BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF SOUTHWESTERN PUBLIC SERVICE COMPANY'S APPLICATION REQUESTING APPROVAL OF: (1) ITS 2017 ENERGY EFFICIENCY AND LOAD MANAGEMENT PLAN AND ASSOCIATED PROGRAMS; (2) CONTINUATION OF ITS ENERGY EFFICIENCY TARIFF RIDER AND RECOVERY OF THE DIFFERENCE BETWEEN SPS'S PLAN YEAR 2015 COLLECTIONS AND EXPENDITURES THROUGH ITS ENERGY EFFICIENCY TARIFF RIDER; AND (3) A FINANCIAL INCENTIVE FOR PLAN YEAR 2017 AND RECOVERY OF THE INCENTIVE THROUGH ITS ENERGY EFFICIENCY TARIFF RIDER,	)	**CASE NO. 16-00_____-UT**
SOUTHWESTERN PUBLIC SERVICE COMPANY,	)	
APPLICANT.	)	

DIRECT TESTIMONY

of

STEVEN L. WARKENTIN

on behalf of

SOUTHWESTERN PUBLIC SERVICE COMPANY

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
2017 Plan	SPS's 2017 Energy Efficiency and Load Management Plan
ADM	ADM Associates, Inc.
CFL	Compact Fluorescent Light
Commission	New Mexico Public Regulation Commission
December 23rd Order	Order Adopting Certification of Stipulation in Case No. 15-00119-UT
EE/LM	Energy Efficiency and Load Management
EE Rule	Energy Efficiency Rule, 17.7.2 NMAC
EUEA	Efficient Use of Energy Act (NMSA 1978, §§62-17-1 through 62-17-11)
GWh	Gigawatt-hour
ICO	Interruptible Credit Option
kWh	Kilowatt-hour
LED	Light-emitting diode
LIA	Low-Income Adjustment
Low-Income HES	Low-Income Home Energy Services
LISS	Low-Income Spending Shortfall
M&V	Measurement and Verification

Acronym/Defined Term	Meaning
MWh	Megawatt-hour
NEBs	Non-energy benefits
NPV	Net present value
PNM	Public Service Company of New Mexico
PY	Program Year
SPS	Southwestern Public Service Company, a New Mexico corporation
Staff	Utility Division Staff of the Commission
UCT	Utility Cost Test
Xcel Energy	Xcel Energy Inc.
XES	Xcel Energy Services Inc.

LIST OF ATTACHMENTS

Attachment	**Description**
SLW-1	2017 Energy Efficiency and Load Management Plan
SLW-2(CD)	SPS's 2015 Annual EE Report (*provided on CD only*)
SLW-3	Comparison of SPS New Mexico EE/LM Programs to Other Xcel Energy Operating Companies' Programs
SLW-4(CD)	2017 Incentive Mechanism (*provided on CD only*)
SLW-5(CD)	Calculated 2015 Incentive Mechanism (*provided on CD only*)

Case No. 16-_____-UT
Direct Testimony
of
Steven L. Warkentin

I. WITNESS IDENTIFICATION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Steven L. Warkentin. My business address is 1800 Larimer Street, Suite 1500, Denver, Colorado, 80202.

Q. On whose behalf are you testifying in this proceeding?

A. I am filing testimony on behalf of Southwestern Public Service Company, a New Mexico corporation ("SPS") and wholly-owned subsidiary of Xcel Energy Inc. ("Xcel Energy"). Xcel Energy is a registered holding company that owns several electric and natural gas utility operating companies, a regulated natural gas pipeline company, and transmission development companies.[1]

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

A. I am employed by Xcel Energy Services Inc. ("XES"), the service company subsidiary of Xcel Energy, as a Senior Product Portfolio Manager.

[1] Xcel Energy is the parent company of four electric utility operating companies: Northern States Power Company, a Minnesota corporation; Northern States Power Company, a Wisconsin corporation; Public Service Company of Colorado, a Colorado corporation; and SPS. Xcel Energy's natural gas pipeline subsidiary is WestGas InterState, Inc. Through a subsidiary, Xcel Energy Transmission Holding Company, LLC, Xcel Energy also owns three transmission-only operating companies: Xcel Energy Southwest Transmission Company, LLC; Xcel Energy Transmission Development Company, LLC; and Xcel Energy West Transmission Company, LLC, all of which are either currently regulated by the Federal Energy Regulatory Commission ("FERC") or expected to be regulated by FERC.

Q. Please briefly outline your responsibilities as Senior Product Portfolio Manager.

A. As a Senior Product Portfolio Manager, I manage various business energy efficiency programs in Colorado and New Mexico. My responsibilities include:

- the development and execution of marketing plans;
- overseeing Marketing Assistants, sales organizations, and trade allies;
- customer communication;
- managing program achievement targets and budgets; and
- ensuring the integrity of the programs' metrics and performance.

Q. Please describe your educational background.

A. I graduated from Texas Christian University with a Bachelor's degree in Finance, and I have an MBA from Texas Tech University with emphasis in Information Systems and Quantitative Sciences. I am also a Certified Energy Manager® and member of the Association of Energy Engineers.

Q. Please describe your professional experience.

A. I have been employed by XES for six years as Senior Program Manager for various business energy efficiency programs in New Mexico and Colorado. For the last two years, I have been responsible for the coordination of all of SPS's energy efficiency programs in New Mexico. Prior to Xcel Energy, I was Group

Product Manager for data transport services at TW Telecom. I have also been an internal auditor for PepsiCo and an Area Finance Manager for PepsiCo's Frito-Lay division.

Q. Please describe your experience with SPS's energy efficiency programs and previous Energy Efficiency and Load Management filings.

A. I have been responsible for the implementation of SPS's Energy Efficiency and Load Management ("EE/LM") programs and been closely involved with SPS's EE/LM filings. In particular, I have worked on forecasting the portfolio achievements and budget allocations, reconciliation of SPS's expenditures, overall compilation of SPS's EE/LM filings, and communication with intervenors in Case Nos. 13-00286-UT[2] and 15-00119-UT.[3] I have also worked with many of our customers to advise and encourage the implementation of EE/LM strategies.

[2] Case No. 13-00286-UT, *In the Matter of Southwestern Public Service Company's Application for Approval of its (A) 2012 Energy Efficiency and Load Management Plan and Associated Programs, (B) Request for Financial Incentives for 2013-2015; (C) Cost Recovery Tariff Rider, and (D) Request to Establish Lower Minimum Savings Requirements for 2014 Under the Efficient Use of Energy Act* (Jun. 25, 2014).

[3] Case No. 15-00119-UT, *In the Matter of Southwestern Public Service Company's Application Requesting: (1) Acceptance of its 2014 Annual Energy Efficiency and Load Management ("EE/LM") Report; (2) Approval of its 2016 EE/LM Plan and Associated Programs; (3) Approval of a Financial Incentive for 2016; (4) Approval of its Cost Recovery Tariff Rider; and (5) a determination Whether a Separate Process should be established to Analyze a Smart-Meter Pilot Program*, Order Adopting Certification of Stipulation (Dec. 23, 2015).

II. ASSIGNMENT AND RECOMMENDATIONS

Q. What is the purpose of your testimony?

A. My testimony provides an overview and support for SPS's 2017 EE/LM Plan ("2017 Plan") and associated programs (the programs are collectively referred to as "EE/LM Programs"), which are designed to maximize energy and demand savings in the most cost-effective manner, consistent with the requirements of the Efficient Use of Energy Act (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, "EE Rule"). The 2017 Plan is provided as Attachment SLW-1 to my direct testimony.

Specifically, my testimony will address:

(1) how SPS's proposed savings goals for the 2017 Plan are achievable and reasonable;

(2) the process used by SPS to evaluate, select, and design its proposed portfolio of Residential and Business energy efficiency and load management programs to meet its proposed 2017 Plan goals;

(3) the Utility Cost Test ("UCT") assumptions and calculations used to evaluate the cost-effectiveness of each program;

(4) the reasonableness and necessity of the Planning and Research Segment costs to achieve the goals of the EUEA; and

(5) the background and justification for the measurement and verification ("M&V") of SPS's EE/LM programs.

In addition, I present SPS's proposal for an incentive mechanism for SPS's EE/LM for program year ("PY") 2017, which is identical to the incentive mechanism approved for SPS's previous energy efficiency plan in Case No. 15-00119-UT.[4] In particular, I describe the proposed incentive mechanism and help support the reasonableness of the incentive for PY 2017. SPS witness Ruth M. Sakya provides the primary support for the proposed incentive mechanism and resulting incentive and she incorporates the incentive into the 2017 EE Rider.

Q. Do you sponsor any sections of the 2017 Plan?

A. Yes, I sponsor the Executive Summary; Section I: (A)-(J); Section II: (A)-(C), (D)(II), and (D)(III); Section III: (A)-(C); Section IV; Appendix A; and Appendix B.

Q. Please summarize the recommendations presented in your testimony.

A. The Commission should approve SPS's 2017 Plan, without modification. SPS has designed a portfolio of cost-effective EE/LM programs to maximize the potential energy savings for 2017 as required by the EUEA and the EE Rule. On an annual basis, SPS projects that implementation of the 2017 Plan will result in

[4] Case No. 15-00119-UT, Order Adopting Certification of Stipulation, ("December 23rd Order").

savings of 30.050 gigawatt hour ("GWh") (net customer) or 33.549 GWh (net generator)[5], with a budget of $9,880,701. SPS's proposed savings goals for the 2017 Plan are achievable and reasonable as they are based on SPS's historic program performance and knowledge of the market conditions in SPS's service territory.

SPS has leveraged experience in New Mexico and other Xcel Energy jurisdictions to develop a set of programs which: (i) are cost-effective, consistent with the EUEA, thus providing overall benefits to all SPS customers, including non-participants; and (ii) provide opportunities for all of SPS's customer classes to participate, thus enabling all customers the opportunity to receive direct benefits. While developing its programs, SPS paid particular attention to minimizing costs for non-incentive and non-promotional activities as incentive and promotional costs directly benefit customers, allocating costs to the most cost-effective programs wherever possible, and balancing the need for short-term achievement with a long-term strategy. Accordingly, SPS's 2017 Plan is

[5] SPS reports its achievements at the generator level, which includes losses. However, other information is presented at the customer level, and, thus, SPS provides its goals at both the generator and customer levels.

reasonable and necessary, as well as cost-effective. Thus, the Commission should approve SPS's 2017 Plan, including the proposed Residential and Business programs, and the associated proposed program budgets.

In addition the incentive mechanism proposed by SPS for program year 2017 is reasonable because it incents SPS to remain on target towards its 2020 goal and exceed its annual energy savings forecast. Furthermore, the mechanism is based on the incentive mechanism that was most recently approved by the Commission for SPS for PY 2016 in Case No. 15-00119-UT.

III. SPS's 2017 PLAN AND ASSOCIATED PROGRAMS

A. Overview

Q. Please provide an overview of SPS's 2017 Plan.

A. SPS's 2017 Plan presents a portfolio of cost-effective EE/LM programs to maximize the potential energy savings under the program constraints experienced by SPS in the past, as well as spending and cost recovery limitations imposed under the EUEA. SPS's 2017 Plan is based heavily upon SPS's Commission-approved 2016 Plan. Similar to 2016, SPS's 2017 Plan presents eleven programs that target customers in the Residential (including low-income) and Business Segments. Additionally, SPS's 2017 Plan includes a Planning and Research Segment, which is necessary for the successful implementation of the EE/LM programs. No programs were eliminated in the development of the 2017 Plan compared to the 2016 Plan. Further details on the modifications made to these programs and other programs are detailed in Section III of Attachment SLW-1.

For 2017, SPS proposes an energy savings goal of 30.050 GWh (net customer) or 33.549 GWh (net generator) at a budget of approximately $9,880,701. Please refer to Section I of Attachment SLW-1 for the methodology and breakdown of how SPS calculated its goal. The portfolio of programs is

expected to produce lifetime net benefits by avoiding generation, capacity, and transmission and distribution costs of greater than $17,375,640,[6] which accrue to all of SPS's New Mexico customers. Table SLW-1 provides a summary of the budgets, demand and energy savings at the net customer and net generator levels, as well as the UCT results at the program level.

Table SLW-1

2017	Electric Participants	Electric Budget	Net Customer kW	Net Customer kWh	Net Generator kW	Net Generator kWh	Utility Cost Test Ratio
Residential Segment							
Home Lighting	188,000	$ 2,044,918	1,377	9,905,728	1,644	11,230,984	2.49
Refrigerator Recycling	500	$ 105,850	27	371,434	32	421,127	1.03
School Education Kits	2,500	$ 163,417	25	850,672	30	964,480	2.03
Residential Energy Feedback	18,090	$ 133,045	421	2,999,949	502	3,401,303	1.18
Home Energy Services	1,849	$ 2,599,485	547	5,202,740	652	5,898,798	1.46
Residential Cooling	247	$ 183,280	89	304,668	106	345,428	1.54
Residential Savers Switch	4,203	$ 203,250	3,653	35,241	4,359	39,956	1.44
Smart Termostat Pilot	1,500	$ 89,875	1,173	13,287	1,400	15,065	1.64
Residential Segment Total	216,888	$ 5,523,120	7,312	19,683,719	8,726	22,317,141	1.84
Business Segment							
Business Comprehensive	738	$ 3,540,525	1,601	10,352,904	1,787	11,216,581	1.93
ICO	2	$ 45,569	789	7,000	881	7,584	5.89
Business Savers Switch	168	$ 71,827	834	6,720	931	7,280	1.37
Business Segment Total	908	$ 3,657,921	3,224	10,366,624	3,598	11,231,446	1.97
Indirect Segment							
Consumer Education		$ 188,146					
Market Research		$ 62,484					
Measurement & Verification		$ 12,000					
Planning & Administration		$ 279,649					
Product Development		$ 147,381					
C&I Benchmarking		$ 10,000					
Indirect Segment Total		$ 699,660					
Portfolio Total	217,797	$ 9,880,701	10,536	30,050,343	12,324	33,548,587	1.76

[6] Please see Appendix A to Attachment SLW-1. The portfolio lifetime beenfits is reflected in the "Total Benefits" line item.

Q. Does SPS propose to operate any programs while it awaits a Commission decision on its proposed 2017 Plan?

A. Yes. Consistent with prior practice, if the Commission has not made a final decision on SPS's 2017 Plan by December 31, 2016, SPS proposes to continue operating its 2016 suite of programs in the interim. This approach is reasonable as temporary program stoppage creates customer confusion, can hinder customers' ability to complete energy efficiency projects, and prevents customers from accessing programs designed to reduce their energy bills. Furthermore, temporary program stoppage is administratively inefficient, decreases program cost-effectiveness, and impedes SPS's ability to achieve its 2020 minimum requirements. This interim measure would continue the 2016 programs that were most recently approved by the Commission in Case No. 15-00119-UT.

Q. Does SPS propose to operate its programs in 2017 under the 2017 budget?

A. Yes. Consistent with prior practice, SPS proposes to apply the approval of its 2017 budget to the entirety of 2017, even if the Commission has not made a final decision by December 31, 2016. Such an approach is consistent with the three percent funding level required under the EUEA and the Commission's EE Rule (*i.e.*, the lower of three percent of customers' bills or $75,000 per year per

customer per calendar year) (also referred to herein as the "three percent funding level").

Q. Please explain how SPS determined its 2017 Plan goal.

A. SPS's goal was developed using a top down approach informed by historic portfolio performance. SPS first calculated its 2017 funding level of $9,880,701 and adjusted its 2016 Plan to accommodate a similar spending level. This resulted in a forecasted savings of 30.050 GWh (net customer). This savings level was adjusted for any known or expected changes in the marketplace, and commensurately adjusted budgets. As examples, SPS is:

- adding new measures and one new program, as discussed further below;
- prioritizing promotion to downstream oil and gas operations; and
- reducing overall promotional and advertising budgets.

In developing its 2017 Plan in this manner, SPS ensured that it met the requirements of the EUEA, namely the three percent funding level while providing a diverse and impactful portfolio at a cost-effective level that keeps SPS on pace to meet the 2020 requirement.

B. Program Selection Process

Q. Please generally describe the process used by SPS in the development of the 2017 Plan.

A. SPS was guided in its selection by five over-arching principles: (i) design an EE/LM portfolio to maximize energy savings; (ii) ensure that the portfolio meets the EUEA's funding requirements; (iii) ensure a cost-effective portfolio; (iv) minimize, to the greatest extent practical, the administrative costs of developing and implementing the programs; and (v) offer a sufficient menu of programs to allow all customers the opportunity to participate. SPS balanced each of these principles in its selection of programs for the 2017 Plan.

Q. How did SPS determine which Residential and Business Segment programs to offer as part of its 2017 Plan?

A. Using the above-listed five principles, SPS began with an evaluation of its existing portfolio of programs, which are a continuation of the programs approved by the Commission in Case No. 15-00119-UT. Each program was reviewed to ensure that it was cost-effective and that the entire portfolio provided an opportunity for all customers to participate in programs. Further, SPS carefully reviewed: (i) the current programs' historical performance from mid-2008

through 2015 with specific focus on the most recent program years; (ii) programs offered in other Xcel Energy jurisdictions, as well as other New Mexico energy efficiency portfolios; (iii) comments received at the public participation meeting; and (iv) recommendations made by the Commission's independent M&V evaluator. As a result of this analysis, SPS determined that its existing programs, with a few modifications, will best accomplish SPS's objectives. Later in my testimony, I provide a brief summary of each program and describe its contribution to the overall portfolio of programs.

Q. As a result of the evaluation process described above, has SPS included any new measures or programs in its 2017 Plan?

A. Yes. SPS has included the following new measures[7] under existing programs[8]:

- four refrigeration measures (Business Comprehensive: Cooling Efficiency);
- two cooling measures (Business Comprehensive: Cooling Efficiency) and (Residential: Cooling/HES); and
- Variable Frequency Drives for water well pump applications (Business Comprehensive: Motor & Drive Efficiency).

[7] A measure is an individual piece of equipment, technology, or practice.

[8] A program is the complete product offering of like (similar) measures.

Also included is the following new program:

- Commercial Energy Benchmarking

Additional detail on these new measures and programs can be found in Section IV of Attachment SLW-1 (the 2017 Plan).

Q. Is the 2017 Plan reasonable in its assumptions and projections?

A. Yes. The 2017 Plan is reasonable in its assumptions and projections in that SPS's technical assumptions are based on ADM Associates, Inc.'s ("ADM") most recent version of the Technical Resource Manual, as well as ADM's most recent M&V reports.[9] By using the assumptions generated or approved by ADM, SPS is basing its assumptions on inputs that have been vetted through a rigorous review process and that are specific to its territory and its present conditions.

C. Budgeting Process

Q. Please describe SPS's budgeting process.

A. SPS began by establishing the projected program funding it would receive in 2017 consistent with the three percent funding methodology outlined in the EUEA. As

[9] Due to the timing of the 2015 M&V report, some updates may not be included at the time of filing. Therefore, SPS utilized the assumptions from a previous M&V report and will update once the final assumptions are available.

discussed further by Ms. Sakya, this process results in an overall estimated EE/LM funding level of $9,971,075. However, consistent with 17.7.2.8(E), SPS has reduced this budget by $90,374 to account for SPS's 2015 overage. This reduced the final 2017 budget to $9,880,701.

Starting from the funding level estimate, SPS then refined the budget at the program level. In doing so, SPS sought to minimize program delivery costs, while maintaining the ability to effectively deliver its programs. In general, the proposed budgets were developed by determining forecasted energy savings goals by program and the associated rebate levels that were necessary to encourage participation, while maintaining the cost-effectiveness of the program. Other budget components, such as promotion and materials, were developed based on past experience and discussions with industry personnel. Prior to filing, SPS reviewed the budget for reasonableness given the historical and projected performance of each program. In particular, SPS evaluated its costs and made adjustments where possible, without sacrificing necessary expenditures to maximize energy savings.

Table 1 of Attachment SLW-1 includes specific budget information for each program.

Q. Does the EE Rule require that SPS file budgets for each of its specific programs?

A. Yes. 17.7.2.8.H(12) NMAC requires that a "detailed separate measure or program budget that identifies the estimated monetary program costs to be incurred" be provided in the utility's application. SPS has met this requirement in its application.

Q. Does SPS seek flexibility in the management of the program budgets?

A. Yes. Consistent with its prior practice, SPS presents forecasted budgets for its 2017 programs; however, it may adjust those budgets throughout the year and will explain in its annual report when variances of greater than 25% from the budgets occur. This flexibility allows SPS to adjust its annual program spending to accommodate its most successful and cost-effective programs, which in turn provides increased benefits to customers.[10] In adjusting its programs' budgets, SPS is still subject to the requirements of both the EUEA and EE Rule, specifically the requirements to fund energy efficiency programs at three percent

[10] *See* the approved Stipulation in Case No. 14-00310-UT, which allows Public Service Company of New ("PNM") Mexico to increase the budget for any program that is reasonably anticipated to exceed the stipulated budget due to an increase in program participation costs, and reduce the stipulated budget for any program that is reasonably anticipated to be less than the stipulated budget due to a decrease in program participation costs.

funding level and that no less than five percent of spending be directed towards low-income programs.

Q. For purposes of managing its programs budgets, will SPS adjust incentives as needed to reflect market conditions?

A. Yes. SPS proposed a rebate or incentive for most of the measures offered in its portfolio, but SPS will adjust these incentives based on market conditions.[11]

For example, if the cost for light-emitting diodes ("LED") lighting measures decreases, SPS could reduce the incentive it pays for these measures and thereby increase the cost-effectiveness of the program. Alternatively, if SPS determines that a measure is not gaining traction in the marketplace and that additional incentives or rebates are necessary, it could increase these rates to help promote customer interest.

Q. Please discuss further how SPS evaluates and minimizes the administrative costs related to its programs.

A. SPS minimizes delivery costs by determining whether it is more efficient to deliver the programs using internal resources or contracting with third-parties.

[11] Customers receiving a Home Energy Report through the Energy Feedback Program do not receive an incentive or rebate for participation.

SPS self-administers its programs where it is more cost or operationally effective – meaning that internal staff, supplemented with consultants on an as-needed basis, handle product development, program planning, technical analyses, sales and marketing, rebate processing, and regulatory support.

While SPS self-administers the EE/LM programs where possible, the actual sale and delivery of energy efficiency technologies to end-use customers is conducted by market suppliers and vendors, such as retailers and contractors. In addition to SPS-provided messages, training, and education, SPS relies upon retail suppliers and vendors to educate customers about energy efficiency and market equipment or services. SPS has generally found this approach to be the most effective and efficient method for operating EE/LM programs.

SPS uses third-party providers to assist in implementing certain programs including School Education Kits, Business Comprehensive, Refrigerator Recycling, Home Energy Services ("HES"), Energy Feedback, Home Lighting, Smart Thermostats, and Computer Efficiency.

Q. What efforts has SPS undertaken to control costs?

A. Based in large part on SPS's experiences in offering programs over the past several years, SPS:

- reduced administrative costs for the Business Comprehensive program;
- reduced promotional and advertising budgets;
- reduced CFL promotions; and
- renegotiated and reduced third-party costs for the Energy Feedback program.

D. Program Summaries

1. Residential Segment Programs

Q. Please provide a summary of the residential programs included in the 2017 Plan.

A. SPS proposes eight residential programs, all of which are continuing from SPS's 2016 Plan,[12] including:

- Energy Feedback Program – The Energy Feedback program is designed to quantify the effects of informational feedback on energy consumption in approximately 15,000 residential households, consistent with the Commission's Final Order in Case No. 09-00352-UT.[13] This program provides educational materials and communication strategies to create a change in energy usage behavior.

[12] *See* Case No. 15-00119-UT, Testimony Supporting the Stipulation of William T. Conrad.

[13] Case No. 09-00352-UT, *In the Matter of Southwestern Public Service Company's Application for Approval of its 2010/2011 Energy Efficiency and Load Management Plan and Associated Programs, Requested Variances, and Cost Recovery Tariff Rider*, Final Order Adopting Certification of Stipulation (Mar. 15, 2011).

The purpose of the program is to measure when, how, and why customers change their behavior when provided with feedback on their energy using habits.

- Residential Cooling Program – This program offers rebates for the purchase of high efficiency evaporative cooling, air conditioning, and heat pump units. Rebates for evaporative coolers are paid for purchase of new units with an efficiency greater than 85%, installed in new or existing construction, regardless of whether or not the customer is replacing an existing unit. Evaporative cooling technology is well-suited to SPS's service territory, creating an opportunity to drive customers to higher levels of efficiency within this air conditioning category. Air conditioning and heat pump rebates are paid to registered contractors who perform a quality installation. Customers may also receive a rebate for the purchase of a system using an electronically commutated motor, which significantly reduces a system's electric consumption.

- Home Energy Services Program – Under this program, SPS provides incentives for the installation of a wide range of energy savings measures that reduce customer energy costs. The incentives are paid to energy efficiency service providers on the basis of deemed (*i.e.*, pre-determined) energy savings. The program includes attic insulation, air infiltration reduction, refrigerators (for low-income participants), duct leakage repairs, and high efficiency central air conditioners. The program is delivered via third-party providers interacting directly with customers to perform the home improvements. This program includes the Low-Income HES product, which cost-effectively ensures that all customer segments have the ability to participate in SPS programs. Multi-family buildings are also eligible to participate in the program. The residential portions of these buildings are serviced through the HES program while the non-residential spaces are serviced through the Business Comprehensive program.

- Home Lighting & Recycling Program – This program provides incentives for customers to purchase energy efficient compact fluorescent light ("CFL") bulbs and LED through participating retailers. Participating retailers may include home improvement, mass merchandisers, hardware, and grocery store locations. Customers will be able to recycle used CFLs at select retail partner locations. In 2017, SPS will transition the majority of the programs rebate promotions to LED measures.

- Refrigerator Recycling Program – This program provides cash rebates to customers who agree to have their refrigerator and/or freezer removed, recycled, and disposed of in an environmentally-safe manner. Qualifying refrigerators are removed at no cost to customers by SPS's third-party contractor.

- Saver's Switch – 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. Saver's Switch is popular with customers due to the bill savings they receive for little or no effort other than a reduction in air conditioning use during peak periods. In 2017, SPS will not promote the program as part of the effort to transition participants to the new Residential Smart Thermostat Pilot.

- School Education Kits Program – The School Education Kits Program provides free kits to fifth grade classrooms in SPS's New Mexico service area. These kits include energy efficiency educational materials and products including, three CFLs, one LED, one low-flow showerhead, a kitchen and bathroom aerator, and an LED nightlight, which are distributed along with curriculum. This program provides value beyond the direct installation of measures included in the kits by creating awareness of energy efficiency with students, teachers, and parents.

- Smart Thermostat Pilot – The Smart Thermostat Pilot provides thermostats to customers at no additional cost. Participants in the program can utilize the thermostat to help reduce energy usage by programming the operation of their heating and cooling system. In addition, participants are enrolled in a demand response program similar to the Saver's Switch program, which allows SPS to cycle the operation of air conditioning systems to reduce peak loads.

Q. As part of its 2017 Plan, does SPS propose any significant additions, modifications, or terminations to the Residential Segment programs or products that were/are offered during 2016?

A. No. SPS investigated the potential expanding the Energy Feedback program, as required by the Stipulation in Case No. 15-00119-UT, but determined that expanding the program to approximately 30,000 residential customers would not be cost-effective. However, SPS will add an additional 5,000 customers during 2017 to maintain the program at 15,000 participants.

As required by the Stipulation, SPS also reviewed the Smart Thermostat program and will maintain the current forecast of 1,500 participants in 2017. SPS will continue to look at opportunities to expand the program in future years as part of a transition from the traditional Saver's Switch program and to the new technology of smart thermostats.

Q. Are there any programs presented at the Public Participation Meeting, but not included in SPS's 2017 Plan?

A. Yes. SPS provided information on a potential ENERGY STAR Retail Platform pilot, which SPS is developing in partnership with other stakeholders and the Environmental Protection Agency that would incentivize the purchase of high efficiency appliances. However, SPS ultimately did not include the pilot in its portfolio due to cost effectiveness concerns, a lack of specific market data for SPS's service territory, and the uncertainty of the measures to be included in the pilot. SPS will continue to evaluate the potential for the pilot's inclusion for New Mexico in future years.

Q. How does SPS plan to address the requirement under the EUEA that at least five percent of total spending be directed towards low-income customers?

A. SPS plans to meet this requirement primarily through its Low-Income HES program. SPS projects to spend no less than $498,554 in 2017 on this program, which accounts for five percent of total portfolio program costs.

Q. Are the proposed programs included in the Residential Segment cost-effective?

A. Yes, all of the proposed programs pass the UCT at the program level, with an overall UCT of 1.84. Please refer to Section IV of my testimony, which addresses the UCT in more detail. Table 1 in the 2017 Plan provides the UCT results for each program and Appendix A of the 2017 Plan provides detailed calculations and methodologies for each UCT calculation.

2. Business Segment Programs

Q. Please summarize the Business Segment programs presented in the 2017 Plan.

A. SPS proposes three programs in the Business Segment.

- Business Comprehensive Program – This program includes the bundling of the following products: Cooling Efficiency, Custom Efficiency, Computer Efficiency, Large Customer Self-Direct, Lighting Efficiency, Motor & Drive Efficiency, and Building Tune-Up.
    - Cooling Efficiency: Provides rebates for purchasing air conditioning equipment that exceeds standard efficiency equipment.
    - Custom Efficiency: Offers customized rebates based on an engineering analysis of specific customer projects. This product is for technologies and strategies that are either too new or too complex for SPS to have a prescriptive rebate.

- Computer Efficiency: Under this product, incentives are offered to manufacturers who provide energy efficient power supplies to qualified customers purchasing new computer units and to customers who implement virtual systems in lieu of traditional desktops.

- Large Customer Self-Direct: Customers using over 7,000 megawatt hours ("MWh") per year may choose to administer their own energy efficiency projects to receive either a bill credit or exemption from a portion of the charges under the Energy Efficiency Rider.

- Lighting Efficiency: This product provides prescriptive rebates for the most common energy efficiency upgrades to lighting systems.

- Motor & Drive Efficiency: This product offers prescriptive rebates for the most common energy efficiency upgrades for motors and variable speed drives. This product also includes rebates for pump-off controllers used in oil and gas operations and rebates for particular compressed air equipment.

- Building Tune-Up: This product features a scaled-down recommissioning-style offering aimed at lower-cost efficiency improvements for small- to mid-sized business customers.

- Interruptible Credit Option ("ICO") Program – This load management program offers incentives to larger business customers who allow SPS to interrupt their load. Customers are notified to interrupt loads during periods of high demand, such as hot summer days. As compensation, participants receive a monthly bill credit, which varies depending on the amount of interruptible load and how far in advance they receive notification.

- Saver's Switch – Saver's Switch is another load management 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. Participating customers receive an annual bill credit. Similar to the Residential Saver's Switch program, this program will not be promoted in 2017 in an effort to support the transition to the Smart Thermostat Pilot program.

Q. Is SPS modifying the Business Segment programs included in the 2017 Plan versus what was approved for PY 2016?

A. No.

Q. Has SPS proposed to add or terminate any products from its Business Segment programs?

A. No. SPS is not proposing to add or eliminate any programs from the Business Segment.

Q. Are the proposed programs included in the Business Segment cost-effective?

A. Yes. All of the proposed programs pass the UCT at the program level, with an overall UCT of 1.97. Cost-effectiveness testing is discussed in Section IV of my testimony.

Q. Did SPS have any participants in the Large Customer Self-Direct program in 2015 and does SPS forecast any participants in 2016 or 2017?

A. No. SPS did not have participation in the Large Customer Self-Direct program in 2015 and currently has not had discussions are future participation. However, if a

large customer chooses to participate under 17.7.2.10 or 17.7.2.11 NMAC, SPS will comply with the requirements under those portions of the EE Rule.

3. Planning and Research Segment

Q. What is the purpose of SPS's Planning and Research Segment?

A. The Planning and Research Segment consists of internal company activities, which provide the support needed to develop, implement, and maintain SPS's portfolio of EE/LM programs. In addition, the activities provide direct support to program operations. The Planning and Research Segment includes the following essential activities: Consumer Education, Market Research, M&V, Planning & Administration, and Product Development. Furthermore, SPS has added a new Commercial Energy Benchmarking product to educate customers about their energy use and provide strategies to pursue energy conservation. I provide a brief summary of each activity below, with a more detailed discussion included in the 2016 Plan.

Q. Why is the Planning and Research Segment necessary?

A. The Planning and Research Segment is necessary because it provides the backbone support for the portfolio, unifying the development of programs with underlying technical assumptions and providing program managers with the

research needed for them to target the markets and segments that are most likely to participate in their programs, as well as providing the education to increase customers' awareness of energy efficiency and load management. This segment is also necessary for maintaining the integrity of the portfolio by carefully tracking program participation and achievements and applying for and receiving Commission endorsement and approval of the programs. Once approved, these functions are necessary for maintaining compliance with the regulatory requirements, such as cost-effectiveness standards and the requirement that programs receive M&V at least once every three years.

Q. Please provide a brief description of each component within the Planning and Research Segment.

A. The following components are included within the Planning and Research Segment:

- Consumer Education: This program includes activities to increase residential customer awareness of the benefits of energy efficiency and conservation. Example of activities include advertising through local newspapers, third-party websites[14], newsletters, bill inserts, and radio.

[14] Third-party websites may include websites for community organizations, program sponsors, or partner contractors.

The messaging includes targeted communications to address seasonal energy usage challenges.

- Market Research: This activity focuses on market research to provide information for SPS to use in its decision-making process concerning EE/LM program design, planning, and delivery.

- Measurement and Verification: This activity is responsible for managing and coordinating the overall M&V Plan for SPS and working with the Commission's Independent Program Evaluator, ADM, to ensure compliance with the EUEA and the EE Rule. In addition, each direct savings program budget includes ADM's estimated budget that will be needed to conduct program-specific M&V.

- Planning & Administration: This function ensures compliance with all EUEA and EE Rule requirements. Specifically, this group is responsible for the coordination and preparation of the various New Mexico EE/LM regulatory filings. These activities include the preparation of testimony, the annual plans and reports, discovery responses, rulemaking comments, benefit-cost analyses for every program, and tracking and reporting of EE/LM expenditures and savings achievements. Additionally, any outside consultants and external legal service fees related to EE/LM regulatory activities are included in this budget.

- Product Development: This activity identifies, assesses, and develops new EE/LM programs, including engineering support and technical assumptions, and also supports the modification of current programs.

- Commercial Energy Benchmarking: This program offers commercial and multifamily customers assistance in utilizing the ENERGY STAR Portfolio Manager tool. This tool allows customers to measure the performance of buildings and compare to what a similar building's energy usage benchmark is. This will help educate customers on energy usage and identify potential participation options in SPS's EE/LM programs.

Q. Has SPS proposed to terminate any components from its Planning and Research Segment?

A. No.

Q. How does SPS allocate the Planning and Administration costs?

A. SPS does not directly allocate the Planning and Administration costs to specific programs. As first approved by the Commission in SPS's 2008 filing (Case No. 07-00376-UT),[15] and utilized and approved since, indirect costs such as Consumer Education or Market Research are separated from the individual program budgets. Allocating these costs directly would not be appropriate for the following reasons:

- Inaccuracy: Because these indirect costs do not directly benefit a program and are not associated with the direct operation of a program, it would be inappropriate to allocate these costs in a similar manner as, for example, allocating the cost of developing a new product to an unrelated existing product.

- Irregularity: Because these indirect costs are not consistent in their accrual, direct allocation could result in significant year-to-year changes in the budgeting and reporting process that would inaccurately reflect when the benefits of these indirect programs are received.

[15] Case No. 07-00376-UT, *In the Matter of Southwestern Public Service Company's Application for Approval of Electric Energy Efficiency and Load Management Programs and Program Cost Tariff Riders Pursuant to the New Mexico Public Utility Act and Efficient Use of Energy Act,* Final Order (Apr. 17, 2008).

- Management: Because of the irregularity of these indirect costs, direct allocation would require additional and unwarranted administrative efforts to account for these costs and would require a change in the SPS accounting process.

