

**Southwestern Public Service Company**

**2017 Energy Efficiency and Load Management Plan**

**Case No. 16-00110-UT**

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

**May 2, 2016**

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## Glossary of Acronyms and Defined Terms

<u>Acronym/Defined Term</u>	<u>Meaning</u>
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

<u>Acronym/Defined Term</u>	<u>Meaning</u>
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

<u>Acronym/Defined Term</u>	<u>Meaning</u>
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

<b><u>Acronym/Defined Term</u></b>	<b><u>Meaning</u></b>
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);
- 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

### ***Planning and Research Segment***

- Market Research;
- Measurement & Verification (“M&V”);
- Planning & Administration; and



- Product Development.

For 2017, SPS is proposing an energy efficiency and load management budget of \$9,115,618 and goals of 9,220 net customer kilowatts (“kW”) and 29,443,564 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 1.86.

**Table 1: SPS’s 2017 Plan Budgets & Goals**

<b>2017 Modified By Settlement</b>	Electric Participants	Electric Budget	Net Customer kW	Net Customer kWh	Net Generator kW	Net Generator kWh	Utility Cost Test Ratio
<b>Residential Segment</b>							
Home Lighting	188,000	\$ 2,044,918	1,377	9,905,728	1,644	11,230,984	2.49
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	1,848	\$ 2,534,220	523	5,083,668	625	5,763,795	1.45
Residential Cooling	250	\$ 145,908	57	264,154	69	299,494	1.47
Residential Savers Switch	4,203	\$ 203,250	3,653	35,241	4,359	39,956	1.44
Smart Thermostat Pilot	1,000	\$ 82,557	782	8,858	933	10,043	1.19
<b>Residential Segment Total</b>	<b>215,891</b>	<b>\$ 5,307,315</b>	<b>6,839</b>	<b>19,148,270</b>	<b>8,161</b>	<b>21,710,056</b>	<b>1.86</b>
<b>Business Segment</b>							
Business Comprehensive	735	\$ 3,374,020	1,593	10,288,294	1,778	11,146,581	2.02
ICO	2	\$ 45,569	789	7,000	881	7,584	5.89
<b>Business Segment Total</b>	<b>737</b>	<b>\$ 3,419,589</b>	<b>2,382</b>	<b>10,295,294</b>	<b>2,658</b>	<b>11,154,165</b>	<b>2.07</b>
<b>Indirect Segment</b>							
Market Research		\$ 57,484					
Measurement & Verification		\$ 12,000					
Planning & Administration		\$ 279,649					
Product Development		\$ 39,581					
<b>Indirect Segment Total</b>		<b>\$ 388,714</b>					
<b>Portfolio Total</b>	<b>216,628</b>	<b>\$ 9,115,618</b>	<b>9,221</b>	<b>29,443,564</b>	<b>10,820</b>	<b>32,864,221</b>	<b>1.86</b>

## 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 3 <sup>rd</sup> 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.<sup>1</sup>

## ***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.

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<sup>1</sup> <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.<sup>2</sup> 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.

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<sup>2</sup> [https://www.xcelenergy.com/Programs\\_and\\_Rebates](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.<sup>3</sup> 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**

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<sup>3</sup> 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).

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

***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<sup>4</sup>, 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**

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<sup>4</sup> 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).

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.<sup>5</sup>

**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%

<sup>5</sup> 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.

#### **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 1.86, 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 \$9,115,618; 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**

<b>Rate Schedule</b>	<b>Rate (% of Bill)</b>
Residential Service, Residential Heating Service, Residential Water Heating Service, Small General Service, Small Municipal and School Service, Municipal Street Lighting Service, Area Lighting Service	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**

<b>Average Customer Impacts</b> (assumes \$9,115,618 recovery of estimated costs)			
<b>Rate Schedule</b>	<b>Monthly Bill excluding EER</b>	<b>Monthly EE Rider Charge</b>	<b>Charge as % of Bill</b>
Residential Service -- 800 kWh	\$83.88	\$ 2.51	3.00%
Small General Service – 1,500 kWh	\$131.35	\$ 3.94	3.00%
Secondary General Service -- 50 kW; 20,000 kWh	\$1,455.09	\$ 43.65	3.00%
Large General Service Transmission -- 4,000 kW; 800,000 kWh	\$62,815.47	\$ 1,884.46	3.00%

