

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF SOUTHWESTERN)
PUBLIC SERVICE COMPANY'S ENERGY)
EFFICIENCY COMPLIANCE APPLICATION)
THAT REQUESTS AUTHORIZATION TO: (1))
PER APPROVED VARIANCE, CONTINUE ITS:)
(A) 2017 ENERGY EFFICIENCY AND LOAD)
MANAGEMENT PROGRAMS FOR PLAN) CASE NO. 17-00___-UT
YEAR 2018; (B) 2017 ENERGY SAVINGS GOAL)
FOR PLAN YEAR 2018; (C) ENERGY)
EFFICIENCY TARIFF RIDER TO RECOVER)
THE THREE PERCENT FUNDING LEVEL FOR)
PLAN YEAR 2018 AND RECONCILIATION OF)
2016 EXPENDITURES AND COLLECTIONS;)
AND (D) 2017 FINANCIAL INCENTIVE FOR)
PLAN YEAR 2018 AND RECOVER THE)
INCENTIVE THROUGH ITS ENERGY)
EFFICIENCY TARIFF RIDER; AND (2))
RECOVER THE 2016 RECONCILED)
FINANCIAL INCENTIVE THROUGH THE)
ENERGY EFFICIENCY TARIFF RIDER.)
)
SOUTHWESTERN PUBLIC SERVICE)
COMPANY,)
)
APPLICANT.)

DIRECT TESTIMONY

of

DONNA A. BEAMAN

on behalf of

SOUTHWESTERN PUBLIC SERVICE COMPANY

July 3, 2017

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

<u>Acronym/Defined Term</u>	<u>Meaning</u>
ADM	ADM Associates, Inc
CCAE	Coalition for Clean Affordable Energy
CFL	Compact Fluorescent Light
CLF&P	Cheyenne Light, Fuel & Power
Commission	New Mexico Public Regulation Commission
EE	Energy Efficiency
EE/LM	Energy Efficiency and Load Management
EE Rule	Energy Efficiency Rule, 17.7.2 NMAC
EUEA	Efficient Use of Energy Act (NMSA 1978, §§62-17-1 through 62-17-11)
GWh	Gigawatt-hour
kWh	Kilowatt-hour
LED	Light-emitting diode
LIA	Low-Income Adjustment
LISS	Low-Income Spending Shortfall
M&V	Measurement and Verification
March 1 st Order	March 1, 2017 Commission Order in Case No. 17-00028-UT granting SPS's request for a variance from Sections 17.7.2.8(A) and 17.7.2.8(B) of the Commission's Energy Efficiency Rule
NMAG	New Mexico Attorney General

<u>Acronym/Defined Term</u>	<u>Meaning</u>
PY	Program Year
SPS	Southwestern Public Service Company, a New Mexico corporation
Staff	Utility Division Staff of the Commission
SWEEP	Southwest Energy Efficiency Partners
UCT	Utility Cost Test
WACC	Weighted Average Cost of Capital
WRA	Western Resource Advocates
Xcel Energy	Xcel Energy Inc.
XES	Xcel Energy Services Inc.

LIST OF ATTACHMENTS

<u>Attachment</u>	<u>Description</u>
DAB-1(CD)	SPS's 2016 Annual EE Report (<i>provided on CD only</i>)
DAB-2	SPS's 2018 Program Summaries
DAB-3	2017-2018 Plan Year Comparison
DAB-4	SPS's 2018 Cost-Benefit Tests
DAB-5	SPS's 2018 Planning Technical Assumptions
DAB-6	SPS's 2018 Cost-Effectiveness Analyses Based on Equity Adjusted WACC
DAB-7(CD)	2018 Incentive Mechanism (<i>provided on CD only</i>)
DAB-8(CD)	Calculated 2016 Incentive Mechanism (<i>provided on CD only</i>)
DAB-9	Comparison of SPS new Mexico EE/LM Programs to Other Xcel Energy Operating Companies' Programs

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1 **I. WITNESS IDENTIFICATION AND QUALIFICATIONS**

2 **Q. Please state your name and business address.**

3 A. My name is Donna Beaman. My business address is 1800 Larimer Street, Suite
4 1500, Denver, Colorado 80202.

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

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

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

10 A. I am employed by Xcel Energy Services Inc. (“XES”), the service company
11 subsidiary of Xcel Energy, as Consumer and Commercial Energy Efficiency
12 Marketing Manager.

13 **Q. Please briefly outline your responsibilities as Consumer and Commercial**
14 **Energy Efficiency Marketing Manager.**

15 A. I manage a group whose primary responsibilities are to manage a portfolio of
16 energy efficiency programs in Xcel Energy’s New Mexico, Texas, and Colorado
17 service territories in response to various regulatory energy efficiency (“EE”)
18 requirements. The group of Product Portfolio Managers, Channel Managers, and

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1 Marketing Assistants develops and executes marketing plans and budgets while
2 integrating efforts with sales organizations, trade allies, program evaluators, and
3 technical support in an effort to meet or exceed regulatory energy efficiency
4 goals.

5 **Q. Please describe your educational background.**

6 A. I graduated from Purdue University with a Bachelor's of Science degree in
7 Electrical Engineering and hold an MBA from Indiana Wesleyan University. I
8 am also a registered Professional Engineer in the State of Indiana.

9 **Q. Please describe your professional experience.**

10 A. I have been employed by XES as Consumer and Commercial Energy Efficiency
11 Marketing Manager since 2016. Prior to my employment with XES, I was the
12 Energy Services Manager for Cheyenne Light, Fuel & Power ("CLF&P") for five
13 years. At CLF&P I was in charge of developing and implementing the electric
14 and natural gas energy efficiency programs. I also supervised the customer service
15 and account management teams. I have also held similar positions for Duke
16 Energy and NIPSCO.

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1 **II. ASSIGNMENT AND RECOMMENDATIONS**

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

3 A. The purpose of my testimony is to support SPS's proposed 2018 Program Year
4 ("PY") programs and budgets. On March 1, 2017, the New Mexico Public
5 Regulation Commission ("Commission") granted SPS's request for a variance
6 from Sections 17.7.2.8(A) and 17.7.2.8(B) of the Commission's Energy
7 Efficiency Rule ("EE Rule") in Case No. 17-00028-UT¹ (herein referred to as
8 the "March 1st Order") to allow SPS to file a limited Energy Efficiency and Load
9 Management ("EE/LM") application for PY 2018. In particular, SPS was granted
10 authority to file a limited application to address the following topics:

- 11 (a) reconciliation of SPS's 2016 Commission-approved incentive;
12 (b) establish an incentive mechanism for PY 2018;
13 (c) provide a status report of actual three percent collections in accordance
14 with Sections 62-17-6(A) of the Efficient Use of Energy Act
15 ("EUEA") and forecasted three percent collections and request
16 Commission approval for inclusion of its over- or under-recovery of

¹ Case No. 17-00028-UT, *In the Matter of Southwestern Public Service Company's Application Requesting Approval of: (1) its 2018 Energy Efficiency and Load Management Plan and Associated Programs; (2) Continuation of its Energy Efficiency Tariff Rider and Recovery of the Difference Between SPS's Program Year 2016 Collections and Expenditures through its Energy Efficiency Tariff Rider; and (3) a Financial Incentive for Program Year 2018 and Recovery of the Incentive through its Energy Efficiency Tariff Rider*, Order Granting Variance (Mar. 1, 2017).

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1 program costs as either a regulatory asset (for under-recovery) or a
2 regulatory liability (for over-recovery); and

3 (d) address any EE program updates or modifications for PY 2018.

4 My testimony addresses updates or modifications to SPS's EE/LM Programs for
5 PY 2018. In addition, my testimony addresses:

- 6 • SPS's energy savings goal for PY 2018;
- 7 • how the new budget for PY 2018 is allocated to the PY 2018 EE/LM
8 Programs;
- 9 • the incentive mechanism that was approved by the Commission for PY
10 2017 that SPS proposes to continue for PY 2018
- 11 • the measurement, verification, and program evaluation report; and
- 12 • SPS's compliance with prior Commission orders.

13 In accordance with the March 1st Order, I have provided SPS's 2016 Annual
14 Report which includes the Measurement and Verification ("M&V") Report from
15 the statewide Independent Program Evaluator as Attachment DAB-1(CD) of my
16 testimony.

17 **Q. Please summarize the recommendations presented in your testimony.**

18 A. SPS is proposing to maintain and continue its Commission-approved PY 2017
19 EE/LM Programs for PY 2018. Similarly, SPS is proposing to maintain its PY
20 2017 Commission-approved energy savings goal of 29.444 gigawatt-hours

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1 (“GWh”) (net customer) or 32.864 GWh (net generator)² for PY 2018.
2 Maintaining the energy savings goal for PY 2018 will allow SPS to remain on
3 track to meet its statutory energy savings goal for 2020.

4 As discussed more fully by SPS witness Ruth M. Sakya, SPS proposes a
5 budget to implement its PY 2018 EE Plan of \$9,836,846. My testimony shows
6 how the new budget for PY 2018 is allocated to the PY 2018 EE/LM Programs.

7 In addition, SPS requests acceptance of its 2016 Annual Report and its
8 compliance with 17.7.2.15.(A) NMAC requiring public utilities to annually
9 submit a comprehensive M&V program evaluation report prepared by an
10 Independent Program evaluator.

11 Lastly, the incentive mechanism proposed by SPS for PY 2018 should be
12 approved as it: (1) is the same mechanism the Commission approved for PY 2017
13 in Case No. 16-00110-UT; and (2) incents SPS to remain on target towards its
14 2020 goal and exceed its annual energy savings forecast.

² SPS reports its achievements at the generator level, which includes losses. However, other information is presented at the customer level, and, thus, SPS provides its goals at both the generator and customer levels.

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1 **Q. Is SPS submitting a 2018 EE/LM Plan?**

2 A. No. Because SPS is requesting a continuation of the PY 2017 EE/LM Programs
3 for PY 2018, and because SPS is only submitting a limited EE application for PY
4 2018, SPS is not submitting a 2018 Plan. However, the 2018 budget of
5 \$9,836,846 is an incremental increase of \$721,228 from SPS's PY 2017
6 Commission-approved budget.

7 **Q. Were Attachments DAB-2 through DAB-6, DAB-7(CD), DAB-8(CD) and**
8 **DAB-9 prepared by you or under your direct supervision and control?**

9 A. Yes.

10 **Q. Is Attachment DAB-1(CD) a true and correct copy of SPS's 2016 Annual EE**
11 **Report?**

12 A. Yes.

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III. SPS'S REQUEST TO CONTINUE ITS PY 2017 EE/LM PROGRAMS AND ENERGY SAVINGS GOAL FOR PY 2018

3 A. Programs

4 Q. What EE/LM programs did the Commission approve for SPS for PY 2017?

5 A. For PY 2017, the Commission approved the following nine EE/LM Programs for
6 the Residential and Business segments:

Residential
• Home Lighting
• School Education Kits
• Residential Energy Feedback
• Home Energy Services
• Residential Cooling
• Residential Savers Switch
• Smart Thermostat Pilot
Business
• Business Comprehensive
• Interruptible Credit Option

7 In addition to the nine Residential and Business segment programs above, the
8 Commission also approved the following Indirect segment programs:

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Indirect Segment
• Market Research
• Measurement & Verification
• Planning & Administration
• Product Development

SPS's 2018 Program Summaries are provided as Attachment DAB-2.

Q. What EE/LM programs does SPS propose for PY 2018?

A. SPS proposes a continuation of all of the Commission-approved PY 2017 EE/LM programs for PY 2018.

Q. Is it reasonable to continue the PY 2017 EE/LM programs?

A. Yes. Each of the existing programs have gone through a thorough review and analysis, both through SPS's internal processes and the Commission's regulatory review process. Specifically, the EE/LM Programs were found, through a Stipulation approved by the Commission in Case No. 16-00110-UT³, to be cost-effective and allow for broad participation among all customer classes. SPS has analyzed the existing programs and determined that it is reasonable to

³ Case No. 16-00110-UT, *In the Matter of Southwestern Public Service Company's Application Requesting Approval of: (1) its 2017 Energy Efficiency and Load Management Plan and Associated Programs; (2) Continuation of its Energy Efficiency Tariff Rider and Recovery of the Difference Between SPS's Plan Year 2015 Collections and Expenditures through its Energy Efficiency Tariff Rider; and (3) a Financial Incentive for Plan Year 2017 and Recovery of the Incentive through its Energy Efficiency Tariff Rider*, Order Adopting and Approving Certification of Settlement (Nov. 9, 2016).

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1 continue operating the programs without modification. The EE/LM Programs
2 have provided meaningful energy savings⁴ and their continuation will keep SPS
3 on track in PY 2018 to meet its 2020 energy savings goals under the EUEA.
4 Finally, the continuation of the EE/LM Programs is consistent with the
5 Commission's goals of streamlining EE filings, while ensuring utilities are on the
6 path toward meeting the EUEA goals (*see*, for example, Case No. 17-00010-UT)⁵.

7 **Q. Did SPS hold public participation meetings?**

8 A. No. Because SPS is proposing no new programs or measures for PY 2018,
9 Section 62-17-5(E) of the EUEA does not require public participation meetings.
10 In addition, the March 1st Order authorized a variance from Section 17.7.2.8(B)
11 NMAC, which in part requires solicitation of non-binding recommendations.
12 However, SPS contacted the Utility Division Staff of the Commission ("Staff"),
13 the Coalition for Clean Affordable Energy ("CCA"), the Western Resource
14 Advocates ("WRA"), and the New Mexico Attorney General ("NMAG"), all of
15 whom were signatories to the Stipulation, to address SPS's planned filing and
16 relief for PY 2018. SPS held conference calls with the Staff, WRA, CCA, and
17 Southwest Energy Efficiency Partners ("SWEET"), a member of CCA.

⁴ SPS's 2106 Annual Report, Attachment DAB-1

⁵ Case No. 17-00010-UT, *In the Matter of Amending the Energy Efficiency Rule 17.7.2 NMAC*, Order Adopting Final Rules Amending Rule 17.7.2 NMAC on Energy Efficiency (June 21, 2017).

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1 **Q. Did any party offer suggestions to SPS regarding their 2018 PY Portfolio?**

2 A. Yes. During the call with parties, SPS received two suggestions from SWEEP:

3 • increase the variety of light-emitting diode (“LED”) lighting and specialty
4 lighting within the Home Lighting and Business Lighting programs; and

5 • provide more midstream approaches on products within SPS’s portfolio.

6 SPS is currently working with vendors to increase specialty lighting offerings in
7 the 2017 portfolio and will continue to monitor market place trends for further
8 additions to incorporate in its 2018 portfolio. Additionally, SPS is willing to look
9 at increasing midstream offerings within portfolio programs in the 2018 PY and
10 will review and discuss any opportunities in its 2019 filing.

11 **Q. If a final Commission order is not received by December 31, 2017, does SPS**
12 **propose to continue to operate its 2017 EE/LM programs while it awaits a**
13 **Commission decision?**

14 A. Yes. Consistent with prior practice, if the Commission has not made a final
15 decision on SPS’s 2018 Plan by December 31, 2017, SPS proposes to continue
16 operating its 2017 EE/LM programs in the interim. This approach is reasonable
17 as temporary program stoppage creates customer confusion, can hinder
18 customers’ ability to complete energy efficiency projects, and prevents customers
19 from accessing programs designed to reduce their energy bills. Furthermore,

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1 temporary program stoppage is administratively inefficient, decreases program
2 cost-effectiveness, and impedes SPS's ability to achieve its 2020 minimum
3 requirements. This interim measure would continue the 2017 programs that were
4 most recently approved by the Commission in Case No. 16-00110-UT.

5 Similarly, consistent with prior practice, SPS proposes to apply its 2018
6 Commission-approved budget to the entirety of 2018, even if the Commission has
7 not made a final decision by December 31, 2017. Such an approach is consistent
8 with the three percent funding level required under the EUEA and the
9 Commission's EE Rule (*i.e.*, the lower of three percent of customers' bills or
10 \$75,000 per year per customer per calendar year) (also referred to herein as the
11 "three percent funding level").

12 **B. Energy Savings Goal**

13 **Q. What energy savings goal does SPS propose for PY 2018?**

14 A. SPS proposes to use its Commission-approved PY 2017 energy savings goal of
15 29.444 GWh (net customer) or 32.864 GWh (net generator)⁶ for PY 2018.

⁶ SPS reports its achievements at the generator level, which includes losses. However, other information is presented at the customer level, and, thus, SPS provides its goals at both the generator and customer levels.

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1 **Q. Why is it appropriate to maintain the PY 2017 energy savings goal for PY**
2 **2018?**

3 A. As I noted earlier in my testimony, SPS is submitting a limited application for PY
4 2018. A primary purpose of the limited application is continuing the existing
5 EE/LM programs until SPS submits a full application pursuant to the EE Rule
6 change in Case No. 17-00010-UT.⁷ The PY 2017 energy savings goal is
7 challenging and will allow SPS to remain on track to meet its statutory 2020
8 energy savings goal. The goal will be re-evaluated when SPS submits its next
9 application.

10 **Q. You said the continuation of the PY 2017 energy savings goal for PY 2018**
11 **will allow SPS to remain on track to meet its statutory 2020 energy savings**
12 **goal. Can you illustrate this further?**

13 A. Table DAB-1 below provides SPS's historical and forecasted Annual and
14 Cumulative Net Customer Achievement (GWh) and SPS's progress towards the
15 2020 EUEA Goal. As shown in the table, SPS's strong performance in previous
16 years has well positioned SPS to meet its 2020 energy savings goals under the

⁷ Case No. 17-00010-UT, *In the Matter of Amending the Energy Efficiency Rule 17.7.2 NMAC*. On June 21, 2017 the Commission issued an Order Adopting Final Rules Amending Rule 17.7.2 NMAC on Energy Efficiency.

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EUEA. SPS will need to maintain an average achievement of 25.79 GWh⁸
annually to meet the statutory requirement by the 2020 deadline.

TABLE DAB-1

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	31.966	234.257	6.25%
2017 (forecast)	26.444	260.701	6.95%
2018 (forecast)	26.444	287.145	7.66%
2019 (forecast)	25.129	293.997	7.84%
2020 (forecast)	25.129	300.038	8.00%

⁸ Achievement based on the Annual Net Customer Achievement (GWh) average of 2017-2020 goals provided in Table DAB-1.

- 1
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- 9
- 0
- 1
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- 9

Q. What is SPS's proposed PY 2018 program budget?

A. SPS proposes a program budget of \$9,836,846. Please refer to Ms. Sakya's direct testimony for a discussion of how the budget was derived.

Q. Once the overall budget was established, how did SPS determine how to apportion the funds to its PY 2018 EE/LM Programs?

A. The proposed 2018 budget of \$9,836,846 resulted in an incremental increase of \$721,228 from SPS's 2017 PY Commission-approved budget. However, the 2016 and 2017 budgets were less than prior years, resulting from lower customer revenue. As a result, the settlement in Case No. 16-00110-UT reduced budgets for a number of programs. In allocating the additional funds available for 2018, SPS strategically evaluated each program and allocated additional funding to programs which saw budget reductions in 2016 and 2017, while keeping in mind the cost effectiveness and prior performance of each program.

Q. As a result of the budget increases, were any adjustments to participation and/or savings levels necessary?

A. Yes. As a result of the budget modification, adjustments to participation and savings levels were made to maintain the cost effectiveness of the programs and overall portfolio benefit.

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

3 **A. Yes. 17.7.2.8.H(12) NMAC requires that a “detailed separate measure or**
4 **program budget that identifies the estimated monetary program costs to be**
5 **incurred” be provided in the utility’s application. Table DAB-2 shows the**
6 **individual budget amounts for the PY 2018 EE/LM Programs.**

Table DAB-2

2018	Electric Budget	Utility Cost Test Ratio
Residential Segment		
Energy Feedback Pilot	\$133,045	1.18
Residential Cooling	\$175,908	1.77
Home Energy Services: Residential and Low Income	\$2,634,220	1.55
Home Lighting & Recycling	\$2,044,918	2.50
Residential Saver's Switch	\$203,250	1.43
Smart Thermostat Pilot	\$232,557	0.89
School Education Kits	\$163,417	2.02
Residential Segment Total	\$5,587,315	1.87
Business Segment		
Business Comprehensive	\$3,620,861	2.31
Interruptible Credit Option	\$45,569	1.60
Business Segment Total	\$3,666,430	2.30
Planning and Research Segment		
Market Research	\$90,000	
Measurement & Verification	\$12,000	
Planning & Administration	\$285,242	
Product Development	\$195,859	
Planning & Research Segment Total	\$583,101	
PORTFOLIO TOTAL	\$9,836,846	1.92

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1 **Q. Please identify the programs that received additional funding based on the**
2 **PY 2018 budget.**

3 A. As I previously discussed, SPS strategically evaluated each program and allocated
4 the incremental budget increase of \$721,228 for PY 2018 based on: (a) prior
5 program performance; and (b) consideration of budget decreases the program(s)
6 received in PY 2016 and 2017. As a result, SPS identified seven programs that
7 would receive additional funding for PY 2018:

- 8 • Home Energy Services
- 9 • Residential Cooling
- 10 • Residential Smart Thermostat Pilot
- 11 • Business Comprehensive
- 12 • Market Research
- 13 • Planning and Administration
- 14 • Product Development

15 Attachment DAB-3 provides a comparison of the proposed 2018 program
16 budgets, savings, and participation levels in relation to the Commission-approved
17 2017 PY programs.

18 **Q. Did any programs receive lower funding under the PY 2018 budget?**

19 A. No.

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

3 **A.** SPS plans to meet this requirement primarily through its Low-Income Home
4 Energy Service program. SPS projects to spend no less than \$491,842 in 2018 on
5 this program, which accounts for five percent of total portfolio program costs.

V. **COST-EFFECTIVENESS EVALUATIONS AND TECHNICAL
ASSUMPTION CALCULATIONS**

Q. What does the EUEA require regarding cost effectiveness of EE/LM programs?

A. NMSA 1978, Section 62-17-5(C) of the EUEA states:

Before the commission approves an energy efficiency and load management program for a public utility, it must find that the portfolio of programs is cost-effective and designed to provide every affected customer class with the opportunity to participate and benefit economically. The commission shall determine the cost-effectiveness of energy efficiency and load management measures using the utility cost test.

NMSA 1978, Section 62-17-4(J) of the EUEA defines “Utility Cost Test (“UCT”)” as:

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

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1 **Q. Describe the UCT further.**

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

- 6 • an increase in rebates has a negative impact on the test;
7 • an increase in other project costs has a negative impact on the test; and
8 • an increase in avoided revenue requirements has a positive impact on
9 the test.

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

13 **Q. Although the PY 2017 EE/LM programs were previously found to be**
14 **cost-effective, has SPS's 2017 Net Present Cost Benefit Summary been**
15 **updated to account for the revised 2018 budget?**

16 A. Yes. SPS updated the program and portfolio level cost-effectiveness tests to
17 incorporate the increase in budget and associated savings. Please refer to
18 Attachment DAB-4 of my testimony.

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1 **Q. Has SPS's 2017 detailed Technical Assumptions been updated to account for**
2 **the revised 2018 budget?**

3 A. Yes. SPS updated Technical Assumptions to incorporate the increase associated
4 with savings and program measure units. Please refer to Attachment DAB-5 of
5 my testimony.

6 **Q. Does the portfolio of EE/LM programs meet the cost-effectiveness test for PY**
7 **2018?**

8 A. Yes. As shown in Table DAB-2, the portfolio of EE/LM programs achieved a
9 UCT of 1.92.

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

12 A. Yes, with one exception. As shown in Attachment DAB-4 and Table DAB-2, all
13 of the proposed programs in the Residential Segment meet the UCT threshold
14 with the exception of the Residential Smart Thermostat Pilot. The proposed
15 programs in the Residential Segment result in an overall UCT of 1.87.

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1 **Q. What was the UCT score for the Residential Smart Thermostat Pilot and**
2 **why does the program no longer achieve cost-effectiveness under the**
3 **proposed 2018 portfolio?**

4 A. The Smart Thermostat Pilot program achieved a UCT score 0.89. This reflected
5 an incremental budget increase of \$150,000 over 2017. The majority of the funds
6 cover the purchase of ecobee3 smart thermostats, installation and permitting costs
7 associated with the pilot. These investment costs will lead to a cost effective
8 product when enough participants are acquired.

9 The Smart Thermostat Pilot program’s overall design, cost-allocation, and
10 forecasted achievement has not been changed since it was introduced in late 2016
11 primarily due to the lack of a full year’s evaluation and results. As a result of the
12 late launch in 2016, as well as technology and process delays encountered
13 post-launch, device installations in customers’ homes were delayed. This resulted
14 in a participant population that was too small for ADM Associates, Inc. (“ADM”)
15 to calculate energy efficiency achievement during the cooling season. As
16 expected, the observed load reductions from the Smart Thermostat Pilot program
17 were lower than forecasted; however, SPS anticipates more thorough and
18 representative results after the 2017 cooling season.

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1 In the absence of a more thorough evaluation when the pilot has been in
2 market longer – particularly including cooling season achievement – SPS decided
3 not to modify the pilot’s forecasted achievement or design structure to reflect the
4 additional spending in PY 2018, which caused the UCT calculation to fall below
5 the threshold.

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

7 A. Yes. As shown in Attachment DAB-4, all of the proposed programs pass the
8 UCT at the program level, with an overall UCT of 2.30.

9 **Q. Has SPS considered the UCT of the PY 2018 EE/LM Programs in light of the**
10 **Commission’s decision in El Paso Electric Company’s most recent EE**
11 **proceeding, Case No. 16-00185-UT⁹?**

12 A. Yes. It is my understanding that in its next EE application, El Paso Electric
13 Company was ordered to use the weighted average cost of capital (“WACC”) that
14 includes payment of taxes on its equity return.¹⁰ For reasons primarily discussed
15 in Ms. Sakya’s testimony, SPS disagrees with this approach. Setting aside SPS’s

⁹ *In the Matter of the Application of El Paso Electric Company for Approval of 2017 Energy Efficiency and Load Management Plan, Utility Incentive and Revised Rate No. 17 – Efficient Use of Energy Recovery Factor*, Case No. 16-00185-UT, Final Order Approving Recommended Decision (Feb. 22, 2017), Recommended Decision at 22 and 23.

¹⁰ *Id.* Recommended Decision at 22 and 23.

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1 disagreement, however, the result of using the “after tax” WACC is an increase in
2 the costs of administering the EE/LM programs, which has a negative impact on
3 the UCT results.

4 I also address how the “after tax” WACC is inconsistent with how Xcel
5 Energy calculates the cost-effectiveness of its EE/LM programs in its other
6 jurisdictions and, from my perspective, is not the standard economic calculation
7 required under 17.7.2.8(G) NMAC.

8 **Q. Please address further how using the “after tax” WACC is not the standard**
9 **economic calculation required under 17.7.2.8(G) NMAC.**

10 A. 17.7.2.8(G) NMAC states, “The utility shall utilize well known, commercially
11 available or standard engineering, economic and financial calculations, ...or other
12 reasonable methods, to determine monetary costs and avoided monetary costs of
13 measures and programs.” The use of the “after tax WACC” is not a standard or
14 economic calculation to determine the cost-effectiveness of EE/LM programs.
15 Instead, the unadjusted WACC – the way SPS has historically calculated the UCT
16 – is the way Xcel Energy calculates the cost-effectiveness of its EE/LM programs
17 in all other jurisdictions in which it operates. Thus, the use of the unadjusted

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1 WACC conforms with the standard or economic calculation for cost effectiveness
2 of EE/LM programs.