Q. Are the Planning and Research Segment costs incorporated into the UCT ratio?

A. Yes. Consistent with the Commission's approval in Case No. 07-00376-UT, and each successive annual plan filing (Case Nos. 08-00333-UT,[16] 09-00352-UT, 11-00400-UT,[17] 13-00286-UT, and 15-00119-UT), the Planning and Research Segment costs are placed into their own segment and, therefore, impact the overall portfolio UCT ratio, but not the individual programs' UCT ratios.

Q. How was the Planning and Research Segment budget developed?

A. Each group within the Planning and Research Segment budgets for 2017 is based on past history of spending for internal labor and expenses, as well as estimates and bids received from outside consultants, vendors, and outside legal services.

[16] Case No. 08-00333-UT, *In the Matter of Southwestern Public Service Company's Application for Approval of its 2009 Energy Efficiency and Load Management Plan and Associated Programs and its Program Cost Tariff Riders*, Final Order Adopting Recommended Decision (Mar. 31, 2009).

[17] Case No. 11-00400-UT, *In the Matter of Southwestern Public Service Company's Application for Approval of its (A) 2012 Energy Efficiency and Load Management Plan and Associated Programs, (B) Cost Recovery Tariff Rider, and (C) Requested Variance*, Final Order Adopting Certification of Stipulation (Jun. 7, 2012).

Q. Is the 2017 Planning and Research Segment budget reasonable?

A. Yes. The total budget for the Planning and Research Segment for 2017 is $699,660, which is approximately seven percent of the total portfolio budget of $9,880,701. The costs included in this segment are necessary to deliver the programs needed to meet the EUEA goals. As a percentage of the overall budget, this is equal SPS's 2016 program year budget.

Q. When the Planning and Research Segment costs are included, does the total portfolio remain cost-effective?

A. Yes. When these reasonable and necessary costs are included, SPS's overall portfolio remains cost-effective with a UCT ratio of 1.76. Accordingly, these budgeted expenses should be approved.

IV. COST-EFFECTIVENESS TEST ASSUMPTIONS AND CALCULATIONS

A. General Description

Q. What is the New Mexico cost-effectiveness standard for EE/LM programs?

A. The EUEA requires the use of the UCT to evaluate the cost-effectiveness of EE/LM programs. The EUEA defines the UCT as follows:

> A standard that is met if the monetary costs that are borne by the public utility and that are incurred to develop, acquire and operate energy efficiency or load management resources on a life-cycle basis are less than the avoided monetary costs associated with developing, acquiring and operating the associated supply-side resources. In developing this test for energy efficiency and load management programs directed to low-income customers, the commission shall either quantify or assign a reasonable value to reductions in working capital, reduced collection costs, lower bad-debt expense, improved customer service effectiveness and other appropriate factors as utility system economic benefits.[18]

The UCT measures the effectiveness of the program in terms of avoided revenue requirements that are realized when customers utilize energy more efficiently in comparison to utility costs for delivery of energy efficiency projects. As a result, the UCT has these sensitivities:

- an increase in rebates has a negative impact on the test;

[18] NMSA 1978, § 62-17-4 (C).

- an increase in other project costs has a negative impact on the test; and
- an increase in avoided revenue requirements has a positive impact on the test.

In addition, 17.7.2.8(J) NMAC also requires that the public utility demonstrate that its portfolio of programs or measures be cost-effective – meaning a UCT of greater than one.

Q. Did SPS perform a UCT for each proposed 2017 program?

A. Yes. Each of SPS's proposed programs meets the cost-effectiveness standard (*i.e.*, each proposed program has a UCT ratio of 1.0 or greater), with a total projected portfolio UCT ratio for 2017 of 1.76. In other words, for every $1.00 spent by SPS and participating customers to implement the programs and to upgrade to energy efficient technologies, all SPS customers save $1.76 in lifetime avoided supply-side costs. The detailed cost-effectiveness test results for each program, as well as a summary table, are located in Appendix A of the 2017 Plan.

Q. Please discuss the program cost-effectiveness levels in 2017 versus 2016.

A. Overall, the cost-effectiveness of the portfolio has decreased due, primarily, to a decrease in the avoided cost inputs. Based on SPS's most recent avoided cost

calculations, these values have decreased significantly compared to previous avoided cost calculations.[19]

Q. Please explain why the avoided costs have decreased.

A. The reduction in avoided costs is due to three factors. First, natural gas prices are low, which has reduced the avoided fuel costs associated with generation. Second, the incremental cost ($/MW) of large natural gas combustion turbines have decreased on a per-unit basis. Third, SPS's current load forecasts indicates it is long on resources in the intermediate term, which reduces the benefits of avoiding new construction until such time that new generation is needed for the system – approximately 2024-2025.

B. Utility Cost Test Calculations

Q. Please describe how SPS calculates the UCT ratio for each program.

A. The UCT ratio is calculated as the net present value ("NPV") of the supply-side benefits (also known as system benefits or cost to serve) (numerator) divided by the NPV of the utility costs (denominator).

[19] *See* Case Nos. 13-00286-UT and 15-00119-UT for SPS's past avoided cost calculations. For current calculations, see Tables 4, 5, and 6 in Attachment SLW-1.

Q. What does SPS mean by "supply-side benefits"?

A. Supply-side benefits are system benefits which accrue to all customers by reducing or alleviating the need to build (or purchase) new generation, transmission, and/or distribution to meet growing customer demand. While the participants in EE/LM programs will reap the additional benefit of a decrease in their electricity consumption, all customers will benefit from the system reductions.

Q. What are the supply-side benefits and how are they calculated for each EE/LM program?

A. SPS avoids generation capacity, marginal energy including carbon dioxide emission reductions, and transmission and distribution costs associated with reduced electricity use. Supply-side benefits are calculated using the DSM Option Risk Evaluator (DSMore) software program, which is a modeling tool developed by Integral Analytics Inc. and licensed to XES.

DSMore accounts for the present year avoided revenue requirements, as well as future escalation rates. The software compares SPS's hourly system load costs to demand reduction profiles for EE/LM measures. Using this process,

DSMore calculates the technology-specific NPV of avoided marginal energy, generation, transmission and distribution, and emissions expenditures.

Q. What costs are included in the utility costs (*i.e.*, the denominator) in the UCT calculation?

A. Utility costs consist of all the program-related expenses associated with internal administration, third-party administration, promotional costs, rebates paid to customers, incentives paid to vendors, and M&V costs. SPS costs are found in the UCT results of Appendix A of the 2017 Plan. The utility costs are also shown in the categories listed in Table 10 of the 2017 Plan. Rebates paid directly to customers make up about 35 percent of the total portfolio costs. Promotions, the category which captures SPS's efforts to inform, educate, and market energy efficiency to customers, makes up approximately another 12 percent of the budget. Internal administration, third-party delivery, and M&V make up the remaining 53 percent of the costs.

Q. Are non-energy benefits included in the UCT?

A. No. Non-energy benefits ("NEBs") are not included as part of the calculation as these benefits do not accrue to the utility.

Q. What are the estimated monetary program costs incurred by the utility for each year of the expected useful life of the measures or programs?

A. SPS only incurs costs for the measures or programs in the first-year of the measure or program. In other words, the estimated program budgets, presented in Table SLW-1, are equal to the lifetime program costs for each program. As an example, if SPS pays a rebate to a commercial customer that installs high efficiency lighting, that rebate is paid in the first year of the estimated useful life. SPS will not make any additional rebate payments nor incur any future costs for the customer's installation of that high efficiency lighting.

Q. Continuing your example, do benefits for the installed measure continue to accrue over the lifetime of the measure or are they incurred only in the first year?

A. Benefits for the installed measure continue to accrue for the life of the measure. In Appendix A to Attachment SLW-1, SPS has provided both the lifetime system benefits as well as the lifetime program costs (incurred only in the first year) as these are the primary factors used to determine the cost-effectiveness of a program.

Q. Has SPS incorporated into its Low-Income Program any of the NEB values, as defined in the UCT definition in the EUEA (Section 62-17-4(K))?

A. No. However, consistent with 17.7.2.9(B)(4) NMAC, SPS has assumed a 20 percent value of reductions in working capital, reduced collection costs, lower bad-debt expense, improved customer service, and effectiveness as utility system economic benefits.

C. Program-Level Technical Assumptions

Q. Has SPS provided the technical assumptions associated with its proposed programs in its 2017 Plan?

A. Yes. Appendix B, "Electric Planning Assumptions," to the 2017 Plan includes SPS's Forecasted Planning Assumptions by program. These assumptions include the technical assumptions used to calculate savings. The detailed methodology and algorithms used to calculate the energy and demand savings are reviewed by the Commission's M&V evaluator.

Q. Are the technical assumption values reasonable?

A. Yes. SPS has compiled the assumptions and calculated the savings using the latest available information relevant to the SPS service territory or from Xcel Energy's other service areas when SPS-specific information is unavailable. In

addition, the technical assumptions have been updated according to the Technical Reference Manual or based on recommendations made by ADM as a result of M&V conducted in prior program years (2008-2015) on SPS's EE/LM programs.

Q. Is SPS seeking approval of its technical assumptions?

A. No. The Commission's Independent Program Evaluator is responsible for reviewing and recommending, if necessary, any changes to the deemed savings and forecasted technical assumptions in conjunction with the M&V for each program year. Accordingly, SPS is not seeking Commission approval of these assumptions in this proceeding, as they will be reviewed and modified, on an after-the-fact basis, by the Independent Program Evaluator.

V. MEASUREMENT AND VERIFICATION

Q. What is M&V?

A. M&V refers to an analysis performed by an independent evaluator that estimates reductions of energy usage or peak demand and determines any actual reduction of energy usage or peak demand that directly results from the utility's implementation of particular energy efficiency measures or programs or of particular load management measures or programs (17.7.2.7(F) NMAC). M&V is designed to provide accountability, risk management, and improvement to a utility's programs. In other words, M&V seeks to answer the following questions: (i) did the program deliver its estimated savings; (ii) how certain are these savings; and (iii) what can be done to improve future program performance?

Q. What are the requirements of the EUEA regarding M&V?

A. Section 62-17-8(B) of the EUEA requires public utilities to submit a comprehensive measurement, verification, and program evaluation report prepared by an Independent Program Evaluator at least every three years.

Q. What are the Commission's M&V requirements?

A. 17.7.2.15(A) NMAC requires public utilities to annually submit a comprehensive measurement, verification, and program evaluation report prepared by an

Independent Program Evaluator. It is also required that each program be independently evaluated at least once every three years. 17.7.2.15(B) NMAC requires that an Independent Program Evaluator be selected by the Commission to verify energy and demand savings. 17.7.2.8(H)(15) NMAC requires supporting documentation, underlying data, calculations, estimates, and other items shall be presented in a manner that facilitates the preparation of an M&V report by an independent program evaluator, along with compilation and preparation of the public utility's reporting requirements, and that facilitates a simple comparison of measure or program estimated results to actual results, including the public utility's cost of capital and discount rate.

Q. Has SPS met the M&V requirements of the EUEA and the EE Rule?

A. Yes. SPS's 2015 Annual Report includes the independent evaluator's 2015 M&V report, which is Appendix A of that attachment. SPS's 2015 Annual EE Report was separately filed on May 2, 2016. However, SPS's 2015 Annual EE Report is also attached to my testimony as Attachment SLW-2(CD).

Q. Has the Commission selected an Independent Program Evaluator?

A. Yes. ADM was selected in 2009 by the Commission's Evaluation Committee and approved by the Commission as the Independent Program Evaluator. ADM's

contract was renewed in 2013 to cover the 2013 through 2015 program years and renewed again in 2015 to cover the 2016 program year.

Q. What is the status of the selection of an Independent Program Evaluator for 2017?

A. Currently, there is no contract in place for 2017. Pursuant to 17.7.2.15(C)(1) NMAC, the Staff of the Commission will undertake a competitive bid process to identify the next independent evaluator. Because there is no contract in place for the 2017 program year, SPS has received from the current independent evaluator program-specific estimates of M&V costs for the 2017 program year based upon SPS's proposed portfolio of programs.

Q. How are the results of M&V used?

A. In each Annual Report, SPS reports savings that have been modified according to the results of M&V – they may be higher, lower, or the same as what SPS initially calculated depending upon the findings of the Independent Program Evaluator. These modified savings are then used for compliance in reaching the EUEA goals.

Q. What are the projected 2017 M&V costs?

A. The total, 2017 M&V costs are forecasted to be $220,000 and are included in SPS's total program costs. The independent evaluator's costs are directly allocated to programs based upon the evaluation plan for 2017. However, SPS's M&V costs include costs directly allocated to programs as well as general costs included in the Planning and Administration section. I discuss these costs further in Section III(C) of my testimony.

Q. Are the 2017 M&V costs reasonable and necessary?

A. Yes. The total budget for the 2017 M&V activities represents approximately two percent of the total portfolio budget, which is less than the percentage of 2016 M&V costs. This is also very reasonable considering that a common guideline for M&V is three to six percent of total portfolio costs. Consequently, these costs should be approved by the Commission.

VI. PUBLIC PARTICIPATION PROCESS AND COMPLIANCE WITH COMMISSION ORDERS

Q. Please describe SPS's public participation process for its 2017 Plan.

A. In accordance with 17.7.2.8(B) NMAC, SPS invited the Commission's Utility Division Staff ("Staff"), the New Mexico Attorney General, and the New Mexico Energy, Minerals, and Natural Resources Department, as well as environmental group representatives, consumer advocates, large customers, and other utilities to a public meeting to solicit non-binding recommendations on the design and implementation of the proposed 2017 Plan. SPS held its Public Participation Meeting on March 28, 2016 via web conference and gave an overview of its 2017 Plan, proposed programs, goals, and budgets. Participating attendees included representatives from Staff, Southwest Energy Efficiency Project, the Energy, Minerals, and Natural Resources Department, El Paso Electric Company, and PNM. The comprehensive list of feedback can be found in Section I(A) of SPS's 2017 Plan.

Q. Please discuss SPS's reliance on CFLs as required by Decretal Paragraph M in the Commission's Final Order Adopting Recommended Decision in Case No. 08-00333-UT.

A. As Table SLW-2 shows, in 2015 CFLs contributed 11% of total spending and 17% of total energy savings to the SPS portfolio. As currently forecasted, SPS will reduce its reliance on CFLs to achieve energy savings from 15% in the 2016 Plan to 7% in the 2016 Plan.

Table SLW-2: SPS's Reliance on CFLs

	Spending as Percentage of Total Budget	Customer kWh as a Percentage of Total kWh
2015 Verified	11%	17%
2017 Forecasted	5%	7%

Q. Please discuss how SPS considered programs offered in other jurisdictions as required by Decretal Paragraph O in the Commission's Final Order Adopting Recommended Decision in Case No. 08-00333-UT.

A. Attachment SLW-3 is a cross-reference of programs between the various jurisdictions in which Xcel Energy operates. Furthermore, as discussed throughout my testimony as well as in the 2017 Plan, SPS has leveraged the

experience of other Xcel Energy utilities in other jurisdictions to offer, where cost-effective, time-tested programs in its New Mexico portfolio.

Q. Please discuss SPS's non-firm, wholesale sales made during economic interruptions as required by Decretal Paragraph L in the Commission's Final Order Adopting Recommended Decision in Case No. 08-00333-UT.

A. SPS had no economic interruptions in 2015.

Q. How has SPS addressed the requirement in Section 1.1(a) from the Stipulation agreement in Case No. 15-00119-UT?

A. SPS has conducted an analysis which would expand participation in the Energy Feedback program to approximately 30,000 residential customers. The results of this analysis indicated that an expansion to 30,000 is not cost-effective. I discuss SPS's findings and program design further in Section III(D)(1) of my testimony.

Q. How has SPS addressed the requirement in Section 1.1(b) from the Stipulation agreement in Case No. 15-00119-UT?

A. At the time of filing, SPS has not had sufficient time to analyze the potential for technology switching in the Residential Cooling program. SPS expects to investigate this further during the cooling season in 2016 and report on the

outcome in 2017. SPS has not identified instances of technology switching in previous years.

Q. How has SPS addressed the requirement in Section 1.1(g) from the Stipulation agreement in Case No. 15-00119-UT?

A. SPS will continue the Smart Thermostat Pilot program in 2017.

VII. INCENTIVE MECHANISM FOR PROGRAM YEAR 2017

Q. Please describe the stipulated PY 2017 incentive mechanism.

A. Consistent with the incentive mechanism approved in Case No. 15-00119-UT, for PY 2017, SPS proposes to collect an incentive of $671,888,[20] subject to potential adjustments described below. This mechanism is presented in Attachment SLW-4(CD).

(i) If SPS achieves a minimum cumulative energy savings threshold equal to 248 GWh (net customer) for plan year 2017, SPS will receive a base incentive of $671,888, adjusted for Low-Income spending, as provided below. The methodology for this incentive is based on the following calculation:

$9,880,771[21] (x) 6.80% - Low-Income Adjustment ("LIA") where:

LIA = $0, unless SPS spends less than $498,554 (*i.e.*, 5% minimum of estimated program spend), in which case the LIA is calculated as:

- Low-Income Spending Shortfall ("LISS") (x) 6.8% (x) 2 where:

[20] This incentive is calculated by multiplying 6.8% by the proposed budget of $9,880,701.

[21] This amount represents SPS's 2017 portfolio budget level consistent with the three percent funding requirement. It does not account for the 2015 overage of $90,374. See Page 1, line 4 of Attachment RMS-2.

- LISS = $498,554 minus actual SPS spending in 2017 directed specifically to EE/LM programs for low-income customers.

(ii) If SPS achieves greater than 30.050 GWh (net customer) for plan year 2017, SPS's incentive will be increased by 0.1% per incremental GWh of achievement above 30.050 GWh multiplied by $9,880,701, which will be a sliding scale extending from 6.8 percent up to a maximum of 7.11 percent.[22]

Q. What is the maximum incentive that can be earned under the incentive mechanism and, thus, is it subject to reconciliation?

A. Under the proposed 2017 incentive mechanism, SPS cannot earn more than $702,518. To earn this amount SPS must: (1) meet its cumulative savings target; (2) exceed its annual savings forecast by at least 3 GWh; and (3) direct at least five percent of available funding to low-income programs.

As described by Ms. Sakya, the 2017 incentive will be reconciled to ensure it reflects actual EE/LM program spending and collections, as well as any proportionate offset due to the level of low-income program spending.

[22] The maximum incentive allowable under 17.7.2.8(L)(4) NMAC is based on the weighted cost of capital and SPS's weighted cost of capital is 8.26 percent (as stated in the Direct Testimony of Ruth M. Sakya). The proposed arrangement is well within the maximum that SPS could receive for an incentive under the EE Rule (17.7.2 NMAC).

Q. Which witness explains how SPS's proposed 2017 incentive meets the criteria under the EUEA and EE Rule for approval?

A. Ms. Sakya addresses these points in her Direct Testimony.

Q. Did the Commission approve an incentive mechanism in SPS's most recent energy efficiency proceeding?

A. Yes. The Commission approved an identical incentive mechanism for program year 2016 in Case No. 15-00119-UT.

Q. Did SPS's programs perform satisfactorily for 2015 and so far in 2016?

A. Yes. As perviously noted, the 2015 Annual EE Report (Attachment SLW-2(CD)) demonstrates that SPS met its 2015 performance and achievements as set forth in the EUEA. For 2015, SPS exceeded its energy savings by approximately 1 GWh and achieved a UCT ratio of 2.39 versus a forecast of 2.60. For 2016, SPS is on target to meet the eight percent of 2005 sales reduction in 2020. Finally, for reasons discussed above, the 2017 portfolio of EE/LM programs is reasonable and expected to meet the requirements under the EUEA while achieving a UCT ratio of 1.76.

VIII. CONCLUSION

Q. Were Attachments SLW-1, SLW-3, SLW-4(CD), and SLW-5(CD) prepared by you or under your direct supervision and control?

A. Yes.

Q. Is Attachment SLW-2(CD) a true and correct copy of SPS's 2015 Annual EE Report?

A. Yes.

Q. Does this conclude your pre-filed direct testimony?

A. Yes.

VERIFICATION

STATE OF COLORADO)
) ss.
COUNTY OF DENVER)

STEVEN L. WARKENTIN, first being sworn on his oath, states:

I am the witness identified in the preceding testimony. I have read the testimony and the accompanying attachments and am familiar with their contents. Based upon my personal knowledge, the facts stated in the testimony are true. In addition, in my judgment and based upon my professional experience, the opinions and conclusions stated in the testimony are true, valid, and accurate.

Steven Warkentin
STEVEN L. WARKENTIN

SUBSCRIBED AND SWORN TO before me this 19th day of April, 2016.

SCHUNA D WRIGHT
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID # 19974007693
MY COMMISSION EXPIRES MAY 06, 2017

Schuna D. Wright
Notary Public for the State of Colorado
My Commission Expires: May 6, 2017

Southwestern Public Service Company

2017 Energy Efficiency and Load Management Plan

Case No. 16-00___-UT

Prepared in Compliance with the Efficient Use of Energy Act and 17.7.2 NMAC (Energy Efficiency Rule)

May 2, 2016

Table of Contents

Glossary of Acronyms and Defined Terms

Acronym/Defined Term	Meaning
2017 Plan or Plan	SPS's 2017 Energy Efficiency and Load Management Plan
A/C	Air Conditioner
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
C&I	Commercial and Industrial
CFL	Compact Fluorescent Light
Commission	New Mexico Public Regulation Commission
Customer kW; Customer kWh or GWh	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
DSM	Demand-Side Management
ECM	Electronically Commutated Motor
EE	Energy Efficiency
EE Rider	Energy Efficiency Rider
EES	Energy Efficiency Specialist
EESP or contractors	Energy Efficiency Service Provider

Acronym/Defined Term	Meaning
EMNRD	New Mexico State Energy, Minerals, and Natural Resources Department
EUEA	New Mexico Efficient Use of Energy Act, as amended by Senate Bill 418 (2007), House Bill 305 (2008) and House Bill 267 (2013), NMSA 1978, §§62-17-1 through 62-17-11
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 a Commission-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
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
LM	Load Management
M&V	Measurement and Verification

Acronym/Defined Term	Meaning
Measure	The components of a public utility program, which may include material, device, technology, educational program, practice, or facility alteration.
MW	Megawatt, a measure of demand
MWh	Megawatt-hour, a measure of energy savings
NEB	Non-Energy Benefits
NEMA	National Electrical Manufacturers Association, an organization that rates motor efficiency
NTG	Net-to-Gross
Portfolio	All programs which will continue to be offered, and those proposed to be offered, by the public utility
Program	One or more measures or a bundled group of two or more products provided as part of a single offering to consumers
RTU	Roof Top Unit (a type of air conditioner)
Rule	Commission's Energy Efficiency Rule, 17.7.2 NMAC
Self-Direct Administrator	Person or group selected by SPS to administer and manage cost-effective energy efficiency projects under the Large Customer Self-Direct program.
SOICO	Summer Only Interruptible Credit Option
SPS	Southwestern Public Service Company, a New Mexico corporation
Staff	Commission's Utility Division Staff
SWEEP	Southwest Energy Efficiency Project
UCT	Utility Cost Test
VFD	Variable Frequency Drive

Acronym/Defined Term	Meaning
VLRPO	Voluntary Load Reduction Purchase Option
VTA	Variation in Timing of Adoption
WACC	Weighted Average Cost of Capital
WCCD	Western Cooling Control Device
Xcel Energy	Xcel Energy Inc.
XES	Xcel Energy Services Inc.

Executive Summary

In accordance with the Efficient Use of Energy Act, as amended by Senate Bill 418 (2007), House Bill 305 (2008) (NMSA 1978, §62-17-1 through 62-17-11, "EUEA"), and House Bill 267 (2013), and the New Mexico Public Regulation Commission's ("Commission") 2015 version of the Energy Efficiency Rule (17.7.2 NMAC, "Rule"), Southwestern Public Service Company, a New Mexico corporation ("SPS") and electric utility operating company that is a wholly-owned subsidiary of Xcel Energy Inc. ("Xcel Energy"), respectfully submits for Commission review and approval SPS's 2017 Energy Efficiency and Load Management Plan ("2017 Plan" or "Plan").

The EUEA requires public utilities to obtain cost-effective and achievable energy efficiency and load management and a reduction of no less than five percent of 2005 retail sales by 2014 and eight percent 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 300 GWh by 2020 at the customer meter.

The 2017 Plan provides SPS's proposed programs, budgets, and goals for its energy efficiency and load management programs for program year 2017. 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 2017 Plan includes a Planning & Research Segment, which provides support functions for the direct impact programs.

SPS proposes the following programs/products for 2017, designated by "EE" for energy efficiency and "LM" for load management:

Residential Segment

- Energy Feedback Program (EE);
- Residential Cooling (EE);
- Home Energy Services (includes low-income) (EE);
- Home Lighting & Recycling (EE);
- Refrigerator Recycling (EE);
- School Education Kits (EE);
- Residential Saver's Switch (LM); and
- Smart Thermostat Pilot (LM).

Business Segment

- Business Comprehensive (EE);
- Interruptible Credit Option ("ICO") (LM); and
- Saver's Switch for Business (LM);

Planning and Research Segment

- Consumer Education;

- Market Research;
- Measurement & Verification ("M&V");
- Planning & Administration; and
- Product Development.

For 2017, SPS is proposing an energy efficiency and load management budget of $9,800,701 and goals of 10,536 net customer kilowatts ("kW") and 30,050,343 first-year net customer kilowatt-hours ("kWh"), distributed among the programs and customer segments as shown in Table 1 below. The portfolio-level Utility Cost Test ("UCT") ratio is forecasted to be 1.76.

Table 1: SPS's 2017 Plan Budgets & Goals

2017	Electric Participants	Electric Budget	Net Customer kW	Net Customer kWh	Net Generator kW	Net Generator kWh	Utility Cost Test Ratio
Residential Segment							
Home Lighting	188,000	$ 2,044,918	1,377	9,905,728	1,644	11,230,984	2.49
Refrigerator Recycling	500	$ 105,850	27	371,434	32	421,127	1.03
School Education Kits	2,500	$ 163,417	25	850,672	30	964,480	2.03
Residential Energy Feedback	18,090	$ 133,045	421	2,999,949	502	3,401,303	1.18
Home Energy Services	1,849	$ 2,599,485	547	5,202,740	652	5,898,798	1.46
Residential Cooling	247	$ 183,280	89	304,668	106	345,428	1.54
Residential Savers Switch	4,203	$ 203,250	3,653	35,241	4,359	39,956	1.44
Smart Termostat Pilot	1,500	$ 89,875	1,173	13,287	1,400	15,065	1.64
Residential Segment Total	216,888	$ 5,523,120	7,312	19,683,719	8,726	22,317,141	1.84
Business Segment							
Business Comprehensive	738	$ 3,540,525	1,601	10,352,904	1,787	11,216,581	1.93
ICO	2	$ 45,569	789	7,000	881	7,584	5.89
Business Savers Switch	168	$ 71,827	834	6,720	931	7,280	1.37
Business Segment Total	908	$ 3,657,921	3,224	10,366,624	3,598	11,231,446	1.97
Indirect Segment							
Consumer Education		$ 188,146					
Market Research		$ 62,484					
Measurement & Verification		$ 12,000					
Planning & Administration		$ 279,649					
Product Development		$ 147,381					
C&I Benchmarking		$ 10,000					
Indirect Segment Total		$ 699,660					
Portfolio Total	217,797	$ 9,880,701	10,536	30,050,343	12,324	33,548,587	1.76

I. Portfolio Characteristics

SPS's energy savings obligations under the EUEA and the Rule are shown in the following table as a percent of 2005 sales, along with SPS's verified achievements (through 2015), forecasted savings (2016), and remaining gap to achieve the cumulative 2020 goal.

Table 2: SPS Progress to EUEA Goal as a Percent of 2005 Sales

Year	Annual Net Customer Achievement (GWh)	Cumulative Net Customer Achievement (GWh)	Cumulative % of 2005 Retail Sales
2008	3.355	3.355	0.09%
2009	14.136	17.491	0.47%
2010	23.231	40.722	1.09%
2011	35.642	76.363	2.04%
2012	31.534	107.897	2.88%
2013	34.452	142.349	3.80%
2014	30.493	172.841	4.61%
2015	32.805	202.962	5.41%
2016 (forecast)	28.654	230.945	6.16%
2017 (forecast)	27.048	257.993	6.88%
2018 (forecast)	26.470	284.464	7.58%
2019 (forecast)	26.470	292.656	7.80%
2020 (forecast)	26.470	300.038	8.00%

A. Public Participation

17.7.2.8.B NMAC requires utilities to solicit public input from the Commission's Utility Division Staff ("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 invited representatives from Staff, the New Mexico Attorney General's office, Southwest Energy Efficiency Project ("SWEEP"), Coalition for Clean Affordable Energy, EMNRD, Occidental Petroleum, LLC, El Paso Electric ("EPE"), New Mexico Gas Company ("NMGC"), and Public Service Company of New Mexico. SPS held its Public Participation Meeting on March 28, 2016 via web conference. Representatives of SWEEP, Staff, EMNRD, EPE, and NMGC participated in the meeting. SPS representatives provided a review of 2015 achievements, an overview of the 2017 Plan,

the tentative programs and products, goals, and budgets. Table 3, below, presents a summary of the feedback SPS received from the following participants and SPS's responses:

Table 3: SPS Response to Public Meeting Input

Category	Question/Suggestion	SPS Response
Goal Calculation	How does SPS calculate the Portfolio Estimated Useful Life for goal compliance?	SPS uses the weighted average of useful lives as defined by the annual evaluation.
Goal Calculation	Are savings from the Energy Feedback program included in 2020?	Consistent with the recommendation of the independent evaluator, SPS only claims energy savings from the Energy Feedback program in 2014 and 2020.
Goal Calculation	Does SPS calculate its weighted average useful life by program? If not, would SPS consider a program level useful life?	SPS uses the most recently verified weighted average useful life for the portfolio. SPS has not considered using a program by program calculation but is willing to discuss this methodology with other parties.
Budget Calculation	Does the proposed 2017 budget adjust for reconciliation?	Yes. The 2017 budget is reduced by the 2015 overage.
Business Lighting Efficiency Design	What are the prices of LEDs versus halogens?	Prices have decreased and LED sales are increasing.
Measurement & Verification	Will SPS update the net-to-gross ("NTG") ratio for LEDs?	SPS will forecast a NTG in 2017 and expects the independent evaluator to provide a verified NTG value in 2017.
Program Participation	Have oil- and gas-driven savings increased?	Pump-off controllers have decreased; however, variable frequency drives have increased. SPS is focusing on downstream (refining/transportation) versus upstream (production).

Home Lighting Design	What is the long-term strategy for compact fluorescent lights ("CFL")?	SPS will continue to rebate in 2017 but has increased the proportion of LEDs and expects a natural transition to new technologies. To-date, M&V has not raised concerns about continued CFL rebating.
Business Lighting Efficiency Design	Are tubes a substitute for troffers?	No, these are complimentary.
Business Lighting Efficiency Design	What is the role of controls and sensors in the program?	These are prescriptive measures. Buildings with troffers create barriers to implementation – controls must be done at the time of retrofit.
New Product Development	Will the ENERGY STAR Retail Products Platform Pilot be included in the 2017 portfolio?	SPS is reviewing the potential and intends to include the pilot in its 2017 portfolio pending cost effectiveness and EPA forecasts.
Performance Incentive Design	Has SPS considered revising the incentive to increase the maximum incentive it can earn?	SPS is proposing to continue the currently approved methodology but is willing to discuss ideas.
New Product Development	Has SPS considered offering on-bill financing similar to Roosevelt Coop?	Currently, Xcel Energy is administering some on-bill financing pilots utilizing 3rd party lenders in Colorado and may look to adopt those programs in future filings. However, at this time SPS has not identified a need for on-bill financing in its NM programs. SPS will continue to monitor on bill financing and on bill repayment programs to determine if a cost effective, impactful program can be developed.

B. Broad Participation of all 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; federal installations; municipal street, guard, and flood lighting; public and parochial schools; and water pumping customers. For the purposes of this 2017 Plan, all end-uses have been divided into two customer segments: Residential and Business. Household and low-income customers fall into the Residential Segment. Commercial, agricultural, municipal, school, and industrial customers fall into the Business Segment. SPS has developed a portfolio that is well-balanced and designed to provide all customers the ability to participate. For business customers, SPS has a custom product within the Business Comprehensive program that provides rebates for any cost-effective energy efficiency measures that have not been included in a prescriptive product, ensuring that all business customers may participate in a program.

C. Estimated Energy and Demand Savings

SPS manages its energy efficiency and load management programs as cost-effectively as possible and maximizes its energy and demand savings at a reasonable cost. The 2017 estimated energy and demand savings of the individual programs are shown in Table 1 (above). SPS's proposed goals assume that all programs will operate for a full 12 months.

D. Ease of Program Deployment

SPS continues to leverage its large institutional infrastructure to bring its energy efficiency programs to the market. Specifically, through Xcel Energy Services Inc. ("XES"), 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 Business Comprehensive program in conjunction with a third-party contractor. The Business Comprehensive program includes: Computer Efficiency, Cooling Efficiency, Custom Efficiency, Large Customer Self-Direct, Lighting Efficiency, Building Tune-Up, and Motor & Drive Efficiency. The Business Segment also includes the ICO and Business Saver's Switch programs, which are administered internally.

Other programs, including Energy Feedback, Home Energy Services (including low-income), Home Lighting & Recycling, Refrigerator Recycling, and School Education Kits, will be partially or completely administered by third-party providers.

E. Product Development Process

For over 30 years, XES or its predecessors has successfully operated energy efficiency and load management programs, and in doing so, has gained significant expertise in the design and development of these programs. XES and SPS use 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 and Company goals. 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: Opportunity Identification, Framing, Concept Evaluation, Development, 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.

Opportunity Identification - The objectives of this stage are to compile ideas for new programs/products from those who are closest to the customers, describe the program 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 program/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 program/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?"*

Concept Evaluation - Once it has been determined that a new concept is a viable opportunity upon which to spend more resources, the program/product idea moves to the Concept Evaluation Stage. The objectives of this stage are to refine and validate assumptions made in the Framing Stage, and to more clearly define the program/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 measure, product, or program?"*

Development - Once the program/product receives concept approval, the process moves to the Development 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 measure, product, or program ready to be tested (if needed) or moved to launch?"*

Test - Once the measure, product, or program has passed the Development Stage, it 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/program assessments for full deployment, and the complete marketing plan to bring the product/program to launch. The primary gate decision is, *"Are we ready to proceed with launch, or should the measure, product, or program go back to design?"*

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/program into a life cycle, and execute launching the product/program. The primary gate decision is, *"Is everything ready from beginning to end that will enable this product/program to be successful?"*

F. Risk of Technologies and Methods

As discussed above, SPS's affiliated operating companies have extensive experience designing, implementing, and administering energy efficiency and load management programs in a variety of jurisdictions. The 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 significantly different market than other jurisdictions where the Company offers demand-side management ("DSM") programs. The SPS jurisdiction has much lower population density and a more homogenous business sector with the largest local industries being: oil and gas production, food and beverage establishments, and agriculture. In other jurisdictions, manufacturing, commercial real estate, education, and retail are more prevalent and more likely to participate. SPS is mindful of the challenges associated with its market with regards to customer participation.

G. Under Review, Rejected, and Future Programs

SPS draws on the historical knowledge it has developed over the past several years operating Energy Efficiency and Load Management programs in New Mexico. In addition, as part of the development process for the 2017 Plan, SPS referenced the comments from the Public Participation Meeting on March 28, 2016 (for the 2017 Plan), March 9, 2015 (for the 2016 Plan), and the Stipulation Agreement to the 2016 Plan for ideas on new measures that would be added to enhance programs in the 2017 Plan. The

new programs/products that were developed for the 2017 Plan are summarized in Section III of the Plan. The following programs/products were reviewed in the Product Development process, but are still under review.

