

ORIGINAL

OPEN MEETING
MEMORANDUM



0000167795

RECEIVED

2016 JAN 20 P 4: 05

AZ CORP COMMISSION
DOCKET CONTROL

TO: THE COMMISSION

FROM: Utilities Division

DATE: January 20, 2016

RE: IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY FOR APPROVAL OF ITS 2016 ENERGY EFFICIENCY IMPLEMENTATION PLAN AND FOR A WAIVER UNDER A.A.C. R14-2-2419 (DOCKET NO. E-01933A-15-0178).

Background

On June 1, 2015, Tucson Electric Power Company ("TEP" or "the Company") filed its 2016 Energy Efficiency Implementation Plan. In Decision No. 74885 (December 31, 2014), the Commission approved 19 programs, either initially or for continuation. TEP proposes to add measures to five programs and is modifying several other programs, as discussed below. TEP is also proposing to reinstate the Home Energy Reports Program.

Existing Programs (New Measures Proposed). TEP has proposed new measures for the five programs listed below. These programs and the new measures will be discussed in greater detail herein.

- **Efficient Products Program;**
- **Existing Homes Program;**
- **Multi-Family Housing Efficiency Program;**
- **C&I Comprehensive Program; and**
- **Small Business Direct Install Program.**

Existing Programs (Modifications). TEP has proposed to continue the below programs with limited modifications. A new and additional delivery method has been developed for the Shade Tree program, and TEP proposes to continue a pilot program within the Low-Income Weatherization Program that offers lighting and refrigeration measures. (These measures are normally only part of the Health and Safety portion of the Low-Income Weatherization Program.) In addition, TEP is making changes to the Appliance Program because the original implementation contractor has ceased operations. These programs and modifications will be discussed in greater detail herein.

- **Shade Tree Program;**
- **Low-Income Weatherization; and**
- **Appliance Recycling Program.**

Arizona Corporation Commission

DOCKETED

JAN 20 2016

DOCKETED BY	<i>JK</i>
-------------	-----------

Existing Programs (No Modifications). TEP has proposed to continue the below programs without new measures or significant modifications.

- **Residential New Construction Program;**
- **Behavioral Comprehensive;**
- **Consumer Education and Outreach Program;**
- **Energy Codes and Standards Program;**
- **Conservation Voltage Reduction Program;**
- **Generation Improvement and Facilities Upgrade Program;**
- **C&I Direct Load Control Program;**
- **Commercial New Construction**
- **Bid for Efficiency Program;**
- **Retro-Commissioning Program; and**
- **Combined Heat and Power (“CHP”) Program.**

Home Energy Reports. In addition to the existing programs listed above, the Company is now proposing to reinstitute the Home Energy Reports Program, which will include a starter kit with four 9 Watt LED lights. A description of the updated Home Energy Reports Program is discussed herein.

Existing Measures, All Programs. A list of the existing and new (proposed) is included as Exhibit A, attached.

Efficient Products Program

Program Description. The Efficient Products Program is a primarily residential program and has been in existence since 2008. It was most recently approved in Decision No. 74885 (December 31, 2014). The program is designed to make energy efficient products, such as CFL or LED lighting or more efficient pool pumps, more affordable and more readily available.

Program Objectives and Rationale. The program promotes the purchase of energy efficient products through buy-downs, retail partnerships, and the training of retail staff. The Company also works with retailers to increase the stocking and selection of efficient retail products.

Proposed New Measures. TEP is proposing to add the following measures:

Table 1

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
Energy Star [®] ceiling fan	Conventional fan	\$30	100	0.90

Energy Star® freezer	Conventional freezer	\$10	25	1.63
Energy Star® central air conditioner/ 14.5 SEER	13 SEER	\$300	100	2.29
Energy Star® clothes washer	Conventional washer	\$50	200	1.32
Energy Star® refrigerator	Conventional refrigerator	\$20	75	1.12
Energy Star® room air conditioner	Conventional unit	\$35	100	1.20

Eligibility. The program targets Residential and Small Commercial customers in TEP's service territory. The existing CFL and LED measures target both Residential and Small Commercial customers, as do the proposed new measures. But the existing pool pump measure targets only Residential customers.

Budget. See TABLE 6: TEP'S PROPOSED BUDGET, herein, which lists the sector, projected costs per category, and total budget for each program.

Delivery and Marketing. Delivery will consist of a combination of buy-downs and possibly on-line or mail-in rebates with participating retailers.

Staff Recommendations. In order to be cost-effective, a measure must achieve a benefit-cost ratio of 1.0, indicating that monetized benefits of a measure at least equal the costs associated with that measure. In cases where a measure is very close to 1.0, Staff sometimes takes into account non-monetized benefits of a measure, such as avoided emissions or generation water savings, because, although the value of these savings has not been determined, they are greater than zero.

Staff recommends that the Commission approve all the new measures proposed for the Efficient Products Program, with the exception of the Energy Star® Ceiling Fan, which Staff has not found cost-effective.

Existing Homes Program

Program Description. This Residential program has been in existence since 2008. It was most recently approved in Decision No. 74885 (December 31, 2014). The program is designed to improve energy efficiency in existing homes. The current program offers duct sealing and quality installation of new high-efficiency HVAC equipment.

Program Objectives and Rationale. The new HVAC measures are designed to achieve energy and demand savings through the early retirement of old, low-efficiency units or by incenting quality

installation of new units. TEP will continue the duct test and repair measures alone or in conjunction with new units. The Company trains and mentors participating contractors.

Proposed Changes. TEP proposes to add the following measures (see Table 2) to the Existing Homes Program. With measures designed to improve the efficiency of existing HVAC systems, TEP hopes to impact peak demand by expanding the options for customers wishing to participate in the Existing Homes program. TEP believes there is significant market potential for these measures in the TEP service territory.

In particular, TEP anticipates a high level of activity for the HVAC Advanced Tune-up measure. HVAC contractors recommend HVAC systems be maintained at least once or twice each year. With thousands of maintenance contracts already in place, the test to determine duct leakage can be incorporated into maintenance calls. In addition, the tune-up measure will appeal to customers who call a contractor because their HVAC system is not working.

Table 2

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
HVAC Advanced Tune-up	No tune-up	\$150	6,000	1.13
Western Cooling Control_Stand alone	No control	\$70	1,000	1.65
BPM/ECM + motor ¹	Conventional motor and control	\$300	100	0.60
Smart Thermostat	Standard thermostat	\$89	1,500	1.11

Eligibility. In order to be eligible for the Existing Homes Program, a participant must be a TEP customer owning a single-family detached home, town home, manufactured home or other attached residential building of up to four units, even if the building is rented to another party. Participants must receive electric service from TEP.

Budget. See TABLE 6: TEP'S PROPOSED BUDGET, herein, which lists the sector, projected costs per category, and total budget for each program.

Delivery and Marketing. TEP manages the program and provides oversight and marketing. With the exception of Smart thermostats, all measures are provided by a third party Implementation Contractor ("IC") which is responsible for: (i) recruitment, training and mentoring of participating contractors; (ii) data tracking; (iii) rebates processing; and (iv) technical support. Smart thermostats will be delivered by manufacturers, retailers, and approved trade contractors, and should be incentivized in the manner that best promotes program objectives.

¹ Quality Installed Brushless Permanent Magnet motors or Electrically Commutated Motors.

Staff Recommendations. Staff recommends that the Commission approve all the new measures proposed for the Existing Homes Program, with the exception of the BPM/ECM plus motor, which Staff has not found cost-effective.

Multi-Family Housing Efficiency Program

Program Description. The Multi-Family Housing Efficiency Program (“Multi-Family Program”) was originally approved in Decision No. 74885 (December 31, 2014). The purpose of the Multi-Family Program is to promote energy efficiency in the residential multi-family sector for properties with five or more units. Multi-family facility managers would also be encouraged to participate in the C&I Comprehensive Program for installation of energy efficiency improvements to common areas.

Program Objectives and Rationale. The Multi-Family Program is designed to overcome barriers to energy efficiency in the multi-family housing market. Typically, the multi-family market has been difficult to reach due to capital constraints, lack of awareness, and split incentives.

“Split incentives” describes a problem that arises in promoting energy efficiency in rental units. Generally, builders and owners do not directly benefit from the lower energy costs arising from investing in efficiency measures, which reduces their incentive to participate in energy efficiency programs. At the same time renters, who would benefit from lower energy bills, have no direct influence over original construction and may not have the authority, the incentive or the means to invest in energy efficiency for housing they do not own.

The Multi-Family Program would address split incentives, capital constraints and lack of awareness through direct installation of low cost energy efficiency improvements in existing complexes and through energy efficiency improvements to common areas.

Proposed Changes. TEP is proposing the following new measures for the Multi-Family Housing Efficiency Program. The Company is proposing Residential LED lamps rather than CFLs for this program, as being more efficient, while remaining cost-effective.

Table 3

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
HVAC Advanced Tune-up	No tune-up	\$125	1,100	1.00
Western Cooling Control Stand alone	No control	\$50	400	1.53
Duct Test & Repair	No Duct Test & Repair	\$175	800	1.59
Residential LED	Incandescent	\$4.50	6,000	1.19

Eligibility. The Multi-Family Program is available to owners of multi-family buildings with five dwelling units or more. Program participants must currently receive electric service from TEP.

