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DOCKET NO. 50804

APPLICATION OF SOUTHWESTERN PUBLIC SERVICE COMPANY TO ADJUST ITS ENERGY EFFICIENCY COST RECOVERY FACTOR	**§ § § §**	**PUBLIC UTILITY COMMISSION OF TEXAS**

DIRECT TESTIMONY
of
J. DEREK SHOCKLEY

on behalf of

SOUTHWESTERN PUBLIC SERVICE COMPANY

(filename: ShockleyEECRFDirect.doc; *Total Pages:* 68)

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
Commission	Public Utility Commission of Texas
EECRF	Energy Efficiency Cost Recovery Factor
EESP	energy efficiency service provider
EM&V	Evaluation, Measurement, and Verification
EUL	Estimated Useful Life
KP&L	Kansas Power and Light Company
kW	kilowatt
kWh	kilowatt-hour
LED	light emitting diode
MTP	Market Transformation Program
MW	megawatt
MWh	megawatt-hour
PURA	Public Utility Regulatory Act
PY	Program Year
R&D	research and development
Rule 25.181	16 Texas Administrative Code § 25.181
Rule 25.182	16 Texas Administrative Code § 25.182
SOP	Standard Offer Program
SPS	Southwestern Public Service Company, a New Mexico corporation
TRM	Technical Reference Manual
Xcel Energy	Xcel Energy Inc.

LIST OF ATTACHMENTS

Attachment	Description
JDS-1	SPS's Amended 2020 Energy Efficiency Plan and Report (*Filename:* Attachment JDS-1.doc)
JDS-2	Costs per kW and kWh for 2017-2020 (*Filename:* Attachment JDS-2.xls)
JDS-3(CONF)	Energy Efficiency Service Providers and EESPs in PY 2019 Receiving 5% or More of Incentive Payments (*Filename:* Attachment JDS-3(CONF).pdf)
JDS-4	Master Estimated Useful Life Spreadsheet of Technical Reference Manual 5.0 (*Filename:* Attachment JDS-4.xlsx)

DIRECT TESTIMONY
OF
J. DEREK SHOCKLEY

I. WITNESS IDENTIFICATION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is J. Derek Shockley. My business address is 1800 Larimer Street, Denver, Colorado 80202.

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

A. I am filing testimony on behalf of Southwestern Public Service Company, a New Mexico corporation ("SPS") and wholly-owned electric utility subsidiary of Xcel Energy Inc. ("Xcel Energy").

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

A. I am employed by Xcel Energy Services Inc., the service company subsidiary of Xcel Energy, as Manager, Product Portfolio Supervision within the Customer and Innovation organization.

Q. Please describe your duties as Manager, Product Portfolio Supervision.

A. I am responsible for supervising the energy efficiency and load management programs in Texas. In that capacity, I analyze the cost-effectiveness of current program offerings and delivery methods, evaluate potential energy efficiency and load management programs, and assist the product development group, which creates programs and offerings for the Xcel Energy subsidiaries. In addition, I oversee programs and manage the trade outreach activities for commercial demand side management efforts throughout Colorado.

Q. Please describe your educational background.

A. I have a Bachelor of Business Administration – Emphasis Finance degree from Washburn University in Topeka, Kansas.

Q. Please describe your professional experience.

A. I began my career with Kansas Power and Light Company ("KP&L") (now Westar Energy) and spent ten years in roles that included the development and management of company-wide electric marketing, demand side management, and energy efficiency programs. In 1996, I became Director of Project Management for a subsidiary of KP&L and worked with energy-related new business start-ups. I then became Vice President of Onsite Business Services, where I managed two wholly-owned subsidiaries and oversaw acquisition activities for the Kansas division. In 2000, I became a majority owner and Secretary/Treasurer of Mid-States Energy Works, where my responsibilities included business management, sales, and marketing for the company. I joined Xcel Energy in 2008 as the Trade Relations Manager for the Business Demand Side Management programs in Colorado. In 2011, I accepted my current position as Manager, Product Portfolio Supervision. As I testified above, I am currently responsible for oversight of the energy efficiency and load management programs and contractors in Texas.

Q. Have you testified or filed testimony before any regulatory authorities?

A. Yes. I have submitted prefiled testimony before the Public Utility Commission of Texas ("Commission") on behalf of SPS in the last seven Energy Efficiency Cost

Recovery Factor ("EECRF") proceedings: Docket Nos. 40293; 41446; 42454; 44698; 45916; 47117; 48324; and 49495.

II. ASSIGNMENT AND SUMMARY OF TESTIMONY

Q. What are your assignments in this proceeding?

A. My assignments in this proceeding are to:

(1) describe the energy efficiency programs that SPS will offer in Program Year ("PY") 2021;

(2) quantify the projected costs for the PY 2021 energy efficiency programs and demonstrate that those costs are reasonable;

(3) demonstrate the costs and achievements are consistent with previous years' costs and achievements;

(4) demonstrate that SPS has complied with the administrative cost caps;

(5) provide the Estimated Useful Life ("EUL") for each measure in each program;

(6) discuss the bidding and engagement process that SPS undertakes for contracting with energy efficiency service providers ("EESP");

(7) identify the EESPs with whom SPS does business, including each EESP that was paid 5% or more of the incentive payments made by SPS in PY 2019; and

(8) discuss SPS's energy and demand savings achievements for PY 2019.

Q. Please summarize your testimony in this proceeding.

A. SPS offers an array of energy efficiency programs, available to all eligible Texas customers in accordance with 16 Tex. Admin. Code ("TAC") § 25.181 ("Rule 25.181"). The costs of those energy efficiency programs are reasonable, as evidenced by the cost-effectiveness test discussed by SPS witness Jeremy M. Lovelady and by comparison to costs in prior years. SPS has a transparent process for engaging eligible EESPs and for approving payments to those EESPs

after they complete approved projects. Finally, SPS projects that it will exceed its energy and demand goals in PY 2021.

Q. Are Attachments JDS-1 and JDS-4 true and correct copies of the documents they are represented to be?

A. Yes.

Q. Were Attachments JDS-2 and JDS-3(CONF) prepared by you or under your direct supervision and control?

A. Yes.

III. PY 2021 ENERGY EFFICIENCY AND LOAD MANAGEMENT PROGRAMS

Q. To whom will SPS offer energy efficiency and load management programs in PY 2021?

A. In PY 2021, SPS will make energy efficiency programs available to all eligible customers, which are defined in Rule 25.181(c)(11) as residential and commercial customers.

Q. How does Rule 25.181 distinguish between commercial and industrial customers?

A. Rule 25.181(c)(4) defines a "commercial customer" to include: non-residential customers taking service at distribution voltage during the prior program year or non-profit customers or governmental entities, including educational institutions. Rule 25.181(c)(30) defines an industrial customer as a "for-profit entity engaged in an industrial process taking electric service at transmission voltage, or a for-profit entity engaged in an industrial process taking electric service at distribution voltage that qualifies for a tax exemption under Tax Code § 151.317 and has submitted an identification notice under subsection (u) of this section."

Q. What customers are eligible for SPS's energy efficiency programs?

A. The following categories of customers are eligible to participate in SPS's energy efficiency programs:

- Residential;
- Residential Hard-To-Reach;
- Small Commercial; and
- Large Commercial.

Q. Are all customers within those categories considered eligible customers?

A. No. Rule 25.181(u) allows industrial customers receiving service at distribution voltage to opt out of participation in the energy efficiency programs if they possess a Texas tax exemption certificate and make a timely request to the utility. Mr. Lovelady discusses in his direct testimony the number of customers who have opted out and the effect those customers have on SPS's energy efficiency goals.

Q. What are SPS's PY 2021 energy efficiency goals?

A. As discussed in more detail by Mr. Lovelady, SPS's 2021 demand reduction goal is 6.027 megawatts ("MW") and the energy savings goal is 10,559 megawatt-hours ("MWh"). SPS projects, however, that it will achieve as much as 10.24 MW in demand reductions and 24,682 MWh in energy savings because of the mix of programs to be offered in PY 2021.

Q. Why is SPS offering a mix of programs that it expects will achieve higher levels of demand and energy savings levels than its PY 2021 goals?

A. SPS's programs are designed to ensure that both the demand and energy goals are met, and that the offerings are broad enough to appeal to many different types of customers, thereby increasing customer participation in energy efficiency and load management programs. The energy efficiency programs benefit the participating customers by reducing their monthly electric bills. In addition, the programs benefit both participants and non-participants by adding cost-effective components to SPS's resource mix. Therefore, all customers benefit when SPS exceeds the statutory minimum through cost-effective programs that do not exceed the cost caps.

Q. Have the Legislature and the Commission given any indication that they want utilities to exceed the minimum goals?

A. Yes. In Section 39.905(b)(2) of the Public Utility Regulatory Act ("PURA"),[1] the Legislature directed the Commission to establish an incentive under PURA § 36.204 "to reward utilities administering programs under this section that *exceed* the minimum goals established by this section." (Emphasis added) Rule 25.181(d) provides that utilities "are encouraged to achieve demand reduction and energy savings through a portfolio of cost-effective programs that *exceed* each utility's energy efficiency goals while staying within the cost caps established in §25.182(d)(7) of this title." (Emphasis added).

Q. Please provide a brief description of the energy efficiency and load management programs that SPS will offer customers in PY 2021.

A. To reach its projected demand and energy savings, SPS will offer the following Standard Offer Programs ("SOP" or "SOPs") and Market Transformation Programs ("MTP" or "MTPs"), as well as the Low-Income Weatherization Program, in PY 2021:

- Large Commercial SOP – Targets commercial customers with an annual single meter demand of at least 100 kW ("kilowatt") or aggregate meter demand of at least 250 kW. Incentives are paid to project sponsors based on verified deemed savings for a wide range of measures installed in new or retrofit applications.

[1] PURA is codified at Tex. Util. Code Ann. §§ 11.001–66.016.

Examples include incentives for cooling, custom projects, heat pumps, lighting, motors, and new construction.

- Small Commercial MTP – Targets commercial customers with a single meter demand less than 100 kW or aggregate metered demand of less than 250 kW. This offering utilizes a third-party implementer who provides services and support such as energy efficiency audits to quantify and qualify project opportunities, as well as assistance with identifying and managing potential installers.
- Residential SOP – Targets residential single-family and multi-family customers by providing incentives for cooling, heat pumps, duct sealing, insulation, water heating, Energy Star appliances, Energy Star windows, air infiltration reduction, and photovoltaic upgrades.
- Home Lighting MTP – Promotes the installation of high efficiency light emitting diode ("LED") bulbs to mass market customers. Incentives are provided at the point of sale through buy-down efforts coordinated with retail outlets.
- Refrigerator Recycling MTP – Designed to decrease the number of inefficient primary or secondary refrigerators and freezers in residential households within SPS's service territory. The program reduces energy usage by allowing customers to dispose of their operable, but inefficient appliances in an environmentally safe and convenient manner. SPS has contracted with a third-party implementer to pick-up and recycle inefficient refrigerators or freezers at no cost to the customer. Customers will also receive an incentive for participating in the program.