1. Programs/Measures Under Review

a. Advanced Roof Top Unit Controls

SPS is currently investigating the market opportunity to add a prescriptive measure to encourage the installation of advanced controls on commercial roof top AC units ("RTU"). Advanced RTU controls save energy by installing a VFD that is then operated using demand controlled ventilation and advanced economizer controls.

b. Oil Field Measures

SPS continues to look for possible prescriptive measures for this market segment. One avenue for this research is to review custom projects for repeatable measures. SPS will continue to pursue custom projects with which to gain more insight into this technology. SPS has also engaged experts in the oil and gas industry to help identify potential measures specific to this customer segment.

2. Programs/Measures Rejected

None.

3. Future Programs

SPS believes its proposed 2017 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. Furthermore, any party interested in submitting a new measure to SPS for consideration can do so through the Xcel Energy website.[1]

H. Goal Setting

SPS considered the following factors while developing its energy efficiency and load management program goals and budgets for the 2017 Plan:

- legislated goals;
- legislated budget parameters;
- historical and expected participation levels;
- settlement requirements;
- incremental cost of energy efficient equipment;
- results of market potential study;
- recent Commission decisions; and
- cost-effectiveness.

[1] http://www.xcelenergy.com/productideas

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 XES's Business Solutions Center 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 as well as trade partners that have been trained to utilize the programs.

In addition to formal rebate and incentive programs, SPS maintains a large database of energy savings information on its website.[2] All currently rebated measures, as well as rebate amounts, can be found on the website. 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 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 2017 proposed programs are 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. More detailed marketing approaches are available in the program description sections of the Plan.

J. Utility Cost Test and Avoided Costs

17.7.2.8.J NMAC requires that a utility's portfolio of energy efficiency and load management programs be cost-effective, and Section 62-17-4(C) of the EUEA states the Utility Cost Test shall be used to determine cost-effectiveness. Programs are cost-effective if they achieve positive net benefits in the UCT (*i.e.*, the UCT is greater than 1.0). All of the programs proposed by SPS in the 2017 Plan are cost-effective (*i.e.*, achieve positive UCT net benefits) at the estimated budget and participation levels.

Individual program-level UCT results are provided in Table 1. The following sections describe the assumptions SPS has made in order to perform the cost-effectiveness and energy and demand savings estimates.

[2] https://www.xcelenergy.com/Programs_and_Rebates

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 cost of supply-side generation resources displaced by energy efficiency and load management programs. The avoided generation values used in the 2017 Plan were derived by XES's Resource Planning group. SPS used a portfolio approach considering future resource needs and forecasted generation additions to the SPS system consistent with the final order in Case No. 07-00376-UT.[3] Resources were selected that most closely met resource needs based on an overall least-cost approach that balanced actual resource cost and the corresponding cost of energy. The analysis covered the entire 20-year planning period of this Plan. Table 4 below provides the annual values of avoided generation costs from 2017 to 2036.

Table 4: Estimated Annual Avoided Generation Capacity Costs for Energy Efficiency and Load Management Programs

Year	Energy Efficiency Generation Capacity ($/kW-year)	Load Management Generation Capacity ($/kW-year)
2017	$102.04	$62.85
2018	$104.92	$64.51
2019	$107.88	$66.20
2020	$110.92	$67.94
2021	$114.05	$69.72
2022	$117.26	$71.56
2023	$120.57	$73.44
2024	$123.97	$75.37
2025	$127.46	$77.35
2026	$131.06	$79.64
2027	$134.75	$81.79
2028	$138.55	$84.09
2029	$142.46	$86.40
2030	$146.48	$88.86
2031	$150.61	$91.32
2032	$154.86	$93.96
2033	$159.22	$96.58
2034	$163.71	$99.22
2035	$168.33	$102.01
2036	$173.08	$104.96

[3] Case No. 07-00376-UT; *In the Matter of Southwestern Public Service Company's Application for Approval of Electric Energy Efficiency and Load Management Programs and Program Cost Tariff Rider Pursuant to the New Mexico Public Utility Act and the Efficient Use of Energy Act;* Final Order (Apr. 17, 2008).

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. The values in the table below were provided by XES Transmission and Resource Planning groups and represent the estimated annualized cost of transmission interconnection and delivery of the proposed supply-side generation resources.

Table 5: Estimated Avoided Transmission and Distribution Costs

Year	Transmission and Distribution Capacity ($/kW-year)
2017	$2.97
2018	$3.05
2019	$3.14
2020	$3.23
2021	$3.32
2022	$3.41
2023	$3.51
2024	$3.61
2025	$3.71
2026	$3.82
2027	$3.92
2028	$4.03
2029	$4.15
2030	$4.26
2031	$4.38
2032	$4.51
2033	$4.64
2034	$4.77
2035	$4.90
2036	$5.04

c. Marginal Energy

The hourly marginal energy costs represent the incremental fuel cost from owned and purchased power generation or the incremental cost of short-term market purchases, whichever are lower, after meeting SPS's load requirements. The hourly marginal costs are representative of the costs avoided by saving energy rather than generating or purchasing it. For the 2017 Plan, these costs were developed by XES's Resource Planning group. The marginal energy cost is representative of SPS generation resources, SPS contractual assets, future-planned asset additions, and electric markets. Two

scenarios of marginal energy costs were run — a baseline version assuming that carbon emissions costs are not internalized by SPS, and a second scenario using the mid-range carbon emission costs ordered in Case No. 06-00448-UT (Notice of Inquiry into Adoption of Stage Standardized Carbon Emission Cost). Table 6 below provides annual average values for the marginal energy baseline and the incremental emissions costs. The sum of these two costs equals the total marginal cost of energy when carbon dioxide costs are internalized.

Table 6: Estimated Annual Avoided Marginal Energy Costs

Year	Marginal Energy Annual Average without Emissions ($/kWh)	Avoided Emission Annual Average ($/kWh)
2017	$0.0254	$0.0012
2018	$0.0276	$0.0013
2019	$0.0296	$0.0014
2020	$0.0327	$0.0016
2021	$0.0347	$0.0017
2022	$0.0376	$0.0018
2023	$0.0389	$0.0019
2024	$0.0421	$0.0020
2025	$0.0430	$0.0021
2026	$0.0430	$0.0021
2027	$0.0446	$0.0021
2028	$0.0477	$0.0023
2029	$0.0506	$0.0024
2030	$0.0534	$0.0026
2031	$0.0507	$0.0024
2032	$0.0490	$0.0024
2033	$0.0536	$0.0026
2034	$0.0547	$0.0026
2035	$0.0558	$0.0027
2036	$0.0569	$0.0027

2. Discount Rate/Cost of Capital

SPS used the after-tax weighted average cost of capital ("WACC") provided by XES's Finance department for the discount rate in its cost-effectiveness analysis. This rate was derived by applying the current tax rate to the before-tax, long-term debt WACC rate and adding it to the common equity WACC rate. SPS utilized the rate of return and capital

structure as filed in Case No. 12-00350-UT[4], SPS's most recently approved rate case filing. The following table details the calculation of the resulting 7.11 percent after-tax WACC:

Table 7: After-Tax Weighted Average Cost of Capital

Component	Portion of Capital Structure	Allowed Return	Before-Tax Weighted Average Cost of Capital	Tax Rate	After-Tax Weighted Average Cost of Capital
Calculation Methodology	(A)	(B)	(C) = (A) * (B)	(D)	(E) = (C) * (1-(D))
Long-Term Debt	46.11%	6.27%	2.89%	39.75%	1.74%
Common Equity	53.89%	9.96%	5.37%		5.37%
Total	100.00%		8.26%		7.11%

3. Net-to-Gross

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 the influence of 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 M&V process.

The following table provides the program-level NTG ratios as calculated by ADM in its 2015 M&V Report. SPS will utilize these NTG in the calculation of energy savings until updated values become available. Additional details on NTG factors, including product, channel, or measure level NTG ratios can be found in Appendix B: Planning Assumptions, of the 2017 Plan or in the 2015 M&V Report included as Appendix A to SPS's 2015 Annual Report.[5]

[4] Case No. 12-00350-UT; *In the Matter of Southwestern Public Service Company's Application for Revision of its Retail Rates Under Advice Notice No. 245;* Final Order Partially Adopting Recommended Decision (Mar. 26, 2014).

[5] Due to the timing of the 2015 M&V report and SPS's finalization of the 2017 Plan, NTG factors may differ between the M&V report and the Planning Assumptions. These variances will be updated prior to the beginning of the 2017 program year.

Table 8: Program Net-to-Gross Factors

Program	NTG
Home Energy Services (Res & LI)	95.10%
Home Lighting	84.50%
Business Comprehensive	86.10%
Energy Feedback Pilot	100.00%
Evaporative Cooling	66.00%
Refrigerator Recycling	67.30%
School Education Kits	100.00%
Residential Saver's Switch	100.00%
Business Saver's Switch	100.00%

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 7.7 percent for the annual energy saved, and a factor of 10.4 percent at the time of system peak for the annual capacity savings for all business programs. For residential programs, these factors are 11.8 percent for the annual energy saved, and 16.2 percent for the annual capacity savings. These factors are consistent with those used in SPS's most recently approved base rate case (Case No. 12-00350-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 served by SPS (electricity). Such NEBs may include savings from reduced outages, arrearages, savings, or costs related to the change in consumption of fuel not served by SPS (*e.g.*, natural gas, propane, wood, etc.), or incremental operation and maintenance savings of labor, maintenance, or materials. Since the UCT does not consider participant benefits and costs, SPS has not included NEBs in its benefit-cost analyses.

6. System Benefits

System benefits refer to the benefits received 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. The total portfolio UCT for 2017 is projected to be 1.76, which demonstrates that the benefits (the

avoided costs of generation, transmission, distribution of traditional power plants or purchases of power) outweigh the projected energy efficiency and load management programs' utility and customer costs by a ratio of nearly 2 to 1.

II. Program Delivery and Administration

A. General Marketing and Outreach Plan

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

1. Residential Segment

The focus during 2017 will be to increase awareness and interest in energy efficiency among homeowners and renters. Efficiency messages will be promoted through a variety of channels, including:

- efficient equipment distributors and installation contractors;
- advertising, bill inserts, newsletters, and direct mail campaigns;
- internet, email, and social media marketing;
- SPS's residential call center; and
- joint promotions with Consumer Education and SPS's 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 efficient 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.
- Energy Efficiency Specialists – The Energy Efficiency Specialists ("EES") from the Business Solutions Center will handle all interactions with SPS's small and mid-sized non-managed account customers. They will educate business customers about efficiency programs and cross-sell energy efficiency on incoming calls for utility issues. In addition, they will proactively reach out to customers to help promote energy efficiency programs, guide customers through the application process, and prepare paperwork for rebate submission.
- 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 about our efficiency

programs through personal meetings, workshops, and training sessions. They also provide valuable feedback on new technologies and program improvements.

- Third-Party Program Implementers – SPS will rely on a third-party program implementer to provide direct customer marketing, outreach, and trade training for specific program offerings. The implementer will perform energy efficiency audits and will recommend participation in all Business programs. The implementer will also perform a sales engineering role supporting both managed and non-managed customers. The implementer will also assist customers to complete rebate applications and process supporting documentation.

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

- program collateral including feature sheets, case studies, rebate applications, and engineering analysis worksheets;
- newsletters, newspaper advertising, radio advertising, and internet search advertising;
- 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 remains committed to delivering cost-effective projects in the future, and to that end, it is implementing strategies to accelerate customer acceptance going forward. SPS's efforts to improve business performance include:

- continuing to build 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 all business programs.

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 roles 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 and products;
- 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;
- Energy Efficiency Specialist – works with small and mid-sized account customers;
- Rebate Processor – reviews/approves applications and invoices and pays rebates; and
- Regulatory Analyst – performs benefit-cost analyses, drafts and manages program filings, and corresponds with regulators and other interested parties.

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, and has filed its 2009, 2010, 2011, 2012, 2013, and 2014 annual reports each subsequent year. The 2015 Annual Report was filed on May 1, 2016. Listed below are the details provided in this report:

- actual expenditures and verified achievements of the preceding calendar year;
- reporting requirements as stated in 17.7.2.14 NMAC;
- program/project descriptions, including an explanation of deviations from goal and changes during 2015 organized into the Residential, Business, and Planning & Research Segments; and
- benefit-cost analyses for the Residential and Business programs, as well as the overall portfolio.

D. Cost Recovery

The EUEA authorizes utilities to receive cost recovery for Commission-approved energy efficiency and load management expenditures. Cost recovery from each customer is capped at $75,000 per year. To recover these expenditures, SPS proposes to continue collecting its costs through an Energy Efficiency Rider ("EE Rider") charge applied to the energy consumption adjusted for the loss factor at each of four voltage-service levels. The EE Rider rates for these service levels are summarized in Table 9a below. The EE Rider will approximate contemporaneous cost recovery of the 2017 Plan expenditures. The EE Rider will be revised with each plan to recover the net balance of:

- forecasted expenditures - for 2017, expenditures are forecasted to be $9,800,701; and
- any approved incentive/disincentive compensation for the program year.

The proposed 2017 Plan costs would result in the EE Rider rates shown in Table 9a below.

Table 9a: 2017 Plan Energy Efficiency Rider

Rate Schedule	Rate (% of Bill)
Residential Service, Residential Heating Service, Residential Water Heating Service, Small General Service, Small Municipal and School Service, Municipal Street Lighting Service, Area Lighting Service	3.0%
Secondary General Service, Irrigation Power Service, Large Municipal and School Service	3.0%
Primary General Service	3.0%
Large General Service – Transmission	3.0%

1. Rate Impact and Customer Bill Impact

The following table shows the estimated average monthly bill impact of the proposed EE Rider:

Table 9b: Estimated Average Bill Impact of 2017 Plan Energy Efficiency Rider

Average Customer Impacts (assumes $9,880,701 recovery of estimated costs)			
Rate Schedule	Monthly Bill excluding EER	Monthly EE Rider Charge	Charge as % of Bill
Residential Service -- 800 kWh	$82.37	$ 2.45	2.973%
Small General Service – 1,500 kWh	$128.08	$ 3.81	2.973%
Secondary General Service -- 50 kW; 20,000 kWh	$1,508.91	$ 44.86	2.973%
Large General Service Transmission -- 4,000 kW; 800,000 kWh	$63,760.10	$ 1,895.59	2.973%

The bill impacts shown in this table do not include the effects of recoveries to compensate for disincentives or to provide incentives for SPS expenditures on energy efficiency programs, as authorized in Sections 62-17-5(F) and 62-17-6(A) of the EUEA.

2. Shared/Allocated Program Costs

SPS's plan includes indirect programs with associated costs. Since these costs cannot be directly attributed to a program, SPS uses an allocation methodology approved by the Commission in the Final Order in Case No. 07-00376-UT. The Commission adopted the

Recommended Decision of the Hearing Examiner in that case, which stated "SPS's filing demonstrates that its alternative method is appropriate and should be approved."

In accordance with its approved alternative method, 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, Product Development, and Commercial Energy Benchmarking were kept out of the individual program budgets.

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 is more 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 Incentive – 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 or external costs not covered in any other cost category. These costs may include outside contractors and consultants hired to perform installation, engineering, or other services for SPS to assist in delivery or administration of programs to customers; and
    - Research & Development – internal costs to develop the programs.

- Third-Party Delivery – Used only when a third-party administers, implements, or delivers a major portion of the program to customers. 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 market and promote the programs.
- M&V – Costs to perform M&V on the programs.

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

Table 10: SPS's 2017 Program Costs by Budget Category

2017	Participant Incentives	Internal Administration	Third Party Delivery	Promotion	M&V	Total Program Costs
Residential Segment						
Energy Feedback	$ -	$ 18,600	$ 98,245	$ 1,200	$ 15,000	$ 133,045
Residential Cooling	$ 35,528	$ 74,124	$ 14,537	$ 59,091	$ -	$ 183,280
Home Energy Services	$ 674,721	$ 143,118	$ 1,637,225	$ 104,421	$ 40,000	$ 2,599,485
Home Lighting	$ 1,078,000	$ 141,918	$ 350,000	$ 450,000	$ 25,000	$ 2,044,918
Refrigerator Recycling	$ 25,000	$ 19,000	$ 37,850	$ 18,000	$ 6,000	$ 105,850
Residential Saver's Switch	$ 170,000	$ 11,000	$ 22,250	$ -	$ -	$ 203,250
School Education Kits	$ 52,309	$ 20,608	$ 76,000	$ 4,500	$ 10,000	$ 163,417
Smart Thermostat Pilot	$ 31,875	$ 38,000	$ -	$ 10,000	$ 10,000	$ 89,875
Residential Segment Total	$ 2,067,433	$ 466,368	$ 2,236,107	$ 647,212	$ 106,000	$ 5,523,120
Business Segment						
Business Comprehensive	$ 1,283,792	$ 551,284	$ 1,180,252	$ 427,197	$ 98,000	$ 3,540,525
ICO	$ 15,550	$ 23,112	$ -	$ 2,907	$ 4,000	$ 45,569
Saver's Switch for Business	$ 50,000	$ 11,327	$ 10,500	$ -	$ -	$ 71,827
						$ -
Business Segment Total	$ 1,349,342	$ 585,723	$ 1,190,752	$ 430,104	$ 102,000	$ 3,657,921
Indirect Segment						
Consumer Education	$ -	$ 94,073	$ -	$ 94,073	$ -	$ 188,146
Market Research	$ -	$ 5,000	$ 57,484.00	$ -	$ -	$ 62,484
Measurement & Verification	$ -	$ -	$ -	$ -	$ 12,000.00	$ 12,000
Planning & Administration	$ -	$ 279,649	$ -	$ -	$ -	$ 279,649
Product Development	$ -	$ 83,283	$ 64,098.00	$ -	$ -	$ 147,381
C&I Benchmarking	$ -	$ 5,000	$ -	$ 5,000.00	$ -	$ 10,000
Indirect Segment Total	$ -	$ 467,005	$ 121,582	$ 99,073	$ 12,000	$ 699,660
Portfolio Total	$ 3,416,775	$ 1,519,096	$ 3,548,441	$ 1,176,389	$ 220,000	$ 9,880,701

III. Program Details

A. Residential Segment

SPS will continue to offer a wide range of product offerings to serve the Residential Segment in 2017. These offerings will be available to over 95,000 customers residing in single family homes, multi-family homes, and apartments and condominiums in southeastern New Mexico.

The Residential Segment will focus on educating customers about energy efficiency, giving them simple ways to participate, and encouraging them to make long-term commitments to reduce their energy usage. The marketing strategy for the Residential Segment is to build awareness and provide consumers a variety of energy efficiency offerings, including direct impact measures, indirect impact services, and educational tools.

SPS will execute Residential Segment outreach and marketing efforts through the use of targeted advertising, statement messaging, community meetings, events at local retailers, as well as content and tools on Xcel Energy websites: xcelenergy.com and responsiblebynature.com.

SPS proposes to offer residential customers eight energy efficiency programs in the 2017 Plan, including: (i) Energy Feedback, (ii) Residential Cooling, (iii) Home Energy Services (Residential and Low-Income), (iv) Home Lighting & Recycling, (v) Refrigerator Recycling, (vi) Residential Saver's Switch, (vii) School Education Kits, and (viii) Smart Thermostats. The following sections detail each of the proposed programs.

1. Energy Feedback

a. Program Description

The program provides targeted Home Energy Reports ("HER") to SPS's New Mexico residential customers, providing energy-use comparisons, and specific energy efficiency recommendations and tips to motivate and to educate customers to reduce their energy consumption. Customers receive new information with each HER that is delivered by mail or a combination of mail and email, when email addresses are available. An online version of this information (marketed as "My Energy") provides additional energy-awareness and savings tools that are available to all SPS residential customers.

The product's main offerings include the following two components:

Personalized Home Energy Reports – A targeted direct mailing and/or email that provides specific recommendations and tips to motivate customers to reduce their energy consumption. The individualized reports provide:

- Customers' energy use compared to the average of similar-sized homes with similar characteristics (neighbor comparison);
- Personalized energy efficiency recommendations and tips based on an analysis of the household's energy usage, demographics, and home characteristics and information provided by the participant; and
- Advice on how report recipients can easily implement efficiency measures based on their individual circumstances.

The group of randomly assigned customers receiving the HERs is referred to as the Treatment Group. The Treatment Group customers are compared to a Control Group made up of randomly-assigned non-participating customers. The third-party implementer uses its extensive experience with utility behavioral programs and data analytics capabilities to determine which customers receive a mailed print version of the HER, an emailed report or both print and email reports.

My Energy – An online suite of tools that gives customers greater insight into their energy consumption and actions they can take to become more energy efficient. These tools are available to all SPS residential customers in New Mexico, and provide the same information as customers receive in their HERs, but with a more robust set of customization options. These tools offer customers flexibility to analyze their consumption and provide options for customers to update their profiles making future HERs even more personalized and useful. The My Energy online suite includes the following sections:

- *Home* - A home energy assessment tool with progressive, simple, and straightforward questions that provide immediate value and feedback. Input provided improves the customer's HER experience;
- *My Energy Use* – Provides customer-specific electricity and natural gas consumption and cost data, which can be overlaid with local weather temps to better understand its impact on energy usage;
- *What Uses Most* – A graphic depiction showing where energy is consumed in the home. Using the Home Energy Assessment tool, customers can input additional profile and home information to improve results;
- *Compare My Bills* – Provides an analysis of the customer's current and previous bills;
- *My Goal* – Customers are encouraged to establish an energy saving goal and then view and track their ongoing progress toward that goal;
- *My Plan* – Customers are offered a list of personalized tips and recommendations from which they can take action and track their progress, and;
- *Ways to Save* – Offers customers an extensive library of tips and ways to reduce energy consumption.

Customers who engage in My Energy are compared to similar customers who have not accessed My Energy in order to determine energy savings driven by the use of the My Energy tools. Savings from customers who are part of the Home Energy Report Treatment Group who also use My Energy tools will have all savings measured as part of their Home Energy Report savings calculation. Only savings from customers who are not part of the Home Energy Report Treatment Groups will be counted as attributable to My Energy savings.

Budget

The budgets were developed based on previously negotiated third-party implementer pricing, the Company's portfolio targets, and internal administrative cost estimates for 2017.[6] The majority of the product's budget is allocated to third-party implementation services, which include preparing and mailing the HERs, data analytics, marketing and conducting an ongoing regression analysis of Treatment and Control Group participants to determine the electric savings. Administrative costs for customer data extraction and product administration to be completed by SPS are based on costs derived from previous program years.

The budget for My Energy is largely fixed due to the information technology and delivery method, and does not change as more customers use the tools and services. My Energy online portal license fees are apportioned to this product's budget based on customer counts.

Changes for 2017

There are no material changes planned for 2017. A participant refill will be initiated to replace participants who have chosen to opt-out and those lost to normal product attrition. The existing 2016 participants ("Legacy group") will roll over into 2017 and continue to receive print HERs. In addition to receiving print HERs, emailed reports will be sent to those participants with an active email address.

b. Program Administration

There is no customer application or rebate for this product. Participants for the Treatment group are secured using a random selection process administered by the third-party implementer. New participants, when added, will be informed of their selection at the beginning of treatment and will be given the opportunity to opt-out from receiving the Treatment Group communications at any time. Appropriately-sized Control Groups are identified by the third-party implementer and enable isolation of effects attributable to each Treatment Group. The Control Group customers have not and will not be directly contacted or targeted by SPS or the third-party implementer regarding this product.

[6] The third-party implementer contract pricing was negotiated at the end of 2014, upon contract renewal.

The My Energy on-line version of the Energy Feedback program is opt-in. Customers become participants once they log onto My Account and go to the My Energy Feedback tab.

c. Marketing and Outreach Plan

The program randomly selects and opts customers into the print home energy report program. It is not marketed for customer enrollment. Participants may opt out of outbound communications at any time.

My Energy will be available to all New Mexico residential customers who engage in the My Account portal. Active engagement of those customers will be initiated through:

- Customer visits to the My Account portion of Xcel Energy's website, which features customized energy feedback results and a prominent button for customers to select to see more details and use the portal tools. My Account customers receive periodic reminders to visit My Account to view their bill, make payments, or track energy use (*i.e.,* using My Energy).
- General marketing and promotion of My Energy tools and services as part of program communications.
- Outbound marketing efforts to targeted customers may include; email, on-bill messaging and promotion and social marketing.

d. Measurement & Verification Plan

Actual consumption in the form of meter billing data is used to M&V this program. Data for all participants, comparison homes, and control homes is provided to the third-party implementer for continuous analysis and performance reporting. The third-party implementer compares the consumption of participants (Treatment Group) to those of the Control Group to determine the savings resulting from the program. Regarding both the Home Energy Reports and My Energy measures, energy savings will have a one-year life, with ongoing treatment and information exposure necessary to continue the full energy-savings benefits.

The independent evaluator will perform M&V on the program in 2017.[7]

e. Cost Effectiveness Tests

See Appendix A for the 2017 Energy Feedback program benefit-cost analyses and Appendix B for the forecast planning assumptions.

[7] All references to M&V by the independent evaluator assumes no change in the contractor providing services in 2017 nor change in the scope of the evaluation agreement. Currently, there is no contracted evaluator for 2017.

2. Residential Cooling

a. Program Description

The Residential Cooling program provides a rebate to SPS customers who purchase qualifying evaporative cooling and HVAC equipment for residential use. This program strives to increase energy efficiency in residential homes by encouraging consumers to purchase high efficiency evaporative coolers, central air conditioning and other HVAC equipment. Because not all local retailers and contractors stock high efficiency cooling units, the overall goals of the 2017 program are to educate customers on the benefits of using high efficiency units and by creating demand encourage retailers and contractors to stock high efficiency units.

Rebates are available for premium evaporative cooling systems, which include equipment with media saturation effectiveness of 85 percent or higher. Only new, permanently installed direct, indirect, or two-stage evaporative cooling units qualify for the program. Customers must select their model from the pre-qualified equipment list. Portable coolers or systems with vapor compression backup are not eligible, nor are used or reconditioned equipment. Rebates are also available for qualifying air conditioning and air source heat pump systems by registered contractors who perform a quality installation, which includes proper sizing and testing. SPS will also provide incentives to customers who purchase a residential furnace, or matched furnace/air conditioning system, with an electronically commutated motor ("ECM"). Using an ECM blower motor significantly reduces a system's electric consumption.

Budget

The budget for the Residential Cooling program was developed based on historical program participation. The majority of the funds will go toward customer rebates, contractor incentives, and program promotions. Residential Cooling promotions include: an advertising campaign, retailer in-store signage, program applications, educational information about high efficiency units such as brochures for customers and contractors, bill inserts along with update articles, and possible contractor training if needed.

Changes for 2017

Ductless Mini-Split Heat Pumps have been added to the program for 2017.

b. Program Administration

SPS will administer the Residential 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 contractors who will assist the customer to determine eligible equipment, complete rebate applications, and answer technical questions.

c. Marketing and Outreach Plan

SPS will continue to partner with New Mexico Gas Company to offer mutual customers combined rebates to participate in our respective efficiency programs. ECM and evaporative cooler rebates from will be featured in the same collateral and advertising as high efficiency gas furnaces from New Mexico Gas Company.

In addition, the Residential Cooling program will include the following strategic marketing efforts:

- advertising through local radio, print, and internet ads;
- contractor/retailer incentives to increase contractor support of the program;
- customer e-mail newsletters;
- bill inserts during the cooling season; and
- Informational packets to contractors in the SPS New Mexico area detailing the program and its benefits.

SPS will target local retailers and contractors in SPS's New Mexico service area to receive program literature and promote the program. Retailers and contractors in New Mexico will be an essential part of customer awareness efforts and will receive information on program changes regularly.

d. Measurement & Verification Plan

The independent evaluator is not expected to perform M&V in 2017.

e. Cost Effectiveness Tests

See Appendix A for the 2017 program benefit-cost analyses and Appendix B for the forecast planning assumptions.

3. Home Energy Services (Residential and Low-Income)

a. Program Description

The Home Energy Services offering will be provided to both residential and low-income customers with differing requirements and parameters for each customer group. The following sections describe these requirements by group.

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 and low-income households. Qualifying residential customers can receive any combination of attic insulation, air infiltration reduction, duct leakage repairs, radiant barriers, energy efficient showerheads, programmable thermostats, evaporative cooling, air source heat pumps, and high efficiency central air conditioners with a quality installation.

The air conditioner quality installation process is based on standards developed by the Air Conditioning Contractors of America which define the steps a contractor must take to ensure that customer's equipment is installed appropriately to achieve energy savings and proper operation. The Quality Installation process requires a load calculation to determine proper size of the equipment to be installed, which helps ensure that the total energy savings potential of newly installed A/C equipment is realized. SPS is focused on four quality installation elements:

- load calculation and equipment sizing;
- refrigeration charging, testing, and performance;
- air flow testing, adjustment, and performance; and
- duct sealing and repairs where feasible.

SPS also requires contractors to have at least one North American Technician Excellence certified technician on staff.

The Low-Income product is designed similarly to the Residential Home Energy Services product and is frequently referred to as Low-Income Home Energy Services. Income-qualified customers will receive attic insulation, air infiltration reduction, duct leakage repairs, showerheads, evaporative cooling, CFLs, refrigerator upgrades, radiant barriers, and thermostats at reduced cost. Additionally, income-qualified customers may receive an offer to receive a free energy savings kit. The kits provide customers with the following measures:

- four (4) 10 Watt LED bulbs;
- high efficiency showerhead (1.5 gpm);
- kitchen aerator (1.5 gpm); and
- bathroom aerator (1.0 gpm)

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 and will make any customers with ability to pay problems aware of the program. 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 measures for which an incentive will be requested.

Budget

The budget is primarily calculated by reviewing historical costs per participant and applying those costs to the estimated 2017 participants. Participation rates were determined by considering a feasible number of energy efficiency projects and the most likely measures to be installed during the year. To estimate the number of projects for

2017, historical participation from 2014 and 2015 and feedback from the contractors were used. The Home Energy Services program devotes over 60 percent of its budget to contractor incentives and third-party administration, just under 30 percent to customer incentives, and the remainder to administrative activities such as measurement and verification, data capture and analysis, processing for rebates, and communications/promotions.

Changes for 2017
In addition, for 2017, the energy savings kits targeted to income-qualified customers will change from CFLs to LEDs.

b. Program Administration

SPS will pay incentives to contractors on the basis of the deemed savings per measure implemented in customer homes. To determine the total rebate, each project will be evaluated individually based on the efficiency measures incorporated and the summer demand and annual energy savings achieved.

In their incentive application, contractors must include: the name of the EESP; the scope and location of work; the number and type of measures installed; the time period for completion of work; the payment requested; and the energy demand and consumption savings expected by the installed measures.

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

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 contractor workshops and contact experienced contractors to explain the program, its process, and participation requirements.

In order to be approved as a certified EESP, each contractor will be required to demonstrate a commitment to fulfilling program objectives and a 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 business, 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 good credit;
- 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.

The Low-Income Kits offering does not pay a rebate, but rather provides free energy efficiency measures to participating income-qualified customers. Identified incentive dollars are the estimated value of the measures of the kit.

c. Marketing and Outreach Plan

SPS will work with contractors to market the program in order to reach a broad audience of customers and increase participation. Additionally, SPS will continue to conduct outreach for the program sponsors through a variety of marketing methods, including brochures, workshops, advertising, bill inserts, and other appropriate means. When and if possible, SPS will also contact and coordinate with community agencies such as the New Mexico Mortgage Finance Authority or Prosperity Works for the low-income portion of the program.

SPS will manage the marketing and outreach for the Low-Income Kits portion of the Low-Income Home Energy Services product. Income-qualified customers will receive direct mail offers for the free energy savings kits which include a pre-paid business reply card.

d. Measurement & Verification Plan

For measures installed by contractors in customers' homes, Energy Matters LLC of Albuquerque will perform random auditing of EESP incentive applications prior to payment of invoices to ensure that the contractors are performing the work they invoice and that the work is done correctly. To confirm installation of low-income kit measures, an independent third-party vendor will conduct phone surveys.

The independent evaluator is expected to perform M&V in 2017.

e. Cost Effectiveness Tests

See Appendix A for the 2017 Home Energy Services program benefit-cost analyses and Appendix B for the forecast planning assumptions.

4. Home Lighting & Recycling

a. Program Description

The Home Lighting & Recycling program provides discounts for customers to purchase energy efficient light bulbs at participating retailers and dispose of them in an environmentally friendly manner. Energy efficient light bulbs are an economical and easy way for customers to save electricity.

SPS promotes energy efficient lighting by offering in-store retail discount promotions. In these promotions, the bulb manufacturer, retailer, and SPS combine funds to offer instant rebates on a variety of bulb models enabling customers to purchase discounted CFLs and LEDs. SPS partners with retailers including Home Depot, Walmart, and Ace Hardware. Customers receive the discounted price at the register at the time of the purchase. There is no mail-in rebate form.

The CFL Recycling component provides an environmentally friendly method for customers to dispose of CFLs. SPS created a partnership with retailers to serve as the retail arm for CFL recycling. Customers can bring spent CFLs to participating hardware stores and recycle them free of charge. The retailer stores the bulbs in a covered bin until it is full and ships the bulbs to the recycler in the postage paid bin. SPS covers the cost to ship and recycle the bulbs. When needed, retailer calls to ask for a replacement bin to be shipped. Currently, there is no known health risk associated with LED disposal. Therefore, SPS will not offer LED recycling at this time.

Budget

The Home Lighting & Recycling program budget is based primarily on the number of program participants (bulbs sold). SPS developed the budget by combining costs for incentives, implementation, advertising, promotion, and labor. The advertising costs will be spent on TV, radio, online, and print advertising.

The goal for this program was developed by reviewing market potential and logistics, including an analysis of historical sales data, retail store chains, and local promotional opportunities. This in turn helps in determining estimated costs for budget development.

Changes in 2017

In 2017, SPS will focus on increasing the sales of LED bulbs, placing less emphasis on the CFL spiral bulbs that have higher saturation rates in the market. As the availability of CFLs decline in the marketplace, SPS will replace them with value LEDs. Value LEDs are characterized by a lower cost and lifetime. They are typically not dimmable nor ENERGY STAR certified. The following changes have been made to the portfolio to bring forth this change:

- increasing the number of models of LED bulbs including ENERGY STAR and value LEDs;
- expanding and developing advertising specifically focused on LEDs;
- improving educational components to help customers find the right bulb.

b. Program Administration

The Home Lighting program is offered throughout the SPS service area and all of SPS's New Mexico residential customers are eligible to participate. SPS works with large retail chain stores in order to obtain maximum penetration of the product and reach as many people as possible. SPS obtains sales data from the participating retailers for the sales of energy efficient bulbs including the wattage, model of bulb, date of sale, and retailer/location of sale. SPS uses a third-party implementer, Wisconsin Energy

Conservation Corporation (WECC), to oversee manufacturer and retailer relations, develop an RFP to select partners, create parameters and contracts with partners and implement the on-site field visits to educate partners, set sale signage, and verify inventory and prices of the discounted bulbs. SPS uses a variety of retail partners to ensure optimal pricing and help reduce free-ridership, including big box, mass merchandiser, hardware, and grocery outlets. SPS makes every effort to target retailers and events that serve the hard-to-reach market segment. SPS administers retail discounts year-round and uses limited-time advertising and promotions to create urgency.

c. Marketing and Outreach Plan

The objectives of the Home Lighting & Recycling program are to motivate customers to purchase CFLs and LEDs; persuade them to try using energy efficient bulbs in different applications throughout their homes; and encourage them to recycle the CFL bulbs when they burn out.

SPS uses discounts to motivate customers to purchase bulbs. The value of the incentive varies by the type and cost of the bulb. The discounted bulbs are available at participating retailers. Customers can find a listing of participating retailers, locations, and the bulbs that are discounted on the Xcel Energy website: http://www.xcelenergy.com/lightingdeals. Xcel Energy creates awareness of the program and drives customers to the retailers and/or website with television, radio, print, point-of-purchase display, outdoor bill boards, and online advertising. SPS also uses local consumer events, education, and promotions to raise awareness of energy efficiency and distribute free energy efficient bulbs.

d. Measurement & Verification Plan

The program is expected to receive M&V through the third-party implementer in 2017. The energy savings for this prescriptive program will be calculated using deemed savings algorithms provided directly to the Evaluator. The Evaluator will review the technical assumptions, apply M&V methods appropriate for the program, and make recommendations for change based on their technical review.

e. Cost-Effectiveness Tests

See Appendix A for the 2017 program benefit-cost analyses and Appendix B for the forecast planning assumptions.