Budget. See TABLE 6: TEP'S PROPOSED BUDGET, herein, which lists the sector, projected costs per category, and total budget for each program.

Delivery and Marketing. Program delivery for existing measures is provided by TEP Staff. If the proposed HVAC Advanced Tune up measures are approved by the Commission, a third party implementation contractor will be responsible for the tune-up portion of the program.

Staff Recommendations. Staff recommends that the Commission approve all the new measures proposed for the Multi-Family Program, because each of the four measures has a benefit-cost ratio at or above 1.0.

Small Business Direct Install Program

Program Description. The Small Business Direct Install ("SBDI") Program is an existing TEP Non-residential Program. In Decision No. 74885 (December 2014), the SBDI program was revised to make schools eligible for participation. The Program provides incentives directly to contractors for the installation of high efficiency measures at existing small business facilities and schools. These measures include lighting, HVAC, programmable thermostats, and refrigeration measures for smaller Non-residential customers.

Program Objectives and Rationale. The primary purpose of the existing component of the Program is to promote the installation of energy efficiency at existing small businesses and at schools.

Proposed Changes. TEP is proposing the following new measures.

Table 4

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
LED Outdoor Lighting	15-100 Watt Incandescent lamps or 70 watt to 1,000 watt metal halide or high pressure sodium lamps.	\$27	500	1.54
LED Tubes replacing fluorescent Indoor	34-40 Watt T12 or T8	\$10	250	1.10
LED Tubes replacing fluorescent Outdoor	34-40 Watt T12 or T8	\$10	250	1.04
Economizers	No economizer	\$139	5	1.40

EMS_HVAC Delivery	No controls	\$0.26/sq. ft.	5,000	1.07
Evaporative fan controls	No controls	\$75	5	0.94
Pulse Start MH_Interior	565 Fixture Watts	\$109	25	0.85
Pulse Start MH_Exterior	472 Fixture Watts	\$94	20	0.77
PTAC	10.2 EER Base Unit	\$294	250	2.97
PTHP	10.0 EER Base Unit	\$407	250	2.91
Variable Refrigerant Flow	Standard refrigerant flow	\$3.76/kBtuh	400	1.38
Window Films	No film	\$1.16/sq. ft.	500	0.79
Induction Lighting_Outdoor	67 to 1180 W MH or HPS wtd average	\$118	25	1.03
HVAC System Test and Repair	No test and repair	\$300	300	1.23

Eligibility. The SBDI Program is open to both small business customers and schools taking service under a small commercial tariff within TEP's service territory. (Some schools take service under a large commercial tariff.) These customers are also eligible to participate in the C&I Comprehensive Program, if funding is available.

Budget. See TABLE 6: TEP'S PROPOSED BUDGET, herein, which lists the sector, projected costs per category, and total budget for each program.

Delivery and Marketing. TEP's IC is the primary contact for small business customers. The IC handles the application and incentive processing, monitors the installation contractors, tracks and reports participation, and is responsible for quality control and management of the delivery process.

Staff Recommendations. Staff recommends that the Commission approve all the new measures proposed for the Small Business Direct Install Program, with the exception of the Evaporative Fan Controls, the Pulse Start MH_Interior, the Pulse Start MH_Exterior, and Window Films measures, which are not cost-effective as a part of this program.

C&I Comprehensive Program

Program Description. The Commercial and Industrial ("C&I") Program offers incentives to Non-residential customers for installing cost-effective retrofit and replace-on-burnout ("ROB") measures in existing facilities. The C&I Comprehensive Program provides incentives to TEP's large Non-residential customers to install measures such as energy-efficient lighting equipment and controls, HVAC equipment, motors and motor drives, compressed air and leak-repair measures, and refrigeration. Originally approved in Decision No. 70403 (July 3, 2008), the Program was then named the Non-residential Existing Facilities Program. The C&I Program was most recently approved in Decision No. 74885 (December 31, 2014).

Program Objectives and Rationale. The Program addresses high first costs and limited investment capital for retrofits and ROBs, limited awareness of the potential energy savings and requirements for short-term payback.

Proposed Changes. New measures proposed for the C&I program are listed below:

Table 5

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
LED Outdoor Lighting	15-100 Watt Incandescent lamps or 70 watt to 1,000 watt metal halide or high pressure sodium lamps.	\$15	250	1.78
LED Tubes replacing fluorescent Indoor	34-40 Watt T12 or T8	\$10	250	1.54
LED Tubes replacing fluorescent Outdoor	34-40 Watt T12 or T8	\$10	250	1.48
Economizers	No economizer	\$160	5	1.86
EMS_HVAC Delivery	No controls	\$0.26/sq. ft.	5,000	1.31
Evaporative fan controls	No controls	\$75	5	1.22
Pulse Start Metal Halide__Interior	565 Fixture Watts	\$100	25	1.12
Pulse Start Metal Halide__Exterior	472 Fixture Watts	\$90	10	1.01
PTAC	10.2 EER Base Unit	\$44	200	6.15
PTHP	10.0 EER Base Unit	\$44	200	6.29
Variable Refrigerant Flow	Standard refrigerant flow	\$2/kBtuh	200	1.86
Window Films	No film	\$1.75/sq. ft.	250	1.89
Induction Lighting__Outdoor	67 to 1180 W MH or HPS wtd average	\$126	25	1.30

Eligibility. The Program is available to all existing commercial customers within TEP's service territory. Although targeted to large commercial and industrial customers, small business customers

and school facilities are allowed to participate in the C&I Comprehensive Program as long as funds are available.

Budget. See TABLE 6: TEP'S PROPOSED 2016 BUDGET, herein.

Delivery and Marketing. The C&I Program promotes participation either directly by large commercial customers, or through contractors. Marketing includes educational seminars tailored to the business market, website promotion, presentations at professional and community forms and direct outreach to customers.

Staff Recommendation. Staff recommends that all the new measures proposed for the C&I Program be approved, with the exception of the Energy Intelligence Software program. The Energy Intelligence Software program is a comparatively high cost measure and there is currently insufficient data to clearly indicate that it would be cost-effective in practice.

Home Energy Reports

In addition to the modifications to existing programs discussed herein, TEP has proposed to reinstitute the Home Energy Reports ("HER") program. The program has been redesigned to make it more cost-effective and to improve customer satisfaction.

Program Description. The proposed HER program is designed to promote behaviors that conserve energy, such as turning off the lights and adjusting the thermostat, or changing furnace filters and cleaning refrigerator coils. The program is intended to encourage behavioral changes through targeted and comparative education and awareness of customers' energy consumption as compared to others. The HER program would achieve this through periodic direct-mail or email reports on energy consumption and tips on how to save energy. Reports would be delivered at no cost to the customer and typically include an opportunity for customers to enhance the accuracy of the report by providing additional detail about their home and energy consumption habits. In order to strengthen customer engagement with the program and achieve cost-effectiveness the Company will send participants a behavioral education starter kit with a welcome letter and four LED light bulbs. The program is also intended to provide an additional channel to promote participation in other DSM programs.

Program Objectives and Rationale. The major objectives of this program are to: generate savings for DSM portfolio objectives; educate and empower a broad base of residential customers to take advantage of other DSM programs; promote efficient home operations; and lower energy bills for consumers.

Budget. See TABLE 6: TEP'S PROPOSED 2016 BUDGET, herein.

Eligibility. The Home Energy Reports Program would be open to all Residential customers in the TEP service area who are receiving service from TEP.

Delivery and Marketing Strategy. Home Energy Reports may be direct mailed or emailed to customers. TEP will jointly develop the HER marketing strategy and messaging with the implementation contractor. The program will also be included in the integrated marketing approach

developed and used for all TEP DSM measures. TEP will be conducting a search for an implementation contractor and is preparing a Request for Proposal.

Staff Recommendations. Staff recommends that the Home Energy Reports Program be offered as long as TEP is able to offer the program on a cost-effective basis.

Other Program Changes

In addition to the new measures and the reinstated HER program, discussed herein, TEP is redesigning the Appliance Program in response to the loss of the implementation contractor, and has instituted new (additional) delivery methods for Shade Tree and Low-Income Weatherization programs.

Appliance Program Developments

No new measures have been proposed for the Appliance Program, but TEP is redesigning the delivery process in response to loss of the implementation contractor initially responsible for running the program.

JACO Environmental (“JACO”), the implementation contractor for TEP’s Appliance program, has ceased operations. TEP has provided incentives and assisted with bank fees for customers affected by JACO’s sudden closure. TEP has also found a local recycler capable of harvesting both refrigerators and freezers, and is utilizing its warehouse staff to pick up appliances. TEP believes that this solution may be more cost-effective than using JACO.

Low-Income Weatherization

Program Description. The Low-Income Weatherization Program is an existing program that weatherizes low-income housing to conserve energy and lower energy bills. The program provides duct repair, pressure management/infiltration controls, attic insulation, and repair or replacement of non-functional or hazardous appliances.

Program Objectives and Rationale. The main objective of the Low-Income Weatherization Program is to lower energy consumption for low-income customers.