3 **Q. Notwithstanding SPS's disagreement with using the "after tax" WACC, did**
4 **SPS still calculate an alternative UCT using this approach?**

5 A. Yes. To be clear, SPS continues to advocate the industry standard WACC in its
6 UCT calculations; however, Attachment DAB-6 provides the cost-effectiveness
7 calculation using the "after tax" WACC. While the use of this WACC results in
8 particular programs not meeting the UCT threshold, the entire portfolio of EE/LM
9 Programs continues to meet the UCT and, therefore, is cost-effective consistent
10 with NMSA 1978, Section 62-17-5(C).

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INCENTIVE FOR PY 2016

Q. Does SPS request approval of an incentive for PY 2018?

reasonableness of the mechanism.

Q. Please describe the proposed PY 2018 incentive mechanism.

adjustments described below.

is based on the following calculation:

where:

case the LIA is calculated as:

¹¹ This incentive is calculated by multiplying 6.8% by the proposed budget of \$9,836,846.

funding requirement.

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- 1 o Low-Income Spending Shortfall (“LISS”) (x)
2 6.8% (x) 2 where:
3 o LISS = \$491,842 minus actual SPS spending in
4 2018 directed specifically to EE/LM programs
5 for low-income customers.
6 (ii) If SPS achieves greater than 29.444 GWh (net customer) for plan
7 year 2018, SPS’s incentive will be increased by 0.1% per
8 incremental GWh of achievement above 29.444 GWh multiplied
9 by \$9,836,846, which will be a sliding scale extending from 6.8%
10 up to a maximum of 7.11%.¹³

11 This mechanism is presented in Attachment DAB-7(CD).

12 **Q. Does SPS propose to modify any part of the 2017 incentive mechanism for**
13 **2018?**

14 A. Yes. SPS updated its cumulative energy savings threshold for 2018 to reflect
15 finalized savings provided in the 2016 Annual Report. As described in Table
16 DAB-1, SPS’s 2018 cumulative energy savings threshold has increased to 287
17 GWh (net customer) from 2017’s threshold of 248 GWh.

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

20 A. Under the proposed 2018 incentive mechanism, SPS cannot earn more than
21 \$699,399. To earn this amount SPS must: (1) meet its cumulative savings target;

¹³ The maximum incentive allowable under 17.7.2.8(L)(4) NMAC is based on the weighted cost of capital and SPS’s weighted cost of capital is 8.26 percent (as stated in the Direct Testimony of Ruth M. Sakya). The proposed arrangement is well within the maximum that SPS could receive for an incentive under the EE Rule.

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1 (2) exceed its annual savings forecast by at least 3 GWh; and (3) direct at least
2 five percent of available funding to low-income programs.

3 As described by Ms. Sakya, the 2018 incentive will be reconciled to
4 ensure it reflects actual EE/LM program spending and collections, as well as any
5 proportionate offset due to the level of low-income program spending.

6 **Q. Turning now to PY 2016, what incentive did SPS earn under the**
7 **Commission-approved incentive mechanism from Case No. 15-00119-UT?**

8 A. SPS earned the maximum incentive of \$651,036 in PY 2016. Complying with the
9 required 2016 low-income spend requirement of 5 percent (total budget), SPS
10 exceeded its 2016 annual savings forecast by over 5 GWh and met the cumulative
11 savings threshold of 225 GWh. The commission-approved 2016 incentive
12 mechanism has been updated to reflect final achievement and spending
13 requirements and is provided as Attachment DAB-8 of my testimony.

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**VII. MEASUREMENT & VERIFICATION REQUIREMENTS OF
THE EUEA AND THE EE RULE**

Q. What is M&V?

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

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

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

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

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

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

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

12 A. Yes. SPS's 2016 Annual Report includes the Independent Program Evaluator's
13 2016 M&V report, which is Appendix A of that attachment. SPS's 2016
14 Annual EE Report will be separately filed on July 3, 2017. However, SPS's
15 2016 Annual EE Report is also attached to my testimony as Attachment
16 DAB-1(CD).

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1 **Q. Has the Commission selected an Independent Program Evaluator for PY**
2 **2017?**

3 A. Yes. The Commission Staff held a competitive bid process to identify the next
4 Independent Program Evaluator in the Fall of 2016 and Spring of 2017. On May
5 17, 2017 the Commission selected Evergreen Economics as the new statewide
6 M&V Evaluator for PY 2017 and PY 2018.

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

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

13 **Q. What are the projected 2018 M&V costs?**

14 A. The total 2018 M&V costs are forecasted to be \$217,000 and are included in
15 SPS's total program costs. The Independent Program Evaluator's costs are
16 directly allocated to programs based upon the evaluation plan for 2018. However,
17 SPS's M&V costs include costs directly allocated to programs as well as general
18 costs included in the Planning and Administration section.

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1 **Q. Are the 2018 M&V costs reasonable and necessary?**

2 A. Yes. The total budget for the 2018 M&V activities represents approximately two
3 percent of the total portfolio budget, which is less than the percentage of 2017
4 M&V costs. This is also very reasonable considering that a common guideline for
5 M&V is three to six percent of total portfolio costs. Consequently, these costs
6 should be approved by the Commission.

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VIII. COMPLIANCE WITH PRIOR COMMISSION ORDERS

Q. Does SPS have any obligations resulting from prior Commission orders?

A. Yes, SPS has a number of obligations, which I will discuss.

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

A. As Table DAB-3 shows, in 2016 CFLs contributed 6% of total spending and 16% of total energy savings to the SPS portfolio. Due to the emerging technology of LED lighting in both the residential and business marketplace, as of 2017, SPS is only offering discounts on LEDs. The 2017 status report will show some CFL achievement as sales from December 2016 were captured at the beginning of 2017 due to delays in receiving sales information from retailers.

Table DAB-3: SPS's Reliance on CFLs

	Spending as Percentage of Total Budget	Customer kilowatt- hours ("kWh") as a Percentage of Total kWh
2016 Verified	6%	16%
2018 Forecasted	0%	0%

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

4 A. Attachment DAB-9 is a cross-reference of programs between the various
5 jurisdictions in which Xcel Energy operates. Furthermore, as discussed in
6 previous plan filings, SPS has leveraged the experience of other Xcel Energy
7 utilities in other jurisdictions to offer, where cost-effective, time-tested programs
8 in its New Mexico portfolio. SPS will continue this approach and address its
9 continued compliance with this requirement in its next EE application and
10 testimony.

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

14 A. SPS had no economic interruptions in 2016.

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

17 A. Section 1.1(b) of the Stipulation in Case No. 15-00119-UT stated:

18 SPS will offer residential cooling in 2016 as a standalone program,
19 and it will ensure that all marketing does not promote converting

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1 technologies such as conversions from evaporative to compressor-
2 based cooling. SPS will also evaluate in 2016 whether cooling
3 technology conversions exist in the presence of a standalone
4 cooling program.
5

6 Prior to the start of the 2016 M&V evaluations conducted by ADM SPS
7 asked ADM to provide feedback, through the use of questions asked in their
8 program participant survey, whether or not customers were switching from
9 evaporative cooling to central air conditioning when choosing to participate in the
10 program. Due to the low participation in the program, ADM opted not to evaluate
11 the program, and thus customers were not surveyed for a response. To investigate
12 technology switching within the program, SPS decided to add a question to the
13 online rebate application asking for the type of equipment the central air
14 conditioner is replacing. Applicants would be required to populate the field in
15 order to receive a rebate. SPS initiated this process in June 2017 shortly after
16 ADM notified SPS that they did not review the program.

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

19 A. Section 1.1(g) required SPS to offer a new pilot that will install smart thermostats
20 in participating residential customers' homes at no cost to the participant. SPS

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1 began the Smart Thermostat Pilot Program in 2016 and will continue to offer the
2 pilot in its portfolio through 2018.

3 **Q. How has SPS addressed the requirement in Section 1.1(a) from the**
4 **Stipulation agreement in Case No. 15-00119-UT and the requirement in**
5 **Section 1.1(a) from the Stipulation agreement in Case No. 16-00110-UT?**

6 A. In its approved 2016 Plan, SPS agreed to review the potential to add participants
7 (5,000 participants at a minimum) to the Energy Feedback program in its 2017
8 Plan. SPS performed an analysis prior to filing the 2017 Plan and determined it
9 was not cost effective or prudent to add 5,000 participants. This decision was
10 based in part on the poor performance of a similar size refill group added in 2015.
11 The 2015 refill group did not generate any significant energy savings. The third-
12 party implementer later determined measurement of savings was “too noisy” due
13 to the relatively small size of this refill group. In the Stipulation for Case No.
14 16-00110-UT, SPS agreed to again review the potential to add participants for the
15 2018 PY. The review conducted in the fall of 2016 with the assistance of the
16 third-party program implementer, indicated a larger expansion consisting of
17 10,000 participants would be beneficial to the 2017 program. In order to add
18 10,000 participants and stay within the current planned program spend and
19 third-party implementer scope of work, a creative solution was developed that

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1 combined the smaller 2017 and 2018 contracted refills into the single, larger
2 10,000 participant group. The first home energy reports were mailed to this larger
3 group beginning in early May 2017. As a result of implementing this creative
4 solution in 2017, SPS does not anticipate adding additional participants in 2018.

5 **Q. How has SPS addressed the requirement in Section 1.1(e)III from the**
6 **Stipulation agreement in Case No. 16-00110-UT?**

7 A. Section 1.1(e)III required SPS to investigate ‘strategic energy management’
8 enhancements for capturing savings from business operational improvements.
9 SPS has had conversations with large New Mexico customers who may be willing
10 to engage with outside parties over time to capture operational savings. Thus far,
11 no large New Mexico customers have been receptive to ongoing operational
12 measurement, nor have any been willing to commit to operational improvements.
13 In Colorado, operational savings have required multi-year customer commitments
14 and substantial third-party implementer expenses. The combination of those
15 results indicates that an enhanced New Mexico offer for operational savings
16 would not be cost-effective at this time.

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

18 A. Yes.

VERIFICATION

STATE OF COLORADO)
) ss.
COUNTY OF DENVER)

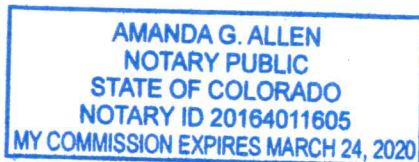
DONNA A. BEAMAN, first being sworn on his oath, states:

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



DONNA A. BEAMAN

SUBSCRIBED AND SWORN TO before me this 26 day of June, 2017.




Notary Public for the State of Colorado
My Commission Expires: 03/24/2020

Attachment DAB-1(CD)

**is provided in
electronic format on the CD attached to the
Direct Testimony of Donna A. Beaman**

ATTACHMENTS DAB-1(CD), DAB-7(CD), and DAB-8(CD)

2018 Program Summaries

1. Residential Segment Programs

- Energy Feedback Program – The Energy Feedback program is designed to quantify the effects of informational feedback on energy consumption in approximately 15,000 residential households, consistent with the Commission’s Final Order in Case No. 09-00352-UT. This program provides educational materials and communication strategies to create a change in energy usage behavior. The purpose of the program is to measure when, how, and why customers change their behavior when provided with feedback on their energy using habits.
- Residential Cooling Program – This program offers rebates for the purchase of high efficiency evaporative cooling, air conditioning, and heat pump units. Rebates for evaporative coolers are paid for purchase of new units with efficiency greater than 85%, installed in new or existing construction, regardless of whether or not the customer is replacing an existing unit. Evaporative cooling technology is well-suited to SPS’s service territory, creating an opportunity to drive customers to higher levels of efficiency within this air conditioning category. Air conditioning and heat pump rebates are paid to registered contractors who perform a quality installation. Customers may also receive a rebate for the purchase of a system using an electronically commutated motor, which significantly reduces a system’s electric consumption.
- Home Energy Services (“HES”) Program – Under this program, SPS provides incentives for the installation of a wide range of energy savings measures that reduce customer energy costs. The incentives are paid to energy efficiency service providers on the basis of deemed (*i.e.*, pre-determined) energy savings. The program includes attic insulation, air infiltration reduction, refrigerators (for low-income participants), duct leakage repairs, and high efficiency central air conditioners. The program is delivered via third-party providers interacting directly with customers to perform the home improvements. This program includes the Low-Income HES product, which cost-effectively ensures that all customer segments have the ability to participate in SPS programs. Multi-family buildings are also eligible to participate in the program. The residential portions of these buildings are serviced through the HES program while the non-residential spaces are serviced through the Business Comprehensive program.
- Home Lighting & Recycling Program – This program provides incentives for customers to purchase energy efficient light-emitting diode (“LED”) bulbs through participating retailers. Participating retailers may include home

improvement, mass merchandisers, hardware, and grocery store locations. Customers will be able to recycle used CFLs at select retail partner locations.

- Saver's Switch – Saver's Switch is a demand response program that offers bill credits as an incentive for residential customers to allow SPS to control operation of their central air conditioners and electric water heaters on days when the system is approaching its peak. Saver's Switch is popular with customers due to the bill savings they receive for little or no effort other than a reduction in air conditioning use during peak periods. In 2018, SPS will not promote the program as part of the effort to transition participants to the new Residential Smart Thermostat Pilot.
- School Education Kits Program – The School Education Kits Program provides free kits to fifth grade classrooms in SPS's New Mexico service area. These kits include energy efficiency educational materials and products including, two nine watt LEDs, two 11 watt LEDs, one low-flow showerhead, a kitchen and a bathroom aerator, and an LED nightlight, which are distributed along with curriculum. This program provides value beyond the direct installation of measures included in the kits by creating awareness of energy efficiency with students, teachers, and parents.
- Residential Smart Thermostat Pilot – The Residential Smart Thermostat Pilot provides thermostats to customers at no additional cost. Participants in the program can utilize the thermostat to help reduce energy usage by programming the operation of their heating and cooling system. In addition, participants are enrolled in a demand response program similar to the Saver's Switch program, which allows SPS to cycle the operation of air conditioning systems to reduce peak loads.

2. Business Segment Programs

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

customers purchasing new computer units and to customers who implement virtual systems in lieu of traditional desktops.

- **Large Customer Self-Direct:** Customers using over 7,000 megawatt-hours per year may choose to administer their own energy efficiency projects to receive either a bill credit or exemption from a portion of the charges under the Energy Efficiency Rider.
- **Lighting Efficiency:** This product provides prescriptive rebates for the most common energy efficiency upgrades to lighting systems.
- **Motor & Drive Efficiency:** This product offers prescriptive rebates for the most common energy efficiency upgrades for motors and variable speed drives. This product also includes rebates for pump-off controllers used in oil and gas operations and rebates for particular compressed air equipment.
- **Building Tune-Up:** This product features a scaled-down recommissioning-style offering aimed at lower-cost efficiency improvements for small- to mid-sized business customers.
- **Interruptible Credit Option Program** – This load management program offers incentives to larger business customers who allow SPS to interrupt their load. Customers are notified to interrupt loads during periods of high demand, such as hot summer days. As compensation, participants receive a monthly bill credit, which varies depending on the amount of interruptible load and how far in advance they receive notification.

2. Planning and Research Segment

- **Market Research:** This activity focuses on market research to provide information for SPS to use in its decision-making process concerning EE/LM program design, planning, and delivery.
- **Measurement and Verification:** This activity is responsible for managing and coordinating the overall M&V Plan for SPS and working with the Commission's Independent Program Evaluator, Evergreen Economics, to ensure compliance with the EUEA and the EE Rule. In addition, each direct savings program budget includes ADM's estimated budget that will be needed to conduct program-specific M&V.
- **Planning & Administration:** This function ensures compliance with all EUEA and EE Rule requirements. Specifically, this group is responsible for the coordination and preparation of the various New Mexico EE/LM regulatory filings. These activities include the preparation of testimony, the annual plans and reports, discovery responses, rulemaking comments, benefit-cost analyses for every program, and tracking and reporting of EE/LM expenditures and savings

achievements. Additionally, any outside consultants and external legal service fees related to EE/LM regulatory activities are included in this budget.

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

2017 - 2018 Plan Year Comparison

2018 Portfolio Comparison	2017 Portfolio							2018 Portfolio							Utility Cost Test Ratio
	Electric Participants	Electric Budget	Customer kW	Net kWh	Generator kW	Net kWh	Utility Cost Test Ratio	Electric Participants	Electric Budget	Customer kW	Net kWh	Generator kW	Net kWh	Utility Cost Test Ratio	
Residential Segment															
Home Lighting	188,000	\$ 2,044,918	1,377	9,905,728	1,644	11,230,984	2.49	188,000	\$ 2,044,918	1,377	9,905,728	1,644	11,230,984	2.50	
School Education Kits	2,500	163,417	25	850,672	30	964,480	2.03	2,500	163,417	25	850,672	30	964,480	2.02	
Residential Energy Feedback	18,090	133,045	421	2,999,949	502	3,401,303	1.18	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	5,763,796	1.45	1,850	2,634,220	657	5,541,450	784	6,282,823	1.55	
Residential Cooling	250	145,908	57	264,154	69	299,494	1.47	250	175,908	87	387,255	104	439,066	1.77	
Residential Savers Switch	4,203	203,250	3,653	35,241	4,359	39,956	1.44	4,203	203,250	3,653	35,241	4,359	39,956	1.43	
Residential Smart Thermostats	1,000	82,557	782	8,858	933	10,043	1.19	3,440	232,557	1,773	547,183	2,116	620,388	0.89	
Residential Segment Total	215,891	\$ 5,307,315	6,838	19,148,270	8,162	21,710,056	1.86	218,333	\$ 5,587,315	7,993	20,267,478	9,539	22,979,000	1.87	
Business Segment															
Business Comprehensive	735	\$ 3,374,020	1,593	10,288,294	1,778	11,146,581	2.02	716	\$ 3,620,861	1,954	12,764,348	2,180	13,829,197	2.31	
ICO	2	45,569	789	7,000	881	7,584	5.89	2	45,569	789	7,000	881	7,584	1.60	
Business Segment Total	737	\$ 3,419,589	2,382	10,295,294	2,659	11,154,165	2.07	718	\$ 3,666,430	2,743	12,771,348	3,061	13,836,781	2.30	
Indirect Segment															
Market Research		\$ 57,484							\$ 90,000						
Measurement & Verification		12,000							12,000						
Planning & Administration		279,649							285,242						
Product Development		39,581							195,859						
Indirect Segment Total		\$ 388,714							\$ 583,101						
Portfolio Total	216,628	\$ 9,115,618	9,220	29,443,564	10,821	32,864,221	2.00	219,051	\$ 9,836,846	10,736	33,038,826	12,600	36,815,781	1.92	

2017 - 2018 Plan Year Comparison

		2017 to 2018 Variance					
	Electric Participants	Electric Budget	Net Customer kW	Net Customer kWh	Net Generator kW	Net Generator kWh	
Residential Segment							
Home Lighting	-	-	-	-	-	-	-
School Education Kits	-	-	-	-	-	-	-
Residential Energy Feedback	-	-	-	-	-	-	-
Home Energy Services	2	\$ 100,000	134	457,782	159	519,027	
Residential Cooling	-	30,000	30	123,101	35	139,572	
Residential Savers Switch	-	-	-	-	-	-	-
Residential Smart Thermostats	2,440	150,000	991	538,325	1,183	610,345	
Residential Segment Total	2,442	\$ 280,000	1,155	1,119,208	1,377	1,268,944	
Business Segment							
Business Comprehensive	(19)	246,841	361	2,476,054	402	2,682,616	
ICO	-	-	(0)	-	-	-	-
Business Segment Total	(19)	\$ 246,841	361	2,476,054	402	2,682,616	
Indirect Segment							
Market Research		\$ 32,516					
Measurement & Verification		-					
Planning & Administration		5,593					
Product Development		156,278					
Indirect Segment Total		\$ 194,387					
Portfolio Total	2,423	\$ 721,228	1,516	3,595,262	1,779	3,951,560	

PORTFOLIO TOTAL				2018	ELECTRIC	GOAL	
2018 Net Present Cost Benefit Summary							
Analysis For All Participants							
Benefits	Input Summary and Totals						
	Utility Cost Test (\$Total)	Program Inputs per Customer kW					
		Lifetime (Weighted on Generator kWh)	A				12.88 years
		Annual Hours	B				8760
		Gross Customer kW	C				1 kW
		Generator Peak Coincidence Factor	D				26.22%
		Gross Load Factor at Customer	E				10.44%
		Net-to-Gross (Energy)	F				85.0%
		Net-to-Gross (Demand)	G				92.6%
		Transmission Loss Factor (Energy)	H				10.249%
		Transmission Loss Factor (Demand)	I				15.634%
		Installation Rate (Energy)	J				96.490%
Installation Rate (Demand)		K				99.399%	
UCT Net Benefit (Cost)		L				\$206	
Total Benefits		Net coincident kW Saved at Generator $(G \times C \times K) \times D / (1 - I)$				0.2689 kW	
Costs	Gross Annual kWh Saved at Customer $(B \times E \times C)$						915 kWh
	Net Annual kWh Saved at Customer $(F \times (B \times E \times C \times J))$						750 kWh
	Net Annual kWh Saved at Generator $(F \times (B \times E \times C \times J)) / (1 - H)$						836 kWh
Program Summary per Participant							
Gross kW Saved at Customer							M
Net coincident kW Saved at Generator $(G \times M \times K) \times D / (1 - I)$							0.20 kW
Gross Annual kWh Saved at Customer $(B \times E \times M)$							184 kWh
Net Annual kWh Saved at Customer $(F \times (B \times E \times M \times J))$							151 kWh
Net Annual kWh Saved at Generator $(F \times (B \times E \times M \times J)) / (1 - H)$							168 kWh
Program Summary All Participants							
Total Participants							N
Total Budget							O
Gross kW Saved at Customer $(N \times M)$							219,051
Net coincident kW Saved at Generator $((G \times M \times K) \times D / (1 - I)) \times N$							\$9,836,846
Gross Annual kWh Saved at Customer $(B \times E \times M) \times N$							44,056 kW
Gross Installed Annual kWh Saved at Customer $(B \times E \times M) \times N \times J$							12,601 kW
Net Annual kWh Saved at Customer $(B \times E \times M) \times N \times J \times F$							40,296,188 kWh
Net Annual kWh Saved at Generator $((B \times E \times M) / (1 - H)) \times N \times J \times F$							38,881,730 kWh
UCT Net Benefits $(N \times M \times L)$							33,042,595 kWh
							36,815,781 kWh
							\$9,064,927
Utility Program Cost per kWh Lifetime							\$0.0207
Utility Program Cost per kW at Gen							\$781

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

RESIDENTIAL SEGMENT TOTAL				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Benefits				Input Summary and Totals		
				Program Inputs per Customer kW		
				Utility Cost Test (\$Total)	A	11.63 years
					B	8760
					C	1 kW
					D	21.52%
					E	7.12%
					F	87.1%
					G	94.8%
					H	11.8009%
					I	16.200%
					J	94.493%
System Benefits (Avoided Costs)					K	99.207%
					L	\$124
				Total Benefits		
				Costs		
				Utility Project Costs		
				Total Incentive		
				Internal Administration		
				Third-Party Delivery		
				Promotion		
				M&V		
				Subtotal		
				Participant Costs		
Gross kW Saved at Customer						
	M	0.18 kW				
Net coincident kW Saved at Generator						
	(G x M x K) x D / (1 - I)	0.04 kW				
Gross Annual kWh Saved at Customer						
	(B x E x M)	113 kWh				
Net Annual kWh Saved at Customer						
	(F x (B x E x M x J))	93 kWh				
Net Annual kWh Saved at Generator						
	(F x (B x E x M x J)) / (1 - H)	105 kWh				
Participant Costs						
				Total Participants		
					N	218,335
				Total Budget		
					O	\$5,587,315
				Gross kW Saved at Customer		
					(N x M)	39,488 kW
				Net coincident kW Saved at Generator		
					((G x M x K) x D / (1 - I)) x N	9,540 kW
				Gross Annual kWh Saved at Customer		
					(B x E x M) x N	24,617,778 kWh
				Gross Installed Annual kWh Saved at Customer		
	(B x E x M) x N x J	23,261,991 kWh				
Net Annual kWh Saved at Customer						
	(B x E x M) x N x J x F	20,267,478 kWh				
Net Annual kWh Saved at Generator						
	((B x E x M) / (1 - H)) x N x J x F	22,979,000 kWh				
UCT Net Benefits						
	(N x M x L)	\$4,881,114				
Total Costs						
	\$5,587,315					
Net Benefit (Cost)						
	\$4,881,114					
Benefit/Cost Ratio						
	1.87					

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

ENERGY FEEDBACK PILOT				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Input Summary and Totals						
Program Inputs per Customer kW		Lifetime (Weighted on Generator kWh)		A	1.00 years	
Annual Hours				B	8760	
Gross Customer kW				C	1 kW	
Generator Peak Coincidence Factor				D	74.51%	
Gross Load Factor at Customer				E	60.64%	
Net-to-Gross (Energy)				F	100.0%	
Net-to-Gross (Demand)				G	100.0%	
Transmission Loss Factor (Energy)				H	11.800%	
Transmission Loss Factor (Demand)				I	16.200%	
Installation Rate (Energy)				J	100.000%	
Installation Rate (Demand)				K	100.000%	
UCT Net Benefit (Cost)				L	\$43	
Net coincident kW Saved at Generator				(G x C x K) x D / (1 - I)		0.8448 kW
Gross Annual kWh Saved at Customer				(B x E x C)		5,312 kWh
Net Annual kWh Saved at Customer				(F x (B x E x C x J))		5,312 kWh
Net Annual kWh Saved at Generator				(F x (B x E x C x J)) / (1 - H)		6,022 kWh
Program Summary per Participant						
Gross kW Saved at Customer				M	0.03 kW	
Net coincident kW Saved at Generator				(G x M x K) x D / (1 - I)		0.03 kW
Gross Annual kWh Saved at Customer				(B x E x M)		166 kWh
Net Annual kWh Saved at Customer				(F x (B x E x M x J))		166 kWh
Net Annual kWh Saved at Generator				(F x (B x E x M x J)) / (1 - H)		188 kWh
Program Summary All Participants						
Total Participants				N	18,090	
Total Budget				O	\$133,045	
Gross kW Saved at Customer				(N x M)		565 kW
Net coincident kW Saved at Generator				((G x M x K) x D / (1 - I)) x N		502 kW
Gross Annual kWh Saved at Customer				(B x E x M) x N		2,999,949 kWh
Gross Installed Annual kWh Saved at Customer				(B x E x M) x N x J		2,999,949 kWh
Net Annual kWh Saved at Customer				(B x E x M) x N x J x F		2,999,949 kWh
Net Annual kWh Saved at Generator				((B x E x M) / (1 - H)) x N x J x F		3,401,303 kWh
UCT Net Benefits				(N x M x L)		\$24,006
Utility Program Cost per kWh Lifetime						
Utility Program Cost per kW at Gen						
\$0.0391						
\$265						