5. Refrigerator Recycling

a. Program Description

The Refrigerator Recycling program is designed to decrease the number of inefficient refrigerators and freezers in residential households. The objective of the program is to reduce energy usage by allowing customers to dispose of their old, operable, inefficient

primary refrigerators, secondary refrigerators, and freezer units in an environmentally safe and compliant manner. Customers with qualifying units will receive a rebate for their participation and will not be directly responsible for any costs associated with pick-up, transportation, disposal, or proper recycling of their refrigerator.

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

- Must be an operational primary or secondary refrigerator unit or a standalone freezer. Operational is defined as being capable of cooling/freezing;
- Refrigerator/Freezer must be plugged in the night before the pick-up date (customer will receive a call from the vendor, reminding them to do this). This is to ensure full operation when inspected at the time of pick up; and
- Appliances must be no smaller than 10 cubic feet or no larger than 30 cubic feet.

Appliances will be categorized as follows for program reporting:

- Primary: used as the primary unit in the home at present time;
- Secondary: used as a secondary unit for at least two months prior to pick up;
- Freezer: used separately from the primary refrigerator and is a standalone unit.

There will be a limit of two freezers and/or refrigerators picked up per household, per year, and units must be picked up from the residential address listed on the billing account.

Budget
The Refrigerator Recycling program budget was developed based on our participation goals. Recycling-related expenditures and rebates account for approximately 60 percent of the overall budget. Marketing and labor expenses were then determined and added as administrative expenses.

Changes for 2017
None.

b. Program Administration

SPS will administer the Refrigerator Recycling program internally with the assistance of the third-party contractor. The third-party contractor will be responsible for receiving and processing customer requests. Marketing messages will direct customers to contact the third-party provider via a toll-free telephone number or online request form. The third-party will dispatch personnel, who have passed Xcel Energy's security screening process, to pick up the unit. Customers will be scheduled for pick-up within 30 days of initial call, or whenever the customer's schedule allows (preferably within 15 business days). Customers will receive their rebate check within four to six weeks after the unit is picked up.

The third-party implementer will conduct tracking and reporting for this program, which includes the following:

- 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 units; and
- any required reporting set forth by any federal, state, or local applicable regulatory agency.

c. Marketing and Outreach Plan

Customers will learn about this program through various marketing channels such as bill inserts, newsletters to customers, direct mail, Xcel Energy's website or social media channels, radio, and/or local print media. The program will be available to customers year-round; however, the marketing strategy will utilize spring and fall campaigns to promote the program. The target market consists of customers who are disposing of their primary or secondary refrigerator or freezer unit. Customer interest in this type of product is seasonal, usually occurring in the spring, summer, and early fall seasons (prior to the Thanksgiving holiday). Product demand peaks in the summer months, which is associated with customer home improvement projects. Deployment of promotional tactics will coincide with seasonal interest. 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.

d. Measurement & Verification Plan

The independent evaluator is expected to perform M&V in 2017.

e. Cost-Effectiveness Tests

See Appendix A for the 2017 program benefit-cost analyses and Appendix B for the forecasted planning assumptions.

6. 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 qualifying electric water heaters on days when the system is approaching its peak. 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.

The program employs switches that receive a control signal to interrupt air conditioner compressors and electric water heaters during peak periods, typically in the afternoons on weekdays. When the program is activated, participating air conditioners are cycled off and on in 15 to 20-minute intervals determined by "adaptive algorithm" cycling strategy for the duration of the control period, usually three to five hours. This strategy allows the switches to "learn" how a customer's air conditioner is being operated in order to achieve a 50 percent reduction in load. For enrolled electric water heaters, the entire load is shed for the duration of the control period.

Due to the limitations of available communications technologies in the area, Saver's Switch is currently only available to customers in Roswell, Carlsbad, Clovis, Hobbs, Portales, and Artesia.

Budget

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

- the cost of switches;
- the cost of installations; and
- bill credits to participating customers.

Changes for 2017

Starting in 2016 program promotional resources were diverted to the Smart Thermostat pilot and other programs. As a result, it is not expected that the Saver's Switch program will grow in 2017. To reduce program costs, M&V estimates from prior years will be utilized to estimate program performance, rather than deploying data loggers to measure program year load reductions.

b. Program Administration

Eligible 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 handles equipment installation, removal, and associated service calls. Due to variations in air conditioner age and location, the installer makes 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 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.

Saver's Switch can be activated at the request of SPS's Commercial Operations or Transmission Operations under the following conditions:

- Commercial Operations will activate Saver's Switch along with other load management programs in order to maintain reserves on the system above 200 megawatts ("MW").
- SPS will consider activating the program when obligation loads are high (above 4,400 MW), or if the forecasted reserves fall below 200 MW. This would likely be during periods with temperatures above 100 degrees or when large SPS-owned generation units are off line.
- SPS's Transmission Operations would also expect to request program activation if a Load Serving Entity in the SPS Balancing Authority[8] is at North American Electric Reliability Corporation Energy Emergency Alert Level 2.

Activation of load management programs would take place prior to, or concurrent with, public appeals for conservation to reduce load to relieve a local transmission overload or unacceptably low transmission voltage. SPS is sensitive to the fact that participants in Saver's Switch may leave the program if they deem it overused. SPS will make every attempt to avoid activating the program multiple days in a row.

c. Marketing and Outreach Plan

Historically, SPS has promoted the program via bill inserts, newsletters, direct mail, and outbound telemarketing. SPS will not promote the program in 2017, as promotional resources have been reallocated to support the transition to the Smart Thermostat pilot. As a result, it is projected that only a small number of new participants will join the program.

d. Measurement & Verification Plan

The independent evaluator is not expected to perform M&V in 2017.

e. Cost-Effectiveness Tests

See Appendix A for program benefit-cost analyses and Appendix B for the forecasted planning assumptions.

7. 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 targets fifth grade students in its New Mexico service area with this annual program. SPS and the third-party contractor will monitor schools in

[8] A Balancing Authority is the responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority area, and supports interconnection frequency in real-time.

the New Mexico service area to determine if the program should be moved to another grade level to meet individual school district standards. The same content and kit measures would be provided, and the program would remain at that specific grade level in subsequent years.

In 2017, the School Education Kits program will provide the following classroom materials to each student participant:

- two 9-Watt LED bulbs;
- two 11-Watt LED bulbs;
- high efficiency showerhead (1.5 gpm);
- kitchen aerator (1.5 gpm);
- bathroom aerator (1.0 gpm);
- furnace air filter alarm;
- LED nightlight;
- digital water/air thermometer;
- toilet leak detector tablets; and
- parent evaluation card.

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.

Budget

The School Education Kits budget was developed based on SPS's participation goals and historical budgets. About 50 percent 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 measures in the kits, as well as internal labor to provide direction and oversight to the implementer, prepare and analyze data for reporting, and manage program expenditures.

The School Education Kits program does not pay a rebate, but rather provides free energy efficiency curriculum and activity kits to participating classrooms. Identified incentive dollars are the estimated value of the measures of the kit.

Changes for 2017

SPS will include only LED bulbs in the kits to increase awareness and acceptance of the bulbs.

b. Program Administration

The program will be marketed and administered by a third-party contractor. The third-party contractor 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 the services.

In addition, the third-party contractor will perform pre- and post-surveys to gather installation data on the program. These surveys will 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 LEDs, high efficiency showerheads, and faucet aerators that were installed.

c. Marketing and Outreach Plan

The third-party contractor will manage all aspects of the School Education Kits program marketing and outreach activities. They will identify the schools that are within SPS's 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 and the importance of conservation as part of their curriculum. As in the past, SPS and the third-party contractor will continue to work together to determine the strategic approach for identifying schools.

d. Measurement & Verification Plan

The independent evaluator is expected to perform M&V in 2017.

e. Cost-Effectiveness Tests

See Appendix A for the 2017 benefit-cost analyses and Appendix B for the forecasted planning assumptions.

8. Smart Thermostat Pilot

a. Program Description

The Smart Thermostat Pilot, marketed to customers as the "Saver's Stat Program," is designed to evaluate if installing a Wi-Fi connected communicating "smart" thermostats (see Section B for qualifying device criteria) and connecting it to the manufacturer's cloud service can save residential customers energy. . In addition to EE benefits, SPS also plans to evaluate the smart thermostats' capabilities for delivering demand response capacity in the residential market. SPS will make devices available through a direct-install program model: the device and installation will be available at no cost to participating customers.

SPS plans to offer customers a smart thermostat including installation at no charge. A condition of receiving the installed device and participating in the pilot will be the release of customers' data for the purpose of studying whether or not a smart thermostat leads to energy and demand savings. These benefits are central to the inclusion in SPS's 2017

Plan; however, while it is assumed that these measures also provide non-energy benefits such as convenience and comfort, SPS will not seek to evaluate or quantify the non-energy benefits as part of its pilot.

Smart thermostat measures have not yet been evaluated by the third-party evaluator in any New Mexico energy efficiency portfolio. Therefore, potential EE and DR benefits will be quantified or measured by the third-party evaluator beginning in the 2016 program year, and targeting completion of that analysis by the 2018 program year.

As part of the evaluation process, the pilot seeks to answer the following questions:

Energy Efficiency ("EE"):

- What energy savings are attributed to the installation and use of smart thermostats? Can a deemed savings value be determined?
- Is it possible to create a cost-effective demand-side management ("DSM") product using resulting deemed energy-savings values?

Demand Response:

- Does providing the device free of charge encourage enrollment in the program?
- Will a pay-for-performance compensation structure encourage consistent participation in DR events?
- Is the limited number of opt-outs (five) sufficient, insufficient, or excessive?

Energy Efficiency

The concept of realizing energy savings by programming a thermostat is straight-forward: thermostats are programmed during times when home occupants are away or asleep to ensure no energy is wasted keeping a home unnecessarily cool or warm. This process is called a temperature "setback". The use of the programmable function of the thermostat will be an important piece of the pilot program.

The purpose of the scheduling function is to improve the EE benefits delivered by the thermostat. Smart thermostats offer customers value by improving the user experience and making it easier for customers to control their energy usage. This is accomplished through a much easier setback programming process. Smart thermostats also offer customers the convenience of remotely and temporarily adjusting their "setback" to adjust for changes in their schedule at any time. Features like these have led smart thermostat manufacturers to report that 80-90 percent of customers are running a setback program at any given time, and that figure remains fairly constant as vendors sign up new customers (as compared to less than 50 percent of programmable thermostat users running a setback program).

In addition to helping customers program their thermostat, smart thermostats provide several other features that claim to increase energy efficiency. For example, these devices can automatically optimize individual HVAC system performance and "learn" when to raise and lower temperatures to recover from setback periods without wasting additional energy. These devices can also provide data sets and operating run times to interested customers to study system performance.

Demand Response
SPS also plans to test the DR capabilities of smart thermostats. All participants will be enrolled in the DR program, but will have the option to not participate in – or "opt-out" of – a limited number of DR events. These events will be utility-controlled and executed through the smart thermostat. For each event a customer participates in, SPS will provide an incentive of $2.50. SPS will study how event participation is influenced by providing financial compensation for participation, and measure the load reduction provided by cycling participants' air conditioning.

SPS is relying upon the results of Public Service Company of Colorado's ("Public Service") In-Home Smart Device Pilot[9] in designing this feature. SPS reviewed the customer participation data from the Public Service pilot and adapted that pilot for implementation in New Mexico taking into account the unique climate, end-use technology, and demographics of SPS's customer base. The Public Service pilot recorded event participation rates of 49% in 2012, and 42% in 2013, where customers could opt-out of events at any time, and received no incentive for participation or penalty for non-participation. The SPS pilot will differentiate itself by researching how a pay-for-performance model could influence higher participation levels for demand response events. Customers will have the choice to participate in events or to opt-out. However, customers will be limited to a maximum of five opt-outs per season. Once a customer has opted out of five events, they will no longer have the option to opt out of any further events. Customers that do participate will receive financial compensation. Those that opt out will receive no compensation for the events they opt-out of.

Budget
The budget is primarily driven by participant incentives and administration. The significant reduction from the 2016 program year budget demonstrates the high upfront costs needed for a program structure like this while also displaying the long-term value provided by the technology. M&V costs were estimated by the third-party evaluator based on discussions regarding the methodology needed to evaluate energy benefits.

Changes for 2017
None.

b. Program Administration

SPS is targeting no new participants for this pilot in 2017, but will continue monitoring the energy benefits and DR potential for the original 1,500 participants for this pilot. The pilot will target SPS's customers with central air conditioning systems. All participants will be enrolled in the DR program.

[9] The In-Home Smart Device Pilot was included as part of Public Service's DSM Indirect Program from 2011 through early 2014. The final pilot evaluation can be found on the Xcel Energy website, here: http://www.xcelenergy.com/staticfiles/xe/Regulatory/Regulatory%20PDFs/CO-DSM/CO-2014-IHSD-Pilot-Evaluation.pdf.

To participate in the Smart Thermostat Pilot, customers must complete a rebate application and once approved, schedule an appointment to have a smart thermostat installed. Additionally, the device manufacturer will provide verification to SPS that the device has been installed and connected to their cloud service.

SPS will contract with a leading smart thermostat manufacturer to provide the device to pilot participants, and that device must offer the following:

- Wi-Fi connectivity for customers;
- a mobile app and online portal; and
- on-board or cloud-based optimization of the HVAC system.

The participating thermostat manufacturer must sign an agreement with SPS to provide usage data for rebated devices. This will include, but is not limited to, a historical record of temperature setback schedules and selected temperature setpoints.

c. Marketing and Outreach Plan

The pilot is marketed to customers as the "Saver's Stat Program." By agreeing to participate in the pilot, eligible participants will receive a free smart thermostat installed at no charge. For the DR portion of the pilot, participants will receive an incentive per event for each DR event they participate in. SPS expects to call approximately 10 DR events for PY 2017. Pilot participants will not be penalized for opting out of events, but participants will be limited to a maximum of five events in which they can opt out. Once a participant has opted out of five DR events, they will no longer have the option to opt out of events.

SPS will work with its chosen device manufacturer to co-market the thermostat and the pilot program. This could include manufacturers providing online promotion of the pilot program and leveraging social media channels. However, SPS also plans to directly promote the pilot using a variety of marketing strategies to solicit customers that could include but are not limited to:

- direct mail and e-mail;
- a web-page for interested customers to explain how to apply and the benefits of participating; and
- engagement of contractors who install smart thermostats.

Customers interested in participation will be required to agree to and sign a participation agreement as part of the rebate form. By participating, customers agree to share their thermostat usage data with SPS (in accordance with New Mexico state data privacy rules and SPS's Privacy Policy). Pilot participants will also agree to the terms of the pay-for-performance model, which states that they will receive no compensation for any event they opt-out of.

d. Measurement & Verification Plan

The independent evaluator is expected to perform M&V in 2017.

e. Cost-Effectiveness Tests

See Appendix A for the 2017 Smart Thermostat Pilot program benefit-cost analyses and Appendix B for the forecast planning assumptions. The planning assumptions are based on SPS's estimates for energy savings including both efficiency and demand response benefits.

B. Business Segment

SPS's Business Segment in New Mexico consists of approximately 23,000 active customer locations. This customer group consumes a substantial share of the total energy in the service area, and, as such, represents much of the energy efficiency and load management potential for the region.

SPS encourages business customers to reduce their energy use, offset energy peaks, and minimize environmental impacts through a variety of programs offering prescriptive rebates, customized programs, and study-funding. Despite these efforts, SPS business customers experience a number of barriers to participation, including:

- business customers often have little or no capital to invest in projects;
- business customers require very short payback periods for their projects; and
- typical business projects have very long lead times.

To combat these barriers, SPS's Account Managers, trade allies, EESPs, and Energy Efficiency Specialists ("EES") are trained to address the specific needs of business customers. SPS commonly assigns an Account Manager to its larger, more complex customers. EES (phone-based account managers) serve the mid-market and small business customers, prospect for and promote savings opportunities, and manage the application and project completion process, assisting both customers and trade partners alike. Awareness-building communication campaigns, community and trade outreach, site visits, incentives, and direct and electronic communications are also key components of the strategy to penetrate the SPS market.

1. Business Comprehensive

a. Program Description

Business Comprehensive is the bundling of the traditional prescriptive, custom, and study/implementation products to provide customers with valuable energy management information and less complexity, as they consider participation in SPS programs. This program includes the Computer Efficiency, Cooling Efficiency, Custom Efficiency, Large Customer Self-Direct, Lighting Efficiency, Motor & Drive Efficiency, and

Building Tune-Up products. Table 11 below shows each of the products that now will be administered within the Business Comprehensive program and provides estimates of the 2017 forecasted participants, budgets, and savings as well as the UCT ratio.

A description of each of the prescriptive products offered within the Business Comprehensive program follows:

Computer Efficiency

The Computer Efficiency product offers upstream measures and downstream prescriptive measures to electric business customers in SPS's service territory. The upstream measures, administered by a third-party administrator, include incentives to manufacturers that design, install, and deliver desktop personal computers ("PCs") and server equipment with high-efficiency qualifying manufacturers can receive incentives to cover part of the incremental cost for installing high efficient power supplies. Manufactures typically use this incentive to promote their efficient PCs to increase the number of products offered with high-efficiency power supplies. Units are shipped to qualified zip codes (as confirmed by the manufacturer). A third-party administrator delivers the incentive to manufacturers and provides a monthly sales report and invoice to SPS for reimbursement.

Downstream measures include incentives to business customers who implement a Virtual Desktop Infrastructure (VDI) strategy ("Desktop PC Virtualization") or install PC Power Management Software.

Cooling Efficiency

The Cooling Efficiency product encourages SPS business customers to choose the most efficient air conditioning equipment to meet their needs. The product offers rebates in both new construction and retrofit applications. Rebates reflect a significant portion of the cost of selecting high efficiency measures over standard efficiency measures.

Lighting Efficiency

The Lighting Efficiency product offers rebates to 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 upfront premium costs associated with this equipment. Common lighting retrofit projects include replacing high intensity discharge or fluorescent fixtures with LED fixtures. Retrofit rebates also include wall mount standalone sensor rebates for controlling interior fixtures. These rebates are based on the connected load of the individual sensor. Rebates are available for both occupancy sensors and photocells which are used for daylight harvesting.

Motor & Drive Efficiency

The Motor & Drive Efficiency product is designed to reduce the barriers that prevent customers from purchasing high efficiency motors, variable frequency drives ("VFDs"), or motor controls. To overcome these barriers, SPS offers rebates to customers who install:

- motors that exceed National Electrical Manufacturers Association ("NEMA") Premium Efficiency® standards;
- VFDs to vary the speed of motors;
- motor controllers to reduce the energy consumption of motors that must operate at a constant speed;
- Pump-Off Controllers on oil wells; or
- energy efficient compressed air equipment.

Custom Efficiency

The Custom Efficiency product 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 products, including combined heat and power projects. Rebates are offered for measures that exceed the standard efficiency options. The rebate is intended to reduce 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 product includes an optional evaluation component designed to introduce large commercial and industrial customers to energy efficiency opportunities and build the product pipeline for future years. This component of the Custom Efficiency product is modeled after the Process Efficiency program that Xcel Energy offers in other jurisdictions, but differs in that it is available to large commercial and industrial customers instead of being limited to manufacturing customers. The goals of this component, called the Large C&I Study, are to:

- increase customer awareness of energy consumption and opportunities to reduce consumption;
- 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.

The Large C&I Study effort has several phases, which are customized and defined in a Memorandum of Understanding between SPS and each 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. The customer will 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 products (*i.e.*, Lighting Efficiency, Motor & Drive Efficiency, etc.) or the Custom Efficiency product will receive rebates in accordance with the appropriate product.
- Customers who implement measures scoped in Phase 2 that do not meet program/product requirements will not receive a rebate; however, SPS will count the energy and demand savings resulting from implementation.

SPS is targeting customers with aggregated annual consumption greater than 4 GWh for participation in the Large C&I Study. 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 experience with similar products in other service territories, SPS expects project lifecycles to be greater than one year.

Large Customer Self-Direct

As an alternative to the guided process of the Custom Efficiency product, the Large Customer Self-Direct product is available to SPS customers with contiguous facilities that use over 7,000 MWh per year ("Large Customer"). Self-Direct participants are also eligible for the other Business Segment programs.

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

- A bill credit of up to 70 percent 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 percent 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, a project is cost-effective if it has a simple payback period of more than one year, but less than seven years.

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 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 the 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 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.

Building Tune-Up

The Building Tune-Up product, is a study/implementation option targeted at buildings smaller than 75,000 square feet. The study vendor, selected by SPS, will work through a checklist of measures focusing on the proper operation of existing equipment and complete fixes on-site as appropriate. The Building Tune-Up product is designed to assist smaller business customers to improve the efficiency of existing building operations by identifying existing functional systems that can be "tuned up" to run as efficiently as possible through low- or no-cost improvements.

Examples of typical Building Tune-Up measures include:[10]

- calibration/tune-up of Energy Management System points;
- adjustment of outside air and return air dampers;
- resetting the chilled water and hot water supply temperatures;
- optimizing the start/stop of air handlers and makeup air units (early shutdown in the evening, late start in the morning);
- resetting chiller condenser water temperature; and
- eliminating simultaneous heating and cooling.

Building Tune-Up consists of two phases: diagnosis (study) and implementation. SPS offers rebates for Building Tune-Up studies and the implementation of recommissioning measures. To ensure consistency with the studies and implementation of on-site fixes, SPS will hire a qualified engineering firm to complete both the study and implementation phases.

Budget

The Business Comprehensive program budget was developed based on the established goals. Rebates, promotional expenses, and labor, as described below, comprise the majority of the budget:

- Incentives: The largest portion of the Business Comprehensive budget is dedicated to customer rebates, which will be paid based on the energy savings achieved. The rebate budget is an average of all the rebate amounts which have

[10] At this time, SPS will not be offering gas measures like those proposed by Public Service Company of New Mexico and El Paso Electric for inclusion in their Building Tune-Up programs. However, SPS may review these measures for potential addition in the future.

been tracked in previous years. Prescriptive rebates are based on both the kW saved and a reasonable percent of the incremental cost of the higher efficiency option. Custom rebates are based on the calculated savings of expected projects.

- Promotions: The promotional budget includes spending for direct mail, email, radio, outdoor and print advertising, educational and sales materials, social media, online advertising, and events, webinars, and seminars for customers and the trade.
- Internal Administration: This was determined by estimating the number of full-time employees needed to manage the product and execute the marketing strategy, trade incentives, and engineering analysis and rebate processing, including internal employees, external consultants, and/or contract labor. Approximately half of the internal administration budget is dedicated to the cost of conducting engineering analysis for custom projects to ensure energy savings are accurate and credible.
- Third-Party Delivery: Much of SPS's program administration and delivery is delivered via a contracted agent/third-party. This portion of the budget includes costs that the third-party incurs, minus the cost of the energy efficient equipment, which should be counted as a rebate.
- M&V: The time and cost the Evaluator expends to verify energy savings, by in-person customer visits or post-project telephone surveys or metering.

Changes for 2017

The program will add the following new measures:

- Cooling Efficiency
    - Ductless Mini-Split Heat Pumps
- Lighting Efficiency
    - LED high/low bay fixtures replacing HID fixtures
    - LED replacement lamp for 400watt HID lamps
    - LED PL/G based CFL Replacement lamp
    - LED linear replacement lamps for fluorescent T8 tubes
    - Luminaire-Level Lighting Controls for LED troffers, LED case lighting, LED Parking garage fixtures
    - LED Interior Fixture (down light) with CFL baseline
    - LED Area Lighting fixtures for wattage ranges 141-199W and 200-550W
    - Advanced Lighting Controls
- Motor & Drive Efficiency
    - Well Pump Variable Frequency Drives.

b. Program Administration

Customers learn about the program and its benefits through newsletters, email, webinars, social media, online ads, direct mail, trade allies, Account Managers, and Energy Efficiency Specialists (EES). Applications for the program are available both on Xcel

Energy's website[11] 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 SPS within 12 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 an EES.

The custom components of the Business Comprehensive program will be administered internally. The project review process involves the following steps:

1. Application – Prior to purchase and installation of equipment, customers must submit an application and receive pre-approval for their custom projects. The application form requests a description of the project, operating hours, and costs.
2. Pre-Approval – To qualify for a custom rebate, projects must be cost-effective using the UCT. SPS's engineering team will review the proposal, specifically reviewing the project'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 for customer benefit. These non-energy benefits are not used to calculate the UCT by the Independent Evaluator.
3. Pre-Approval Notification – Typically, within approximately ten business days after receiving the complete proposal information, SPS will determine 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 must notify SPS. If the project has undergone any changes of scope or equipment, a second engineering analysis will be performed to determine whether the project still qualifies under the program guidelines and what level of rebate is owed.

The study components of the Business Comprehensive program will be administered through a third-party study provider. Customers will learn about the program and its benefits through newsletters, email, online ads, direct mail, trade allies, Account Managers, and EES. Applications for the program are available both on Xcel Energy's website and from trade allies. Customers may apply for study rebates by completing the application and corresponding Building Tune-Up. Once the study is completed and paperwork submitted, rebate checks will be mailed to the customer within six to eight

[11] http://www.xcelenergy.com/business

weeks. Participants in the program may submit their application to their Account Manager or an EES.

c. Marketing and Outreach Plan

Marketing communications will revolve around the benefits of choosing high energy efficiency equipment through paybacks, lifecycle cost and environmental benefits. The Business Comprehensive program creates a base level of awareness and knowledge in the marketplace through various tactics including, but not limited to: newsletters, online ads, radio, outdoor, case studies, social media, website, collateral, webinars, events, email and direct mail to customers and trade allies. These tactics make customers aware of the key benefits of energy efficiency and its applicability to their systems, and give the trade a platform from which to educate customers on high efficiency solutions for their particular applications and the myriad benefits of newer equipment. An effort will also be implemented to update business customer industry segments in order to craft and customize messages that would best resonate with this class.

The program also provides tools for the customers and trade allies to evaluate rebates and incorporate them into purchase decisions. SPS Account Managers and EES will educate customers on specific energy efficiency opportunities, evaluate rebate potential, and assist in the rebate application process. The trade can find similar assistance through trade trainings and in some cases, the trades may be offered a cash incentive to promote qualifying products. It is also necessary to continue to partner with the trade allies and position customer incentives as a tool to increase their sales volumes and educate on best practices in sales techniques. Trade allies are one of SPS's greatest assets in continuing to educate customers on the benefits of energy efficient equipment. SPS's internal Account Managers and EES are also an essential part of assisting customers with program participation and understanding.

To reach its energy savings goal, SPS will to continue to educate customers and increase awareness of the program offerings. In addition, SPS will work with local communities on high-level energy efficiency planning and benchmarking to assist with long term goals through the utilization of third party administration expertise to achieve higher level savings and sustain long term plans and partnerships at the city level.

d. Measurement & Verification Plan

The independent evaluator is expected to perform M&V in 2017.

e. Cost-Effectiveness Tests

See Appendix A Program benefit-cost analyses and Appendix B for the forecasted planning assumptions.

2. 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 during periods of high demand, such as hot summer days. 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 they receive notification of the interruption. 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 March 1 of each year. To qualify, customers must have an Interruptible Demand and a Contract Interruptible Load of at least 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, 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 options of one-hour or 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 SPS to install equipment that will provide physical control over their interruptible load.

There are two ICO contract terms offered: the three-year and summer only ("SOICO") options. The three-year plan automatically renews for rolling three-year periods and requires a three-year written notice required to cancel participation in the program. 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 cost 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.

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 2017. 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 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. The budget also includes system upgrades, maintenance, testing, and training associated with the technology needed to support the program.

Customers in the ICO program do not receive a rebate. Instead, they will receive a monthly credit for the interruptible load they provide. The customer's credit calculation is based on the lesser of their Contract Interruptible Load or their Interruptible Demand for each month. Credits vary by season and are higher in the summer months. Other factors that influence the Monthly Credit rate include the type of service the customer receives, the interrupt notice option they choose (1-hour or No-Notice), and the number of annual Interruptible Hours agreed to under contract (40, 80, or 160 hours per year). Customers in the SOICO program will receive a monthly credit (June through September) for the interruptible load they provide.

Changes for 2017
None

b. 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. SPS utilizes an interruption system to notify customers of events and provide customers with energy trend information.
SPS will use the following process to determine when to call an interruption:

1. Each operating day, SPS operators will evaluate the margin between total available resources (power plants, transmission, market options, and purchased power contracts) and forecasted loads plus required operating reserves.
2. 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.
3. When the margin falls below 200 MW, SPS may call a capacity interruption.
4. If SPS calls an interruption through the ICO buy-through option, then the avoided cost is calculated based on the marginal unit (or purchased power contract) in SPS's portfolio.
5. The price is then broadcast to the ICO participants to facilitate their decision as to whether to buy-through or reduce their loads.
6. The buy-through cost is then calculated from actual operating data for billing purposes.

SPS retains data on all short-term, non-firm sales made during economic interruptions to demonstrate the 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[12].

c. Marketing and Outreach Plan

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 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.

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:

- New Mexico ICO System Guide – This guide 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 ICO system (provided by Account Manager after sign up).
- ICO Feature Sheet – This piece will summarize the program features and benefits and help potential customers determine their qualification status (available on xcelenergy.com).
- 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 (available on xcelenergy.com).
- New Mexico ICO website[13] – Comprehensive program information will be included on the website for potential customers. The site will be updated annually or whenever there are program updates.

[12] Case No. 08-00333-UT; *In the Matter of Southwestern Public Service Company's Application for Approval of its 2009 Energy Efficiency and Load Management Plan and Associated Programs and its Program Cost Tariff Riders,* Final Order Adopting Recommended Decision (Mar. 31, 2009).

d. Measurement & Verification Plan

The independent evaluator is expected to perform M&V in 2017.

e. Cost-Effectiveness Tests

See Appendix A for the 2017 program benefit-cost analyses and Appendix B for the forecasted planning assumptions.

3. Saver's Switch® for Business

a. Program Description

Saver's Switch is a demand response program that offers bill credits for customers with a qualifying AC unit[14] as an incentive for commercial customers to allow SPS to control operation of their central air conditioners when warranted. This program is generally utilized on hot summer days when SPS's load is expected to reach near-peak capacity.

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. Interrupted air conditioners are generally cycled off and on in 15-20 minute increments for the duration of the control period.

Due to limitations of available communications technologies in the area, Saver's Switch is currently only available to customers in Roswell, Carlsbad, Clovis, Hobbs, Portales, and Artesia.

Budget

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

- the cost of switches;
- the cost of installations; and
- bill credits to participating customers.

Changes for 2017

Starting in 2016 program promotional resources were diverted to the Smart Thermostat pilot and other programs. As a result, it is not expected that the Saver's Switch program will grow in 2017. To reduce program costs, M&V estimates from prior years will be

[13] https://www.xcelenergy.com/Programs_and_Rebates/Business_Programs_and_Rebates/Rates/Interruptible_Service_Option_Credit

[14] Qualifying AC units must be greater than 5 tons. This limit is included in the associated tariff and was developed to ensure high savings levels and improve cost-effectiveness.

utilized to estimate program performance, rather than deploying data loggers to measure program year load reductions.

b. Program Administration

Eligible customers may sign up for the program via a mail-in form, by phone or the Xcel Energy website. Applications are pre-screened for eligibility in the program generally processed and switches installed within six to eight weeks.

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

The Saver's Switch program has the additional requirement that participants cannot opt out of individual control days.

Saver's Switch can be activated at the request of SPS's Commercial Operations or Transmission Operations under the following conditions:

- Commercial Operations will activate Saver's Switch along with other load management programs in order to maintain reserves on the system above 200 MW.
- SPS will consider activating the program when obligation loads are high (above 4,400 MW), or if the forecasted reserves fall below 200 MW. This would likely occur when temperatures are above 100 degrees or when large SPS-owned generation units are off line.
- SPS's Transmission Operations would also expect to request program activation if a Load Serving Entity in the SPS Balancing Authority is at NERC Energy Emergency Alert Level 2.

Activation of load management programs would take place prior to, or concurrent with, public appeals for conservation to reduce load to relieve a local transmission overload or unacceptably low transmission voltage. SPS is sensitive to the fact that participants in Saver's Switch may leave the program if they deem it overused. SPS will make every attempt to avoid activating the program multiple days in a row.

c. Marketing and Outreach Plan

Historically, SPS has promoted the program via bill inserts, newsletters, direct mail, and outbound telemarketing. SPS will not promote the program in 2017, ss promotional resources have been reallocated to support the transition to the Smart Thermostat pilot. As a result, it is projected that only a small number of new participants will join the program.

d. Measurement & Verification Plan

The independent evaluator is not expected to perform M&V in 2017.

e. Cost-Effectiveness Tests

See Appendix A for benefit-cost analyses and Appendix B for the forecasted planning assumptions.

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, M&V, 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;
- support direct impact programs through education and opportunity identification;
- 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 nature of the Planning & Research Segment, the normal program categories (*i.e.*, rebate structure, program administration, marketing & outreach, M&V, 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 impact program that focuses primarily on creating consumer awareness of energy efficiency while providing residential customers with information on what they can do in their daily lives to reduce their energy usage. The program also supports the various energy efficiency products SPS offers to residential customers. SPS employs a variety of resources and channels to communicate conservation and energy efficiency messages, including the Xcel Energy website, social

media, print, direct mail, public library partnerships and sponsorship of community events. SPS has found through industry and internal market research that customers who are educated on the benefits of energy efficiency are much more likely to participate in DSM programs. This research also shows that customers need multiple exposures to the same message before it becomes knowledge. SPS believes that this general education drives customers to participate in its portfolio of programs.

SPS's Consumer Education program targets all of its New Mexico residential customers. The primary emphasis will continue to focus on:

- Power Check meters and materials placed in public libraries;
- Digital kiosks featuring "How to" energy efficiency videos;
- Social media (Facebook, Twitter, blogs, etc.)
- Targeted communications to address seasonal usage challenges;
- Conservation messaging through Xcel Energy's newsletters and bill onserts to residential customers;
- Creation and publication of reference education materials (in English and Spanish);
- Sponsorship of community events supporting residential conservation and energy efficiency; and
- Customer feedback surveys and customized post-event emails following outreach events.

SPS has approximately 90,000 residential customers in its New Mexico service territory. SPS plans to interface with approximately 80 percent of the residential customer base through bill onserts, public library partnerships, digital kiosks and community outreach events.

Budget

The Consumer Education budget was developed based on past experience building awareness and community outreach in New Mexico, as well as projected costs for reaching customers through multiple communication channels and tactics including:

- Power Check meters and materials in public libraries;
- Digital kiosks featuring "How to" videos;
- Social media;
- Direct mail campaigns and promotions about conservation;
- Bill onserts; and
- Sponsorship of community events supporting residential conservation and energy efficiency.

Changes for 2017

SPS will continue to focus efforts on direct program promotion and awareness with lessor emphasis on general education activities in 2017.

2. 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, making comparisons possible.

In 2017, the Market Research group plans to conduct several projects and studies as described below:

- **Dun & Bradstreet Business List Purchase** – 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** – Robust repository of secondary and syndicated research resources for national marketing studies, research services, and consulting services.
- **Residential DSM Awareness, Attitude & Usage Studies** – Quantitative research to gauge the energy awareness and energy efficient behaviors of Business SPS customers.

Budget
The Market Research budget was developed based on past experience and the costs of the projects listed above.

Changes for 2017
None.