Budget. See TABLE 6: TEP’S PROPOSED 2016 BUDGET, herein.

Eligibility. Program participants must be low-income customers of TEP. The Commission approved an eligibility change from 150 percent of the Federal Poverty Level to 200 percent of the Federal Poverty Level in Decision No. 74885 (December 31, 2014).

Delivery and Marketing Strategy. In 2015, TEP worked with the Tucson Urban League (“TUL”) on a pilot project to weatherize an additional 50 homes. In addition to weatherization measures, the pilot project allows the replacement of inefficient refrigerators and installation of energy efficient lighting. Refrigerator replacement and energy efficient lighting are normally only part of the Health and Safety component of the Low-Income Weatherization Program, but for the pilot they have been added as a standard measure.

Staff Recommendations. Staff is concerned about the cost-effectiveness of the efficient lighting and refrigerator replacement measures as standard measures for the Low-Income Weatherization Program. Staff recommends that TEP review the cost-effectiveness of the pilot project and that the Company report on the project and its benefit-cost ratio in the next progress report filed with the Commission. The efficient lighting and refrigerator replacement measures should cease to be treated as standard measures if they are not cost-effective.

Shade Trees

Program Description. The Shade Tree program promotes energy conservation and environmental benefits by motivating customers to plant desert-adapted trees in location where the trees will provide shade and reduce HVAC load. The program provides desert-adapted trees to customers at a low cost, if the customers agree to plant the trees on the east, west, or south sides of their homes. No new measures have been proposed for this program, but TEP has developed an additional method of delivery.

Program Objectives and Rationale. The objective of the Shade Tree Program is to promote the strategic planting of trees to provide shade, thereby reducing the cooling load of homes.

Budget. See TABLE 6: TEP'S PROPOSED 2016 BUDGET, herein.

Delivery and Marketing Strategy. Trees for Tucson, a non-profit organization, currently delivers the shade trees for TEP's Shade Tree program, also providing instructions on planting, benefits and care. TEP has begun to also distribute trees through retail shows at big box stores and has determined that this method of delivery is cost-effective. In using this method of delivery TEP requires no payment from customers for the trees, in comparison to the \$8.00 charge for delivery by Trees for Tucson. TEP plans to expand the new method of delivery in 2016.

Staff Recommendations. Staff recommends that TEP ensure that customers receiving trees at retail shows at big box stores receive information about planting and caring for shade trees. This information should include instructions on planting the trees in a manner that will provide energy savings. TEP should verify that trees delivered through this method are being planted in accordance with program guidelines, relying on a reasonable sample of participants.

CFL Measures

With the increasing penetration and lower cost of CFLs, Staff is concerned about continuing to offer incentives for a measure that has moved closer to becoming the industry standard. TEP has indicated that it would prefer to move toward LEDs on a cost-effective and gradual basis, and that low-income customers, in particular, would be negatively impacted by an elimination of incentives for CFLs. The Company states that removing the incentive would make incandescents less expensive than CFLs and would increase the sales of incandescent bulbs to this market segment.

In addition, the cost of LEDs remains a concern, TEP has indicated that LEDs currently have an average manufacturer's suggested retail price ("MSRP") per bulb of \$7.99, while the MSRP for CFLs is \$1.82 and for incandescents is \$0.62. TEP believes that the price of LEDs will drop over time, allowing TEP to transition to LEDs on a cost-effective basis.

Staff recommends that TEP work toward eliminating incentives for CFLs and developing LED lighting measures that are cost-effective.

DSM Budget

In Decision No. 74885 (December 31, 2014), the Commission approved a budget of approximately \$18.8 million. TEP currently projects actual spending of approximately \$15.8 million for 2015. The Company states that the lower spending largely resulted from the need to ramp up new programs approved at the end of 2014. The unspent funds are part of an over-collected DSM balance of approximately \$9 million dollars that will be trued-up as part of the DSM Surcharge reset, as discussed herein.

TEP recommends that the budget be increased to approximately \$23 million, based on the level of participation the Company is currently projecting. In particular, TEP anticipates a high level of participation for the proposed new HVAC measures, should the Commission approve them.

TABLE 6: TEP'S PROPOSED 2016 BUDGET

Program	Incentives	Delivery	Marketing	Administration	Measurement	Total
Residential Sector						
Efficient Products	\$2,683,252	\$1,022,764	\$490,000	\$103,812	\$146,861	\$4,446,689
Appliance Recycling	\$60,000	\$280,000	\$50,000	\$14,500	\$11,700	\$416,200
Residential New Construction	\$240,000	\$107,663	\$100,000	\$18,444	\$13,430	\$479,537
Existing Homes ²	\$2,658,461	\$2,069,181	\$300,000	\$150,000	\$60,000	\$5,237,642
Shade Trees	\$237,553	\$28,591	\$20,000	\$0	\$8,075	\$294,219
Low-income Weatherization	\$376,107	\$23,238	\$20,884	\$15,416	\$16,229	\$451,873
Multi-family	\$385,773	\$361,147	\$7,880	\$31,098	\$22,644	\$808,542
Commercial Sector						
C&I Comprehensive	\$2,023,703	\$1,202,000	\$190,000	\$114,000	\$114,000	\$3,643,703
Commercial New Construction	\$332,800	\$174,000	\$30,000	\$18,000	\$18,000	\$572,800
Bid for Efficiency Pilot	\$120,000	\$58,000	\$10,000	\$6,000	\$6,000	\$200,000
Retro-commissioning	\$132,000	\$58,000	\$10,000	\$6,000	\$6,000	\$212,000
Small Business Direct Install	\$838,418	\$725,000	\$125,000	\$75,000	\$75,000	\$1,838,418

² Using Proctor Engineering delivery model to verify Quality Installation and to cover additional measures.

THE COMMISSION

January 20, 2016

Page 13

Program	Incentives	Delivery	Marketing	Administration	Measurement	Total
& School Facilities ³						
CHP Program ⁴	\$0	\$3,500	\$0	\$1,000	\$1,000	\$5,500
Behavioral Sector						
Behavioral Comprehensive	\$371,903	\$196,000	\$101,105	\$32,873	\$23,937	\$725,818
Home Energy Reports ⁵	\$465,850	\$325,000	\$0	\$10,000	\$10,000	\$810,850
Support Sector						
Education and Outreach	\$0	\$183,547	\$461,000	\$19,336	\$0	\$663,883
Energy Codes and Standards	\$0	\$110,000	\$0	\$13,000	\$50,000	\$173,000
Program Development, Analysis and Reporting	\$0	\$695,000	\$0	\$0	\$0	\$695,000
Utility Improvement Sector						
Conservation Voltage Reduction	\$0	\$0	\$0	\$0	\$0	\$0
Generation Improvement and Facilities Upgrade	\$0	\$0	\$0	\$0	\$0	\$0
Demand Response Sector						
C&I Direct Load Control	\$0	\$1,056,700	\$87,000	\$52,200	\$45,400	\$1,241,300
Total	\$10,925,819	\$8,679,330	\$2,002,869	\$680,679	\$628,276	\$22,916,973
Total Percentage of Budget	48%	38%	9%	3%	3%	100%

³ Small Business Direct Install and Schools Facilities have been combined.

⁴ No separately identified projects to include in the Plan.

⁵ TEP will be issuing an RFP in an effort to find a delivery model for home energy reports that provides higher cost-effectiveness and improved customer satisfaction.

TABLE 7-- Approved and Proposed Budget, Plus Actual Spending

Program	2015 (Reforecasted)	2015 Year to date actual spending	2016 Proposed Budget
Residential Sector			
Efficient Products	\$4,042,489	\$2,544,098	\$4,446,689
Appliance Recycling	\$297,098	\$187,666	\$416,200
Residential New Construction	\$615,151	\$344,260	\$479,537
Existing Homes	\$2,705,698	\$2,480,972	\$5,237,642
Shade Trees	\$244,732	\$222,730	\$294,219
Low-income Weatherization	\$230,996	\$195,773	\$451,873
Multi-family	\$121,055	\$92,740	\$808,542
Commercial Sector			
C&I Comprehensive	\$3,400,474	\$2,185,886	\$3,643,703
Commercial New Construction	\$324,158	\$124,357	\$572,800
Bid for Efficiency Pilot	\$119,591	\$18,101	\$200,000
Retro-commissioning	\$25,328	\$9,440	\$212,000
Small Business Direct Install & School Facilities ⁶	\$1,753,373	\$1,161,979	\$1,838,418
CHP Program	\$2,588	\$0	\$5,500
Behavioral Sector			
Behavioral Comprehensive	\$838,258	\$625,491	\$725,818
Home Energy Reports ⁷	\$0.00	\$82	\$810,850
Education and Outreach	\$585,603	\$306,667	\$663,883
Support Sector			
Energy Codes and Standards	\$50,000	0	\$173,000
Program Development, Analysis and Reporting	\$784,000	\$386,274	\$695,000
Utility Improvement Sector			
Conservation Voltage Reduction	n/a	n/a	n/a
Generation Improvement and Facilities Upgrade	n/a	n/a	n/a
Demand Response Sector			

⁶ Small Business Direct Install and Schools Facilities have been combined.