System Benefits (Avoided Costs)	
Generation Capacity	\$51,397
Transmission & Distribution Capacity	\$1,496
Marginal Energy	\$99,378
Avoided Emissions	\$4,779
Benefits	
Total Benefits	
\$157,051	
Costs	
Utility Project Costs	
Total Incentive	\$0
Internal Administration	\$18,600
Third-Party Delivery	\$98,245
Promotion	\$1,200
M&V	\$15,000
Subtotal	\$133,045
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	
\$133,045	
Net Benefit (Cost)	
\$24,006	
Benefit/Cost Ratio	
1.18	

Net Benefit (Cost)	\$24,006
Benefit/Cost Ratio	1.18

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

HOME ENERGY SERVICES: RESIDENTIAL AND LOW INCOME			2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary					
Analysis For All Participants					
Benefits			Input Summary and Totals		
			Program Inputs per Customer kW		
			Lifetime (Weighted on Generator kWh)	A	16.66 years
			Annual Hours	B	8760
			Gross Customer kW	C	1 kW
			Generator Peak Coincidence Factor	D	74.88%
			Gross Load Factor at Customer	E	73.19%
			Net-to-Gross (Energy)	F	96.8%
			Net-to-Gross (Demand)	G	96.5%
			Transmission Loss Factor (Energy)	H	11.800%
			Transmission Loss Factor (Demand)	I	16.200%
			Installation Rate (Energy)	J	97.993%
			Installation Rate (Demand)	K	99.715%
			UCT Net Benefit (Cost)	L	\$1,576
Total Benefits			Net coincident kW Saved at Generator	$(G \times C \times K) \times D / (1 - I)$	0.8173 kW
Costs			Gross Annual kWh Saved at Customer	$(B \times E \times C)$	6,411 kWh
			Net Annual kWh Saved at Customer	$(F \times (B \times E \times C \times J))$	6,079 kWh
			Net Annual kWh Saved at Generator	$(F \times (B \times E \times C \times J)) / (1 - H)$	6,893 kWh
Utility Project Costs			Program Summary per Participant		
			Total Incentive	M	0.49 kW
			Internal Administration		
			Third-Party Delivery		
			Promotion		
			M&V		
			Subtotal		
Participant Costs			Program Summary All Participants		
			Total Participants	N	1,850
			Incremental Capital Costs	O	
			Incremental O&M Costs		
			Subtotal		\$2,634,220
Reductions to Costs			Gross kW Saved at Customer	$(N \times M)$	912 kW
			Net coincident kW Saved at Generator	$((G \times M \times K) \times D / (1 - I)) \times N$	784 kW
			Gross Annual kWh Saved at Customer	$(B \times E \times M) \times N$	5,843,807 kWh
			Gross Installed Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J$	5,726,533 kWh
			Net Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J \times F$	5,541,450 kWh
			Net Annual kWh Saved at Generator	$((B \times E \times M) / (1 - H)) \times N \times J \times F$	6,282,823 kWh
			UCT Net Benefits	$(N \times M \times L)$	\$1,436,951
Total Costs			Utility Program Cost per kWh Lifetime		\$0.0252
			Utility Program Cost per kW at Gen		\$3,360
Net Benefit (Cost)					
Benefit/Cost Ratio					

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

HOME LIGHTING & RECYCLING			2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary					
Analysis For All Participants					
Benefits	Input Summary and Totals				
	Utility Cost Test (\$Total)	Program Inputs per Customer kW			
		Lifetime (Weighted on Generator kWh)	A	11.94 years	
		Annual Hours	B	8760	
		Gross Customer kW	C	1 kW	
		Generator Peak Coincidence Factor	D	13.28%	
		Gross Load Factor at Customer	E	10.92%	
		Net-to-Gross (Energy)	F	77.5%	
		Net-to-Gross (Demand)	G	77.4%	
		Transmission Loss Factor (Energy)	H	11.800%	
		Transmission Loss Factor (Demand)	I	16.200%	
		Installation Rate (Energy)	J	96.334%	
	Installation Rate (Demand)	K	96.601%		
	UCT Net Benefit (Cost)	L	\$221		
Total Benefits	\$5,102,371	Net coincident kW Saved at Generator (G x C x K) x D / (1 - I)			
Costs		Gross Annual kWh Saved at Customer (B x E x C)			
Utility Project Costs		Net Annual kWh Saved at Customer (F x (B x E x C x J))			
Total Incentive	\$1,078,000	Net Annual kWh Saved at Generator (F x (B x E x C x J)) / (1 - H)			
Internal Administration	\$141,918				
Third-Party Delivery	\$350,000				
Promotion	\$450,000				
M&V	\$25,000				
Subtotal	\$2,044,918	Program Summary per Participant			
Participant Costs		Gross kW Saved at Customer M			
		Net coincident kW Saved at Generator	(G x M x K) x D / (1 - I)		
		Gross Annual kWh Saved at Customer	(B x E x M)		
		Net Annual kWh Saved at Customer	(F x (B x E x M x J))		
		Net Annual kWh Saved at Generator	(F x (B x E x M x J)) / (1 - H)		
		Program Summary All Participants			
		Total Participants	N		
		Total Budget	O		
		Gross kW Saved at Customer	(N x M)		
		Net coincident kW Saved at Generator	((G x M x K) x D / (1 - I)) x N		
		Gross Annual kWh Saved at Customer	(B x E x M) x N		
		Gross Installed Annual kWh Saved at Customer	(B x E x M) x N x J		
	Net Annual kWh Saved at Customer	(B x E x M) x N x J x F			
	Net Annual kWh Saved at Generator	((B x E x M) / (1 - H)) x N x J x F			
	UCT Net Benefits	(N x M x L)			
Total Costs	\$2,044,918				
Net Benefit (Cost)	\$3,057,453	Utility Program Cost per kWh Lifetime			
Benefit/Cost Ratio	2.50	Utility Program Cost per kW at Gen			

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

RESIDENTIAL COOLING			2018		ELECTRIC		GOAL
2018 Net Present Cost Benefit Summary							
Analysis For All Participants							
Input Summary and Totals							
Program Inputs per Customer kW							
Utility Cost Test (\$Total)	A		16.69 years				
	B		8760				
	C		1 kW				
	D		83.35%				
	E		42.19%				
	F		100.0%				
	G		100.0%				
	H		11.800%				
	I		16.200%				
	J		100.000%				
	K		100.000%				
	L		\$1,290				
			$(G \times C \times K) \times D / (1 - I)$				
			$(B \times E \times C)$				
			$(F \times (B \times E \times C \times J))$				
			$(F \times (B \times E \times C \times J)) / (1 - H)$				
Program Summary per Participant							
	M		0.42 kW				
			$(G \times M \times K) \times D / (1 - I)$				
			$(B \times E \times M)$				
			$(F \times (B \times E \times M \times J))$				
			$(F \times (B \times E \times M \times J)) / (1 - H)$				
Program Summary All Participants							
	N		250				
	O		\$175,908				
			$(N \times M)$				
			$((G \times M \times K) \times D / (1 - I)) \times N$				
			$(B \times E \times M) \times N$				
			$(B \times E \times M) \times N \times J$				
			$(B \times E \times M) \times N \times J \times F$				
			$((B \times E \times M) / (1 - H)) \times N \times J \times F$				
			$(N \times M \times L)$				
Utility Program Cost per kWh Lifetime							
Utility Program Cost per kW at Gen							

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

RESIDENTIAL SAVER'S SWITCH			2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary					
Analysis For All Participants					
Benefits			Input Summary and Totals		
			Program Inputs per Customer kW		
			Lifetime (Weighted on Generator kWh)	A	1.00 years
			Annual Hours	B	8760
			Gross Customer kW	C	1 kW
			Generator Peak Coincidence Factor	D	22.58%
			Gross Load Factor at Customer	E	0.02%
			Net-to-Gross (Energy)	F	100.0%
			Net-to-Gross (Demand)	G	100.0%
			Transmission Loss Factor (Energy)	H	11.800%
			Transmission Loss Factor (Demand)	I	16.200%
			Installation Rate (Energy)	J	100.000%
			Installation Rate (Demand)	K	100.000%
			UCT Net Benefit (Cost)	L	\$5
Total Benefits			Net coincident kW Saved at Generator	$(G \times C \times K) \times D / (1 - I)$	0.2560 kW
Costs			Gross Annual kWh Saved at Customer	$(B \times E \times C)$	2 kWh
Utility Project Costs			Net Annual kWh Saved at Customer	$(F \times (B \times E \times C \times J))$	2 kWh
			Net Annual kWh Saved at Generator	$(F \times (B \times E \times C \times J)) / (1 - H)$	2 kWh
Program Summary per Participant			Gross kW Saved at Customer	M	3.85 kW
			Net coincident kW Saved at Generator	$(G \times M \times K) \times D / (1 - I)$	1.04 kW
			Gross Annual kWh Saved at Customer	$(B \times E \times M)$	8 kWh
			Net Annual kWh Saved at Customer	$(F \times (B \times E \times M \times J))$	8 kWh
			Net Annual kWh Saved at Generator	$(F \times (B \times E \times M \times J)) / (1 - H)$	10 kWh
Participant Costs			Program Summary All Participants		
			Total Participants	N	4,203
			Total Budget	O	\$203,250
			Gross kW Saved at Customer	$(N \times M)$	16,179 kW
			Net coincident kW Saved at Generator	$((G \times M \times K) \times D / (1 - I)) \times N$	4,359 kW
			Gross Annual kWh Saved at Customer	$(B \times E \times M) \times N$	35,241 kWh
			Gross Installed Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J$	35,241 kWh
			Net Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J \times F$	35,241 kWh
			Net Annual kWh Saved at Generator	$((B \times E \times M) / (1 - H)) \times N \times J \times F$	39,956 kWh
			UCT Net Benefits	$(N \times M \times L)$	\$86,908
Total Costs			Utility Program Cost per kWh Lifetime		\$5.0869
			Benefit/Cost Ratio		\$47

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

SCHOOL EDUCATION KITS				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Input Summary and Totals						
Program Inputs per Customer kW		Lifetime (Weighted on Generator kWh)		A	10.18 years	
Annual Hours				B	8760	
Gross Customer kW				C	1 kW	
Generator Peak Coincidence Factor				D	10.17%	
Gross Load Factor at Customer				E	46.31%	
Net-to-Gross (Energy)				F	100.0%	
Net-to-Gross (Demand)				G	100.0%	
Transmission Loss Factor (Energy)				H	11.800%	
Transmission Loss Factor (Demand)				I	16.200%	
Installation Rate (Energy)				J	55.185%	
Installation Rate (Demand)				K	65.000%	
UCT Net Benefit (Cost)				L	\$438	
Net coincident kW Saved at Generator				$(G \times C \times K) \times D / (1 - I)$		0.0749 kW
Gross Annual kWh Saved at Customer				$(B \times E \times C)$		4,057 kWh
Net Annual kWh Saved at Customer				$(F \times (B \times E \times C \times J))$		2,239 kWh
Net Annual kWh Saved at Generator				$(F \times (B \times E \times C \times J)) / (1 - H)$		2,538 kWh
Program Summary per Participant						
Gross kW Saved at Customer				M	0.15 kW	
Net coincident kW Saved at Generator				$(G \times M \times K) \times D / (1 - I)$		0.01 kW
Gross Annual kWh Saved at Customer				$(B \times E \times M)$		617 kWh
Net Annual kWh Saved at Customer				$(F \times (B \times E \times M \times J))$		340 kWh
Net Annual kWh Saved at Generator				$(F \times (B \times E \times M \times J)) / (1 - H)$		386 kWh
Program Summary All Participants						
Total Participants				N	2,500	
Total Budget				O	\$163,417	
Gross kW Saved at Customer				$(N \times M)$		380 kW
Net coincident kW Saved at Generator				$((G \times M \times K) \times D / (1 - I)) \times N$		30 kW
Gross Annual kWh Saved at Customer				$(B \times E \times M) \times N$		1,541,499 kWh
Gross Installed Annual kWh Saved at Customer				$(B \times E \times M) \times N \times J$		850,672 kWh
Net Annual kWh Saved at Customer				$(B \times E \times M) \times N \times J \times F$		850,672 kWh
Net Annual kWh Saved at Generator				$((B \times E \times M) / (1 - H)) \times N \times J \times F$		964,480 kWh
UCT Net Benefits				$(N \times M \times L)$		\$166,518
Utility Program Cost per kWh Lifetime						
Utility Program Cost per kW at Gen						
\$0.0166						
\$5,452						

System Benefits (Avoided Costs)		
Generation Capacity	\$40,997	
Transmission & Distribution Capacity	\$1,194	
Marginal Energy	\$274,541	
Avoided Emissions	\$13,204	
Total Benefits		\$329,935
Costs		
Utility Project Costs		
Total Incentive	\$52,309	
Internal Administration	\$20,608	
Third-Party Delivery	\$76,000	
Promotion	\$4,500	
M&V	\$10,000	
Subtotal	\$163,417	
Participant Costs		
Incremental Capital Costs		N/A
Incremental O&M Costs	N/A	
Subtotal	N/A	
Reductions to Costs		
Participant Rebates	N/A	
Subtotal	N/A	
Subtotal	N/A	
Total Costs		\$163,417
Net Benefit (Cost)		
\$166,518		
Benefit/Cost Ratio		
2.02		

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

SMART THERMOSTAT PILOT				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Benefits	Input Summary and Totals					
	Utility Cost Test (\$Total)	Program Inputs per Customer kW				
		Lifetime (Weighted on Generator kWh)	A			9.69 years
		Annual Hours	B			8760
		Gross Customer kW	C			1 kW
		Generator Peak Coincidence Factor	D			23.69%
		Gross Load Factor at Customer	E			0.83%
		Net-to-Gross (Energy)	F			100.0%
		Net-to-Gross (Demand)	G			100.0%
		Transmission Loss Factor (Energy)	H			11.800%
		Transmission Loss Factor (Demand)	I			16.200%
		Installation Rate (Energy)	J			100.000%
		Installation Rate (Demand)	K			100.000%
		UCT Net Benefit (Cost)	L			-\$3
Total Benefits	\$206,685	Net coincident kW Saved at Generator		$(G \times C \times K) \times D / (1 - I)$		0.2686 kW
Costs		Gross Annual kWh Saved at Customer		$(B \times E \times C)$		73 kWh
Utility Project Costs		Net Annual kWh Saved at Customer		$(F \times (B \times E \times C \times J))$		73 kWh
Total Incentive	\$90,250	Net Annual kWh Saved at Generator		$(F \times (B \times E \times C \times J)) / (1 - H)$		83 kWh
Internal Administration	\$39,512	Program Summary per Participant				
Third-Party Delivery	\$79,488	Gross kW Saved at Customer				
Promotion	\$10,000	Net coincident kW Saved at Generator				
M&V	\$13,307	Gross Annual kWh Saved at Customer				
Subtotal	\$232,557	Net Annual kWh Saved at Customer				
Participant Costs		Net Annual kWh Saved at Generator				
Costs		Total Participants				
Incremental Capital Costs	N/A	Total Budget				
Incremental O&M Costs	N/A	Gross kW Saved at Customer				
Subtotal	N/A	Net coincident kW Saved at Generator				
Reductions to Costs		Gross Annual kWh Saved at Customer				
Participant Rebates	N/A	Gross Installed Annual kWh Saved at Customer				
Subtotal	N/A	Net Annual kWh Saved at Customer				
Subtotal	N/A	Net Annual kWh Saved at Generator				
Total Costs	\$232,557	UCT Net Benefits				
Net Benefit (Cost)	(\$25,872)	Utility Program Cost per kWh Lifetime				
Benefit/Cost Ratio	0.89	Utility Program Cost per kW at Gen				

BUSINESS SEGMENT TOTAL		2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary				
Analysis For All Participants				
Benefits	Input Summary and Totals			
	Program Inputs per Customer kW			
	Utility Cost Test (\$Total)		A	14.94 years
			B	8760
			C	1 kW
			D	69.73%
			E	39.19%
			F	81.5%
			G	86.1%
			H	7.700%
			I	10.400%
			J	100.000%
			K	100.000%
			L	\$1,044
System Benefits (Avoided Costs)				
	Generation Capacity	\$2,550,078		
	Transmission & Distribution Capacity	\$79,938		
	Marginal Energy	\$5,524,600		
	Avoided Emissions	\$278,728		
Total Benefits		\$8,433,344		
Costs				
Utility Project Costs				
	Total Incentive	\$1,532,658		
	Internal Administration	\$553,859		
	Third-Party Delivery	\$1,141,347		
	Promotion	\$336,566		
	M&V	\$102,000		
	Subtotal	\$3,666,430		
Participant Costs				
	Incremental Capital Costs	N/A		
	Incremental O&M Costs	N/A		
	Subtotal	N/A		
	Reductions to Costs			
	Participant Rebates	N/A		
	Subtotal	N/A		
Total Costs		\$3,666,430		
Net Benefit (Cost)		\$4,766,914		
Benefit/Cost Ratio		2.30		

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

BUSINESS COMPREHENSIVE			2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary					
Analysis For All Participants					
Benefits			Input Summary and Totals		
			Program Inputs per Customer kW		
			Lifetime (Weighted on Generator kWh)	A	14.95 years
			Annual Hours	B	8760
			Gross Customer kW	C	1 kW
			Generator Peak Coincidence Factor	D	67.15%
			Gross Load Factor at Customer	E	50.15%
			Net-to-Gross (Energy)	F	81.4%
			Net-to-Gross (Demand)	G	81.5%
			Transmission Loss Factor (Energy)	H	7.700%
			Transmission Loss Factor (Demand)	I	10.400%
			Installation Rate (Energy)	J	100.000%
			Installation Rate (Demand)	K	100.000%
			UCT Net Benefit (Cost)	L	\$1,329
Total Benefits			Net coincident kW Saved at Generator	$(G \times C \times K) \times D / (1 - I)$	0.5933 kW
Costs			Gross Annual kWh Saved at Customer	$(B \times E \times C)$	4,393 kWh
Utility Project Costs			Net Annual kWh Saved at Customer	$(F \times (B \times E \times C \times J))$	3,578 kWh
Total Incentive			Net Annual kWh Saved at Generator	$(F \times (B \times E \times C \times J)) / (1 - H)$	3,877 kWh
Internal Administration			Program Summary per Participant		
Third-Party Delivery			Gross kW Saved at Customer	M	4.98 kW
Promotion			Net coincident kW Saved at Generator	$(G \times M \times K) \times D / (1 - I)$	3.05 kW
M&V			Gross Annual kWh Saved at Customer	$(B \times E \times M)$	21,890 kWh
Subtotal			Net Annual kWh Saved at Customer	$(F \times (B \times E \times M \times J))$	17,830 kWh
			Net Annual kWh Saved at Generator	$(F \times (B \times E \times M \times J)) / (1 - H)$	19,317 kWh
Participant Costs			Program Summary All Participants		
Incremental Capital Costs			Total Participants	N	716
Incremental O&M Costs			Total Budget	O	\$3,620,861
Subtotal			Gross kW Saved at Customer	$(N \times M)$	3,567 kW
Participant Rebates			Net coincident kW Saved at Generator	$((G \times M \times K) \times D / (1 - I)) \times N$	2,180 kW
Subtotal			Gross Annual kWh Saved at Customer	$(B \times E \times M) \times N$	15,671,410 kWh
			Gross Installed Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J$	15,671,410 kWh
			Net Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J \times F$	12,764,348 kWh
			Net Annual kWh Saved at Generator	$((B \times E \times M) / (1 - H)) \times N \times J \times F$	13,829,197 kWh
Total Costs			UCT Net Benefits	$(N \times M \times L)$	\$4,739,423
Net Benefit (Cost)			Utility Program Cost per kWh Lifetime		\$0.0175
Benefit/Cost Ratio			Utility Program Cost per kW at Gen		\$1,661

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

INTERRUPTIBLE CREDIT OPTION			2018		ELECTRIC		GOAL
2018 Net Present Cost Benefit Summary							
Analysis For All Participants							
Benefits			Utility				
			Cost Test (\$Total)				
System Benefits (Avoided Costs)							
Generation Capacity		\$64,479					
Transmission & Distribution Capacity		\$7,577					
Marginal Energy		\$958					
Avoided Emissions		\$46					
Total Benefits			\$73,060				
Costs							
Utility Project Costs							
Total Incentive		\$15,550					
Internal Administration		\$23,112					
Third-Party Delivery		\$0					
Promotion		\$2,907					
M&V		\$4,000					
Subtotal		\$45,569					
Participant Costs							
Costs							
Incremental Capital Costs		N/A					
Incremental O&M Costs		N/A					
Subtotal		N/A					
Reductions to Costs							
Participant Rebates		N/A					
Subtotal		N/A					
Subtotal		N/A					
Total Costs			\$45,569				
Net Benefit (Cost)			\$27,491				
Benefit/Cost Ratio			1.60				
Input Summary and Totals							
Program Inputs per Customer kW							
Lifetime (Weighted on Generator kWh)	A						3.00 years
Annual Hours	B						8760
Gross Customer kW	C						1 kW
Generator Peak Coincidence Factor	D						78.92%
Gross Load Factor at Customer	E						0.08%
Net-to-Gross (Energy)	F						100.0%
Net-to-Gross (Demand)	G						100.0%
Transmission Loss Factor (Energy)	H						7.700%
Transmission Loss Factor (Demand)	I						10.400%
Installation Rate (Energy)	J						100.000%
Installation Rate (Demand)	K						100.000%
UCT Net Benefit (Cost)	L						\$27
Net coincident kW Saved at Generator	$(G \times C \times K) \times D / (1 - I)$						0.8550 kW
Gross Annual kWh Saved at Customer	$(B \times E \times C)$						7 kWh
Net Annual kWh Saved at Customer	$(F \times (B \times E \times C \times J))$						7 kWh
Net Annual kWh Saved at Generator	$(F \times (B \times E \times C \times J)) / (1 - H)$						8 kWh
Program Summary per Participant							
Gross kW Saved at Customer	M						500.00 kW
Net coincident kW Saved at Generator	$(G \times M \times K) \times D / (1 - I)$						440.40 kW
Gross Annual kWh Saved at Customer	$(B \times E \times M)$						3,500 kWh
Net Annual kWh Saved at Customer	$(F \times (B \times E \times M \times J))$						3,500 kWh
Net Annual kWh Saved at Generator	$(F \times (B \times E \times M \times J)) / (1 - H)$						3,792 kWh
Program Summary All Participants							
Total Participants	N						2
Total Budget	O						\$45,569
Gross kW Saved at Customer	$(N \times M)$						1,000 kW
Net coincident kW Saved at Generator	$((G \times M \times K) \times D / (1 - I)) \times N$						881 kW
Gross Annual kWh Saved at Customer	$(B \times E \times M) \times N$						7,000 kWh
Gross Installed Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J$						7,000 kWh
Net Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J \times F$						7,000 kWh
Net Annual kWh Saved at Generator	$((B \times E \times M) / (1 - H)) \times N \times J \times F$						7,584 kWh
UCT Net Benefits	$(N \times M \times L)$						\$27,491
Utility Program Cost per kWh Lifetime							\$2.0029
Utility Program Cost per kW at Gen							\$52

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

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs./yr.)
TOTAL				
NM - Computer Efficiency - Upstream	Upstream Power Supply - Bronze	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Bronze level power supply	25	7,706
NM - Computer Efficiency - Upstream	Upstream Power Supply - Silver	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Silver level power supply	24	7,706
NM - Computer Efficiency - Upstream	Upstream Power Supply - Gold	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Gold level power supply	24	7,706
NM - Computer Efficiency - Upstream	Upstream Power Supply - Platinum	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Platinum level power supply	23	7,706
NM - Computer Efficiency - Prescriptive	Zero & Thin Client Installations	Server & software at data center along with thin-client or zero-client device replaces desktop CPU (VM Ware w/ Wyse thin-client system, Pano-Logic zero-client system); meeting Energy Star 6.0 specification	13	7,706
NM - Computer Efficiency - Prescriptive	Network Based PC Power Management	Desktop Computer with network controlled software installed	11	7,706
NM - Computer Efficiency - Upstream	Computer Server; with <400W Units with Gold Rated Power Supply	Gold Power Supply	107	8,760
NM - Computer Efficiency - Upstream	Computer Server; with 400-600W Units with Gold Rated Power Supply	Gold Power Supply	178	8,760
NM - Computer Efficiency - Upstream	Computer Server; with 600-1000W Units with Gold Rated Power Supply	Gold Power Supply	267	8,760
NM - Computer Efficiency - Upstream	Computer Server; with >1000W Units with Gold Rated Power Supply	Gold Power Supply	498	8,760
NM - Computer Efficiency - Upstream	Computer Server; with <400W Units with Platinum Rated Power Supply	Platinum Power Supply	103	8,760
NM - Computer Efficiency - Upstream	Computer Server; with 400-600W Units with Platinum Rated Power Supply	Platinum Power Supply	172	8,760
NM - Computer Efficiency - Upstream	Computer Server; with 600-1000W Units with Platinum Rated Power Supply	Platinum Power Supply	257	8,760
NM - Computer Efficiency - Upstream	Computer Server; with >1000W Units with Platinum Rated Power Supply	Platinum Power Supply	481	8,760
NM - Computer Efficiency - Upstream	Computer Server; with <400W Units with Titanium Rated Power Supply	Titanium Power Supply	100	8,760
NM - Computer Efficiency - Upstream	Computer Server; with 400-600W Units with Titanium Rated Power Supply	Titanium Power Supply	166	8,760

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions			Economic Assumptions				
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)
Baseline desktop computer with a standard efficiency power supply	31	7,706	5.00	\$0	\$600	\$9	\$ 0.068
desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Bronze level power supply	31	7,706	5.00	\$0	\$609	\$14	\$ 0.068
desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Bronze level power supply	31	7,706	5.00	\$0	\$609	\$16	\$ 0.068
desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Bronze level power supply	31	7,706	5.00	\$0	\$609	\$22	\$ 0.068
Desktop computers meeting ENERGY STAR 3.0 specifications	29	7,706	10.00	\$60	\$600	\$117	\$ 0.068
Desktop Computer with no network controlled software	29	7,706	6.00	\$5	\$0	\$15	\$ 0.049
Silver Power Supply	112	8,738	5.00	\$0	\$60	\$12	\$ 0.059
Silver Power Supply	187	8,738	5.00	\$0	\$80	\$14	\$ 0.059
Silver Power Supply	280	8,738	5.00	\$0	\$100	\$16	\$ 0.059
Silver Power Supply	522	8,738	5.00	\$0	\$130	\$18	\$ 0.059
Silver Power Supply	113	8,717	5.00	\$0	\$60	\$31	\$ 0.059
Silver Power Supply	188	8,717	5.00	\$0	\$80	\$37	\$ 0.059
Silver Power Supply	283	8,717	5.00	\$0	\$100	\$43	\$ 0.059
Silver Power Supply	527	8,717	5.00	\$0	\$130	\$49	\$ 0.059
Silver Power Supply	114	8,700	5.00	\$0	\$60	\$58	\$ 0.059
Silver Power Supply	190	8,700	5.00	\$0	\$80	\$69	\$ 0.059

