19	0.17	\$0.00	-\$0.30	83%	4	375	80%	100%	100%
High Bay Fluorescent fixtures with Electronic Ballasts replacing 310-400W HID Systems	High Bay Fluorescent fixtures with Electronic Ballasts replacing 310-400W HID Systems	322	3102	HID: 320, 350, 400W Lamp	562	3,102	15	\$125	\$0	\$278	\$0	45%	4.68	2.57	745	\$0.1677	\$0.0112	0.24	0.22	\$0.00	-\$0.38	83%	22	1600	80%	100%	100%
High Bay Fluorescents replacing 750 Watt HID	High Bay Fluorescents with Electronic Ballasts replacing 750W HID Systems	518	3102	HID: 750W Lamp	1084	3,102	15	\$175	\$0	\$405	\$0	43%	2.90	1.65	1,753	\$0.0998	\$0.0067	0.57	0.51	\$0.00	-\$0.89	83%	6	150	80%	100%	100%
High Bay Fluorescents replacing 1000 Watt HID	High Bay Fluorescent fixtures with Electronic Ballasts replacing 1000W HID Systems	758	3102	HID: 1000W Lamp	1421	3,102	15	\$175	\$0	\$407	\$0	43%	2.49	1.42	2,057	\$0.0851	\$0.0057	0.66	0.60	\$0.00	-\$1.05	83%	2	40	80%	100%	100%
Wall mount occupancy sensor	Lighting System with Occupancy Sensor	193	3102	Lighting System without Occupancy Sensor	275	3,102	8	\$25	\$0	\$125	\$0	20%	6.14	4.91	256	\$0.0976	\$0.0122	0.08	0.08	\$0.00	-\$0.13	83%	5	500	80%	100%	100%
Ceiling mount occupancy sensor	Lighting System with Occupancy Sensor	193	3102	Lighting System without Occupancy Sensor	275	3,102	8	\$50	\$0	\$125	\$0	40%	6.14	3.68	256	\$0.1952	\$0.0244	0.08	0.08	\$0.00	-\$0.13	83%	6	1050	80%	100%	100%
Photocell	Lighting System with Photocell	400	3102	Lighting System without Photocell	497	3,102	8	\$25	\$0	\$65	\$0	38%	2.72	1.67	301	\$0.0832	\$0.0104	0.10	0.09	\$0.00	-\$0.15	83%	1	25	80%	100%	100%
Exit sign retrofit and replacement	LED	2	8760	Incandescent	45	8,760	15	\$25	\$0	\$80	\$0	31%	3.65	2.51	376	\$0.0664	\$0.0044	0.04	0.05	\$0.00	-\$0.07	100%	2	50	80%	100%	100%
Low Wattage T8 4' lamps	T8 25W and 28W Lamps	29	3102	T8 32W Lamps	35	3,102	8	\$1	\$0	\$2	\$0	50%	1.34	0.67	19	\$0.0532	\$0.0065	0.01	0.01	\$0.00	-\$0.01	83%	2	2000	80%	100%	100%
Low Wattage CFL Plug In Type	PL 25W CFL	32	3102	PL 40W CFL	52	3,102	8	\$4	\$0	\$10	\$0	42%	1.98	1.15	60	\$0.0664	\$0.0081	0.02	0.02	\$0.00	-\$0.03	83%	1	25	80%	100%	100%
Integrated 25W Ceramic Metal Halide	Ceramic Metal Halide	32	3102	Incandescent	97	3,102	7	\$25	\$0	\$57	\$0	44%	3.57	2.00	201	\$0.1244	\$0.0178	0.06	0.06	\$0.00	-\$0.10	83%	1	50	80%	100%	100%
Ceramic Metal Halide <=150W	Ceramic Metal Halide	68	3102	Incandescent	236	3,102	15	\$50	\$0	\$141	\$0	35%	3.39	2.19	524	\$0.0955	\$0.0064	0.17	0.15	\$0.00	-\$0.27	83%	1	50	80%	100%	100%
Ceramic Metal Halide 151-250W	Ceramic Metal Halide	295	3102	Incandescent	475	3,102	15	\$80	\$0	\$248	\$0	32%	5.59	3.79	558	\$0.1433	\$0.0096	0.18	0.16	\$0.00	-\$0.28	83%	1	50	80%	100%	100%
Ceramic Metal Halide 251W-	Ceramic Metal Halide	509	3102	Metal Halide	925	3,102	15	\$100	\$0	\$292	\$0	34%	2.85	1.87	1,290	\$0.0775	\$0.0052	0.42	0.38	\$0.00	-\$0.66	83%	1	25	80%	100%	100%
LED Pedestrian Signals -9" (Walk/Don't Walk)	LED Pedestrian Signals 9" (Walk/Don't Walk)	8	4380	Incandescent Pedestrian Signals - Large	69	4,380	15	\$30	\$0	\$78	\$0	38%	4.18	2.57	267	\$0.1123	\$0.0075	0.06	0.03	\$0.00	\$0.00	50%	1	15	80%	100%	100%
LED Pedestrian Signals -12" (Walk/Don't Walk)	LED Pedestrian Signals 12" (Walk/Don't Walk)	10	4380	Incandescent Pedestrian Signals - Large	116	4,380	15	\$40	\$0	\$107	0.069902943	37%	3.30	2.06	464	\$0.0862	\$0.0057	0.11	0.06	\$0.00	\$0.00	50%	1	15	80%	100%	100%
LED Traffic Balls and Arrows - 8"	LED Traffic Balls and Arrows - 8" Red	8	4820	Incandescent Traffic Balls and Arrows 8" Red	69	4,820	15	\$25	\$0	\$68	\$0	37%	3.41	2.16	294	\$0.0850	\$0.0057	0.06	0.04	\$0.00	\$0.00	55%	1	15	80%	100%	100%
LED Traffic Balls and Arrows - 12"	LED Traffic Balls and Arrows - 12" Red	11	4820	Incandescent Traffic Balls and Arrows 12" Red	135	4,820	15	\$32	\$0	\$87	\$0	37%	2.15	1.36	598	\$0.0535	\$0.0036	0.12	0.08	\$0.00	\$0.00	55%	1	15	80%	100%	100%
LED Traffic Balls and Arrows - 8"	LED Traffic Balls and Arrows - 8" Green	8	3675	Incandescent Traffic Balls and Arrows 8" Green	69	3,675	15	\$25	\$0	\$68	\$0	37%	4.08	2.58	224	\$0.1115	\$0.0074	0.06	0.03	\$0.00	\$0.00	42%	1	15	80%	100%	100%
LED Traffic Balls and Arrows - 12"	LED Traffic Balls and Arrows - 12" Green	11	3675	Incandescent Traffic Balls and Arrows 12" Green	135	3,675	15	\$32	\$0	\$87	\$0	37%	2.57	1.62	456	\$0.0702	\$0.0047	0.12	0.06	\$0.00	\$0.00	42%	1	15	80%	100%	100%
LED Traffic Arrows - 12" Red	LED Traffic Arrows - 12" Red	11	7885	Incandescent Traffic Balls and Arrows 12" Red	135	7,885	15	\$50	\$0	\$134	\$0	37%	2.30	1.44	978	\$0.0511	\$0.0034	0.12	0.12	\$0.00	\$0.00	90%	1	15	80%	100%	100%

**Forecasted Technical Assumptions - 2011**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Rebated Lifetime cost /Cust kWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate
<i>Self Calculating Fields</i>																											
Parking Garages - Replace Metal Halide => 250W with High Efficiency Fluorescent	4L 4ft T8, 8ft Strip fixture, standard B.F. ballast	107	8760	250 Watt Metal Halide	285	8,760	15	\$0	\$0	\$305	\$0	0%	3.36	3.36	1,559	\$0.0000	\$0.0000	0.18	0.20	\$0.00	\$0.00	100%	0	0	80%	100%	100%
Parking Garages Replace High Intensity Discharge with High Efficiency Fluorescent	High Efficiency Fluorescent T8 or T5 Systems	104	8760	150W or 175W High Intensity Discharge	197	8,760	15	\$125	\$0	\$335	\$0	37%	7.08	4.44	812	\$0.1539	\$0.0103	0.09	0.10	\$0.00	\$0.00	100%	1	5	80%	100%	100%
Parking Garage Low Wattage T8 Lamps, replacing 32W lamps	T8 22W and 26W Lamps	23	8760	T8 32W Lamps	27	8,760	4	\$1	\$0	\$2	\$0	50%	0.94	0.47	36	\$0.0274	\$0.0069	0.00	0.00	\$0.00	\$0.00	100%	1	300	80%	100%	100%
LED Interior Lamp < 5W	LED lamp	6	3102	Incandescent or Halogen lamp	60	3,102	15	\$20	\$6	\$34	\$0	59%	2.55	1.05	168	\$0.1193	\$0.0082	0.05	0.05	\$-0.09	\$-0.09	83%	1	30	80%	100%	100%
LED Interior Lamp 6W - 10W	LED lamp	8	3102	Incandescent or Halogen lamp	52	3,102	14	\$22	\$5	\$40	\$0	55%	3.67	1.64	136	\$0.1612	\$0.0115	0.04	0.04	\$-0.07	\$-0.07	83%	1	30	80%	100%	100%