⁷ TEP will be issuing an RFP in an effort to find a delivery model for home energy reports that provides higher savings and better consumer satisfaction.

Program	2015 (Reforecasted)	2015 Year to date actual spending	2016 Proposed Budget
C&I Direct Load Control	\$445,231	\$368,816	\$1,241,300
Total	\$15,801,823	\$11,255,331	\$22,916,973

Following its filing, TEP decided to propose Home Energy Reports. The Company decided to propose the additional program without increasing its proposed overall budget. TEP has done so by transferring funds from the Direct Load Control and Efficient Products programs.

Performance Incentive

Decision No. 73912, from the most recent rate case, ordered that:

“[T]he performance incentives, tied to the cost effective energy savings, shall be reviewed, established and approved as appropriate as part of the Commission’s Energy Efficiency Implementation Plan and DSM Surcharge reset proceedings for Tucson Electric Power Company.”

Performance Incentive. Decision No. 73912 also states that the performance incentive is to be calculated at 8 percent of the net benefits, capped at \$0.0125 per kWh saved, similar to the performance incentive approved for APS in Docket No. E-01345A-12-0224. TEP determined the forecasted net benefits based on its avoided costs, per measure. Because this amount is higher than the cap, the \$0.0125 per kWh cap applies. The capped and adjusted amount of the Performance Incentive, based on \$0.0125 per kWh, is equal to approximately \$1,725,000.

Staff finds that the Performance Incentive was calculated in accordance with Decision No. 73912.

The Conservation Voltage Reduction and Generation Improvement and Facilities Upgrade Programs were approved with the limitation that there be no recovery for these programs through the DSM Surcharge. In addition, energy savings from improvements to TEP’s facilities and generation systems are not to be used to increase the LFCR, to qualify for the performance incentive, or increase the performance incentive amount. Energy savings from the Conservation Voltage Reduction program will be counted toward the EE Standard. (The Generation Improvement and Facilities Upgrade Program is not currently active.)

DSM Surcharge Reset

Background and Current DSM Surcharge. The purpose of the DSM Surcharge is to recover the costs associated with the Company’s energy efficiency programs, including the budget for the portfolio of DSM programs and the Performance Incentive. Residential DSM surcharges are calculated on a per-kWh basis, while Non-residential surcharges recover the Non-residential portion of the total based on a percentage of the bill. Significant over- or under-collections are also taken into account in resetting the DSM Surcharge (“DSMS”), as shown in the calculation below.

Table 8

Residential DSM Recovery Calculation	
Total Proposed DSM Budget	\$22,970,226
True-up (Over-collected DSM Bank Balance)	(\$8,374,304)
2015 Performance Incentive (rounded)	\$1,725,000
Total DSM Recovery	\$16,320,922
Residential DSM Reset Calculation	
Total kWh Sold	8,520,346,800
Per-kWh Surcharge (Residential) Total DSM Recovery/Total kWh Sold=Per-kWh Surcharge	\$0.001916
Non-Residential DSM Bill Surcharge Calculation	
Non-residential kWh sales	4,793,364,770
Non-residential kWh sales x \$0.001916= Non-residential DSMS Revenues	\$9,181,801
Non-residential Retail Revenue	\$466,324,926
Non-residential DSMS Revenues / Non-residential Retail Revenues=Non-residential DSM bill percentage	1.97%

In Decision No. 74885 (December 31, 2014), the current Residential DSM Surcharge was set at \$0.002311 per kWh and the Non-residential DSM Surcharge was set at 2.466 percent of total bill (before RES, LFCR, assessments and taxes). The Application originally proposed a reset of \$0.002905 per kWh and 2.99 percent per bill, but those numbers have been updated. Taking into account the true-up (over-collected) and updated information, Staff has proposed a decrease in the DSM surcharge for Residential customers to \$0.001916 per kWh and a decrease to 1.97 percent of total bills for Non-Residential customers (before RES, LFCR, assessments and taxes).

Waiver

In accordance with Arizona Administrative Code (“A.A.C.”) R14-2-2419, TEP has requested a waiver of the EE Standard. TEP is closer to meeting the cumulative EE Standard, but does not expect to meet it in 2016. The Commission also approved waivers for 2014 and 2015.

Staff is anticipating projected savings for 2016 equal to 11.01 percent of the previous year’s retail sales, as projected in TEP’s current Application. TEP’s achieved level of savings will be taken into account in Staff’s evaluation of TEP’s next implementation plan.

Staff Recommendation. Staff recommends that the Commission approve TEP’s request for a waiver of the EE Standard for 2016.

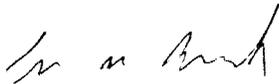
Summary of Recommendations

Staff made the following recommendations:

- That the proposed 2016 Tucson Electric Power Company Energy Efficiency Implementation Plan be approved as discussed herein.
- That the proposed new measures be approved, with the exception of those measures not meeting cost-effectiveness, as discussed herein.
- That any measures that cease to be cost-effective no longer be offered as part of Tucson Electric Power Company's Energy Efficiency Implementation Plan, and that this information be included in Tucson Electric Power Company's twice-yearly filings.
- That Tucson Electric Power Company offer all the new measures proposed for the Efficient Products Program, with the exception of the Energy Star® Ceiling Fan.
- That Tucson Electric Power Company offer all the new measures proposed for the Existing Homes Program, with the exception of the BPM/ECM Plus Motor.
- That Tucson Electric Power Company offer all the new measures proposed for the Multi-Family Program.
- That Tucson Electric Power Company offer all the new measures proposed for the C&I Program, with the exception of the Energy Intelligence Software program.
- That Tucson Electric Power Company offer all the new measures proposed for the Small Business Direct Install Program, with the exception of the Evaporative Fan controls, the Pulse Start MH_Interior, the Pulse Start MH_Exterior, and Window Films measures.
- That Tucson Electric Power Company offer the Home Energy Reports Program, as long as it can do so on a cost-effective basis.
- That Tucson Electric Power Company review the cost-effectiveness of the Appliance Program once reorganization of the program has been completed, ensuring that only functioning appliances are removed for recycling. The recalculated cost-effectiveness of the program should be included in the next implementation plan, and the Appliance Program should be terminated if it becomes non-cost-effective. Information about the cost-effectiveness and disposition of the Appliance Program should be included in the implementation plan and the twice-yearly reporting for TEP's EE Plan.
- That Tucson Electric Power Company ensure that customers receiving trees at retail shows in big box stores receive information about planting and caring for shade trees, including instructions on planting the trees in a manner that will provide energy

savings. TEP should verify that trees delivered through this method are being planted in accordance with program guidelines, relying on a reasonable sample of participants.

- That Tucson Electric Power Company review the cost-effectiveness of the Low-Income Weatherization pilot project and report on the project and its benefit-cost ratio in the next progress report filed with the Commission. The use of lighting and refrigerator replacement measures as standard measures is to cease should they prove non-cost-effective.
- That Tucson Electric Power Company work toward eliminating incentives for CFLs and developing LED lighting measures that are cost-effective.
- That the Residential DSM Surcharge be set at \$0.001916 per kWh and the Non-residential DSM Surcharge be set at 1.97 percent of total bills for Non-Residential customers (before RES, LFCR, assessments and taxes).
- That Tucson Electric Power Company's requested waiver of the Energy Efficiency Standard set forth in A.A.C. R14-2-2404.B be approved for 2016.



Thomas M. Broderick
Director
Utilities Division

TMB:jmk:nr\RRM

ORIGINATOR: Julie McNeely-Kirwan

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE
Interim Chairman
BOB STUMP
Commissioner
BOB BURNS
Commissioner
TOM FORESE
Commissioner

IN THE MATTER OF THE APPLICATION)
OF TUCSON ELECTRIC POWER)
COMPANY FOR APPROVAL OF ITS 2016)
ENERGY EFFICIENCY IMPLEMENTATION)
PLAN AND FOR WAIVER UNDER)
A.A.C. R14-2-2419.)

DOCKET NO. E-01933A-15-0178
DECISION NO. _____
ORDER

Open Meeting
February 2 and 3, 2016
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Tucson Electric Power Company ("TEP" or "the Company") is engaged in providing electric power within portions of Arizona, pursuant to authority granted by the Arizona Corporation Commission.
2. TEP serves approximately 415,000 electric customers. Of these, approximately 374,000 are Residential customers and 37,500 are Commercial customers. TEP also serves a smaller number of Industrial, Public Street and Highway Lighting and Irrigation customers.

Background

3. On June 1, 2015, TEP filed its 2016 Energy Efficiency Implementation Plan. In Decision No. 74885 (December 31, 2014), the Commission approved 19 programs, either initially or for continuation. TEP proposes to add measures to five programs and is modifying several other programs, as discussed below. TEP is also proposing to reinstate the Home Energy Reports Program.

1 4. Existing Programs (New Measures Proposed). TEP has proposed new measures for
2 the five programs listed below. These programs and the new measures will be discussed in greater
3 detail herein.