- Smart Thermostat MTP – Designed to provide customers discounts on ENERGY STAR® Connected Thermostats. The thermostats will be available through Xcel Energy's online storefront, which is owned and operated by an independent third party. A discount will be applied at the point of sale to qualifying customers within SPS's service territory. All SPS residential customers will be eligible to participate in this upstream offering.
- Hard-to-Reach SOP – Targets customers with an annual household income at or below 200% of federal poverty guidelines. The program pays incentives for measures such as energy efficient showerheads, insulation, duct sealing, cooling, solar screens, water heating, and LED lighting.
- Low-Income Weatherization MTP – Provides funding to not-for-profit community action and government agencies to provide weatherization services to residential SPS customers who meet current Department of Energy income eligibility guidelines.
- Load Management SOP – Targets businesses that can reduce demand during peak summer months. Customers can either manage the interruptions themselves or work with third-party service providers and receive an incentive based on total demand reductions.
- Retro-Commissioning MTP – Targets non-residential customers interested in learning more about their energy usage and willing to commit to recommended energy saving activities on a timely basis. The program includes a systematic evaluation of the customer's buildings and systems, implementation of low-cost and no-cost measures to improve system operation, and recommendations of

larger energy efficiency upgrades. The retro-commissioning services are fully paid by the program and additional incentives may be available to participating customers.

The above programs are discussed in more detail in Section I of the 2020 Amended Energy Efficiency Plan and Report ("EEPR"), which is provided as Attachment JDS-1[2].

Q. Is SPS proposing to change the design of any of its existing programs?

A. No. SPS is not proposing to change the design or delivery of any existing programs that will be continuing in 2021; nor is SPS proposing any new or modified programs for PY 2021.

[2] The workpapers presented by witness Jeremy M. Lovelady in Attachment JML-5(CD) provides the base calculations for the EEPR.

IV. REASONABLENESS OF PY 2021 ENERGY EFFICIENCY PROGRAM COSTS

Q. Is a utility required to demonstrate that its energy efficiency and load management costs are reasonable?

A. Yes, subsection (d)(12) of 16 TAC § 25.182 ("Rule 25.182") requires a utility to show that the costs to be recovered through the EECRF are "reasonable estimates of the costs necessary to provide energy efficiency programs and to meet or exceed the utility's energy efficiency goals...." I demonstrate that the PY 2021 costs and the projections of those costs are reasonable. Mr. Lovelady demonstrates that SPS's PY 2021 programs will be cost effective.

Q. What costs may a utility include in its EECRF?

A. Rule 25.182(d)(1)(A) states that an EECRF shall be calculated to recover four elements of a utility's costs:

1. forecasted annual energy efficiency program expenditures;
2. the preceding year's over- or under-recovery, which includes interest and municipal and utility EECRF rate case expenses;
3. any performance bonus earned under Rule 25.182(e); and
4. Evaluation, Measurement, and Verification ("EM&V") costs allocated to the utility by the Commission.

Q. What amounts comprise the forecasted energy efficiency program expenditures for PY 2021?

A. The forecasted annual energy efficiency program expenditures are comprised of projected incentive payments, administrative costs, research and development ("R&D"), and EM&V costs.

Q. What are incentive payments?

A. Rule 25.181(c)(29) defines an "incentive payment" as the payment made by an electric utility to an EESP, an end-use customer, or a third-party contractor to implement and attract customers to energy efficiency programs, including standard offer, market transformation, and self-delivered programs. Rule 25.181(f) provides the requirements applicable to incentive payments by a utility.

Q. Are the proposed incentive payments reasonable?

A. Yes. As described in more detail by Mr. Lovelady, SPS's incentive costs are projected to be lower than the avoided costs prescribed by Rule 25.181, and thus are cost effective and reasonable.

Q. What are administrative costs?

A. Administrative costs include all reasonable and necessary costs incurred by a utility in carrying out its responsibilities under Rule 25.181(g)(1), including, among other things:

1. conducting informational activities designed to explain the SOPs and MTPs to EESPs, retail electric providers, and vendors;

2. providing informational programs to improve customer awareness of energy efficiency programs and measures;

3. reviewing and selecting energy efficiency programs in accordance with Rule 25.181;

4. providing regular and special reports to the Commission, including reports of energy and demand savings; and

5. carrying out any other activities that are necessary and appropriate for successful program implementation.

In addition, Rule 25.182(d)(10)(I) includes "affiliate costs and EECRF proceeding expenses" as a part of a utility's administrative costs.

Q. What are R&D costs?

A. Typically, R&D costs are those costs incurred to develop and test new energy efficiency programs.

Q. Will the administrative cost for the programs offered in PY 2021 be lower than the 15% cap?

A. Yes. As shown in Table 7 of Attachment JDS-1, the total administrative cost for the programs in PY 2021 is projected to be $363,864. That is 8% of the total projected portfolio costs. The $363,864 includes direct program administration and general program administration costs.

Q. Will the cost of R&D be lower than the 10% cap in the rule?

A. Yes. The forecasted cost of R&D for PY 2021 is $40,000, as shown in Table 7 of Attachment JDS-1, which is approximately 1% of the 2021 actual portfolio spending.

Q. Do the administrative costs and the R&D costs together add up to less than 20% of total program costs?

A. Yes. The total of administrative and R&D costs is $403,864, which is approximately 9% of total portfolio costs.

Q. What are EM&V costs?

A. EM&V costs are the costs allocated to SPS by the Commission for the efforts undertaken by the independent program evaluator to update the deemed savings in the TRM and to review yearly program performance.

Q. Is SPS seeking recovery of any EM&V amounts in its EECRF?

A. Yes. SPS is using the actual expenses incurred in 2019 for review of the 2018 PY as an estimate of costs for the 2021 PY and are subject to change. Total EM&V costs for the 2019 PY by the third-party implementer, TetraTech, are $34,265.

Q. Has SPS included these types of forecasted energy efficiency program costs in its EECRF request?

A. Yes. As shown on Table 7 of Attachment JDS-1, SPS has included the incentive payments that it will make under SOP and MTP programs and the costs of administering those programs. In addition, SPS has included administrative, R&D, and EM&V costs in its EECRF request. As discussed by Mr. Lovelady, SPS is following the Commission Staff guidance for PY 2021.

Q. What is SPS's projected PY 2021 energy efficiency and load management program budget?

A. SPS projects total program expenditures of $4,480,825 for PY 2021.

Q. What are the costs of SPS's individual programs in PY 2021?

A. Table JDS-1 below reflects SPS's forecasted costs of its 2021 energy efficiency and load management programs. This table also is included in Attachment JDS-1 as Table 7.

Table JDS-1: Proposed 2021 Budget

2021	Incentives	Admin	R&D	EM&V	Total Budget
Commercial	$ 1,952,445	$ 78,330	$ -	$ -	$2,030,775
Commercial SOP	390,200	44,730	-	-	434,930
Retro-Commissioning MTP	977,600	-	-	-	977,600
Load Management SOP	167,000	27,405	-	-	194,405
Small Commercial MTP	400,000	5,460	-	-	405,460
Home Lighting MTP	17,645	735	-	-	18,380
Residential	1,140,251	61,324	-	-	1,201,575
Residential SOP	600,000	34,965	-	-	634,965
Home Lighting MTP	335,251	13,969	-	-	349,220
Smart Thermostat MTP	30,000	3,675	-	-	33,675
Refrigerator Recycling MTP	175,000	8,715	-	-	183,715
Hard-to-Reach	950,000	19,110	-	-	969,110
Hard-to-Reach SOP	500,000	19,110	-	-	519,110
Low-Income Weatherization	450,000	-	-	-	450,000
Research & Development	-	-	40,000	-	40,000
General Administration	-	205,100	-	-	205,100
Evaluation, Measurement, & Rider Expenses	-	-	-	34,265	34,265
Grand Total	**$ 4,042,696**	**$ 363,864**	**$ 40,000**	**$ 34,265**	**$4,480,825**

Q. What are SPS's energy efficiency and load management program cost estimates based upon?

A. The cost estimates for SPS's energy efficiency programs are based upon the historical levels of administrative and incentive costs that SPS incurred to implement these programs, as well as adjustments to account for changing market conditions and the program offering mix. For programs that are relatively new to SPS's product portfolio, SPS relied on Xcel Energy's experience in other service territories to determine the expected costs to operate those programs. In addition, SPS reviews the incentive costs of similar programs offered by other Texas

utilities and on forecasts made by Frontier Associates, which administers and coordinates a number of these programs for Texas utilities.

Q. How do SPS's forecasted energy efficiency costs for PY 2021 compare to energy efficiency costs in prior years?

A. As reflected in Attachment JDS-2,[3] SPS's forecasted energy efficiency total costs in PY 2021 are similar to PY 2020 on a dollar-per-kW and dollar-per-kilowatt hour ("kWh") basis. The Commission approved the PY 2020 costs in Docket No. 49495. Thus, the forecasted overall program incentive and administrative forecasts for PY 2021 compare favorably to what the Commission approved for PY 2020.

Q. To support the recovery of energy efficiency costs, Rule 25.182(d)(11)(I) includes consideration of how a utility's forecasted energy efficiency costs compare to costs in other markets with similar conditions. Can SPS provide a comparison with other markets?

A. Although it can be difficult to compare specific markets, the Annual Statewide Portfolio Report for PY 2018 shows that the SPS Commercial Sector Benefit/Cost Ratio is 2.7 compared to a statewide average of 2.5. For the Residential Sector, SPS's Benefit/Cost Ratio was 2.5 compared to the statewide average of 2.2. This data suggests that SPS program costs are comparable to offerings across the State.

[3] The "total costs" for the Commercial, Residential, and Hard-to-Reach line items include only direct program administration and incentives. The "total costs" for the Totals line item includes all program incentive, program administration, general administration, EM&V, and R&D costs for that PY. EECRF expenses and performance bonus costs are excluded from the calculation.

V. ENERGY EFFICIENCY SERVICE PROVIDERS

Q. What do you discuss in this section of your testimony?

A. I discuss SPS's bidding and engagement process for contracting with EESPs, including a list of all EESPs that participated in the utility's programs and contractors paid with funds collected through the EECRF, as required by Rule 25.182(d)(10)(K). I also discuss the portion of Rule 25.182(d)(10)(H) that requires the utility to identify each EESP receiving more than 5% of the utility's overall incentive payments and the percentage of the utility's incentives received by those providers.