LED Interior Lamp 11W - 20W	LED lamp	17	3102	Incandescent or Halogen lamp	117	3,102	14	\$35	\$5	\$65	\$0	54%	2.62	1.20	312	\$0.1128	\$0.0078	0.10	0.09	\$-0.16	\$-0.16	83%	1	30	80%	100%	100%
LED Interior Fixture Retrofit < 15W	LED Downlight Luminaria	15	3102	Incandescent Luminaria	52	3,102	15	\$100	\$0	\$193	\$0	52%	21.51	10.39	113	\$0.8839	\$0.0589	0.04	0.03	\$-0.06	\$-0.06	83%	1	30	80%	100%	100%
LED Interior Fixture Retrofit 16W - 25W	LED Downlight Luminaria	28	3102	Incandescent Luminaria	78	3,102	15	\$100	\$0	\$199	\$0	50%	16.26	8.09	154	\$0.6493	\$0.0433	0.05	0.05	\$-0.08	\$-0.08	83%	1	30	80%	100%	100%
LED Interior Fixture Retrofit 26W - 30W	LED Downlight Luminaria	38	3102	Incandescent Luminaria	97	3,102	15	\$125	\$0	\$272	\$0	46%	18.79	10.17	182	\$0.6858	\$0.0457	0.06	0.05	\$-0.09	\$-0.09	83%	1	30	80%	100%	100%
LED Interior Fixture Retrofit 36W - 50W	LED Downlight Luminaria	56	3102	Incandescent Luminaria	130	3,102	15	\$125	\$0	\$272	\$0	46%	14.96	8.09	229	\$0.5458	\$0.0364	0.07	0.07	\$-0.12	\$-0.12	83%	1	30	80%	100%	100%
LED Canopy or Soffit lighting 25W - 50W; Retrofit - Total	LED	42	4380	Metal Halide	273	4,380	15	\$275	\$0	\$668	\$0	41%	9.42	5.54	1,014	\$0.2711	\$0.0181	0.23	0.00	\$0.00	\$0.00	0%	1	30	80%	100%	100%
LED Canopy or Soffit lighting 51W - 100W; Retrofit - Total	LED	71	4380	Metal Halide	365	4,380	15	\$275	\$0	\$628	\$0	44%	6.96	3.91	1,291	\$0.2130	\$0.0142	0.29	0.00	\$0.00	\$0.00	0%	1	30	80%	100%	100%
LED Canopy or Soffit lighting 100W - 150W; Retrofit - Total	LED	130	4380	Metal Halide	368	4,380	15	\$275	\$0	\$707	\$0	39%	9.70	5.03	1,042	\$0.2638	\$0.0176	0.24	0.00	\$0.00	\$0.00	0%	1	30	80%	100%	100%
LED Refrigerated Cases - Retrofit	LED Strip lighting	51	6491	T8 or T12 Fluorescent	127	6,491	15	\$100	\$0	\$171	\$0	58%	5.60	2.33	491	\$0.2035	\$0.0136	0.08	0.08	\$0.00	\$0.00	94%	1	30	80%	100%	100%
<i>New Construction</i>																											
CFL Equal to or less than 18Watt Pin Based	New Construction Compact Fluorescent Equal to or Less than 18W	17	3102	Incandescent	57	3,102	5	\$10	\$2	\$33	\$0	31%	3.33	2.32	124	\$0.0809	\$0.0162	0.04	0.04	\$0.00	\$-0.06	83%	1	25	80%	100%	100%
NC Screw In CFL 19 to 32 Watts	NC Screw In CFL 19 to 32 Watts	33	3102	Incandescent	118	3,102	5	\$2	\$2	\$4	\$0	46%	0.20	0.11	265	\$0.0076	\$0.0015	0.09	0.08	\$0.00	\$-0.13	83%	1	75	80%	100%	100%
NC Screw-in CFL Equal to or Less than 18 Watts	NC Screw-in CFL Equal to or Less than 18 Watts	17	3102	Incandescent	57	3,102	5	\$1	\$2	\$2	\$0	50%	0.20	0.10	124	\$0.0081	\$0.0016	0.04	0.04	\$0.00	\$-0.06	83%	1	125	80%	100%	100%
CFL19-32 Watt Pin Based	New Construction Compact Fluorescent 19-32 Watts	38	3102	Incandescent	123	3,102	15	\$15	\$36	\$40	\$0	38%	1.90	1.19	265	\$0.0566	\$0.0038	0.09	0.08	\$0.00	\$-0.13	83%	1	25	80%	100%	100%
Screw In CFL 33 Watts or more	NC Screw In CFL 33 Watts or more	67	3102	Incandescent	195	3,102	5	\$3	\$2	\$16	\$0	19%	0.51	0.41	397	\$0.0076	\$0.0015	0.13	0.12	\$0.00	\$-0.20	83%	1	25	80%	100%	100%
New Construction Pin Based Compact Fluorescent 33 Watts or more	New Construction Pin Based Compact Fluorescent 33 Watts or more	66	3102	Incandescent	217	3,102	15	\$20	\$47	\$50	\$0	40%	1.34	0.80	469	\$0.0426	\$0.0028	0.15	0.14	\$0.00	\$-0.24	83%	1	10	80%	100%	100%
Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	274	3102	High Pressure Sodium, Metal Halide	377	3,102	15	\$12	\$191	\$30	\$0	40%	1.18	0.71	319	\$0.0376	\$0.0025	0.10	0.09	\$0.00	\$-0.16	83%	1	5	80%	100%	100%
Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide 320 to 749W	508	3102	High Pressure Sodium, Mercury Vapor, Metal Halide	591	3,102	15	\$12	\$253	\$30	\$0	40%	1.48	0.89	255	\$0.0470	\$0.0031	0.08	0.07	\$0.00	\$-0.13	83%	1	5	80%	100%	100%
Pulse-Start Metal Halide, 750W+	750W Pulse Start Metal Halide	1054	3102	1000W Metal Halide	1395	3,102	15	\$28	\$351	\$70	\$0	40%	0.83	0.50	1,057	\$0.0265	\$0.0018	0.34	0.31	\$0.00	\$-0.54	83%	1	5	80%	100%	100%
High Bay Fluorescents <= 300 Watts	New Construction High Bay Less Than 300W	302	3102	Metal Halide	593	3,102	15	\$40	\$180	\$88	\$0	45%	1.23	0.67	904	\$0.0442	\$0.0029	0.29	0.27	\$0.00	\$-0.46	83%	1	20	80%	100%	100%
High Bay Fluorescents <= 610 Watts	New Construction High Bay Less than 610W	638	3102	Metal Halide	1101	3,102	15	\$40	\$270	\$138	0.079500726	29%	1.21	0.86	1,437	\$0.0278	\$0.0019	0.46	0.42	\$0.00	\$-0.73	83%	1	15	80%	100%	100%
High Bay Fluorescents <= 900 Watts	New Construction High Bay Less than 900W	960	3113	Metal Halide	1404	3,113	15	\$65	\$361	\$173	\$0	38%	1.57	0.98	1,381	\$0.0471	\$0.0031	0.44	0.40	\$0.00	\$-0.70	83%	1	15	80%	100%	100%

**Forecasted Technical Assumptions - 2011**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Cost Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Rebated kWh cost /Cust kWh Saved	Customer kWh Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate
	Self Calculating Fields																										
Low Wattage T8	Low Wattage T8 Lamps	29	3102	Standard T8 32 watt lamps	35	3,102	8	\$1	\$2	\$2	\$0	50%	1.34	0.67	19	\$0.0532	\$0.0065	0.01	0.01	\$0.00	-\$0.01	83%	1	250	80%	100%	
Low Wattage CFL Plg In Type	PL 25W CFL	32	3102	PL 40W CFL	52	3,102	8	\$1	\$7	\$3	\$0	40%	0.52	0.31	60	\$0.0166	\$0.0020	0.02	0.02	\$0.00	-\$0.03	83%	1	5	80%	100%	
Integrated 25W Ceramic Metal Halide	Ceramic Metal Halide	32	3102	Incandescent	97	3,102	7	\$15	\$15	\$45	\$0	33%	2.82	1.88	201	\$0.0747	\$0.0107	0.06	0.06	\$0.00	-\$0.10	83%	1	15	80%	100%	
Ceramic Metal Halide <=150W	Ceramic Metal Halide <= 150 Watts	66	3102	Incandescent	235	3,102	15	\$45	\$59	\$145	\$0	31%	3.49	2.41	523	\$0.0860	\$0.0057	0.17	0.15	\$0.00	-\$0.10	83%	1	15	80%	100%	
Ceramic Metal Halide 151-250W	Ceramic Metal Halide 151 to 250 Watts	301	3102	Metal Halide	484	3,102	15	\$55	\$192	\$152	\$0	36%	3.36	2.15	569	\$0.0967	\$0.0064	0.18	0.17	\$0.00	-\$0.29	83%	1	5	80%	100%	
Ceramic Metal Halide 251W-	Ceramic Metal Halide	506	3102	Metal Halide	591	3,102	15	\$20	\$253	\$42	\$0	48%	2.00	1.04	262	\$0.0763	\$0.0051	0.08	0.08	\$0.00	-\$0.13	83%	1	5	80%	100%	