Stipulated Output								Economic Assumptions		Technical Assumption
Rebate as a % of Incremental Cost (%)	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost /Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)
0%	2.72	2.72	49	\$0.00	\$0.00	0.006	0.007	\$0.00	-\$0.02	100.0%
0%	3.76	3.76	55	\$0.00	\$0.00	0.007	0.008	\$0.00	-\$0.03	100.0%
0%	4.00	4.00	59	\$0.00	\$0.00	0.008	0.009	\$0.00	-\$0.03	100.0%
0%	5.15	5.15	63	\$0.00	\$0.00	0.008	0.009	\$0.00	-\$0.03	100.0%
51%	3.01	1.46	123	\$0.49	\$0.05	0.016	0.018	\$30.50	-\$0.06	100.0%
34%	3.61	2.38	140	\$0.04	\$0.01	0.018	0.000	-\$2.74	-\$0.07	0.0%
0%	4.58	4.58	43	\$0.00	\$0.00	0.005	0.006	\$0.00	\$0.00	100.0%
0%	3.28	3.28	72	\$0.00	\$0.00	0.009	0.010	\$0.00	\$0.00	100.0%
0%	2.54	2.54	108	\$0.00	\$0.00	0.013	0.015	\$0.00	\$0.00	100.0%
0%	1.55	1.55	201	\$0.00	\$0.00	0.024	0.027	\$0.00	\$0.00	100.0%
0%	6.32	6.32	83	\$0.00	\$0.00	0.010	0.011	\$0.00	\$0.00	100.0%
0%	4.53	4.53	139	\$0.00	\$0.00	0.017	0.019	\$0.00	\$0.00	100.0%
0%	3.51	3.51	208	\$0.00	\$0.00	0.025	0.028	\$0.00	\$0.00	100.0%
0%	2.14	2.14	389	\$0.00	\$0.00	0.047	0.052	\$0.00	\$0.00	100.0%
0%	8.46	8.46	117	\$0.00	\$0.00	0.014	0.016	\$0.00	\$0.00	100.0%
0%	6.06	6.06	194	\$0.00	\$0.00	0.023	0.026	\$0.00	\$0.00	100.0%

Program Forecast Inputs			Stipulated Forecast Inputs			Program Forecast Outputs				
2017						2017				
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)		
219,051	447,825				12,600,574	36,815,781	\$3,746,625	\$8,467,631		
50	500	88%	100%	100%	3.119	23,333	\$0	\$4,500		
1	10	88%	100%	100%	0.070	524	\$0	\$140		
2	20	88%	100%	100%	0.150	1,126	\$0	\$320		
20	200	88%	100%	100%	1.608	12,028	\$0	\$4,400		
2	100	88%	100%	100%	1.567	11,724	\$6,000	\$11,681		
1	10	88%	100%	100%	0.000	1,331	\$50	\$146		
5	50	88%	100%	100%	0.256	2,053	\$0	\$581		
10	100	88%	100%	100%	0.852	6,844	\$0	\$1,388		
10	100	88%	100%	100%	1.278	10,266	\$0	\$1,613		
10	100	88%	100%	100%	2.385	19,162	\$0	\$1,838		
10	100	88%	100%	100%	0.988	7,940	\$0	\$3,100		
10	100	88%	100%	100%	1.647	13,234	\$0	\$3,700		
10	100	88%	100%	100%	2.471	19,851	\$0	\$4,300		
10	100	88%	100%	100%	4.612	37,055	\$0	\$4,900		
10	100	88%	100%	100%	1.384	11,124	\$0	\$5,813		
10	100	88%	100%	100%	2.307	18,540	\$0	\$6,938		

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs./yr.)
NM - Computer Efficiency - Upstream	Computer Server; with 600-1000W Units with Titanium Rated Power Supply	Titanium Power Supply	250	8,760
NM - Computer Efficiency - Upstream	Computer Server; with >1000W Units with Titanium Rated Power Supply	Titanium Power Supply	466	8,760
DX Units <5.4 Tons NMx	DX Units < than 5.4 tons	Unit size 3.7 tons, 14.1 SEER & 12 EER	3,700	1,320
DX Units >=5.4 Tons NMx-RTU	DX Units 5.5-11.3 tons	Unit size 10 tons & 12.4 EER	9,677	1,345
DX Units >=5.4 Tons NMx-RTU	DX Units 11.4-19.9 tons	Unit size 15.6 tons & 12.2 EER	15,344	1,345
DX Units >=5.4 Tons NMx-RTU	DX Units 20-63.3 tons	Unit size 30.7 tons & 10.8 EER	34,111	1,345
DX Units >=5.4 Tons NMx-RTU	DX Units greater than 63.3 tons	Unit size 174 tons & 10.2 EER	204,706	1,345
RTU Economizer & DCV	RTU Economizer & Demand Control Ventilation	RTU with Demand Control	4,503	1,039
Water-source Heat Pumps	Water-source Heat Pumps	Unit size 2.5 tons, 13.5 SEER, 13.5 EER	2,222	1,345
PTAC NMx	PTAC >= 7,000 BTUH to <=15,000 BTUH	Condensing Units size 1.1 tons, 13.5 SEER, 11.5 EER	1,148	1,137
PTAC NMx	PTAC < 7,000 BTUH	Condensing Units size 0.58 tons, 13.5 SEER, 11.5 EER	605	969
PTAC NMx	PTAC > 15,000 BTUH	Condensing Units size 1.26 tons, 13.5 SEER, 11.5 EER	1,315	1,155
Screw/Scroll Chillers	Scroll/Screw Chiller < 75 tons	Chiller size 58.8 tons, 0.59 full load kW/ton, 0.48 IPLV	34,692	1,040
Screw/Scroll Chillers	Scroll/Screw Chiller >= 75 tons to < 150 tons	Chiller size 113.5 tons, 0.64 full load kW/ton, 0.53 IPLV	72,640	846
Screw/Scroll Chillers	Scroll/Screw chiller >=150 to <300 tons	Chiller size 225 tons, 0.57 full load kW/ton, 0.48 IPLV	128,250	1,166
Screw/Scroll Chillers	scroll/screw chiller >= 300 tons	Chiller size 300 tons, 0.52 full load kW/ton, 0.37 IPLV	155,100	2,180
Centrifugal Chillers	Centrifugal Chillers < 150 tons	Chiller size 125 tons, 0.60 full load kW/ton, 0.57 IPLV	75,000	1,094
Centrifugal Chillers	Centrifugal Chillers >= 150 to < 300 tons	Chiller size 225 tons, 0.55 full load kW/ton, 0.51 IPLV	123,032	1,283
Centrifugal Chillers	Centrifugal Chillers >= 300 to < 600 tons	Chiller size 425 tons, 0.52 full load kW/ton, 0.49 IPLV	219,300	1,283
Centrifugal Chillers	Centrifugal Chillers >= 600 tons	Chiller size 750 tons, 0.55 full load kW/ton, 0.53 IPLV	414,563	986
Air-Cooled Chillers	Air-Cooled Chillers - avg. capacity 250 tons	Air-cooled chiller average capacity 250 tons, 1.15 kW/ton	297,030	347
EC Motors - Display Case	ECM - Medium Temp Display Case	Electronically Commutated Motor (ECM)	21	8,672
EC Motors - Display Case	ECM - Low Temp Display Case	Electronically Commutated Motor (ECM)	25	8,672

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions				Economic Assumptions			
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)
Silver Power Supply	285	8,700	5.00	\$0	\$100	\$81	\$ 0.059
Silver Power Supply	532	8,700	5.00	\$0	\$130	\$92	\$ 0.059
Unit size 3.7 tons, 13 SEER & 11.18 EER	3,971	1,320	15.00	\$548	\$4,500	\$752	\$ 0.067
Unit size 10 tons & 11 EER	10,909	1,345	15.00	\$660	\$13,500	\$1,642	\$ 0.067
Unit size 15.6 tons & 10.8 EER	17,333	1,345	15.00	\$1,030	\$22,500	\$2,562	\$ 0.067
Unit size 30.7 tons & 9.8 EER	37,592	1,345	15.00	\$2,026	\$45,000	\$13,109	\$ 0.067
Unit size 174 tons & 9.5 EER	219,789	1,345	15.00	\$10,092	\$187,500	\$57,368	\$ 0.067
RTU with Standard Economizer	9,006	1,039	20.00	\$628	\$1,000	\$1,500	\$ 0.067
Unit size 2.5 tons, 12 SEER, 12 EER	2,500	1,345	15.00	\$155	\$4,500	\$500	\$ 0.067
Condensing Units 1.1 tons, 11.4 SEER, 9.7 EER	1,361	1,137	15.00	\$77	\$1,125	\$188	\$ 0.067
Condensing Units 0.58 tons, 13 SEER, 11 EER	633	969	15.00	\$41	\$1,125	\$188	\$ 0.067
Condensing Units 1.26 tons, 10.9 SEER, 9.3 EER	1,626	1,155	15.00	\$88	\$1,125	\$188	\$ 0.067
Chiller size 58.8 tons, 0.78 full load kW/ton, 0.63 IPLV	45,864	1,040	20.00	\$3,969	\$35,280	\$5,880	\$ 0.067
Chiller size 113.5 tons, 0.78 full load kW/ton, 0.62 IPLV	87,963	846	20.00	\$5,306	\$75,000	\$11,350	\$ 0.067
Chiller size 225 tons, 0.68 full load kW/ton, 0.58 IPLV	153,000	1,166	20.00	\$9,765	\$108,000	\$22,500	\$ 0.067
Chiller size 300 tons, 0.62 full load kW/ton, 0.54 IPLV	186,000	2,180	20.00	\$15,975	\$210,000	\$21,000	\$ 0.067
Chiller size 125 tons, 0.63 full load kW/ton, 0.60 IPLV	79,250	1,094	20.00	\$2,288	\$75,000	\$12,500	\$ 0.067
Chiller size 225 tons, 0.63 full load kW/ton, 0.60 IPLV	142,650	1,283	20.00	\$8,306	\$135,000	\$22,500	\$ 0.067
Chiller size 425 tons, 0.58 full load kW/ton, 0.55 IPLV	244,800	1,283	20.00	\$11,645	\$255,000	\$31,875	\$ 0.067
Chiller size 750 tons, 0.57 full load kW/ton, 0.54 IPLV	427,500	986	20.00	\$8,878	\$450,000	\$56,250	\$ 0.067
Air-cooled chiller average capacity 250 tons, 1.26 kW/ton	313,742	347	20.00	\$3,125	\$250,000	\$10,000	\$ 0.067
Shaded Pole Motor	64	8,672	15.00	\$40	\$0	\$88	\$ 0.067
Shaded Pole Motor	75	8,672	15.00	\$40	\$0	\$88	\$ 0.067

Stipulated Output										Economic Assumptions		Technical Assumption
Rebate as a % of Incremental Cost (%)	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost /Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)		
0%	4.69	4.69	292	\$0.00	\$0.00	0.035	0.039	\$0.00	\$0.00	100.0%		
0%	2.87	2.87	544	\$0.00	\$0.00	0.066	0.073	\$0.00	\$0.00	100.0%		
73%	31.33	8.51	358	\$1.53	\$0.10	0.271	0.303	\$0.00	\$0.00	100.0%		
40%	14.80	8.85	1,656	\$0.40	\$0.03	1.232	1.375	\$0.00	\$0.00	100.0%		
40%	14.30	8.55	2,674	\$0.38	\$0.03	1.989	2.220	\$0.00	\$0.00	100.0%		
15%	41.82	35.35	4,680	\$0.43	\$0.03	3.481	3.885	\$0.00	\$0.00	100.0%		
18%	42.23	34.80	20,281	\$0.50	\$0.03	15.084	16.834	\$0.00	\$0.00	100.0%		
42%	4.79	2.78	4,680	\$0.13	\$0.01	4.503	4.523	\$0.00	\$0.00	90.0%		
31%	19.99	13.79	373	\$0.41	\$0.03	0.278	0.279	\$0.00	\$0.00	90.0%		
41%	11.56	6.81	242	\$0.32	\$0.02	0.213	0.214	\$0.00	\$0.00	90.0%		
22%	104.99	82.26	27	\$1.52	\$0.10	0.028	0.028	\$0.00	\$0.00	90.0%		
47%	7.79	4.13	359	\$0.25	\$0.02	0.311	0.312	\$0.00	\$0.00	90.0%		
68%	7.56	2.46	11,618	\$0.34	\$0.02	11.172	11.222	\$0.00	\$0.00	90.0%		
47%	13.07	6.96	12,961	\$0.41	\$0.02	15.323	15.391	\$0.00	\$0.00	90.0%		
43%	11.64	6.59	28,868	\$0.34	\$0.02	24.750	24.860	\$0.00	\$0.00	90.0%		
76%	4.65	1.11	67,359	\$0.24	\$0.01	30.900	31.038	\$0.00	\$0.00	90.0%		
18%	40.12	32.78	4,651	\$0.49	\$0.02	4.250	4.269	\$0.00	\$0.00	90.0%		
37%	13.35	8.42	25,171	\$0.33	\$0.02	19.618	19.706	\$0.00	\$0.00	90.0%		
37%	14.55	9.23	32,717	\$0.36	\$0.02	25.500	25.614	\$0.00	\$0.00	90.0%		
16%	65.87	55.47	12,750	\$0.70	\$0.03	12.937	12.995	\$0.00	\$0.00	90.0%		
31%	25.72	17.68	5,806	\$0.54	\$0.03	16.712	16.787	\$0.00	\$0.00	90.0%		
45%	3.55	1.94	370	\$0.11	\$0.01	0.043	0.048	\$0.00	\$0.00	100.0%		
45%	3.04	1.66	432	\$0.09	\$0.01	0.050	0.056	\$0.00	\$0.00	100.0%		

Program Forecast Inputs			Stipulated Forecast Inputs			Program Forecast Outputs				
2017						2017				
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)		
5	50	88%	100%	100%	1.731	13,905	\$0	\$4,031		
5	50	88%	100%	100%	3.230	25,956	\$0	\$4,594		
5	10	88%	100%	100%	2.650	3,396	\$5,476	\$7,518		
1	1	88%	100%	100%	1.203	1,570	\$660	\$1,642		
1	1	88%	100%	100%	1.942	2,535	\$1,030	\$2,562		
3	3	88%	100%	100%	10.197	13,310	\$6,079	\$39,327		
1	1	88%	100%	100%	14.730	19,227	\$10,092	\$57,368		
1	1	88%	100%	100%	3.958	4,437	\$628	\$1,500		
1	1	88%	100%	100%	0.244	354	\$155	\$500		
1	1	88%	100%	100%	0.187	230	\$77	\$188		
4	125	88%	100%	100%	3.022	3,159	\$5,075	\$23,438		
1	1	88%	100%	100%	0.273	341	\$88	\$188		
0	0	88%	100%	100%	0.000	0	\$0	\$0		
1	1	88%	100%	100%	13.467	12,287	\$5,306	\$11,350		
1	1	88%	100%	100%	21.753	27,367	\$9,765	\$22,500		
0	0	88%	100%	100%	0.000	0	\$0	\$0		
1	1	88%	100%	100%	3.735	4,409	\$2,288	\$12,500		
0	0	88%	100%	100%	0.000	0	\$0	\$0		
1	1	88%	100%	100%	22.412	31,016	\$11,645	\$31,875		
0	0	88%	100%	100%	0.000	0	\$0	\$0		
1	1	88%	100%	100%	14.688	5,504	\$3,125	\$10,000		
10	90	88%	100%	100%	3.751	31,575	\$3,600	\$7,920		
10	90	88%	100%	100%	4.376	36,838	\$3,600	\$7,920		

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs./yr.)
EC Motors - Walk in Cooler	ECM - Medium Temp Walk-in, Evap fan <= 15" Diameter	Electronically Commutated Motor (ECM)	40	8,585
EC Motors - Walk in Cooler	ECM - Low Temp Walk-in, Evap fan <= 15" Diameter	Electronically Commutated Motor (ECM)	46	8,585
Anti-Sweat Heater	Anti-Sweat Heater Controls	Anti-Sweat Heater Controls	72	5,044
No Heat Case Door NMx	No Heat Case Doors	No Heat Case Doors	0	8,760
Medium Temperature Reach-In Case	Medium-temp Enclosed Reach-In Case (per linear foot)	Medium-temp Reach-In Cases with Doors	20	8,760
Evaporator Fan Motor Controller	Evap Fan Motor Controller	Evaporator Motor Fan Control	91	8,585
Direct Evaporative Cooling	Tier 1 - Direct Evaporative Cooling-TOTAL	Standard Direct Evaporative Cooler	1,783	1,213
VFD Chiller Retrofit	VSD Chiller Retrofit	Chiller size 378 tons, 0.59 full load kW/ton, 0.41 IPLV	154,879	1,283
LED Ref and Frz Cases 5' or 6' doors	LED Ref and Frz Cases 5' or 6' doors	LED Strip lighting	41	8,760
Commercial Dishwasher - Electric Water Heating	Commercial Dishwasher - Under Counter, Electric Only	ENERGY STAR qualified unit	1,085	6,570
Commercial Dishwasher - Electric Water Heating	Commercial Dishwasher - Door Type, Electric Only	ENERGY STAR qualified unit	3,463	6,570
Hot Food Holding Cabinet	Hot Food Holding Cabinet	ENERGY STAR qualified unit	230	5,475
Demand Controlled Ventilation	Demand Controlled Ventilation	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	11,766	3,307
Ductless Mini-Splits	Mini-Split Heat Pump	MSHP size 1.2 tons, 21.27 SEER, 11.50 HSPF	1,088	2,901
Ductless Mini-Splits	Mini-Split AC - Data Center	MSHP size 1.2 tons, 21.27 SEER	1,088	5,236
NM - Custom Efficiency	Custom Efficiency	New Equipment	2,497,606	4,917
NM - Custom Efficiency - Compressed Air	Compressed Air	New Equipment	3,082,573	6,411
NM - Custom Efficiency - Motors	Motors Efficiency	New Equipment	2,102,426	4,049
NM - Custom Efficiency - Lighting	Lighting	High Efficiency Lighting	1,286,519	4,347
NM - Custom Efficiency - Cooling	Cooling	New Equipment	2,664,056	4,396
Study	Engineering Studies	Completed Studies	0	0
NM - Lighting Efficiency Rebate	T8 to T8 Optimization	Fluorescent T8 Fixture with Less Lamps (3.2,1)	63	3,876

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions			Economic Assumptions				
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)
Shaded Pole Motor	122	8,585	15.00	\$70	\$0	\$180	\$ 0.067
Shaded Pole Motor	143	8,585	15.00	\$70	\$0	\$180	\$ 0.067
Anti-Sweat Heaters running constantly	72	8,760	12.00	\$20	\$0	\$34	\$ 0.067
Anti-Sweat Heaters running constantly	175	8,760	10.00	\$125	\$0	\$538	\$ 0.067
Medium-temp Open Reach-In Cases	113	8,760	15.00	\$70	\$0	\$906	\$ 0.067
No Motor Fan Controls	130	8,585	15.00	\$35	\$0	\$120	\$ 0.067
Standard Roof-top Unit	9,046	1,213	10.00	\$746	\$11,250	-\$7,880	\$ 0.067
Chiller size 378 tons, 0.58 full load kW/ton, 0.56 IPLV	211,036	1,283	20.00	\$8,424	\$0	\$27,172	\$ 0.067
T8 or T12 Fluorescent	113	8,760	16.00	\$50	\$0	\$164	\$ 0.059
Conventional unit as defined by ENERGY STAR	1,470	6,570	10.00	\$175	\$4,960	\$106	\$ 0.059
Conventional unit as defined by ENERGY STAR	5,194	6,570	15.00	\$196	\$6,786	\$550	\$ 0.059
Conventional unit as defined by ENERGY STAR	504	5,475	12.00	\$400	\$2,069	\$1,713	\$ 0.059
Commercial kitchen ventilation hoods without Demand Controlled Ventilation with 8.65 HP Motor	19,597	3,307	20.00	\$865	\$0	\$19,759	\$ 0.059
MSHP size 1.2 tons, 14 SEER, 8.2 HSPF	1,647	2,901	18.00	\$173	\$3,440	\$512	\$ 0.067
MSHP size 1.2 tons, 14 SEER	1,647	5,236	18.00	\$108	\$3,440	\$512	\$ 0.067
Old or less efficient systems or equipment	2,545,060	4,917	20.00	\$17,293	\$0	\$125,559	\$ 0.065
Old or less efficient systems or equipment	3,114,508	6,411	20.00	\$12,596	\$0	\$61,477	\$ 0.061
Old or less efficient systems or equipment	2,124,863	4,049	15.00	\$5,675	\$0	\$30,832	\$ 0.067
Existing Lower Efficiency Lighting	1,301,985	4,347	15.00	\$6,339	\$0	\$22,497	\$ 0.063
Old or less efficient systems or equipment	2,686,275	4,396	20.00	\$9,253	\$0	\$46,902	\$ 0.067
No Studies	0	0	0.00	\$42,500	\$0	\$50,000	\$ 0.065
Fluorescent T8 Fixture with More Lamps (4,3,2)	115	3,876	16.00	\$12	\$0	\$43	\$ 0.063

Stipulated Output								Economic Assumptions		Technical Assumption
Rebate as a % of Incremental Cost (%)	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost /Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)
39%	3.79	2.32	709	\$0.10	\$0.01	0.083	0.092	\$0.00	\$0.00	100.0%
39%	3.25	1.99	827	\$0.08	\$0.01	0.096	0.107	\$0.00	\$0.00	100.0%
59%	1.91	0.79	266	\$0.08	\$0.01	0.000	0.000	\$0.00	\$0.00	96.7%
23%	5.23	4.02	1,533	\$0.08	\$0.01	0.175	0.195	\$0.00	\$0.00	100.0%
8%	16.62	15.34	814	\$0.09	\$0.01	0.093	0.104	\$0.00	\$0.00	100.0%
29%	5.34	3.78	335	\$0.10	\$0.01	0.039	0.013	\$0.00	\$0.00	29.4%
-9%	50.33	55.10	8,807	\$0.08	\$0.01	7.263	7.295	-\$746.42	\$0.00	90.0%
31%	5.63	3.88	72,051	\$0.12	\$0.01	56.157	-2.123	\$0.00	\$0.00	-3.4%
31%	4.44	3.08	627	\$0.08	\$0.00	0.072	0.080	\$0.00	\$0.00	100.0%
165%	0.45	-0.30	2,535	\$0.07	\$0.01	0.386	0.368	\$31.63	\$52.57	85.6%
36%	0.61	0.39	11,369	\$0.02	\$0.00	1.730	1.653	\$195.12	\$39.99	85.6%
23%	19.36	14.84	1,502	\$0.27	\$0.02	0.274	0.262	\$0.00	\$0.00	85.6%
4%	5.55	5.31	25,896	\$0.03	\$0.00	7.831	4.323	\$0.00	\$2,036.06	49.5%
34%	4.72	3.12	1,622	\$0.11	\$0.01	0.559	0.561	\$0.00	\$0.00	90.0%
21%	2.61	2.06	2,926	\$0.04	\$0.00	0.559	0.624	\$0.00	\$0.00	100.0%
14%	3.66	3.15	233,326	\$0.07	\$0.00	47.453	19.680	\$0.00	\$19,244.56	37.2%
20%	4.61	3.66	204,731	\$0.06	\$0.00	31.936	24.419	\$0.00	\$777.66	68.5%
18%	4.50	3.67	90,835	\$0.06	\$0.00	22.436	13.148	\$0.00	\$749.17	52.5%
28%	5.22	3.75	67,225	\$0.09	\$0.01	15.466	12.044	\$0.00	\$45.85	69.8%
20%	6.91	5.55	97,673	\$0.09	\$0.00	22.219	13.269	\$0.00	\$244.85	53.5%
85%	0.00	0.00	0	\$0.00	\$0.00	0.000	0.000	\$0.00	\$0.00	0.0%
28%	3.35	2.42	202	\$0.06	\$0.00	0.052	0.045	\$0.04	\$0.00	77.5%

Program Forecast Inputs			Stipulated Forecast Inputs			Program Forecast Outputs			
2017						2017			
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)	
10	60	88%	100%	100%	4.836	40,307	\$4,200	\$10,800	
10	60	88%	100%	100%	5.643	47,025	\$4,200	\$10,800	
2	31	88%	100%	100%	0.000	7,883	\$625	\$1,063	
2	5	88%	100%	100%	0.854	7,266	\$625	\$2,688	
2	5	88%	100%	100%	0.454	3,858	\$350	\$4,531	
5	20	88%	100%	100%	0.224	6,347	\$700	\$2,395	
4	4	88%	100%	100%	25.533	33,394	\$2,986	-\$31,520	
0	0	88%	100%	100%	0.000	0	\$0	\$0	
12	120	88%	100%	100%	8.386	71,311	\$6,000	\$19,650	
10	10	100%	100%	100%	3.685	27,460	\$1,750	\$1,060	
7	7	100%	100%	100%	11.569	86,221	\$1,375	\$3,850	
33	33	100%	100%	100%	8.650	53,718	\$13,200	\$56,529	
12	12	100%	100%	100%	51.873	336,676	\$10,380	\$237,106	
30	30	88%	100%	100%	14.689	45,964	\$5,184	\$15,320	
0	11	88%	100%	100%	6.120	31,108	\$1,209	\$5,745	
2	2	80%	100%	100%	31.488	404,466	\$34,586	\$251,118	
1	1	80%	100%	100%	19.535	177,449	\$12,596	\$61,477	
8	23	80%	100%	100%	241.929	1,810,804	\$130,534	\$709,142	
75	100	80%	100%	100%	963.497	5,826,624	\$633,914	\$2,249,674	
2	2	80%	100%	100%	21.230	169,314	\$18,505	\$93,804	
2	2	80%	100%	100%	0.000	0	\$85,000	\$100,000	
1	50	80%	100%	100%	1.807	8,767	\$600	\$2,156	

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs./yr.)
NM - Lighting Efficiency Rebate	T8 Optimization 1 and 2 Lamp v2	Fluorescent T8 Fixture with Less Lamps	57	3,876
NM - Lighting Efficiency Rebate	T8 Optimization 3 and 4 Lamp	Fluorescent T8 Fixture with Less Lamps	90	3,876
NM - Lighting Efficiency Rebate	T8 4' Lamps - Low Wattage	T8 25W and 28W Lamps	32	3,876
NM - Lighting Efficiency Rebate	Parking Garage Low Wattage T8 4' lamps	T8 25W and 28W Lamps	25	8,760
NM - Lighting Efficiency Rebate	CFL <= 18W Pin Based	Pin Based Compact Fluorescent <= 18 Watts	21	3,876
NM - Lighting Efficiency Rebate	CFL 19-32W Pin Based	Pin Based Compact Fluorescent 19 to 32 Watts	39	3,876
NM - Lighting Efficiency Rebate	CFL 33W+ Pin Based	Pin Based Compact Fluorescent 19 to 32 Watts	63	3,876
NM - Lighting Efficiency Rebate	CFL <= 18W Screw In	Screw IN CFL Equal to or less than 18 Watts	16	3,876
NM - Lighting Efficiency Rebate	CFL 19-32W Screw In	Screw-In Compact Fluorescent 19 to 32 Watts	34	3,876
NM - Lighting Efficiency Rebate	CFL 33W+ Screw In	Screw-In Compact Fluorescent 19 to 32 Watts	63	3,876
NM - Lighting Efficiency Rebate	CFL 2' Lamp - Low Wattage	PL 25W CFL	34	3,876
NM - Lighting Efficiency Rebate	LED Interior Lamp <= 5W	LED Interior Lamp	6	3,876
NM - Lighting Efficiency Rebate	LED Interior Lamp 6W - 10W	LED Interior Lamp	11	3,876
NM - Lighting Efficiency Rebate	LED Interior Lamp 11W - 20W	LED Interior Lamp	21	3,876
NM - Direct Install	LED Interior Lamp - A Lamps	LED Interior Lamp	14	3,857
NM - Direct Install	LED Interior Lamp - PAR20, R20	LED Interior Lamp	10	3,857
NM - Direct Install	LED Interior Lamp - PAR30	LED Interior Lamp	16	3,857
NM - Direct Install	LED Interior Lamp - BR30	LED Interior Lamp	14	3,857
NM - Direct Install	LED Interior Lamp - PAR38	LED Interior Lamp	22	3,857
NM - Direct Install	LED Interior Lamp - BR40	LED Interior Lamp	20	3,857
NM - Direct Install	LED Interior Lamp - PAR16	LED Interior Lamp	8	3,857
NM - Direct Install	LED Interior Lamp - MR16	LED Interior Lamp	8	3,857
NM - Direct Install	LED Interior Lamp - GU10	LED Interior Lamp	8	3,857
NM - Direct Install	LED Interior Lamp - Decorative (B, BA, Candle)	LED Interior Lamp	6	3,857

