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TEP

Tucson Electric Power
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Tucson, AZ 85702

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ARIZONA CORPORATION COMMISSION
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February 27, 2015

Arizona Corporation Commission

DOCKETED

FEB 27 2015

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

DOCKETED BY 

Re: Notice of Filing – Tucson Electric Power Company’s Annual Demand-Side Management Progress Report, Docket No. E- 00000U-15-0053

The Electric Energy Efficiency Standards set forth in the Arizona Administrative Code, Section R14-2-2409.A, require Tucson Electric Power Company (“TEP”) to submit an annual DSM progress report for each of its Commission-approved DSM programs by March 1st. TEP hereby files its DSM Progress Report for 2014. The Measurement, Evaluation and Research Report listed in Appendix 1 of the DSM Progress Report are being provided directly to Commission Staff.

If you have any questions, please contact me at (520) 884-3680.

Sincerely,



Melissa Morales
Regulatory Services

cc: Barbara Keene, Utilities Division, ACC
Compliance Section, ACC

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD: January through December 2014

Tucson Electric Power Company (“TEP” or “Company”), in accordance with Arizona Corporation Commission (“Commission”) Decision No. 71819 (August 10, 2010), and Arizona Administrative Code R14-2-2409 (effective January 1, 2011), submits the following Demand-Side Management (“DSM”) progress report. This report includes the following information for all DSM programs that were in place during this reporting period, including programs for residential, non-residential, and low-income customers:

- An analysis of the Company’s progress toward meeting the annual energy efficiency standard;
- A list of Commission approved DSM programs and measures, organized by customer segment;
- A description of the findings from any research projects completed;
- A brief description of the programs;
- Program goals, objectives, and savings targets;
- Levels of customer participation in the programs;
- Costs incurred during the reporting period;
- Description of evaluation and monitoring activities and results;
- Savings realized in kW, kWh, and therms;
- Environmental benefits from the programs;
- Incremental and net benefits, in dollars, of the programs;
- Problems encountered and proposed solutions;
- Proposed program modifications; and
- Termination of programs or measures.

A summary list of tables includes:

Table 1	DSM expenses by program
Table 2	DSM energy savings by program
Table 3	Cumulative energy savings as a comparison to the Electric Energy Efficiency Standards (“EEES” or “Standard”)
Table 4	Societal benefits and performance incentive: January – December 2014
Table 5	Lifetime environmental savings by program

Commission approved DSM programs and measures are attached in Appendix 2

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
January through December 2014

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DEFINITIONS

Rebates & Incentives – costs for customer rebates, incentives, and payments made to agencies for installation of low-income weatherization (“LIW”) measures.

Training and Technical Assistance – costs for energy efficiency training and technical assistance; for either utility employees or contractors.

Consumer Education – costs to support general consumer education about energy efficiency improvements.

Program Implementation – costs associated with implementing programs, including implementation contractor (“IC”) labor and overhead costs, as well as other direct program delivery costs.

Program Marketing – costs related to marketing programs and increasing DSM consumer awareness (direct program marketing costs as opposed to general consumer education).

Planning and Administration – costs to plan, develop, and administer programs including management of program budgets, oversight of the request for proposal (“RFP”) process, oversight of ICs, program development, program coordination, and general overhead expenses.

Measurement, Evaluation, and Research (“MER”) – identification of current baseline efficiency levels and the market potential of DSM measures; process evaluations; verification of installed energy efficient measures; tracking of savings; and identification of additional energy efficiency research.

Program Development, Analysis, and Reporting – costs to research and develop new DSM program opportunities, provide analysis of new programs and measures, and administer a database to track and report participation, savings, and benefits. These costs are essential to comply with reporting and rules requirements.

Performance Incentive – For 2014 TEP’s performance incentive will be calculated at 8% of DSM net economic benefits, capped at \$0.0125 per kWh, whichever is less. This performance incentive was approved in Commission Decision No. 73912 (June 27, 2013).