LED Interior Lamp < 5W	LED lamp	6	3102	Incandescent or Halogen lamp	60	3,102	15	\$20	\$6	\$34	\$0	59%	2.55	1.05	168	\$0.1193	\$0.0082	0.05	0.05	-\$0.09	-\$0.09	83%	1	30	80%	100%	
LED Interior Lamp 6W - 10W	LED lamp	8	3102	Incandescent or Halogen lamp	52	3,102	14	\$22	\$5	\$40	\$0	55%	3.67	1.64	136	\$0.1612	\$0.0115	0.04	0.04	-\$0.07	-\$0.07	83%	1	30	80%	100%	
LED Interior Lamp 11W - 20W	LED lamp	17	3102	Incandescent or Halogen lamp	117	3,102	14	\$35	\$5	\$65	\$0	54%	2.62	1.20	312	\$0.1128	\$0.0078	0.10	0.09	-\$0.16	-\$0.16	83%	1	30	80%	100%	
LED Interior Fixture NC < 15W	LED Downlight Lumen	15	3102	Incandescent Lumen	52	3,102	15	\$50	\$50	\$123	\$0	40%	13.73	8.17	113	\$0.4419	\$0.0295	0.04	0.03	-\$0.06	-\$0.06	83%	1	30	80%	100%	
LED Interior Fixture NC 16W - 25W	LED Downlight Lumen	28	3102	Incandescent Lumen	78	3,102	15	\$50	\$50	\$129	\$0	39%	10.54	6.46	154	\$0.3246	\$0.0216	0.05	0.05	-\$0.08	-\$0.08	83%	1	30	80%	100%	
LED Interior Fixture NC 26W - 35W	LED Downlight Lumen	38	3102	Incandescent Lumen	97	3,102	15	\$75	\$50	\$202	\$0	37%	13.96	8.79	182	\$0.4115	\$0.0274	0.06	0.05	-\$0.09	-\$0.09	83%	1	30	80%	100%	
LED Interior Fixture NC 36W - 50W	LED Downlight Lumen	56	3102	Incandescent Lumen	130	3,102	15	\$75	\$50	\$202	\$0	37%	11.11	6.99	229	\$0.3275	\$0.0218	0.07	0.07	-\$0.12	-\$0.12	83%	1	30	80%	100%	
LED Refrigerated Cases - New Construction	LED Strip lighting	38	6491	T8 or T12 Fluorescent	100	6,491	15	\$70	\$38	\$136	\$0	52%	5.43	2.63	401	\$0.1746	\$0.0116	0.06	0.06	\$0.00	\$0.00	94%	1	30	80%	100%	
LED Canopy or Soffit lighting 25W - 50W; NC - Total	LED	43	4380	Metal Halide	263	4,380	15	\$150	\$192	\$448	\$0	33%	6.66	4.43	962	\$0.1559	\$0.0104	0.22	0.00	\$0.00	\$0.00	0%	3	15	80%	100%	
LED Canopy or Soffit lighting 51W - 100W; NC - Total	LED	74	4380	Metal Halide	373	4,380	15	\$150	\$282	\$315	\$0	48%	3.43	1.80	1,312	\$0.1143	\$0.0076	0.30	0.00	\$0.00	\$0.00	0%	2	30	80%	100%	
LED Canopy or Soffit lighting 100W - 150W; NC - Total	LED	130	4380	Metal Halide	368	4,380	15	\$150	\$263	\$420	\$0	36%	5.76	3.71	1,042	\$0.1439	\$0.0096	0.24	0.00	\$0.00	\$0.00	0%	1	15	80%	100%	
<b>Custom Lighting</b>																											
Custom Lighting	High Efficiency Lighting	23848	6006	Existing Lower Efficiency Lighting	44505	6,006	15	\$8,263	\$0	\$26,207	\$0	32%	3.32	2.27	124,064	\$0.0666	\$0.0044	20.66	18.79	\$0.00	\$0.00	83%	1	1	87%	100%	100%
<b>Lighting Redesign</b>																											
Lighting Redesign Implementation	Improved Light Levels	52601	5055	Excessive Light Levels or	101391	5,055	15	\$19,252	\$0	\$96,424	\$0	20%	5.85	4.68	246,648	\$0.0781	\$0.0052	48.79	44.37	\$0.00	-\$13.42	83%	0	0	80%	100%	100%
Lighting Redesign Study	0	0	0	0	0	0	0	\$5,357	\$0	\$7,142	#DIV/0!	75%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.00	0.00	\$0.00	\$0.00	0%	0	0	80%	100%	100%
<b>MOTOR &amp; DRIVE EFFICIENCY</b>																											
<b>Motor Efficiency - Total</b>																											
NEMA Premium Plan A - New Motors (1-500HP)	NEMA Premium Efficient Motors	12575	3995	Earlier than or EPACT Efficient Motors	12762	3,995	20	\$87	\$0	\$170	\$0	51%	3.15	1.53	747	\$0.1163	\$0.0058	0.19	0.16	\$0.00	\$0.00	78%	5	5	87%	100%	100%
NEMA Premium Plan B - Replacement Motors (1-500HP)	NEMA Premium Efficient Motors	14410	4274	Earlier than or EPACT Efficient Motors	15153	4,274	20	\$878	\$0	\$2,068	\$0	42%	9.23	5.31	3,178	\$0.2764	\$0.0138	0.74	0.64	\$0.00	\$0.00	78%	5	5	87%	100%	100%
Enhanced NEMA Premium Plan A - New Motors (1-500HP)	Enhanced NEMA Premium Efficient Motors	16176	4529	EPACT Efficient Motors	16573	4,529	20	\$155	\$0	\$256	\$0	61%	2.06	0.81	1,797	\$0.0865	\$0.0043	0.40	0.34	\$0.00	\$0.00	78%	1	1	87%	100%	100%
Enhanced NEMA Premium Plan B - Replacement Motors (1-500HP)	Enhanced NEMA Premium Efficient Motors	16176	4629	Earlier than or EPACT Efficient Motors	17203	4,629	20	\$1,058	\$0	\$2,506	\$0	42%	7.68	4.44	4,752	\$0.2225	\$0.0111	1.03	0.88	\$0.00	\$0.00	78%	1	1	87%	100%	100%
ASD's (1-200HP)	Equipment coupled with a ASD/VFD	11415	5211	Equipment without an ASD/VFD	17037	5,211	20	\$2,158	\$0	\$4,601	\$0	47%	2.37	1.26	29,299	\$0.0737	\$0.0037	5.62	4.82	\$0.00	\$0.00	78%	3	12	87%	100%	100%
Constant Speed Motor Controller (5hp to 500 hp)	Motor with Voltage Controller	4601	4483	Motor without Voltage Controller	6069	4,483	20	\$338	\$0	\$1,311	\$0	26%	2.87	2.13	6,582	\$0.0513	\$0.0026	1.47	1.26	\$0.00	\$0.00	78%	1	1	87%	100%	100%
VFD Air Compressor Systems (5hp to 40 hp)	Compressed air system with integrated variable frequency drive	12748	3079	Modulation or load no load with less than 3gal of storage per CFM of Capacity	18692	3,079	20	\$4,250	\$0	\$18,847	\$0	23%	12.91	10.00	18,302	\$0.2322	\$0.0116	5.94	5.81	\$0.00	\$0.00	89%	1	1	87%	100%	100%
No Air Loss Compressed Air Drains	No Air Loss Drains	0	7682	Electronic Solenoid/Timed Drains	530	7,682	20	\$100	\$125	\$323	\$0	31%	1.32	0.91	4,071	\$0.0246	\$0.0012	0.53	0.51	\$0.00	\$0.00	88%	1	1	87%	100%	100%
Pump Off Controllers - 40HP units	Pump-Off Control	0	8760	No Control	6783	8,760	20	\$883	\$0	\$4,349	\$0	20%	1.26	1.00	59,420	\$0.0149	\$0.0007	6.78	7.25	\$0.00	\$0.00	97%	1	1	87%	100%	100%
Custom Motors (>=501HP) / ASD's (>=201HP)	New Equipment	353190	3310	Old or less efficient systems or equipment	499814	3,310	20	\$58,650	\$12,500	\$150,751	\$0	39%	4.01	2.45	485,361	\$0.1208	\$0.0060	146.62	107.95	\$0.00	\$0.00	67%	2	2	87%	100%	100%

**Forecasted Technical Assumptions - 2011**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Reserve Lifetime cost /Cust kWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate			
																Self Calculating Fields			%	Years	Years	kWh	kW	kW	kW	kW	kW	kW	kW	kW
<b>SMALL BUSINESS LIGHTING</b>																														
<i>Small Business Lighting - Total</i>																													91	
T8 Ballasts, 4 ft. or less, 1 and 2 lamp	T8 1 and 2 Lamp systems	48	3154	T12 1 and 2 Lamp systems, incandescents	95	3,154	15	\$27	\$0	\$42	0.078959807	64%	3.60	1.31	149	\$0.1809	\$0.0121	0.05	0.04	\$0.00	-\$0.08	83%	24	6000	95%	100%	100%			