3. Measurement and Verification

17.7.2.15. NMAC requires that all energy efficiency and load management programs be subject to measurement and verification through the Evaluator, where M&V is defined as "means an analysis performed by an independent evaluator that estimates, consistent with 17.7.2.7.B NMAC, reductions of energy usage or peak demand and determines any actual reduction of energy usage or peak demand that directly results from the utility's implementation of particular energy efficiency measures or programs or of particular load management measures or programs." Under the direction of the Commission and Staff, the Evaluator will conduct an analysis of specified programs and provide a report on its findings. SPS will facilitate the M&V 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

While the Evaluation Committee has been eliminated as part of the statewide process 17.7.2.15.B still provides the utilities the opportunity to participate in the selection of a statewide, M&V contractor.

b. Measurement & Verification Process

In 2017, SPS will require M&V of selected prescriptive programs (deemed savings) and its custom programs (calculated savings). The Evaluator will provide an individual M&V Plan for programs describing both the annual and comprehensive plans according to the program characteristics. The following are nationally accepted guidelines as to the type of M&V for each category of energy efficiency and load management programs:

Prescriptive Programs/Products

Prescriptive products are those pre-defined, common energy efficiency measures that do not require individual complex engineering analysis and are below a certain kW/kWh threshold. These measures make up a program, making the program 'prescriptive' in nature. 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. In addition, the independent evaluator may choose to perform field measurements and verification in order to fine-tune the technical assumptions. For some programs, such as Home Energy Services, which provide savings that may be detected at the whole-house level, the Evaluator may choose to perform an independent billing analysis of electric billings before and after the installation of measures, in order to calculate the gross savings.

SPS's algorithms and underlying deemed savings assumptions will be provided to the Evaluator to assist in its review. As part of their responsibilities, the Commission may rely on the Evaluator to assist the Commission in their review of these deemed savings technical assumptions. In addition, the Evaluator will review program processes and establish net-to-gross ratios to account for free-ridership.

Custom Products

For the custom projects (*e.g.*, Custom Efficiency and Large Customer Self-Direct), SPS and the Evaluator will analyze each project's savings separately, employing both internal and external engineers to calculate and provide expert engineering reviews. For projects that have large energy savings or unique technologies, the Evaluator may choose to 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 may be employed to calculate the savings of each project.

Load Management Programs

To monitor its load management programs, SPS will provide interval-metering data for a census of the ICO customers. For the Saver's Switch programs, statistical samples of air conditioners will be metered during the summer months. 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.

c. Portfolio-Level M&V

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; and
- description of the M&V process, including confirmation that:
    - measures are actually installed;
    - installations meet reasonable quality standards; and
    - measures are operating correctly and are expected to generate the predicted savings.

Budget
The 2017 budget for *indirect* M&V expenses includes the following:

- Internal labor and expenses to provide project management of the entire M&V process, to interface with the Evaluator processing invoices and tracking costs, and to ensure internally that proper M&V and data tracking is in place.
- Costs for special projects such as the development or updating of Technical Reference Manuals.

In addition, SPS has budgeted for direct program-related M&V costs for the specific programs that ADM has designated for M&V in 2017. For total budgeted costs see Table 1, and for the cost for each program by cost category, see Table 10.

Changes for 2017
None.

4. Planning & Administration

Planning & Administration provides policies and procedures for effectively addressing the requirements of the energy efficiency and load management regulatory processes. This functional team 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. The costs of outside legal services are included within this function as well. Outside legal services are retained for the purposes of preparing and filing of DSM regulatory reports, DSM plans, and settlements and representing SPS at all DSM evidentiary hearings. 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 2017 budget includes funds for: internal labor to prepare filings and benefit-cost analyses, outside legal services to support energy efficiency and load management filings and hearings, and employee expenses related to travel to and from New Mexico.

Changes for 2017
None.

5. 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. For 2017, new product development will focus on exploring potential measures for Oil and Gas and Agricultural segments, as well as 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.

Measures, products, and programs are selected for development based on a variety of criteria, including: savings, potential cost of savings, ability to be developed quickly, longevity of the offering (*i.e.*, how long until a technology being rebated becomes the standard), level of market barriers and risk.

Budget
The 2017 budget includes funds for internal labor as well as outside consultant support.

Changes for 2017
None.

6. Commercial Energy Benchmarking

The Energy Benchmarking program is a service offering which offers commercial and multi-family building owners an automated feed of whole-building energy usage data directly into their ENERGY STAR Portfolio Manager (ESPM) account. Building owners register for access to data through a secure online portal, and then execute a series of connection steps in ESPM in order to initiate the service. Once established, customers will receive three years of historical energy usage information and will receive automatic updates to this data every month as new readings are taken.

Energy benchmarking is a well-established practice for measuring the performance of buildings, and ENERGY STAR Portfolio Manager is recognized as the industry-standard tool that building owners are using to perform this activity. As such, the Company is assisting customers to more easily benchmark their buildings, and in doing so, helping

them uncover opportunities to improve the efficiency of their buildings through the Company's many other Energy Efficiency products.

In order to protect individual customer privacy and confidentiality interests, the Company has adopted the following policies:

- Property owner verification: Once a user requests access to energy data for a given building, the Company reviews the account information it maintains internally as well as external property ownership records (where available) to verify that the requesting entity has an established relationship with the real property owner.
- Aggregation policies for multi-tenant buildings: If a building has multiple individually metered customers, the company will allow the building owner access to aggregate, whole-building energy data provided there are at least four such customers and that no single customers uses more that half (50%) of the energy of the entire building in any given month. If either of these conditions are not met, the requestor must obtain written consent from the customers in question.

Budget

The budget for Energy Benchmarking includes allocations for the following:

- Internal administration, helping customers navigate the tools and initiate the service
- Promotion to drive customer participation in the service

IV. Conclusion

SPS proposes the following 11 programs to make up its portfolio of energy efficiency and load management programs, consistent with the EUEA requirement:

Residential Segment

- Energy Feedback (EE);
- Residential Cooling (EE);
- Home Energy Services (EE):
- Home Lighting & Recycling (EE);
- Refrigerator Recycling (EE);
- School Education Kits (EE);
- Residential Saver's Switch (LM); and
- Smart Thermostat Pilot (LM).

Business Segment

- Business Comprehensive (EE);
- Interruptible Credit Option (LM); and
- Saver's Switch for Business (LM).

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 solicited input on the proposed 2017 Plan program design from Staff, the New Mexico Attorney General's office, Southwest Energy Efficiency Project, Coalition for Clean Affordable Energy, EMNRD, and Occidental Petroleum, LLC.

Each of the programs passes the UCT, while the overall 2017 portfolio results in a UCT ratio of 1.76.

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 planning assumptions on which the energy and demand savings projections and the cost-effectiveness analyses were calculated.

PORTFOLIO TOTAL	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$5,374,785
Transmission & Distribution Capacity	$161,483
Marginal Energy	$11,282,488
Avoided Emissions	$556,884
Total Benefits	$17,375,640
Costs	
Utility Project Costs	
Total Incentive	$3,416,775
Internal Administration	$1,519,096
Third-Party Delivery	$3,548,441
Promotion	$1,176,389
M&V	$220,000
Subtotal	$9,880,701
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$9,880,701
Net Benefit (Cost)	$7,494,939
Benefit/Cost Ratio	1.76

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	12.64 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	25.25%
Gross Load Factor at Customer	E	9.40%
Net-to-Gross (Energy)	F	84.7%
Net-to-Gross (Demand)	G	92.9%
Transmission Loss Factor (Energy)	H	10.433%
Transmission Loss Factor (Demand)	I	15.264%
Installation Rate (Energy)	J	96.161%
Installation Rate (Demand)	K	99.385%
UCT Net Benefit (Cost)	L	$167
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.2603 kW
Gross Annual kWh Saved at Customer	(B x E x C)	824 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	671 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	749 kWh

Program Summary per Participant

Gross kW Saved at Customer	M	0.21 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x M)	169 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	138 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	154 kWh

Program Summary All Participants

Total Participants	N	217,797
Total Budget	O	**$9,880,701**
Gross kW Saved at Customer	(N x M)	44,789 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**12,324 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	36,890,055 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	35,473,901 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	30,048,310 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**33,548,587 kWh**
UCT Net Benefits	(N x M x L)	**$7,494,939**

Utility Program Cost per kWh Lifetime	**$0.0233**
Utility Program Cost per kW at Gen	**$802**

RESIDENTIAL SEGMENT TOTAL — 2017 — ELECTRIC — GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$2,935,962
Transmission & Distribution Capacity	$90,484
Marginal Energy	$6,831,095
Avoided Emissions	$329,579
Total Benefits	$10,187,120
Costs	
Utility Project Costs	
Total Incentive	$2,067,433
Internal Administration	$466,368
Third-Party Delivery	$2,236,107
Promotion	$647,212
M&V	$106,000
Subtotal	$5,523,120
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$5,523,120
Net Benefit (Cost)	$4,664,000
Benefit/Cost Ratio	1.84

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	21.10%
Gross Load Factor at Customer	E	7.44%
Net-to-Gross (Energy)	F	86.2%
Net-to-Gross (Demand)	G	94.1%
Transmission Loss Factor (Energy)	H	11.800%
Transmission Loss Factor (Demand)	I	16.200%
Installation Rate (Energy)	J	94.339%
Installation Rate (Demand)	K	99.134%
UCT Net Benefit (Cost)	L	$126
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.2232 kW
Gross Annual kWh Saved at Customer	(B x E x C)	652 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	530 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	601 kWh

Program Summary per Participant

Gross kW Saved at Customer	M	0.17 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	0.04 kW
Gross Annual kWh Saved at Customer	(B x E x M)	112 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	91 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	103 kWh

Program Summary All Participants

Total Participants	N	216,888
Total Budget	O	**$5,523,120**
Gross kW Saved at Customer	(N x M)	37,144 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**8,726 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	24,219,230 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	22,848,074 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	19,683,719 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**22,317,142 kWh**
UCT Net Benefits	(N x M x L)	**$4,664,000**

Utility Program Cost per kWh Lifetime	**$0.0215**
Utility Program Cost per kW at Gen	**$633**

ENERGY FEEDBACK PILOT	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$51,248
Transmission & Distribution Capacity	$1,492
Marginal Energy	$99,378
Avoided Emissions	$4,779
Total Benefits	$156,898
Costs	
Utility Project Costs	
Total Incentive	$0
Internal Administration	$18,600
Third-Party Delivery	$98,245
Promotion	$1,200
M&V	$15,000
Subtotal	$133,045
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$133,045
Net Benefit (Cost)	$23,853
Benefit/Cost Ratio	1.18

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	74.51%
Gross Load Factor at Customer	E	60.64%
Net-to-Gross (Energy)	F	100.0%
Net-to-Gross (Demand)	G	100.0%
Transmission Loss Factor (Energy)	H	11.800%
Transmission Loss Factor (Demand)	I	16.200%
Installation Rate (Energy)	J	100.000%
Installation Rate (Demand)	K	100.000%
UCT Net Benefit (Cost)	L	$42
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.8448 kW
Gross Annual kWh Saved at Customer	(B x E x C)	5,312 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	5,312 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	6,022 kWh

Program Summary per Participant		
Gross kW Saved at Customer	M	0.03 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	0.03 kW
Gross Annual kWh Saved at Customer	(B x E x M)	166 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	166 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	188 kWh

Program Summary All Participants		
Total Participants	N	18,090
Total Budget	O	**$133,045**
Gross kW Saved at Customer	(N x M)	565 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**502 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	2,999,949 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	2,999,949 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	2,999,949 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**3,401,303 kWh**
UCT Net Benefits	(N x M x L)	**$23,853**

Utility Program Cost per kWh Lifetime	**$0.0391**
Utility Program Cost per kW at Gen	**$265**

HOME ENERGY SERVICES: RESIDENTIAL AND LOW INCOME	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$811,705
Transmission & Distribution Capacity	$23,630
Marginal Energy	$2,814,237
Avoided Emissions	$135,346
Total Benefits	$3,784,918
Costs	
Utility Project Costs	
Total Incentive	$674,721
Internal Administration	$143,118
Third-Party Delivery	$1,637,225
Promotion	$104,421
M&V	$40,000
Subtotal	$2,599,485
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$2,599,485
Net Benefit (Cost)	$1,185,433
Benefit/Cost Ratio	1.46

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	17 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	72.02%
Gross Load Factor at Customer	E	79.81%
Net-to-Gross (Energy)	F	96.9%
Net-to-Gross (Demand)	G	97.1%
Transmission Loss Factor (Energy)	H	11.800%
Transmission Loss Factor (Demand)	I	16.200%
Installation Rate (Energy)	J	97.865%
Installation Rate (Demand)	K	99.657%
UCT Net Benefit (Cost)	L	$1,510
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.7898 kW
Gross Annual kWh Saved at Customer	(B x E x C)	6,992 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	6,629 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	7,516 kWh

Program Summary per Participant		
Gross kW Saved at Customer	M	0.42 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	0.35 kW
Gross Annual kWh Saved at Customer	(B x E x M)	2,968 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	2,814 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	3,191 kWh

Program Summary All Participants		
Total Participants	N	1,849
Total Budget	O	**$2,599,485**
Gross kW Saved at Customer	(N x M)	785 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**652 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	5,487,510 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	5,370,370 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	5,202,740 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**5,898,798 kWh**
UCT Net Benefits	(N x M x L)	**$1,185,433**

Utility Program Cost per kWh Lifetime	**$0.0263**
Utility Program Cost per kW at Gen	**$3,984**

HOME LIGHTING & RECYCLING	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$1,471,784
Transmission & Distribution Capacity	$42,846
Marginal Energy	$3,404,421
Avoided Emissions	$163,730
Total Benefits	$5,082,781
Costs	
Utility Project Costs	
Total Incentive	$1,078,000
Internal Administration	$141,918
Third-Party Delivery	$350,000
Promotion	$450,000
M&V	$25,000
Subtotal	$2,044,918
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$2,044,918
Net Benefit (Cost)	$3,037,863
Benefit/Cost Ratio	2.49

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	12 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	13.28%
Gross Load Factor at Customer	E	10.92%
Net-to-Gross (Energy)	F	77.5%
Net-to-Gross (Demand)	G	77.4%
Transmission Loss Factor (Energy)	H	11.800%
Transmission Loss Factor (Demand)	I	16.200%
Installation Rate (Energy)	J	96.334%
Installation Rate (Demand)	K	96.601%
UCT Net Benefit (Cost)	L	$219
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.1127 kW
Gross Annual kWh Saved at Customer	(B x E x C)	957 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	715 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	810 kWh

Program Summary per Participant		
Gross kW Saved at Customer	M	0.07 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	0.01 kW
Gross Annual kWh Saved at Customer	(B x E x M)	71 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	53 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	60 kWh

Program Summary All Participants		
Total Participants	N	188,000
Total Budget	O	**$2,044,918**
Gross kW Saved at Customer	(N x M)	13,863 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**1,644 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	13,262,844 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	12,776,650 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	9,905,728 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**11,230,984 kWh**
UCT Net Benefits	(N x M x L)	**$3,037,863**

Utility Program Cost per kWh Lifetime	**$0.0152**
Utility Program Cost per kW at Gen	**$1,244**

REFRIGERATOR RECYCLING — 2017 — ELECTRIC — GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$20,348
Transmission & Distribution Capacity	$592
Marginal Energy	$84,371
Avoided Emissions	$4,058
Total Benefits	$109,369
Costs	
Utility Project Costs	
Total Incentive	$25,000
Internal Administration	$19,000
Third-Party Delivery	$37,850
Promotion	$18,000
M&V	$6,000
Subtotal	$105,850
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$105,850
Net Benefit (Cost)	$3,519
Benefit/Cost Ratio	1.03

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	63.80%
Gross Load Factor at Customer	E	100.00%
Net-to-Gross (Energy)	F	67.3%
Net-to-Gross (Demand)	G	67.3%
Transmission Loss Factor (Energy)	H	11.800%
Transmission Loss Factor (Demand)	I	16.200%
Installation Rate (Energy)	J	100.000%
Installation Rate (Demand)	K	100.000%
UCT Net Benefit (Cost)	L	$56
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.4868 kW
Gross Annual kWh Saved at Customer	(B x E x C)	8,760 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	5,895 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	6,684 kWh

Program Summary per Participant

Gross kW Saved at Customer	M	0.13 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	0.06 kW
Gross Annual kWh Saved at Customer	(B x E x M)	1,104 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	743 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	842 kWh

Program Summary All Participants

Total Participants	N	500
Total Budget	O	**$105,850**
Gross kW Saved at Customer	(N x M)	63 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**32 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	551,908 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	551,908 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	371,434 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**421,127 kWh**
UCT Net Benefits	(N x M x L)	**$3,519**

Utility Program Cost per kWh Lifetime	**$0.0355**
Utility Program Cost per kW at Gen	**$3,279**

RESIDENTIAL COOLING	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$118,966
Transmission & Distribution Capacity	$3,463
Marginal Energy	$151,935
Avoided Emissions	$7,307
Total Benefits	$281,671
Costs	
Utility Project Costs	
Total Incentive	$35,528
Internal Administration	$74,124
Third-Party Delivery	$14,537
Promotion	$59,091
M&V	$0
Subtotal	$183,280
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$183,280
Net Benefit (Cost)	$98,391
Benefit/Cost Ratio	1.54

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	90.18%
Gross Load Factor at Customer	E	32.13%
Net-to-Gross (Energy)	F	93.2%
Net-to-Gross (Demand)	G	84.8%
Transmission Loss Factor (Energy)	H	11.800%
Transmission Loss Factor (Demand)	I	16.200%
Installation Rate (Energy)	J	100.000%
Installation Rate (Demand)	K	100.000%
UCT Net Benefit (Cost)	L	$847
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.8668 kW
Gross Annual kWh Saved at Customer	(B x E x C)	2,815 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	2,623 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	2,974 kWh

Program Summary per Participant		
Gross kW Saved at Customer	M	0.47 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	0.43 kW
Gross Annual kWh Saved at Customer	(B x E x M)	1,324 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	1,234 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	1,399 kWh

Program Summary All Participants		
Total Participants	N	247
Total Budget	O	**$183,280**
Gross kW Saved at Customer	(N x M)	116 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**106 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	326,992 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	326,992 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	304,668 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**345,428 kWh**
UCT Net Benefits	(N x M x L)	**$98,391**

Utility Program Cost per kWh Lifetime	**$0.0322**
Utility Program Cost per kW at Gen	**$1,730**

RESIDENTIAL SAVER'S SWITCH	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$276,153
Transmission & Distribution Capacity	$13,052
Marginal Energy	$1,718
Avoided Emissions	$1,132
Total Benefits	$292,055
Costs	
Utility Project Costs	
Total Incentive	$170,000
Internal Administration	$11,000
Third-Party Delivery	$22,250
Promotion	$0
M&V	$0
Subtotal	$203,250
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$203,250
Net Benefit (Cost)	$88,805
Benefit/Cost Ratio	1.44

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	22.58%
Gross Load Factor at Customer	E	0.02%
Net-to-Gross (Energy)	F	100.0%
Net-to-Gross (Demand)	G	100.0%
Transmission Loss Factor (Energy)	H	11.800%
Transmission Loss Factor (Demand)	I	16.200%
Installation Rate (Energy)	J	100.000%
Installation Rate (Demand)	K	100.000%
UCT Net Benefit (Cost)	L	$5
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.2560 kW
Gross Annual kWh Saved at Customer	(B x E x C)	2 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	2 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	2 kWh

Program Summary per Participant		
Gross kW Saved at Customer	M	3.85 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	1.04 kW
Gross Annual kWh Saved at Customer	(B x E x M)	8 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	8 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	10 kWh

Program Summary All Participants		
Total Participants	N	4,203
Total Budget	O	**$203,250**
Gross kW Saved at Customer	(N x M)	16,179 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**4,359 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	35,241 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	35,241 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	35,241 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**39,956 kWh**
UCT Net Benefits	(N x M x L)	**$88,805**

Utility Program Cost per kWh Lifetime	**$5.0869**
Utility Program Cost per kW at Gen	**$47**

SCHOOL EDUCATION KITS — 2017 — ELECTRIC — GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$42,649
Transmission & Distribution Capacity	$1,242
Marginal Energy	$274,541
Avoided Emissions	$13,204
Total Benefits	$331,635
Costs	
Utility Project Costs	
Total Incentive	$52,309
Internal Administration	$20,608
Third-Party Delivery	$76,000
Promotion	$4,500
M&V	$10,000
Subtotal	$163,417
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$163,417
Net Benefit (Cost)	$168,218
Benefit/Cost Ratio	2.03

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.17%
Gross Load Factor at Customer	E	46.31%
Net-to-Gross (Energy)	F	100.0%
Net-to-Gross (Demand)	G	100.0%
Transmission Loss Factor (Energy)	H	11.800%
Transmission Loss Factor (Demand)	I	16.200%
Installation Rate (Energy)	J	55.185%
Installation Rate (Demand)	K	65.000%
UCT Net Benefit (Cost)	L	$443
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.0749 kW
Gross Annual kWh Saved at Customer	(B x E x C)	4,057 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	2,239 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	2,538 kWh

Program Summary per Participant

Gross kW Saved at Customer	M	0.15 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	0.01 kW
Gross Annual kWh Saved at Customer	(B x E x M)	617 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	340 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	386 kWh

Program Summary All Participants

Total Participants	N	2,500
Total Budget	O	**$163,417**
Gross kW Saved at Customer	(N x M)	380 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**30 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	1,541,499 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	850,672 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	850,672 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**964,480 kWh**
UCT Net Benefits	(N x M x L)	**$168,218**

Utility Program Cost per kWh Lifetime	**$0.0166**
Utility Program Cost per kW at Gen	**$5,452**

SMART THERMOSTAT PILOT	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$143,110
Transmission & Distribution Capacity	$4,166
Marginal Energy	$494
Avoided Emissions	$24
Total Benefits	$147,793
Costs	
Utility Project Costs	
Total Incentive	$31,875
Internal Administration	$38,000
Third-Party Delivery	$0
Promotion	$10,000
M&V	$10,000
Subtotal	$89,875
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$89,875
Net Benefit (Cost)	$57,918
Benefit/Cost Ratio	1.64

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	22.59%
Gross Load Factor at Customer	E	0.03%
Net-to-Gross (Energy)	F	100.0%
Net-to-Gross (Demand)	G	100.0%
Transmission Loss Factor (Energy)	H	11.800%
Transmission Loss Factor (Demand)	I	16.200%
Installation Rate (Energy)	J	100.000%
Installation Rate (Demand)	K	100.000%
UCT Net Benefit (Cost)	L	$11
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.2561 kW
Gross Annual kWh Saved at Customer	(B x E x C)	3 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	3 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	3 kWh

Program Summary per Participant		
Gross kW Saved at Customer	M	3.46 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	0.93 kW
Gross Annual kWh Saved at Customer	(B x E x M)	9 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	9 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	10 kWh

Program Summary All Participants		
Total Participants	N	1,500
Total Budget	O	**$89,875**
Gross kW Saved at Customer	(N x M)	5,194 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**1,400 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	13,287 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	13,287 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	13,287 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**15,065 kWh**
UCT Net Benefits	(N x M x L)	**$57,918**

Utility Program Cost per kWh Lifetime	**$5.9659**
Utility Program Cost per kW at Gen	**$64**

BUSINESS SEGMENT TOTAL	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$2,438,823
Transmission & Distribution Capacity	$70,999
Marginal Energy	$4,451,393
Avoided Emissions	$227,305
Total Benefits	$7,188,520
Costs	
Utility Project Costs	
Total Incentive	$1,349,342
Internal Administration	$585,723
Third-Party Delivery	$1,190,752
Promotion	$430,104
M&V	$102,000
Subtotal	$3,657,921
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$3,657,921
Net Benefit (Cost)	$3,530,599
Benefit/Cost Ratio	1.97

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	46.80%
Gross Load Factor at Customer	E	18.92%
Net-to-Gross (Energy)	F	81.8%
Net-to-Gross (Demand)	G	90.1%
Transmission Loss Factor (Energy)	H	7.700%
Transmission Loss Factor (Demand)	I	10.400%
Installation Rate (Energy)	J	100.000%
Installation Rate (Demand)	K	100.000%
UCT Net Benefit (Cost)	L	$462
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.4569 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,657 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	1,356 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	1,469 kWh

Program Summary per Participant		
Gross kW Saved at Customer	M	8.42 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	3.96 kW
Gross Annual kWh Saved at Customer	(B x E x M)	13,948 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	11,412 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	12,364 kWh

Program Summary All Participants		
Total Participants	N	908
Total Budget	O	**$3,657,921**
Gross kW Saved at Customer	(N x M)	7,645 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**3,598 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	12,670,825 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	12,670,825 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	10,366,624 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**11,231,446 kWh**
UCT Net Benefits	(N x M x L)	**$3,530,599**

Utility Program Cost per kWh Lifetime	**$0.0218**
Utility Program Cost per kW at Gen	**$1,017**

BUSINESS COMPREHENSIVE	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$2,083,688
Transmission & Distribution Capacity	$60,660
Marginal Energy	$4,450,122
Avoided Emissions	$227,053
Total Benefits	$6,821,523
Costs	
Utility Project Costs	
Total Incentive	$1,283,792
Internal Administration	$551,284
Third-Party Delivery	$1,180,252
Promotion	$427,197
M&V	$98,000
Subtotal	$3,540,525
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$3,540,525
Net Benefit (Cost)	$3,280,998
Benefit/Cost Ratio	1.93

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	68.58%
Gross Load Factor at Customer	E	50.69%
Net-to-Gross (Energy)	F	81.8%
Net-to-Gross (Demand)	G	81.9%
Transmission Loss Factor (Energy)	H	7.700%
Transmission Loss Factor (Demand)	I	10.400%
Installation Rate (Energy)	J	100.000%
Installation Rate (Demand)	K	100.000%
UCT Net Benefit (Cost)	L	$1,151
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.6085 kW
Gross Annual kWh Saved at Customer	(B x E x C)	4,441 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	3,632 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	3,935 kWh

Program Summary per Participant		
Gross kW Saved at Customer	M	3.86 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	2.42 kW
Gross Annual kWh Saved at Customer	(B x E x M)	17,141 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	14,021 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	15,190 kWh

Program Summary All Participants		
Total Participants	N	738
Total Budget	O	**$3,540,525**
Gross kW Saved at Customer	(N x M)	2,850 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**1,787 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	12,657,105 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	12,657,105 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	10,352,904 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**11,216,581 kWh**
UCT Net Benefits	(N x M x L)	**$3,280,998**

Utility Program Cost per kWh Lifetime	**$0.0211**
Utility Program Cost per kW at Gen	**$1,982**

INTERRUPTIBLE CREDIT OPTION — 2017 — ELECTRIC — GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$259,856
Transmission & Distribution Capacity	$7,565
Marginal Energy	$958
Avoided Emissions	$46
Total Benefits	$268,425
Costs	
Utility Project Costs	
Total Incentive	$15,550
Internal Administration	$23,112
Third-Party Delivery	$0
Promotion	$2,907
M&V	$4,000
Subtotal	$45,569
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$45,569
Net Benefit (Cost)	$222,856
Benefit/Cost Ratio	5.89

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	8760
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	100.0%
Net-to-Gross (Demand)	G	100.0%
Transmission Loss Factor (Energy)	H	7.700%
Transmission Loss Factor (Demand)	I	10.400%
Installation Rate (Energy)	J	100.000%
Installation Rate (Demand)	K	100.000%
UCT Net Benefit (Cost)	L	$223
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.8550 kW
Gross Annual kWh Saved at Customer	(B x E x C)	7 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	7 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	8 kWh

Program Summary per Participant

Gross kW Saved at Customer	M	500.00 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	440.40 kW
Gross Annual kWh Saved at Customer	(B x E x M)	3,500 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	3,500 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	3,792 kWh

Program Summary All Participants

Total Participants	N	2
Total Budget	O	**$45,569**
Gross kW Saved at Customer	(N x M)	1,000 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**881 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	7,000 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	7,000 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	7,000 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**7,584 kWh**
UCT Net Benefits	(N x M x L)	**$222,856**

Utility Program Cost per kWh Lifetime	**$2.0029**
Utility Program Cost per kW at Gen	**$52**

SAVER'S SWITCH FOR BUSINESS	2017	ELECTRIC	GOAL

2017 Net Present Cost Benefit Summary

Analysis For All Participants

	Utility Cost Test ($Total)
Benefits	
System Benefits (Avoided Costs)	
Generation Capacity	$95,279
Transmission & Distribution Capacity	$2,774
Marginal Energy	$313
Avoided Emissions	$206
Total Benefits	$98,572
Costs	
Utility Project Costs	
Total Incentive	$50,000
Internal Administration	$11,327
Third-Party Delivery	$10,500
Promotion	$0
M&V	$0
Subtotal	$71,827
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	$71,827
Net Benefit (Cost)	$26,745
Benefit/Cost Ratio	1.37

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	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	21.97%
Gross Load Factor at Customer	E	0.02%
Net-to-Gross (Energy)	F	100.0%
Net-to-Gross (Demand)	G	100.0%
Transmission Loss Factor (Energy)	H	7.700%
Transmission Loss Factor (Demand)	I	10.400%
Installation Rate (Energy)	J	100.000%
Installation Rate (Demand)	K	100.000%
UCT Net Benefit (Cost)	L	$7
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.2381 kW
Gross Annual kWh Saved at Customer	(B x E x C)	2 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	2 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	2 kWh

Program Summary per Participant		
Gross kW Saved at Customer	M	22.59 kW
Net coincident kW Saved at Generator	**(G x M x K) x D / (1 - I)**	5.54 kW
Gross Annual kWh Saved at Customer	(B x E x M)	40 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x M x J))**	40 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x M x J)) / (1 - H)**	43 kWh

Program Summary All Participants		
Total Participants	N	168
Total Budget	O	**$71,827**
Gross kW Saved at Customer	(N x M)	3,794 kW
Net coincident kW Saved at Generator	**((G x M x K) x D / (1 - I)) x N**	**931 kW**
Gross Annual kWh Saved at Customer	(B x E x M) x N	6,720 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x M) x N x J**	6,720 kWh
Net Annual kWh Saved at Customer	(B x E x M) x N x J x F	6,720 kWh
Net Annual kWh Saved at Generator	**((B x E x M) / (1 - H)) x N x J x F**	**7,280 kWh**
UCT Net Benefits	(N x M x L)	**$26,745**

Utility Program Cost per kWh Lifetime	**$9.8657**
Utility Program Cost per kW at Gen	**$77**

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Measure Description		High Efficiency Product Assumptions		
Line No.	Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)
1	NM - Computer Efficiency - Upstream	Upstream Power Supply - Bronze	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Bronze level power supply	25	7,706
2	NM - Computer Efficiency - Upstream	Upstream Power Supply - Silver	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Silver level power supply	24	7,706
3	NM - Computer Efficiency - Upstream	Upstream Power Supply - Gold	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Gold level power supply	24	7,706
4	NM - Computer Efficiency - Upstream	Upstream Power Supply - Platinum	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Platinum level power supply	23	7,706
5	NM - Computer Efficiency - Prescriptive	Zero & Thin Client Installations	Server & software at data center along with thin-client or zero-client device replaces desktop CPU (VM Ware w/ Wyse thin-client system, Pano-Logic zero-client system); meeting Energy Star 6.0 specification	13	7,706
6	NM - Computer Efficiency - Prescriptive	Network Based PC Power Management	Desktop Computer with network controlled software installed	11	7,706
7	NM - Computer Efficiency - Upstream	Computer Server; with <400W Units with Gold Rated Power Supply	Gold Power Supply	107	8,760
8	NM - Computer Efficiency - Upstream	Computer Server; with 400-600W Units with Gold Rated Power Supply	Gold Power Supply	178	8,760
9	NM - Computer Efficiency - Upstream	Computer Server; with 600-1000W Units with Gold Rated Power Supply	Gold Power Supply	267	8,760
10	NM - Computer Efficiency - Upstream	Computer Server; with >1000W Units with Gold Rated Power Supply	Gold Power Supply	498	8,760
11	NM - Computer Efficiency - Upstream	Computer Server; with <400W Units with Platinum Rated Power Supply	Platinum Power Supply	103	8,760
12	NM - Computer Efficiency - Upstream	Computer Server; with 400-600W Units with Platinum Rated Power Supply	Platinum Power Supply	172	8,760
13	NM - Computer Efficiency - Upstream	Computer Server; with 600-1000W Units with Platinum Rated Power Supply	Platinum Power Supply	257	8,760
14	NM - Computer Efficiency - Upstream	Computer Server; with >1000W Units with Platinum Rated Power Supply	Platinum Power Supply	481	8,760
15	NM - Computer Efficiency - Upstream	Computer Server; with <400W Units with Titanium Rated Power Supply	Titanium Power Supply	100	8,760
16	NM - Computer Efficiency - Upstream	Computer Server; with 400-600W Units with Titanium Rated Power Supply	Titanium Power Supply	166	8,760
17	NM - Computer Efficiency - Upstream	Computer Server; with 600-1000W Units with Titanium Rated Power Supply	Titanium Power Supply	250	8,760
18	NM - Computer Efficiency - Upstream	Computer Server; with >1000W Units with Titanium Rated Power Supply	Titanium Power Supply	466	8,760
19	DX Units <5.4 Tons NMx	DX Units < than 5.4 tons	Unit size 3.7 tons, 14.1 SEER & 12 EER	3,700	1,320
20	DX Units >=5.4 Tons NMx-RTU	DX Units 5.5-11.3 tons	Unit size 10 tons & 12.4 EER	9,677	1,345
21	DX Units >=5.4 Tons NMx-RTU	DX Units11.4-19.9 tons	Unit size 15.6 tons & 12.2 EER	15,344	1,345
22	DX Units >=5.4 Tons NMx-RTU	DX Units 20-63.3 tons	Unit size 30.7 tons & 10.8 EER	34,111	1,345
23	DX Units >=5.4 Tons NMx-RTU	DX Units greater than 63.3 tons	Unit size 174 tons & 10.2 EER	204,706	1,345
24	RTU Economizer & DCV	RTU Economizer & Demand Control Ventilation	RTU with Demand Control	4,503	1,039
25	Water-source Heat Pumps	Water-source Heat Pumps	Unit size 2.5 tons, 13.5 SEER, 13.5 EER	2,222	1,345
26	PTAC NMx	PTAC >= 7,000 BTUH to <=15,000 BTUH	Condensing Units size 1.1 tons, 13.5 SEER, 11.5 EER	1,148	1,137
27	PTAC NMx	PTAC < 7,000 BTUH	Condensing Units size 0.58 tons, 13.5 SEER, 11.5 EER	605	969
28	PTAC NMx	PTAC > 15,000 BTUH	Condensing Units size 1.26 tons, 13.5 SEER, 11.5 EER	1,315	1,155

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Baseline Product Assumptions			Economic Assumptions				
Line No.	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)
1	Baseline desktop computer with a standard efficiency power supply	31	7,706	5.00	$0	$600	$9	$ 0.068
2	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Bronze level power supply	31	7,706	5.00	$0	$609	$14	$ 0.068
3	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Bronze level power supply	31	7,706	5.00	$0	$609	$16	$ 0.068
4	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Bronze level power supply	31	7,706	5.00	$0	$609	$22	$ 0.068
5	Desktop computers meeting ENERGY STAR 3.0 specifications	29	7,706	10.00	$60	$600	$117	$ 0.068
6	Desktop Computer with no network controlled software	29	7,706	6.00	$5	$0	$15	$ 0.049
7	Silver Power Supply	112	8,738	5.00	$0	$60	$12	$ 0.059
8	Silver Power Supply	187	8,738	5.00	$0	$80	$14	$ 0.059
9	Silver Power Supply	280	8,738	5.00	$0	$100	$16	$ 0.059
10	Silver Power Supply	522	8,738	5.00	$0	$130	$18	$ 0.059
11	Silver Power Supply	113	8,717	5.00	$0	$60	$31	$ 0.059
12	Silver Power Supply	188	8,717	5.00	$0	$80	$37	$ 0.059
13	Silver Power Supply	283	8,717	5.00	$0	$100	$43	$ 0.059
14	Silver Power Supply	527	8,717	5.00	$0	$130	$49	$ 0.059
15	Silver Power Supply	114	8,700	5.00	$0	$60	$58	$ 0.059
16	Silver Power Supply	190	8,700	5.00	$0	$80	$69	$ 0.059
17	Silver Power Supply	285	8,700	5.00	$0	$100	$81	$ 0.059
18	Silver Power Supply	532	8,700	5.00	$0	$130	$92	$ 0.059
19	Unit size 3.7 tons, 13 SEER & 11.18 EER	3,971	1,320	15.00	$548	$4,500	$752	$ 0.067
20	Unit size 10 tons & 11 EER	10,909	1,345	15.00	$660	$13,500	$1,642	$ 0.067
21	Unit size 15.6 tons & 10.8 EER	17,333	1,345	15.00	$1,030	$22,500	$2,562	$ 0.067
22	Unit size 30.7 tons & 9.8 EER	37,592	1,345	15.00	$2,026	$45,000	$13,109	$ 0.067
23	Unit size 174 tons & 9.5 EER	219,789	1,345	15.00	$10,092	$187,500	$57,368	$ 0.067
24	RTU with Standard Economizer	9,006	1,039	20.00	$628	$1,000	$1,500	$ 0.067
25	Unit size 2.5 tons, 12 SEER, 12 EER	2,500	1,345	15.00	$155	$4,500	$500	$ 0.067
26	Condensing Units 1.1 tons, 11.4 SEER, 9.7 EER	1,361	1,137	15.00	$77	$1,125	$188	$ 0.067
27	Condensing Units 0.58 tons, 13 SEER, 11 EER	633	969	15.00	$41	$1,125	$188	$ 0.067
28	Condensing Units 1.26 tons, 10.9 SEER, 9.3 EER	1,626	1,155	15.00	$88	$1,125	$188	$ 0.067