- 4 • **Efficient Products Program;**
- 5 • **Existing Homes Program;**
- 6 • **Multi-Family Housing Efficiency Program;**
- 7 • **C&I Comprehensive Program; and**
- 8 • **Small Business Direct Install Program.**

9
10 5. Existing Programs (Modifications). TEP has proposed to continue the below
11 programs with limited modifications. A new and additional delivery method has been developed for
12 the Shade Tree program, and TEP proposes to continue a pilot program within the Low-Income
13 Weatherization Program that offers lighting and refrigeration measures. (These measures are normally
14 only part of the Health and Safety portion of the Low-Income Weatherization Program.) In addition,
15 TEP is making changes to the Appliance Program because the original implementation contractor has
16 ceased operations. These programs and modifications will be discussed in greater detail herein.

- 17 • **Shade Tree Program;**
- 18 • **Low-Income Weatherization; and**
- 19 • **Appliance Recycling Program.**

20
21 6. Existing Programs (No Modifications). TEP has proposed to continue the below
22 programs without new measures or significant modifications.

- 23 • **Residential New Construction Program;**
- 24 • **Behavioral Comprehensive;**
- 25 • **Consumer Education and Outreach Program;**
- 26 • **Energy Codes and Standards Program;**
- 27 • **Conservation Voltage Reduction Program;**
- 28 • **Generation Improvement and Facilities Upgrade Program;**

- **C&I Direct Load Control Program;**
- **Commercial New Construction**
- **Bid for Efficiency Program;**
- **Retro-Commissioning Program; and**
- **Combined Heat and Power (“CHP”) Program.**

7. Home Energy Reports. In addition to the existing programs listed above, the Company is now proposing to reinstitute the Home Energy Reports Program, which will include a starter kit with four 9 Watt LED lights. A description of the updated Home Energy Reports Program is discussed herein.

8. Existing Measures, All Programs. A list of the existing and new (proposed) is included as Exhibit A, attached.

Efficient Products Program

9. Program Description. The Efficient Products Program is a primarily Residential program and has been in existence since 2008. It was most recently approved in Decision No. 74885 (December 31, 2014). The program is designed to make energy efficient products, such as CFL or LED lighting or more efficient pool pumps, more affordable and more readily available.

10. Program Objectives and Rationale. The program promotes the purchase of energy efficient products through buy-downs, retail partnerships, and the training of retail staff. The Company also works with retailers to increase the stocking and selection of efficient retail products.

11. Proposed New Measures. TEP is proposing to add the following measures:

Table 1

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
Energy Star® ceiling fan	Conventional fan	\$30	100	0.90
Energy Star® freezer	Conventional freezer	\$10	25	1.63
Energy Star® central air conditioner/ 14.5 SEER	13 SEER	\$300	100	2.29
Energy Star®	Conventional	\$50	200	1.32

1	clothes washer	washer			
2	Energy Star® refrigerator	Conventional refrigerator	\$20	75	1.12
3	Energy Star® room air conditioner	Conventional unit	\$35	100	1.20
4					

5 12. Eligibility. The program targets Residential and Small Commercial customers in TEP's
6 service territory. The existing CFL and LED measures target both Residential and Small Commercial
7 customers, as do the proposed new measures. But the existing pool pump measure targets only
8 Residential customers.

9 13. Budget. See TABLE 6: TEP'S PROPOSED BUDGET, herein, which lists the sector,
10 projected costs per category, and total budget for each program.

11 14. Delivery and Marketing. Delivery will consist of a combination of buy-downs and
12 possibly on-line or mail-in rebates with participating retailers.

13 15. Staff Recommendations. In order to be cost-effective, a measure must achieve a
14 benefit-cost ratio of 1.0, indicating that monetized benefits of a measure at least equal the costs
15 associated with that measure. In cases where a measure is very close to 1.0, Staff sometimes takes into
16 account non-monetized benefits of a measure, such as avoided emissions or generation water savings,
17 because, although the value of these savings has not been determined, they are greater than zero.

18 16. Staff has recommended that the Commission approve all the new measures proposed
19 for the Efficient Products Program, with the exception of the Energy Star® Ceiling Fan, which Staff
20 has not found cost-effective.

21 Existing Homes Program

22 17. Program Description. This Residential program has been in existence since 2008. It
23 was most recently approved in Decision No. 74885 (December 31, 2014). The program is designed to
24 improve energy efficiency in existing homes. The current program offers duct sealing and quality
25 installation of new high-efficiency HVAC equipment.

26 18. Program Objectives and Rationale. The new HVAC measures are designed to achieve
27 energy and demand savings through the early retirement of old, low-efficiency units or by incenting
28

1 quality installation of new units. TEP will continue the duct test and repair measures alone or in
2 conjunction with new units. The Company trains and mentors participating contractors.

3 19. Proposed Changes. TEP proposes to add the following measures (see Table 2) to the
4 Existing Homes Program. With measures designed to improve the efficiency of existing HVAC
5 systems, TEP hopes to impact peak demand by expanding the options for customers wishing to
6 participate in the Existing Homes program. TEP believes there is significant market potential for
7 these measures in the TEP service territory.

8 20. In particular, TEP anticipates a high level of activity for the HVAC Advanced Tune-up
9 measure. HVAC contractors recommend HVAC systems be maintained at least once or twice each
10 year. With thousands of maintenance contracts already in place, the test to determine duct leakage can
11 be incorporated into maintenance calls. In addition, the tune-up measure will appeal to customers
12 who call a contractor because their HVAC system is not working.

Table 2

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
HVAC Advanced Tune-up	No tune-up	\$150	6,000	1.13
Western Cooling Control Stand alone	No control	\$70	1,000	1.65
BPM/ECM + motor ¹	Conventional motor and control	\$300	100	0.60
Smart Thermostat	Standard thermostat	\$89	1,500	1.11

21 21. Eligibility. In order to be eligible for the Existing Homes Program, a participant must
22 be a TEP customer owning a single-family detached home, town home, manufactured home or other
23 attached residential building of up to four units, even if the building is rented to another party.
24 Participants must receive electric service from TEP.

25 22. Budget. See TABLE 6: TEP'S PROPOSED BUDGET, herein, which lists the sector,
26 projected costs per category, and total budget for each program.

27
28 ¹ Quality Installed Brushless Permanent Magnet motors or Electrically Commutated Motors.

1 23. Delivery and Marketing. TEP manages the program and provides oversight and
2 marketing. With the exception of Smart thermostats, all measures are provided by a third party
3 Implementation Contractor (“IC”) which is responsible for: (i) recruitment, training and mentoring of
4 participating contractors; (ii) data tracking; (iii) rebates processing; and (iv) technical support. Smart
5 thermostats will be delivered by manufacturers, retailers, and approved trade contractors, and should
6 be incentivized in the manner which best promotes program objectives.

7 24. Staff Recommendations. Staff has recommended that the Commission approve all the
8 new measures proposed for the Existing Homes Program, with the exception of the BPM/ECM plus
9 motor, which Staff has not found cost-effective.

10 Multi-Family Housing Efficiency Program

11 25. Program Description. The Multi-Family Housing Efficiency Program (“Multi-Family
12 Program”) was originally approved in Decision No. 74885 (December 31, 2014). The purpose of the
13 Multi-Family Program is to promote energy efficiency in the residential multi-family sector for
14 properties with five or more units. Multi-family facility managers would also be encouraged to
15 participate in the C&I Comprehensive Program for installation of energy efficiency improvements to
16 common areas.

17 26. Program Objectives and Rationale. The Multi-Family Program is designed to
18 overcome barriers to energy efficiency in the multi-family housing market. Typically, the multi-family
19 market has been difficult to reach due to capital constraints, lack of awareness, and split incentives.

20 27. “Split incentives” describes a problem that arises in promoting energy efficiency in
21 rental units. Generally, builders and owners do not directly benefit from the lower energy costs arising
22 from investing in efficiency measures, which reduces their incentive to participate in energy efficiency
23 programs. At the same time renters, who would benefit from lower energy bills, have no direct
24 influence over original construction and may not have the authority, the incentive or the means to
25 invest in energy efficiency for housing they do not own.

26 28. The Multi-Family Program would address split incentives, capital constraints and lack
27 of awareness through direct installation of low cost energy efficiency improvements in existing
28 complexes and through energy efficiency improvements to common areas.

29. Proposed Changes. TEP is proposing the following new measures for the Multi-Family Housing Efficiency Program. The Company is proposing Residential LED lamps rather than CFLs for this program, as being more efficient, while remaining cost-effective.

Table 3

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
HVAC Advanced Tune-up	No tune-up	\$125	1,100	1.00
Western Cooling Control Stand alone	No control	\$50	400	1.53
Duct Test & Repair	No Duct Test & Repair	\$175	800	1.59
Residential LED	Incandescent	\$4.50	6,000	1.19

30. Eligibility. The Multi-Family Program is available to owners of multi-family buildings with five dwelling units or more. Program participants must currently receive electric service from TEP.

31. Budget. See TABLE 6: TEP'S PROPOSED BUDGET, herein, which lists the sector, projected costs per category, and total budget for each program.

32. Delivery and Marketing. Program delivery for existing measures is provided by TEP Staff. If the proposed HVAC Advanced Tune up measures are approved by the Commission, a third party implementation contractor will be responsible for the tune-up portion of the program.

33. Staff Recommendations. Staff has recommended that the Commission approve all the new measures proposed for the Multi-Family Program, because each of the four measures has a benefit-cost ratio at or above 1.0.