T8 Ballasts, 4 ft. or less, 3 and 4 lamp	T8 Lighting Systems	112	3154	T12 3 and 4 Lamp systems	175	3,154	15	\$36	\$0	\$56	0.078959807	65%	3.52	1.24	200	\$0.1803	\$0.0120	0.06	0.06	\$0.00	-\$0.10	83%	8	1200	95%	100%	100%			
T8 Ballasts, Length > 4 ft. and <= 8 ft, 1 lamp	T8 8 Ft 1 Lamp systems	59	3154	T12 8 Ft 1 Lamp systems	118	3,154	15	\$42	\$0	\$93	0.078959807	45%	6.42	3.53	184	\$0.2278	\$0.0152	0.06	0.05	\$0.00	-\$0.09	83%	2	50	95%	100%	100%			
T8 Ballasts, Length > 4 ft. and <= 8 ft, 2 lamp	T8 8 Ft 2 Lamp Systems	118	3154	T12 8 Ft 2 Lamp systems	207	3,154	15	\$42	\$0	\$103	0.078959807	41%	4.72	2.80	278	\$0.1512	\$0.0101	0.09	0.08	\$0.00	-\$0.14	83%	2	50	95%	100%	100%			
T8 to T8 Optimization	T8 with less lamps (3,2,1)	61	3154	T8 with more lamps (4,3,2)	102	3,154	15	\$18	\$0	\$46	0.078959807	39%	4.51	2.74	129	\$0.1394	\$0.0093	0.04	0.04	\$0.00	-\$0.07	83%	1	25	95%	100%	100%			
T8 Optimization 1 and 2 Lamp	T8 Lighting Systems with less lamps	48	3154	T12 Fluorescents with more lamps	96	3,154	15	\$30	\$0	\$41	0.078959807	72%	3.47	0.96	151	\$0.1985	\$0.0132	0.05	0.04	\$0.00	-\$0.08	83%	10	1600	95%	100%	100%			
T8 Optimization 3 and 4 Lamp	T8 Lighting Systems with less lamps	96	3154	T12 Fluorescents with more lamps	179	3,154	15	\$40	\$0	\$53	0.078959807	75%	2.59	0.65	261	\$0.1532	\$0.0102	0.08	0.08	\$0.00	-\$0.13	83%	4	500	95%	100%	100%			
T5 Ballasts 1 and 2 Lamp	T5 1 and 2 Lamp Lighting Systems	51	3154	T12 Fluorescents	75	3,154	15	\$27	\$0	\$42	0.078959807	64%	7.00	2.50	76	\$0.3553	\$0.0237	0.02	0.02	\$0.00	-\$0.04	83%	1	38	95%	100%	100%			
T5 Ballasts 3 and 4 Lamp	T5 Lighting Systems	139	3154	T12 Fluorescents	157	3,154	15	\$36	\$0	\$70	0.078959807	51%	15.39	7.47	58	\$0.6249	\$0.0417	0.02	0.02	\$0.00	-\$0.03	83%	1	15	95%	100%	100%			
Compact Fluorescent Lamps (CFL), Equal to or less than 18W Pin Based	Compact Fluorescent Fixtures 18W or less Pin Based	15	3154	Incandescent	48	3,154	15	\$38	\$0	\$84	0.078959807	45%	10.15	5.57	105	\$0.3614	\$0.0241	0.03	0.03	\$0.00	-\$0.05	83%	1	20	95%	100%	100%			
Screw IN CFL Equal to or less than 18 Watts	Screw IN CFL Equal to or less than 18 Watts	14	3154	Incandescent	55	3,154	3	\$1	\$0	\$4	0.078959807	29%	0.34	0.25	129	\$0.0077	\$0.0024	0.04	0.04	\$0.00	-\$0.07	83%	3	1000	95%	100%	100%			
CFL, 19 to 32 Watt Pin Based	Pin Based Compact Fluorescent 19 to 32 Watts	36	3154	Incandescent	124	3,154	15	\$45	\$0	\$76	0.078959807	59%	3.44	1.40	279	\$0.1612	\$0.0107	0.09	0.08	\$0.00	-\$0.14	83%	1	75	95%	100%	100%			
Screw IN CFL 19 to 32 Watts	Screw IN CFL 19 to 32 Watts	33	3154	Incandescent	115	3,154	5	\$2	\$0	\$5	0.078959807	40%	0.25	0.15	259	\$0.0077	\$0.0015	0.08	0.07	\$0.00	-\$0.14	83%	3	536	95%	100%	100%			
CFL, 33 Watt or more, Pin Based	Pin Based Compact Fluorescent Fixtures 33 Watts or more	70	3154	Incandescent	306	3,154	15	\$48	\$0	\$103	0.078959807	46%	1.76	0.94	746	\$0.0644	\$0.0043	0.24	0.22	\$0.00	-\$0.38	83%	1	25	95%	100%	100%			
Screw In CFL 33 to 56 Watts	Screw In CFL 33 to 56 Watts	66	3154	Incandescent	189	3,154	5	\$3	\$0	\$16	0.078959807	19%	0.52	0.42	389	\$0.0077	\$0.0015	0.12	0.11	\$0.00	-\$0.20	83%	1	160	95%	100%	100%			
HID, 151 to 250W	Metal Halide	263	3154	Mercury Vapor, High Pressure Sodium	372	3,154	15	\$45	\$0	\$161	0.078959807	28%	5.97	4.30	342	\$0.1317	\$0.0088	0.11	0.10	\$0.00	-\$0.18	83%	1	1	95%	100%	100%			
HID, 251 to 1000W	Lighting High Intensity Discharge 250 to 1000 Watts	574	3154	Mercury Vapor, High Pressure Sodium	1373	3,154	15	\$68	\$0	\$253	0.078959807	27%	1.27	0.93	2,519	\$0.0270	\$0.0018	0.80	0.73	\$0.00	-\$1.29	83%	1	1	95%	100%	100%			
Pulse-Start Metal Halide, <= 175W	175W or Less Pulse Start Metal Halide	232	3154	Metal Halide	426	3,154	15	\$90	\$0	\$161	0.078959807	56%	3.32	1.46	615	\$0.1464	\$0.0098	0.19	0.18	\$0.00	-\$0.32	83%	1	1	95%	100%	100%			
Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	292	3154	Metal Halide	369	3,154	15	\$135	\$0	\$280	0.078959807	48%	14.73	7.63	241	\$0.5607	\$0.0374	0.08	0.07	\$0.00	-\$0.12	83%	1	7	95%	100%	100%			
Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide	475	3154	Metal Halide	574	3,154	15	\$150	\$0	\$283	0.078959807	53%	11.48	5.40	312	\$0.4807	\$0.0320	0.10	0.09	\$0.00	-\$0.16	83%	1	1	95%	100%	100%			
Pulse-Start Metal Halide, 750W+	Pulse Start Metal Halide	1025	3154	Metal Halide	1368	3,154	15	\$180	\$0	\$381	0.078959807	47%	4.47	2.36	1,080	\$0.1667	\$0.0111	0.34	0.31	\$0.00	-\$0.56	83%	1	1	95%	100%	100%			
High Bay Fluorescent Fixtures with Electronic Ballasts replacing 250W HID systems	High Bay Fluorescent Fixtures with Electronic Ballasts replacing 250W HID systems	175	3154	250W Lamp HID	358	3,154	15	\$128	\$0	\$188	0.078959345	68%	4.15	1.33	575	\$0.2225	\$0.0148	0.18	0.17	\$0.00	-\$0.30	83%	2	100	95%	100%	100%			

**Forecasted Technical Assumptions - 2011**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Rebate Lifetime cost /Cust kWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate
<i>Self Calculating Fields</i>																											
High Bay Fluorescent fixtures with Electronic Ballasts replacing 310-400W HID Systems	High Bay Fluorescent fixtures with Electronic Ballasts replacing 310-400W HID Systems	313	3154	HID: 320, 350, 400W Lamp	547	3,154	15	\$188	\$0	\$278	0.078959807	68%	4.77	1.54	737	\$0.2550	\$0.0170	0.23	0.21	\$0.00	-\$0.38	83%	5	200	95%	100%	100%
High Bay Fluorescents replacing 750 Watt HID	High Bay Fluorescents with Electronic Ballasts replacing 750W HID Systems	504	3154	HID: 750W Lamp	1054	3,154	15	\$263	\$0	\$405	0.078959807	65%	2.96	1.04	1,734	\$0.1517	\$0.0101	0.55	0.50	\$0.00	-\$0.89	83%	1	12	95%	100%	100%
High Bay Fluorescents replacing 1000 Watt HID	High Bay Fluorescent fixtures with Electronic Ballasts replacing 1000W HID Systems	737	3154	HID: 1000W Lamp	1382	3,154	15	\$263	\$0	\$407	0.078959807	65%	2.54	0.90	2,034	\$0.1293	\$0.0086	0.64	0.59	\$0.00	-\$1.05	83%	1	2	95%	100%	100%