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions				Economic Assumptions			
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)
T12 Fluorescents with more lamps	119	3,876	7.40	\$10	\$0	\$31	\$ 0.063
T12 Fluorescents with more lamps	152	3,876	7.40	\$12	\$0	\$31	\$ 0.063
T8 32W Lamps	38	3,876	7.40	\$1	\$0	\$4	\$ 0.063
T8 32W Lamps	30	8,760	7.40	\$1	\$0	\$4	\$ 0.059
Incandescent	50	3,876	3.25	\$2	\$0	\$10	\$ 0.063
Incandescent	110	3,876	3.25	\$3	\$0	\$12	\$ 0.063
Incandescent	205	3,876	3.25	\$3	\$0	\$15	\$ 0.063
Incandescent	44	3,876	3.25	\$2	\$0	\$9	\$ 0.063
Incandescent	114	3,876	3.25	\$2	\$0	\$15	\$ 0.063
Incandescent	242	3,876	3.25	\$3	\$0	\$28	\$ 0.063
PL 40W CFL	51	3,876	3.25	\$2	\$0	\$12	\$ 0.063
Incandescent	27	3,876	6.95	\$7	\$0	\$14	\$ 0.063
Incandescent	42	3,876	6.95	\$10	\$0	\$20	\$ 0.063
Incandescent	66	3,876	6.95	\$15	\$0	\$32	\$ 0.063
Incandescent, Halogen, or CFL Equivalent	26	3,857	6.95	\$5	\$4	\$16	\$ 0.063
Incandescent, Halogen, or CFL Equivalent	35	3,857	6.95	\$5	\$6	\$19	\$ 0.063
Incandescent, Halogen, or CFL Equivalent	55	3,857	6.95	\$5	\$8	\$28	\$ 0.063
Incandescent, Halogen, or CFL Equivalent	47	3,857	6.95	\$5	\$8	\$12	\$ 0.063
Incandescent, Halogen, or CFL Equivalent	73	3,857	6.95	\$10	\$6	\$29	\$ 0.063
Incandescent, Halogen, or CFL Equivalent	65	3,857	6.95	\$10	\$4	\$30	\$ 0.063
Incandescent, Halogen, or CFL Equivalent	28	3,857	6.95	\$5	\$10	\$13	\$ 0.063
Halogen Equivalent	35	3,857	6.95	\$5	\$4	\$14	\$ 0.063
Incandescent, Halogen, or CFL Equivalent	24	3,857	6.95	\$5	\$2	\$17	\$ 0.063
Incandescent, Halogen, or CFL Equivalent	36	3,857	6.95	\$5	\$1	\$14	\$ 0.063

Stipulated Output								Economic Assumptions		Technical Assumption
Rebate as a % of Incremental Cost (%)	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost /Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)
32%	2.03	1.38	242	\$0.04	\$0.01	0.062	0.054	-\$0.11	\$0.00	77.5%
39%	2.05	1.26	239	\$0.05	\$0.01	0.062	0.053	-\$0.11	\$0.00	77.5%
25%	2.50	1.88	25	\$0.04	\$0.01	0.007	0.006	-\$0.01	\$0.00	77.5%
25%	1.51	1.13	45	\$0.02	\$0.00	0.005	0.006	\$0.00	\$0.00	100.0%
21%	1.33	1.05	114	\$0.02	\$0.01	0.029	0.025	-\$0.05	\$0.00	77.5%
25%	0.68	0.51	277	\$0.01	\$0.00	0.071	0.062	-\$0.13	\$0.00	77.5%
20%	0.44	0.35	550	\$0.01	\$0.00	0.142	0.123	-\$0.25	\$0.00	77.5%
23%	1.28	0.99	109	\$0.02	\$0.01	0.028	0.024	-\$0.05	\$0.00	77.5%
13%	0.78	0.67	309	\$0.01	\$0.00	0.080	0.069	-\$0.14	\$0.00	77.5%
11%	0.63	0.57	693	\$0.00	\$0.00	0.179	0.155	-\$0.31	\$0.00	77.5%
17%	2.80	2.33	67	\$0.03	\$0.01	0.017	0.015	-\$0.03	\$0.00	77.5%
51%	2.72	1.32	80	\$0.09	\$0.01	0.021	0.018	-\$0.04	\$0.00	77.5%
50%	2.69	1.34	118	\$0.08	\$0.01	0.031	0.026	-\$0.05	\$0.00	77.5%
47%	2.86	1.50	176	\$0.09	\$0.01	0.045	0.039	-\$0.08	\$0.00	77.5%
31%	5.77	3.98	44	\$0.11	\$0.02	0.011	0.010	\$0.00	\$0.00	77.5%
27%	3.12	2.30	95	\$0.05	\$0.01	0.025	0.021	\$0.00	\$0.00	77.5%
18%	2.99	2.46	149	\$0.03	\$0.00	0.039	0.033	\$0.00	\$0.00	77.5%
41%	1.49	0.87	128	\$0.04	\$0.01	0.033	0.029	\$0.00	\$0.00	77.5%
35%	2.27	1.48	198	\$0.05	\$0.01	0.051	0.044	\$0.00	\$0.00	77.5%
34%	2.64	1.75	177	\$0.06	\$0.01	0.046	0.040	\$0.00	\$0.00	77.5%
39%	2.67	1.63	76	\$0.07	\$0.01	0.020	0.017	\$0.00	\$0.00	77.5%
37%	2.06	1.30	104	\$0.05	\$0.01	0.027	0.023	\$0.00	\$0.00	77.5%
30%	4.26	2.97	61	\$0.08	\$0.01	0.016	0.014	\$0.00	\$0.00	77.5%
36%	1.93	1.24	114	\$0.04	\$0.01	0.029	0.025	\$0.00	\$0.00	77.5%

Program Forecast Inputs			Stipulated Forecast Inputs			Program Forecast Outputs				
2017						2017				
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)		
1	50	80%	100%	100%	2.157	10,467	\$500	\$1,545		
1	50	80%	100%	100%	2.136	10,365	\$600	\$1,545		
1	25	80%	100%	100%	0.114	551	\$25	\$100		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
1	10	80%	100%	100%	0.204	988	\$20	\$95		
1	10	80%	100%	100%	0.494	2,398	\$30	\$119		
1	5	80%	100%	100%	0.491	2,383	\$15	\$76		
2	5	80%	100%	100%	0.097	472	\$10	\$44		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
1	5	80%	100%	100%	0.059	289	\$10	\$59		
1	50	80%	100%	100%	0.712	3,457	\$350	\$682		
1	50	80%	100%	100%	1.056	5,125	\$500	\$1,000		
1	50	80%	100%	100%	1.570	7,620	\$750	\$1,582		
1	100	90%	100%	100%	0.893	4,314	\$500	\$1,617		
1	100	90%	100%	100%	1.918	9,273	\$500	\$1,883		
1	100	90%	100%	100%	3.000	14,502	\$500	\$2,817		
1	100	90%	100%	100%	2.574	12,442	\$500	\$1,205		
1	150	90%	100%	100%	5.995	28,978	\$1,500	\$4,279		
1	400	90%	100%	100%	14.278	69,017	\$4,000	\$11,847		
1	50	90%	100%	100%	0.765	3,698	\$250	\$641		
1	50	90%	100%	100%	1.048	5,068	\$250	\$678		
1	5	90%	100%	100%	0.062	299	\$25	\$83		
1	1	90%	100%	100%	0.023	111	\$5	\$14		

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs./yr.)
NM - Lighting Efficiency Rebate	LED Pedestrian Signals -9" (Walk/Don't Walk)	LED Pedestrian Walk Signal	8	4,380
NM - Lighting Efficiency Rebate	LED Pedestrian Signals -12" (Walk/Don't Walk)	LED Pedestrian Walk Signal	10	4,380
NM - Lighting Efficiency Rebate	LED Traffic Balls and Arrows - 12" Red	LED Traffic Light	11	4,380
NM - Lighting Efficiency Rebate	LED Traffic Balls and Arrows - 12" Green	LED Traffic Light	11	4,380
NM - Lighting Efficiency Rebate	LED Traffic Balls and Arrows - 8" Red	LED Traffic Light	10	4,380
NM - Lighting Efficiency Rebate	LED Traffic Balls and Arrows - 8" Green	LED Traffic Light	8	4,380
NM - Lighting Efficiency Rebate	Parking Garages 2 - 3 Lamp Fluorescent	High Efficiency Fluorescent T8 or T5 Systems	86	8,760
NM - Lighting Efficiency Rebate	High Bay Fluorescents 2-3L T5HO or 4L T8	High Bay Fluorescents with Electronic Ballasts	166	3,876
NM - Lighting Efficiency Rebate	High Bay Fluorescents 3L T8VHO, 4-6L T5HO, 6-8L T8	High Bay Fluorescents with Electronic Ballasts	303	3,876
NM - Lighting Efficiency Rebate	High Bay Fluorescents 6L T8VHO, 8L T5HO, 12-16L T8	High Bay Fluorescents with Electronic Ballasts	558	3,876
NM - Lighting Efficiency Rebate	High Bay Fluorescents 8L T8VHO, 10L T5HO, 18-20L T8	High Bay Fluorescents with Electronic Ballasts	763	3,876
NM - Lighting Efficiency Rebate	Wall mount occupancy sensor - 50 Watts to 300 Watts Controlled Load	Lighting Fixture with Occupancy Sensor	86	3,876
NM - Lighting Efficiency Rebate	Wall mount occupancy sensor - Greater than 300 Watts Controlled Load	Lighting Fixture with Occupancy Sensor	487	3,876
NM - Lighting Efficiency Rebate	Ceiling mount occupancy sensor - 50 Watts to 300 Watts Controlled Load	Lighting Fixture with Occupancy Sensor	157	3,876
NM - Lighting Efficiency Rebate	Ceiling mount occupancy sensor - Greater than 300 Watts Controlled Load	Lighting Fixture with Occupancy Sensor	487	3,876
NM - Lighting Efficiency Rebate	Occupancy Sensor - Photocell	Lighting Fixture with Photocell	182	3,876
NM - Lighting Efficiency Rebate	Stairwell Fixture with Integral Occupancy Sensor	Stairwell Lighting Fixture with Occupancy Sensor	6	8,760
NM - Lighting Efficiency Rebate	LED Interior Screw In Fixture Retrofit	LED Screw-In Fixture	22	3,876
NM - Lighting Efficiency Rebate	LED/LEC Exit Sign	LED Exit Sign	1	8,598
NM - Lighting Efficiency Rebate	LED Interior Fixture <= 25W	LED Downlight Fixture	22	3,876
NM - Lighting Efficiency Rebate	LED Interior Fixture 26W - 50W	LED Downlight Fixture	47	3,876
NM - Lighting Efficiency Rebate	LED Interior Fixture <= 25W (CFL baseline)	LED Downlight Fixture	26	3,876
NM - Lighting Efficiency Rebate	LED Interior Fixture 26-50W (CFL baseline)	LED Downlight Fixture	40	3,876
NM - Lighting Efficiency Rebate	LED Outdoor Canopy or Soffit lighting 25W - 60W	LED Canopy/Soffit Fixture	43	4,100
NM - Lighting Efficiency Rebate	LED Outdoor Canopy or Soffit lighting 61W - 150W	LED Canopy/Soffit Fixture	94	4,100
NM - Lighting Efficiency Rebate	LED Parking Garage lighting 25W - 60W	LED Parking Garage Fixture	41	8,760
NM - Lighting Efficiency Rebate	LED Parking Garage lighting 61W - 83W	LED Parking Garage Fixture	71	8,760

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions				Economic Assumptions			
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)
Incandescent Pedestrian Walk Signal	69	4,380	10.27	\$45	\$0	\$80	\$ 0.059
Incandescent Pedestrian Walk Signal	116	4,380	10.27	\$60	\$0	\$110	\$ 0.059
Incandescent Traffic Light	135	4,380	10.27	\$48	\$0	\$90	\$ 0.059
Incandescent Traffic Light	135	4,380	10.27	\$48	\$0	\$90	\$ 0.059
Incandescent Traffic Light	116	4,380	10.27	\$38	\$0	\$110	\$ 0.059
Incandescent Traffic Light	69	4,380	10.27	\$38	\$0	\$70	\$ 0.059
HID - HPS, PSMH, MV, MH	194	8,760	16.00	\$85	\$0	\$190	\$ 0.059
HID - HPS, PSMH, MV, MH	319	3,876	16.00	\$35	\$0	\$176	\$ 0.063
HID - HPS, PSMH, MV, MH	527	3,876	16.00	\$50	\$0	\$232	\$ 0.063
HID - HPS, PSMH, MV, MH	1,062	3,876	16.00	\$80	\$0	\$418	\$ 0.063
HID - HPS, PSMH, MV, MH	1,381	3,876	16.00	\$100	\$0	\$483	\$ 0.063
Lighting Fixture with Manual Switch	123	3,876	8.00	\$15	\$0	\$55	\$ 0.063
Lighting Fixture with Manual Switch	696	3,876	8.00	\$25	\$0	\$55	\$ 0.063
Lighting Fixture with Manual Switch	224	3,876	8.00	\$30	\$0	\$125	\$ 0.063
Lighting Fixture with Manual Switch	696	3,876	8.00	\$40	\$0	\$125	\$ 0.063
Lighting Fixture with Manual Switch	228	3,876	8.00	\$25	\$1	\$65	\$ 0.053
Stairwell Lighting Fixture	61	8,760	16.00	\$75	\$0	\$290	\$ 0.059
Incandescent Lamp	77	3,876	6.95	\$15	\$0	\$24	\$ 0.063
Incandescent Exit Sign	44	8,598	16.00	\$25	\$0	\$82	\$ 0.059
Incandescent	77	3,876	16.00	\$35	\$0	\$136	\$ 0.063
Incandescent	195	3,876	16.00	\$50	\$0	\$192	\$ 0.063
CFL fixture	65	3,876	16.00	\$25	\$0	\$89	\$ 0.063
CFL fixture	86	3,876	16.00	\$35	\$0	\$129	\$ 0.063
HID - HPS, MH, MV, PSMH	215	4,100	16.00	\$135	\$0	\$350	\$ 0.053
HID - HPS, MH, MV, PSMH	410	4,100	16.00	\$150	\$0	\$332	\$ 0.053
HID - HPS, MH, MV, PSMH	179	8,760	16.00	\$135	\$0	\$352	\$ 0.063
HID - HPS, MH, MV, PSMH	280	8,760	16.00	\$150	\$0	\$425	\$ 0.063

Stipulated Output								Economic Assumptions		Technical Assumption
Rebate as a % of Incremental Cost (%)	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost /Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)
56%	5.08	2.22	267	\$0.17	\$0.02	0.061	0.034	\$0.00	\$0.00	50.0%
55%	4.02	1.83	464	\$0.13	\$0.01	0.106	0.059	\$0.00	\$0.00	50.0%
53%	2.81	1.31	543	\$0.09	\$0.01	0.124	0.069	\$0.00	\$0.00	50.0%
53%	2.81	1.31	543	\$0.09	\$0.01	0.124	0.069	\$0.00	\$0.00	50.0%
35%	4.02	2.63	464	\$0.08	\$0.01	0.106	0.059	\$0.00	\$0.00	50.0%
54%	4.45	2.03	267	\$0.14	\$0.01	0.061	0.034	\$0.00	\$0.00	50.0%
45%	3.39	1.87	950	\$0.09	\$0.01	0.108	0.121	\$0.00	\$0.00	100.0%
20%	4.71	3.78	593	\$0.06	\$0.00	0.153	0.132	-\$0.27	\$0.00	77.5%
22%	4.25	3.33	870	\$0.06	\$0.00	0.224	0.194	-\$0.39	\$0.00	77.5%
19%	3.41	2.75	1,950	\$0.04	\$0.00	0.503	0.435	-\$0.88	\$0.00	77.5%
21%	3.20	2.54	2,396	\$0.04	\$0.00	0.618	0.535	-\$1.09	\$0.00	77.5%
27%	6.06	4.41	143	\$0.10	\$0.01	0.037	0.021	\$0.02	\$0.00	50.0%
45%	1.07	0.58	809	\$0.03	\$0.00	0.209	0.117	\$0.10	\$0.00	50.0%
24%	7.55	5.74	261	\$0.12	\$0.01	0.067	0.038	\$0.03	\$0.00	50.0%
32%	2.43	1.65	809	\$0.05	\$0.01	0.209	0.117	\$0.10	\$0.00	50.0%
38%	6.85	4.21	176	\$0.14	\$0.02	0.046	0.229	\$0.20	\$0.00	450.0%
26%	10.19	7.55	483	\$0.16	\$0.01	0.055	0.061	\$0.06	\$0.00	100.0%
63%	1.79	0.67	212	\$0.07	\$0.01	0.055	0.047	-\$0.10	\$0.00	77.5%
30%	3.86	2.69	363	\$0.07	\$0.00	0.042	0.047	-\$0.16	\$0.00	100.0%
26%	10.03	7.44	215	\$0.16	\$0.01	0.055	0.048	-\$0.10	\$0.00	77.5%
26%	5.33	3.94	573	\$0.09	\$0.01	0.148	0.128	-\$0.26	\$0.00	77.5%
28%	9.19	6.60	153	\$0.16	\$0.01	0.039	0.034	\$0.00	-\$0.07	77.5%
27%	11.58	8.45	178	\$0.20	\$0.01	0.046	0.040	\$0.00	-\$0.08	77.5%
39%	9.43	5.80	705	\$0.19	\$0.01	0.172	0.000	\$0.00	\$0.00	0.0%
45%	4.86	2.66	1,297	\$0.12	\$0.01	0.316	0.000	\$0.00	\$0.00	0.0%
38%	4.59	2.83	1,208	\$0.11	\$0.01	0.138	0.154	\$0.00	\$0.00	100.0%
35%	3.66	2.37	1,829	\$0.08	\$0.01	0.209	0.233	\$0.00	\$0.00	100.0%

Program Forecast Inputs			Stipulated Forecast Inputs			Program Forecast Outputs				
2017						2017				
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
2	50	80%	100%	100%	5.295	25,693	\$1,750	\$8,794		
2	50	80%	100%	100%	7.767	37,687	\$2,500	\$11,618		
3	5	80%	100%	100%	1.742	8,452	\$400	\$2,090		
1	5	80%	100%	100%	2.140	10,383	\$500	\$2,415		
2	5	80%	100%	100%	0.082	619	\$75	\$275		
2	10	80%	100%	100%	0.932	7,015	\$250	\$550		
2	10	80%	100%	100%	0.300	2,259	\$300	\$1,250		
2	5	80%	100%	100%	0.466	3,508	\$200	\$625		
2	10	80%	100%	100%	1.828	1,529	\$250	\$650		
2	10	80%	100%	100%	0.492	4,184	\$750	\$2,901		
2	20	80%	100%	100%	0.758	3,677	\$300	\$479		
1	10	80%	100%	100%	0.377	3,148	\$250	\$820		
1	5	80%	100%	100%	0.192	932	\$175	\$678		
1	5	80%	100%	100%	0.512	2,484	\$250	\$960		
2	20	80%	100%	100%	0.547	2,654	\$500	\$1,771		
3	20	80%	100%	100%	0.635	3,081	\$700	\$2,590		
1	10	80%	100%	100%	0.000	6,114	\$1,350	\$3,502		
1	10	80%	100%	100%	0.000	11,245	\$1,500	\$3,317		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs./yr.)
NM - Lighting Efficiency Rebate	LED Exterior Wall Pack <= 25W	LED Wall Pack Fixture	19	4,100
NM - Lighting Efficiency Rebate	LED Exterior Wall Pack 26W - 60W	LED Wall Pack Fixture	44	4,100
NM - Lighting Efficiency Rebate	LED Exterior Wall Pack 61W - 150W	LED Wall Pack Fixture	101	4,100
NM - Lighting Efficiency Rebate	LED Parking Garage Wall Pack <= 25W	LED Parking Garage Fixture	18	8,760
NM - Lighting Efficiency Rebate	LED Parking Garage Wall Pack 26W - 60W	LED Parking Garage Fixture	44	8,760
NM - Lighting Efficiency Rebate	LED Parking Garage Wall Pack 61W - 150W	LED Parking Garage Fixture	94	8,760
NM - Lighting Efficiency Rebate	LED Ref and Frz Cases 5' or 6' doors	LED Strip Lighting	41	8,760
NM - Lighting Efficiency Rebate	LED Troffer Retrofit	LED Troffer Fixture - Retrofit Kit	51	3,876
NM - Lighting Efficiency Rebate	LED Troffer Fixture	LED Troffer Fixture	56	3,876
NM - Lighting Efficiency Rebate	T12 LED Troffer Retrofit	LED Troffer T12 Fixture - Retrofit Kit	48	3,876
NM - Lighting Efficiency Rebate	T12 LED Troffer Fixture	LED Troffer T12 Fixture	53	3,876
NM - Lighting Efficiency Rebate	LED PL/G based CFL Replacement lamp	LED Plug In Lamp	21	3,876
NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 70W HID replacement lamp	LED High Bay Replacement Lamp	73	3,876
NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 100W HID replacement lamp	LED High Bay Replacement Lamp	88	3,876
NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 175W HID replacement lamp	LED High Bay Replacement Lamp	127	3,876
NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 250W HID replacement lamp	LED High Bay Replacement Lamp	184	3,876
NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 320W HID replacement lamp	LED High Bay Replacement Lamp	232	3,876
NM - Lighting Efficiency Rebate	LED Screw-in Lamps, 400W HID replacement lamp	LED High Bay Replacement Lamp	310	3,876
NM - Lighting Efficiency Rebate	LED High-Bay Luminaires	LED High Bay 95-189W	181	3,876
NM - Lighting Efficiency Rebate	LED High-Bay Luminaires	LED High Bay 190-290W	296	3,876
NM - Lighting Efficiency Rebate	LED High-Bay Luminaires	LED High Bay 291-464W	480	3,876
NM - Lighting Efficiency Rebate	LED High-Bay Luminaires	LED High Bay 465-625W	694	3,876
NM - Lighting Efficiency Rebate	LED Area Lighting - 150W MH Replacement Fixture	LED Area Light	52	4,100
NM - Lighting Efficiency Rebate	LED Area Lighting - 175W MH Replacement Fixture	LED Area Light	52	4,100
NM - Lighting Efficiency Rebate	LED Area Lighting - 250W MH Replacement Fixture	LED Area Light	85	4,100
NM - Lighting Efficiency Rebate	LED Area Lighting - 400W MH Replacement Fixture	LED Area Light	130	4,100
NM - Lighting Efficiency Rebate	Area Lighting 141-199W	LED Parking Area Fixture	170	4,100
NM - Lighting Efficiency Rebate	Area Lighting 200-550W	LED Parking Area Fixture	375	4,100
NM - Lighting Efficiency Rebate	LED Tube Type A 4 foot	LED 4 Foot Tube Instafit	19	3,876
NM - Lighting Efficiency Rebate	LED Tube Type C 4 foot	LED 4 Foot Tube External Driver Retrofit Kits	23	3,876

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions					Economic Assumptions				
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)		
HID Wall Pack Fixture	108	4,100	16.00	\$35	\$0	\$251	\$	0.053	
HID Wall Pack Fixture	218	4,100	16.00	\$75	\$0	\$326	\$	0.053	
HID Wall Pack Fixture	416	4,100	16.00	\$100	\$0	\$496	\$	0.053	
HID Wall Pack Fixture	99	8,760	16.00	\$35	\$0	\$279	\$	0.059	
HID Wall Pack Fixture	219	8,760	16.00	\$75	\$0	\$378	\$	0.059	
HID Wall Pack Fixture	410	8,760	16.00	\$100	\$0	\$576	\$	0.059	
T8 or T12 Fluorescent	113	8,760	16.00	\$50	\$0	\$164	\$	0.059	
Fluorescent Fixture	103	3,876	16.00	\$30	\$0	\$215	\$	0.063	
Fluorescent Fixture	109	3,876	16.00	\$50	\$0	\$234	\$	0.063	
Fluorescent Fixture	90	3,876	16.00	\$30	\$51	\$159	\$	0.063	
Fluorescent Fixture	92	3,876	16.00	\$50	\$50	\$182	\$	0.063	
CFL lamp	47	3,876	12.00	\$7	\$1	\$20	\$	0.063	
<=70W HID Fixture	109	3,876	12.33	\$30	\$8	\$118	\$	0.063	
<=100W HID Fixture	159	3,876	12.33	\$30	\$10	\$115	\$	0.063	
<=175W HID Fixture	258	3,876	12.33	\$50	\$11	\$158	\$	0.063	
<=250W HID Fixture	365	3,876	12.33	\$60	\$10	\$211	\$	0.063	
<=320W HID Fixture	468	3,876	12.33	\$75	\$14	\$238	\$	0.063	
<=400W HID Fixture	580	3,876	12.33	\$75	\$10	\$242	\$	0.063	
HID Fixture <= 250W	323	3,876	16.00	\$135	\$0	\$405	\$	0.063	
HID Fixture <= 400W	537	3,876	16.00	\$150	\$0	\$664	\$	0.063	
HID Fixture <= 750W	1,062	3,876	16.00	\$200	\$0	\$1,080	\$	0.063	
HID Fixture <= 1000W	1,383	3,876	16.00	\$250	\$0	\$1,560	\$	0.063	
Metal Halide Fixture	185	4,100	16.00	\$125	\$0	\$458	\$	0.053	
Metal Halide Fixture	210	4,100	16.00	\$125	\$0	\$458	\$	0.053	
Metal Halide Fixture	295	4,100	16.00	\$150	\$0	\$538	\$	0.053	
Metal Halide Fixture	456	4,100	16.00	\$175	\$0	\$649	\$	0.053	
750W MH Fixture	850	4,100	16.00	\$200	\$0	\$747	\$	0.053	
1000W MH Fixture	1,080	4,100	16.00	\$250	\$52	\$1,198	\$	0.053	
Fluorescent Lamps	36	3,876	12.82	\$4	\$3	\$27	\$	0.063	
Fluorescent Lamps	44	3,876	16.00	\$10	\$0	\$64	\$	0.063	