Small Business Direct Install Program

34. Program Description. The Small Business Direct Install ("SBDI") Program is an existing TEP Non-residential Program. In Decision No. 74885 (December 2014), the SBDI program was revised to make schools eligible for participation. The Program provides incentives directly to contractors for the installation of high efficiency measures at existing small business facilities and

1 schools. These measures include lighting, HVAC, programmable thermostats, and refrigeration
2 measures for smaller Non-residential customers.

3 35. Program Objectives and Rationale. The primary purpose of the existing component
4 of the Program is to promote the installation of energy efficiency at existing small businesses and at
5 schools.

6 36. Proposed Changes. TEP is proposing the following new measures.

Table 4

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
LED Outdoor Lighting	15-100 Watt Incandescent lamps or 70 watt to 1,000 watt metal halide or high pressure sodium lamps.	\$27	500	1.54
LED Tubes replacing fluorescent Indoor	34-40 Watt T12 or T8	\$10	250	1.10
LED Tubes replacing fluorescent Outdoor	34-40 Watt T12 or T8	\$10	250	1.04
Economizers	No economizer	\$139	5	1.40
EMS_HVAC Delivery	No controls	\$0.26/sq. ft.	5,000	1.07
Evaporative fan controls	No controls	\$75	5	0.94
Pulse Start MH_Interior	565 Fixture Watts	\$109	25	0.85
Pulse Start MH_Exterior	472 Fixture Watts	\$94	20	0.77
PTAC	10.2 EER Base Unit	\$294	250	2.97
PTHP	10.0 EER Base Unit	\$407	250	2.91
Variable Refrigerant Flow	Standard refrigerant flow	\$3.76/kBtuh	400	1.38
Window Films	No film	\$1.16/sq. ft.	500	0.79
Induction Lighting_Outdoor	67 to 1180 W MH or HPS wtd average	\$118	25	1.03
HVAC System Test and Repair	No test and repair	\$300	300	1.23

1 37. Eligibility. The SBDI Program is open to both small business customers and schools
2 taking service under a small commercial tariff within TEP's service territory. (Some schools take
3 service under a large commercial tariff.) These customers are also eligible to participate in the C&I
4 Comprehensive Program, if funding is available.

5 38. Budget. See TABLE 6: TEP'S PROPOSED BUDGET, herein, which lists the sector,
6 projected costs per category, and total budget for each program.

7 39. Delivery and Marketing. TEP's IC is the primary contact for small business
8 customers. The IC handles the application and incentive processing, monitors the installation
9 contractors, tracks and reports participation, and is responsible for quality control and management of
10 the delivery process.

11 40. Staff Recommendations. Staff has recommended that the Commission approve all the
12 new measures proposed for the Small Business Direct Install Program, with the exception of the
13 Evaporative Fan Controls, the Pulse Start MH_Interior, the Pulse Start MH__Exterior, and Window
14 Films measures, which are not cost-effective as a part of this program.

15 **C&I Comprehensive Program**

16 41. Program Description. The Commercial and Industrial ("C&I") Program offers
17 incentives to Non-residential customers for installing cost-effective retrofit and replace-on-burnout
18 ("ROB") measures in existing facilities. The C&I Comprehensive Program provides incentives to
19 TEP's large Non-residential customers to install measures such as energy-efficient lighting equipment
20 and controls, HVAC equipment, motors and motor drives, compressed air and leak-repair measures,
21 and refrigeration. Originally approved in Decision No. 70403 (July 3, 2008), the Program was then
22 named the Non-residential Existing Facilities Program. The C&I Program was most recently
23 approved in Decision No. 74885 (December 31, 2014).

24 42. Program Objectives and Rationale. The Program addresses high first costs and limited
25 investment capital for retrofits and ROBs, limited awareness of the potential energy savings and
26 requirements for short-term payback.

27 43. Proposed Changes. New measures proposed for the C&I program are listed below:

28 ...

Table 5

Program Measure	Standard Measure	Average Incentive per Unit	Estimated Participation	Staff's Benefit-Cost Ratio
LED Outdoor Lighting	15-100 Watt Incandescent lamps or 70 watt to 1,000 watt metal halide or high pressure sodium lamps.	\$15	250	1.78
LED Tubes replacing fluorescent Indoor	34-40 Watt T12 or T8	\$10	250	1.54
LED Tubes replacing fluorescent Outdoor	34-40 Watt T12 or T8	\$10	250	1.48
Economizers	No economizer	\$160	5	1.86
EMS_HVAC Delivery	No controls	\$0.26/sq. ft.	5,000	1.31
Evaporative fan controls	No controls	\$75	5	1.22
Pulse Start Metal Halide_Interior	565 Fixture Watts	\$100	25	1.12
Pulse Start Metal Halide_Exterior	472 Fixture Watts	\$90	10	1.01
PTAC	10.2 EER Base Unit	\$44	200	6.15
PTHP	10.0 EER Base Unit	\$44	200	6.29
Variable Refrigerant Flow	Standard refrigerant flow	\$2/kBtuh	200	1.86
Window Films	No film	\$1.75/sq. ft.	250	1.89
Induction Lighting_Outdoor	67 to 1180 W MH or HPS wtd average	\$126	25	1.30

44. Eligibility. The Program is available to all existing commercial customers within TEP's service territory. Although targeted to large commercial and industrial customers, small business customers and school facilities are allowed to participate in the C&I Comprehensive Program as long as funds are available.

45. Budget. See TABLE 6: TEP'S PROPOSED 2016 BUDGET, herein.

46. Delivery and Marketing. The C&I Program promotes participation either directly by large commercial customers, or through contractors. Marketing includes educational seminars tailored

1 to the business market, website promotion, presentations at professional and community forms and
2 direct outreach to customers.

3 47. Staff Recommendation. Staff has recommended that all the new measures proposed
4 for the C&I Program be approved, with the exception of the Energy Intelligence Software program.
5 The Energy Intelligence Software program is a comparatively high cost measure and there is currently
6 insufficient data to clearly indicate that it would be cost-effective in practice.

7 Home Energy Reports

8 48. In addition to the modifications to existing programs discussed herein, TEP has
9 proposed to reinstitute the Home Energy Reports ("HER") program. The program has been
10 redesigned to make it more cost-effective and to improve customer satisfaction.

11 49. Program Description. The proposed HER program is designed to promote behaviors
12 that conserve energy, such as turning off the lights and adjusting the thermostat, or changing furnace
13 filters and cleaning refrigerator coils. The program is intended to encourage behavioral changes
14 through targeted and comparative education and awareness of customers' energy consumption as
15 compared to others. The HER program would achieve this through periodic direct-mail or email
16 reports on energy consumption and tips on how to save energy. Reports would be delivered at no
17 cost to the customer and typically include an opportunity for customers to enhance the accuracy of
18 the report by providing additional detail about their home and energy consumption habits. In order
19 to strengthen customer engagement with the program and achieve cost-effectiveness the Company
20 will send participants a behavioral education starter kit with a welcome letter and four LED light
21 bulbs. The program is also intended to provide an additional channel to promote participation in
22 other DSM programs.

23 50. Program Objectives and Rationale. The major objectives of this program are to:
24 generate savings for DSM portfolio objectives; educate and empower a broad base of residential
25 customers to take advantage of other DSM programs; promote efficient home operations; and lower
26 energy bills for consumers.

27 51. Budget. See TABLE 6: TEP'S PROPOSED 2016 BUDGET, herein.
28

1 52. Eligibility. The Home Energy Reports Program would be open to all Residential
2 customers in the TEP service area who are receiving service from TEP.

3 53. Delivery and Marketing Strategy. Home Energy Reports may be direct mailed or
4 emailed to customers. TEP will jointly develop the HER marketing strategy and messaging with the
5 implementation contractor. The program will also be included in the integrated marketing approach
6 developed and used for all TEP DSM measures. TEP will be conducting a search for an
7 implementation contractor and is preparing a Request for Proposal.

8 54. Staff Recommendations. Staff has recommended that the Home Energy Reports
9 Program be offered as long as TEP is able to offer the program on a cost-effective basis.

10 **Other Program Changes**

11 55. In addition to the new measures and the reinstated HER program, discussed herein,
12 TEP is redesigning the Appliance Program in response to the loss of the implementation contractor,
13 and has instituted new (additional) delivery methods for Shade Tree and Low-Income Weatherization
14 programs.

15 **Appliance Program Developments**

16 56. No new measures have been proposed for the Appliance Program, but TEP is
17 redesigning the delivery process in response to loss of the implementation contractor initially
18 responsible for running the program.

19 57. JACO Environmental (“JACO”), the implementation contractor for TEP’s Appliance
20 program, has ceased operations. TEP has provided incentives and assisted with bank fees for
21 customers affected by JACO’s sudden closure. TEP has also found a local recycler capable of
22 harvesting both refrigerators and freezers, and is utilizing its warehouse staff to pick up appliances.
23 TEP believes that this solution may be more cost-effective than using JACO.

24 **Low-Income Weatherization**

25 58. Program Description. The Low-Income Weatherization Program is an existing
26 program that weatherizes low-income housing to conserve energy and lower energy bills. The
27 program provides duct repair, pressure management/infiltration controls, attic insulation, and repair
28 or replacement of non-functional or hazardous appliances.