Q. Please describe SPS's bidding and engagement process for contracting in SPS's SOPs.

A. For the Residential SOP, Hard-to-Reach SOP, and Large Commercial SOP, SPS's bidding and engagement process for contracting with EESPs is the same as past years. SPS posts its program manuals and budgets for the upcoming program year online, and potential EESPs are invited to apply. If the EESPs apply and meet the requisite criteria, they are approved as participants and are eligible to sponsor projects that qualify for incentive payments. When the EESP identifies a potential project, it submits a request, which SPS reviews and evaluates to determine whether it satisfies the program requirements. If the qualifications are met, then SPS approves the project and enters into a standard contract with the EESP to undertake the work. Upon completion of the project, including any inspections or verifications, SPS will process and remit payment for the invoice to the EESP.

SPS also offers a Load Management SOP, which also posts a budget and program manual online. However, EESPs do not participate in the program. Instead, individual customers nominate load reductions into the program and, if they deliver on those nominations, are paid a standard incentive for the delivered load. In some cases, customers may deliver more or less than the nominated load; however, the customer will still receive the same standard incentive payment only upon the load delivered. Upon calculation and verification of the customer's load reduction, SPS will process and remit payment to the customer.

Q. How does the bidding and engagement process work for MTPs?

A. SPS's Retro-Commissioning, Low-Income Weatherization, Home Lighting, and Small Commercial MTPs utilize third-party implementation in lieu of EESPs or direct customer involvement. As defined in Rule 25.181(c)(37), MTPs are "strategic programs intended to induce lasting structural or behavioral changes in the market...." The third-party implementer is typically acquired through a competitive solicitation and regularly invoices SPS with the costs associated with delivering the program. For each program, SPS develops a budget with incentives for demand and energy savings that are provided to the implementer upon completion of a project. Completion of a project may require measurement and verification to be completed before payment is made.

Q. Please identify all EESPs that participated in SPS's energy efficiency programs.

A. My Attachment JDS-3(CONF) lists all of the EESPs that participated in PY 2019 programs.

Q. Did any EESP receive more than 5% of SPS's overall incentive payments?

A. Yes. Four EESPs, which are identified on Attachment JDS-3(CONF), received more than 5% of SPS's overall incentive payments.

Q. Why did those EESPs receive more than 5% of SPS's overall incentive payments?

A. Two of these EESPs completed a high volume of commercial projects that included measures such as LED lighting conversions, high efficiency HVAC replacements, and refrigeration upgrades. One of the EESPs facilitated point-of-sale, mass market, home lighting offerings, which produced high levels of customer participation and energy savings. The fourth EESP concentrated on low-income projects with a high volume of multi-family high efficiency heat pump conversions. In all of these cases, high levels of participation or projects, as well as large energy savings resulted in incentive payments above 5% of the total incentive payments paid by SPS.

Q. Did the payment of more than 5% of the overall incentive payment budget to those EESPs leave SPS with a shortfall to pay for other potential projects?

A. No. All projects submitted from participating EESPs were approved and paid for in PY 2019.

VI. ESTIMATED USEFUL LIVES

Q. What do you address in this section of your testimony?

A. I address the EUL of each measure in SPS's energy efficiency programs.

Q. How does Rule 25.181 define the EUL of an energy efficiency measure?

A. Rule 25.181(c)(19) defines EUL as the "number of years until 50% of installed measures are still operable and providing savings...." The definition further notes that the term EUL is used interchangeably with the term "measure life." In effect, the EUL determines the period of time over which the benefits of the energy efficiency measure are expected to accrue.

Q. Please identify the EUL of each measure that SPS employs for its energy efficiency programs.

A. Please refer to Attachment JDS-4, which contains the EUL Master Table approved by the Commission for PY 2019 projects. The EULs for measures offered in PY 2021 can be found on http://texasefficiency.com/index.php/emv.

VII. ENERGY AND DEMAND SAVINGS ACHIEVEMENTS FOR PY 2019

Q. How did SPS's projected energy and demand savings compare to its reported/verified savings for PY 2019?

A. In 2019, SPS achieved 9.573 MW of reduction in demand and 23,327 MWh of energy savings, which were 174% and 242%, respectively, of SPS's demand goal of 5.495 MW and energy savings goal of 9,627 MWh. The table below shows a further breakdown of SPS's projected energy and demand savings compared to its reported savings in PY 2019. This table is also shown in Section VI of Attachment JDS-1.

Table JDS-2: PY 2019 Demand and Energy Savings

2019	Projected Savings		Reported/Verified Savings	
	kW	kWh	kW	kWh
Commercial	**5,314**	**8,674,000**	**5,985**	**12,846,135**
Commercial SOP	650	3,000,000	623	3,142,792
Retro-commissioning MTP	900	4,500,000	1,214	6,552,893
Load Management SOP	3,500	14,000	3,417	27,312
Small Commercial MTP	220	1,000,000	316	1,420,641
Home Lighting MTP	44	160,000	415	1,702,497
Residential	**1,916**	**7,056,600**	**2,632**	**8,219,484**
Residential SOP	900	2,300,000	899	2,134,339
Home Lighting MTP	836	3,040,000	1,683	5,650,639
Smart Thermostat MTP	-	363,000	-	36,322
Refrigerator Recycling MTP	180	1,353,600	50	398,184
Hard-to-Reach	**900**	**2,465,000**	**956**	**2,261,958**
Hard-to-Reach SOP	650	1,700,000	691	1,531,446
Low-Income Weatherization	250	765,000	265	730,512
Total Annual Savings Goals	**8,130**	**18,195,600**	**9,573**	**23,327,577**

Q. Were there any circumstances in SPS's service area that affected SPS's ability to achieve its Commission-approved goals in PY 2019?

A. No.

Q. Did SPS spend the full amount that it was authorized to spend for energy efficiency programs in PY 2019?

A. No. As shown in Table 11 of Attachment JDS-1, SPS had a total projected budget of $4,126,865 in PY 2019 and spent $3,850,714 in that year. The majority of this spending was on incentives. SPS spent 90% of total spending on incentives, which is 94% of its budget forecast. SPS underspent its total administrative budget by 5%. Excluding rate-case expenses, SPS spent 93% of its 2019 administrative budget forecast.

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

A. Yes.

AFFIDAVIT

STATE OF COLORADO)
)
COUNTY OF DENVER)

J. DEREK SHOCKLEY, first being sworn on his oath, states:

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

J. DEREK SHOCKLEY

Subscribed and sworn to before me this 27 day of April, 2020 by J. DEREK SHOCKLEY.

Notary Public, State of Colorado

My Commission Expires: 3-27-2024

LORI KRISTEN HOWELL
Notary Public
State of Colorado
Notary ID # 20204011760
My Commission Expires 03-27-2024

CERTIFICATE OF SERVICE

I certify that on May 1, 2020, this instrument was filed with the Public Utility Commission of Texas, and a true and correct copy of it was served on the Staff of the Public Utility Commission of Texas by hand delivery, Federal Express, regular first class mail, certified mail, or facsimile transmission.

J Rick Sparks

Southwestern Public Service Company
2020 Energy Efficiency Plan and Report
Substantive Rules §§ 25.181, 25.182, and 25.183

April 1, 2020

Project No. 50666

Xcel Energy℠
SOUTHWESTERN PUBLIC SERVICE

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Introduction

Southwestern Public Service Company ("SPS") presents this Energy Efficiency Plan and Report ("EEPR") to comply with 16 Tex. Admin. Code ("TAC") §§ 25.181, 25.182, and 25.183 (collectively referred to herein as the "EE Rules"), which are the Public Utility Commission of Texas's ("Commission") rules implementing Public Utility Regulatory Act ("PURA") § 39.905.[1] As mandated by this section of PURA, 16 TAC § 25.181(e)(1) requires that each investor-owned electric utility achieve the following minimum goal through market-based standard offer programs ("SOPs"), targeted market transformation programs ("MTPs"), or utility self-delivered programs:

- A utility shall acquire a 30% reduction of its annual growth in demand of residential and commercial customers.
- A utility may have a different demand reduction goal if the demand reduction goal of 30% of its annual growth in demand is equivalent to at least four-tenths of 1% of its summer weather-adjusted peak demand for the combined residential and commercial customers. This is also known as the "trigger."
- Once the trigger is satisfied, the utility shall acquire four-tenths of 1% of its summer weather-adjusted peak demand for the combined residential and commercial customers for the previous program year.

[1] PURA is codified at Tex. Util. Code Ann. §§ 11.001–66.016.

Energy Efficiency Plan and Report Organization

This EEPR consists of an executive summary and two main components: the Energy Efficiency Plan ("EEP") and the Energy Efficiency Report ("EER").

- The Executive Summary highlights SPS's reported achievements for 2019 and SPS's plans for achieving its 2020 and 2021 projected energy efficiency savings goals.

Energy Efficiency Plan

- Section I describes SPS's program portfolio. It details how each program will be implemented, discusses related informational and outreach activities, and introduces any programs not included in SPS's previous EEP.
- Section II explains SPS's targeted customer classes, specifying the size of each class and the method for determining those sizes.
- Section III presents SPS's projected energy efficiency savings for the prescribed planning period broken out by program for each customer class.
- Section IV describes SPS's proposed energy efficiency budgets for the prescribed planning period broken out by program for each customer class.

Energy Efficiency Report

- Section V documents SPS's actual weather-adjusted demand savings goals and energy targets for the previous five years (2015-2019).
- Section VI compares SPS's projected energy and demand savings to its reported and verified savings by program for calendar years 2018 and 2019.
- Section VII documents SPS's incentive and administration expenditures for the previous five years (2015-2019) broken out by program for each customer class.
- Section VIII compares SPS's actual program expenditures for 2019 to its 2019 budget categorized by program for each customer class.
- Section IX describes the results from SPS's MTPs.
- Section X details SPS's current Energy Efficiency Cost Recovery Factor ("EECRF") collection.
- Section XI reflects SPS revenue collected through the 2019 EECRF.

- Section XII breaks out the over/under-recovery of energy efficiency program costs.

Appendices

- Appendix A – Reported kilowatt ("kW") and kilowatt-hour ("kWh") savings listed by county for each program.

Executive Summary

SPS submits this EEPR to comply with the EE Rules for Program Years ("PY") 2020 and 2021. The EEP portion of this EEPR details SPS's efforts to achieve reductions in peak demand and energy use among its residential and commercial customers. For PYs 2020 and 2021, SPS has developed energy efficiency portfolios designed to meet goals prescribed by 16 TAC § 25.181.

EEP Summary

The following table presents SPS's 2020 and 2021 goals and budgets under PURA § 39.905 and the EE Rules.

Table 1: Summary of Goals, Projected Savings, and Projected Budgets (at Meter)

Calendar Year	2020	2021
Average Growth in Demand (MW)	41.236	8.139
Goal Metric: 0.4% Peak Demand (MW)	5.994	6.027
Demand Goal (MW)	5.994	6.027
Goal Metric: 0.4% Peak Energy (MWh)	10,502	10,559
Energy Goal (MWh)	10,502	10,559
Budget[3]	$4,479,378	$4,480.825

Table 1 shows SPS's goal(s) calculations for PY 2020 and 2021.[4] SPS's PY 2020 Demand and Energy goals were approved in Commission Docket No. 49495.