Stipulated Output											Economic Assumptions		Technical Assumption
Rebate as a % of Incremental Cost (%)	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost /Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)			
14%	13.10	11.27	364	\$0.10	\$0.01	0.089	0.000	\$0.00	\$0.00	0.0%			
23%	8.67	6.67	714	\$0.11	\$0.01	0.174	0.000	\$0.00	\$0.00	0.0%			
20%	7.29	5.82	1,293	\$0.08	\$0.00	0.315	0.000	\$0.00	\$0.00	0.0%			
13%	6.67	5.83	710	\$0.05	\$0.00	0.081	0.090	\$0.00	\$0.00	100.0%			
20%	4.19	3.36	1,530	\$0.05	\$0.00	0.175	0.195	\$0.00	\$0.00	100.0%			
17%	3.53	2.92	2,774	\$0.04	\$0.00	0.317	0.353	\$0.00	\$0.00	100.0%			
31%	4.44	3.08	627	\$0.08	\$0.00	0.072	0.080	\$0.00	\$0.00	100.0%			
14%	17.22	14.82	199	\$0.15	\$0.01	0.051	0.044	-\$0.09	\$0.00	77.5%			
21%	17.68	13.90	208	\$0.24	\$0.02	0.054	0.046	\$0.04	\$0.00	77.5%			
19%	15.35	12.45	163	\$0.18	\$0.01	0.042	0.036	\$0.03	\$0.00	77.5%			
28%	19.07	13.83	150	\$0.33	\$0.02	0.039	0.033	\$0.03	\$0.00	77.5%			
35%	3.13	2.03	101	\$0.07	\$0.01	0.026	0.023	\$0.00	-\$0.05	77.5%			
26%	13.25	9.87	140	\$0.21	\$0.02	0.036	0.031	\$0.03	\$0.00	77.5%			
26%	6.64	4.91	273	\$0.11	\$0.01	0.070	0.061	\$0.05	\$0.00	77.5%			
32%	4.85	3.31	511	\$0.10	\$0.01	0.132	0.114	\$0.10	\$0.00	77.5%			
28%	4.72	3.38	702	\$0.09	\$0.01	0.181	0.157	\$0.14	\$0.00	77.5%			
31%	4.09	2.80	915	\$0.08	\$0.01	0.236	0.204	\$0.18	\$0.00	77.5%			
31%	3.64	2.51	1,047	\$0.07	\$0.01	0.270	0.234	\$0.21	\$0.00	77.5%			
33%	11.68	7.78	551	\$0.24	\$0.02	0.142	0.123	\$0.00	-\$0.25	77.5%			
23%	11.31	8.76	933	\$0.16	\$0.01	0.241	0.208	\$0.00	-\$0.42	77.5%			
19%	7.62	6.21	2,252	\$0.09	\$0.01	0.581	0.503	\$0.00	-\$1.02	77.5%			
16%	9.28	7.79	2,672	\$0.09	\$0.01	0.689	0.597	\$0.00	-\$1.21	77.5%			
27%	15.94	11.58	545	\$0.23	\$0.01	0.133	0.000	\$0.00	\$0.00	0.0%			
27%	13.42	9.75	648	\$0.19	\$0.01	0.158	0.000	\$0.00	\$0.00	0.0%			
28%	11.86	8.55	862	\$0.17	\$0.01	0.210	0.000	\$0.00	\$0.00	0.0%			
27%	9.22	6.73	1,337	\$0.13	\$0.01	0.326	0.000	\$0.00	\$0.00	0.0%			
27%	5.09	3.73	2,788	\$0.07	\$0.00	0.680	0.000	\$0.00	\$0.00	0.0%			
21%	7.87	6.23	2,891	\$0.09	\$0.01	0.705	0.000	\$0.00	\$0.00	0.0%			
15%	6.27	5.34	68	\$0.06	\$0.00	0.018	0.015	\$0.00	-\$0.03	77.5%			
16%	12.57	10.62	81	\$0.12	\$0.01	0.021	0.018	\$0.00	-\$0.04	77.5%			

Program Forecast Inputs			Stipulated Forecast Inputs			Program Forecast Outputs				
2017						2017				
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)		
1	10	80%	100%	100%	0.000	3,152	\$350	\$2,507		
1	10	80%	100%	100%	0.000	6,188	\$750	\$3,257		
1	10	80%	100%	100%	0.000	11,206	\$1,000	\$4,961		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
0	0	80%	100%	100%	0.000	0	\$0	\$0		
1	50	80%	100%	100%	3.195	27,166	\$2,500	\$8,188		
1	50	80%	100%	100%	1.773	8,604	\$1,500	\$10,756		
1	50	80%	100%	100%	1.856	9,006	\$2,500	\$11,682		
1	50	80%	100%	100%	1.452	7,047	\$1,500	\$7,936		
1	50	80%	100%	100%	1.339	6,497	\$2,500	\$9,090		
5	50	80%	100%	100%	0.903	4,380	\$350	\$994		
1	5	80%	100%	100%	0.125	605	\$150	\$588		
1	5	80%	100%	100%	0.244	1,182	\$150	\$576		
1	5	80%	100%	100%	0.456	2,213	\$250	\$788		
1	5	80%	100%	100%	0.627	3,041	\$300	\$1,054		
1	5	80%	100%	100%	0.817	3,966	\$375	\$1,191		
1	5	80%	100%	100%	0.935	4,536	\$375	\$1,211		
2	50	80%	100%	100%	4.923	23,886	\$6,750	\$20,247		
2	50	80%	100%	100%	8.330	40,422	\$7,500	\$33,205		
1	30	80%	100%	100%	12.069	58,564	\$6,000	\$32,401		
1	5	80%	100%	100%	2.387	11,581	\$1,250	\$7,802		
1	25	80%	100%	100%	0.000	11,816	\$3,125	\$11,439		
1	25	80%	100%	100%	0.000	14,037	\$3,125	\$11,439		
1	30	80%	100%	100%	0.000	22,411	\$4,500	\$16,142		
1	30	80%	100%	100%	0.000	34,754	\$5,250	\$19,463		
1	25	80%	100%	100%	0.000	60,412	\$5,000	\$18,670		
1	25	80%	100%	100%	0.000	62,633	\$6,250	\$29,941		
3	300	80%	100%	100%	3.666	17,788	\$1,200	\$8,093		
3	300	80%	100%	100%	4.362	21,167	\$3,000	\$19,320		

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs./yr.)
NM - Lighting Efficiency Rebate	Restroom Aerator	0.5 GPM Bathroom Faucet Aerator in facility with electric DHW heater	4,500	66
NM - Lighting Efficiency Rebate	Pre-rinse Sprayer	1.25 GPM Pre-rinse Sprayer in a Restaurant with electric DHW heater	4,500	2,352
NM - Lighting Efficiency Rebate	Kitchen Aerator	1.5 GPM Kitchen Faucet Aerator in a kitchen with electric DHW heater	4,500	135
NM - Lighting Efficiency Rebate	Lighting Control Systems	Lighting Control System	0	8,760
NM - Lighting Efficiency New Construction	New Construction - Lighting Power Density	Savings in addition to Code Maximum LPD	21,797	3,630
NM - Lighting Efficiency New Construction	LED Refrigerated Cases - New Construction	LED Strip lighting	41	8,760
NM - Lighting Redesign Implementation	Lighting Redesign Implementation	High Efficiency Product Description / Rating	52,601	5,055
NM - Lighting Redesign Study	Lighting Redesign Study	0	0	0
NM - Motors and Drives - Prescriptive	New Motor Enhanced	NEMA Premium +1% Efficient Motor	1,383	2,906
NM - Motors and Drives - Prescriptive	Upgrade Motor Enhanced	NEMA Premium +1% Efficient Motor	1,314	3,278
NM - Motors and Drives - Prescriptive	Non-HVAC VFD	Equipment coupled with an ASD/VFD	6,296	4,986
NM - Motors and Drives - Prescriptive	HVAC VFD	Equipment coupled with an ASD/VFD	4,819	8,542
NM - Motors and Drives - Prescriptive	Water Well Pump VFD's	VFD Well Pump	60,222	2,653
NM - Motors and Drives - Prescriptive	Constant Speed Motor Controller	Motor with Voltage Controller	4,435	4,881
NM - Motors and Drives - Prescriptive	Pump Off Controllers	Pump Off Controllers	210	6,132
NM - Compressed Air Prescriptive	No Air Loss Drain	New No-Air Loss Drains	0	6,996
NM - Compressed Air Prescriptive	VFD Air Compressor New	VFD Compressor New	13,383	2,830
NM - Compressed Air Prescriptive	VFD Air Compressor Upgrade	VFD Compressor New	11,728	2,655
NM - Compressed Air Prescriptive	Cycling Dryers	New Cycling Dryer	1,117	6,937
NM - Compressed Air Prescriptive	Dew Point Demand Control	Purge Control for Heatless Desiccant Dryers	33,609	6,828
NM - Compressed Air Prescriptive	Mist Eliminator Filters	New Mist Eliminator Filter	77,735	7,280
NM - Small Building Tune-Up Study - E	Small Building Tune-up Study	Existing systems studied for opportunities	181,881	4,856
NM - Small Building Tune-Up Measure - E	Small Building Tune-up Measure	Implemented Recommissioning measures	170,059	4,856

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions				Economic Assumptions			
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)
2.2 GPM Bath Faucet Aerator	4,500	279	10.00	\$10	\$0	\$10	\$ 0.060
2.25 GPM Pre-rinse Sprayer	4,500	3,975	5.00	\$130	\$0	\$130	\$ 0.060
2.2 GPM Kitchen Faucet Aerator	4,500	198	10.00	\$7	\$0	\$7	\$ 0.060
Manual Lighting Controls	10,115	8,760	15.00	\$5,917	\$0	\$16,633	\$ 0.060
Code Maximum LPD	50,830	3,630	15.00	\$13,977	\$0	\$41,803	\$ 0.063
T8 or T12 Fluorescent	113	8,760	16.00	\$70	\$38	\$145	\$ 0.059
Excessive Light Levels	101,391	5,055	15.00	\$6,895	\$0	\$96,424	\$ 0.063
0	0	0	0.00	\$3,200	\$0	\$18,800	\$ 0.063
NEMA Premium	1,399	2,906	20.00	\$43	\$682	\$150	\$ 0.067
EPACT Efficient Motor	1,371	3,278	20.00	\$124	\$0	\$827	\$ 0.067
Equipment without an ASD/VFD	10,668	4,986	15.00	\$2,078	\$0	\$4,501	\$ 0.067
Equipment without an ASD/VFD	7,328	8,542	15.00	\$1,550	\$0	\$2,888	\$ 0.067
Throttled Well Pump	85,155	2,653	15.00	\$7,900	\$0	\$17,965	\$ 0.067
Motor without Voltage Controller	5,252	4,881	18.00	\$325	\$0	\$1,104	\$ 0.067
% Clock Off Controller	2,283	6,132	13.00	\$3,000	\$0	\$5,959	\$ 0.067
New Electronic Solenoid/Timed Drains	517	6,996	13.00	\$200	\$125	\$448	\$ 0.061
New Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	19,165	2,830	20.00	\$2,500	\$10,767	\$4,730	\$ 0.061
Existing Modulation or load no-load with less than or equal to 2gal of storage per CFM of Capacity	17,114	2,655	20.00	\$5,188	\$0	\$15,754	\$ 0.061
New Non-Cycling Dryer	1,853	6,937	20.00	\$371	\$4,439	\$832	\$ 0.061
No Purge Control for Heatless Desiccant Dryers	38,337	6,828	15.00	\$1,000	\$0	\$3,316	\$ 0.061
New General Purpose Filter	79,019	7,280	15.00	\$1,980	\$1,280	\$4,327	\$ 0.061
Existing systems	181,881	4,856	7.00	\$7,000	\$0	\$8,000	
Existing systems	181,881	4,856	7.00	\$601	\$0	\$2,721	

Stipulated Output											Economic Assumptions		Technical Assumption
Rebate as a % of Incremental Cost (%)	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost /Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)			
100%	0.10	0.00	960	\$0.01	\$0.00	0.000	0.000	\$38.50	\$0.00	0.0%			
100%	0.20	0.00	7,301	\$0.02	\$0.00	0.000	0.000	\$226.16	\$0.00	0.0%			
100%	0.24	0.00	284	\$0.02	\$0.00	0.000	0.000	\$11.38	\$0.00	0.0%			
36%	2.92	1.88	88,613	\$0.07	\$0.00	10.115	0.000	\$415.67	\$0.00	0.0%			
33%	6.68	4.44	105,404	\$0.13	\$0.01	29.034	25.653	\$0.00	-\$418.18	79.2%			
48%	3.92	2.02	627	\$0.11	\$0.01	0.072	0.080	\$0.00	\$0.00	100.0%			
7%	6.21	5.77	246,648	\$0.03	\$0.00	48.790	42.227	\$0.00	-\$106.84	77.5%			
17%	0.00	0.00	0	\$0.00	\$0.00	0.000	0.000	\$0.00	\$0.00	0.0%			
28%	48.82	34.92	46	\$0.93	\$0.05	0.016	0.014	\$0.00	\$0.00	78.0%			
15%	67.24	57.15	184	\$0.67	\$0.03	0.056	0.049	\$0.00	\$0.00	78.0%			
46%	3.07	1.65	21,801	\$0.10	\$0.01	4.372	3.806	\$0.00	\$0.00	78.0%			
54%	2.00	0.93	21,434	\$0.07	\$0.00	2.509	2.800	\$0.00	\$0.00	100.0%			
44%	4.04	2.26	66,143	\$0.12	\$0.01	24.933	10.588	\$0.00	\$0.00	38.1%			
29%	4.12	2.91	3,986	\$0.08	\$0.00	0.817	0.640	\$0.00	\$0.00	70.2%			
50%	6.97	3.46	12,713	\$0.24	\$0.02	2.073	1.729	\$0.00	\$0.00	74.7%			
45%	2.02	1.12	3,616	\$0.06	\$0.00	0.517	0.419	\$0.00	\$0.00	72.6%			
53%	4.71	2.22	16,359	\$0.15	\$0.01	5.782	5.730	\$0.00	\$0.00	88.8%			
33%	17.95	12.04	14,300	\$0.36	\$0.02	5.386	5.338	\$0.00	\$0.00	88.8%			
45%	2.65	1.47	5,111	\$0.07	\$0.00	0.737	0.822	\$0.00	\$0.00	100.0%			
30%	1.67	1.17	32,281	\$0.03	\$0.00	4.728	5.277	\$0.00	\$0.00	100.0%			
46%	6.83	3.70	9,348	\$0.21	\$0.01	1.284	1.433	\$60.05	\$0.00	100.0%			
88%	0.00	0.00	0	\$0.00	\$0.00	0.000	0.000	\$0.00	\$0.00	56.7%			
22%	0.00	0.00	57,413	\$0.01	\$0.00	11.822	7.487	\$0.00	\$0.00	56.7%			

Program Forecast Inputs			Stipulated Forecast Inputs			Program Forecast Outputs			
2017						2017			
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)	
50	250	90%	100%	100%	0.000	234,035	\$2,500	\$2,500	
10	10	90%	100%	100%	0.000	71,187	\$1,300	\$1,300	
10	10	90%	100%	100%	0.000	2,768	\$67	\$67	
1	2	80%	100%	100%	0.000	153,608	\$11,833	\$33,267	
1	5	80%	100%	100%	102.613	456,790	\$69,885	\$209,017	
1	2	80%	100%	100%	0.128	1,087	\$140	\$289	
1	1	80%	100%	100%	33.781	213,779	\$6,895	\$96,424	
1	1	80%	100%	100%	0.000	0	\$3,200	\$18,800	
12	15	80%	100%	100%	0.165	598	\$641	\$2,252	
27	28	80%	100%	100%	1.094	4,464	\$3,475	\$23,149	
18	55	80%	100%	100%	167.468	1,039,260	\$114,284	\$247,556	
8	25	80%	100%	100%	56.006	464,433	\$38,760	\$72,207	
2	3	80%	100%	100%	25.411	171,985	\$23,700	\$53,896	
1	13	80%	100%	100%	6.655	44,914	\$4,222	\$14,356	
1	4	80%	100%	100%	5.532	44,075	\$12,000	\$23,836	
5	5	80%	100%	100%	1.675	15,671	\$1,000	\$2,240	
4	4	80%	100%	100%	18.336	56,715	\$10,000	\$18,920	
8	8	80%	100%	100%	34.164	99,152	\$41,500	\$126,036	
1	1	80%	100%	100%	0.658	4,430	\$371	\$832	
1	1	80%	100%	100%	4.221	27,979	\$1,000	\$3,316	
1	1	80%	100%	100%	1.146	8,102	\$1,980	\$4,327	
2	4	90%	100%	100%	0.000	0	\$28,000	\$32,000	
3	5	90%	100%	100%	33.694	279,912	\$3,007	\$13,604	

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs./yr.)
NM - Interrupted Rates - Prescriptive	Program offers significant savings opportunities and flexibility for New Mexico business that can reduce their electric demand when notified.	Utility load control for control period	0	0
NM - Residential Cooling	Standard Evaporative Cooling	Evaporative Cooler 85% effective	800	1,622
NM - Residential Cooling	EC Motor Furnace Fan in house without central AC	EC Motor Furnace Fan	153	7,968
NM - Residential Cooling	EC Motor Furnace Fan in house with central AC	EC Motor Furnace Fan	153	8,754
NM - Residential Cooling	High Efficiency Air Conditioning (HEAC)	2014 Average Participant High Efficiency Air Conditioner	3,087	2,006
NM - Residential Cooling	HEAC Quality Install	2014 Average Participant High Efficiency Air Conditioner with Quality Install	2,437	960
NM - Residential Cooling	Air Source Heat Pump (ASHP)	Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,911	2,733
NM - Residential Cooling	ASHP Quality Install	Quality Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,295	1,481
NM - Residential Cooling	Mini-Split Heat Pump	MSHP size 1.2 tons, 21.27 SEER, 11.50 HSPF	1,088	2,726
Home Lighting & Recycling	CFL Sales	Average CFL Bulb Purchased by Customer	14	1,012
Home Lighting & Recycling	CFL Low Income	Average CFL Bulb Purchased by Customer	14	818
Home Lighting & Recycling	LED Sales	Average LED Bulb Purchased by Customer	10	1,012
Home Lighting & Recycling	LED Giveaways	LED Bulb	12	818
Home Lighting & Recycling	Value LED	Average Value LED Bulb Purchased by Customer	10	1,012
HES AC	HEAC	2014 Average Participant High Efficiency Air Conditioner	3,087	2,006
HES AC	HEAC Quality Install	2014 Average Participant High Efficiency Air Conditioner with Quality Install	2,437	960
HES General	Low Flow Showerheads	Low Flow Shower head - 1.5 GPM	2,444	717
HES Evaps	Evap Cooling	Evaporative Cooler 85% effective	800	1,622
HES Radiant Barriers	Radiant Barriers	Average 1,850 sq. ft. house with Radiant Barrier	2,539	5,424
HES AC	ASHP	Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,911	2,733

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions			Economic Assumptions				
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)
No Control	500,000	7	3.00	\$0	\$0	\$0	
13 SEER AC Split System	3,180	1,456	15.00	\$700	\$2,587	\$0	\$ 0.093
PSC Motor Furnace Fan	307	7,968	18.00	\$100	\$0	\$464	\$ 0.091
PSC Motor Furnace Fan	307	8,754	18.00	\$100	\$0	\$464	\$ 0.091
Average 14 SEER Baseline Efficiency Air Conditioner	3,453	2,006	15.00	\$124	\$4,484	\$1,474	\$ 0.095
2014 Average Participant High Efficiency Air Conditioner	3,087	960	8.00	\$0	\$0	\$250	\$ 0.095
Installation of New Air Source Heat Pump (3T, SEER 14, HSPF 8)	3,061	2,733	18.00	\$79	\$5,700	\$510	\$ 0.095
Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,927	1,481	9.00	\$0	\$0	\$250	\$ 0.095
MSHP size 1.2 tons, 14 SEER, 8.2 HSPF	1,647	2,726	18.00	\$178	\$3,440	\$512	\$ 0.095
Average incandescent bulb being replaced	47	1,012	5.17	\$1	\$2	\$1	\$ 0.090
Average incandescent bulb being replaced	47	818	6.40	\$1	\$2	\$1	\$ 0.090
Average incandescent bulb being replaced	44	1,012	19.77	\$3	\$2	\$7	\$ 0.090
Incandescent bulb being replaced	53	818	20.00	\$6	\$2	\$7	\$ 0.090
Average EISA Standard halogen A-Style Bulb	43	1,012	9.88	\$2	\$2	\$2	\$ 0.090
Average 14 SEER Baseline Efficiency Air Conditioner	3,453	2,006	15.00	\$124	\$4,484	\$1,474	\$ 0.095
2014 Average Participant High Efficiency Air Conditioner	3,087	960	8.00	\$0	\$0	\$250	\$ 0.095
Federal Minimum Standard flow rate 2.5 GPM	2,444	826	10.00	\$3	\$0	\$3	\$ 0.090
13 SEER AC Split System	3,180	1,456	15.00	\$700	\$2,587	\$0	\$ 0.093
Average 1,850 sqft house without Radiant Barrier	2,684	5,424	20.00	\$229	\$0	\$1,573	\$ 0.095
Installation of New Air Source Heat Pump (3T, SEER 14, HSPF 8)	3,061	2,733	18.00	\$79	\$5,700	\$510	\$ 0.095

Rebate as a % of Incremental Cost (%)	Stipulated Output							Economic Assumptions		Technical Assumption
	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost / Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	
0%	0.00	0.00	3,500	\$0.00	\$0.00	500.000	440.402	\$0.00	\$0.00	78.9%
0%	0.00	-2.32	3,332	\$0.21	\$0.01	2,380	2,840	-\$7.29	\$0.00	100.0%
22%	4.18	3.28	1,227	\$0.08	\$0.00	0.154	0.102	\$0.00	\$0.00	55.6%
22%	3.80	2.98	1,348	\$0.07	\$0.00	0.154	0.151	\$0.00	\$0.00	82.4%
8%	21.04	19.27	735	\$0.17	\$0.01	0.366	0.437	\$0.00	\$0.00	100.0%
0%	4.20	4.20	624	\$0.00	\$0.00	0.650	0.776	\$0.00	\$0.00	100.0%
15%	13.05	11.03	410	\$0.19	\$0.01	0.150	0.136	\$0.00	\$0.00	76.0%
0%	2.80	2.80	936	\$0.00	\$0.00	0.632	0.573	\$0.00	\$0.00	76.0%
35%	3.53	2.30	1,524	\$0.12	\$0.01	0.559	0.507	\$0.00	\$0.00	76.0%
177%	0.23	-0.18	33	\$0.04	\$0.01	0.032	0.006	\$0.00	\$0.00	14.5%
177%	0.28	-0.22	26	\$0.05	\$0.01	0.032	0.004	\$0.00	\$0.00	10.2%
46%	2.11	1.15	34	\$0.09	\$0.00	0.034	0.006	\$0.00	\$0.00	14.5%
84%	2.17	0.35	34	\$0.16	\$0.01	0.041	0.005	\$0.00	\$0.00	10.2%
109%	0.60	-0.05	34	\$0.06	\$0.01	0.033	0.006	\$0.00	\$0.00	14.5%
8%	21.04	19.27	735	\$0.17	\$0.01	0.366	0.437	\$0.00	\$0.00	100.0%
0%	4.20	4.20	624	\$0.00	\$0.00	0.650	0.776	\$0.00	\$0.00	100.0%
100%	0.08	0.00	267	\$0.01	\$0.00	0.000	0.000	\$15.53	\$0.00	0.0%
0%	0.00	-2.32	3,332	\$0.21	\$0.01	2,380	2,840	-\$7.29	\$0.00	100.0%
15%	21.05	17.98	784	\$0.29	\$0.01	0.145	0.172	\$0.00	\$0.00	100.0%
15%	13.05	11.03	410	\$0.19	\$0.01	0.150	0.136	\$0.00	\$0.00	76.0%

Program Forecast Inputs			Stipulated Forecast Inputs			Program Forecast Outputs				
2017						2017				
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)		
2	2	100%	100%	100%	880.804	7,584	\$0	\$0		
20	0	67%	100%	100%	0.000	0	\$0	\$0		
22	35	100%	100%	100%	3.575	48,690	\$3,500	\$16,252		
106	150	100%	100%	100%	22.721	229,260	\$15,000	\$69,650		
19	30	100%	100%	100%	13.114	24,998	\$3,715	\$44,209		
19	30	100%	100%	100%	23.265	21,227	\$0	\$7,500		
17	30	100%	100%	100%	4.081	13,946	\$2,370	\$15,300		
17	30	100%	100%	100%	17.189	31,835	\$0	\$7,500		
30	40	100%	100%	100%	20.277	69,109	\$7,132	\$20,494		
25,000	100,000	70%	96%	100%	376.854	2,496,009	\$120,000	\$67,943		
0	0	100%	96%	100%	0.000	0	\$0	\$0		
30,000	30,000	80%	100%	100%	141.331	936,075	\$90,000	\$196,770		
48,000	96,000	80%	90%	99%	339.803	2,595,512	\$528,000	\$629,665		
85,000	170,000	80%	100%	100%	785.622	5,203,389	\$340,000	\$312,437		
37	60	93%	100%	100%	24.392	46,497	\$7,431	\$88,418		
37	60	93%	100%	100%	43.274	39,482	\$0	\$15,000		
30	29	93%	100%	100%	0.000	8,151	\$93	\$93		
5	5	93%	100%	100%	13.206	17,567	\$3,500	\$0		
0	0	93%	100%	100%	0.000	0	\$0	\$0		
55	70	93%	100%	100%	8.856	30,262	\$5,530	\$35,700		

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs./yr.)
HES AC	ASHP Quality Install	Quality Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,295	1,481
HES Ceiling	Ceiling Insulation - Gas Heat	2014 Average Participant R30, 1,573 sq. ft.	3,282	902
HES Ceiling	Ceiling Insulation - Electric Heat	2014 Average Participant R30, 1,700 sq. ft.	3,357	17,529
HES Duct Leakage	Duct Leakage - Gas Heat	2014 Average Participant 108 CFM25 1,738 sq. ft.	3,048	1,355
HES Duct Leakage	Duct Leakage - Electric Heat	2014 Average Participant 103 CFM25 1,787 sq. ft.	3,074	12,538
HES General	Programmable Thermostats	Programmable Thermostat	2,608	5,424
HES Infiltration	Air Infiltration - Gas Heat	2014 Average Participant 1,975 CFM50 1,878 sq. ft.	3,443	1,355
HES Infiltration	Air Infiltration - Electric Heat	2014 Average Participant 1,927 CFM50 1,875 sq. ft.	3,455	13,143
Smart Thermostat	Smart Thermostat - EE Only, Total	New Smart Thermostat	3,463	2,285
Smart Thermostat	Smart Thermostat - DR Only	Utility Load Control Via Smart Thermostat	0	0
NM - Saver's Switch	Residential AC Switch	Utility Load Control for control period with smart switch	0	0
NM - Saver's Switch	Residential WH Switch	Utility Load Control for control period with smart switch	0	0
LED	9 Watt LED	High efficiency LED bulbs (2 ea. 9W, 800 lumen)	18	818
LED	11 Watt LED	High efficiency LED bulbs (2 ea. 11W, 1100 lumen)	22	818
Showerhead	Showerhead	Low Flow Shower head - 1.5 GPM	2,444	717
Aerators - Kitchen	Aerators - Kitchen	1.5 GPM flow rate aerator	2,444	774
Aerators - Bathroom	Aerators - Bathroom	1.0 GPM flow rate aerator	2,444	786