1 59. Program Objectives and Rationale. The main objective of the Low-Income
2 Weatherization Program is to lower energy consumption for low-income customers.

3 60. Budget. See TABLE 6: TEP'S PROPOSED 2016 BUDGET, herein.

4 61. Eligibility. Program participants must be low-income customers of TEP. The
5 Commission approved an eligibility change from 150 percent of the Federal Poverty Level to 200
6 percent of the Federal Poverty Level in Decision No. 74885 (December 31, 2014).

7 62. Delivery and Marketing Strategy. In 2015, TEP worked with the Tucson Urban
8 League ("TUL") on a pilot project to weatherize an additional 50 homes. In addition to
9 weatherization measures, the pilot project allows the replacement of inefficient refrigerators and
10 installation of energy efficient lighting. Refrigerator replacement and energy efficient lighting are
11 normally only part of the Health and Safety component of the Low-Income Weatherization Program,
12 but for the pilot they have been added as a standard measure.

13 63. Staff Recommendations. Staff is concerned about the cost-effectiveness of the
14 efficient lighting and refrigerator replacement measures as standard measures for the Low-Income
15 Weatherization Program. Staff has recommended that TEP review the cost-effectiveness of the pilot
16 project and that the Company report on the project and its benefit-cost ratio in the next progress
17 report filed with the Commission. The efficient lighting and refrigerator replacement measures should
18 cease to be treated as standard measures if they are not cost-effective.

19 Shade Trees

20 64. Program Description. The Shade Tree program promotes energy conservation and
21 environmental benefits by motivating customers to plant desert-adapted trees in location where the
22 trees will provide shade and reduce HVAC load. The program provides desert-adapted trees to
23 customers at a low cost, if the customers agree to plant the trees on the east, west, or south sides of
24 their homes. No new measures have been proposed for this program, but TEP has developed an
25 additional method of delivery.

26 65. Program Objectives and Rationale. The objective of the Shade Tree Program is to
27 promote the strategic planting of trees to provide shade, thereby reducing the cooling load of homes.

28 66. Budget. See TABLE 6: TEP'S PROPOSED 2016 BUDGET, herein.

1 67. Delivery and Marketing Strategy. Trees for Tucson, a non-profit organization,
2 currently delivers the shade trees for TEP's Shade Tree program, also providing instructions on
3 planting, benefits and care. TEP has begun to also distribute trees through retail shows at big box
4 stores and has determined that this method of delivery is cost-effective. In using this method of
5 delivery TEP requires no payment from customers for the trees, in comparison to the \$8.00 charge for
6 delivery by Trees for Tucson. TEP plans to expand the new method of delivery in 2016.

7 68. Staff Recommendations. Staff has recommended that TEP ensure that customers
8 receiving trees at retail shows at big box stores receive information about planting and caring for
9 shade trees. This information should include instructions on planting the trees in a manner that will
10 provide energy savings. TEP should verify that trees delivered through this method are being planted
11 in accordance with program guidelines, relying on a reasonable sample of participants.

12 **CFL Measures**

13 69. With the increasing penetration and lower cost of CFLs, Staff is concerned about
14 continuing to offer incentives for a measure that has moved closer to becoming the industry standard.
15 TEP has indicated that it would prefer to move toward LEDs on a cost-effective and gradual basis,
16 and that low-income customers, in particular, would be negatively impacted by an elimination of
17 incentives for CFLs. The Company states that removing the incentive would make incandescents less
18 expensive than CFLs and would increase the sales of incandescent bulbs to this market segment.

19 70. In addition, the cost of LEDs remains a concern. TEP has indicated that LEDs
20 currently have an average manufacturer's suggested retail price ("MSRP") per bulb of \$7.99, while the
21 MSRP for CFLs is \$1.82 and for incandescents is \$0.62. TEP believes that the price of LEDs will
22 drop over time, allowing TEP to transition to LEDs on a cost-effective basis.

23 71. Staff has recommended that TEP work toward eliminating incentives for CFLs and
24 developing LED lighting measures that are cost-effective.

25 **DSM Budget**

26 72. In Decision No. 74885 (December 31, 2014), the Commission approved a budget of
27 approximately \$18.8 million. TEP currently projects actual spending of approximately \$15.8 million
28 for 2015. The Company states that the lower spending largely resulted from the need to ramp up new

1 programs approved at the end of 2014. The unspent funds are part of an over-collected DSM balance
 2 of approximately \$9 million dollars that will be trued-up as part of the DSM Surcharge reset, as
 3 discussed herein.

4 73. TEP has recommended that the budget be increased to approximately \$23 million,
 5 based on the level of participation the Company is currently projecting. In particular, TEP anticipates
 6 a high level of participation for the proposed new HVAC measures, should the Commission approve
 7 them.

8 **TABLE 6: TEP'S PROPOSED 2016 BUDGET**

Program	Incentives	Delivery	Marketing	Administration	Measurement	Total
Residential Sector						
Efficient Products	\$2,683,252	\$1,022,764	\$490,000	\$103,812	\$146,861	\$4,446,689
Appliance Recycling	\$60,000	\$280,000	\$50,000	\$14,500	\$11,700	\$416,200
Residential New Construction	\$240,000	\$107,663	\$100,000	\$18,444	\$13,430	\$479,537
Existing Homes ²	\$2,658,461	\$2,069,181	\$300,000	\$150,000	\$60,000	\$5,237,642
Shade Trees	\$237,553	\$28,591	\$20,000	\$0	\$8,075	\$294,219
Low-income Weatherization	\$376,107	\$23,238	\$20,884	\$15,416	\$16,229	\$451,873
Multi-family	\$385,773	\$361,147	\$7,880	\$31,098	\$22,644	\$808,542
Commercial Sector						
C&I Comprehensive	\$2,023,703	\$1,202,000	\$190,000	\$114,000	\$114,000	\$3,643,703
Commercial New Construction	\$332,800	\$174,000	\$30,000	\$18,000	\$18,000	\$572,800
Bid for Efficiency Pilot	\$120,000	\$58,000	\$10,000	\$6,000	\$6,000	\$200,000
Retro-commissioning	\$132,000	\$58,000	\$10,000	\$6,000	\$6,000	\$212,000
Small Business Direct Install & School Facilities ³	\$838,418	\$725,000	\$125,000	\$75,000	\$75,000	\$1,838,418
CHP Program ⁴	\$0	\$3,500	\$0	\$1,000	\$1,000	\$5,500
Behavioral Sector						

27 ² Using Proctor Engineering delivery model to verify Quality Installation and to cover additional measures.

28 ³ Small Business Direct Install and Schools Facilities have been combined.

⁴ No separately identified projects to include in the Plan.

1	Program	Incentives	Delivery	Marketing	Administration	Measurement	Total
2	Behavioral Comprehensive	\$371,903	\$196,000	\$101,105	\$32,873	\$23,937	\$725,818
3	Home Energy Reports ⁵	\$465,850	\$325,000	\$0	\$10,000	\$10,000	\$810,850
4	Support Sector						
5	Education and Outreach	\$0	\$183,547	\$461,000	\$19,336	\$0	\$663,883
6	Energy Codes and Standards	\$0	\$110,000	\$0	\$13,000	\$50,000	\$173,000
7	Program Development, Analysis and Reporting	\$0	\$695,000	\$0	\$0	\$0	\$695,000
8	Utility Improvement Sector						
9	Conservation Voltage Reduction	\$0	\$0	\$0	\$0	\$0	\$0
10	Generation Improvement and Facilities Upgrade	\$0	\$0	\$0	\$0	\$0	\$0
11	Demand Response Sector						
12	C&I Direct Load Control	\$0	\$1,056,700	\$87,000	\$52,200	\$45,400	\$1,241,300
13	Total	\$10,925,819	\$8,679,330	\$2,002,869	\$680,679	\$628,276	\$22,916,973
14	Total Percentage of Budget	48%	38%	9%	3%	3%	100%

19 **TABLE 7-- Approved and Proposed Budget, Plus Actual Spending**

20	Program	2015 (Reforecasted)	2015 Year to date actual spending	2016 Proposed Budget
21	Residential Sector			
22	Efficient Products	\$4,042,489	\$2,544,098	\$4,446,689
23	Appliance Recycling	\$297,098	\$187,666	\$416,200
24	Residential New Construction	\$615,151	\$344,260	\$479,537
25	Existing Homes	\$2,705,698	\$2,480,972	\$5,237,642
26	Shade Trees	\$244,732	\$222,730	\$294,219
27	Low-income Weatherization	\$230,996	\$195,773	\$451,873

28 ⁵ TEP will be issuing an RFP in an effort to find a delivery model for home energy reports that provides higher cost-effectiveness and improved customer satisfaction.