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 Market Research, M&V, Planning & Administration, and Product Development 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 Modified By Settlement	Participant Incentives	Internal Administration	Third Party Delivery	Promotion	M&V	Total Program Costs
<b>Residential Segment</b>						
Energy Feedback	\$ -	\$ 18,600	\$ 98,245	\$ 1,200	\$ 15,000	\$ 133,045
Residential Cooling	\$ 21,827	\$ 66,319	\$ 12,158	\$ 45,604	\$ -	\$ 145,908
Home Energy Services	\$ 660,930	\$ 126,044	\$ 1,613,225	\$ 94,021	\$ 40,000	\$ 2,534,220
Home Lighting	\$ 1,078,000	\$ 141,918	\$ 350,000	\$ 450,000	\$ 25,000	\$ 2,044,918
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	\$ 21,250	\$ 38,000	\$ -	\$ 10,000	\$ 13,307	\$ 82,557
<b>Residential Segment Total</b>	<b>\$ 2,004,316</b>	<b>\$ 422,489</b>	<b>\$ 2,171,878</b>	<b>\$ 605,325</b>	<b>\$ 103,307</b>	<b>\$ 5,307,315</b>
<b>Business Segment</b>						
Business Comprehensive	\$ 1,273,498	\$ 530,747	\$ 1,141,347	\$ 330,428	\$ 98,000	\$ 3,374,020
ICO	\$ 15,550	\$ 23,112	\$ -	\$ 2,907	\$ 4,000	\$ 45,569
<b>Business Segment Total</b>	<b>\$ 1,289,048</b>	<b>\$ 553,859</b>	<b>\$ 1,141,347</b>	<b>\$ 333,335</b>	<b>\$ 102,000</b>	<b>\$ 3,419,589</b>
<b>Indirect Segment</b>						
Market Research	\$ -	\$ 5,000	\$ 52,484	\$ -	\$ -	\$ 57,484
Measurement & Verification	\$ -	\$ -	\$ -	\$ -	\$ 12,000	\$ 12,000
Planning & Administration	\$ -	\$ 279,649	\$ -	\$ -	\$ -	\$ 279,649
Product Development	\$ -	\$ 12,081	\$ 27,500	\$ -	\$ -	\$ 39,581
<b>Indirect Segment Total</b>	<b>\$ -</b>	<b>\$ 296,730</b>	<b>\$ 79,984</b>	<b>\$ -</b>	<b>\$ 12,000</b>	<b>\$ 388,714</b>
<b>Portfolio Total</b>	<b>\$ 3,293,364</b>	<b>\$ 1,273,078</b>	<b>\$ 3,393,209</b>	<b>\$ 938,660</b>	<b>\$ 217,307</b>	<b>\$ 9,115,618</b>

### **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](http://xcelenergy.com) and [responsiblebynature.com](http://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) Residential Saver's Switch, (vi) School Education Kits, and (vii) 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.<sup>6</sup> 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.

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<sup>6</sup> 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.<sup>7</sup>

### ***e. Cost Effectiveness Tests***

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

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<sup>7</sup> 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. Residential Saver's Switch<sup>®</sup>**

### ***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<sup>8</sup> 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.

## **6. School Education Kits**

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

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<sup>8</sup> 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.

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 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.

## **7. 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 straightforward: 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<sup>9</sup> 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***

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<sup>9</sup> 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/xcel/Regulatory/Regulatory%20PDFs/CO-DSM/CO-2014-IHSD-Pilot-Evaluation.pdf>.

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.

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 and 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. Manufacturers 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<sup>®</sup> 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:<sup>10</sup>

- 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,

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<sup>10</sup> 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.

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 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<sup>11</sup> 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.

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<sup>11</sup> <http://www.xcelenergy.com/business>

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 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<sup>12</sup>.

### ***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](http://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](http://xcelenergy.com)).

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<sup>12</sup> 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).

- New Mexico ICO website<sup>13</sup> – Comprehensive program information will be included on the website for potential customers. The site will be updated annually or whenever there are program updates.

#### ***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.

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[https://www.xcelenergy.com/Programs\\_and\\_Rebates/Business\\_Programs\\_and\\_Rebates/Rates/Interruptible\\_Service\\_Option\\_Credit](https://www.xcelenergy.com/Programs_and_Rebates/Business_Programs_and_Rebates/Rates/Interruptible_Service_Option_Credit)

## **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 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. 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.

**2. 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:

- o measures are actually installed;
- o installations meet reasonable quality standards; and
- o 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.

### **3. 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.



#### **4. 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.

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## IV. Conclusion

SPS proposes the following 9 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);
- School Education Kits (EE);
- Residential Saver's Switch (LM); and
- Smart Thermostat Pilot (LM).

### *Business Segment*

- Business Comprehensive (EE);
- Interruptible Credit Option (LM); and

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 1.86.

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.