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions				Economic Assumptions			
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)
Installation of new Air Source Heat Pump 3 T 15 SEER 8.7 HPSF	2,927	1,481	9.00	\$0	\$0	\$250	\$ 0.095
2014 Average Participant R3, 1,573 sq. ft.	3,542	902	20.00	\$148	\$0	\$1,538	\$ 0.095
2014 Average Participant R3, 1,700 sq. ft.	3,542	17,529	20.00	\$1,028	\$0	\$1,662	\$ 0.095
2014 Average Participant 462 CFM25 1,738 sq. ft.	3,542	1,355	18.00	\$88	\$0	\$417	\$ 0.095
2014 Average Participant 439 CFM25 1,787 sq. ft.	3,542	12,538	18.00	\$429	\$0	\$429	\$ 0.095
Non-programmable Thermostat	2,684	5,424	11.00	\$50	\$0	\$50	\$ 0.095
2014 Average Participant 3,135 CFM50 1,875 sq. ft.	3,542	1,355	11.00	\$130	\$0	\$423	\$ 0.095
2014 Average Participant 2,946 CFM50 1,875 sq. ft.	3,542	13,143	11.00	\$166	\$0	\$371	\$ 0.095
Existing standard manual or programmable thermostat	3,634	2,285	10.00	\$200	\$0	\$200	\$ 0.090
No control	3,463	3	1.00	\$21	\$0	\$0	\$ 0.095
No control, no switch	3,634	2	1.00	\$0	\$0	\$0	\$ 0.090
No control, No Switch	4,500	0	1.00	\$0	\$0	\$0	\$ 0.090
baseline is 2 incandescent bulb (2 - 43W EISA Halogen)	86	818	20.00	\$6	\$0	\$6	\$ 0.090
baseline is 2 incandescent bulbs (2- 53W EISA Halogen)	106	818	20.00	\$10	\$0	\$10	\$ 0.090
Federal Minimum Standard flow rate 2.5 GPM	2,444	826	10.00	\$3	\$0	\$3	\$ 0.090
Federal Minimum Standard flow rate 2.2 GPM	2,444	826	5.00	\$1	\$0	\$1	\$ 0.090
Federal Minimum Standard flow rate 2.2 GPM	2,444	826	5.00	\$0	\$0	\$0	\$ 0.090

Stipulated Output								Economic Assumptions		Technical Assumption
Rebate as a % of Incremental Cost (%)	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost /Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)
0%	2.80	2.80	936	\$0.00	\$0.00	0.632	0.573	\$0.00	\$0.00	76.0%
10%	12.36	11.17	234	\$0.63	\$0.03	0.259	0.309	\$0.00	\$102.12	100.0%
62%	5.38	2.05	3,242	\$0.32	\$0.02	0.185	0.221	\$0.00	\$0.00	100.0%
21%	1.65	1.30	669	\$0.13	\$0.01	0.494	0.513	\$0.00	\$189.06	87.0%
100%	0.77	0.00	5,868	\$0.07	\$0.00	0.468	0.486	\$0.00	\$0.00	87.0%
100%	1.27	0.00	413	\$0.12	\$0.01	0.076	0.091	\$0.00	\$0.00	100.0%
31%	8.42	5.82	134	\$0.97	\$0.09	0.099	0.103	\$0.00	\$37.47	87.0%
45%	3.41	1.89	1,141	\$0.15	\$0.01	0.087	0.090	\$0.00	\$0.00	87.0%
100%	4.93	0.00	393	\$0.51	\$0.05	0.172	0.120	\$5.07	\$0.00	58.3%
0%	0.00	-25.17	9	\$2.40	\$2.40	3.463	0.933	\$0.00	\$0.00	22.6%
0%	0.00	0.00	8	\$0.00	\$0.00	3.634	0.980	\$0.00	\$0.00	22.6%
0%	0.00	0.00	2	\$0.00	\$0.00	4.500	0.239	\$0.00	\$0.00	4.4%
100%	1.27	0.00	56	\$0.11	\$0.01	0.068	0.008	\$0.00	\$0.00	10.2%
100%	1.55	0.00	69	\$0.14	\$0.01	0.084	0.010	\$0.00	\$0.00	10.2%
100%	0.08	0.00	267	\$0.01	\$0.00	0.000	0.000	\$15.53	\$0.00	0.0%
100%	0.06	0.00	128	\$0.01	\$0.00	0.000	0.000	\$7.54	\$0.00	0.0%
100%	0.03	0.00	98	\$0.00	\$0.00	0.000	0.000	\$5.75	\$0.00	0.0%

Program Forecast Inputs		Stipulated Forecast Inputs			Program Forecast Outputs			
2017					2017			
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)
55	70	93%	100%	100%	37,301	69,083	\$0	\$17,500
29	56	93%	100%	100%	16,112	13,810	\$8,285	\$86,122
42	52	93%	100%	100%	10,675	177,784	\$53,468	\$86,441
65	80	93%	100%	100%	38,137	56,435	\$7,024	\$33,371
323	350	93%	100%	100%	158,172	2,165,724	\$150,085	\$150,085
61	75	93%	100%	100%	6,340	32,673	\$3,750	\$3,750
18	50	93%	100%	100%	4,779	7,071	\$6,522	\$21,148
92	150	93%	100%	100%	12,576	180,495	\$24,840	\$55,655
1,345	1,345	100%	100%	100%	160,941	599,348	\$269,000	\$269,000
2,095	2,095	100%	100%	100%	1,955,369	21,041	\$44,519	\$0
4,201	4,449	100%	100%	100%	4,358,746	39,951	\$0	\$0
2	2	100%	100%	100%	0.477	4	\$0	\$0
500	2,500	100%	65%	100%	13,410	102,432	\$15,950	\$15,950
500	2,500	100%	65%	100%	16,566	126,533	\$24,050	\$24,050
500	2,500	100%	55%	100%	0.000	415,542	\$8,060	\$8,060
500	2,500	100%	50%	100%	0.000	181,606	\$3,039	\$3,039
500	2,500	100%	50%	100%	0.000	138,367	\$1,210	\$1,210

Measure Description		High Efficiency Product Assumptions		
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs.yr.)
NM - Energy Feedback Residential - Mass Entry	Online Energy Feedback & Tools	Treatment	1,345	8,760
NM - Energy Feedback Residential - Mass Entry	Print Feedback Report - Legacy Participant Group	Treatment	1,309	5,712
NM - Energy Feedback Residential - Mass Entry	Print Feedback Report - 2015 Refill Participant Group	Treatment	1,326	5,111
NM - Energy Feedback Residential - Mass Entry	Print Feedback Report - 2017 Refill Participant Group	Treatment	1,323	3,988
LED	10 W LEDs	High efficiency LED lighting (4 bulbs at 10 W and 800 Lumens each)	40	818
Showerhead	Showerhead	Low Flow Shower head - 1.5 GPM	4,500	717
Aerators - Kitchen	Aerators - Kitchen	1.5 GPM flow rate Kitchen aerator	4,500	774
Aerators - Bathroom	Aerators - Bathroom	1.0 GPM flow rate bathroom aerator	4,500	786
HES General	CFLs	Average CFL Bulb Purchased by Customer	14	818
HES General	Refrigerator Replacements	New Refrigerator	5,108	8,343
HES General	Low Flow Showerheads	Low Flow Shower head - 1.5 GPM	2,444	717
HES Evaps	Evap Cooling	Evaporative Cooler 85% effective	800	1,622
HES Radiant Barriers	Radiant Barriers	Average 1,850 sq. ft. house with Radiant Barrier	2,539	5,424
HES Ceiling	Ceiling Insulation - Gas Heat	2014 Average Participant R30, 1,573 sq. ft.	3,282	902
HES Ceiling	Ceiling Insulation - Electric Heat	2014 Average Participant R30, 1,700 sq. ft.	3,357	17,529
HES Duct Leakage	Duct Leakage - Gas Heat	2014 Average Participant 108 CFM25 1,738 sq. ft.	3,048	1,355
HES Duct Leakage	Duct Leakage - Electric Heat	2014 Average Participant 103 CFM25 1,787 sqft	3,074	12,538
HES General	Programmable Thermostats	Programmable Thermostat	2,608	5,424
HES Infiltration	Air Infiltration - Gas Heat	2014 Average Participant 1,975 CFM50 1,878 sq. ft.	3,443	1,355
HES Infiltration	Air Infiltration - Electric Heat	2014 Average Participant 1,927 CFM50 1,875 sq. ft.	3,455	13,143

Electric Product Detailed Technical Assumptions

Baseline Product Assumptions				Economic Assumptions			
Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs./yr.)	Measure Lifetime (years)	Rebate Amount (\$)	Average Baseline Product Cost (\$)	Incremental Cost of Efficient Product (\$)	Assumed Energy Cost (\$/kWh)
Control	1,347	8,760	1.00	\$0	\$0	\$0	\$ 0.090
Control	1,347	5,712	1.00	\$0	\$0	\$0	\$ 0.090
Control	1,347	5,111	1.00	\$0	\$0	\$0	\$ 0.090
Control	1,347	3,988	1.00	\$0	\$0	\$0	\$ 0.090
baseline is 4 incandescent bulbs (4-43W EISA Halogen)	172	818	20.00	\$16	\$0	\$16	\$ 0.090
Federal Minimum Standard flow rate 2.5 GPM	4,500	826	10.00	\$3	\$0	\$3	\$ 0.090
Federal Minimum Standard flow rate 2.2 GPM	4,500	826	5.00	\$2	\$0	\$2	\$ 0.090
Federal Minimum Standard flow rate 2.2 GPM	4,500	826	5.00	\$1	\$0	\$1	\$ 0.090
Average incandescent bulb being replaced	47	818	6.40	\$1	\$2	\$1	\$ 0.090
Existing Refrigerator	5,200	8,343	13.00	\$683	\$0	\$683	\$ 0.090
Federal Minimum Standard flow rate 2.5 GPM	2,444	826	10.00	\$3	\$0	\$3	\$ 0.090
13 SEER AC Split System	3,180	1,456	15.00	\$700	\$2,587	\$0	\$ 0.093
Average 1,850 sqft house without Radiant Barrier	2,684	5,424	20.00	\$229	\$0	\$1,573	\$ 0.095
2014 Average Participant R3, 1,573 sq. ft.	3,542	902	20.00	\$148	\$0	\$1,538	\$ 0.095
2014 Average Participant R3, 1,700 sq. ft.	3,542	17,529	20.00	\$1,028	\$0	\$1,662	\$ 0.095
2014 Average Participant 462 CFM25 1,738 sq. ft.	3,542	1,355	18.00	\$385	\$0	\$417	\$ 0.095
2014 Average Participant 439 CFM25 1,787 sq. ft.	3,542	12,538	18.00	\$429	\$0	\$429	\$ 0.095
Non-programmable Thermostat	2,684	5,424	11.00	\$50	\$0	\$50	
2014 Average Participant 3,135 CFM50 1,875 sq. ft.	3,542	1,355	11.00	\$183	\$0	\$423	
2014 Average Participant 2,946 CFM50 1,875 sq. ft.	3,542	13,143	11.00	\$232	\$0	\$371	

Stipulated Output											Economic Assumptions		Technical Assumption
Rebate as a % of Incremental Cost (%)	Increment'l Cost Payback Period w/o Rebate (yrs.)	Increment'l Cost Payback Period w/ Rebate (yrs.)	Annual Customer kWh Savings (kWh/yr.)	Rebated Cost / Cust kWh Saved (\$/kWh)	Rebated Lifetime cost /Cust kWh Saved (\$/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings (\$)	Energy O&M Savings (\$)	Coincidence Factor (%)			
0%	0.00	0.00	24	\$0.00	\$0.00	0.003	0.002	\$0.00	\$0.00	74.5%			
0%	0.00	0.00	221	\$0.00	\$0.00	0.039	0.034	\$0.00	\$0.00	74.5%			
0%	0.00	0.00	109	\$0.00	\$0.00	0.021	0.019	\$0.00	\$0.00	74.5%			
0%	0.00	0.00	98	\$0.00	\$0.00	0.025	0.022	\$0.00	\$0.00	74.5%			
100%	1.62	0.00	108	\$0.15	\$0.01	0.132	0.016	\$0.00	\$0.00	10.2%			
100%	0.05	0.00	491	\$0.01	\$0.00	0.000	0.000	\$15.53	\$0.00	0.0%			
100%	0.06	0.00	236	\$0.01	\$0.00	0.000	0.000	\$7.54	\$0.00	0.0%			
100%	0.02	0.00	180	\$0.00	\$0.00	0.000	0.000	\$5.75	\$0.00	0.0%			
100%	0.29	0.00	26	\$0.03	\$0.00	0.032	0.004	\$0.00	\$0.00	10.2%			
100%	9.84	0.00	770	\$0.89	\$0.07	0.092	0.110	\$0.00	\$0.00	100.0%			
100%	0.08	0.00	267	\$0.01	\$0.00	0.000	0.000	\$15.53	\$0.00	0.0%			
0%	0.00	-2.32	3,332	\$0.21	\$0.01	2.380	2.840	-\$7.29	\$0.00	100.0%			
15%	21.05	17.98	784	\$0.29	\$0.01	0.145	0.172	\$0.00	\$0.00	100.0%			
10%	12.36	11.17	234	\$0.63	\$0.03	0.259	0.309	\$0.00	\$102.12	100.0%			
62%	5.38	2.05	3,242	\$0.32	\$0.02	0.185	0.221	\$0.00	\$0.00	100.0%			
92%	1.65	0.13	669	\$0.57	\$0.03	0.494	0.513	\$0.00	\$189.06	87.0%			
100%	0.77	0.00	5,868	\$0.07	\$0.00	0.468	0.486	\$0.00	\$0.00	87.0%			
100%	0.00	0.00	413	\$0.12	\$0.01	0.076	0.091	\$0.00	\$0.00	100.0%			
43%	11.29	6.41	134	\$1.36	\$0.12	0.099	0.103	\$0.00	\$37.47	87.0%			
62%	0.00	0.00	1,141	\$0.20	\$0.02	0.087	0.090	\$0.00	\$0.00	87.0%			

Program Forecast Inputs			Stipulated Forecast Inputs			Program Forecast Outputs				
2017						2017				
2017 Participants (-)	2017 Units (-)	NTG (%)	Installation Rate (%)	Realization Rate (%)	2017 NET Gen kW (kW)	2017 NET Gen kWh (kWh)	2017 Rebate Budget (\$)	2017 Incremental Costs (\$)		
500	500	100%	100%	100%	1,218	13,608	\$0	\$0		
10,028	10,028	100%	100%	100%	344,235	2,507,160	\$0	\$0		
3,067	3,067	100%	100%	100%	58,375	380,425	\$0	\$0		
4,495	4,495	100%	100%	100%	98,333	500,110	\$0	\$0		
152	400	100%	65%	100%	4,165	31,814	\$6,320	\$6,320		
83	217	100%	50%	100%	0,000	60,387	\$694	\$694		
83	217	100%	50%	100%	0,000	29,030	\$358	\$358		
83	217	100%	50%	100%	0,000	22,118	\$115	\$115		
444	3,425	100%	100%	100%	13,457	102,792	\$2,327	\$2,327		
14	110	100%	100%	100%	12,115	96,032	\$75,075	\$75,075		
3	23	100%	100%	100%	0,000	6,951	\$74	\$74		
1	10	100%	100%	100%	28,401	37,778	\$7,000	\$0		
0	0	100%	100%	100%	0,000	0	\$0	\$0		
2	59	100%	100%	100%	18,252	15,645	\$8,728	\$90,736		
5	60	100%	100%	100%	13,244	220,575	\$61,694	\$99,739		
29	220	100%	100%	100%	112,772	166,877	\$84,623	\$91,769		
44	340	100%	100%	100%	165,219	2,262,200	\$145,796	\$145,796		
1	10	100%	100%	100%	0,909	4,684	\$500	\$500		
21	165	100%	100%	100%	16,957	25,092	\$30,132	\$69,790		
36	275	100%	100%	100%	24,791	355,814	\$63,756	\$102,034		

PORTFOLIO TOTAL				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Benefits				Input Summary and Totals		
				Program Inputs per Customer kW		
				Utility Cost Test (\$Total)	A	12.88 years
					B	8760
					C	1 kW
					D	26.22%
					E	10.44%
					F	85.0%
					G	92.6%
					H	10.249%
					I	15.634%
					J	96.490%
System Benefits (Avoided Costs)					K	99.399%
					L	\$128
				Total Benefits		
				Costs		
				Utility Project Costs		
				Total Incentive		
				Internal Administration		
				Third-Party Delivery		
				Promotion		
				M&V		
				Subtotal		
				Participant Costs		
Gross kW Saved at Customer						
Net coincident kW Saved at Generator	M	0.20 kW				
Gross Annual kWh Saved at Customer						
Net Annual kWh Saved at Customer						
Net Annual kWh Saved at Generator						
Program Summary All Participants						
Total Participants						
Total Budget						
Gross kW Saved at Customer	N	219,051				
Net coincident kW Saved at Generator	O	\$9,836,846				
Gross Annual kWh Saved at Customer						
Net Annual kWh Saved at Customer						
Net Annual kWh Saved at Generator						
Total Costs				Program Summary All Participants		
				Total Participants		
				Total Budget		
				Gross kW Saved at Customer		
				Net coincident kW Saved at Generator		
				Gross Annual kWh Saved at Customer		
				Gross Installed Annual kWh Saved at Customer		
				Net Annual kWh Saved at Customer		
				Net Annual kWh Saved at Generator		
				UCT Net Benefits		
				Utility Program Cost per kWh Lifetime		
				Utility Program Cost per kW at Gen		

Total Costs		\$9,836,846
Net Benefit (Cost)		\$5,617,553
Benefit/Cost Ratio		1.57

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

RESIDENTIAL SEGMENT TOTAL				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Benefits				Input Summary and Totals		
				Program Inputs per Customer kW		
				Utility Cost Test (\$Total)	A	11.63 years
					B	8760
					C	1 kW
					D	21.52%
					E	7.12%
					F	87.1%
					G	94.8%
					H	11.800%
					I	16.200%
					J	94.493%
System Benefits (Avoided Costs)					K	99.207%
					L	\$77
				Total Benefits		
				Net coincident kW Saved at Generator $(G \times C \times K) \times D / (1 - I)$		
				Gross Annual kWh Saved at Customer $(B \times E \times C)$		
				Net Annual kWh Saved at Customer $(F \times (B \times E \times C \times J))$		
				Net Annual kWh Saved at Generator $(F \times (B \times E \times C \times J)) / (1 - H)$		
				Program Summary per Participant		
				Gross kW Saved at Customer M		
				Net coincident kW Saved at Generator $(G \times M \times K) \times D / (1 - I)$		
				Gross Annual kWh Saved at Customer $(B \times E \times M)$		
				Net Annual kWh Saved at Customer $(F \times (B \times E \times M \times J))$		
Net Annual kWh Saved at Generator $(F \times (B \times E \times M \times J)) / (1 - H)$						
Participant Costs				Program Summary All Participants		
				Total Participants N		
				Total Budget O		
				Gross kW Saved at Customer $(N \times M)$		
				Net coincident kW Saved at Generator $((G \times M \times K) \times D / (1 - I)) \times N$		
				Gross Annual kWh Saved at Customer $(B \times E \times M) \times N$		
				Gross Installed Annual kWh Saved at Customer $(B \times E \times M) \times N \times J$		
				Net Annual kWh Saved at Customer $(B \times E \times M) \times N \times J \times F$		
				Net Annual kWh Saved at Generator $((B \times E \times M) / (1 - H)) \times N \times J \times F$		
				UCT Net Benefits $(N \times M \times L)$		
				Total Costs		
				\$5,587,315		
Total Costs				218,333		
				\$5,587,315		
				39,488 kW		
Reductions to Costs				9,540 kW		
				24,617,778 kWh		
				23,261,991 kWh		
Participant Rebates				20,267,478 kWh		
				22,979,000 kWh		
				\$3,045,206		
Total Costs						
Net Benefit (Cost)				\$0.0209		
Benefit/Cost Ratio				\$586		

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

ENERGY FEEDBACK PILOT				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Input Summary and Totals						
Program Inputs per Customer kW		Lifetime (Weighted on Generator kWh)		A	1.00 years	
Annual Hours				B	8760	
Gross Customer kW				C	1 kW	
Generator Peak Coincidence Factor				D	74.51%	
Gross Load Factor at Customer				E	60.64%	
Net-to-Gross (Energy)				F	100.0%	
Net-to-Gross (Demand)				G	100.0%	
Transmission Loss Factor (Energy)				H	11.800%	
Transmission Loss Factor (Demand)				I	16.200%	
Installation Rate (Energy)				J	100.000%	
Installation Rate (Demand)				K	100.000%	
UCT Net Benefit (Cost)				L	\$43	
Net coincident kW Saved at Generator				(G x C x K) x D / (1 - I)		0.8448 kW
Gross Annual kWh Saved at Customer				(B x E x C)		5,312 kWh
Net Annual kWh Saved at Customer				(F x (B x E x C x J))		5,312 kWh
Net Annual kWh Saved at Generator				(F x (B x E x C x J)) / (1 - H)		6,022 kWh
Program Summary per Participant						
Gross kW Saved at Customer				M	0.03 kW	
Net coincident kW Saved at Generator				(G x M x K) x D / (1 - I)		0.03 kW
Gross Annual kWh Saved at Customer				(B x E x M)		166 kWh
Net Annual kWh Saved at Customer				(F x (B x E x M x J))		166 kWh
Net Annual kWh Saved at Generator				(F x (B x E x M x J)) / (1 - H)		188 kWh
Program Summary All Participants						
Total Participants				N	18,090	
Total Budget				O	\$133,045	
Gross kW Saved at Customer				(N x M)		565 kW
Net coincident kW Saved at Generator				((G x M x K) x D / (1 - I)) x N		502 kW
Gross Annual kWh Saved at Customer				(B x E x M) x N		2,999,949 kWh
Gross Installed Annual kWh Saved at Customer				(B x E x M) x N x J		2,999,949 kWh
Net Annual kWh Saved at Customer				(B x E x M) x N x J x F		2,999,949 kWh
Net Annual kWh Saved at Generator				((B x E x M) / (1 - H)) x N x J x F		3,401,303 kWh
UCT Net Benefits				(N x M x L)		\$24,006
Utility Program Cost per kWh Lifetime						
Utility Program Cost per kW at Gen						
\$0.0391						
\$265						

System Benefits (Avoided Costs)	
Generation Capacity	\$51,397
Transmission & Distribution Capacity	\$1,496
Marginal Energy	\$99,378
Avoided Emissions	\$4,779
Benefits	
Total Benefits	
\$157,051	
Costs	
Total Incentive	
\$0	
Internal Administration	\$18,600
Third-Party Delivery	\$98,245
Promotion	\$1,200
M&V	\$15,000
Subtotal	\$133,045
Participant Costs	
Costs	
Incremental Capital Costs	N/A
Incremental O&M Costs	N/A
Subtotal	N/A
Reductions to Costs	
Participant Rebates	N/A
Subtotal	N/A
Subtotal	N/A
Total Costs	
\$133,045	
Net Benefit (Cost)	
\$24,006	
Benefit/Cost Ratio	
1.18	

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

HOME ENERGY SERVICES: RESIDENTIAL AND LOW INCOME			2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary					
Analysis For All Participants					
Benefits			Input Summary and Totals		
			Program Inputs per Customer kW		
			Lifetime (Weighted on Generator kWh)	A	16.66 years
			Annual Hours	B	8760
			Gross Customer kW	C	1 kW
			Generator Peak Coincidence Factor	D	74.88%
			Gross Load Factor at Customer	E	73.19%
			Net-to-Gross (Energy)	F	96.8%
			Net-to-Gross (Demand)	G	96.5%
			Transmission Loss Factor (Energy)	H	11.800%
			Transmission Loss Factor (Demand)	I	16.200%
			Installation Rate (Energy)	J	97.993%
			Installation Rate (Demand)	K	99.715%
			UCT Net Benefit (Cost)	L	\$645
Total Benefits			Net coincident kW Saved at Generator	$(G \times C \times K) \times D / (1 - I)$	0.8173 kW
Costs			Gross Annual kWh Saved at Customer	$(B \times E \times C)$	6,411 kWh
			Net Annual kWh Saved at Customer	$(F \times (B \times E \times C \times J))$	6,079 kWh
			Net Annual kWh Saved at Generator	$(F \times (B \times E \times C \times J)) / (1 - H)$	6,893 kWh
Utility Project Costs			Program Summary per Participant		
			Total Incentive	M	0.49 kW
			Internal Administration		
			Third-Party Delivery		
			Promotion		
			M&V		
			Subtotal		
Participant Costs			Program Summary All Participants		
			Total Participants	N	1,850
			Incremental Capital Costs	O	
			Incremental O&M Costs		
			Subtotal		\$2,634,220
Reductions to Costs			Gross kW Saved at Customer	$(N \times M)$	912 kW
			Net coincident kW Saved at Generator	$((G \times M \times K) \times D / (1 - I)) \times N$	784 kW
			Gross Annual kWh Saved at Customer	$(B \times E \times M) \times N$	5,843,807 kWh
			Gross Installed Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J$	5,726,533 kWh
			Net Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J \times F$	5,541,450 kWh
			Net Annual kWh Saved at Generator	$((B \times E \times M) / (1 - H)) \times N \times J \times F$	6,282,823 kWh
			UCT Net Benefits	$(N \times M \times L)$	\$587,487
Total Costs			Utility Program Cost per kWh Lifetime		\$0.0252
			Utility Program Cost per kW at Gen		\$3,360
Net Benefit (Cost)					
Benefit/Cost Ratio					

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

HOME LIGHTING & RECYCLING			2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary					
Analysis For All Participants					
Input Summary and Totals					
Program Inputs per Customer kW					
Utility	A				11.94 years
Cost Test	B				8760
(\$Total)	C				1 kW
Benefits					
Generator Peak Coincidence Factor		D	13.28%		
Gross Load Factor at Customer		E	10.92%		
Net-to-Gross (Energy)		F	77.5%		
Net-to-Gross (Demand)		G	77.4%		
Transmission Loss Factor (Energy)		H	11.800%		
Transmission Loss Factor (Demand)		I	16.200%		
Installation Rate (Energy)		J	96.334%		
Installation Rate (Demand)		K	96.601%		
UCT Net Benefit (Cost)		L	\$158		
Total Benefits		\$4,234,797			
Costs					
Utility Project Costs					
Total Incentive	\$1,078,000				
Internal Administration	\$141,918				
Third-Party Delivery	\$350,000				
Promotion	\$450,000				
M&V	\$25,000				
Subtotal	\$2,044,918				
Participant Costs					
Costs					
Incremental Capital Costs	N/A				
Incremental O&M Costs	N/A				
Subtotal	N/A				
Reductions to Costs					
Participant Rebates	N/A				
Subtotal	N/A				
Subtotal	N/A				
Total Costs		\$2,044,918			
Net Benefit (Cost)					
Net Benefit (Cost)		\$2,189,879			
Benefit/Cost Ratio					
Benefit/Cost Ratio		2.07			