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Stipulated Output								Economic Assumptions	
Line No.	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)
1	0%	2.72	2.72	49	$0.00	$0.00	0.006	0.007	$0.00	-$0.02
2	0%	3.76	3.76	55	$0.00	$0.00	0.007	0.008	$0.00	-$0.03
3	0%	4.00	4.00	59	$0.00	$0.00	0.008	0.009	$0.00	-$0.03
4	0%	5.15	5.15	63	$0.00	$0.00	0.008	0.009	$0.00	-$0.03
5	51%	3.01	1.46	123	$0.49	$0.05	0.016	0.018	$30.50	-$0.06
6	34%	3.61	2.38	140	$0.04	$0.01	0.018	0.000	-$2.74	-$0.07
7	0%	4.58	4.58	43	$0.00	$0.00	0.005	0.006	$0.00	$0.00
8	0%	3.28	3.28	72	$0.00	$0.00	0.009	0.010	$0.00	$0.00
9	0%	2.54	2.54	108	$0.00	$0.00	0.013	0.015	$0.00	$0.00
10	0%	1.55	1.55	201	$0.00	$0.00	0.024	0.027	$0.00	$0.00
11	0%	6.32	6.32	83	$0.00	$0.00	0.010	0.011	$0.00	$0.00
12	0%	4.53	4.53	139	$0.00	$0.00	0.017	0.019	$0.00	$0.00
13	0%	3.51	3.51	208	$0.00	$0.00	0.025	0.028	$0.00	$0.00
14	0%	2.14	2.14	389	$0.00	$0.00	0.047	0.052	$0.00	$0.00
15	0%	8.46	8.46	117	$0.00	$0.00	0.014	0.016	$0.00	$0.00
16	0%	6.06	6.06	194	$0.00	$0.00	0.023	0.026	$0.00	$0.00
17	0%	4.69	4.69	292	$0.00	$0.00	0.035	0.039	$0.00	$0.00
18	0%	2.87	2.87	544	$0.00	$0.00	0.066	0.073	$0.00	$0.00
19	73%	31.33	8.51	358	$1.53	$0.10	0.271	0.303	$0.00	$0.00
20	40%	14.80	8.85	1,656	$0.40	$0.03	1.232	1.375	$0.00	$0.00
21	40%	14.30	8.55	2,674	$0.38	$0.03	1.989	2.220	$0.00	$0.00
22	15%	41.82	35.35	4,680	$0.43	$0.03	3.481	3.885	$0.00	$0.00
23	18%	42.23	34.80	20,281	$0.50	$0.03	15.084	16.834	$0.00	$0.00
24	42%	4.79	2.78	4,680	$0.13	$0.01	4.503	4.523	$0.00	$0.00
25	31%	19.99	13.79	373	$0.41	$0.03	0.278	0.279	$0.00	$0.00
26	41%	11.56	6.81	242	$0.32	$0.02	0.213	0.214	$0.00	$0.00
27	22%	104.99	82.26	27	$1.52	$0.10	0.028	0.028	$0.00	$0.00
28	47%	7.79	4.13	359	$0.25	$0.02	0.311	0.312	$0.00	$0.00

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

		Program Forecast Inputs		Stipulated Forecast Inputs			Program Forecast Outputs			
	Technical Assumption	2017					2017			
Line No.	Coincidence Factor (%)	2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)
1	100.0%	50	500	**88%**	**100%**	**100%**	3.119	23,333	$0	$4,500
2	100.0%	1	10	88%	100%	100%	0.070	524	$0	$140
3	100.0%	2	20	88%	100%	100%	0.150	1,126	$0	$320
4	100.0%	20	200	88%	100%	100%	1.608	12,028	$0	$4,400
5	100.0%	2	100	88%	100%	100%	1.567	11,724	$6,000	$11,681
6	0.0%	1	10	88%	100%	100%	0.000	1,331	$50	$146
7	100.0%	5	50	88%	100%	100%	0.256	2,053	$0	$581
8	100.0%	10	100	88%	100%	100%	0.852	6,844	$0	$1,388
9	100.0%	10	100	88%	100%	100%	1.278	10,266	$0	$1,613
10	100.0%	10	100	88%	100%	100%	2.385	19,162	$0	$1,838
11	100.0%	10	100	88%	100%	100%	0.988	7,940	$0	$3,100
12	100.0%	10	100	88%	100%	100%	1.647	13,234	$0	$3,700
13	100.0%	10	100	88%	100%	100%	2.471	19,851	$0	$4,300
14	100.0%	10	100	88%	100%	100%	4.612	37,055	$0	$4,900
15	100.0%	10	100	88%	100%	100%	1.384	11,124	$0	$5,813
16	100.0%	10	100	88%	100%	100%	2.307	18,540	$0	$6,938
17	100.0%	5	50	88%	100%	100%	1.731	13,905	$0	$4,031
18	100.0%	5	50	88%	100%	100%	3.230	25,956	$0	$4,594
19	100.0%	5	10	88%	100%	100%	2.650	3,396	$5,476	$7,518
20	100.0%	1	1	88%	100%	100%	1.203	1,570	$660	$1,642
21	100.0%	1	1	88%	100%	100%	1.942	2,535	$1,030	$2,562
22	100.0%	3	3	88%	100%	100%	10.197	13,310	$6,079	$39,327
23	100.0%	1	1	88%	100%	100%	14.730	19,227	$10,092	$57,368
24	90.0%	1	1	88%	100%	100%	3.958	4,437	$628	$1,500
25	90.0%	1	1	88%	100%	100%	0.244	354	$155	$500
26	90.0%	1	1	88%	100%	100%	0.187	230	$77	$188
27	90.0%	4	125	88%	100%	100%	3.022	3,159	$5,075	$23,438
28	90.0%	1	1	88%	100%	100%	0.273	341	$88	$188

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Measure Description		High Efficiency Product Assumptions		
Line No.	Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)
29	Screw/Scroll Chillers	Scroll/Screw Chiller < 75 tons	Chiller size 58.8 tons, 0.59 full load kW/ton, 0.48 IPLV	34,692	1,040
30	Screw/Scroll Chillers	Scroll/Screw Chiller >= 75 tons to < 150 tons	Chiller size 113.5 tons, 0.64 full load kW/ton, 0.53 IPLV	72,640	846
31	Screw/Scroll Chillers	Scroll/Screw chiller >=150 to <300 tons	Chiller size 225 tons, 0.57 full load kW/ton, 0.48 IPLV	128,250	1,166
32	Screw/Scroll Chillers	scroll/screw chiller >= 300 tons	Chiller size 300 tons, 0.52 full load kW/ton, 0.37 IPLV	155,100	2,180
33	Centrifugal Chillers	Centrifugal Chillers < 150 tons	Chiller size 125 tons, 0.60 full load kW/ton, 0.57 IPLV	75,000	1,094
34	Centrifugal Chillers	Centrifugal Chillers >= 150 to < 300 tons	Chiller size 225 tons, 0.55 full load kW/ton, 0.51 IPLV	123,032	1,283
35	Centrifugal Chillers	Centrifugal Chillers >= 300 to < 600 tons	Chiller size 425 tons, 0.52 full load kW/ton, 0.49 IPLV	219,300	1,283
36	Centrifugal Chillers	Centrifugal Chillers >= 600 tons	Chiller size 750 tons, 0.55 full load kW/ton, 0.53 IPLV	414,563	986
37	Air-Cooled Chillers	Air-Cooled Chillers - avg. capacity 250 tons	Air-cooled chiller average capacity 250 tons, 1.15 kW/ton	297,030	347
38	EC Motors - Display Case	ECM - Medium Temp Display Case	Electronically Communtated Motor (ECM)	21	8,672
39	EC Motors - Display Case	ECM - Low Temp Display Case	Electronically Communtated Motor (ECM)	25	8,672
40	EC Motors - Walk in Cooler	ECM - Medium Temp Walk-in, Evap fan <= 15" Diameter	Electronically Communtated Motor (ECM)	40	8,585
41	EC Motors - Walk in Cooler	ECM- Low Temp Walk-in, Evap fan <= 15" Diameter	Electronically Communtated Motor (ECM)	46	8,585
42	Anti-Sweat Heater	Anti-Sweat Heater Controls	Anti-Sweat Heater Controls	72	5,044
43	No Heat Case Door NMx	No Heat Case Doors	No Heat Case Doors	0	8,760
44	Medium Temperature Reach-In Case	Medium-temp Enclosed Reach-In Case (per linear foot)	Medium-temp Reach-In Cases with Doors	20	8,760
45	Evaporator Fan Motor Controller	Evap Fan Motor Controller	Evaporator Motor Fan Control	91	8,585
46	Direct Evaporative Cooling	Tier 1 - Direct Evaporative Cooling-TOTAL	Standard Direct Evaporative Cooler	1,783	1,213
47	VFD Chiller Retrofit	VSD Chiller Retrofit	Chiller size 378 tons, 0.59 full load kW/ton, 0.41 IPLV	154,879	1,283
48	LED Ref and Frz Cases 5' or 6' doors	LED Ref and Frz Cases 5' or 6' doors	LED Strip lighting	41	8,760
49	Commercial Dishwasher - Electric Water Heating	Commercial Dishwasher - Under Counter, Electric Only	ENERGY STAR qualified unit	1,085	6,570
50	Commercial Dishwasher - Electric Water Heating	Commercial Dishwasher - Door Type, Electric Only	ENERGY STAR qualified unit	3,463	6,570
51	Hot Food Holding Cabinet	Hot Food Holding Cabinet	ENERGY STAR qualified unit	230	5,475
52	Demand Controlled Ventilation	Demand Contolled Ventilation	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	11,766	3,307
53	Ductless Mini-Splits	Mini-Split Heat Pump	MSHP size 1.2 tons, 21.27 SEER, 11.50 HSPF	1,088	2,901
54	Ductless Mini-Splits	Mini-Split AC - Data Center	MSHP size 1.2 tons, 21.27 SEER	1,088	5,236
55	NM - Custom Efficiency	Custom Efficiency	New Equipment	2,497,606	4,917
56	NM - Custom Efficiency - Compressed Air	Compressed Air	New Equipment	3,082,573	6,411
57	NM - Custom Efficiency - Motors	Motors Efficiency	New Equipment	2,102,426	4,049

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Baseline Product Assumptions			**Economic Assumptions**				
Line No.	**Baseline Product Description / Rating**	**Baseline Product Consumption (watts)**	**Baseline Hours of Operation (hrs/yr)**	**Measure Lifetime (years)**	**Rebate Amount ($)**	**Average Baseline Product Cost ($)**	**Incremental Cost of Efficient Product ($)**	**Assumed Energy Cost ($/kWh)**
29	Chiller size 58.8 tons, 0.78 full load kW/ton, 0.63 IPLV	45,864	1,040	20.00	$3,969	$35,280	$5,880	$ 0.067
30	Chiller size 113.5 tons, 0.78 full load kW/ton, 0.62 IPLV	87,963	846	20.00	$5,306	$75,000	$11,350	$ 0.067
31	Chiller size 225 tons, 0.68 full load kW/ton, 0.58 IPLV	153,000	1,166	20.00	$9,765	$108,000	$22,500	$ 0.067
32	Chiller size 300 tons, 0.62 full load kW/ton, 0.54 IPLV	186,000	2,180	20.00	$15,975	$210,000	$21,000	$ 0.067
33	Chiller size 125 tons, 0.63 full load kW/ton, 0.60 IPLV	79,250	1,094	20.00	$2,288	$75,000	$12,500	$ 0.067
34	Chiller size 225 tons, 0.63 full load kW/ton, 0.60 IPLV	142,650	1,283	20.00	$8,306	$135,000	$22,500	$ 0.067
35	Chiller size 425 tons, 0.58 full load kW/ton, 0.55 IPLV	244,800	1,283	20.00	$11,645	$255,000	$31,875	$ 0.067
36	Chiller size 750 tons, 0.57 full load kW/ton, 0.54 IPLV	427,500	986	20.00	$8,878	$450,000	$56,250	$ 0.067
37	Air-cooled chiller average capacity 250 tons, 1.26 kW/ton	313,742	347	20.00	$3,125	$250,000	$10,000	$ 0.067
38	Shaded Pole Motor	64	8,672	15.00	$40	$0	$88	$ 0.067
39	Shaded Pole Motor	75	8,672	15.00	$40	$0	$88	$ 0.067
40	Shaded Pole Motor	122	8,585	15.00	$70	$0	$180	$ 0.067
41	Shaded Pole Motor	143	8,585	15.00	$70	$0	$180	$ 0.067
42	Anti-Sweat Heaters running constantly	72	8,760	12.00	$20	$0	$34	$ 0.067
43	Anti-Sweat Heaters running constantly	175	8,760	10.00	$125	$0	$538	$ 0.067
44	Medium-temp Open Reach-In Cases	113	8,760	15.00	$70	$0	$906	$ 0.067
45	No Motor Fan Controls	130	8,585	15.00	$35	$0	$120	$ 0.067
46	Standard Roof-top Unit	9,046	1,213	10.00	$746	$11,250	-$7,880	$ 0.067
47	Chiller size 378 tons, 0.58 full load kW/ton, 0.56 IPLV	211,036	1,283	20.00	$8,424	$0	$27,172	$ 0.067
48	T8 or T12 Fluorescent	113	8,760	16.00	$50	$0	$164	$ 0.059
49	Conventional unit as defined by ENERGY STAR	1,470	6,570	10.00	$175	$4,960	$106	$ 0.059
50	Conventional unit as defined by ENERGY STAR	5,194	6,570	15.00	$196	$6,786	$550	$ 0.059
51	Conventional unit as defined by ENERGY STAR	504	5,475	12.00	$400	$2,069	$1,713	$ 0.059
52	Commercial kitchen ventilation hoods without Demand Controlled Ventilation with 8.65 HP Motor	19,597	3,307	20.00	$865	$0	$19,759	$ 0.059
53	MSHP size 1.2 tons, 14 SEER, 8.2 HSPF	1,647	2,901	18.00	$173	$3,440	$512	$ 0.067
54	MSHP size 1.2 tons, 14 SEER	1,647	5,236	18.00	$108	$3,440	$512	$ 0.067
55	Old or less efficient systems or equipment	2,545,060	4,917	20.00	$17,293	$0	$125,559	$ 0.065
56	Old or less efficient systems or equipment	3,114,508	6,411	20.00	$12,596	$0	$61,477	$ 0.061
57	Old or less efficient systems or equipment	2,124,863	4,049	15.00	$5,675	$0	$30,832	$ 0.067

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Stipulated Output								Economic Assumptions	
Line No.	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)
29	68%	7.56	2.46	11,618	$0.34	$0.02	11.172	11.222	$0.00	$0.00
30	47%	13.07	6.96	12,961	$0.41	$0.02	15.323	15.391	$0.00	$0.00
31	43%	11.64	6.59	28,868	$0.34	$0.02	24.750	24.860	$0.00	$0.00
32	76%	4.65	1.11	67,359	$0.24	$0.01	30.900	31.038	$0.00	$0.00
33	18%	40.12	32.78	4,651	$0.49	$0.02	4.250	4.269	$0.00	$0.00
34	37%	13.35	8.42	25,171	$0.33	$0.02	19.618	19.706	$0.00	$0.00
35	37%	14.55	9.23	32,717	$0.36	$0.02	25.500	25.614	$0.00	$0.00
36	16%	65.87	55.47	12,750	$0.70	$0.03	12.937	12.995	$0.00	$0.00
37	31%	25.72	17.68	5,806	$0.54	$0.03	16.712	16.787	$0.00	$0.00
38	45%	3.55	1.94	370	$0.11	$0.01	0.043	0.048	$0.00	$0.00
39	45%	3.04	1.66	432	$0.09	$0.01	0.050	0.056	$0.00	$0.00
40	39%	3.79	2.32	709	$0.10	$0.01	0.083	0.092	$0.00	$0.00
41	39%	3.25	1.99	827	$0.08	$0.01	0.096	0.107	$0.00	$0.00
42	59%	1.91	0.79	266	$0.08	$0.01	0.000	0.000	$0.00	$0.00
43	23%	5.23	4.02	1,533	$0.08	$0.01	0.175	0.195	$0.00	$0.00
44	8%	16.62	15.34	814	$0.09	$0.01	0.093	0.104	$0.00	$0.00
45	29%	5.34	3.78	335	$0.10	$0.01	0.039	0.013	$0.00	$0.00
46	-9%	50.33	55.10	8,807	$0.08	$0.01	7.263	7.295	-$746.42	$0.00
47	31%	5.63	3.88	72,051	$0.12	$0.01	56.157	-2.123	$0.00	$0.00
48	31%	4.44	3.08	627	$0.08	$0.00	0.072	0.080	$0.00	$0.00
49	165%	0.45	-0.30	2,535	$0.07	$0.01	0.386	0.368	$31.63	$52.57
50	36%	0.61	0.39	11,369	$0.02	$0.00	1.730	1.653	$195.12	$39.99
51	23%	19.36	14.84	1,502	$0.27	$0.02	0.274	0.262	$0.00	$0.00
52	4%	5.55	5.31	25,896	$0.03	$0.00	7.831	4.323	$0.00	$2,036.06
53	34%	4.72	3.12	1,622	$0.11	$0.01	0.559	0.561	$0.00	$0.00
54	21%	2.61	2.06	2,926	$0.04	$0.00	0.559	0.624	$0.00	$0.00
55	14%	3.66	3.15	233,326	$0.07	$0.00	47.453	19.680	$0.00	$19,244.56
56	20%	4.61	3.66	204,731	$0.06	$0.00	31.936	24.419	$0.00	$777.66
57	18%	4.50	3.67	90,835	$0.06	$0.00	22.436	13.148	$0.00	$749.17

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

		Program Forecast Inputs		Stipulated Forecast Inputs			Program Forecast Outputs			
	Technical Assumption	2017					2017			
Line No.	Coincidence Factor (%)	2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)
29	90.0%	0	0	88%	100%	100%	0.000	0	$0	$0
30	90.0%	1	1	88%	100%	100%	13.467	12,287	$5,306	$11,350
31	90.0%	1	1	88%	100%	100%	21.753	27,367	$9,765	$22,500
32	90.0%	0	0	88%	100%	100%	0.000	0	$0	$0
33	90.0%	1	1	88%	100%	100%	3.735	4,409	$2,288	$12,500
34	90.0%	0	0	88%	100%	100%	0.000	0	$0	$0
35	90.0%	1	1	88%	100%	100%	22.412	31,016	$11,645	$31,875
36	90.0%	0	0	88%	100%	100%	0.000	0	$0	$0
37	90.0%	1	1	88%	100%	100%	14.688	5,504	$3,125	$10,000
38	100.0%	10	90	88%	100%	100%	3.751	31,575	$3,600	$7,920
39	100.0%	10	90	88%	100%	100%	4.376	36,838	$3,600	$7,920
40	100.0%	10	60	88%	100%	100%	4.836	40,307	$4,200	$10,800
41	100.0%	10	60	88%	100%	100%	5.643	47,025	$4,200	$10,800
42	96.7%	2	31	88%	100%	100%	0.000	7,883	$625	$1,063
43	100.0%	2	5	88%	100%	100%	0.854	7,266	$625	$2,688
44	100.0%	2	5	88%	100%	100%	0.454	3,858	$350	$4,531
45	29.4%	5	20	88%	100%	100%	0.224	6,347	$700	$2,395
46	90.0%	4	4	88%	100%	100%	25.533	33,394	$2,986	-$31,520
47	-3.4%	0	0	88%	100%	100%	0.000	0	$0	$0
48	100.0%	12	120	88%	100%	100%	8.386	71,311	$6,000	$19,650
49	85.6%	10	10	100%	100%	100%	3.685	27,460	$1,750	$1,060
50	85.6%	7	7	100%	100%	100%	11.569	86,221	$1,375	$3,850
51	85.6%	33	33	100%	100%	100%	8.650	53,718	$13,200	$56,529
52	49.5%	12	12	100%	100%	100%	51.873	336,676	$10,380	$237,106
53	90.0%	30	30	88%	100%	100%	14.689	45,964	$5,184	$15,320
54	100.0%	0	11	88%	100%	100%	6.120	31,108	$1,209	$5,745
55	37.2%	2	2	80%	100%	100%	31.488	404,466	$34,586	$251,118
56	68.5%	1	1	80%	100%	100%	19.535	177,449	$12,596	$61,477
57	52.5%	8	8	80%	100%	100%	84.149	629,845	$45,403	$246,658

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Measure Description		High Efficiency Product Assumptions		
Line No.	Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)
58	NM - Custom Efficiency - Lighting	Lighting	High Efficiency Lighting	1,286,519	4,347
59	NM - Custom Efficiency - Cooling	Cooling	New Equipment	2,664,056	4,396
60	Study	Engineering Studies	Completed Studies	0	0
61	NM - Lighting Efficiency Rebate	T8 to T8 Optimization	Fluorescent T8 Fixture with Less Lamps (3,2,1)	63	3,876
62	NM - Lighting Efficiency Rebate	T8 Optimization 1 and 2 Lamp v2	Fluorescent T8 Fixture with Less Lamps	57	3,876
63	NM - Lighting Efficiency Rebate	T8 Optimization 3 and 4 Lamp	Fluorescent T8 Fixture with Less Lamps	90	3,876
64	NM - Lighting Efficiency Rebate	T8 4' Lamps - Low Wattage	T8 25W and 28W Lamps	32	3,876
65	NM - Lighting Efficiency Rebate	Parking Garage Low Wattage T8 4' lamps	T8 25W and 28W Lamps	25	8,760
66	NM - Lighting Efficiency Rebate	CFL <= 18W Pin Based	Pin Based Compact Fluorescent <= 18 Watts	21	3,876
67	NM - Lighting Efficiency Rebate	CFL 19-32W Pin Based	Pin Based Compact Fluorescent 19 to 32 Watts	39	3,876
68	NM - Lighting Efficiency Rebate	CFL 33W+ Pin Based	Pin Based Compact Fluorescent 19 to 32 Watts	63	3,876
69	NM - Lighting Efficiency Rebate	CFL <= 18W Screw In	Screw IN CFL Equal to or less than 18 Watts	16	3,876
70	NM - Lighting Efficiency Rebate	CFL 19-32W Screw In	Screw-In Compact Fluorescent 19 to 32 Watts	34	3,876
71	NM - Lighting Efficiency Rebate	CFL 33W+ Screw In	Screw-In Compact Fluorescent 19 to 32 Watts	63	3,876
72	NM - Lighting Efficiency Rebate	CFL 2' Lamp - Low Wattage	PL 25W CFL	34	3,876
73	NM - Lighting Efficiency Rebate	LED Interior Lamp <= 5W	LED Interior Lamp	6	3,876
74	NM - Lighting Efficiency Rebate	LED Interior Lamp 6W - 10W	LED Interior Lamp	11	3,876
75	NM - Lighting Efficiency Rebate	LED Interior Lamp 11W - 20W	LED Interior Lamp	21	3,876
76	NM - Direct Install	LED Interior Lamp - A Lamps	LED Interior Lamp	14	3,857
77	NM - Direct Install	LED Interior Lamp - PAR20, R20	LED Interior Lamp	10	3,857
78	NM - Direct Install	LED Interior Lamp - PAR30	LED Interior Lamp	16	3,857
79	NM - Direct Install	LED Interior Lamp - BR30	LED Interior Lamp	14	3,857
80	NM - Direct Install	LED Interior Lamp - PAR38	LED Interior Lamp	22	3,857
81	NM - Direct Install	LED Interior Lamp - BR40	LED Interior Lamp	20	3,857
82	NM - Direct Install	LED Interior Lamp - PAR16	LED Interior Lamp	8	3,857
83	NM - Direct Install	LED Interior Lamp - MR16	LED Interior Lamp	8	3,857
84	NM - Direct Install	LED Interior Lamp - GU10	LED Interior Lamp	8	3,857
85	NM - Direct Install	LED Interior Lamp - Decorative (B, BA, Candle)	LED Interior Lamp	6	3,857
86	NM - Lighting Efficiency Rebate	LED Pedestrian Signals -9" (Walk/Don't Walk)	LED Pedestrian Walk Signal	8	4,380
87	NM - Lighting Efficiency Rebate	LED Pedestrian Signals -12" (Walk/Don't Walk)	LED Pedestrian Walk Signal	10	4,380
88	NM - Lighting Efficiency Rebate	LED Traffic Balls and Arrows - 12" Red	LED Traffic Light	11	4,380

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Baseline Product Assumptions			Economic Assumptions				
Line No.	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Assumed Energy Cost ($/kWh)
58	Existing Lower Efficiency Lighting	1,301,985	4,347	15.00	$6,339	$0	$22,497	$ 0.063
59	Old or less efficient systems or equipment	2,686,275	4,396	20.00	$9,253	$0	$46,902	$ 0.067
60	No Studies	0	0	0.00	$42,500	$0	$50,000	$ 0.065
61	Fluorescent T8 Fixture with More Lamps (4,3,2)	115	3,876	16.00	$12	$0	$43	$ 0.063
62	T12 Fluorescents with more lamps	119	3,876	7.40	$10	$0	$31	$ 0.063
63	T12 Fluorescents with more lamps	152	3,876	7.40	$12	$0	$31	$ 0.063
64	T8 32W Lamps	38	3,876	7.40	$1	$0	$4	$ 0.063
65	T8 32W Lamps	30	8,760	7.40	$1	$0	$4	$ 0.059
66	Incandescent	50	3,876	3.25	$2	$0	$10	$ 0.063
67	Incandescent	110	3,876	3.25	$3	$0	$12	$ 0.063
68	Incandescent	205	3,876	3.25	$3	$0	$15	$ 0.063
69	Incandescent	44	3,876	3.25	$2	$0	$9	$ 0.063
70	Incandescent	114	3,876	3.25	$2	$0	$15	$ 0.063
71	Incandescent	242	3,876	3.25	$3	$0	$28	$ 0.063
72	PL 40W CFL	51	3,876	3.25	$2	$0	$12	$ 0.063
73	Incandescent	27	3,876	6.95	$7	$0	$14	$ 0.063
74	Incandescent	42	3,876	6.95	$10	$0	$20	$ 0.063
75	Incandescent	66	3,876	6.95	$15	$0	$32	$ 0.063
76	Incandescent, Halogen, or CFL Equivalent	26	3,857	6.95	$5	$4	$16	$ 0.063
77	Incandescent, Halogen, or CFL Equivalent	35	3,857	6.95	$5	$6	$19	$ 0.063
78	Incandescent, Halogen, or CFL Equivalent	55	3,857	6.95	$5	$8	$28	$ 0.063
79	Incandescent, Halogen, or CFL Equivalent	47	3,857	6.95	$5	$8	$12	$ 0.063
80	Incandescent, Halogen, or CFL Equivalent	73	3,857	6.95	$10	$6	$29	$ 0.063
81	Incandescent, Halogen, or CFL Equivalent	65	3,857	6.95	$10	$4	$30	$ 0.063
82	Incandescent, Halogen, or CFL Equivalent	28	3,857	6.95	$5	$10	$13	$ 0.063
83	Halogen Equivalent	35	3,857	6.95	$5	$4	$14	$ 0.063
84	Incandescent, Halogen, or CFL Equivalent	24	3,857	6.95	$5	$2	$17	$ 0.063
85	Incandescent, Halogen, or CFL Equivalent	36	3,857	6.95	$5	$1	$14	$ 0.063
86	Incandescent Pedestrian Walk Signal	69	4,380	10.27	$45	$0	$80	$ 0.059
87	Incandescent Pedestrian Walk Signal	116	4,380	10.27	$60	$0	$110	$ 0.059
88	Incandescent Traffic Light	135	4,380	10.27	$48	$0	$90	$ 0.059

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Stipulated Output								Economic Assumptions	
Line No.	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)
58	28%	5.22	3.75	67,225	$0.09	$0.01	15.466	12.044	$0.00	$45.85
59	20%	6.91	5.55	97,673	$0.09	$0.00	22.219	13.269	$0.00	$244.85
60	85%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.000	0.000	$0.00	$0.00
61	28%	3.35	2.42	202	$0.06	$0.00	0.052	0.045	$0.04	$0.00
62	32%	2.03	1.38	242	$0.04	$0.01	0.062	0.054	-$0.11	$0.00
63	39%	2.05	1.26	239	$0.05	$0.01	0.062	0.053	-$0.11	$0.00
64	25%	2.50	1.88	25	$0.04	$0.01	0.007	0.006	-$0.01	$0.00
65	25%	1.51	1.13	45	$0.02	$0.00	0.005	0.006	$0.00	$0.00
66	21%	1.33	1.05	114	$0.02	$0.01	0.029	0.025	-$0.05	$0.00
67	25%	0.68	0.51	277	$0.01	$0.00	0.071	0.062	-$0.13	$0.00
68	20%	0.44	0.35	550	$0.01	$0.00	0.142	0.123	-$0.25	$0.00
69	23%	1.28	0.99	109	$0.02	$0.01	0.028	0.024	-$0.05	$0.00
70	13%	0.78	0.67	309	$0.01	$0.00	0.080	0.069	-$0.14	$0.00
71	11%	0.63	0.57	693	$0.00	$0.00	0.179	0.155	-$0.31	$0.00
72	17%	2.80	2.33	67	$0.03	$0.01	0.017	0.015	-$0.03	$0.00
73	51%	2.72	1.32	80	$0.09	$0.01	0.021	0.018	-$0.04	$0.00
74	50%	2.69	1.34	118	$0.08	$0.01	0.031	0.026	-$0.05	$0.00
75	47%	2.86	1.50	176	$0.09	$0.01	0.045	0.039	-$0.08	$0.00
76	31%	5.77	3.98	44	$0.11	$0.02	0.011	0.010	$0.00	$0.00
77	27%	3.12	2.30	95	$0.05	$0.01	0.025	0.021	$0.00	$0.00
78	18%	2.99	2.46	149	$0.03	$0.00	0.039	0.033	$0.00	$0.00
79	41%	1.49	0.87	128	$0.04	$0.01	0.033	0.029	$0.00	$0.00
80	35%	2.27	1.48	198	$0.05	$0.01	0.051	0.044	$0.00	$0.00
81	34%	2.64	1.75	177	$0.06	$0.01	0.046	0.040	$0.00	$0.00
82	39%	2.67	1.63	76	$0.07	$0.01	0.020	0.017	$0.00	$0.00
83	37%	2.06	1.30	104	$0.05	$0.01	0.027	0.023	$0.00	$0.00
84	30%	4.26	2.97	61	$0.08	$0.01	0.016	0.014	$0.00	$0.00
85	36%	1.93	1.24	114	$0.04	$0.01	0.029	0.025	$0.00	$0.00
86	56%	5.08	2.22	267	$0.17	$0.02	0.061	0.034	$0.00	$0.00
87	55%	4.02	1.83	464	$0.13	$0.01	0.106	0.059	$0.00	$0.00
88	53%	2.81	1.31	543	$0.09	$0.01	0.124	0.069	$0.00	$0.00

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

		Program Forecast Inputs		Stipulated Forecast Inputs			Program Forecast Outputs			
	Technical Assumption	2017					2017			
Line No.	Coincidence Factor (%)	2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)
58	69.8%	75	75	80%	100%	100%	722.623	4,369,968	$475,436	$1,687,256
59	53.5%	2	2	80%	100%	100%	21.230	169,314	$18,505	$93,804
60	0.0%	2	2	80%	100%	100%	0.000	0	$85,000	$100,000
61	77.5%	1	50	80%	100%	100%	1.807	8,767	$600	$2,156
62	77.5%	1	50	80%	100%	100%	2.157	10,467	$500	$1,545
63	77.5%	1	50	80%	100%	100%	2.136	10,365	$600	$1,545
64	77.5%	1	25	80%	100%	100%	0.114	551	$25	$100
65	100.0%	0	0	80%	100%	100%	0.000	0	$0	$0
66	77.5%	1	10	80%	100%	100%	0.204	988	$20	$95
67	77.5%	1	10	80%	100%	100%	0.494	2,398	$30	$119
68	77.5%	1	5	80%	100%	100%	0.491	2,383	$15	$76
69	77.5%	2	5	80%	100%	100%	0.097	472	$10	$44
70	77.5%	0	0	80%	100%	100%	0.000	0	$0	$0
71	77.5%	0	0	80%	100%	100%	0.000	0	$0	$0
72	77.5%	1	5	80%	100%	100%	0.059	289	$10	$59
73	77.5%	1	50	80%	100%	100%	0.712	3,457	$350	$682
74	77.5%	1	50	80%	100%	100%	1.056	5,125	$500	$1,000
75	77.5%	1	50	80%	100%	100%	1.570	7,620	$750	$1,582
76	77.5%	1	100	90%	100%	100%	0.893	4,314	$500	$1,617
77	77.5%	1	100	90%	100%	100%	1.918	9,273	$500	$1,883
78	77.5%	1	100	90%	100%	100%	3.000	14,502	$500	$2,817
79	77.5%	1	100	90%	100%	100%	2.574	12,442	$500	$1,205
80	77.5%	1	150	90%	100%	100%	5.995	28,978	$1,500	$4,279
81	77.5%	1	400	90%	100%	100%	14.278	69,017	$4,000	$11,847
82	77.5%	1	50	90%	100%	100%	0.765	3,698	$250	$641
83	77.5%	1	50	90%	100%	100%	1.048	5,068	$250	$678
84	77.5%	1	5	90%	100%	100%	0.062	299	$25	$83
85	77.5%	1	1	90%	100%	100%	0.023	111	$5	$14
86	50.0%	0	0	80%	100%	100%	0.000	0	$0	$0
87	50.0%	0	0	80%	100%	100%	0.000	0	$0	$0
88	50.0%	0	0	80%	100%	100%	0.000	0	$0	$0