Tucson Electric Power Company

DSM PROGRAM EXPENSES: JANUARY THROUGH DECEMBER 2014

Table 1

DSM PROGRAM EXPENSES: JANUARY - DECEMBER 2014

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Residential Programs								
Low-Income Weatherization	\$315,934	\$6,542	\$0	\$0	\$5,326	\$12,473	\$17,510	\$357,784
Residential New Construction	\$180,000	\$7,970	\$3,766	\$26,986	\$45,756	\$11,369	\$51,858	\$327,705
Shade Tree Program	\$228,097	\$158	\$0	\$2,833	\$5,848	\$8,564	\$2,103	\$247,602
ENERGY STAR® Lighting (CFL)	\$1,785,265	\$4,341	\$18,853	\$620,847	\$115,535	\$97,919	\$188,131	\$2,830,691
Existing Home Program	\$1,179,198	\$3,570	\$35,042	\$484,589	\$109,384	\$67,228	\$33,028	\$1,912,039
Residential & Small Business Direct Load Control	\$100	\$338	\$0	\$338	\$0	\$28	\$0	\$804
Total for Residential Programs	\$3,688,594	\$22,919	\$57,461	\$1,135,593	\$281,848	\$197,581	\$292,630	\$5,676,625
Commercial Programs								
C&I Comprehensive	\$3,162,420	\$7,169	\$15,214	\$820,309	\$111,852	\$152,842	\$160,194	\$4,429,999
Small Business Direct Install	\$752,174	\$7,984	\$931	\$548,441	\$91,725	\$51,241	\$32,692	\$1,485,189
Commercial New Construction	\$301,784	\$258	\$0	\$116,839	\$1,739	\$15,232	\$5,624	\$441,475
C&I Demand Response - Direct Load Control	\$0	\$3,458	\$0	\$456,906	\$0	\$16,526	\$2,110	\$479,000
Total for Commercial Programs	\$4,216,378	\$18,869	\$16,145	\$1,942,495	\$205,316	\$235,841	\$200,620	\$6,835,663
Support Programs								
Home Energy Reports (Pilot)	\$0	\$38	\$0	\$45,000	\$0	\$2,215	\$16,943	\$64,195
Consumer Education & Outreach Program	\$0	\$160	\$258,753	\$4,072	\$0	\$8,403	\$181	\$272,549
Total for Support Programs	\$0	\$197	\$258,753	\$49,072	\$0	\$11,618	\$17,104	\$336,744
Portfolio Totals	\$7,904,972	\$41,985	\$332,359	\$3,127,159	\$487,164	\$445,040	\$510,354	\$12,849,033
Program Costs								\$12,849,033
Program Development, Analysis, & Reporting								\$226,189
TOTAL								\$13,075,222

Table 2

DSM ENERGY SAVINGS: JANUARY - DECEMBER 2014¹

Program	Capacity Savings MW	Annual MWh Savings	Annual Therm Savings	Lifetime MWh Savings	Lifetime Therm Savings
Low-Income Weatherization	0.10	296	3,927	5,176	68,723
Residential New Construction	1.31	1,671	83,987	50,122	2,519,602
Shade Tree Program	0.17	397	0	11,918	0
ENERGY STAR® Lighting (CFL)	8.50	99,801	0	698,605	0
Existing Home Program	1.12	1,610	2,107	21,406	23,849
Home Energy Reports (Pilot)	0.00	0	0	0	0
Consumer Education and Outreach	0.09	2,363	147,416	21,574	1,383,955
C&I Comprehensive	9.33	42,597	0	599,265	0
Small Business Direct Install	0.54	5,613	0	79,378	0
Commercial New Construction	1.65	3,411	0	48,436	0
C&I Direct Load Control	16.53	20,948	0	NA	NA
EE Building Codes	0.64	829	NA	NA	NA
Combine Heat and Power (CHP)	5.33	39,579	NA	39,579	0
Portfolio Totals	45.30	219,114	237,436	1,575,459	3,996,127

¹ Capacity savings for Commercial & Industrial Direct Load Control reflect the maximum capacity available for reduction events. Annual MWh savings for Commercial & Industrial Direct Load Control reflect the credit available toward the Standard per A.A.C. R14-2-2404 (C). TEP is also including an energy savings credit toward the Standard for changes in energy efficient building codes per A.A.C. R14-2-2404 (E). On December 31, 2014, in Decision No. 74885, the Commission also approved TEP to count toward the Energy Efficiency Standard, any savings arising from CHP projects in its service territory. Two CHP projects became operational in 2014. Annualized energy savings from these projects are reported in Table 2. TEP is reporting this energy savings credit toward the Standard per A.A.C. R14-2-2404 (F) and Decision No. 74885.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
January through December 2014

Table 3

CUMULATIVE DSM SAVINGS: JANUARY – DECEMBER 2014²

TEP Year	Retail Energy Sales (MWh)	Incremental Annual Energy Savings (MWh)	Cumulative Annual Energy Savings (MWh)	Cumulative Annual Savings as a % of previous year Retail Sales	Cumulative EE Standard
2010	9,291,788				
2011	9,332,107	139,539	139,539	1.50%	1.25%
2012	9,264,818	105,655	245,194	2.63%	3.00%
2013	9,278,918	177,425	422,619	4.56%	5.00%
2014	9,165,354	219,114	641,733	6.92%	7.25%

² TEP was not able to meet the cumulative Standard for 2014 due to reasons beyond the Company's control. See the *Miscellaneous DSM Information* section for further information.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
January through December 2014