Wall mount occupancy sensor	Lighting System with Occupancy Sensor	187	3154	Lighting System without Occupancy Sensor	268	3,154	15	\$38	\$0	\$125	0.078959807	30%	6.25	4.35	253	\$0.1500	\$0.0100	0.08	0.07	\$0.00	-\$0.13	83%	1	50	95%	100%	100%
Ceiling mount occupancy sensor	Lighting System with Occupancy Sensor	187	3154	Lighting System without Occupancy Sensor	268	3,154	15	\$75	\$0	\$125	0.078959807	60%	6.25	2.50	253	\$0.2961	\$0.0197	0.08	0.07	\$0.00	-\$0.13	83%	1	150	95%	100%	100%
Photocell	Lighting System with Photocell	389	3154	Lighting System without Photocell	483	3,154	15	\$38	\$0	\$65	0.078959807	58%	2.77	1.15	297	\$0.1279	\$0.0085	0.09	0.09	\$0.00	-\$0.15	83%	1	10	95%	100%	100%
Exit sign retrofit and replacement	LED	2	8760	Incandescent	44	8,760	15	\$38	\$0	\$80	0.058257941	48%	3.75	1.97	366	\$0.1038	\$0.0069	0.04	0.05	\$0.00	-\$0.07	100%	1	25	95%	100%	100%
Low Wattage T8 4' lamps	16 25W and 28W Lamps	28	3154	T8 32W Lamps	34	3,154	8	\$1	\$0	\$2	0.078959807	50%	1.36	0.68	19	\$0.0538	\$0.0065	0.01	0.01	\$0.00	-\$0.01	83%	1	500	95%	100%	100%
Low Wattage CFL Plug In Type	PL 25W CFL	31	3154	PL 40W CFL	50	3,154	8	\$4	\$0	\$10	0.078959807	42%	2.02	1.17	60	\$0.0671	\$0.0082	0.02	0.02	\$0.00	-\$0.03	83%	1	5	95%	100%	100%
Integrated 25W Ceramic Metal Halide	Ceramic Metal Halide	31	3154	Incandescent	94	3,154	7	\$38	\$0	\$57	0.078959807	67%	3.63	1.21	199	\$0.1913	\$0.0273	0.06	0.06	\$0.00	-\$0.10	83%	1	10	95%	100%	100%
Ceramic Metal Halide <=150W	Ceramic Metal Halide	66	3154	Incandescent	230	3,154	15	\$75	\$0	\$141	0.078959807	53%	3.45	1.62	518	\$0.1448	\$0.0097	0.16	0.15	\$0.00	-\$0.27	83%	1	63	95%	100%	100%
Ceramic Metal Halide 151-250W	Ceramic Metal Halide	287	3154	Incandescent	462	3,154	15	\$120	\$0	\$248	0.078959807	48%	5.69	2.94	552	\$0.2173	\$0.0145	0.18	0.16	\$0.00	-\$0.28	83%	1	25	95%	100%	100%
Ceramic Metal Halide 251W-	Ceramic Metal Halide	495	3154	Metal Halide	900	3,154	15	\$150	\$0	\$292	0.078959807	51%	2.90	1.41	1,275	\$0.1176	\$0.0078	0.40	0.37	\$0.00	-\$0.66	83%	1	13	95%	100%	100%
Custom Lighting	High Efficiency Lighting	23848	6006	Existing Lower Efficiency Lighting	44505	6,006	15	\$8,264	\$0	\$26,207	0.063597948	32%	3.32	2.27	124,064	\$0.0666	\$0.0044	20.66	18.79	\$0.00	-\$33.49	83%	1	1	87%	100%	100%
Parking Garages - Replace Metal Halide => 250W with High Efficiency Fluorescent	4L, 4T T8, 8ft Strip fixture, standard B.F. ballast	107	8760	250 Watt Metal Halide	285	8,760	15	\$0	\$0	\$305	0.058257941	0%	3.36	3.36	1,559	\$0.0000	\$0.0000	0.18	0.20	\$0.00	\$0.00	100%	0	0	95%	100%	100%
Parking Garages Replace High Intensity Discharge with High Efficiency Fluorescent	High Efficiency Fluorescent T8 or T5 Systems	104	8760	150W or 175W High Intensity Discharge	197	8,760	15	\$188	\$0	\$335	0.058257941	56%	7.08	3.11	812	\$0.2315	\$0.0154	0.09	0.10	\$0.00	\$0.00	100%	1	5	95%	100%	100%
Parking Garage Low Wattage T8 Lamps replacing 32W Lamps	T8 32W Lamps	23	8760	T8 32W Lamps	27	8,760	4	\$1	\$0	\$2	0	50%	0.94	0.47	36	\$0.0274	\$0.0069	0.00	0.00	\$0.00	\$0.00	100%	1	60	95%	100%	100%
LED Interior Lamp < 5W	LED lamp	5	3906	Incandescent or Halogen lamp	58	3,906	12	\$20	\$6	\$34	0	59%	2.27	0.93	205	\$0.0975	\$0.0085	0.05	0.05	-\$0.09	-\$0.09	83%	1	50	95%	100%	100%
LED Interior Lamp 6W - 10W	LED lamp	9	3906	Incandescent or Halogen lamp	51	3,906	12	\$22	\$5	\$40	0	55%	3.30	1.47	166	\$0.1325	\$0.0111	0.04	0.04	-\$0.07	-\$0.07	83%	1	50	95%	100%	100%
LED Interior Lamp 11W - 20W	LED lamp	16	3906	Incandescent or Halogen lamp	114	3,906	12	\$35	\$5	\$65	0	54%	2.34	1.08	382	\$0.0917	\$0.0080	0.10	0.09	-\$0.16	-\$0.16	83%	1	50	95%	100%	100%
LED Interior Fixture Retrofit < 15W	LED Downlight Luminaires	15	3906	Incandescent Luminaires	50	3,906	15	\$100	\$0	\$193	0	52%	19.20	0.27	139	\$0.7216	\$0.0481	0.04	0.03	-\$0.06	-\$0.06	83%	1	10	95%	100%	100%
LED Interior Fixture Retrofit 16W - 25W	LED Downlight Luminaires	27	3906	Incandescent Luminaires	76	3,906	15	\$100	\$0	\$199	0	50%	14.51	7.22	189	\$0.5301	\$0.0353	0.05	0.04	-\$0.08	-\$0.08	83%	1	10	95%	100%	100%
LED Interior Fixture Retrofit 26W - 35W	LED Downlight Luminaires	37	3906	Incandescent Luminaires	94	3,906	15	\$125	\$0	\$272	0	46%	16.77	9.07	223	\$0.5599	\$0.0373	0.06	0.05	-\$0.09	-\$0.09	83%	1	10	95%	100%	100%
LED Interior Fixture Retrofit 36W - 50W	LED Downlight Luminaires	54	3906	Incandescent Luminaires	126	3,906	15	\$125	\$0	\$272	0	46%	13.35	7.22	280	\$0.4456	\$0.0297	0.07	0.07	-\$0.12	-\$0.12	83%	1	10	95%	100%	100%
LED Canopy or Softif lighting 25W - 50W - Retrofit - Total	LED Metal Halide	42	4380	Metal Halide	273	4,380	15	\$275	\$0	\$668	0	41%	9.42	5.54	1,014	\$0.2711	\$0.0181	0.23	0.00	\$0.00	\$0.00	0%	1	10	95%	100%	100%
LED Canopy or Softif lighting 51W - 100W - Retrofit - Total	LED Metal Halide	71	4380	Metal Halide	365	4,380	15	\$275	\$0	\$628	0	44%	6.96	3.91	1,291	\$0.2130	\$0.0142	0.29	0.00	\$0.00	\$0.00	0%	1	10	95%	100%	100%
LED Canopy or Softif lighting 100W - 150W, Retrofit - Total	LED Metal Halide	130	4380	Metal Halide	388	4,380	15	\$275	\$0	\$707	0	39%	9.70	5.93	1,042	\$0.2638	\$0.0176	0.24	0.00	\$0.00	\$0.00	0%	1	10	95%	100%	100%
LED Refrigerated Cases - Retrofit	LED Strip lighting	51	6491	T8 or T12 Fluorescent	127	6,491	15	\$100	\$0	\$171	0	58%	5.60	2.33	491	\$0.2035	\$0.0136	0.08	0.08	\$0.00	\$0.00	96%	1	50	95%	100%	100%
<b>SAVER'S SWITCH - BUSINESS</b>		<b>Watts</b>		<b>Watts</b>																							
Business - New Installation Average	Utility Load Control for control period	0		No Control, No Switch	8970	5	1	\$0	\$0	\$0	\$0	#DIV/0!	0.00	0.00	44	\$0.0000	\$0.0000	8.97	3.53	\$0.00	\$0.00	36%	164	400	100%	100%	100%

Forecasted Technical Assumptions - 2011																														
Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Reserve Lifetime cost /Cust kWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate			
<b>INTERRUPTIBLE CREDIT OPTION</b>																														
Large Interruptible Demand Response programs	Utility Load Control for control period	0	0	No Control	642857	0	1	\$25,912	\$0	\$0	0	0%	0.00	0.00	0	\$0.0000	\$0.0000	642.86	558.23	\$0.00	\$0.00	79%	7	7	100%	100%	100%			