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

RESIDENTIAL COOLING		2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary				
Analysis For All Participants				
Input Summary and Totals				
Utility Cost Test (\$Total)		Program Inputs per Customer kW		
		Lifetime (Weighted on Generator kWh)	A	16.69 years
		Annual Hours	B	8760
		Gross Customer kW	C	1 kW
		Generator Peak Coincidence Factor	D	83.35%
		Gross Load Factor at Customer	E	42.19%
		Net-to-Gross (Energy)	F	100.0%
		Net-to-Gross (Demand)	G	100.0%
		Transmission Loss Factor (Energy)	H	11.800%
		Transmission Loss Factor (Demand)	I	16.200%
		Installation Rate (Energy)	J	100.000%
		Installation Rate (Demand)	K	100.000%
		UCT Net Benefit (Cost)	L	\$693
Total Benefits		Net coincident kW Saved at Generator	$(G \times C \times K) \times D / (1 - I)$	
Costs		Gross Annual kWh Saved at Customer	$(B \times E \times C)$	
Utility Project Costs		Net Annual kWh Saved at Customer	$(F \times (B \times E \times C \times J))$	
Total Incentive		Net Annual kWh Saved at Generator	$(F \times (B \times E \times C \times J)) / (1 - H)$	
Internal Administration		Program Summary per Participant		
Third-Party Delivery		Gross kW Saved at Customer	M	0.42 kW
Promotion		Net coincident kW Saved at Generator	$(G \times M \times K) \times D / (1 - I)$	
M&V		Gross Annual kWh Saved at Customer	$(B \times E \times M)$	
Subtotal		Net Annual kWh Saved at Customer	$(F \times (B \times E \times M \times J))$	
		Net Annual kWh Saved at Generator	$(F \times (B \times E \times M \times J)) / (1 - H)$	
Participant Costs		Program Summary All Participants		
Incremental Capital Costs		Total Participants	N	250
Incremental O&M Costs		Total Budget	O	\$175,908
Subtotal		Gross kW Saved at Customer	$(N \times M)$	
Participant Rebates		Net coincident kW Saved at Generator	$((G \times M \times K) \times D / (1 - I)) \times N$	
Subtotal		Gross Annual kWh Saved at Customer	$(B \times E \times M) \times N$	
		Gross Installed Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J$	
		Net Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J \times F$	
		Net Annual kWh Saved at Generator	$((B \times E \times M) / (1 - H)) \times N \times J \times F$	
Total Costs		UCT Net Benefits	$(N \times M \times L)$	
Net Benefit (Cost)				
Benefit/Cost Ratio				

2018 Net Present Cost Benefit Summary		2018		ELECTRIC		GOAL	
Analysis For All Participants		Input Summary and Totals		ELECTRIC		GOAL	
Utility Cost Test (\$Total)		Program Inputs per Customer kW		ELECTRIC		GOAL	
		Lifetime (Weighted on Generator kWh)		ELECTRIC		GOAL	
		Annual Hours		ELECTRIC		GOAL	
		Gross Customer kW		ELECTRIC		GOAL	
		Generator Peak Coincidence Factor		ELECTRIC		GOAL	
		Gross Load Factor at Customer		ELECTRIC		GOAL	
		Net-to-Gross (Energy)		ELECTRIC		GOAL	
		Net-to-Gross (Demand)		ELECTRIC		GOAL	
		Transmission Loss Factor (Energy)		ELECTRIC		GOAL	
		Transmission Loss Factor (Demand)		ELECTRIC		GOAL	
		Installation Rate (Energy)		ELECTRIC		GOAL	
		Installation Rate (Demand)		ELECTRIC		GOAL	
		UCT Net Benefit (Cost)		ELECTRIC		GOAL	
Total Benefits		Net coincident kW Saved at Generator		$(G \times C \times K) \times D / (1 - I)$		0.9450 kW	
Costs		Gross Annual kWh Saved at Customer		$(B \times E \times C)$		3,696 kWh	
Utility Project Costs		Net Annual kWh Saved at Customer		$(F \times (B \times E \times C \times J))$		3,696 kWh	
Total Incentive		Net Annual kWh Saved at Generator		$(F \times (B \times E \times C \times J)) / (1 - H)$		4,190 kWh	
Internal Administration		Program Summary per Participant					
Third-Party Delivery		Gross kW Saved at Customer		M		0.42 kW	
Promotion		Net coincident kW Saved at Generator		$(G \times M \times K) \times D / (1 - I)$		0.42 kW	
M&V		Gross Annual kWh Saved at Customer		$(B \times E \times M)$		1,549 kWh	
Subtotal		Net Annual kWh Saved at Customer		$(F \times (B \times E \times M \times J))$		1,549 kWh	
		Net Annual kWh Saved at Generator		$(F \times (B \times E \times M \times J)) / (1 - H)$		1,756 kWh	
Participant Costs		Program Summary All Participants					
Incremental Capital Costs		Total Participants		N		250	
Incremental O&M Costs		Total Budget		O		\$175,908	
Subtotal		Gross kW Saved at Customer		$(N \times M)$		105 kW	
Participant Rebates		Net coincident kW Saved at Generator		$((G \times M \times K) \times D / (1 - I)) \times N$		104 kW	
Subtotal		Gross Annual kWh Saved at Customer		$(B \times E \times M) \times N$		387,255 kWh	
		Gross Installed Annual kWh Saved at Customer		$(B \times E \times M) \times N \times J$		387,255 kWh	
		Net Annual kWh Saved at Customer		$(B \times E \times M) \times N \times J \times F$		387,255 kWh	
		Net Annual kWh Saved at Generator		$((B \times E \times M) / (1 - H)) \times N \times J \times F$		439,065 kWh	
Total Costs		UCT Net Benefits		$(N \times M \times L)$		\$72,641	
		Utility Program Cost per kWh Lifetime				\$0.0240	
		Utility Program Cost per kW at Gen				\$1,688	

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

RESIDENTIAL SAVER'S SWITCH				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Input Summary and Totals						
Program Inputs per Customer kW						
Lifetime (Weighted on Generator kWh)		A				1.00 years
Annual Hours		B				8760
Gross Customer kW		C				1 kW
Generator Peak Coincidence Factor		D				22.58%
Gross Load Factor at Customer		E				0.02%
Net-to-Gross (Energy)		F				100.0%
Net-to-Gross (Demand)		G				100.0%
Transmission Loss Factor (Energy)		H				11.800%
Transmission Loss Factor (Demand)		I				16.200%
Installation Rate (Energy)		J				100.000%
Installation Rate (Demand)		K				100.000%
UCT Net Benefit (Cost)		L				\$5
Net coincident kW Saved at Generator		$(G \times C \times K) \times D / (1 - I)$				0.2560 kW
Gross Annual kWh Saved at Customer		$(B \times E \times C)$				2 kWh
Net Annual kWh Saved at Customer		$(F \times (B \times E \times C \times J))$				2 kWh
Net Annual kWh Saved at Generator		$(F \times (B \times E \times C \times J)) / (1 - H)$				2 kWh
Program Summary per Participant						
Gross kW Saved at Customer		M				3.85 kW
Net coincident kW Saved at Generator		$(G \times M \times K) \times D / (1 - I)$				1.04 kW
Gross Annual kWh Saved at Customer		$(B \times E \times M)$				8 kWh
Net Annual kWh Saved at Customer		$(F \times (B \times E \times M \times J))$				8 kWh
Net Annual kWh Saved at Generator		$(F \times (B \times E \times M \times J)) / (1 - H)$				10 kWh
Program Summary All Participants						
Total Participants		N				4,203
Total Budget		O				\$203,250
Gross kW Saved at Customer		$(N \times M)$				16,179 kW
Net coincident kW Saved at Generator		$((G \times M \times K) \times D / (1 - I)) \times N$				4,359 kW
Gross Annual kWh Saved at Customer		$(B \times E \times M) \times N$				35,241 kWh
Gross Installed Annual kWh Saved at Customer		$(B \times E \times M) \times N \times J$				35,241 kWh
Net Annual kWh Saved at Customer		$(B \times E \times M) \times N \times J \times F$				35,241 kWh
Net Annual kWh Saved at Generator		$((B \times E \times M) / (1 - H)) \times N \times J \times F$				39,956 kWh
UCT Net Benefits		$(N \times M \times L)$				\$86,908
Utility Program Cost per kWh Lifetime						
\$5.0869						
Utility Program Cost per kW at Gen						
\$47						

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

SCHOOL EDUCATION KITS				2018	ELECTRIC	GOAL		
2018 Net Present Cost Benefit Summary								
Analysis For All Participants								
Benefits	Input Summary and Totals							
	Utility Cost Test (\$Total)	Program Inputs per Customer kW						
		Lifetime (Weighted on Generator kWh)	A			10.18 years		
		Annual Hours	B			8760		
		Gross Customer kW	C			1 kW		
		Generator Peak Coincidence Factor	D			10.17%		
		Gross Load Factor at Customer	E			46.31%		
		Net-to-Gross (Energy)	F			100.0%		
		Net-to-Gross (Demand)	G			100.0%		
		Transmission Loss Factor (Energy)	H			11.800%		
		Transmission Loss Factor (Demand)	I			16.200%		
		Installation Rate (Energy)	J			55.185%		
Installation Rate (Demand)	K			65.000%				
UCT Net Benefit (Cost)	L			\$290				
Total Benefits		Net coincident kW Saved at Generator				$(G \times C \times K) \times D / (1 - I)$	0.0749 kW	
Costs	Gross Annual kWh Saved at Customer						$(B \times E \times C)$	4,057 kWh
	Net Annual kWh Saved at Customer						$(F \times (B \times E \times C \times J))$	2,239 kWh
	Net Annual kWh Saved at Generator						$(F \times (B \times E \times C \times J)) / (1 - H)$	2,538 kWh
Utility Project Costs		Program Summary per Participant						
Total Incentive	\$52,309	Gross kW Saved at Customer					M	0.15 kW
Internal Administration	\$20,608	Net coincident kW Saved at Generator					$(G \times M \times K) \times D / (1 - I)$	0.01 kW
Third-Party Delivery	\$76,000	Gross Annual kWh Saved at Customer					$(B \times E \times M)$	617 kWh
Promotion	\$4,500	Net Annual kWh Saved at Customer					$(F \times (B \times E \times M \times J))$	340 kWh
M&V	\$10,000	Net Annual kWh Saved at Generator					$(F \times (B \times E \times M \times J)) / (1 - H)$	386 kWh
Subtotal	\$163,417	Program Summary All Participants						
Participant Costs	Total Participants						N	2,500
	Total Budget						O	\$163,417
	Gross kW Saved at Customer						$(N \times M)$	380 kW
	Net coincident kW Saved at Generator						$((G \times M \times K) \times D / (1 - I)) \times N$	30 kW
	Gross Annual kWh Saved at Customer						$(B \times E \times M) \times N$	1,541,499 kWh
	Gross Installed Annual kWh Saved at Customer						$(B \times E \times M) \times N \times J$	850,672 kWh
	Net Annual kWh Saved at Customer						$(B \times E \times M) \times N \times J \times F$	850,672 kWh
	Net Annual kWh Saved at Generator						$((B \times E \times M) / (1 - H)) \times N \times J \times F$	964,480 kWh
	UCT Net Benefits						$(N \times M \times L)$	\$110,157
	Total Costs							
		Utility Program Cost per kWh Lifetime					\$0.0166	
Net Benefit (Cost)		Utility Program Cost per kW at Gen					\$5,452	
Benefit/Cost Ratio								

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

SMART THERMOSTAT PILOT				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
				Input Summary and Totals		
Utility Cost Test (\$Total)				Program Inputs per Customer kW		
Benefits				Lifetime (Weighted on Generator kWh)	A	9.69 years
				Annual Hours	B	8760
				Gross Customer kW	C	1 kW
				Generator Peak Coincidence Factor	D	23.69%
				Gross Load Factor at Customer	E	0.83%
				Net-to-Gross (Energy)	F	100.0%
				Net-to-Gross (Demand)	G	100.0%
				Transmission Loss Factor (Energy)	H	11.8009%
				Transmission Loss Factor (Demand)	I	16.200%
				Installation Rate (Energy)	J	100.000%
			Installation Rate (Demand)	K	100.000%	
			UCT Net Benefit (Cost)	L	-\$3	
Total Benefits				Net coincident kW Saved at Generator $(G \times C \times K) \times D / (1 - I)$		
Costs				$(B \times E \times C)$		
Utility Project Costs				$(F \times (B \times E \times C \times J))$		
Total Incentive				$(F \times (B \times E \times C \times J)) / (1 - H)$		
Internal Administration						
Third-Party Delivery						
Promotion						
M&V						
Subtotal				2.18 kW		
Participant Costs				M		
Costs				Net coincident kW Saved at Generator $(G \times M \times K) \times D / (1 - I)$		
				$(B \times E \times M)$		
				Gross Annual kWh Saved at Customer $(F \times (B \times E \times M \times J))$		
				Net Annual kWh Saved at Customer $(F \times (B \times E \times M \times J)) / (1 - H)$		
Subtotal				159 kWh		
Participant Costs				180 kWh		
Costs				N		
Incremental Capital Costs				O		
Incremental O&M Costs				Total Participants		
Subtotal				Total Budget		
Reductions to Costs				Gross kW Saved at Customer $(N \times M)$		
Participant Rebates				Net coincident kW Saved at Generator $((G \times M \times K) \times D / (1 - I)) \times N$		
				Gross Annual kWh Saved at Customer $(B \times E \times M) \times N$		
				Gross Installed Annual kWh Saved at Customer $(B \times E \times M) \times N \times J$		
				Net Annual kWh Saved at Customer $(B \times E \times M) \times N \times J \times F$		
				Net Annual kWh Saved at Generator $((B \times E \times M) / (1 - H)) \times N \times J \times F$		
				UCT Net Benefits $(N \times M \times L)$		
Total Costs				3,440		
				\$232,557		
				7,485 kW		
				2,116 kW		
				547,183 kWh		
				547,183 kWh		
				547,183 kWh		
				620,388 kWh		
				(\$25,872)		
Total Costs				\$232,557		
Net Benefit (Cost)				(\$25,872)		
Benefit/Cost Ratio				0.89		
Utility Program Cost per kWh Lifetime				\$0.0387		
Utility Program Cost per kW at Gen				\$110		

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

BUSINESS SEGMENT TOTAL		2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary				
Analysis For All Participants				
Benefits		Input Summary and Totals		
		Program Inputs per Customer kW		
		Lifetime (Weighted on Generator kWh)	A	14.94 years
		Annual Hours	B	8760
		Gross Customer kW	C	1 kW
		Generator Peak Coincidence Factor	D	69.73%
		Gross Load Factor at Customer	E	39.19%
		Net-to-Gross (Energy)	F	81.5%
		Net-to-Gross (Demand)	G	86.1%
		Transmission Loss Factor (Energy)	H	7.700%
		Transmission Loss Factor (Demand)	I	10.400%
		Installation Rate (Energy)	J	100.000%
		Installation Rate (Demand)	K	100.000%
		UCT Net Benefit (Cost)	L	\$691
Total Benefits		Net coincident kW Saved at Generator	$(G \times C \times K) \times D / (1 - I)$	0.6506 kW
Costs		Gross Annual kWh Saved at Customer	$(B \times E \times C)$	3,433 kWh
		Net Annual kWh Saved at Customer	$(F \times (B \times E \times C \times J))$	2,796 kWh
		Net Annual kWh Saved at Generator	$(F \times (B \times E \times C \times J)) / (1 - H)$	3,030 kWh
Utility Project Costs		Program Summary per Participant		
		Gross kW Saved at Customer	M	6.36 kW
		Net coincident kW Saved at Generator	$(G \times M \times K) \times D / (1 - I)$	4.26 kW
		Gross Annual kWh Saved at Customer	$(B \times E \times M)$	21,839 kWh
		Net Annual kWh Saved at Customer	$(F \times (B \times E \times M \times J))$	17,790 kWh
		Net Annual kWh Saved at Generator	$(F \times (B \times E \times M \times J)) / (1 - H)$	19,274 kWh
Participant Costs		Program Summary All Participants		
		Total Participants	N	718
		Total Budget	O	\$3,666,430
		Gross kW Saved at Customer	$(N \times M)$	4,567 kW
		Net coincident kW Saved at Generator	$((G \times M \times K) \times D / (1 - I)) \times N$	3,061 kW
		Gross Annual kWh Saved at Customer	$(B \times E \times M) \times N$	15,678,410 kWh
		Gross Installed Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J$	15,678,410 kWh
		Net Annual kWh Saved at Customer	$(B \times E \times M) \times N \times J \times F$	12,771,348 kWh
		Net Annual kWh Saved at Generator	$((B \times E \times M) / (1 - H)) \times N \times J \times F$	13,836,781 kWh
		UCT Net Benefits	$(N \times M \times L)$	\$3,155,447
Total Costs		Utility Program Cost per kWh Lifetime		\$0.0177
		Utility Program Cost per kW at Gen		\$1.198
Net Benefit (Cost)				
Benefit/Cost Ratio				

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

BUSINESS COMPREHENSIVE				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Benefits				Input Summary and Totals		
				Program Inputs per Customer kW		
				Lifetime (Weighted on Generator kWh)	A	14.95 years
				Annual Hours	B	8760
				Gross Customer kW	C	1 kW
System Benefits (Avoided Costs)				Generator Peak Coincidence Factor	D	67.15%
				Gross Load Factor at Customer	E	50.15%
				Net-to-Gross (Energy)	F	81.4%
				Net-to-Gross (Demand)	G	81.5%
				Transmission Loss Factor (Energy)	H	7.700%
Marginal Energy				Transmission Loss Factor (Demand)	I	10.400%
				Installation Rate (Energy)	J	100.000%
				Installation Rate (Demand)	K	100.000%
				UCT Net Benefit (Cost)	L	\$877
				Total Benefits		\$6,749,590
Costs						
Utility Project Costs						
Total Incentive				\$1,517,108		
Internal Administration				\$530,747		
Third-Party Delivery				\$1,141,347		
Promotion				\$333,659		
M&V				\$98,000		
Subtotal				\$3,620,861		
Participant Costs						
Costs						
Incremental Capital Costs				N/A		
Incremental O&M Costs				N/A		
Subtotal				N/A		
Reductions to Costs						
Participant Rebates				N/A		
Subtotal				N/A		
Subtotal				N/A		
Total Costs				\$3,620,861		
Net Benefit (Cost)				\$3,128,729		
Benefit/Cost Ratio				1.86		

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

INTERRUPTIBLE CREDIT OPTION				2018	ELECTRIC	GOAL
2018 Net Present Cost Benefit Summary						
Analysis For All Participants						
Benefits				Input Summary and Totals		
				Program Inputs per Customer kW		
				Utility Cost Test (\$Total)	A	3.00 years
					B	8760
					C	1 kW
					D	78.92%
					E	0.08%
					F	100.0%
					G	100.0%
					H	7.700%
					I	10.400%
					J	100.000%
	K	100.000%				
	L	\$27				
Total Benefits				Net coincident kW Saved at Generator (G x C x K) x D / (1 - I) 0.8550 kW		
Costs				Gross Annual kWh Saved at Customer (B x E x C) 7 kWh		
Utility Project Costs				Net Annual kWh Saved at Customer (F x (B x E x C x J)) 7 kWh		
Total Incentive				Net Annual kWh Saved at Generator (F x (B x E x C x J)) / (1 - H) 8 kWh		
Internal Administration						
Third-Party Delivery						
Promotion						
M&V						
Subtotal				Program Summary per Participant 500.00 kW		
				Net coincident kW Saved at Generator (G x M x K) x D / (1 - I) 440.40 kW		
				Gross Annual kWh Saved at Customer (B x E x M) 3,500 kWh		
				Net Annual kWh Saved at Customer (F x (B x E x M x J)) 3,500 kWh		
				Net Annual kWh Saved at Generator (F x (B x E x M x J)) / (1 - H) 3,792 kWh		
Participant Costs				Program Summary All Participants		
Costs				Total Participants N 2		
				Total Budget O \$45,569		
				Gross kW Saved at Customer (N x M) 1,000 kW		
				Net coincident kW Saved at Generator ((G x M x K) x D / (1 - I)) x N 881 kW		
				Gross Annual kWh Saved at Customer (B x E x M) x N 7,000 kWh		
				Gross Installed Annual kWh Saved at Customer (B x E x M) x N x J 7,000 kWh		
				Net Annual kWh Saved at Customer (B x E x M) x N x J x F 7,000 kWh		
				Net Annual kWh Saved at Generator ((B x E x M) / (1 - H)) x N x J x F 7,584 kWh		
				UCT Net Benefits (N x M x L) \$26,718		
Total Costs				\$45,569		
Net Benefit (Cost)				\$26,718		
Benefit/Cost Ratio				1.59		

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

Attachment DAB-7(CD)

**is provided in
electronic format on the CD attached to the
Direct Testimony of Donna A. Beaman**

ATTACHMENTS DAB-1(CD), DAB-7(CD), and DAB-8(CD)

Attachment DAB-8(CD)

**is provided in
electronic format on the CD attached to the
Direct Testimony of Donna A. Beaman**

ATTACHMENTS DAB-1(CD), DAB-7(CD), and DAB-8(CD)

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

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

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

Colorado 2016	Minnesota 2016	New Mexico 2016	Why Not in New Mexico
Multifamily Buildings	Multi-Family Building Efficiency	N/A	Can be addressed through Custom product or Home Energy Services.
Residential Program	Residential Program	Residential Program	
Energy Feedback - Residential	Energy Feedback	Energy Feedback	N/A
Energy Efficient Shower Heads	Energy Efficient Shower Heads	N/A	Primarily a natural gas savings program; however, showerheads are a measure in Home Energy Services for its electric savings.
ENERGY STAR New Homes	Energy Star Homes	N/A	Combination gas and electric program. Needs both to be cost-effective.
Evaporative Cooling Rebates	N/A	Residential Cooling	N/A
Residential Heating	Heating System Rebate	Residential Cooling	N/A
High Efficiency Air Conditioning	N/A	Residential Cooling and Home Energy Services	N/A
Home Lighting & Recycling	Home Lighting	Home Lighting & Recycling	N/A
Home Energy Squad	Home Energy Squad	Home Energy Services	This program encompasses many of the offerings in our other jurisdictions. Offering the program as a bundle of measures is unique to New Mexico.
Home Performance with ENERGY STAR	Home Performance with Energy Star	N/A	Combination gas and electric program. Needs both to be cost-effective.
Insulation & Air Sealing	Insulation Rebate	N/A	Primarily a natural gas savings program; however, insulation is a measure in Home Energy Services for its electric savings.
Refrigerator Recycling	Refrigerator Recycling	Refrigerator Recycling	N/A
N/A	Residential Cooling	Residential Cooling and Home Energy Services	N/A
N/A	Residential Quick Fix Efficiency Service	N/A	This program primarily offers natural gas measures and is in the pilot stage. It is not ready for launch in other jurisdictions.
School Education Kits	School Education Kits	School Education Kits	N/A
Water Heater Rebate	Water Heating Rebate	N/A	SPS used to offer this program in New Mexico; however, it had extremely low participation and was subsequently removed from the EE/LM plan.
Low-Income Program	Low-Income Program	Low-Income Program	
Energy Savings Kit	Easy Savings Energy Kits	Home Energy Services	This program is a component of SPS's Home Energy Services program.
N/A	Home Electric Savings Program	Home Energy Services	N/A
Multi-Family Weatherization	Multi-Family Energy Savings Program	N/A	SPS used to offer this program in New Mexico; however, it had extremely low participation and was subsequently removed from the EE/LM plan. Multi-family residences can participate through the Home Energy Services program.
Non-Profit	N/A	N/A	This program is offered in Colorado due to a partnership with an engaged non-profit organization. SPS would consider this offering if a similar partner could be found in its New Mexico territory.
Single-Family Weatherization	Single Family Weatherization Program	Home Energy Services	This program encompasses many of the offerings in our other jurisdictions. Offering the program as a bundle of measures is unique to New Mexico.
N/A	LI Home Energy Squad	Home Energy Services	N/A

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

Colorado 2016	Minnesota 2016	New Mexico 2016	Why Not in New Mexico
	Smart Thermostats Pilot	Smart Thermostats	N/A
Load Management Program	Load Management Program	Load Management Program	
Residential Saver's Switch	Residential Saver's Switch	Residential Saver's Switch	N/A
N/A	Business Saver's Switch	Business Saver's Switch	SPS has previously offered Business Saver's Switch in New Mexico, however the product was removed from the portfolio during settlement in Case No. 16-00110-UT.
Interruptible Service Option Credit	Electric Rate Savings	Interruptible Credit Option	N/A
Smart Thermostats	Smart Thermostats	Smart Thermostats	N/A
Indirect Products & Services	Indirect Products & Services	Indirect Products & Services	
Energy Benchmarking	N/A	Commercial Energy Benchmarking	SPS has previously filed for an Energy Benchmarking budget, however the indirect product was removed from the portfolio during settlement in Case No. 16-00110-UT.
Business Energy Analysis	N/A	N/A	This audit-based, indirect program was deemed too costly to offer in New Mexico.
Consumer Education - Business	Consumer Education - Business	N/A	SPS used to offer this program in New Mexico. Education and outreach are now done more directly through the programs. However, SPS continues to use its Product Development funding in order to identify new measures especially in the oil and gas sector.
Consumer Education - Residential	Consumer Education	Consumer Education	SPS provided this indirect service through 2016, however it was removed from the portfolio during settlement in Case No. 16-00110-UT.
Energy Efficiency Financing	N/A	N/A	SPS may consider expanding the pilot to other states if it proves effective in Colorado.
Residential Home Energy Audit	Home Energy Audits	N/A	This audit-based, indirect program was deemed too costly to offer in New Mexico.

Note 1 SPS - Texas: Programs offered in Texas are required to be standard offer programs (SOP) implemented by third parties and are not directly comparable to SPS programs. The SOP programs in Texas bundle many measures into one overall program, (e.g., Residential SOP).

Note 2 NSP - Wisconsin: Programs offered in Wisconsin are implemented by state agencies.

CASE NO. 17-00___-UT

IN THE MATTER OF SOUTHWESTERN PUBLIC SERVICE
COMPANY'S ENERGY EFFICIENCY COMPLIANCE APPLICATION
THAT REQUESTS AUTHORIZATION TO: (1) PER APPROVED VARIANCE,
CONTINUE ITS: (A) 2017 ENERGY EFFICIENCY AND LOAD MANAGEMENT
PROGRAMS FOR PLAN YEAR 2018; (B) 2017 ENERGY SAVINGS GOAL FOR PLAN
YEAR 2018; (C) ENERGY EFFICIENCY TARIFF RIDER TO RECOVER THE THREE
PERCENT FUNDING LEVEL FOR PLAN YEAR 2018 AND RECONCILIATION OF 2016
EXPENDITURES AND COLLECTIONS; AND (D) 2017 FINANCIAL INCENTIVE FOR PLAN
YEAR 2018 AND RECOVER THE INCENTIVE THROUGH ITS ENERGY EFFICIENCY TARIFF
RIDER; AND (2) RECOVER THE 2016 RECONCILED FINANCIAL INCENTIVE THROUGH
ITS ENERGY EFFICIENCY TARIFF RIDER.

**Attachments DAB-1(CD),
DAB-7(CD) and DAB-8(CD)**