Table 4

DSM SOCIETAL BENEFITS & PERFORMANCE INCENTIVE: JANUARY – DECEMBER 2014³

DSM Program	Societal Benefits	Societal Costs	Net Benefits
Residential			
Low-Income Weatherization	\$359,016	\$295,618	\$63,398
Residential New Construction	\$5,059,158	\$1,227,330	\$3,831,829
Shade Tree Program	\$659,516	\$516,060	\$143,455
ENERGY STAR [®] Lighting (CFL)	\$22,977,472	\$3,008,228	\$19,969,244
Existing Home Program	\$2,238,359	\$1,786,851	\$451,508
Total for Residential	\$31,293,521	\$6,834,087	\$24,459,434
Non-Residential			
C&I Comprehensive	\$33,461,875	\$14,538,269	\$18,923,606
Small Business Direct Install	\$3,706,185	\$1,424,291	\$2,281,893
Commercial New Construction	\$3,023,134	\$1,004,704	\$2,018,430
Total for Non-Residential	\$40,191,194	\$16,967,264	\$23,223,930
Support Programs			
Consumer Education & Outreach	\$1,733,388	\$418,979	\$1,314,409
Total for Support Programs	\$1,733,388	\$418,979	\$1,314,409
Portfolio Totals			
Portfolio Totals	\$73,218,103	\$24,220,330	\$48,997,773
Program Development, Analysis & Reporting	\$0	\$226,189	(\$226,189)
TOTAL	\$73,218,103	\$24,446,519	\$48,771,584

Performance Incentive Calculation:	
Total kWh Savings	219,113,801
Total Net Benefits	\$48,771,584
8% Net Benefits	\$3,901,727
Total kWh savings * \$0.0125	\$2,738,923
Performance Incentive for 2014	\$2,738,923

TEP's total performance incentive for calendar year 2014 is 2,738,923. For 2014, TEP's Societal Cost Test ratio is 2.9 including all program costs and labor.

³ The performance incentive is 8% of net benefits but capped at \$0.0125/kWh saved as approved in Commission Decision No. 73912 (June 27, 2013).

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DSM PROGRESS REPORT FOR THE PERIOD:
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Table 5

DSM LIFETIME ENVIRONMENTAL SAVINGS: JANUARY – DECEMBER 2014

Program	Lifetime SO _x Reduction (lbs)	Lifetime NO _x Reduction (lbs)	Lifetime CO ₂ Reduction (lbs)	Lifetime Water Reduction (gallons)
Low-Income Weatherization	11,146	13,448	10,722,683	2,381,128
Residential New Construction	107,922	130,216	125,704,463	23,055,894
Shade Tree Program	25,662	30,963	22,820,513	5,482,234
ENERGY STAR® Lighting (CFL)	1,504,237	1,814,977	1,337,696,531	321,358,466
Existing Home Program	46,091	55,612	40,987,933	9,846,642
Home Energy Reports (Pilot)	0	0	0	0
Consumer Education & Outreach	46,453	56,049	57,640,535	9,923,982
C&I Comprehensive	1,290,337	1,556,890	1,147,478,364	275,661,840
Small Business Direct Install	170,916	206,223	151,992,983	36,513,687
Commercial New Construction	104,292	125,837	92,745,699	22,280,551
Combine Heat and Power (CHP)	85,222	102,827	75,787,119	18,206,545
Portfolio Totals	3,392,278	4,093,042	3,063,576,824	724,710,969

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LOW-INCOME WEATHERIZATION PROGRAM

Description

The TEP Low-Income Weatherization (“LIW”) Program is designed to improve the energy efficiency of homes for customers whose income falls within the defined federal poverty guidelines. The steps taken in the LIW Program will reduce electric bills for eligible customers and improve their comfort and quality of life. Energy savings realized from the LIW Program will allow low-income customers to better utilize their limited income for other items such as rent, food, or medical expenses.

Program Goals, Objectives, and Savings Targets

The objectives of the Program are to:

- Increase the number of homes weatherized each year;
- Reduce average participating household utility bills by utilizing energy conservation measures as defined in the Weatherization Assistance Program rules; and
- Improve the quality of life for the customers by providing them with a safe and healthy home.

The 2014 goal was to weatherize 150 homes.

Levels of Participation

A total of 119 households received weatherization assistance during this reporting period.

Costs Incurred

Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives ^a	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Low Income Weatherization	\$315,934	\$6,542	\$0	\$0	\$5,326	\$12,473	\$17,510	\$357,784

a. Includes \$63,276 for health and safety related repairs and \$29,494 for Weatherization Agencies administrative expenses.

Evaluation and Monitoring Activities and Results

The Governor’s Office of Energy Policy (“GOEP”), with billing data from TEP and other Arizona gas and electric utilities, is analyzing and tracking energy use in weatherized homes statewide. As its database grows, a more accurate analysis of the impact of weatherization activities will emerge. TEP will report energy savings from weatherization activities based upon the most recent fiscal year GOEP report. The GOEP does not report any kW demand savings. Their most recent report is attached in **Appendix 1**.

The January 2015 GOEP report is summarized below:

Utility Bill Analysis

- The report includes jobs completed across Arizona on homes utilizing Arizona Public Service Company (“APS”), TEP, UNS Gas, Inc., UNS Electric, Inc., and Southwest Gas Corporation utility data. This analysis is ongoing, and new data will be updated to these values on a quarterly basis.
- Savings to Investment Ratios (“SIR”) are provided for total investment from all funding spent (diagnostics, energy measures, health and safety measures) and for energy related measures only (diagnostics and energy measures).