<b>RESIDENTIAL CONSUMER BEHAVIOR PROGRAM</b>																														
<i>My Account</i>																										80000	80000	100%	100%	100%
<b>ELECTRIC WATER HEATING REBATES</b>																														
<i>Electric Water Heating Rebates - TOTAL</i>																											155			
Resistance, Highly Insulated Tank 50% 40 & 50 gallon Tanks	Energy Factor (EF) = 0.95	4313	1073	Elec Resis EF =0.9106 Fed Std - blended	4500	1,073	13	\$38	\$650	\$50	\$0	75%	3.05	0.76	200	\$0.1871	\$0.0144	0.19	0.03	\$0.00	\$0.00	12%	135	135	100%	100%	100%			
Solar water heating package for domestic water heating (ENERGY STAR info) for national market; Solar Fraction = 0.50 for national markets	Solar water heating package 32 sf	2272	1073	Electric resistance water heating EF = 0.9106	4500	1,073	20	\$450	-\$650	\$1,150	\$0	39%	5.89	3.58	2,389	\$0.1883	\$0.0094	2.23	0.31	\$0.00	\$0.00	12%	10	10	100%	100%	100%			
Heat Pump Water Heaters	Energy Factor (EF) = 2.19	2224	1073	Elec Resis EF =0.9106 Fed Std - blended	4500	1,073	13	\$450	\$650	\$1,150	\$0	39%	5.76	3.51	2,441	\$0.1843	\$0.0142	2.28	0.32	\$0.00	-\$32.62	12%	10	10	100%	100%	100%			
<b>EVAPORATIVE COOLING REBATES</b>																											0%	100%	100%	
<i>Evaporative Cooling Rebates - TOTAL</i>																											400			
1.5 ton Standard Evaporative Cooler replacing 1.5 ton Standard Window AC Units (Tier 1)	Standard Evaporative Coolers (1.5 tons)	117	1366	Standard Window AC Units (1.5 tons)	1837	1,366	10	\$200	\$574	\$37	\$0	541%	0.19	-0.85	2,350	\$0.0851	\$0.0085	1.72	1.84	-\$1.72	\$0.00	93%	395	395	60%	100%	100%			
1.5 Ton High Efficiency Evaporative cooler replacing 1.5 ton Standard Window AC units (Tier 2)	High Effic. Evaporative Coolers (1.5 tons)	699	1366	Standard Window AC Units (1.5 tons)	1837	1,366	10	\$1,000	\$574	\$546	\$0	183%	4.29	-3.57	1,554	\$0.6435	\$0.0643	1.14	1.22	-\$1.13	\$0.00	93%	5	5	100%	100%	100%			

**Forecasted Technical Assumptions - 2011**

Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Reserve Lifetime cost /Cust kWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate
<i>Self Calculating Fields</i>																											
<b>HOME ENERGY SERVICES</b>		<b>Watts</b>		<b>Watts</b>																							
<i>Home Energy Services - TOTAL</i>																											
Ceiling Insulation R-11 to R 30 Elec Resist Htg, A/C cooling HEATING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	18268	874	R-11 in attic over top floor conditioned space	20128	874	20	\$278	\$0	\$407	\$0	68%	3.06	0.97	1,625	\$0.1711	\$0.0086	1.86	0.00	\$0.00	\$0.00	0%	0	2	93%	100%	100%
Ceiling Insulation R-11 to R 30 ASHP Heating & cooling HEATING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	12788	874	R-11 in attic over top floor conditioned space	13739	874	20	\$142	\$0	\$407	\$0	35%	5.99	3.90	831	\$0.1711	\$0.0086	0.95	0.00	\$0.00	\$0.00	0%	0	2	93%	100%	100%
Ceiling Insulation R-11 to R 30 Elec Resist Htg, A/C cooling COOLING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	3864	1355	R-11 in attic over top floor conditioned space	4270	1,355	20	\$298	\$0	\$509	\$0	59%	11.31	4.69	550	\$0.5410	\$0.0270	0.41	0.43	\$0.00	\$0.00	93%	1	5	93%	100%	100%
Ceiling Insulation R-11 to R 30 ASHP Heating & cooling COOLING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	3864	1355	R-11 in attic over top floor conditioned space	4270	1,355	20	\$298	\$0	\$509	\$0	59%	11.31	4.69	550	\$0.5410	\$0.0270	0.41	0.43	\$0.00	\$0.00	93%	0	2	93%	100%	100%
ACH leakage reduced 0.7 to 0.5 Elec Resistance HEATING	Reduce air infiltration	18404	874	Leaky thermal envelope	20128	874	10	\$258	\$0	\$322	\$0	80%	2.61	0.52	1,506	\$0.1711	\$0.0171	1.72	0.00	\$0.00	\$0.00	0%	166	804	93%	100%	100%
ACH leakage reduced 0.7 to 0.5 A/C cooling HEATING	Reduce air infiltration	12833	874	Leaky thermal envelope	13739	874	10	\$135	\$0	\$322	\$0	42%	4.97	2.88	791	\$0.1711	\$0.0171	0.91	0.00	\$0.00	\$0.00	0%	381	1840	93%	100%	100%
ACH leakage reduced 0.7 to 0.5 Elec Resistance COOLING	Reduce air infiltration	4222	1355	Leaky thermal envelope	4270	1,355	10	\$36	\$0	\$53	\$0	67%	9.88	3.27	66	\$0.5410	\$0.0541	0.05	0.05	\$0.00	\$0.00	93%	814	3932	93%	100%	100%
ACH leakage reduced 0.7 to 0.5 ASHP COOLING	Reduce air infiltration	4222	1355	Leaky thermal envelope	4270	1,355	10	\$36	\$0	\$53	\$0	67%	9.88	3.27	66	\$0.5410	\$0.0541	0.05	0.05	\$0.00	\$0.00	93%	381	1840	93%	100%	100%
Reduce duct leakage by 50% Elec Resistance HEATING	Reduced duct leakage by 50%	17637	874	Leaking ducts	20128	874	15	\$276	\$0	\$276	\$0	100%	1.55	0.00	2,176	\$0.1270	\$0.0085	2.49	0.00	\$0.00	\$0.00	0%	240	1157	93%	100%	100%
Reduce duct leakage by 50% ASHP HEATING	Reduced duct leakage by 50%	11720	874	Leaking ducts	13739	874	15	\$276	\$0	\$276	\$0	100%	1.92	0.00	1,764	\$0.1566	\$0.0104	2.02	0.00	\$0.00	\$0.00	0%	546	2639	93%	100%	100%
Reduce duct leakage by 50% Elec Resistance COOLING	Reduced duct leakage by 50%	4091	1355	Leaking ducts	4270	1,355	15	\$97	\$0	\$97	\$0	100%	4.88	0.00	243	\$0.3994	\$0.0266	0.18	0.19	\$0.00	\$0.00	93%	1023	4943	93%	100%	100%
Reduce duct leakage by 50% ASHP COOLING	Reduced duct leakage by 50%	4091	1355	Leaking ducts	4270	1,355	15	\$97	\$0	\$97	\$0	100%	4.88	0.00	243	\$0.3994	\$0.0266	0.18	0.19	\$0.00	\$0.00	93%	546	2639	93%	100%	100%
HE Energy Star Air Conditioner 14.5 SEER Unit 3.5 tons	Install HE Energy Star Unit 3.5 tons	2802	1355	Install Base 13 SEER Unit 3.5 tons	3285	1,355	14	\$354	\$4,484	\$539	\$0	66%	10.08	3.47	654	\$0.5410	\$0.0386	0.48	0.51	\$0.00	\$0.00	93%	0	0	93%	100%	100%
Quality Install HE Energy Star Air Conditioner 14.5 SEER Unit 3.5 tons	Quality Install	2121	1314	Non-Quality Install HE Energy Star Air Conditioner 14.5 SEER Unit 3.5 tons	2802	1,314	7	\$75	\$0	\$75	\$0	100%	1.02	0.00	895	\$0.0838	\$0.0120	0.68	0.72	\$0.00	\$0.00	93%	0	0	93%	100%	100%