[3] Projected Budget amounts are set forth in Table 7.
[4] All kW/megawatt ("MW") and kWh/megawatt hour ("MWh") figures in Table 1 are given "at Meter."

In 2019, SPS met the trigger described in 16 TAC § 25.181(e)(1)(B). As a result, SPS was required to achieve a demand reduction in PY 2020 equivalent to four-tenths of 1% of its summer weather-adjusted peak demand for the combined residential and commercial customers for the previous program year. In accordance with 16 TAC § 25.181(e)(3)(B), SPS calculated its PY 2020 demand reduction goal using the average growth rate for the previous five years (2014-2018), yielding a demand reduction goal of 5.994 MW for PY 2020. Because the trigger has been met, SPS calculated its demand reduction goal for PY 2021 similarly, using four-tenths of 1% of its summer weather-adjusted five-year average (2015-2019) peak demand for the combined residential and commercial customers. This calculation yields a goal metric of 6.027 MW.

The "Energy (MWh) Goal" is calculated from the demand goal using a 20% conservation load factor, as mandated in 16 TAC § 25.181(e)(4). Thus, the "Energy (MWh) Goal" is 20% of the product of the "Demand Goal (MW)" and 8,760 (the number of hours in a typical year).

SPS will implement the following SOPs, MTPs, and Low-Income Weatherization programs in 2020:

- Residential SOP;
- Residential Home Lighting MTP;
- Smart Thermostat Pilot MTP;
- Refrigerator Recycling MTP;
- Hard-to-Reach SOP;
- Low-Income Weatherization;
- Small Commercial MTP;
- Large Commercial SOP;
- Load Management SOP; and
- Retro-Commissioning MTP.

The projected savings, budgets, and implementation plans included in this EEPR comply with the EE Rules and incorporate lessons learned from energy efficiency service providers ("EESP")

and customer participation in the various energy efficiency programs. The projected savings reported in this document assume that all of the available funds for energy efficiency programs are reserved by contractors and/or for self-delivered Market Transformation programs and expended energy efficiency projects.

EER Summary

The EER portion of this EEPR demonstrates that in 2019, SPS achieved 9,573 kW of reduction in demand and 23,327,577 kWh of energy savings, which equals 174% and 242%, respectively, of SPS's demand goal of 5,495 kW and energy savings goal of 9,627,240 kWh.

The expenditures for these 2019 programs were $3,850,714,[5] which was 93% of SPS's budget. To meet the goal of a four-tenths of 1% reduction in the summer weather-adjusted peak demand through energy efficiency, SPS implemented: the Residential SOPs for single- and multi-family residences; the Large Commercial SOP; the Load Management SOP; the Hard-to-Reach SOP for low-income, single- and multi-family residences; the Low-Income Weatherization program; the Home Lighting MTP; the Retro-Commissioning MTP; Small Commercial MTP, Smart Thermostat Program; and the Refrigerator Recycling MTP. Table 2 below compares the 2019 projected savings and budget to the reported and verified savings as well as actual expended funds for 2019.

Table 2: Summary of 2019 Projected Savings and Budget, Reported/Verified Savings, and Expended Funds

Calendar Year	2019
Demand Goal (MW)	5.495
Energy Goal (MWh)	9,627
Projected MW Savings	8.13
Projected MWh Savings	18,196
Reported MW Savings	9.57
Reported MWh Savings	23,328
Total Funds Budgeted	$4,126,865
Total Funds Expended	$3,850,714

[5] This number includes costs associated with all 2018 Evaluation, Measurement, and Verification ("EM&V") activities and SPS's 2019 EECRF expenses.

Energy Efficiency Plan

I. 2020 and 2021 Programs

A. Program Portfolios

PURA § 39.905 and 16 TAC § 25.181 establish peak demand reduction goals and program guidelines for investor-owned electric utilities in Texas. SPS is committed to offering cost-effective energy efficiency programs to ensure that its Texas retail customers are offered the same energy efficiency services that are available to consumers in other areas of the state.

This EEP reflects SPS's continued commitment to provide its customers with energy efficiency opportunities. For PY 2021, SPS proposes to offer multiple SOPs, multiple MTPs, and a weatherization program to its residential and commercial customer classes to meet the requirements under the EE Rules. The following EEP outlines SPS's planned efforts to encourage its residential and commercial customers to participate in its energy efficiency programs, including a discussion of proposed programs, budgets, and program impact estimates.

Table 3 below summarizes the programs and targeted customer classes.

Table 3: Energy Efficiency Program Portfolio

Program	Target Customer Class	Application
Large Commercial SOP	Large Commercial	Retrofit; New Construction
Small Commercial MTP	Small Commercial	Retrofit; New Construction
Load Management SOP	Commercial	Curtailable Load
Retro-Commissioning MTP	Large Commercial	Retrofit
Residential SOP	Residential	Retrofit; New Construction
Smart Thermostat MTP	Residential	Buydown
Refrigerator Recycling MTP	Residential	Retrofit
Home Lighting MTP	Residential	Buydown
Hard-to-Reach SOP	Residential Hard-to-Reach	Retrofit
Low-Income Weatherization	Low-Income	Retrofit

The programs listed in Table 3 are described in further detail below. SPS also maintains a website describing all of the requirements for project participation, the forms required for project submission, and the current available funding. That website, which can be accessed at http://www.xcelefficiency.com/, is the primary method by which SPS communicates with potential project sponsors about program updates and information.

B. Administrative and Research Costs for 2020 and 2021

SPS's administrative costs are incurred to support the development and implementation of its programs, as well as the regulatory compliance requirements associated with PURA § 39.905 and 16 TAC § 25.181. The costs include, but are not limited to employee labor and loading costs, employee travel expenses, the purchase of supplies, updating program databases, and legal costs. SPS monitors these costs on an ongoing basis and will make regular corrections to administrative spending, wherever possible, to ensure cost-effectiveness and regulatory compliance.

Research and Development ("R&D") costs include those costs for conducting studies and analyses to identify new programs or measures to enhance the energy efficiency or load management offerings and meet future energy and demand goals. For 2021, SPS is planning to investigate the viability of a Codes & Standards program offering for potential future inclusion into the portfolio.

C. Existing Programs for 2021

SPS will continue to offer the following pre-existing programs in 2021:

Large Commercial Standard Offer Program

The Large Commercial SOP targets commercial customers with single-meter demand of at least 100 kW or aggregate meter demand of at least 250 kW. Incentives are paid to project sponsors based on verified deemed savings for a wide range of measures installed in new or retrofit applications. Typical eligible measures include light emitting diode ("LED") lighting, lighting controls, commercial cooling and ventilation, commercial refrigeration enhancements, building envelope measures, and industrial process upgrades.

Small Commercial Market Transformation Program

The Small Commercial MTP is designed to assist small business customers with identifying and implementing cost-effective energy efficiency solutions for their workplace. Small business customers often encounter greater barriers to participation in energy efficiency programs that are not experienced by larger commercial and industrial ("C&I") customers. Often the two biggest barriers are lack of access to capital and a lack of information about what energy efficiency measures and strategies are the most cost-effective for the customer's individual situation. The Small Commercial MTP seeks to assist customers in overcoming these challenges by providing increased guidance throughout the decision-making process to help small business customers plan for, prioritize, and implement energy efficient measures. Successful program measures include LED lighting, lighting controls, and HVAC measures.

Load Management Standard Offer Program

The Load Management SOP was developed in 2012 in accordance with 16 TAC § 25.181, which authorizes participating project sponsors (customers or third-party sponsors) to provide on-call, voluntary curtailment of electricity consumption during peak demand periods in return for incentive payments. Incentives are based on verified demand savings that occur at SPS distribution sites taking primary or secondary service or at eligible institutional customers' sites because of calls for curtailment. Customers are not required to produce a specific level of curtailed load, but they will receive payments for only the amount of load curtailed.

Residential Standard Offer Program

The Residential SOP provides incentives to service providers for retrofit and new construction installations of residential measures that provide verifiable demand and energy savings. Successful measures include insulation, infiltration, duct efficiency, and LED lighting measures. This program has two components, one for single-family residences and one for multi-family

residences. Incentives and savings are tracked separately for these components but are reported together in this EEPR.

Home Lighting Market Transformation Program

The Home Lighting MTP offers SPS's customers point-of-sale rebates to reduce the cost of purchasing new, efficient LED bulbs through qualifying retailers. Point-of-sale rebates occur when the bulb manufacturer, retailer, and SPS combine funds to offer instant rebates on a variety of bulb models, targeted for residential use, enabling customers to purchase discounted LEDs without completing rebate forms. Since the program was rolled out in late 2016 as part of the Company's R&D effort, the program has become one of SPS's most cost effective and popular programs to retail customers.

Hard-to-Reach Standard Offer Program

Hard-to-Reach customers are defined by 16 TAC § 25.181(c)(27) as customers with an annual household income at or below 200% of federal poverty guidelines. The Hard-to-Reach SOP provides incentives for the comprehensive retrofit installations of a wide range of measures that reduce demand and save energy. This program is split into two segments, one for single-family residences and one for multi-family residences. Incentives and savings are tracked separately for these segments but are reported together in this EEPR.

Low-Income Weatherization Market Transformation Program

SPS's Low-Income Weatherization program is designed to cost-effectively reduce the energy consumption and energy costs of SPS's low-income customers. Under this program, one or more program implementers contract with sub-recipients and other not-for-profit community action and government agencies to provide weatherization services to SPS residential customers who meet the current Department of Energy income-eligibility guidelines. Customers also must have electric air conditioning to be eligible for the program. Implementation of SPS's Low-Income Weatherization program provides eligible residential customers appropriate

weatherization measures and basic on-site energy education and satisfies the requirements of 16 TAC § 25.181(p).

Retro-Commissioning Market Transformation Program

The Retro-Commissioning MTP is a program designed for identifying and implementing low-cost/no-cost measures, as well as capital projects to optimize and enhance existing facility systems by improving performance, reducing peak demand (kW), and saving energy (kWh). The program is flexible as to facility size, but caters to facilities with significant savings potential, which typically requires a minimum of 50,000 square feet of air-conditioned space.

Refrigerator Recycling Market Transformation Program

The Refrigerator Recycling MTP Pilot is a program designed to decrease the number of inefficient primary or secondary refrigerators and freezers in residential households. The program reduces energy usage by allowing customers to dispose of their operable, inefficient appliances in an environmentally safe and convenient manner. Customers will receive an incentive and free pick-up and recycling of their old freezer or refrigerator.