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD: January through December 2014

- Present value is based on 17.5 years measure life, discount rate of 3% and a utility cost escalation rate of 3%.
- The combined SIR of all jobs reviewed to date for funds spent on diagnostics, energy measures and health and safety measures was 1.0. Health and saving represented 19% of expenditures.
- The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics was 1.22.
- The average saving per home reviewed was 2,270 kWh and 33 therms of natural gas (gas therms average includes all electric homes).

kW, kWh, and Therm Savings The savings for this reporting period are listed below:

No. of Homes	kW savings	kWh savings	Therm savings
119	99	295,792	3,927

Savings are adjusted for line losses of 9.5% for both demand and energy (excluding therms).

Problems Encountered and Proposed Solutions

TEP, along with other major utilities in Arizona, continues to experience low participation from some low income agencies. Several meetings held in 2014 with all of the state's Weatherization agencies, Arizona Community Action Association ("ACAA") and the GOEP have included discussions on this issue. Some agencies are having difficulty adjusting to the loss of ARRA funding, requiring them to operate on reduced budgets and less staff. The GOEP continues to advise the agencies on best practices to maximize funds.

In 2014 TEP saw a significant increase in the average per home funding request. The local housing stock available for weatherization services is shifting towards homes with air conditioning instead of evaporative cooling, which provides greater opportunities for energy efficient measures to be implemented, but is also more costly to weatherize. TEP anticipates this trend will continue.

Program Modifications

TEP will be conducting a pilot with Tucson Urban League in 2015. The weatherization pilot will be offered at no cost to customers who are qualified as Low Income. TEP and Tucson Urban League have identified a prescriptive weatherization model that will be applied to each home. This pilot will allow TEP to reach more houses within our territory at a lower cost. The pilot will not affect the current Weatherization programs funding. The goal for the 2015 pilot is 50 homes.

Programs or Measures Terminated

No measures were terminated during this reporting period. TEP does not plan to terminate this Program or any Program measures in 2015.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
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RESIDENTIAL NEW CONSTRUCTION

Description

The Residential New Construction Program for TEP is marketed as the Energy Smart Homes (“ESH”) Program. The ESH Program emphasizes the whole-house approach to improving health, safety, comfort, durability, and energy efficiency. The Program promotes homes that meet the Environmental Protection Agency (“EPA”)/Department Of Energy (“DOE”) Energy Star® Home performance requirements. To encourage participation, the Program provides incentives to homebuilders for each qualifying home. On-site inspections and field testing of a random sample of homes is required to ensure that homes meet the Energy Star® Home performance requirements; these will be conducted by third-party Residential Energy Services Network (“RESNET”) certified energy raters selected by each builder. Components of the ESH Program include development of branding, builder training curriculum, and marketing material.

Program Goals, Objectives, and Savings Targets

The objectives of the Program are to:

- Reduce peak demand and overall energy consumption in new homes;
- Stimulate construction of new homes that are inspected and tested to assure energy performance;
- Stimulate the installation of high efficiency heating and cooling systems, envelope, lighting, and fixed appliances (Energy Star® products);
- Assist sales agents with promoting and selling of energy efficient homes;
- Train builder construction staff and sub-contractors in advanced building-science concepts to reach energy efficiency goals through improved design and installation practices; and
- Increase homebuyer awareness and understanding of the benefits they receive from living in energy efficient homes.

Program goals for 2014:

No. of Homes Completed	750
Peak Demand Savings (MW)	1.44
Energy Savings (MWh)	1,802

Levels of Participation

In 2014, 688 homes were completed.

Costs Incurred

Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Residential New Construction	\$180,000	\$7,970	\$3,766	\$26,986	\$45,756	\$11,369	\$51,858	\$327,705

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2014. The evaluation resulted in a realization rate of 100% for coincident demand savings, 100% for electrical energy savings, and 100% for therm savings. This report is attached in **Appendix 1**.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
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kW, kWh, and Therm Savings

No. of Homes	kW savings	kWh savings	Therm savings
688	1,305	1,670,717	83,987

Savings are adjusted for line losses of 9.5% for both demand and energy (excluding therms).

Problems Encountered and Proposed Solutions

Jurisdictions in Pima County adopted the International Energy Conservation Code ("IECC") 2012 building code starting in 2013. IECC 2012 compliant homes achieve a Home Energy Rating System ("HERS") score of ~72. In response homes were required to achieve a HERS score equal to or less than 65 in order to qualify for the EHS Program incentive.

Program Modifications

There were no program design changes in 2014.

Programs or Measures Terminated

No measures were terminated during this reporting period. TEP does not plan to terminate this Program or any Program measures in 2015.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
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SHADE TREE PROGRAM

Description

The TEP Shade Tree Program has been in operation since December 1992. Desert-adapted trees are provided to individual residences, residential neighborhoods, low-income families, as well as to community areas, and schools through TEP's partnership with Tucson Clean and Beautiful ("TCB"). Residents are allowed two, 5-gallon trees per year (four trees are allotted to homes built before 1980), which must be planted on the south, west, or east side of the home. Residents complete an application provided by TCB either online or by mail which includes the type of tree requested and the location where it will be planted. The resident pays a nominal fee of \$8.00 per tree, and the tree will be delivered to their home by TCB.