Installation of new Air Source Heat Pump 3.5 T 14.5 SEER 8.2 HPSF	ENERGY STAR SEER/HPSF 14.5/8.2	4100	2951	Conventional SEER/HSPF 13/7.7	5254	2,951	12	\$300	\$3,800	\$300	\$0	100%	1.08	0.00	3,407	\$0.0881	\$0.0073	1.15	1.01	\$0.00	\$0.00	76%	0	0	93%	100%	100%
Installation of new Air Source Heat Pump 3.5 T 15 SEER 9 HPSF	ENERGY STAR SEER/HPSF 15/9	3763	2951	Conventional SEER/HSPF 13/7.7	5254	2,951	12	\$1,501	\$3,800	\$1,600	\$0	94%	4.44	0.28	4,402	\$0.3409	\$0.0284	1.49	1.31	\$0.00	\$0.00	76%	0	0	93%	100%	100%
Installation of new Air Source Heat Pump 3.5 T 18.6 SEER 9.3 HPSF	ENERGY STAR SEER/HPSF 18.6/9.3	3473	2951	Conventional SEER/HSPF 13/7.7	5254	2,951	12	\$1,792	\$3,800	\$3,900	\$0	46%	9.07	4.90	5,257	\$0.3409	\$0.0284	1.78	1.56	\$0.00	\$0.00	76%	0	0	93%	100%	100%
Quality install 3.5 T 14.5 SEER ASHP	Quality Install	3400	3075	Non- quality Installation of new Air Source Heat Pump 3.5 T 14.5 SEER 8.2 HPSF	4100	3,075	6	\$75	\$0	\$75	\$0	100%	0.43	0.00	2,152	\$0.0348	\$0.0058	0.70	0.74	\$0.00	\$0.00	93%	0	0	93%	100%	100%

Forecasted Technical Assumptions - 2011																											
Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Reserve Lifetime cost /Cust kWh Saved	Customer Peak kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate
Self Calculating Fields																											
Quality install 3.5 T 15 SEER ASHP	Quality Install	3091	2747	Non-quality Installation of new Air Source Heat Pump 3.5 T 15 SEER 9 HPSF	3763	2,747	6	\$75	\$0	\$75	\$0	100%	0.50	0.00	1,846	\$0.0406	\$0.0068	0.67	0.72	\$0.00	\$0.00	93%	0	0	93%	100%	100%
Quality install 3.5 T 18.6 SEER ASHP	Quality Install	2827	2102	Non-quality Installation of new Air Source Heat Pump 3.5 T 18.6 SEER 9.3 HPSF	3473	2,102	6	\$75	\$0	\$75	\$0	100%	0.68	0.00	1,358	\$0.0552	\$0.0092	0.65	0.69	\$0.00	\$0.00	93%	0	0	93%	100%	100%
Programmable Thermostats	Estar Programmable T-Stat	2608	5424	Non-programmable T-stat	2684	5,424	11	\$50	\$0	\$50	\$0	100%	1.48	0.00	413	\$0.1210	\$0.0110	0.08	0.08	\$0.00	\$0.00	93%	0	0	93%	100%	100%
Radiant Barriers	Radiant Barrier Installed in Attic	4667	2951	No Radiant Barrier	4932	2,951	20	\$267	\$0	\$458	\$0	58%	7.14	2.97	784	\$0.3409	\$0.0170	0.27	0.28	\$0.00	\$0.00	93%	0	0	93%	100%	100%
Low Flow Showerheads	Low Flow Shower head 1.5 GPM	4443	8760	Federal Maximum Standard flow rate 2.5 GPM	4500	8,760	6	\$6	\$0	\$6	\$0	100%	0.14	0.00	499	\$0.0116	\$0.0019	0.06	0.06	\$19.89	\$0.00	93%	245	1185	94%	100%	100%
Compact Fluorescent Lighting Package of 10 Low Income Only - 2010	High efficiency CFL lighting 10 bulbs	155	1105	baseline is 10 incandescent bulbs	675	1,105	7	\$41	\$1	\$41	\$0	100%	0.86	0.00	574	\$0.0705	\$0.0097	0.52	0.05	\$0.00	\$0.00	8%	0	0	93%	100%	100%
Compact Fluorescent Lighting Package of 10 Low Income Only - 2011	High efficiency CFL lighting 10 bulbs	155	1105	baseline is 10 incandescent bulbs	675	1,105	7	\$41	\$1	\$41	\$0	100%	0.86	0.00	574	\$0.0705	\$0.0102	0.52	0.05	\$0.00	\$0.00	8%	0	0	93%	100%	100%

Forecasted Technical Assumptions - 2011																											
Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Rebate Lifetime cost /Cust kWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate
<b>HOME LIGHTING &amp; RECYCLING</b>																											
<i>Home Lighting &amp; Recycling - Totals</i>																											
Residential Home Lighting 2010	Average wattage of 4 CFL bulbs purchased by customer	16		Average wattage of 4 incandescent bulbs to be changed	68	1,164	7	\$1	\$1	\$2	0.081781198	68%	0.31	0.10	61	\$0.0173	\$0.0025	0.05	0.00	\$0.00	\$0.00	8%	0	0	83%	100%	100%
Residential Home Lighting 2011	Average wattage of 4 CFL bulbs purchased by customer	13	985	Average wattage of 4 incandescent bulbs to be changed	68	985	10	\$1	\$1	\$2	\$0	74%	0.35	0.09	54	\$0.0214	\$0.0021	0.05	0.01	\$0.00	\$0.00	10%	37500	150000	80%	100%	100%
<b>REFRIGERATOR RECYCLING</b>																											
<i>Refrigerator Recycling - Totals</i>																											
Refrigerator Recycling - second refrigerator	removal of second refrigerator	0	5556	existing secondary unit - age mostly >10 years	270	5,556	5	\$75	\$0	\$0	\$0	#DIV/0!	0.00	-0.61	1,500	\$0.0500	\$0.0092	0.27	0.17	\$0.00	\$0.00	55%	484	484	75%	100%	100%
<b>SCHOOL EDUCATION KITS</b>																											
<i>School Education Kits - Totals</i>																											
Living Wise Kit-CFLs (13 Watt)	High efficiency CFL lighting (13W bulb)	13	985	baseline is 1 incandescent bulbs (1 75W)	60	985	10	\$2	\$0	\$2	\$0	100%	0.66	0.00	46	\$0.0539	\$0.0053	0.05	0.01	\$0.00	\$0.00	10%	593	2372	100%	74%	74%
Living Wise Kits -CFL's (18Watt)	High efficiency CFL lighting (18W bulb)	18	985	baseline is 1 incandescent bulbs (1 60W)	75	985	10	\$2	\$0	\$2	\$0	100%	0.54	0.00	56	\$0.0444	\$0.0044	0.06	0.01	\$0.00	\$0.00	10%	593	2372	100%	69%	69%
Living Wise Kit-Shower heads	Low Flow Shower head 1.5 GPM	1732	340	Federal Minimum Standard flow rate 2.5 GPM	2340	340	6	\$6	\$0	\$6	\$0	100%	0.34	0.00	207	\$0.0280	\$0.0047	0.61	0.00	\$4.25	\$0.00	0%	593	2372	100%	63%	63%
Living Wise Kit-Faucet Aerators	1.5 GPM flow rate aerator	1595	55	Federal Minimum Standard flow rate 2.2 GPM	2340	55	5	\$2	\$0	\$2	\$0	100%	0.63	0.00	41	\$0.0518	\$0.0104	0.74	0.00	\$0.84	\$0.00	0%	593	2372	100%	60%	60%
<b>SAVER'S SWITCH - RESIDENTIAL</b>																											
Residential - New Installation Average Customer- AC only - Smart Switch	Utility Load Control for control period	0		No Control, No Switch	3000	2	1	\$0	\$0	\$0	\$0	#DIV/0!	0.00	0.00	5	\$0.0000	\$0.0000	3.00	1.13	\$0.00	\$0.00	33%	1620	1620	100%	100%	100%
Residential - New Installation Average Customer - AC and WH - Smart Switch	Utility Load Control for control period	0		No Control, No Switch	6020	11	1	\$0	\$0	\$0	\$0	#DIV/0!	0.00	0.00	68	\$0.0000	\$0.0000	6.02	1.33	\$0.00	\$0.00	39%	90	90	100%	100%	100%
<b>LOW-INCOME RESIDENTIAL</b>																											
<i>Low-Income - Totals</i>																											
<i>Low-Income CFL Giveaway</i>																											