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Measure Description		High Efficiency Product Assumptions		
Line No.	Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)
89	NM - Lighting Efficiency Rebate	LED Traffic Balls and Arrows - 12" Green	LED Traffic Light	11	4,380
90	NM - Lighting Efficiency Rebate	LED Traffic Balls and Arrows - 8" Red	LED Traffic Light	10	4,380
91	NM - Lighting Efficiency Rebate	LED Traffic Balls and Arrows - 8" Green	LED Traffic Light	8	4,380
92	NM - Lighting Efficiency Rebate	Parking Garages 2 - 3 Lamp Fluorescent	High Efficiency Fluorescent T8 or T5 Systems	86	8,760
93	NM - Lighting Efficiency Rebate	High Bay Fluorescents 2-3L T5HO or 4L T8	High Bay Fluorescents with Electronic Ballasts	166	3,876
94	NM - Lighting Efficiency Rebate	High Bay Fluorescents 3L T8VHO, 4-6L T5HO, 6-8L T8	High Bay Fluorescents with Electronic Ballasts	303	3,876
95	NM - Lighting Efficiency Rebate	High Bay Fluorescents 6L T8VHO, 8L T5HO, 12-16L T8	High Bay Fluorescents with Electronic Ballasts	558	3,876
96	NM - Lighting Efficiency Rebate	High Bay Fluorescents 8L T8VHO, 10L T5HO, 18-20L T8	High Bay Fluorescents with Electronic Ballasts	763	3,876
97	NM - Lighting Efficiency Rebate	Wall mount occupancy sensor - 50 Watts to 300 Watts Controlled Load	Lighting Fixture with Occupancy Sensor	86	3,876
98	NM - Lighting Efficiency Rebate	Wall mount occupancy sensor - Greater than 300 Watts Controlled Load	Lighting Fixture with Occupancy Sensor	487	3,876
99	NM - Lighting Efficiency Rebate	Ceiling mount occupancy sensor - 50 Watts to 300 Watts Controlled Load	Lighting Fixture with Occupancy Sensor	157	3,876
100	NM - Lighting Efficiency Rebate	Ceiling mount occupancy sensor - Greater than 300 Watts Controlled Load	Lighting Fixture with Occupancy Sensor	487	3,876
101	NM - Lighting Efficiency Rebate	Occupancy Sensor - Photocell	Lighting Fixture with Photocell	182	3,876
102	NM - Lighting Efficiency Rebate	Stairwell Fixture with Integral Occupancy Sensor	Stairwell Lighting Fixture with Occupancy Sensor	6	8,760
103	NM - Lighting Efficiency Rebate	LED Interior Screw In Fixture Retrofit	LED Screw-In Fixture	22	3,876
104	NM - Lighting Efficiency Rebate	LED/LEC Exit Sign	LED Exit Sign	1	8,598
105	NM - Lighting Efficiency Rebate	LED Interior Fixture <= 25W	LED Downlight Fixture	22	3,876
106	NM - Lighting Efficiency Rebate	LED Interior Fixture 26W - 50W	LED Downlight Fixture	47	3,876
107	NM - Lighting Efficiency Rebate	LED Interior Fixture <= 25W (CFL baseline)	LED Downlight Fixture	26	3,876
108	NM - Lighting Efficiency Rebate	LED Interior Fixture 26-50W (CFL baseline)	LED Downlight Fixture	40	3,876
109	NM - Lighting Efficiency Rebate	LED Outdoor Canopy or Soffit lighting 25W - 60W	LED Canopy/Soffit Fixture	43	4,100
110	NM - Lighting Efficiency Rebate	LED Outdoor Canopy or Soffit lighting 61W - 150W	LED Canopy/Soffit Fixture	94	4,100
111	NM - Lighting Efficiency Rebate	LED Parking Garage lighting 25W - 60W	LED Parking Garage Fixture	41	8,760
112	NM - Lighting Efficiency Rebate	LED Parking Garage lighting 61W - 83W	LED Parking Garage Fixture	71	8,760
113	NM - Lighting Efficiency Rebate	LED Exterior Wall Pack <= 25W	LED Wall Pack Fixture	19	4,100
114	NM - Lighting Efficiency Rebate	LED Exterior Wall Pack 26W - 60W	LED Wall Pack Fixture	44	4,100
115	NM - Lighting Efficiency Rebate	LED Exterior Wall Pack 61W - 150W	LED Wall Pack Fixture	101	4,100
116	NM - Lighting Efficiency Rebate	LED Parking Garage Wall Pack <= 25W	LED Parking Garage Fixture	18	8,760
117	NM - Lighting Efficiency Rebate	LED Parking Garage Wall Pack 26W - 60W	LED Parking Garage Fixture	44	8,760
118	NM - Lighting Efficiency Rebate	LED Parking Garage Wall Pack 61W - 150W	LED Parking Garage Fixture	94	8,760
119	NM - Lighting Efficiency Rebate	LED Ref and Frz Cases 5' or 6' doors	LED Strip lighting	41	8,760
120	NM - Lighting Efficiency Rebate	LED Troffer Retrofit	LED Troffer Fixture - Retrofit Kit	51	3,876
121	NM - Lighting Efficiency Rebate	LED Troffer Fixture	LED Troffer Fixture	56	3,876
122	NM - Lighting Efficiency Rebate	T12 LED Troffer Retrofit	LED Troffer T12 Fixture - Retrofit Kit	48	3,876
123	NM - Lighting Efficiency Rebate	T12 LED Troffer Fixture	LED Troffer T12 Fixture	53	3,876
124	NM - Lighting Efficiency Rebate	LED PL/G based CFL Replacement lamp	LED Plug In Lamp	21	3,876
125	NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 70W HID replacement lamp	LED High Bay Replacement Lamp	73	3,876
126	NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 100W HID replacement lamp	LED High Bay Replacement Lamp	88	3,876
127	NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 175W HID replacement lamp	LED High Bay Replacement Lamp	127	3,876

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Baseline Product Assumptions			**Economic Assumptions**				
Line No.	**Baseline Product Description / Rating**	**Baseline Product Consumption (watts)**	**Baseline Hours of Operation (hrs/yr)**	**Measure Lifetime (years)**	**Rebate Amount ($)**	**Average Baseline Product Cost ($)**	**Incremental Cost of Efficient Product ($)**	**Assumed Energy Cost ($/kWh)**
89	Incandescent Traffic Light	135	4,380	10.27	$48	$0	$90	$ 0.059
90	Incandescent Traffic Light	116	4,380	10.27	$38	$0	$110	$ 0.059
91	Incandescent Traffic Light	69	4,380	10.27	$38	$0	$70	$ 0.059
92	HID - HPS, PSMH, MV, MH	194	8,760	16.00	$85	$0	$190	$ 0.059
93	HID - HPS, PSMH, MV, MH	319	3,876	16.00	$35	$0	$176	$ 0.063
94	HID - HPS, PSMH, MV, MH	527	3,876	16.00	$50	$0	$232	$ 0.063
95	HID - HPS, PSMH, MV, MH	1,062	3,876	16.00	$80	$0	$418	$ 0.063
96	HID - HPS, PSMH, MV, MH	1,381	3,876	16.00	$100	$0	$483	$ 0.063
97	Lighting Fixture with Manual Switch	123	3,876	8.00	$15	$0	$55	$ 0.063
98	Lighting Fixture with Manual Switch	696	3,876	8.00	$25	$0	$55	$ 0.063
99	Lighting Fixture with Manual Switch	224	3,876	8.00	$30	$0	$125	$ 0.063
100	Lighting Fixture with Manual Switch	696	3,876	8.00	$40	$0	$125	$ 0.063
101	Lighting Fixture with Manual Switch	228	3,876	8.00	$25	$1	$65	$ 0.053
102	Stairwell Lighting Fixture	61	8,760	16.00	$75	$0	$290	$ 0.059
103	Incandescent Lamp	77	3,876	6.95	$15	$0	$24	$ 0.063
104	Incandescent Exit Sign	44	8,598	16.00	$25	$0	$82	$ 0.059
105	Incandescent	77	3,876	16.00	$35	$0	$136	$ 0.063
106	Incandescent	195	3,876	16.00	$50	$0	$192	$ 0.063
107	CFL fixture	65	3,876	16.00	$25	$0	$89	$ 0.063
108	CFL fixture	86	3,876	16.00	$35	$0	$129	$ 0.063
109	HID - HPS, MH, MV, PSMH	215	4,100	16.00	$135	$0	$350	$ 0.053
110	HID - HPS, MH, MV, PSMH	410	4,100	16.00	$150	$0	$332	$ 0.053
111	HID - HPS, MH, MV, PSMH	179	8,760	16.00	$135	$0	$352	$ 0.063
112	HID - HPS, MH, MV, PSMH	280	8,760	16.00	$150	$0	$425	$ 0.063
113	HID Wall Pack Fixture	108	4,100	16.00	$35	$0	$251	$ 0.053
114	HID Wall Pack Fixture	218	4,100	16.00	$75	$0	$326	$ 0.053
115	HID Wall Pack Fixture	416	4,100	16.00	$100	$0	$496	$ 0.053
116	HID Wall Pack Fixture	99	8,760	16.00	$35	$0	$279	$ 0.059
117	HID Wall Pack Fixture	219	8,760	16.00	$75	$0	$378	$ 0.059
118	HID Wall Pack Fixture	410	8,760	16.00	$100	$0	$576	$ 0.059
119	T8 or T12 Fluorescent	113	8,760	16.00	$50	$0	$164	$ 0.059
120	Fluorescent Fixture	103	3,876	16.00	$30	$0	$215	$ 0.063
121	Fluorescent Fixture	109	3,876	16.00	$50	$0	$234	$ 0.063
122	Fluorescent Fixture	90	3,876	16.00	$30	$51	$159	$ 0.063
123	Fluorescent Fixture	92	3,876	16.00	$50	$50	$182	$ 0.063
124	CFL lamp	47	3,876	12.00	$7	$1	$20	$ 0.063
125	<=70W HID Fixture	109	3,876	12.33	$30	$8	$118	$ 0.063
126	<=100W HID Fixture	159	3,876	12.33	$30	$10	$115	$ 0.063
127	<=175W HID Fixture	258	3,876	12.33	$50	$11	$158	$ 0.063

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Stipulated Output								Economic Assumptions	
Line No.	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)
89	53%	2.81	1.31	543	$0.09	$0.01	0.124	0.069	$0.00	$0.00
90	35%	4.02	2.63	464	$0.08	$0.01	0.106	0.059	$0.00	$0.00
91	54%	4.45	2.03	267	$0.14	$0.01	0.061	0.034	$0.00	$0.00
92	45%	3.39	1.87	950	$0.09	$0.01	0.108	0.121	$0.00	$0.00
93	20%	4.71	3.78	593	$0.06	$0.00	0.153	0.132	-$0.27	$0.00
94	22%	4.25	3.33	870	$0.06	$0.00	0.224	0.194	-$0.39	$0.00
95	19%	3.41	2.75	1,950	$0.04	$0.00	0.503	0.435	-$0.88	$0.00
96	21%	3.20	2.54	2,396	$0.04	$0.00	0.618	0.535	-$1.09	$0.00
97	27%	6.06	4.41	143	$0.10	$0.01	0.037	0.021	$0.02	$0.00
98	45%	1.07	0.58	809	$0.03	$0.00	0.209	0.117	$0.10	$0.00
99	24%	7.55	5.74	261	$0.12	$0.01	0.067	0.038	$0.03	$0.00
100	32%	2.43	1.65	809	$0.05	$0.01	0.209	0.117	$0.10	$0.00
101	38%	6.85	4.21	176	$0.14	$0.02	0.046	0.229	$0.20	$0.00
102	26%	10.19	7.55	483	$0.16	$0.01	0.055	0.061	$0.06	$0.00
103	63%	1.79	0.67	212	$0.07	$0.01	0.055	0.047	-$0.10	$0.00
104	30%	3.86	2.69	363	$0.07	$0.00	0.042	0.047	-$0.16	$0.00
105	26%	10.03	7.44	215	$0.16	$0.01	0.055	0.048	-$0.10	$0.00
106	26%	5.33	3.94	573	$0.09	$0.01	0.148	0.128	-$0.26	$0.00
107	28%	9.19	6.60	153	$0.16	$0.01	0.039	0.034	$0.00	-$0.07
108	27%	11.58	8.45	178	$0.20	$0.01	0.046	0.040	$0.00	-$0.08
109	39%	9.43	5.80	705	$0.19	$0.01	0.172	0.000	$0.00	$0.00
110	45%	4.86	2.66	1,297	$0.12	$0.01	0.316	0.000	$0.00	$0.00
111	38%	4.59	2.83	1,208	$0.11	$0.01	0.138	0.154	$0.00	$0.00
112	35%	3.66	2.37	1,829	$0.08	$0.01	0.209	0.233	$0.00	$0.00
113	14%	13.10	11.27	364	$0.10	$0.01	0.089	0.000	$0.00	$0.00
114	23%	8.67	6.67	714	$0.11	$0.01	0.174	0.000	$0.00	$0.00
115	20%	7.29	5.82	1,293	$0.08	$0.00	0.315	0.000	$0.00	$0.00
116	13%	6.67	5.83	710	$0.05	$0.00	0.081	0.090	$0.00	$0.00
117	20%	4.19	3.36	1,530	$0.05	$0.00	0.175	0.195	$0.00	$0.00
118	17%	3.53	2.92	2,774	$0.04	$0.00	0.317	0.353	$0.00	$0.00
119	31%	4.44	3.08	627	$0.08	$0.00	0.072	0.080	$0.00	$0.00
120	14%	17.22	14.82	199	$0.15	$0.01	0.051	0.044	-$0.09	$0.00
121	21%	17.68	13.90	208	$0.24	$0.02	0.054	0.046	$0.04	$0.00
122	19%	15.35	12.45	163	$0.18	$0.01	0.042	0.036	$0.03	$0.00
123	28%	19.07	13.83	150	$0.33	$0.02	0.039	0.033	$0.03	$0.00
124	35%	3.13	2.03	101	$0.07	$0.01	0.026	0.023	$0.00	-$0.05
125	26%	13.25	9.87	140	$0.21	$0.02	0.036	0.031	$0.03	$0.00
126	26%	6.64	4.91	273	$0.11	$0.01	0.070	0.061	$0.05	$0.00
127	32%	4.85	3.31	511	$0.10	$0.01	0.132	0.114	$0.10	$0.00

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		Program Forecast Inputs		Stipulated Forecast Inputs			Program Forecast Outputs			
	Technical Assumption	2017					2017			
Line No.	Coincidence Factor (%)	2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)
89	50.0%	0	0	80%	100%	100%	0.000	0	$0	$0
90	50.0%	0	0	80%	100%	100%	0.000	0	$0	$0
91	50.0%	0	0	80%	100%	100%	0.000	0	$0	$0
92	100.0%	0	0	80%	100%	100%	0.000	0	$0	$0
93	77.5%	2	50	80%	100%	100%	5.295	25,693	$1,750	$8,794
94	77.5%	2	50	80%	100%	100%	7.767	37,687	$2,500	$11,618
95	77.5%	3	5	80%	100%	100%	1.742	8,452	$400	$2,090
96	77.5%	1	5	80%	100%	100%	2.140	10,383	$500	$2,415
97	50.0%	2	5	80%	100%	100%	0.082	619	$75	$275
98	50.0%	2	10	80%	100%	100%	0.932	7,015	$250	$550
99	50.0%	2	10	80%	100%	100%	0.300	2,259	$300	$1,250
100	50.0%	2	5	80%	100%	100%	0.466	3,508	$200	$625
101	450.0%	2	10	80%	100%	100%	1.828	1,529	$250	$650
102	100.0%	2	10	80%	100%	100%	0.492	4,184	$750	$2,901
103	77.5%	2	20	80%	100%	100%	0.758	3,677	$300	$479
104	100.0%	1	10	80%	100%	100%	0.377	3,148	$250	$820
105	77.5%	1	5	80%	100%	100%	0.192	932	$175	$678
106	77.5%	1	5	80%	100%	100%	0.512	2,484	$250	$960
107	77.5%	2	20	80%	100%	100%	0.547	2,654	$500	$1,771
108	77.5%	3	20	80%	100%	100%	0.635	3,081	$700	$2,590
109	0.0%	1	10	80%	100%	100%	0.000	6,114	$1,350	$3,502
110	0.0%	1	10	80%	100%	100%	0.000	11,245	$1,500	$3,317
111	100.0%	0	0	80%	100%	100%	0.000	0	$0	$0
112	100.0%	0	0	80%	100%	100%	0.000	0	$0	$0
113	0.0%	1	10	80%	100%	100%	0.000	3,152	$350	$2,507
114	0.0%	1	10	80%	100%	100%	0.000	6,188	$750	$3,257
115	0.0%	1	10	80%	100%	100%	0.000	11,206	$1,000	$4,961
116	100.0%	0	0	80%	100%	100%	0.000	0	$0	$0
117	100.0%	0	0	80%	100%	100%	0.000	0	$0	$0
118	100.0%	0	0	80%	100%	100%	0.000	0	$0	$0
119	100.0%	1	50	80%	100%	100%	3.195	27,166	$2,500	$8,188
120	77.5%	1	50	80%	100%	100%	1.773	8,604	$1,500	$10,756
121	77.5%	1	50	80%	100%	100%	1.856	9,006	$2,500	$11,682
122	77.5%	1	50	80%	100%	100%	1.452	7,047	$1,500	$7,936
123	77.5%	1	50	80%	100%	100%	1.339	6,497	$2,500	$9,090
124	77.5%	5	50	80%	100%	100%	0.903	4,380	$350	$994
125	77.5%	1	5	80%	100%	100%	0.125	605	$150	$588
126	77.5%	1	5	80%	100%	100%	0.244	1,182	$150	$576
127	77.5%	1	5	80%	100%	100%	0.456	2,213	$250	$788

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	Measure Description		High Efficiency Product Assumptions		
Line No.	Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)
128	NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 250W HID replacement lamp	LED High Bay Replacement Lamp	184	3,876
129	NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 320W HID replacement lamp	LED High Bay Replacement Lamp	232	3,876
130	NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 400W HID replacement lamp	LED High Bay Replacement Lamp	310	3,876
131	NM - Lighting Efficiency Rebate	LED High-Bay Luminaires	LED High Bay 95-189W	181	3,876
132	NM - Lighting Efficiency Rebate	LED High-Bay Luminaires	LED High Bay 190-290W	296	3,876
133	NM - Lighting Efficiency Rebate	LED High-Bay Luminaires	LED High Bay 291-464W	480	3,876
134	NM - Lighting Efficiency Rebate	LED High-Bay Luminaires	LED High Bay 465-625W	694	3,876
135	NM - Lighting Efficiency Rebate	LED Area Lighting - 150W MH Replacement Fixture	LED Area Light	52	4,100
136	NM - Lighting Efficiency Rebate	LED Area Lighting - 175W MH Replacement Fixture	LED Area Light	52	4,100
137	NM - Lighting Efficiency Rebate	LED Area Lighting - 250W MH Replacement Fixture	LED Area Light	85	4,100
138	NM - Lighting Efficiency Rebate	LED Area Lighting - 400W MH Replacement Fixture	LED Area Light	130	4,100
139	NM - Lighting Efficiency Rebate	Area Lighting 141-199W	LED Parking Area Fixture	170	4,100
140	NM - Lighting Efficiency Rebate	Area Lighting 200-550W	LED Parking Area Fixture	375	4,100
141	NM - Lighting Efficiency Rebate	LED Tube Type A 4 foot	LED 4 Foot Tube Instafit	19	3,876
142	NM - Lighting Efficiency Rebate	LED Tube Type C 4 foot	LED 4 Foot Tube External Driver Retrofit Kits	23	3,876
143	NM - Lighting Efficiency Rebate	Restroom Aerator	0.5 GPM Bathroom Faucet Aerator in facility with electric DHW heater	4,500	66
144	NM - Lighting Efficiency Rebate	Pre-rinse Sprayer	1.25 GPM Pre-rinse Sprayer in a Restaurant with electric DHW heater	4,500	2,352
145	NM - Lighting Efficiency Rebate	Kitchen Aerator	1 .5 GPM Kitchen Faucet Aerator in a kitchen with electric DHW heater	4,500	135
146	NM - Lighting Efficiency Rebate	Lighting Control Systems	Lighting Control System	0	8,760
147	NM - Lighting Efficiency New Construction	New Construction - Lighting Power Density	Savings in addition to Code Maximum LPD	21,797	3,630
148	NM - Lighting Efficiency New Construction	LED Refrigerated Cases - New Construction	LED Strip lighting	41	8,760
149	NM - Lighting Redesign Implementation	Lighting Redesign Implementation	High Efficiency Product Description / Rating	52,601	5,055
150	NM - Lighting Redesign Study	Lighting Redesign Study	0	0	0
151	NM - Motors and Drives - Prescriptive	New Motor Enhanced	NEMA Premium +1% Efficient Motor	1,394	2,906
152	NM - Motors and Drives - Prescriptive	Upgrade Motor Enhanced	NEMA Premium +1% Efficient Motor	1,529	3,450
153	NM - Motors and Drives - Prescriptive	Non-HVAC VFD	Equipment coupled with an ASD/VFD	6,470	4,988
154	NM - Motors and Drives - Prescriptive	HVAC VFD	Equipment coupled with an ASD/VFD	4,819	8,542
155	NM - Motors and Drives - Prescriptive	Water Well Pump VFD's	VFD Well Pump	60,222	2,653
156	NM - Motors and Drives - Prescriptive	Constant Speed Motor Controller	Motor with Voltage Controller	4,849	4,878
157	NM - Motors and Drives - Prescriptive	Pump Off Controllers	Pump Off Controllers	210	6,132
158	NM - Compressed Air Prescriptive	No Air Loss Drain	New No-Air Loss Drains	0	6,996
159	NM - Compressed Air Prescriptive	VFD Air Compressor New	VFD Compressor New	13,383	2,830
160	NM - Compressed Air Prescriptive	VFD Air Compressor Upgrade	VFD Compressor New	11,728	2,655
161	NM - Compressed Air Prescriptive	Cycling Dryers	New Cycling Dryer	1,117	6,937

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Electric Product Detailed Technical Assumptions

	Baseline Product Assumptions			**Economic Assumptions**				
Line No.	**Baseline Product Description / Rating**	**Baseline Product Consumption (watts)**	**Baseline Hours of Operation (hrs/yr)**	**Measure Lifetime (years)**	**Rebate Amount ($)**	**Average Baseline Product Cost ($)**	**Incremental Cost of Efficient Product ($)**	**Assumed Energy Cost ($/kWh)**
128	<=250W HID Fixture	365	3,876	12.33	$60	$10	$211	$ 0.063
129	<=320W HID Fixture	468	3,876	12.33	$75	$14	$238	$ 0.063
130	<=400W HID Fixture	580	3,876	12.33	$75	$10	$242	$ 0.063
131	HID Fixture <= 250W	323	3,876	16.00	$135	$0	$405	$ 0.063
132	HID Fixture <= 400W	537	3,876	16.00	$150	$0	$664	$ 0.063
133	HID Fixture <= 750W	1,062	3,876	16.00	$200	$0	$1,080	$ 0.063
134	HID Fixture <= 1000W	1,383	3,876	16.00	$250	$0	$1,560	$ 0.063
135	Metal Halide Fixture	185	4,100	16.00	$125	$0	$458	$ 0.053
136	Metal Halide Fixture	210	4,100	16.00	$125	$0	$458	$ 0.053
137	Metal Halide Fixture	295	4,100	16.00	$150	$0	$538	$ 0.053
138	Metal Halide Fixture	456	4,100	16.00	$175	$0	$649	$ 0.053
139	750W MH Fixture	850	4,100	16.00	$200	$0	$747	$ 0.053
140	1000W MH Fixture	1,080	4,100	16.00	$250	$52	$1,198	$ 0.053
141	Fluorescent Lamps	36	3,876	12.82	$4	$3	$27	$ 0.063
142	Fluorescent Lamps	44	3,876	16.00	$10	$0	$64	$ 0.063
143	2.2 GPM Bath Faucet Aerator	4,500	279	10.00	$10	$0	$10	$ 0.060
144	2.25 GPM Pre-rinse Sprayer	4,500	3,975	5.00	$130	$0	$130	$ 0.060
145	2.2 GPM Kitchen Faucet Aerator	4,500	198	10.00	$7	$0	$7	$ 0.060
146	Manual Lighting Controls	10,115	8,760	15.00	$5,917	$0	$16,633	$ 0.060
147	Code Maximum LPD	50,830	3,630	15.00	$13,977	$0	$41,803	$ 0.063
148	T8 or T12 Fluorescent	113	8,760	16.00	$70	$38	$145	$ 0.059
149	Excessive Light Levels	101,391	5,055	15.00	$6,895	$0	$96,424	$ 0.063
150	0	0	0	0.00	$3,200	$0	$18,800	$ 0.063
151	NEMA Premium	1,410	2,906	20.00	$42	$676	$148	$ 0.067
152	EPACT Efficient Motor	1,590	3,450	20.00	$141	$0	$853	$ 0.067
153	Equipment without an ASD/VFD	10,867	4,988	15.00	$2,114	$0	$4,565	$ 0.067
154	Equipment without an ASD/VFD	7,328	8,542	15.00	$1,550	$0	$2,888	$ 0.067
155	Throttled Well Pump	85,155	2,653	15.00	$7,900	$0	$17,965	$ 0.067
156	Motor without Voltage Controller	5,717	4,878	20.00	$345	$0	$1,188	$ 0.067
157	% Clock Off Controller	2,283	6,132	13.00	$3,000	$0	$5,959	$ 0.067
158	New Electronic Solenoid/Timed Drains	517	6,996	13.00	$200	$125	$448	$ 0.061
159	New Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	19,165	2,830	20.00	$2,525	$10,767	$4,730	$ 0.061
160	Existing Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	17,114	2,655	20.00	$5,188	$0	$15,754	$ 0.061
161	New Non-Cycling Dryer	1,853	6,937	20.00	$371	$4,439	$832	$ 0.061

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	Stipulated Output								Economic Assumptions	
Line No.	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)
128	28%	4.72	3.38	702	$0.09	$0.01	0.181	0.157	$0.14	$0.00
129	31%	4.09	2.80	915	$0.08	$0.01	0.236	0.204	$0.18	$0.00
130	31%	3.64	2.51	1,047	$0.07	$0.01	0.270	0.234	$0.21	$0.00
131	33%	11.68	7.78	551	$0.24	$0.02	0.142	0.123	$0.00	-$0.25
132	23%	11.31	8.76	933	$0.16	$0.01	0.241	0.208	$0.00	-$0.42
133	19%	7.62	6.21	2,252	$0.09	$0.01	0.581	0.503	$0.00	-$1.02
134	16%	9.28	7.79	2,672	$0.09	$0.01	0.689	0.597	$0.00	-$1.21
135	27%	15.94	11.58	545	$0.23	$0.01	0.133	0.000	$0.00	$0.00
136	27%	13.42	9.75	648	$0.19	$0.01	0.158	0.000	$0.00	$0.00
137	28%	11.86	8.55	862	$0.17	$0.01	0.210	0.000	$0.00	$0.00
138	27%	9.22	6.73	1,337	$0.13	$0.01	0.326	0.000	$0.00	$0.00
139	27%	5.09	3.73	2,788	$0.07	$0.00	0.680	0.000	$0.00	$0.00
140	21%	7.87	6.23	2,891	$0.09	$0.01	0.705	0.000	$0.00	$0.00
141	15%	6.27	5.34	68	$0.06	$0.00	0.018	0.015	$0.00	-$0.03
142	16%	12.57	10.62	81	$0.12	$0.01	0.021	0.018	$0.00	-$0.04
143	100%	0.10	0.00	960	$0.01	$0.00	0.000	0.000	$38.50	$0.00
144	100%	0.20	0.00	7,301	$0.02	$0.00	0.000	0.000	$226.16	$0.00
145	100%	0.24	0.00	284	$0.02	$0.00	0.000	0.000	$11.38	$0.00
146	36%	2.92	1.88	88,613	$0.07	$0.00	10.115	0.000	$415.67	$0.00
147	33%	6.68	4.44	105,404	$0.13	$0.01	29.034	25.653	$0.00	-$418.18
148	48%	3.92	2.02	627	$0.11	$0.01	0.072	0.080	$0.00	$0.00
149	7%	6.21	5.77	246,648	$0.03	$0.00	48.790	42.227	$0.00	-$106.84
150	17%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.000	0.000	$0.00	$0.00
151	29%	47.52	33.89	46	$0.91	$0.05	0.016	0.014	$0.00	$0.00
152	17%	60.75	50.69	210	$0.67	$0.03	0.061	0.053	$0.00	$0.00
153	46%	3.09	1.66	21,936	$0.10	$0.01	4.398	3.828	$0.00	$0.00
154	54%	2.00	0.93	21,434	$0.07	$0.00	2.509	2.800	$0.00	$0.00
155	44%	4.04	2.26	66,143	$0.12	$0.01	24.933	10.588	$0.00	$0.00
156	29%	4.17	2.96	4,234	$0.08	$0.00	0.868	0.756	$0.00	$0.00
157	50%	6.97	3.46	12,713	$0.24	$0.02	2.073	1.729	$0.00	$0.00
158	45%	2.02	1.12	3,616	$0.06	$0.00	0.517	0.419	$0.00	$0.00
159	53%	4.71	2.20	16,359	$0.15	$0.01	5.782	5.730	$0.00	$0.00
160	33%	17.95	12.04	14,300	$0.36	$0.02	5.386	5.338	$0.00	$0.00
161	45%	2.65	1.47	5,111	$0.07	$0.00	0.737	0.822	$0.00	$0.00

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

		Program Forecast Inputs		Stipulated Forecast Inputs			Program Forecast Outputs			
	Technical Assumption	2017					2017			
Line No.	Coincidence Factor (%)	2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)
128	77.5%	1	5	80%	100%	100%	0.627	3,041	$300	$1,054
129	77.5%	1	5	80%	100%	100%	0.817	3,966	$375	$1,191
130	77.5%	1	5	80%	100%	100%	0.935	4,536	$375	$1,211
131	77.5%	2	50	80%	100%	100%	4.923	23,886	$6,750	$20,247
132	77.5%	2	50	80%	100%	100%	8.330	40,422	$7,500	$33,205
133	77.5%	1	30	80%	100%	100%	12.069	58,564	$6,000	$32,401
134	77.5%	1	5	80%	100%	100%	2.387	11,581	$1,250	$7,802
135	0.0%	1	25	80%	100%	100%	0.000	11,816	$3,125	$11,439
136	0.0%	1	25	80%	100%	100%	0.000	14,037	$3,125	$11,439
137	0.0%	1	30	80%	100%	100%	0.000	22,411	$4,500	$16,142
138	0.0%	1	30	80%	100%	100%	0.000	34,754	$5,250	$19,463
139	0.0%	1	25	80%	100%	100%	0.000	60,412	$5,000	$18,670
140	0.0%	1	25	80%	100%	100%	0.000	62,633	$6,250	$29,941
141	77.5%	3	300	80%	100%	100%	3.666	17,788	$1,200	$8,093
142	77.5%	3	300	80%	100%	100%	4.362	21,167	$3,000	$19,320
143	0.0%	50	250	90%	100%	100%	0.000	234,035	$2,500	$2,500
144	0.0%	10	10	90%	100%	100%	0.000	71,187	$1,300	$1,300
145	0.0%	10	10	90%	100%	100%	0.000	2,768	$67	$67
146	0.0%	1	2	80%	100%	100%	0.000	153,608	$11,833	$33,267
147	79.2%	1	5	80%	100%	100%	102.613	456,790	$69,885	$209,017
148	100.0%	1	2	80%	100%	100%	0.128	1,087	$140	$289
149	77.5%	1	1	80%	100%	100%	33.781	213,779	$6,895	$96,424
150	0.0%	1	1	80%	100%	100%	0.000	0	$3,200	$18,800
151	78.0%	12	15	80%	100%	100%	0.167	604	$635	$2,213
152	78.0%	50	51	80%	100%	100%	2.143	9,199	$7,135	$43,098
153	78.0%	18	55	80%	100%	100%	168.441	1,045,718	$116,278	$251,066
154	100.0%	8	25	80%	100%	100%	56.006	464,433	$38,760	$72,207
155	38.1%	2	3	80%	100%	100%	25.411	171,985	$23,700	$53,896
156	78.0%	1	16	80%	100%	100%	9.671	58,715	$5,516	$19,015
157	74.7%	1	4	80%	100%	100%	5.532	44,075	$12,000	$23,836
158	72.6%	5	5	80%	100%	100%	1.675	15,671	$1,000	$2,240
159	88.8%	4	4	80%	100%	100%	18.337	56,715	$10,100	$18,920
160	88.8%	8	8	80%	100%	100%	34.165	99,152	$41,500	$126,036
161	100.0%	1	1	80%	100%	100%	0.658	4,430	$371	$832

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Electric Product Detailed Technical Assumptions

	Measure Description		High Efficiency Product Assumptions		
Line No.	Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)
162	NM - Compressed Air Prescriptive	Dew Point Demand Control	Purge Control for Heatless Dessicant Dryers	33,609	6,828
163	NM - Compressed Air Prescriptive	Mist Eliminator Filters	New Mist Eliminator Filter	77,735	7,280
164	NM - Small Building Tune-Up Study - E	Small Building Tune-up Study	Existing systems studied for opportunities	181,881	4,856
165	NM - Small Building Tune-Up Measure - E	Small Building Tune-up Measure	Implemented Recommissioning measures	170,059	4,856
166	Commercial AC Switch	Commercial AC Switch Single Stage - NM	Utility Load Control for control period with smart switch	0	0
167	Commercial AC Switch	Commercial AC Switch Multi Stage - NM	Utility Load Control for control period with smart switch	0	0
168	NM - Interrupted Rates - Prescriptive	Program offers significant savings opportunities and flexibility for New Mexico business that can reduce their electric demand when notified.	Utility load control for control period	0	0
169	NM - Residential Cooling	Standard Evaporative Cooling	Evaporative Cooler 85% effective	800	1,622
170	NM - Residential Cooling	EC Motor Furnace Fan in house without central AC	EC Motor Furnace Fan	153	7,968
171	NM - Residential Cooling	EC Motor Furnace Fan in house with central AC	EC Motor Furnace Fan	153	8,754
172	NM - Residential Cooling	High Efficiency Air Conditioning (HEAC)	2014 Average Participant High Efficiency Air Conditioner	3,087	2,006
173	NM - Residential Cooling	HEAC Quality Install	2014 Average Participant High Efficiency Air Conditioner with Quality Install	2,437	960
174	NM - Residential Cooling	Air Source Heat Pump (ASHP)	Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,911	2,733
175	NM - Residential Cooling	ASHP Quality Install	Quality Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,295	1,481
176	NM - Residential Cooling	Mini-Split Heat Pump	MSHP size 1.2 tons, 21.27 SEER, 11.50 HSPF	1,088	2,726
177	Home Lighting & Recycling	CFL Sales	Average CFL Bulb Purchased by Customer	14	1,012
178	Home Lighting & Recycling	CFL Low Income	Average CFL Bulb Purchased by Customer	14	818
179	Home Lighting & Recycling	LED Sales	Average LED Bulb Purchased by Customer	10	1,012
180	Home Lighting & Recycling	LED Giveaways	LED Bulb	12	818
181	Home Lighting & Recycling	Value LED	Average Value LED Bulb Purchased by Customer	10	1,012
182	HES AC	HEAC	2014 Average Participant High Efficiency Air Conditioner	3,087	2,006
183	HES AC	HEAC Quality Install	2014 Average Participant High Efficiency Air Conditioner with Quality Install	2,437	960
184	HES General	Low Flow Showerheads	Low Flow Shower head - 1.5 GPM	2,444	717
185	HES Evaps	Evap Cooling	Evaporative Cooler 85% effective	800	1,622
186	HES Radiant Barriers	Radiant Barriers	Average 1,850 sqft house with Radiant Barrier	2,539	5,424
187	HES AC	ASHP	Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,911	2,733
188	HES AC	ASHP Quality Install	Quality Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,295	1,481

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Electric Product Detailed Technical Assumptions