Smart Thermostat Market Transformation Program

The Smart Thermostat MTP Pilot is a program designed to provide customers discounts on ENERGY STAR® Connected Thermostats through Xcel Energy's online storefront, which is owned and managed by an independent third party. A discount will be applied at the point of sale to qualifying customers. All SPS residential customers will be eligible to participate in this upstream offering.

D. New and Modified Programs for 2021

SPS does not propose any new or modified programs for the 2021 plan year.

General Implementation Plan

Program Implementation

SPS will implement its energy efficiency programs in a non-discriminatory and cost-effective manner. For PY 2020 and 2021, SPS intends to conduct programs using the following activity schedule:

- On January 9, 2020, SPS conducted kick-off meetings for each program, and allowed sponsors to submit applications by January 17th for the 2020 PY, which were reviewed and accepted in the order of receipt.

- Throughout 2020, SPS has and will offer approved EESPs contracts to implement projects. After contract execution, the EESP may begin implementation and reporting of measures. All projects must be completed and results reported to SPS before November 15, 2020. SPS will continue to inform the EESP community of pertinent news and updates by posting program notices on its energy efficiency website, offering local and Internet-based workshops (if necessary), and sending email notices to various energy service company associations.

- No later than January 1, 2021, SPS will announce its 2021 energy efficiency programs and open its website application pages to assist EESPs in preparing project applications for PY 2021. The application process gives sponsors feedback on whether particular projects are eligible and the level of incentives for which they may qualify.

- Throughout 2021, SPS will offer contracts to approved EESPs to implement energy efficiency projects. After contract execution, the EESP may begin implementation and reporting of measures. All projects must be completed and results reported to SPS before November 15, 2021. SPS will continue to inform the EESP community of pertinent news and updates by posting program notices on its energy efficiency website, offering local and Internet-based workshops (if necessary), and sending email notices to various energy service company associations.

- During 2020 and 2021, the Retro-Commissioning Program, Small Commercial MTP, Home Lighting MTP, and Refrigerator Recycling MTP pilot will utilize third-party program implementers who will conduct a wide range of activities to facilitate and enable customer participation in these programs.

Program Tracking

SPS uses an online database to track program activity in its SOPs. The online database is accessible to project sponsors, implementers, and administrators. All program data can be entered in real-time, capturing added customer information (class, location by county, and utility account), installed measures (quantity, deemed or measured, serial numbers, and paid incentives), authorized incentives, inspection results (including adjustments), invoice requests, and payments. The database allows SPS to guard against duplicate incentive requests to SPS's programs.

SPS uses separate databases to track program activity for the Retro-Commissioning, Home Lighting MTP, and Low-Income Weatherization programs. The Smart Thermostat MTP Pilot and Refrigerator Recycling MTP Pilot also utilize separate databases. These databases are managed by the third-party implementers for the programs.

Measurement and Verification

Many of the projects implemented under these programs will report demand and energy savings utilizing "deemed savings estimates" reviewed by the Independent Evaluator and approved by the Commission. If deemed savings have not been approved for a particular installation, such savings will be reported using an approved measurement and verification approach as allowed under 16 TAC § 25.181(o).

The International Performance Measurement and Verification Protocol will be used in the following situations:

- A Commission-approved deemed savings estimate is not available for the energy efficiency measures included in an eligible project; or
- An EESP has elected to follow the protocol because it believes that measurement and verification activities will result in a more accurate estimate of the savings associated with the project than would application of the Commission-approved deemed savings value.

Outreach and Research Activities

SPS anticipates that outreach to a broad range of EESPs and market segments will be necessary to meet the savings goals required by PURA § 39.905 and the EE Rules. SPS markets the availability of its programs by maintaining its website (http://www.xcelenergyefficiency.com/), which is the primary method of communication used to provide potential project sponsors with program updates and information. It contains detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, and current available funding. All application forms required for project submission are available for download on the website.

SPS offers outreach workshops for the Residential and Hard-to-Reach SOPs. These workshops are held in person or via webinar. SPS invites air conditioning contractors, weatherization service providers, lighting vendors, big-box retailers, and national energy service companies to participate in the workshops. These workshops explain program elements, such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process. SPS coordinates the timing of its workshops to avoid overlap with other utilities' schedules. These workshops increase accessibility to EESPs who may work in several areas.

SPS participates in statewide outreach activities and attends industry-related meetings to generate awareness and interest in its energy efficiency programs. In addition, SPS sends mass email notifications to keep potential project sponsors interested and informed.

SPS uses a mix of large C&I customer account management staff and third-party implementation staff to educate customers about the Load Management SOP and Retro-Commissioning MTP. In 2021, the account management team and third-party implementation staff will continue their efforts to hold customer meetings and use marketing materials to explain the program and the requirements for participation.

II. Customer Classes

SPS targets the Commercial, Residential, and Hard-to-Reach customer classes with its energy efficiency programs. Table 4 summarizes the number of customers in each of the target customer classes. The annual budgets are allocated to customer classes by examining historical program results, evaluating economic trends, and taking into account 16 TAC § 25.181(e)(3)(F), which states that no less than 5% of the utility's total demand goal should be achieved through programs for Hard-to-Reach customers. SPS has relied on historical achievements to determine the budget allocations for the 2020 and 2021 PYs. Although these guidelines have been set, the actual distribution of the budget must remain flexible based upon the response of the marketplace and the potential interest that a customer class may have in a specific program.

Table 4: Summary of Customer Classes

Customer Class	Qualifications	Number of Customers[6]
Commercial	< 69 kV service voltage	53,179
Residential	Non-Hard-To-Reach Residential	206,136
Hard-to-Reach[7]	Hard-To-Reach Income Requirements	30,714

III. Projected Energy Efficiency Savings and Goals

As prescribed by 16 TAC § 25.181(e)(3), SPS's 2021 demand reduction goal is calculated by applying four-tenths of 1% (0.004) to the five year average (2015-2019) peak demand, for residential and commercial customers combined, at the meter of 1,507 MW. This results in a calculated demand goal of 6.027 for PY 2021.

Table 5 provides the peak load data used to calculate the demand reduction projection for the demand goal for PY 2021, as required by the EE Rules. To calculate this goal, SPS applied an

[6] Commercial and Residential number of customers reflect actual SPS customer counts as of December 2019. Hard-to-Reach customers were estimated based on the most recently available U.S. Census data. In 2018, 14.9% of Texans were below the poverty threshold.
https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pov/pov-46.html

[7] Hard-to-Reach customer counts are a subset of the Residential customer counts.

average line loss factor of 9.70%[8] to the weather-normalized peak demand value for residential and commercial customers. SPS then removed the peak demand of opt-out customers from the residential and commercial peak demand values. Finally, SPS calculated the average peak `demand for the combined residential and commercial customers for the previous five years (2015-2019). As shown in Table 5, during the previous five year period, SPS has experienced an average summer weather-adjusted peak demand for the combined residential and commercial customers at the meter of 1,507 MW.

[8] SPS's most recently approved line loss study can be found in Docket No. 47527. For purposes of the EEPR, SPS used a simple average of line losses for all levels from the source to the meter.

Table 5: Annual Growth in Demand and Energy Consumption (at Meter)[9]

Calendar Year	Peak Demand (MW) @ Source						Energy Consumption (MWh) @ Meter				Energy Efficiency Goal Calculation		
	Total System		Residential & Commercial				Total System		Residential & Commercial				
	Actual	Actual Weather Adjusted	Actual	Actual Weather Adjusted	Opt-Out	Peak Demand @ Source Net Opt-Outs	Actual	Actual Weather Adjusted	Actual	Actual Weather Adjusted	Peak Demand @ Meter (9 7% Line Losses)	5-Year Average Peak Demand @ Meter	Goal Metric 0 4% Peak Demand at Meter
2013	2,468	2,425	1,656	1,633	81	1,553	13,994,646	13,859,306	7,764,906	7,629,565	1,402	1,516	6 06
2014	2,506	2,497	1,711	1,702	55	1,647	14,061,579	14,038,723	7,712,573	7,689,717	1,487	1,525	6 10
2015	2,405	2,478	1,618	1,691	52	1,639	14,032,058	14,004,866	7,621,821	7,594,628	1,480	1,499	6 00
2016	2,499	2,449	1,727	1,677	43	1,634	13,958,248	13,905,333	7,498,352	7,445,437	1,475	1,497	5 99
2017	2,464	2,434	1,675	1,645	47	1,597	13,844,659	13,912,071	7,358,371	7,425,783	1,442	1,491	5 96
2018	2,583	2,567	1,848	1,832	51	1,781	14,297,147	14,100,463	7,723,000	7,526,316	1,608	1,478	5 91
2019	2,483	2,510	1,702	1,729	37	1,692	14,037,836	13,944,983	7,465,519	7,372,666	1,528	1,457	5 83
2020	N/A	N/A	N/A	1,740	N/A	N/A	N/A	N/A	N/A	7,664,093	N/A	1,499	5 99
2021	N/A	N/A	N/A	1,735	N/A	N/A	N/A	N/A	N/A	7,646,325	N/A	1,507	6 03

[9] New line loss factors for 2019 were approved for SPS in Docket No. 47527.

For 2020 and 2021, SPS developed budgets to meet the energy and demand goals in a cost-effective manner, as prescribed by 16 TAC § 25.181. Details of these budgets, including the allocation of funds to specific programs, are given in Section IV.

SPS calculated the projected savings of its energy efficiency programs from these proposed budgets, using the cost per kW of demand reduction achieved in previous SPS programs and the budget allocation for each program. SPS then calculated the expected energy savings from the projected demand reductions using the average load factors from previous PYs (with adjustments for market conditions and other potential changes). Table 6 shows the projected demand and energy savings broken out by program.