Program Goals, Objectives, and Savings Targets

The objective of the Program is to promote energy conservation and the environmental benefits associated with planting low water use trees. Along with the energy savings trees provide to the homes, trees also provide habitat for wildlife, absorb air and water pollutants, and control storm water runoff and soil erosion, in addition to the aesthetic beauty they provide to neighborhoods and the community.

Program goals for 2014:

No. Trees Planted	5,577
Energy Savings (MWh)	369

Levels of Participation

For this reporting period, TCB exceeded our original Program goal of 5,577 and delivered a total of 6,465 trees as follows:

- 6,356 five-gallon trees were distributed to approximately 2,623 residential customers;
- 2 fifteen-gallon trees were delivered to one school.
- 41 five-gallon trees and 66 fifteen-gallon trees were delivered to sixteen community projects.

Costs Incurred

Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Shade Tree Program	\$228,097	\$158	\$0	\$2,833	\$5,848	\$8,564	\$2,103	\$247,602

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2014. The evaluation resulted in a realization rate of 100% for coincident demand and energy savings. This report is attached in **Appendix 1**.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
January through December 2014

kW, kWh, and Therm Savings

No. of Trees	kW savings	kWh savings	Therm savings
6,465	166	397,263	0

Savings are adjusted for line losses of 9.5% for both demand and energy.

Problems Encountered and Proposed Solutions

There were no problems encountered during this reporting period.

Program Modifications

There were no Program modifications during this reporting period.

Programs or Measures Terminated

There were no Program modifications during this reporting period.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
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ENERGY STAR® LIGHTING PROGRAM

Description

The TEP ENERGY STAR® Compact Fluorescent Lamp (“CFL”) Buy-down Program promotes the installation of energy efficient ENERGY STAR® approved lighting products by residential and small commercial customers in the TEP service territory. TEP provides funds to manufacturers of ENERGY STAR® approved CFL products to reduce the cost of CFLs. TEP then partners with local retailers to pass on these savings to the consumer.

Program Goals, Objectives, and Savings Targets

The objectives of the program are to:

- Reduce peak demand and overall energy consumption in homes and small businesses;
- Increase the purchase of CFLs;
- Increase the availability of energy efficient lighting products in the marketplace; and
- Increase the awareness and knowledge of retailers and TEP customers on the benefits of energy efficient lighting products.

Program goals for 2014:

CFL sales	1,500,000
Peak Demand Savings (MW)	2.97
Energy Savings (MWh)	63,958

Levels of Participation

A total of 1,529,566 new CFLs were sold during this reporting period. An “in storage adder” has also been included in the 2014 total to account for bulbs coming out of storage and being reintroduced since program inception in 2008. Further detail is provided in Program Modifications section below.

Costs Incurred

Costs incurred for this Program during the reporting period are listed below.

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
ENERGY STAR® Lighting (CFL)	\$1,785,265	\$4,341	\$18,653	\$620,847	\$115,535	\$97,919	\$188,131	\$2,830,691

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2014. The evaluation resulted in a realization rate of 100% for coincident demand and energy savings. This report is attached in **Appendix 1**.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD: January through December 2014

kW, kWh, and Therm Savings

No. of Lamps	kW savings	kWh savings	Therm savings
1,529,566	8,499	99,800,766	0

kW savings has been adjusted to include 5,403 kW and kWh savings has been adjusted to include 32,739,973 kWh for the 2015 In Storage Adder. Savings are adjusted for line losses of 9.5% for both demand and energy.

Problems Encountered and Proposed Solutions

There were no problems encountered during this reporting period.

Program Modifications

Many program bulbs are sold in multipacks, with as many as ten bulbs in one pack. Some of these bulbs were installed immediately, and some were placed into storage. Stored bulbs are accounted for in the In-Storage Rate (ISR) of 10%, which has been used since the program began in 2008. The 2014 field lighting logger study, in conjunction with the general population survey, found that the ISR is actually 18%, which is the new ISR to be used for the program starting in 2015. As bulbs come out of storage, the savings are realized, but they are delayed.

Until now, the savings from the reintroduction of these bulbs at TEP have not been recognized. In order to recognize these delayed savings, Navigant employed the methodology presented in the Uniform Methods Protocols ("UMP"). The UMP's methodology was developed in 2012. It is currently being updated. Navigant recommends the use of the old methodology for all bulbs being placed and coming out of storage until the end of 2014, then switch to the new methodology for 2015 and on.

- Pre-2015 values are based on old UMP methodology with 1/3 of bulbs in storage are installed for the next 3 years..
- For PY 2015 and on, the new UMP methodology is used..
- For PY2014, credit was given for all bulbs coming out of storage since program inception in 2008..
- For PY 2015, 2016, and 2017, summary in-storage values should be added up from the old and new methodologies.