	Baseline Product Assumptions			**Economic Assumptions**				
Line No.	**Baseline Product Description / Rating**	**Baseline Product Consumption (watts)**	**Baseline Hours of Operation (hrs/yr)**	**Measure Lifetime (years)**	**Rebate Amount ($)**	**Average Baseline Product Cost ($)**	**Incremental Cost of Efficient Product ($)**	**Assumed Energy Cost ($/kWh)**
162	No Purge Control for Heatless Dessicant Dryers	38,337	6,828	15.00	$1,000	$0	$3,316	$ 0.061
163	New General Purpose Filter	79,019	7,280	15.00	$1,980	$1,280	$4,327	$ 0.061
164	Existing systems	181,881	4,856	7.00	$7,000	$0	$8,000	
165	Existing systems	181,881	4,856	7.00	$601	$0	$2,721	
166	No control, no switch	7,200	2	1.00	$0	$0	$0	
167	No control, no switch	7,200	2	1.00	$0	$0	$0	
168	No Control	500,000	7	3.00	$0	$0	$0	
169	13 SEER AC Split System	3,180	1,456	15.00	$700	$2,587	$0	$ 0.093
170	PSC Motor Furnace Fan	307	7,968	18.00	$100	$0	$464	$ 0.091
171	PSC Motor Furnace Fan	307	8,754	18.00	$100	$0	$464	$ 0.091
172	Average 14 SEER Baseline Efficiency Air Conditioner	3,453	2,006	15.00	$124	$4,484	$1,474	$ 0.095
173	2014 Average Participant High Efficiency Air Conditioner	3,087	960	8.00	$0	$0	$250	$ 0.095
174	Installation of New Air Source Heat Pump (3T, SEER 14, HSPF 8)	3,061	2,733	18.00	$79	$5,700	$510	$ 0.095
175	Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,927	1,481	9.00	$0	$0	$250	$ 0.095
176	MSHP size 1.2 tons, 14 SEER, 8.2 HSPF	1,647	2,726	18.00	$178	$3,440	$512	$ 0.095
177	Average incandescent bulb being replaced	47	1,012	5.17	$1	$2	$1	$ 0.090
178	Average incandescent bulb being replaced	47	818	6.40	$1	$2	$1	$ 0.090
179	Average incandescent bulb being replaced	44	1,012	19.77	$3	$2	$7	$ 0.090
180	Incandescent bulb being replaced	53	818	20.00	$6	$2	$7	$ 0.090
181	Average EISA Standard halogen A-Style Bulb	43	1,012	9.88	$2	$2	$2	$ 0.090
182	Average 14 SEER Baseline Efficiency Air Conditioner	3,453	2,006	15.00	$124	$4,484	$1,474	$ 0.095
183	2014 Average Participant High Efficiency Air Conditioner	3,087	960	8.00	$0	$0	$250	$ 0.095
184	Federal Minimum Standard flow rate 2.5 GPM	2,444	826	10.00	$3	$0	$3	$ 0.090
185	13 SEER AC Split System	3,180	1,456	15.00	$700	$2,587	$0	$ 0.093
186	Average 1,850 sqft house without Radiant Barrier	2,684	5,424	20.00	$229	$0	$1,573	$ 0.095
187	Installation of New Air Source Heat Pump (3T, SEER 14, HSPF 8)	3,061	2,733	18.00	$79	$5,700	$510	$ 0.095
188	Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,927	1,481	9.00	$0	$0	$250	$ 0.095

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Electric Product Detailed Technical Assumptions

	Stipulated Output								Economic Assumptions	
Line No.	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)
162	30%	1.67	1.17	32,281	$0.03	$0.00	4.728	5.277	$0.00	$0.00
163	46%	6.83	3.70	9,348	$0.21	$0.01	1.284	1.433	$60.05	$0.00
164	88%	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!	0.000	0.000	$0.00	$0.00
165	22%	#DIV/0!	#DIV/0!	57,413	$0.01	$0.00	11.822	7.487	$0.00	$0.00
166	#DIV/0!	#DIV/0!	#DIV/0!	13	$0.00	$0.00	7.200	1.766	$0.00	$0.00
167	#DIV/0!	#DIV/0!	#DIV/0!	13	$0.00	$0.00	7.200	1.766	$0.00	$0.00
168	#DIV/0!	#DIV/0!	#DIV/0!	3,500	$0.00	$0.00	500.000	440.402	$0.00	$0.00
169	#DIV/0!	0.00	-2.32	3,332	$0.21	$0.01	2.380	2.840	-$7.29	$0.00
170	22%	4.18	3.28	1,227	$0.08	$0.00	0.154	0.102	$0.00	$0.00
171	22%	3.80	2.98	1,348	$0.07	$0.00	0.154	0.151	$0.00	$0.00
172	8%	21.04	19.27	735	$0.17	$0.01	0.366	0.437	$0.00	$0.00
173	0%	4.20	4.20	624	$0.00	$0.00	0.650	0.776	$0.00	$0.00
174	15%	13.05	11.03	410	$0.19	$0.01	0.150	0.136	$0.00	$0.00
175	0%	2.80	2.80	936	$0.00	$0.00	0.632	0.573	$0.00	$0.00
176	35%	3.53	2.30	1,524	$0.12	$0.01	0.559	0.507	$0.00	$0.00
177	177%	0.23	-0.18	33	$0.04	$0.01	0.032	0.006	$0.00	$0.00
178	177%	0.28	-0.22	26	$0.05	$0.01	0.032	0.004	$0.00	$0.00
179	46%	2.11	1.15	34	$0.09	$0.00	0.034	0.006	$0.00	$0.00
180	84%	2.17	0.35	34	$0.16	$0.01	0.041	0.005	$0.00	$0.00
181	109%	0.60	-0.05	34	$0.06	$0.01	0.033	0.006	$0.00	$0.00
182	8%	21.04	19.27	735	$0.17	$0.01	0.366	0.437	$0.00	$0.00
183	0%	4.20	4.20	624	$0.00	$0.00	0.650	0.776	$0.00	$0.00
184	100%	0.08	0.00	267	$0.01	$0.00	0.000	0.000	$15.53	$0.00
185	#DIV/0!	0.00	-2.32	3,332	$0.21	$0.01	2.380	2.840	-$7.29	$0.00
186	15%	21.05	17.98	784	$0.29	$0.01	0.145	0.172	$0.00	$0.00
187	15%	13.05	11.03	410	$0.19	$0.01	0.150	0.136	$0.00	$0.00
188	0%	2.80	2.80	936	$0.00	$0.00	0.632	0.573	$0.00	$0.00

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Electric Product Detailed Technical Assumptions

		Program Forecast Inputs		Stipulated Forecast Inputs			Program Forecast Outputs			
	Technical Assumption	2017					2017			
Line No.	Coincidence Factor (%)	2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)
162	100.0%	1	1	80%	100%	100%	4.221	27,979	$1,000	$3,316
163	100.0%	1	1	80%	100%	100%	1.146	8,102	$1,980	$4,327
164	56.7%	2	5	90%	100%	100%	0.000	0	$35,000	$40,000
165	56.7%	3	5	90%	100%	100%	33.694	279,912	$3,007	$13,604
166	22.0%	155	482	100%	100%	100%	851.046	6,659	$0	$0
167	22.0%	13	45	100%	100%	100%	79.454	622	$0	$0
168	78.9%	2	2	100%	100%	100%	880.804	7,584	$0	$0
169	100.0%	20	20	67%	100%	100%	37.773	50,244	$14,000	$0
170	55.6%	20	20	100%	100%	100%	2.043	27,823	$2,000	$9,287
171	82.4%	105	105	100%	100%	100%	15.904	160,482	$10,500	$48,755
172	100.0%	19	19	100%	100%	100%	8.305	15,832	$2,353	$27,999
173	100.0%	19	19	100%	100%	100%	14.735	13,444	$0	$4,750
174	76.0%	17	17	100%	100%	100%	2.313	7,902	$1,343	$8,670
175	76.0%	17	17	100%	100%	100%	9.741	18,040	$0	$4,250
176	76.0%	30	30	100%	100%	100%	15.157	51,660	$5,331	$15,320
177	14.5%	25,000	100,000	70%	96%	100%	376.854	2,496,009	$120,000	$67,943
178	10.2%	0	0	100%	96%	100%	0.000	0	$0	$0
179	14.5%	30,000	30,000	80%	100%	100%	141.331	936,075	$90,000	$196,770
180	10.2%	48,000	96,000	80%	90%	99%	339.803	2,595,512	$528,000	$629,665
181	14.5%	85,000	170,000	80%	100%	100%	785.622	5,203,389	$340,000	$312,437
182	100.0%	19	17	93%	100%	100%	6.911	13,174	$2,105	$25,052
183	100.0%	19	17	93%	100%	100%	12.261	11,187	$0	$4,250
184	0.0%	28	25	93%	100%	100%	0.000	7,026	$81	$81
185	100.0%	5	5	93%	100%	100%	13.206	17,567	$3,500	$0
186	100.0%	0	0	93%	100%	100%	0.000	0	$0	$0
187	76.0%	19	17	93%	100%	100%	2.151	7,349	$1,343	$8,670
188	76.0%	19	17	93%	100%	100%	9.059	16,777	$0	$4,250

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	Measure Description		High Efficiency Product Assumptions		
Line No.	Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)
189	**HES Ceiling**	**Ceiling Insulation - Gas Heat**	2014 Average Participant R30, 1,573 sq ft	3,282	902
190	**HES Ceiling**	**Ceiling Insulation - Electric Heat**	2014 Average Participant R30, 1,700 sq ft	3,357	17,529
191	**HES Duct Leakage**	**Duct Leakage - Gas Heat**	2014 Average Participant 108 CFM25 1,738 sqft	3,048	1,355
192	**HES Duct Leakage**	**Duct Leakage - Electric Heat**	2014 Average Participant 103 CFM25 1,787 sqft	3,074	12,538
193	**HES General**	**Programmable Thermostats**	Programmable Thermostat	2,608	5,424
194	**HES Infiltration**	**Air Infiltration - Gas Heat**	2014 Average Participant 1,975 CFM50 1,878 sqft	3,443	1,355
195	**HES Infiltration**	**Air Infiltration - Electric Heat**	2014 Average Participant 1,927 CFM50 1,875 sqft	3,455	13,143
196	**Smart Thermostat**	**Smart Thermostat - EE Only, Total**	New Smart Thermostat	3,463	2,285
197	**Smart Thermostat**	**Smart Thermostat - DR Only**	Utility Load Control Via Smart Thermostat	0	0
198	**Refrigerator Recycling - Secondary**	**Secondary Refrigerator**	Removal of second refrigerator	0	8,760
199	**Refrigerator Recycling - Primary**	**Primary Refrigerator**	Removal of primay refrigerator so it doesn't become a secondary	0	8,760
200	**Refrigerator Recycling - Freezer**	**Freezer**	Removal of freezer	0	8,760
201	**NM - Saver's Switch**	**Residential AC Switch**	Utility Load Control for control period with smart switch	0	0
202	**NM - Saver's Switch**	**Residential WH Switch**	Utility Load Control for control period with smart switch	0	0
203	**LED**	**9 Watt LED**	High efficieny LED bulbs (2 ea 9W, 800 lumen)	18	818
204	**LED**	**11 Watt LED**	High efficieny LED bulbs (2 ea 11W, 1100 lumen)	22	818
205	**Showerhead**	**Showerhead**	Low Flow Shower head - 1.5 GPM	2,444	717
206	**Aerators - Kitchen**	**Aerators - Kitchen**	1.5 GPM flow rate aerator	2,444	774
207	**Aerators - Bathroom**	**Aerators - Bathroom**	1.0 GPM flow rate aerator	2,444	786

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	Baseline Product Assumptions			**Economic Assumptions**				
Line No.	**Baseline Product Description / Rating**	**Baseline Product Consumption (watts)**	**Baseline Hours of Operation (hrs/yr)**	**Measure Lifetime (years)**	**Rebate Amount ($)**	**Average Baseline Product Cost ($)**	**Incremental Cost of Efficient Product ($)**	**Assumed Energy Cost ($/kWh)**
189	2014 Average Participant R3, 1,573 sq ft	3,542	902	20.00	$148	$0	$1,538	$ 0.095
190	2014 Average Participant R3, 1,700 sq ft	3,542	17,529	20.00	$1,028	$0	$1,662	$ 0.095
191	2014 Average Participant 462 CFM25 1,738 sqft	3,542	1,355	18.00	$88	$0	$417	$ 0.095
192	2014 Average Participant 439 CFM25 1,787 sqft	3,542	12,538	18.00	$429	$0	$429	$ 0.095
193	Non-programmable Thermostat	2,684	5,424	11.00	$50	$0	$50	$ 0.095
194	2014 Average Participant 3,135 CFM50 1,875 sqft	3,542	1,355	11.00	$130	$0	$423	$ 0.095
195	2014 Average Participant 2,946 CFM50 1,875 sqft	3,542	13,143	11.00	$166	$0	$371	$ 0.095
196	Existing standard manual or programmable thermostat	3,634	2,285	10.00	$200	$0	$200	$ 0.090
197	No control	3,463	3	1.00	$21	$0	$0	$ 0.095
198	Existing secondary unit - age mostly >10 years	123	8,760	5.00	$50	$0	$0	$ 0.090
199	Existing primary unit - age mostly >10 years	128	8,760	10.00	$50	$0	$0	$ 0.090
200	Existing freezer unit - age mostly >10 years	134	8,760	10.00	$50	$0	$0	$ 0.090
201	No control, no switch	3,634	2	1.00	$0	$0	$0	$ 0.090
202	No control, No Switch	4,500	0	1.00	$0	$0	$0	$ 0.090
203	baseline is 2 incandescent bulb (2 - 43W EISA Halogen)	86	818	20.00	$6	$0	$6	$ 0.090
204	baseline is 2 incandescent bulbs (2- 53W EISA Halogen)	106	818	20.00	$10	$0	$10	$ 0.090
205	Federal Minimum Standard flow rate 2.5 GPM	2,444	826	10.00	$3	$0	$3	$ 0.090
206	Federal Minimum Standard flow rate 2.2 GPM	2,444	826	5.00	$1	$0	$1	$ 0.090
207	Federal Minimum Standard flow rate 2.2 GPM	2,444	826	5.00	$0	$0	$0	$ 0.090

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Stipulated Output								Economic Assumptions	
Line No.	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)
189	10%	12.36	11.17	234	$0.63	$0.03	0.259	0.309	$0.00	$102.12
190	62%	5.38	2.05	3,242	$0.32	$0.02	0.185	0.221	$0.00	$0.00
191	21%	1.65	1.30	669	$0.13	$0.01	0.494	0.513	$0.00	$189.06
192	100%	0.77	0.00	5,868	$0.07	$0.00	0.468	0.486	$0.00	$0.00
193	100%	1.27	0.00	413	$0.12	$0.01	0.076	0.091	$0.00	$0.00
194	31%	8.42	5.82	134	$0.97	$0.09	0.099	0.103	$0.00	$37.47
195	45%	3.41	1.89	1,141	$0.15	$0.01	0.087	0.090	$0.00	$0.00
196	100%	4.93	0.00	393	$0.51	$0.05	0.172	0.120	$5.07	$0.00
197	#DIV/0!	0.00	-25.17	9	$2.40	$2.40	3.463	0.933	$0.00	$0.00
198	#DIV/0!	0.00	-0.51	1,075	$0.05	$0.01	0.123	0.093	$0.00	$0.00
199	#DIV/0!	0.00	-0.49	1,122	$0.04	$0.00	0.128	0.098	$0.00	$0.00
200	#DIV/0!	0.00	-0.47	1,172	$0.04	$0.00	0.134	0.102	$0.00	$0.00
201	#DIV/0!	0.00	0.00	8	$0.00	$0.00	3.634	0.980	$0.00	$0.00
202	#DIV/0!	0.00	0.00	2	$0.00	$0.00	4.500	0.239	$0.00	$0.00
203	100%	1.27	0.00	56	$0.11	$0.01	0.068	0.008	$0.00	$0.00
204	100%	1.55	0.00	69	$0.14	$0.01	0.084	0.010	$0.00	$0.00
205	100%	0.08	0.00	267	$0.01	$0.00	0.000	0.000	$15.53	$0.00
206	100%	0.06	0.00	128	$0.01	$0.00	0.000	0.000	$7.54	$0.00
207	100%	0.03	0.00	98	$0.00	$0.00	0.000	0.000	$5.75	$0.00

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

		Program Forecast Inputs		Stipulated Forecast Inputs			Program Forecast Outputs			
	Technical Assumption	2017					2017			
Line No.	Coincidence Factor (%)	2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)
189	100.0%	16	15	93%	100%	100%	4.316	3,699	$2,219	$23,068
190	100.0%	44	40	93%	100%	100%	8.212	136,757	$41,129	$66,493
191	87.0%	78	70	93%	100%	100%	33.370	49,380	$6,146	$29,199
192	87.0%	392	350	93%	100%	100%	158.172	2,165,724	$150,085	$150,085
193	100.0%	73	65	93%	100%	100%	5.495	28,317	$3,250	$3,250
194	87.0%	22	20	93%	100%	100%	1.911	2,829	$2,609	$8,459
195	87.0%	112	100	93%	100%	100%	8.384	120,330	$16,560	$37,103
196	58.3%	0	0	100%	100%	100%	0.000	0	$0	$0
197	22.6%	1,500	1,500	100%	100%	100%	1,400.025	15,065	$31,875	$0
198	63.8%	300	300	67%	100%	100%	18.863	246,074	$15,000	$0
199	63.8%	100	100	67%	100%	100%	6.565	85,645	$5,000	$0
200	63.8%	100	100	67%	100%	100%	6.854	89,408	$5,000	$0
201	22.6%	4,201	4,449	100%	100%	100%	4,358.746	39,951	$0	$0
202	4.4%	2	2	100%	100%	100%	0.477	4	$0	$0
203	10.2%	500	2,500	100%	65%	100%	13.410	102,432	$15,950	$15,950
204	10.2%	500	2,500	100%	65%	100%	16.566	126,533	$24,050	$24,050
205	0.0%	500	2,500	100%	55%	100%	0.000	415,542	$8,060	$8,060
206	0.0%	500	2,500	100%	50%	100%	0.000	181,606	$3,039	$3,039
207	0.0%	500	2,500	100%	50%	100%	0.000	138,367	$1,210	$1,210

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Measure Description		**High Efficiency Product Assumptions**		
Line No.	**Electric Measure Group**	**Electric Measure Description**	**Efficient Product Description / Rating**	**Efficient Product Consumption (watts)**	**Efficient Hours of Operation (hrs/yr)**
208	**NM - Energy Feedback Residential - Mass Entry**	**Online Energy Feedback & Tools**	Treatment	1,345	8,760
209	**NM - Energy Feedback Residential - Mass Entry**	**Print Feedback Report - Legacy Participant Group**	Treatment	1,309	5,712
210	**NM - Energy Feedback Residential - Mass Entry**	**Print Feedback Report - 2015 Refill Participant Group**	Treatment	1,326	5,111
211	**NM - Energy Feedback Residential - Mass Entry**	**Print Feedback Report - 2017 Refill Participant Group**	Treatment	1,323	3,988
212	**LED**	**10 W LEDs**	High efficieny LED lighting (4 bulbs at 10 W and 800 Lumens each)	40	818
213	**Showerhead**	**Showerhead**	Low Flow Shower head - 1.5 GPM	4,500	717
214	**Aerators - Kitchen**	**Aerators - Kitchen**	1.5 GPM flow rate Kitchen aerator	4,500	774
215	**Aerators - Bathroom**	**Aerators - Bathroom**	1.0 GPM flow rate bathroom aerator	4,500	786
216	**HES General**	**CFLs**	Average CFL Bulb Purchased by Customer	14	818
217	**HES General**	**Refrigerator Replacements**	New Refrigerator	5,108	8,343
218	**HES General**	**Low Flow Showerheads**	Low Flow Shower head - 1.5 GPM	2,444	717
219	**HES Evaps**	**Evap Cooling**	Evaporative Cooler 85% effective	800	1,622
220	**HES Radiant Barriers**	**Radiant Barriers**	Average 1,850 sqft house with Radiant Barrier	2,539	5,424
221	**HES Ceiling**	**Ceiling Insulation - Gas Heat**	2014 Average Participant R30, 1,573 sq ft	3,282	902
222	**HES Ceiling**	**Ceiling Insulation - Electric Heat**	2014 Average Participant R30, 1,700 sq ft	3,357	17,529
223	**HES Duct Leakage**	**Duct Leakage - Gas Heat**	2014 Average Participant 108 CFM25 1,738 sqft	3,048	1,355
224	**HES Duct Leakage**	**Duct Leakage - Electric Heat**	2014 Average Participant 103 CFM25 1,787 sqft	3,074	12,538
225	**HES General**	**Programmable Thermostats**	Programmable Thermostat	2,608	5,424
226	**HES Infiltration**	**Air Infiltration - Gas Heat**	2014 Average Participant 1,975 CFM50 1,878 sqft	3,443	1,355
227	**HES Infiltration**	**Air Infiltration - Electric Heat**	2014 Average Participant 1,927 CFM50 1,875 sqft	3,455	13,143

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Baseline Product Assumptions			**Economic Assumptions**				
Line No.	**Baseline Product Description / Rating**	**Baseline Product Consumption (watts)**	**Baseline Hours of Operation (hrs/yr)**	**Measure Lifetime (years)**	**Rebate Amount ($)**	**Average Baseline Product Cost ($)**	**Incremental Cost of Efficient Product ($)**	**Assumed Energy Cost ($/kWh)**
208	Control	1,347	8,760	1.00	$0	$0	$0	$ 0.090
209	Control	1,347	5,712	1.00	$0	$0	$0	$ 0.090
210	Control	1,347	5,111	1.00	$0	$0	$0	$ 0.090
211	Control	1,347	3,988	1.00	$0	$0	$0	$ 0.090
212	baseline is 4 incandescent bulbs (4- 43W EISA Halogen)	172	818	20.00	$16	$0	$16	$ 0.090
213	Federal Minimum Standard flow rate 2.5 GPM	4,500	826	10.00	$3	$0	$3	$ 0.090
214	Federal Minimum Standard flow rate 2.2 GPM	4,500	826	5.00	$2	$0	$2	$ 0.090
215	Federal Minimum Standard flow rate 2.2 GPM	4,500	826	5.00	$1	$0	$1	$ 0.090
216	Average incandescent bulb being replaced	47	818	6.40	$1	$2	$1	$ 0.090
217	Existing Refrigerator	5,200	8,343	13.00	$683	$0	$683	$ 0.090
218	Federal Minimum Standard flow rate 2.5 GPM	2,444	826	10.00	$3	$0	$3	$ 0.090
219	13 SEER AC Split System	3,180	1,456	15.00	$700	$2,587	$0	$ 0.093
220	Average 1,850 sqft house without Radiant Barrier	2,684	5,424	20.00	$229	$0	$1,573	$ 0.095
221	2014 Average Participant R3, 1,573 sq ft	3,542	902	20.00	$148	$0	$1,538	$ 0.095
222	2014 Average Participant R3, 1,700 sq ft	3,542	17,529	20.00	$1,028	$0	$1,662	$ 0.095
223	2014 Average Participant 462 CFM25 1,738 sqft	3,542	1,355	18.00	$385	$0	$417	$ 0.095
224	2014 Average Participant 439 CFM25 1,787 sqft	3,542	12,538	18.00	$429	$0	$429	$ 0.095
225	Non-programmable Thermostat	2,684	5,424	11.00	$50	$0	$50	$ 0.095
226	2014 Average Participant 3,135 CFM50 1,875 sqft	3,542	1,355	11.00	$183	$0	$423	$ 0.095
227	2014 Average Participant 2,946 CFM50 1,875 sqft	3,542	13,143	11.00	$232	$0	$371	$ 0.095

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

	Stipulated Output								Economic Assumptions	
Line No.	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)
208	#DIV/0!	0.00	0.00	24	$0.00	$0.00	0.003	0.002	$0.00	$0.00
209	#DIV/0!	0.00	0.00	221	$0.00	$0.00	0.039	0.034	$0.00	$0.00
210	#DIV/0!	0.00	0.00	109	$0.00	$0.00	0.021	0.019	$0.00	$0.00
211	#DIV/0!	0.00	0.00	98	$0.00	$0.00	0.025	0.022	$0.00	$0.00
212	100%	1.62	0.00	108	$0.15	$0.01	0.132	0.016	$0.00	$0.00
213	100%	0.05	0.00	491	$0.01	$0.00	0.000	0.000	$15.53	$0.00
214	100%	0.06	0.00	236	$0.01	$0.00	0.000	0.000	$7.54	$0.00
215	100%	0.02	0.00	180	$0.00	$0.00	0.000	0.000	$5.75	$0.00
216	100%	0.29	0.00	26	$0.03	$0.00	0.032	0.004	$0.00	$0.00
217	100%	9.84	0.00	770	$0.89	$0.07	0.092	0.110	$0.00	$0.00
218	100%	0.08	0.00	267	$0.01	$0.00	0.000	0.000	$15.53	$0.00
219	#DIV/0!	0.00	-2.32	3,332	$0.21	$0.01	2.380	2.840	-$7.29	$0.00
220	15%	21.05	17.98	784	$0.29	$0.01	0.145	0.172	$0.00	$0.00
221	10%	12.36	11.17	234	$0.63	$0.03	0.259	0.309	$0.00	$102.12
222	62%	5.38	2.05	3,242	$0.32	$0.02	0.185	0.221	$0.00	$0.00
223	92%	1.65	0.13	669	$0.57	$0.03	0.494	0.513	$0.00	$189.06
224	100%	0.77	0.00	5,868	$0.07	$0.00	0.468	0.486	$0.00	$0.00
225	100%	#DIV/0!	#DIV/0!	413	$0.12	$0.01	0.076	0.091	$0.00	$0.00
226	43%	11.29	6.41	134	$1.36	$0.12	0.099	0.103	$0.00	$37.47
227	62%	#DIV/0!	#DIV/0!	1,141	$0.20	$0.02	0.087	0.090	$0.00	$0.00

Southwestern Public Service Company
Electric Product Detailed Technical Assumptions

		Program Forecast Inputs		Stipulated Forecast Inputs			Program Forecast Outputs			
	Technical Assumption	2017					2017			
Line No.	Coincidence Factor (%)	2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget ($)	2017 Incremental Costs ($)
208	74.5%	500	500	100%	100%	100%	1.218	13,608	$0	$0
209	74.5%	10,028	10,028	100%	100%	100%	344.235	2,507,160	$0	$0
210	74.5%	3,067	3,067	100%	100%	100%	58.375	380,425	$0	$0
211	74.5%	4,495	4,495	100%	100%	100%	98.333	500,110	$0	$0
212	10.2%	152	400	100%	65%	100%	4.165	31,814	$6,320	$6,320
213	0.0%	83	217	100%	50%	100%	0.000	60,387	$694	$694
214	0.0%	83	217	100%	50%	100%	0.000	29,030	$358	$358
215	0.0%	83	217	100%	50%	100%	0.000	22,118	$115	$115
216	10.2%	448	3,500	100%	100%	100%	13.752	105,043	$2,378	$2,378
217	100.0%	13	100	100%	100%	100%	11.014	87,302	$68,250	$68,250
218	0.0%	3	20	100%	100%	100%	0.000	6,044	$64	$64
219	100.0%	1	10	100%	100%	100%	28.401	37,778	$7,000	$0
220	100.0%	0	0	100%	100%	100%	0.000	0	$0	$0
221	100.0%	2	12	100%	100%	100%	3.712	3,182	$1,775	$18,455
222	100.0%	4	33	100%	100%	100%	7.284	121,316	$33,932	$54,857
223	87.0%	28	220	100%	100%	100%	112.772	166,877	$84,623	$91,769
224	87.0%	44	340	100%	100%	100%	165.219	2,262,200	$145,796	$145,796
225	100.0%	1	10	100%	100%	100%	0.909	4,684	$500	$500
226	87.0%	21	165	100%	100%	100%	16.957	25,092	$30,132	$69,790
227	87.0%	35	275	100%	100%	100%	24.791	355,814	$63,756	$102,034

Attachment SLW-2(CD)

is provided in
electronic format on the CD attached to the
Direct Testimony of Steven L. Warkentin

ATTACHMENTS SLW-2(CD), SLW-4(CD), and SLW-5(CD)

Comparison of SPS New Mexico EE/LM Programs to Other Xcel Energy Operating Companies' Programs

Colorado	Minnesota	New Mexico	Why Not in New Mexico
2016	2016	2016	
Business Program	**Business Program**	**Business Program**	
Compressed Air Efficiency	Fluid Systems Optimization	N/A	SPS currently identifies and evaluates compressed air opportunities through the Custom Efficiency Product. A separate program currently has limited applicability due to the SPS customer mix; however, SPS has included prescriptive compressed air measures in its Motor & Drive Efficiency product.
Computer Efficiency	Computer Efficiency	Computer Efficiency	N/A
Cooling Efficiency	Cooling Efficiency	Cooling Efficiency	N/A
Custom Efficiency	Custom Efficiency	Custom Efficiency	N/A
Data Center Efficiency	Data Center Efficiency	N/A	Limited customer market in New Mexico to make the program cost effective. Customers can evaluate these types of opportunities through the Custom Efficiency product or through existing prescriptive measures.
Energy Management Systems	Efficiency Controls (Energy Management Systems)	N/A	Limited customer market in New Mexico to make the program cost effective. Customers can evaluate these types of opportunities through the Custom Efficiency product or through existing prescriptive measures.
Heating Efficiency	Heating Efficiency	N/A	SPS does not have gas service in New Mexico.
Lighting Efficiency	Lighting Efficiency	Lighting Efficiency	N/A
Lighting - Small Business		N/A	Included as part of the Lighting Efficiency product.
Motor & Drive Efficiency	Motor & Drive Efficiency	Motor & Drive Efficiency	N/A
New Construction	Business New Construction (Energy Design Assistance + Energy Efficient Buildings)	N/A	Limited new construction market in New Mexico to make the program cost-effective. Customers can use existing rebate programs.
Process Efficiency	Process Efficiency	N/A	As a measure in the Custom Efficiency product, SPS offers large customers a Study and Implmentation program (Large C&I Study) that is based on the Process Efficiency program in other jurisdictions.
Recommissioning	Recommissioning	N/A	SPS offers a Building Tune-up program for buildings up to 75,000 sq ft.
Self-Directed Custom Efficiency	Self Direct	Large Customer-Self Direct	N/A
Small Business Lighting	N/A	N/A	Program is included as part of the Lighting Efficiency program.
N/A	Turn-Key Services	N/A	At this time, SPS does not believe there is sufficient opportunity in New Mexico to make the program cost-effective but will continue to evaluate expanding the program to other jurisdictions.
N/A	N/A	Building Tune Up	N/A
Third-Party Demand Response	N/A	N/A	Customers interested in demand response programs can participate through the ICO program.

Comparison of SPS New Mexico EE/LM Programs to Other Xcel Energy Operating Companies' Programs

Colorado	Minnesota	New Mexico	Why Not in New Mexico
2016	**2016**	**2016**	
Energy Feedback Pilot	Energy Feedback Pilot	N/A	This pilot is in the early stages and may expand to include New Mexico in the future if its deemed successful in other service territories.
Commercial Refrigeration Efficiency	Refrigeration Recommissioning	N/A	Customers can evaluate these types of opportunities through the Custom Efficiency product or through prescriptive rebates included in the cooling efficiency product.
LED Street Lighting		N/A	Tariff-based offering outside of the EE/LM Plan.
Multifamily Buildings	Multi-Family Building Efficiency	N/A	Can be addressed through Custom product or Home Energy Services.
Residential Program	**Residential Program**	**Residential Program**	
Energy Feedback - Residential	Energy Feedback	Energy Feedback	N/A
Energy Efficient Shower Heads	Energy Efficient Shower Heads	N/A	Primarily a natural gas savings program; however, showerheads are a measure in Home Energy Services for its electric savings.
ENERGY STAR New Homes	Energy Star Homes	N/A	Combination gas and electric program. Needs both to be cost-effective.
Evaporative Cooling Rebates	N/A	Residential Cooling	N/A
Residential Heating	Heating System Rebate	Residential Cooling	N/A
High Efficiency Air Conditioning	N/A	Residential Cooling and Home Energy Services	N/A
Home Lighting & Recycling	Home Lighting	Home Lighting & Recycling	N/A
Home Energy Squad	Home Energy Squad	Home Energy Services	This program encompasses many of the of the offerings in our other jurisdictions. Offering the program as a bundle of measures is unique to New Mexico.
Home Performance with ENERGY STAR	Home Performance with Energy Star	N/A	Combination gas and electric program. Needs both to be cost-effective.
Insulation & Air Sealing	Insulation Rebate	N/A	Primarily a natural gas savings program; however, insulation is a measure in Home Energy Services for its electric savings.
Refrigerator Recycling	Refrigerator Recycling	Refrigerator Recycling	N/A
N/A	Residential Cooling	Residential Cooling and Home Energy Services	N/A
N/A	Residential Quick Fix Efficiency Service	N/A	This program primarily offers natural gas measures and is in the pilot stage. It is not ready for launch in other jurisdictions.
School Education Kits	School Education Kits	School Education Kits	N/A
Water Heater Rebate	Water Heating Rebate	N/A	SPS used to offer this program in New Mexico; however, it had extremely low participation and was subsequently removed from the EE/LM plan.
Low-Income Program	**Low-Income Program**	**Low-Income Program**	
Energy Savings Kit	Easy Savings Energy Kits	Home Energy Services	This program is a component of SPS's Home Energy Services program.

Comparison of SPS New Mexico EE/LM Programs to Other Xcel Energy Operating Companies' Programs

Colorado	Minnesota	New Mexico	Why Not in New Mexico
2016	**2016**	**2016**	
N/A	Home Electric Savings Program	Home Energy Services	N/A
Multi-Family Weatherization	Multi-Family Energy Savings Program	N/A	SPS used to offer this program in New Mexico; however, it had extremely low participation and was subsequently removed from the EE/LM plan. Multi-family residences can participate through the Home Energy Services program.
Non-Profit	N/A	N/A	This program is offered in Colorado due to a partnership with an engaged non-profit organization. SPS would consider this offering if a similar partner could be found in its New Mexico territory.
Single-Family Weatherization	Single Family Weatherization Program	Home Energy Services	This program encompasses many of the of the offerings in our other jurisdictions. Offering the program as a bundle of measures is unique to New Mexico.
N/A	LI Home Energy Squad	Home Energy Services	N/A
	Smart Thermostats Pilot	Smart Thermostats	N/A
Load Management Program	**Load Management Program**	**Load Management Program**	
Residential Saver's Switch	Residential Saver's Switch	Residential Saver's Switch	N/A
N/A	Business Saver's Switch	Business Saver's Switch	N/A
Interruptible Service Option Credit	Electric Rate Savings	Interruptible Credit Option	N/A
Smart Thermostats	Smart Thermostats	Smart Thermostats	N/A
Indirect Products & Services	**Indirect Products & Services**	**Indirect Products & Services**	
Energy Benchmarking	N/A	Commercial Energy Benchmarking	N/A
Business Energy Analysis	N/A	N/A	This audit-based, indirect program was deemed too costly to offer in New Mexico.
Consumer Education - Business	Consumer Education - Business	N/A	SPS used to offer this program in New Mexico. Education and outreach are now done more directly through the programs. However, SPS continues to use its Product Development funding in order to identify new measures especially in the oil and gas sector.
Consumer Education - Residential	Consumer Education	Consumer Education	N/A
Energy Efficiency Financing	N/A	N/A	SPS may consider expanding the pilot to other states if it proves effective in Colorado.
Residential Home Energy Audit	Home Energy Audits	N/A	This audit-based, indirect program was deemed too costly to offer in New Mexico.
Note 1 SPS - Texas: Programs offered in Texas are required to be standard offer programs (SOP) implemented by third parties and are not directly comparable to SPS programs. The SOP programs in Texas bundle many measures into one overall program, (e.g., Residential SOP).			
Note 2 NSP - Wisconsin: Programs offered in Wisconsin are implemented by state agencies.			

Attachment SLW-4(CD)

is provided in
electronic format on the CD attached to the
Direct Testimony of Steven L. Warkentin

ATTACHMENTS SLW-2(CD), SLW-4(CD), and SLW-5(CD)

Attachment SLW-5(CD)

is provided in
electronic format on the CD attached to the
Direct Testimony of Steven L. Warkentin

ATTACHMENTS SLW-2(CD), SLW-4(CD), and SLW-5(CD)

NMPRC CASE NO. 16-00 -UT

IN THE MATTER OF SOUTHWESTERN PUBLIC SERVICE COMPANY'S APPLICATION REQUESTING APPROVAL OF: (1) ITS 2017 ENERGY EFFICIENCY AND LOAD MANAGEMENT PLAN AND ASSOCIATED PROGRAMS; (2) CONTINUATION OF ITS ENERGY EFFICIENCY TARIFF RIDER AND RECOVERY OF THE DIFFERENCE BETWEEN SPS'S PLAN YEAR 2015 COLLECTIONS AND EXPENDITURES THROUGH ITS ENERGY EFFICIENCY TARIFF RIDER; AND (3) A FINANCIAL INCENTIVE FOR PLAN YEAR 2017 AND RECOVERY OF THE INCENTIVE THROUGH ITS ENERGY EFFICIENCY TARIFF RIDER.

ATTACHMENTS SLW-2(CD), SLW-4(CD), and SLW-5(CD)