Table 6: Projected Demand and Energy Savings Broken Out by Program for Each Customer Class (at Meter)

2020	Projected Savings	
	MW	MWh
Commercial	**6.06**	**10,694**
Commercial SOP	1.02	3,826
Retro-Commissioning MTP	1.10	4,850
Load Management SOP	3.50	14
Small Commercial MTP	0.22	1,000
Home Lighting MTP	0.23	1,004
Residential	**2.19**	**7,493**
Residential SOP	0.90	2,300
Home Lighting MTP	1.11	3,476
Smart Thermostat MTP Pilot	-	363
Refrigerator Recycling MTP	0.18	1,354
Hard-to-Reach	**0.90**	**2,465**
Hard-to-Reach SOP	0.65	1,700
Low-Income Weatherization	0.25	765
Total Annual Projected	**9.15**	**20,652**
2021	**Projected Savings**	
	MW	**MWh**
Commercial	**6.42**	**11,759**
Commercial SOP	1.02	3,826
Retro-Commissioning MTP	1.10	4,850
Load Management SOP	3.50	14
Small Commercial MTP	0.22	1,000
Home Lighting MTP	0.59	2,069
Residential	**2.92**	**10,459**
Residential SOP	0.90	2,300
Home Lighting MTP	1.97	6,926
Smart Thermostat MTP Pilot	-	838
Refrigerator Recycling MTP	0.05	395
Hard-to-Reach	**0.90**	**2,465**
Hard-to-Reach SOP	0.65	1,700
Low-Income Weatherization	0.25	765
Total Annual Projected	**10.24**	**24,682**

IV. Program Budgets

Table 7: Proposed Annual Budget Broken Out by Program for Each Cost Class

2020	Incentives	Admin	R&D	EM&V	Total
Commercial	$ 1,946,680	$ 78,095	$ -	$ -	$2,024,775
Commercial SOP	390,200	44,730	-	-	434,930
Retro-Commissioning MTP	977,600	-	-	-	977,600
Load Management SOP	167,000	27,405	-	-	194,405
Small Commercial MTP	400,000	5,460	-	-	405,460
Home Lighting MTP	11,880	500	-	-	12,380
Residential	1,150,720	56,855	-	-	1,207,575
Residential SOP	600,000	34,965	-	-	634,965
Home Lighting MTP	225,720	9,500	-	-	235,220
Smart Thermostat MTP	50,000	3,675	-	-	53,675
Refrigerator Recycling MTP	275,000	8,715	-	-	283,715
Hard-to-Reach	920,000	19,110	-	-	939,110
Hard-to-Reach SOP	500,000	19,110	-	-	519,110
Low-Income Weatherization	450,000	-	-	-	450,000
Research & Development	-	-	40,000	-	40,000
General Administration	-	203,070	-	-	203,070
Evaluation, Measurement, & Verification	-	-	-	34,848	34,265
Rider Expenses	-	-	-	-	-
Grand Total	**$ 4,047,400**	**$ 357,130**	**$ 40,000**	**$ 34,848**	**$4,479,378**

2021	Incentives	Admin	R&D	EM&V	Total
Commercial	$ 1,952,445	$ 78,330	$ -	$ -	$2,030,775
Commercial SOP	390,200	44,730	-	-	434,930
Retro-Commissioning MTP	977,600	-	-	-	977,600
Load Management SOP	167,000	27,405	-	-	194,405
Small Commercial MTP	400,000	5,460	-	-	405,460
Home Lighting MTP	17,645	735	-	-	18,380
Residential	1,140,251	61,324	-	-	1,201,575
Residential SOP	600,000	34,965	-	-	634,965
Home Lighting MTP	335,251	13,969	-	-	349,220
Smart Thermostat MTP	30,000	3,675	-	-	33,675
Refrigerator Recycling MTP	175,000	8,715	-	-	183,715
Hard-to-Reach	950,000	19,110	-	-	969,110
Hard-to-Reach SOP	500,000	19,110	-	-	519,110
Low-Income Weatherization	450,000	-	-	-	450,000
Research & Development	-	-	40,000	-	40,000
General Administration	-	205,100	-	-	203,070
Evaluation, Measurement, & Verification	-	-	-	34,265[10]	34,265
Rider Expenses	-	-	-	-	-
Grand Total	**$ 4,042,696**	**$ 363,864**	**$ 40,000**	**$ 34,265**	**$4,480,825**

[10] SPS is using the actual expenses incurred in 2019 for review of the 2018 PY as an estimate of costs for the 2021 PY. The actual 2021 PY expenses may differ from those incurred in 2019 for review of the 2018 PY expenses.

Energy Efficiency Report

V. Historical Demand Savings Goals and Energy Targets for Previous Five Years

Table 8 documents SPS's demand and energy reduction goals for the previous five years (2015-2019) calculated in accordance with 16 TAC § 25.181 and actual demand reduction and energy savings achieved.

Table 8: Historical Demand and Energy Savings Goals and Achievements (at the Meter)

Calendar Year	Adjusted Demand Goal (MW)	Adjusted Energy Goal (MWh)	Actual Demand Reduction (MW)	Actual Energy Savings (MWh)
2019	5.49	9,627	9.573	23,328
2018	5.49	9,627	9.57	18,908
2017	5.49	9,627	7.75	16,871
2016	5.49	9,627	8.19	14,451
2015	5.49	9,627	8.17	14,537

VI. Projected Versus Reported and Verified Demand and Energy Savings

This section documents SPS's projected savings and its reported and verified savings for PYs 2018 and 2019. Table 9 shows the savings for SOPs, MTPs, and the Low-Income Weatherization program. SPS's 2018 programs produced 9,574 kW demand savings or 174% of the statutory goal of 5,495 kW. In 2019, SPS's programs produced 9,573 kW of demand savings at the meter or 174% of the statutory goal of 5,495 kW. Taking into account line losses approved in Docket No. 47527, SPS's 2019 programs produced 10.60 MW of demand savings at the source.

Table 9: Projected versus Reported/Verified Savings for 2018 and 2019 (at Meter)

2018	Projected Savings		Reported/Verified Savings	
	kW	kWh	kW	kWh
Commercial	5,605	9,133,770	6,598	10,888,164
Commercial SOP	1,060	2,870,600	652	3,655,048
Retro-Commissioning MTP	835	5,388,170	907	4,950,639
Load Management SOP	3,500	-	4,544	18,176
Small Commercial MTP	200	800,000	268	1,212,389
Home Lighting MTP	10	75,000	227	1,051,912
Residential	1,170	2,517,590	2,012	5,666,879
Residential SOP	980	1,092,590	945	2,135,877
Home Lighting MTP	190	1,425,000	1,067	3,531,002
Hard-to-Reach	1,005	1,565,910	964	2,353,251
Hard-to-Reach SOP	755	890,910	682	1,551,080
Low-Income Weatherization	250	675,000	282	800,172
Total Annual Savings Goals	**7,780**	**13,217,270**	**9,574**	**18,908,294**
2019	**Projected Savings**		**Reported Savings**	
	kW	**kWh**	**kW**	**kWh**
Commercial	5,314	8,674,000	5,985	12,846,135
Commercial SOP	650	3,000,000	623	3,142,792
Retro-Commissioning MTP	900	4,500,000	1,214	6,552,893
Load Management SOP	3,500	14,000	3,417	27,312
Small Commercial MTP	220	1,000,000	316	1,420,641
Home Lighting MTP	44	160,000	415	1,702,497
Residential	1,916	7,056,600	2,632	8,219,484
Residential SOP	900	2,300,000	899	2,134,339
Home Lighting MTP	836	3,040,000	1,683	5,650,639
Smart Thermostat MTP	-	363,000	-	36,322
Refrigerator Recycling MTP	180	1,353,600	50	398,184
Hard-to-Reach	900	1,565,910	956	2,261,958
Hard-to-Reach SOP	650	890,910	691	1,531,446
Low-Income Weatherization	250	675,000	265	730,512
Total Annual Savings Goals	**8,130**	**18,195,600**	**9,573**	**23,327,577**

VII. Historical Program Expenditures

This section documents SPS's incentive and administrative expenditures for the previous five years (2015-2019) broken out by program for each customer class. Table 10 shows expenditures for SOPs, MTPs, and the Low-Income Weatherization Program.

Table 10: Historical Program Incentive and Administrative Expenditures for 2015 through 2019[11]

Program	2019		2018		2017		2016		2015	
	Incent. (000s)	Admin (000s)	Incent. (000s)	Admin (000s)	Incent. (000s)	Admin (000s)	Incent. (000s)	Admin (000s)	Incent. (000s)	Admin (000s)
Commercial	$ 1,684	$ 43	$ 1,784	$ 43	$ 1,615	$ 48	$ 1,501	$ 132	$ 1,501	$ 132
Large Commercial SOP	231	27	264	30	243	41	598	96	598	96
Small Commercial SOP	-	-	-	-	-	-	43	16	43	16
Retro-Commissioning MTP	869		882		796	-	647	2	647	2
Load Management SOP	171	13	227	13	166	6	213	17	213	17
Small Commercial MTP	400	-	400	-	400	1	-	-	-	-
Home Lighting MTP	13	2	12	-	10	-	-	-	-	-
Residential	875	78	805	35	795	37	556	42	556	42
Residential SOP	568	27	584	30	597	31	556	42	556	42
Home Lighting MTP	251	39	221	5	199	6	-	-	-	-
Smart Thermostat MTP	1	-	-	-	-	-	-	-	-	-
Refrigerator Recycling MTP	55	11	-	-	-	-	-	-	-	-
Hard-to-Reach	918	27	905	30	899	31	710	76	710	76
Hard-to-Reach SOP	497	27	496	30	500	31	352	23	352	23
Low-Income Weatherization	421	-	410	-	399	-	358	54	358	54
Research & Development	-	16	-	25	-	-	-	3	-	3
General Administration	-	148	-	167	-	167	-	62	-	62
Evaluation, Measurement, & Verification	-	34	-	34	-	34	-	35	-	35
Rider Expenses	-	27	-	47	-	49	-	109	-	109
Total Expenditures	**$ 3,477**	**$ 374**	**$ 3,495**	**$ 379**	**$ 3,310**	**$ 366**	**$ 2,767**	**$ 459**	**$ 2,767**	**$ 459**

[11] 2019 expenditures from Project No. 50666; 2018 expenditures from Project No. 49297; 2017 expenditures from Project No. 48146; 2016 expenditures from Project No. 46907; 2015 expenditures from Project No. 45675.

VIII. Program Funding for Calendar Year 2019

As shown in Table 11, SPS spent a total of $3,850,714[12] on its energy efficiency programs in 2019, which is $274,039 less than SPS's 2019 approved budget of $4,126,865.

Table 11: Program Funding for Calendar Year 209

Customer Segment and Program	Total Projected Budget	Participants	Actual Funds Expended (Incentives)	Actual Funds Expended (Admin)	Total Funds Expended	Budget and Expenditure Variance
Commercial & Industrial	$ 1,703,900	11,259	$ 1,684,270	$ 42,869	$1,729,278	101%
Large Commercial SOP	292,600	73	231,418	27,449	258,867	88%
Retro-Commissioning MTP	800,000	29	868,781		868,781	109%
Load Management SOP	193,100	7	170,850	13,383	184,233	95%
Small Commercial MTP	405,200	53	400,000	-	400,000	99%
Home Lighting MTP	13,000	11,097	13,221	2,064	15,285	118%
Residential	1,217,100	212,107	874,983	77,586	952,568	78%
Residential SOP	633,300	887	567,783	27,452	595,235	94%
Home Lighting MTP	247,000	210,841	251,197	39,222	290,418	118%
Smart Thermostat MTP	53,500	26	1,300	-	1,300	2%
Refrigerator Recycling MTP	283,300	353	54,700	10,915	65,615	23%
Hard-to-Reach	938,200	1,151	917,895	27,449	945,345	101%
Hard-to-Reach SOP	518,200	922	496,980	27,449	524,429	101%
Low-Income	420,000	229	420,916	-	420,916	100%
Research & Development	40,000	-	-	16,086	16,086	40%
General Administration	193,400	-	-	148,469	148,469	77%
Evaluation, Measurement, & Verification	34,265	-	-	34,265	34,265	N/A
EECRF Rider Expenses	-	-	-	26,815	26,815	N/A
Total	$ 4,126,865	224,517	$ 3,477,145	$ 373,568	$ 3,850,714	93%

Pursuant to 16 TAC § 25.181(l)(2)(Q), SPS is required to provide an explanation of annual program spending variance from budgets if the variance exceeds a positive or negative 10%. In 2018, four programs met this criterion: Large Commercial SOP, Home Lighting MTP, Smart Thermostat MTP and the Refrigerator Recycling MTP.