In 2015, the Energy Star Lighting Program will be moved to the Efficient Products Program in accordance with the ACC Decision No. 744885. This program will also include LED's, 2X incandescent and Variable Speed Pool Pumps in 2015.

Programs or Measures Terminated

No measures were terminated during this reporting period. TEP does not plan to terminate this Program or any Program measures in 2015.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
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EXISTING HOMES RETROFIT AND RESIDENTIAL ENERGY ASSESSMENT PROGRAM

Description

The TEP Existing Homes Retrofit Program is designed to encourage homeowners to increase the energy efficiency of their homes. The Program provides incentives for high-efficiency heating, ventilation and air conditioning (“HVAC”) equipment; as well as home performance services such as sealing leaky duct work, installing insulation, air sealing, and other thermal envelope improvements in existing homes. The Program provides direct incentives to participating contractors with the requirement that the incentives be passed on to utility customers as a line item credit toward approved Program measures. To access incentives, TEP requires customers to utilize specific Program participating contractors who complete Program administrative training including field mentoring.

The Residential Energy Assessment Program (“REAP”) was an integral component of the Existing Homes Retrofit Program in 2014. The major components of the REAP include: a home energy assessment (or “audit”), a general appliance assessment and installation of up to ten CFLs per home. Education regarding behavioral changes, other TEP efficiency programs, rate options, and contact information to assist with questions are provided during the assessment. The assessment will also provide the homeowner with information regarding possible energy savings by participating in the components of the Existing Homes Retrofit Program, as described above.

The Existing Home Retrofit Program was approved in Commission Decision No. 72028 (December 10, 2010), and the REAP was approved in Commission Decision No. 70263 (January 6, 2011). While contained in separate decisions, the programs are designed to complement each other and are administered and reported as a single program. This Program is marketed as the Efficient Home Program.

Program Goals, Objectives, and Savings Targets

The objectives of the Existing Homes Retrofit component of the Program are as follows:

- The proper sizing and quality installation of high efficiency HVAC equipment, sealing leaky ductwork, and installation of thermal envelope measures;
- Advance the building science skills of participating contractors leading to BPI certification; and
- Cultivate customer demand for and a contractor base to deliver comprehensive energy efficiency retrofits in alignment with the Home Performance with Energy Star model.

The objectives of the Energy Assessment component of the Program are as follows:

- Assess how much energy a home is using and what measures can be taken to improve efficiency;
- Install up to ten (10) CFL’s; and
- Educate homeowners about applicable TEP rebates and simple behavioral modifications to increase energy efficiency.

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The 2014 program goals were:

Retrofit Measure	Goal
Air Sealing	290
Duct Test & Repair	280
HVAC Early Replacement	650
HVAC Replace on burnout	1,000
Solar Shade Screens/Window Film	40

Peak Demand Savings (MW)	2.41
Energy Savings (MWh)	2,368

Note: Program goals from 2014 EE Plan filed with ACC on 5/31/2013

Levels of Participation

Participation levels during this reporting period	2014 Actual
Air Sealing	83
Duct Test & Repair	152
HVAC Early Replacement	382
HVAC Replace on burnout	587
Solar Shade Screens/Window Film	40

Note: In addition to the 152 Duct Test & Repair shown above, 817 equipment replacement jobs also included prescriptive duct sealing.

Implementation services for the Existing Home Program went to bid in the fall of 2013 resulting in an implementation contractor transition during the spring of 2014. The implementation transition resulted in a second ramp-up year as additional training and program requirements were added.

Costs Incurred

Costs incurred for this Program during the reporting period are listed below.

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Existing Home Program	\$1,179,198	\$3,570	\$35,042	\$484,589	\$109,384	\$67,228	\$33,028	\$1,912,039

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2014. The evaluation resulted in a realization rate of 100% for coincident demand and energy savings. This report is attached in **Appendix 1**.

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kW, kWh, and Therm Saving

Measure	Units	kW Savings	kWh Savings
Air Sealing	83	61	74,340
Duct Test & Repair	152	82	99,346
HVAC - Early Retirement	382	471	592,165
HVAC - Replace on Burnout	587	476	601,058
Shade Screens	40	26	35,036
Audit (participants in <i>Energizer Workshops</i>)	1,028	7	207,668
Totals	2,272	1,123	1,609,613

Note: In addition to the 152 Duct Test & Repair shown above, 817 equipment replacement jobs also included prescriptive duct sealing. Savings are adjusted for line losses of 9.5% for both demand and energy.

Problems Encountered and Proposed Solutions

This program was modified in 2014, see below.

Program Modifications

In January 2014, TEP awarded the implementation contract for the Existing Home Program to Proctor Engineering Group (PEG). PEG's implementation solution added real-time HVAC equipment diagnostic testing and support for Program participating contractors. The PEG solution also transformed the customer incentive experience to an instant, paperless process that includes HVAC commissioning and duct sealing certificates mailed to each participating customer.