Pack of 4 CFLs provided to customer for installation 2010	Average per bulb wattage of 4 bulb pack of CFLs per participant (2 -13 watt and 2 -18 watt)	16		Average per bulb wattage of 4 incandescent bulbs replaced by participant (2 - 60W and 2-75W)	68	855	9	\$2	\$0	\$2	0.081781198	100%	0.56	0.00	44	\$0.0461	\$0.0053	0.05	0.00	\$0.00	\$0.00	8%	0	0	100%	100%	100%
Pack of 4 CFLs provided to customer for installation 2011	Average per bulb wattage of 4 bulb pack of CFLs per participant (2 -13 watt and 2 -18 watt)	16	913	Average per bulb wattage of 4 incandescent bulbs replaced by participant (2 - 60W and 2-75W)	68	913	8	\$2	\$0	\$2	0.081781198	100%	0.53	0.00	47	\$0.0432	\$0.0057	0.05	0.00	\$0.00	\$0.00	8%	2500	10000	100%	100%	100%
<i>Low-Income Refrigerator Upgrades</i>																											
Refrigerator Replacements	2008 Energy Star standard refrigerator	110	4818	existing unit vintage from 7-18 years old	234	4,818	13	\$683	\$0	\$683	\$0	100%	13.94	0.00	599	\$1.1401	\$0.0877	0.12	0.08	\$0.00	\$0.00	55%	40	40	100%	100%	100%
<i>Low-Income Home Energy Services</i>																											
Ceiling Insulation R-11 to R 30 Elec Resist Htg. A/C cooling HEATING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	18268	874	R-11 in attic over top floor conditioned space	20128	874	20	\$309	\$0	\$407	\$0	68%	3.06	0.99	1,625	\$0.1700	\$0.0085	1.86	0.00	\$0.00	\$0.00	0%	1	5	100%	100%	100%

Forecasted Technical Assumptions - 2011																											
Type of Measure	High Efficiency Product Description / Rating	Efficient Product Consumption	Efficient Hours of Operation per year	Baseline Product Description / Rating	Baseline Product Consumption	Hours of Operation per year	Life of Product (years)	Rebate Amount	Average Baseline Product Cost	Incremental Cost of Efficient Product	Assumed Energy Cost (kWh)	Rebate as a % of Incremental Cost	Incremental Cost Period w/o Rebate	Incremental Payback Period w/ Rebate	Annual Customer kWh Savings	Rebated cost /Cust kWh Saved	Reserve Lifetime cost /Cust kWh Saved	Customer kW Savings	Generator Peak kW Savings	Non-Fuel O&M Savings	Energy O&M Savings	Coincidence Factor	Participants 2011	Units 2011	NTG	Forecast Install Rate	Realization Rate
Self Calculating Fields																											
Ceiling Insulation R-11 to R 30 ASHP Heating & cooling HEATING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	12788	874	R-11 in attic over top floor conditioned space	13739	874	20	\$158	\$0	\$407	\$0	35%	5.99	3.91	831	\$0.1700	\$0.0085	0.95	0.00	\$0.00	\$0.00	0%	3	15	100%	100%	100%
Ceiling Insulation R-11 to R 30 Elec Resist Htg, A/C cooling COOLING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	3996	1355	R-11 in attic over top floor conditioned space	4401	1,355	20	\$330	\$0	\$509	\$0	58%	11.31	4.71	550	\$0.5397	\$0.0270	0.41	0.43	\$0.00	\$0.00	93%	1	5	100%	100%	100%
Ceiling Insulation R-11 to R 30 ASHP Heating & cooling COOLING SAVINGS	Upgrade ceiling insulation levels per DOE R-30 on top floor	3996	1355	R-11 in attic over top floor conditioned space	4401	1,355	20	\$330	\$0	\$509	\$0	58%	11.31	4.71	550	\$0.5397	\$0.0270	0.41	0.43	\$0.00	\$0.00	93%	3	15	100%	100%	100%
ACH leakage reduced 0.7 to 0.5 Elec Resistance HEATING	Reduce air infiltration	18404	874	Leaky thermal envelope	20128	874	10	\$286	\$0	\$322	\$0	80%	2.61	0.53	1,506	\$0.1700	\$0.0170	1.72	0.00	\$0.00	\$0.00	0%	6	27	100%	100%	100%
ACH leakage reduced 0.7 to 0.5 ASHP HEATING	Reduce air infiltration	12833	874	Leaky thermal envelope	13739	874	10	\$150	\$0	\$322	\$0	42%	4.97	2.89	791	\$0.1700	\$0.0170	0.91	0.00	\$0.00	\$0.00	0%	16	73	100%	100%	100%
ACH leakage reduced 0.7 to 0.5 Elec Resistance COOLING	Reduce air infiltration	4353	1355	Leaky thermal envelope	4401	1,355	10	\$40	\$0	\$53	\$0	67%	9.88	3.28	66	\$0.5397	\$0.0540	0.05	0.05	\$0.00	\$0.00	93%	6	27	100%	100%	100%
ACH leakage reduced 0.7 to 0.5 ASHP COOLING	Reduce air infiltration	4353	1355	Leaky thermal envelope	4401	1,355	10	\$40	\$0	\$53	\$0	67%	9.88	3.28	66	\$0.5397	\$0.0540	0.05	0.05	\$0.00	\$0.00	93%	16	73	100%	100%	100%
Reduce duct leakage by 50% Elec Resistance HEATING	Reduced duct leakage by 50%	17637	874	Leaking ducts	20128	874	15	\$276	\$0	\$276	\$0	100%	1.55	0.00	2,176	\$0.1270	\$0.0085	2.49	0.00	\$0.00	\$0.00	0%	5	22	100%	100%	100%
Reduce duct leakage by 50% ASHP HEATING	Reduced duct leakage by 50%	11720	874	Leaking ducts	13739	874	15	\$276	\$0	\$276	\$0	100%	1.92	0.00	1,764	\$0.1566	\$0.0104	2.02	0.00	\$0.00	\$0.00	0%	13	58	100%	100%	100%
Reduce duct leakage by 50% Elec Resistance COOLING	Reduced duct leakage by 50%	4222	1355	Leaking ducts	4401	1,355	15	\$97	\$0	\$97	\$0	100%	4.88	0.00	243	\$0.3994	\$0.0266	0.18	0.19	\$0.00	\$0.00	93%	5	22	100%	100%	100%
Reduce duct leakage by 50% ASHP COOLING	Reduced duct leakage by 50%	4222	1355	Leaking ducts	4401	1,355	15	\$97	\$0	\$97	\$0	100%	4.88	0.00	243	\$0.3994	\$0.0266	0.18	0.19	\$0.00	\$0.00	93%	13	58	100%	100%	100%
Install HE Energy Star 14.5 SEER Unit 3.5 tons	Install HE Energy Star 14.5 SEER Unit 3.5 tons	2802	1355	Install Base 13 SEER Unit 3.5 tons	3285	1,355	14	\$393	\$4,484	\$539	\$0	65%	10.08	3.48	654	\$0.5397	\$0.0386	0.48	0.51	\$0.00	\$0.00	93%	0	0	100%	100%	100%
Compact Fluorescent Lighting Package of 10 Low Income Only - 2010	High efficiency CFL lighting 10 bulbs	155	1105	baseline is 10 incandescent bulbs	675	1,105	7	\$41	\$0	\$41	\$0	100%	0.86	0.00	574	\$0.0705	\$0.0097	0.52	0.05	\$0.00	\$0.00	8%	0	0	100%	100%	100%
Compact Fluorescent Lighting Package of 10 Low Income Only - 2011	High efficiency CFL lighting 10 bulbs	155	1105	baseline is 10 incandescent bulbs	675	1,105	7	\$41	\$0	\$41	\$0	100%	0.86	0.00	574	\$0.0705	\$0.0102	0.52	0.05	\$0.00	\$0.00	8%	10	45	100%	100%	100%
Low-Income Evaporative Cooling Rebates		Watts		Watts								% Years		Years		kWh		kW									
1.5 ton Standard Evaporative Cooler replacing 1.5 ton Standard Window AC Units (Tier 1)	Standard Evaporative Coolers (1.5 tons)	117	1366	Standard Window AC Units (1.5 tons)	1837	1,366	10	\$1,000	\$726	\$275	\$0	364%	1.43	-3.77	2,350	\$0.4255	\$0.0425	1.72	1.84	-\$1.72	\$0.00	93%	20	20	100%	100%	100%