- The Large Commercial SOP was below budgeted spending primarily due to a reduction in participation. SPS experienced several project delays on one large multi-site project and received several project applications that did not meet the qualifying criteria of the program.

- During program year 2019, specific program management adjustments were made as actual achievement for the newer program offerings of Refrigeration Recycling and Smart T-Stats were underperforming compared to forecasts. Funding from these programs were moved to Home Lighting in an effort to replace the associated achievement and maintain goal attainment for the portfolio.

Table 12: Expenditures for Targeted Low-Income Program

2019 Budget	Required Expenditures	Actual Expenditures	% of Budget
$ 4,126,865	$412,687	$420,916	10%

As shown in Table 12, SPS spent approximately 10% of its 2019 approved portfolio budget on its targeted low-income energy efficiency program.

IX. Market Transformation Program Results

SPS launched its Commercial Retro-Commissioning MTP in April 2013. In 2019, SPS completed 11 projects that resulted in a reduction of 1,214 kW and 6,552,893 kWh. SPS expects additional, similar projects to be completed in 2020.

SPS launched its Small Commercial MTP in January 2017. In 2019, SPS completed 53 projects that resulted in a reduction of 316 kW and 1,420,641 kWh. This new program has proven to be effective at increasing participation amongst small commercial customers which was the focus for this new offering.

SPS launched its Home Lighting MTP in January 2017. In 2019, SPS had over 221,938 bulbs sold in its upstream lighting program that resulted in a reduction of 2,098 kW and 7,353,136 kWh.

[12] This number includes SPS's direct program costs, as well as indirect programs costs including R&D, EM&V, and EECRF rate case expenses.

SPS launched its Smart Thermostat MTP on January 1, 2019. In its initial year as a program, SPS sold 26 Thermostats on its online marketplace that resulted in a reduction of 36,322 kWh.

SPS launched its Refrigerator Recycling MTP on January 1, 2019. In its initial year as a program, SPS recycled 353 old refrigerators within the service territory that resulted in a reduction of 50 kW and 398,184 kWh.

X. 2019 Energy Efficiency Cost Recovery Factor (EECRF)

On September 27, 2018, in Docket No. 48324, the Commission approved SPS's 2019 EECRF to recover a total of $4,973,592 in expenses associated with its 2019 energy efficiency programs, effective January 1, 2019.

Table 13: 2019 EECRF Rates

Rate Schedule	$/kWh
Residential Service	$0.001208
Small General Service	$0.000407
Secondary General Service	$0.000772
Primary General Service	$0.000079
Small Municipal and School Service	$0.005928
Large Municipal Service	$0.000202
Large School Service	$0.000290

XI. Revenue Collected through EECRF (2019)

SPS collected $5,114,825 through its 2019 EECRF, which became effective January 1, 2019.

XII. Over/Under-recovery of Energy Efficiency Program Costs

SPS recovered $447,240 more than what was approved in EECRF Docket No. 48324 as shown in Table 14 below.

Table 14: Over/Under Recovery (2019)

2019 Program Costs	$	3,789,634
AIP Reduction		(3,041)
2018 EM&V Costs		34,265
2017 Net Under Recovery		216,761
2017 Rate Case Expenses (D. 47117)		49,025
2017 Performance Bonus		580,941
Total		**4,667,585**
EECRF Recovery	$	$5,114,825
Net (Over)/Under Recovery	**$**	**(447,240)**

Acronyms

C&I	Commercial and Industrial
Commission	Public Utility Commission of Texas
EECRF	Energy Efficiency Cost Recovery Factor
EEP	Energy Efficiency Plan
EEPR	Energy Efficiency Plan and Report
EER	Energy Efficiency Report
EE Rules	Energy Efficiency Rules, 16 Tex. Admin. Code § §25.181, 25.182 and § 25.183
EESP	Energy Efficiency Service Provider
EM&V	Evaluation, Measurement, and Verification
kW	kilowatt
kWh	kilowatt hour
LED	Light Emitting Diode
MTP	Market Transformation Program
MW	Megawatt
MWh	Megawatt hour
PURA	Public Utility Regulatory Act
PY	Program Year
R&D	Research & Development
SOP	Standard Offer Program
SPS	Southwestern Public Service Company
TAC	Texas Administrative Code

APPENDIX A: REPORTED DEMAND AND ENERGY REDUCTION BY COUNTY 2019

Large Commercial SOP			
County	**# of Premises**	**kW**	**kWh**
Cochran	1	8	32,190
Crosby	1	20	77,109
Deaf Smith	1	22	134,333
Gaines	6	62	391,432
Gray	1	8	29,748
Hale	2	7	27,811
Hutchinson	1	2	9,925
Moore	1	8	32,405
Ochiltree	1	8	32,814
Potter	21	334	1,792,436
Randall	7	123	453,174
Terry	7	21	129,415
Total	**50**	**623**	**3,142,792**

Recommissioning MTP			
County	**# of Premises**	**kW**	**kWh**
Castro	1	21	106,833
Gaines	1	4	11,923
Hale	1	4	2,771
Hockley	1	132	595,514
Ochiltree	1	148	664,453
Potter	2	412	2,820,697
Randall	3	482	2,283,034
Wheeler	1	11	67,668
Total	**11**	**1,214**	**6,552,893**

Load Management			
County	**# of Premises**	**kW**	**kWh**
Cochran	1	437	3,492
Moore	2	47	376
Parmer	1	446	3,564
Potter	8	824	6,584
Randall	2	713	5,700
Terry	1	761	6,084
Yoakum	1	189	1,512
Total	**16**	**3,417**	**27,312**

Small Commercial MTP			
County	**# of Premises**	**kW**	**kWh**
Bailey	1	6	24,424
Castro	2	40	209,591
Deaf Smith	2	48	205,614
Hale	1	2	6,910
Moore	1	8	24,051
Parmer	2	4	16,438
Potter	12	84	338,933
Randall	12	122	580,894
Wheeler	1	2	13,786
Total	**34**	**316**	**1,420,641**

Home Lighting MTP			
County	**# of Premises[13]**	**kW**	**kWh**
Deaf Smith	8,240	85	296,289
Gaines	4,324	46	161,336
Gray	17,350	169	590,270
Hale	11,525	115	403,754
Hockley	11,149	111	389,911
Hutchinson	13,400	133	464,365
Moore	11,682	117	407,991
Potter	57,683	539	1,888,112
Randall	86,585	836	2,925,871
Total	**221,938**	**2,151**	**7,527,899**

Residential SOP			
County	**# of Premises**	**kW**	**kWh**
Armstrong	1	2	6,014
Bailey	27	60	145,631
Carson	1	2	5,374
Castro	1	4	9,438
Cochran	2	7	18,830
Crosby	12	24	64,573
Deaf Smith	61	120	270,494
Garza	2	6	16,045
Hale	5	6	10,550
Hockley	22	62	162,982
Lamb	49	116	301,316
Lubbock	7	23	63,123
Parmer	21	54	129,666
Potter	94	216	504,271
Randall	115	196	426,032
Total	**420**	**898**	**2,134,339**

[13] Sum of individual bulbs sold and not individual premises.

Hard-to-Reach SOP			
County	**# of Premises**	**kW**	**kWh**
Bailey	3	7	20,017
Castro	4	10	27,387
Crosby	9	22	56,583
Deaf Smith	46	84	179,587
Garza	4	8	17,580
Hockley	14	30	79,620
Lamb	53	121	306,730
Lubbock	2	5	14,089
Parmer	27	61	136,591
Potter	83	165	338,209
Randall	130	178	355,053
Total	**375**	**691**	**1,531,446**

Low-Income Weatherization			
County	**# of Premises**	**kW**	**kWh**
Potter	99	260	723,178
Randall	7	5	7,334
Total	**106**	**265**	**730,512**

Smart Thermostats			
County	**# of Premises**	**kW**	**kWh**
Armstrong	1	-	1,397
Gray	1	-	1,397
Potter	7	-	9,779
Randall	17		23,749
Total	**26**	-	**36,322**

Refrigerator Recycling			
County	**# of Premises**	**kW**	**kWh**
Armstrong	3	0.429	3,384
Bailey	1	0.143	1,128
Carson	2	0.286	2,256
Castro	1	0.143	1,128
Crosby	2	0.286	2,256
Dallam	4	0.572	4,512
Deaf Smith	5	0.715	5,640
Floyd	2	0.286	2,256
Gaines	1	0.143	1,128
Gray	11	1.573	12,408
Hale	12	1.716	13,536
Hansford	3	0.429	3,384
Hockley	12	1.716	13,536
Hutchinson	9	1.287	10,152
Lamb	8	1.144	9,024
Lubbock	6	0.858	6,768
Moore	7	1.001	7,896
Ochiltree	1	0.143	1,128
Oldham	1	0.143	1,128

Parmer	1	0.143	1,128
Potter	105	15.015	118,440
Randall	154	22.022	173,712
Sherman	1	0.143	1,128
Yoakum	1	0.143	1,128
Total	**353**	**50**	**398,184**

Southwestern Public Service Company

Cost per kW and kWh for 2018-2021

	2018 (Actual)		2019 (Actual)		2020 (Projected)		2021 (Projected)	
Customer Class	**$/kW**	**$/kWh**	**$/kW**	**$/kWh**	**$/kW**	**$/kWh**	**$/kW**	**$/kWh**
Commercial	$ 277	$ 0.17	$ 289	$ 0.13	$ 334	$ 0.19	$ 316	$ 0.17
Residential	$ 417	$ 0.15	$ 362	$ 0.12	$ 552	$ 0.16	$ 412	$ 0.11
Hard-to-Reach	$ 971	$ 0.40	$ 989	$ 0.42	$ 1,077	$ 0.39	$ 1,077	$ 0.39
Total	**$ 405**	**$ 0.20**	**$ 402**	**$ 0.17**	**$ 489**	**$ 0.22**	**$ 438**	**$ 0.18**