Due to the educational nature of the Energy Assessment and the savings from behavioral changes after the assessment, this measure will be moved to the Behavioral Comprehensive Program in 2015.

Programs or Measures Terminated

Shade screens, air sealing, and air sealing with insulation were phased out in 2014 due to low cost-effectiveness and low participation.

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RESIDENTIAL AND SMALL BUSINESS DIRECT LOAD CONTROL PILOT PROGRAM

Description

The TEP Residential and Small Business Direct Load Control (“DLC”) Pilot Program (“Pilot Program”) was discontinued in 2014.

Program Goals, Objectives, and Savings Targets

There are no goals, objectives and savings targets for 2014.

Levels of Participation

There was no participation in 2014.

Costs Incurred

The program was discontinued in 2014 however there were minor costs incurred prior to the date of termination. These costs are reported in 2014 and shown in the table below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Residential & Small Business DLC	\$100	\$338	\$0	\$338	\$0	\$28	\$0	\$804

Evaluation and Monitoring Activities and Results

Because the program was discontinued, Navigant Consulting, Inc. did not complete measurement and evaluation on this program in 2014.

kW, kWh, and Therm Savings

There is no savings to report for 2014.

Problems Encountered and Proposed Solutions

No problems were encountered during this reporting period.

Program Modifications

No modifications were made to this program during the reporting period.

Programs or Measures Terminated

TEP does not plan to pursue any residential DLC program or any further research regarding two-way communication using home area networks in 2015.

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CONSUMER EDUCATION AND OUTREACH PROGRAM

TEP currently offers educational programs for both residential and commercial customers. TEP also offers an Academic Education Program for use in scholastic settings.

RESIDENTIAL AND COMMERCIAL EDUCATION

Description

TEP's residential and commercial education program is designed to educate customers on energy use and assist them with energy savings suggestions. TEP markets existing customer and academic education programs using:

- Bill inserts and messages;
- Brochures;
- In-house advertising on tep.com;
- Tradeshows/Community events and premium giveaways; and
- Call Center training.

Program Goals, Objectives, and Savings Targets

The Program is designed to educate commercial and residential customers on ways to save energy through conservation measures or utilizing time of use ("TOU") rates.

Levels of Participation

PowerShift™ TOU Customer Participation
8070 on Rate 80
669 on Rate 201B

Problems Encountered and Proposed Solutions

No problems were encountered during this reporting period.

Program Modifications

No program modifications were made during this reporting period.

ACADEMIC EDUCATION

Description

TEP offers school education programs that cover a variety of topics related to energy, natural resource conservation, and environmental awareness. These programs are offered to students in kindergarten through 8th grade. TEP provides age-appropriate curriculum with accompanying teachers' guides about electricity, energy efficiency, conservation and renewable energy. TEP's Academic Education Program features four programs of note, including: the Insulation Station (for use in 4th grade); Energy Patrol (for use in any elementary school); Bright Students: The Conservation Generation (for use in middle school); and the Electri-City Exhibit (for use in kindergarten through 3rd grade).

The *Insulation Station* (a program for 4th graders) was approved by the Commission in March 1993. The Insulation Station is a hands-on learning kit containing ready-to-assemble model houses and the necessary

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supplies to conduct science and math activities on insulation and home energy efficiency. Materials provided are model home kits and student workbooks containing charts, graphs, activities, and a home energy audit. TEP requires 4th grade teachers to attend a training session prior to receiving materials. Completing the exercises included will satisfy the current state standards for math and science.

The *Energy Patrol* is a GOEP-sponsored program for elementary school teachers and students approved by the Commission in March 1993. Students monitor classrooms to ensure that lights, computers, and water faucets are turned off when rooms are vacant. The program is designed to help schools reduce energy costs and to teach students and their families how to conserve energy.

Bright Students: The Conservation Generation Program is a three part energy education program for middle school students that include a pre-visit lesson, an on-site classroom presentation, and a post visit activity; all aligned with the Arizona Department of Education middle school science standards. During the classroom presentations, TEP's energy conservation bike is used to help students compare the amount of energy needed to light incandescent, CFL, and LED bulbs. Students are instructed on how to save energy in their homes and are provided with a take home energy efficiency kit which includes items such as CFLs, LED nightlights, and refrigerator thermometers. The kit allows the students to gain practical experience, by installing the items with their parents, which correlates with the curriculum presented at school.

The *Electri-City Exhibit* at the Tucson Children's Museum is designed to teach very young children (K-3) about saving energy, as well as electrical safety. TEP also underwrites tours for schools in low-income areas, provides age-appropriate materials to students, and trains docents to augment the presentation, which includes hands-on activities illustrating the energy saving lessons. The physical exhibit is continually upgraded and improved as TEP funding allows. In addition to a focus on energy conservation the exhibit includes information on renewable energy and electrical safety. The addition of a seasoned teacher as the Education Director at the Children's Museum has greatly enhanced the curriculum for tours, with pre- and post-information for follow-up. Further, TEP has provided new energy efficiency booklets for children to take home and share with their parents.