Program	2015 (Reforecasted)	2015 Year to date actual spending	2016 Proposed Budget
Multi-family	\$121,055	\$92,740	\$808,542
Commercial Sector			
C&I Comprehensive	\$3,400,474	\$2,185,886	\$3,643,703
Commercial New Construction	\$324,158	\$124,357	\$572,800
Bid for Efficiency Pilot	\$119,591	\$18,101	\$200,000
Retro-commissioning	\$25,328	\$9,440	\$212,000
Small Business Direct Install & School Facilities ⁶	\$1,753,373	\$1,161,979	\$1,838,418
CHP Program	\$2,588	\$0	\$5,500
Behavioral Sector			
Behavioral Comprehensive	\$838,258	\$625,491	\$725,818
Home Energy Reports ⁷	\$0.00	\$82	\$810,850
Education and Outreach	\$585,603	\$306,667	\$663,883
Support Sector			
Energy Codes and Standards	\$50,000	0	\$173,000
Program Development, Analysis and Reporting	\$784,000	\$386,274	\$695,000
Utility Improvement Sector			
Conservation Voltage Reduction	n/a	n/a	n/a
Generation Improvement and Facilities Upgrade	n/a	n/a	n/a
Demand Response Sector			
C&I Direct Load Control	\$445,231	\$368,816	\$1,241,300
Total	\$15,801,823	\$11,255,331	\$22,916,973

74. Following its filing, TEP decided to propose Home Energy Reports. The Company decided to propose the additional program without increasing its proposed overall budget. TEP has done so by transferring funds from the Direct Load Control and Efficient Products programs.

Performance Incentive

75. Decision No. 73912, from the most recent rate case, ordered that:

⁶ Small Business Direct Install and Schools Facilities have been combined.

⁷ TEP will be issuing an RFP in an effort to find a delivery model for home energy reports that provides higher savings and better consumer satisfaction.

1 “[T]he performance incentives, tied to the cost effective energy
2 savings, shall be reviewed, established and approved as appropriate as
3 part of the Commission’s Energy Efficiency Implementation Plan
4 and DSM Surcharge reset proceedings for Tucson Electric Power
5 Company.”

6 76. Performance Incentive. Decision No. 73912 also states that the performance incentive
7 is to be calculated at 8 percent of the net benefits, capped at \$0.0125 per kWh saved, similar to the
8 performance incentive approved for APS in Docket No. E-01345A-12-0224. TEP determined the
9 forecasted net benefits based on its avoided costs, per measure. Because this amount is higher than
10 the cap, the \$0.0125 per kWh cap applies. The capped and adjusted amount of the Performance
11 Incentive, based on \$0.0125 per kWh, is equal to approximately \$1,725,000

12 77. Staff finds that the Performance Incentive was calculated in accordance with Decision
13 No. 73912.

14 78. The Conservation Voltage Reduction and Generation Improvement and Facilities
15 Upgrade Programs were approved with the limitation that there be no recovery for these programs
16 through the DSM Surcharge. In addition, energy savings from improvements to TEP’s facilities and
17 generation systems are not to be used to increase the LFCR, to qualify for the performance incentive,
18 or increase the performance incentive amount. Energy savings from the Conservation Voltage
19 Reduction program will be counted toward the EE Standard. (The Generation Improvement and
20 Facilities Upgrade Program is not currently active.)

21 **DSM Surcharge Reset**

22 79. Background and Current DSM Surcharge. The purpose of the DSM Surcharge is to
23 recover the costs associated with the Company’s energy efficiency programs, including the budget for
24 the portfolio of DSM programs and the Performance Incentive. Residential DSM surcharges are
25 calculated on a per-kWh basis, while Non-residential surcharges recover the Non-residential portion
26 of the total based on a percentage of the bill. Significant over- or under-collections are also taken into
27 account in resetting the DSM Surcharge (“DSMS”), as shown in the calculation below.

28 **Table 8**

Residential DSM Recovery Calculation	
Total Proposed DSM Budget	\$22,970,226

Decision No. _____

1	True-up (Over-collected DSM Bank Balance)	(\$8,374,304)
2	2015 Performance Incentive (rounded)	\$1,725,000
3	Total DSM Recovery	\$16,320,922
4	Residential DSM Reset Calculation	
5	Total kWh Sold	8,520,346,800
6	Per-kWh Surcharge (Residential) Total DSM Recovery/Total kWh Sold=Per-kWh Surcharge	\$0.001916
7	Non-Residential DSM Bill Surcharge Calculation	
8	Non-residential kWh sales	4,793,364,770
9	Non-residential kWh sales x \$0.001916=	\$9,181,801
10	Non-residential DSMS Revenues	
11	Non-residential Retail Revenue	\$466,324,926
12	Non-residential DSMS Revenues / Non-residential Retail Revenues=Non-residential DSM bill percentage	1.97%

12 80. In Decision No. 74885 (December 31, 2014), the current Residential DSM Surcharge
13 was set at \$0.002311 per kWh and the Non-residential DSM Surcharge was set at 2.466% of total bill
14 (before RES, LFCR, assessments and taxes). The Application originally proposed a reset of \$0.002905
15 per kWh and 2.99 percent per bill, but those numbers have been updated. Taking into account the
16 true-up (over-collected) and updated information, Staff has proposed a decrease in the DSM surcharge
17 for Residential customers to \$0.001916 per kWh and a decrease to 1.97 percent of total bills for Non-
18 Residential customers (before RES, LFCR, assessments and taxes).

19 **Waiver**

20 81. In accordance with Arizona Administrative Code ("A.A.C.") R14-2-2419, TEP has
21 requested a waiver of the EE Standard. TEP is closer to meeting the cumulative EE Standard, but
22 does not expect to meet it in 2016. The Commission also approved waivers for 2014 and 2015.

23 82. Staff Recommendation. Staff has recommended that the Commission approve TEP's
24 request for a waiver of the EE Standard for 2016.

25 **CONCLUSIONS OF LAW**

26 1. TEP is an Arizona public service corporation within the meaning of Article XV,
27 Section 2, of the Arizona Constitution.

1 IT IS FURTHER ORDERED that Tucson Electric Power Company offer the Home Energy
2 Reports Program, as long as it can do so on a cost-effective basis.

3 IT IS FURTHER ORDERED Tucson Electric Power Company review the cost-effectiveness
4 of the Appliance Program once reorganization of the program has been completed, ensuring that only
5 functioning appliances are removed for recycling. The recalculated cost-effectiveness of the program
6 should be included in the next implementation plan, and the Appliance Program should be terminated
7 if it becomes non-cost-effective. Information about the cost-effectiveness and disposition of the
8 Appliance Program should be included in the implementation plan and the twice-yearly reporting for
9 TEP's EE Plan.

10 IT IS FURTHER ORDERED that Tucson Electric Power Company ensure that customers
11 receiving trees at retail shows in big box stores receive information about planting and caring for
12 shade trees, including instructions on planting the trees in a manner that will provide energy savings.
13 TEP should verify that trees delivered through this method are being planted in accordance with
14 program guidelines, relying on a reasonable sample of participants.

15 IT IS FURTHER ORDERED that Tucson Electric Power Company review the cost-
16 effectiveness of the Low-Income Weatherization pilot project and report on the project and its
17 benefit-cost ratio in the next progress report filed with the Commission. The use of lighting and
18 refrigerator replacement measures as standard measures is to cease should they prove non-cost-
19 effective.

20 IT IS FURTHER ORDERED that Tucson Electric Power Company work toward eliminating
21 incentives for CFLs and developing LED lighting measures that are cost-effective.

22 IT IS FURTHER ORDERED that the Residential DSM Surcharge be set at \$0.001916 per
23 kWh and the Non-residential DSM Surcharge be set at 1.97 percent of total bills for Non-Residential
24 customers (before RES, LFCR, assessments and taxes).

25 ...
26 ...
27 ...
28 ...

1 IT IS FURTHER ORDERED that Tucson Electric Power Company's requested waiver of
2 the Energy Efficiency Standard set forth in A.A.C. R14-2-2404.B is approved for 2016.

3 IT IS FURTHER ORDERED that this Order be made effective immediately.

4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN	COMMISSIONER	
COMMISSIONER	COMMISSIONER	COMMISSIONER

IN WITNESS WHEREOF, I, JODI JERICH, Executive Director of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this _____ day of _____, 2016.

JODI JERICH
EXECUTIVE DIRECTOR

DISSENT: _____

DISSENT: _____

TMB:jkm:nr/RRM

1 SERVICE LIST FOR: TUCSON ELECTRIC POWER COMPANY
2 DOCKET NO. E-01933A-15-0178

3 Bradley S. Carroll
4 Tucson Electric Power Company
5 88 East Broadway Boulevard, MS HQE910
6 Post Office Box 711
7 Tucson, Arizona 85702

8 Michael W. Patten
9 Snell & Wilmer L.L.P.
10 One Arizona Center
11 400 East Van Buren Street, Suite 1900
12 Phoenix, Arizona 85004

13 Mr. Thomas M. Broderick
14 Director, Utilities Division
15 Arizona Corporation Commission
16 1200 West Washington Street
17 Phoenix, Arizona 85007

18 Ms. Janice M. Alward
19 Chief Counsel, Legal Division
20 Arizona Corporation Commission
21 1200 West Washington Street
22 Phoenix, Arizona 85007

23 Mr. Dwight Nodes
24 Chief Administrative Law Judge,
25 Hearing Division
26 Arizona Corporation Commission
27 1200 West Washington Street
28 Phoenix, Arizona 85007