Attachment JDS-3
Pages 1 through 1

Are
Confidential Protected Information

CONFIDENTIAL PROTECTED MATERIALS
PROVIDED PURSUANT TO PROTECTIVE ORDER

Southwestern Public Service Company

Master Estimated Useful Life Spreadsheet
of Technical Reference Manual 5.0

Residential & Commercial EULs				
Sector	**TRM Measure**	**Energy Efficiency Measure**	**EUL (years)**	***TRM Version***
Custom	NA	Custom	NA	*NA*
Residential	2.1.1	Res Standard Compact Fluorescent Lamps (10,000 to 11,000 hour Rated Measure Life)	11.0	*6 0*
Residential	2.1.1	Res Standard Compact Fluorescent Lamps (11,001 to 13,500 hour Rated Measure Life)	13.0	*6 0*
Residential	2.1.1	Res Standard Compact Fluorescent Lamps (13,501 to 17,500 hour Rated Measure Life)	16.0	*6 0*
Residential	2.1.1	Res Standard Compact Fluorescent Lamps (≥ 17,501 hour Rated Measure Life)	20.0	*6.0*
Residential	2.1.2	Res Specialty Compact Fluorescent Lamps (10,000 to 11,000 hour Rated Measure Life)	11.0	*6.0*
Residential	2.1.2	Res Specialty Compact Fluorescent Lamps (11,001 to 13,500 hour Rated Measure Life)	13.0	*6 0*
Residential	2.1.2	Res Specialty Compact Fluorescent Lamps (13,501 to 17,500 hour Rated Measure Life)	16.0	*6 0*
Residential	2.1.2	Res Specialty Compact Fluorescent Lamps (≥ 17,501 hour Rated Measure Life)	20.0	*6 0*
Residential	2.1.3	Res Energy Star Omni-Directional LED Lamps (15,000 year Rated Measure Life)	16.0	*6 0*
Residential	2.1.3	Res Energy Star Omni-Directional LED Lamps (20,000 year Rated Measure Life)	20.0	*6 0*
Residential	2.1.4	Res Energy Star Specialty and Directional LED Lamps (15,000 hour Rated Measure Life)	16.0	*6.0*
Residential	2.1.4	Res Energy Star Specialty and Directional LED Lamps (20,000 hour Rated Measure Life)	20.0	*6.0*
Residential	2.2.1	Res AC or HP Tune-Up	5.0	*6 0*
Residential	2.2.2	Res Duct Efficiency Improvement	18.0	*6 0*
Residential	2.2.3	Res Central AC	18.0	*6 0*
Residential	2.2.4	Res Ground Source Heat Pump	20.0	*6.0*
Residential	2.2.5	Res Central Heat Pump	15.0	*6 0*
Residential	2.2.6	Large Capacity Split System and Single-Package AC	18.0	*6.0*
Residential	2.2.6	Large Capacity Split System and Single-Package HP	15.0	*6 0*
Residential	2.2.7	Res Room (Window) Air Conditioner	8.0	*6 0*
Residential	2.2.8	ENERGY STAR Connected Thermostats	11 0	*6 0*
Residential	2.2.9	Smart Thermostat Demand Response	1.0	*6 0*
Residential	2.3.1	Res Air Infiltration	11.0	*6 0*
Residential	2.3.2	Res Ceiling Insulation	25.0	*6.0*
Residential	2.3.3	Res Attic Encapsulation	25.0	*6 0*
Residential	2.3.4	Res Wall Insulation	25.0	*6 0*
Residential	2.3.5	Res Floor Insulation	25.0	*6 0*
Residential	2.3.6	Res Energy Star Windows	25.0	*6.0*
Residential	2.3.7	Res Solar Screens	10.0	*6.0*

Southwestern Public Service Company

Master Estimated Useful Life Spreadsheet
of Technical Reference Manual 5.0

Residential & Commercial EULs				
Sector	**TRM Measure**	**Energy Efficiency Measure**	**EUL (years)**	***TRM Version***
Residential	2.3.8	Cool Roofs	15.0	*6.0*
Residential	2.4.1	Res Faucet Aerators	10.0	*6.0*
Residential	2.4.2	Res Low-Flow Showerheads	10.0	*6.0*
Residential	2.4.3	Res Water Heater Pipe Insulation	13.0	*6.0*
Residential	2.4.4	Res Water Heater Tank Insulation	7.0	*6.0*
Residential	2.4.5	Res Water Heater Installation-Electric Tankless	20.0	*6.0*
Residential	2.4.5	Res Water Heater Installation-Fuel Substitution	11.0	*6.0*
Residential	2.4.6	Res Heat Pump Water Heater	13.0	*6.0*
Residential	2.4.7	Res Water Heater Replacement-Solar Water Heating	15.0	*6.0*
Residential	2.4.8	Showerhead Temperature Sensitive Restrictor Valves	10.0	*6.0*
Residential	2.4.9	Tub Spout and Showerhead Temperature Sensitive Restrictor Valves	10.0	*6.0*
Residential	2.5.1	Res Energy Star Ceiling Fans	10.0	*6.0*
Residential	2.5.2	Res Energy Star Clothes Washer	11.0	*6.0*
Residential	2.5.3	Res Energy Star Dishwashers	15.0	*6.0*
Residential	2.5.4	Res Energy Star Refrigerators	16.0	*6.0*
Residential	2.5.5	Energy Star Pool Pumps	10.0	*6.0*
Residential	2.6.1	Res Refrigerator/Freezer Recycling	8.0	*6.0*
Commercial	2.1.1	Comm Lamps and Fixtures· Halogen Lamps	1.5	*6.0*
Commercial	2.1.1	Comm Lamps and Fixtures High Intensity Discharge Lamps	15.5	*6.0*
Commercial	2.1.1	Comm Lamps and Fixtures Integrated-ballast CCFL Lamps	4.5	*6.0*
Commercial	2.1.1	Comm Lamps and Fixtures Integrated-ballast CFL Lamps	2.5	*6.0*
Commercial	2.1.1	Comm Lamps and Fixtures Integral LED Lamps	9.0	*6.0*
Commercial	2.1.1	Comm Lamps and Fixtures. Light Emitting Diode	15.0	*6.0*
Commercial	2.1.1	Comm Lamps and Fixtures. Modular CFL and CCFL Fixtures	16.0	*6.0*
Commercial	2.1.1	Comm Lamps and Fixtures. T8 and T5 Linear Fluorescents	15.5	*6.0*
Commercial	2.1.2	Comm Lighting Controls Occupancy Sensor	10.0	*6.0*
Commercial	2.1.2	Comm Lighting Controls· Photocell (Daylighting Control)	10.0	*6.0*
Commercial	2.1.2	Comm Lighting Controls· Timeclock	10.0	*6.0*
Commercial	2.1.2	Comm Lighting Controls· Tuning Control	10.0	*6.0*
Commercial	2.2.1	Comm AC or HP Tune-Up	5.0	*6.0*
Commercial	2.2.2	Comm Split System/Single Packaged Heat Pumps and Air Conditioners	15.0	*6.0*

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Residential & Commercial EULs				
Sector	**TRM Measure**	**Energy Efficiency Measure**	**EUL (years)**	***TRM Version***
Commercial	2.2.3	Comm HVAC Chillers Screw / Scroll / Reciprocating Chillers	20.0	*6.0*
Commercial	2.2.3	Comm HVAC Chillers. Centrifugal Chillers	25.0	*6.0*
Commercial	2.2.4	Comm Packaged Terminal Air Conditioners, Heat Pumps	15.0	*6.0*
Commercial	2.2.4	Comm Room Air Conditioners	11.0	*6.0*
Commercial	2.2.5	Comm HVAC VFD on AHU Supply Fans	15.0	*6.0*
Commercial	2.2.6	Condenser Air Evaporative Pre-Cooling	15.0	*6.0*
Commercial	2.3.1	Comm Energy Star Roofs	15.0	*6.0*
Commercial	2.3.2	Comm Window Film	10.0	*6.0*
Commercial	2.3.3	Entrance and Exit Door Air Infiltration	11.0	*6.0*
Commercial	2.4.1	Comm High Efficiency Combination Ovens	12.0	*6.0*
Commercial	2.4.2	Comm High Efficiency Electric Convention Ovens	12.0	*6.0*
Commercial	2.4.3	Comm Energy Star Commercial Dishwashers	11.0	*6.0*
Commercial	2.4.4	Comm Hot Food Holding Cabinets	12.0	*6.0*
Commercial	2.4.5	Comm Energy Star Electric Fryers	12.0	*6.0*
Commercial	2.4.6	Comm Pre-Rinse Spray Valves	5.0	*6.0*
Commercial	2.4.7	Comm Energy Star Electric Steam Cookers	12.0	*6.0*
Commercial	2.5.1	Comm Door Heater Controls	12.0	*6.0*
Commercial	2.5.2	Comm ECM Evaporator Fan Motor	15.0	*6.0*
Commercial	2.5.3	Comm Electronic Defrost Controls	10.0	*6.0*
Commercial	2.5.4	Comm Evaporator Fan Controls	16.0	*6.0*
Commercial	2.5.5	Comm Night Covers for Open Refrigerated Display Cases	5.0	*6.0*
Commercial	2.5.6	Comm Solid and Glass Door Reach-Ins	12.0	*6.0*
Commercial	2.5.7	Comm Strip Curtains for Walk-In Refrigerated Storage	4.0	*6.0*
Commercial	2.5.8	Comm Zero Energy Doors for Refrigerated Cases	12.0	*6.0*
Commercial	2.5.9	Door Gaskets for Walk-in and Reach-in Coolers and Freezers	4.0	*6.0*
Commercial	2.6.1	Comm Vending Machine Controls	5.0	*6.0*
Commercial	2.6.2	Comm Lodging Guest Room Occupancy Sensor Controls	10.0	*6.0*
Commercial	2.6.3	Comm Pump-Off Controller	15.0	*6.0*
Commercial	2.6.4	Energy Star Pool Pumps	10.0	*6.0*
Measurement and Verification	2.1.1	M&V AC Tune-Up	5.0	*6.0*
Measurement and Verification	2.1.2	M&V Ground Source HP	15.0	*6.0*
Measurement and Verification	2.1.3	Variable Refrigerant Flow Systems	15.0	*6.0*

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Residential & Commercial EULs				
Sector	**TRM Measure**	**Energy Efficiency Measure**	**EUL (years)**	***TRM Version***
Measurement and Verification	2.2.1	New Homes	23.0	*6.0*
Measurement and Verification	2.3.1	Nonresidential Solar PV	30.0	*6.0*
Measurement and Verification	2.3.2	Res Solar PV	30.0	*6.0*
Measurement and Verification	2.3.3	Solar Shingles	N/A	*6.0*
Measurement and Verification	2.4.1	Behavioral Measure Overview	1.0	*6.0*
Measurement and Verification	2.4.2	Air Compressors less than 75 hp	10.0	*6.0*
Measurement and Verification	2.4.3	Commercial Retro-Commissioning	5.0	*6.0*
Measurement and Verification	2.5.1	Res Load Curtailment	1.0	*6.0*
Measurement and Verification	2.5.2	Nonresidential Load Curtailment	1.0	*6.0*