Program Goals, Objectives, and Savings Targets

These programs are all designed to educate students and their families on ways to save energy and to provide hands-on experiences by encouraging students to test the energy saving options provided to them in their own home. The Bright Students program is the only one of these which has reportable savings.

Levels of Participation

The table below includes participation for 2014. TEP offers teacher trainings and distributes classroom materials.

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Program	Number of Schools	Number of Students
Insulation Station ¹	12 schools/ 20 teachers trained	544
Energy Patrol	10 schools	6,100 est.
Energy Conservation/ Environmental classroom materials	101 schools/ 361 teachers	23,290
Energy Efficiency Exhibit (TEP's Electri-City at the Children's Museum Tucson) ²	34 schools 284 Adults	1,690 ³
Bright Students: The Conservation Generation	51 schools 251 Presentations	6,918 ⁴
TOTAL	208 schools	38,542

1. Numbers refer to teachers trained and kits ordered for students. IS numbers low due to confusion about/resistance to AZ's Common Core requirements. The more flexible schools with innovative teachers love the program and claim their students benefit from participation; while others find it challenging.

2. Student numbers are those from "low-income" Title 1 schools, for whom TEP paid the entrance fee and bus transportation costs for guided tours of the Electri-City Exhibit. They do not reflect total museum visitors to the site.

3. Children's Museum Tucson tours during summer months and are ordinarily small scout troops and summer programs (6-8 children) representing schools.

4. Represents the number of students who received take-home energy efficiency kits.

TEP participated in 84 community events featuring information on energy conservation. Listed below are examples of events attended:

- Tucson Festival of Books
- 20th Annual Earth Day Festival
- Arizona Higher Education Sustainability Conference
- Marana State of the Town Address
- SAHBA Home Show
- DMAFB Energy Day Event
- Oro Valley State of the Town Luncheon
- Teacher Appreciation Night at the Desert Museum
- STEAM Tucson Children's Museum Event
- Hispanic Heritage Expo
- Future Innovator's Night at the Southern Arizona Regional Science & Engineering Fair (SARSEF)
- Key to Employment for the 21st Century Symposium & Career Fair
- Girl Power Mentor luncheon at Amphi Middle School
- Science Fair at the Arizona School for the Deaf and Blind

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- Basis School Senior Projects Video Presentations (hosted at TEP)

Program Modifications

In December 2014, TEP received approval to implement the Behavioral Comprehensive Program. Given that this program encompasses an academic education component, the Bright Students Education Program and the Energizer Workshop Audits will be shifted to Behavioral Comprehensive in 2015.

ALL EDUCATION & OUTREACH PROGRAMS

Costs Incurred

Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Consumer Education & Outreach	\$0	\$160	\$258,753	\$4,072	\$0	\$9,403	\$161	\$272,549

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of the take-home energy kits for 2014. The evaluation resulted in a realization rate of 100% for coincident demand, electrical energy savings, and therm savings. This report is attached in **Appendix 1**.

kW, kWh, and Therm Savings

Savings attributable to the take-home efficiency kits are as follows:

No. of Kits	kW savings	kWh savings	Therm savings
7,946	90	2,362,530	147,416

Savings are adjusted for line losses of 9.5% for both demand and energy.

Programs or Measures Terminated

No measures were terminated during this reporting period. TEP does not plan to terminate this Program or any Program measures in 2015.

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HOME ENERGY REPORTS PILOT PROGRAM

Description

The TEP Home Energy Reports Pilot Program utilizes reports designed to inspire behavioral changes in customers' energy consumption. The Program works by: 1) making customers aware of their energy consumption; 2) allowing them to compare that usage to similarly situated homes; and 3) providing tailored energy savings tips in each report. The concept is simple: once customers are able to compare their usage to similarly situated homes, sociological instincts take over and customers are induced to use less energy.

Program Goals, Objectives, and Savings Targets

There are no goals, objectives or savings targets for 2014.

Levels of Participation

There were no participants in 2014.

Costs Incurred

Costs incurred during this reporting period were committed prior to program discontinuance and are listed below.

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Home Energy Reports (Pilot)	\$0	\$38	\$0	\$45,000	\$0	\$2,215	\$16,943	\$64,195

Evaluation and Monitoring Activities and Results

Because there was no participation in this program Navigant Consulting did not perform an evaluation of this Program for 2014. This report is attached in **Appendix 1**.

Program Modifications

Although cost-effective for TEP, this program was not cost-effective for UNS Electric, and the Program was not approved for UNS Gas customers. Because the Program cannot utilize economies of scale, and due to customer complaints regarding the comparison reports, TEP decided not to renew the contract with the vendor of this program for 2014. In Decision No. 74885, ACC Staff recommended that the Program remain inactive until further order of the Commission.

kW, kWh, and Therm Savings

There were no participants and no annual savings in 2014.

No. of Participants	kW savings	kWh savings	Therm savings
0	0	0	0

Problems Encountered and Proposed Solutions

Since the program was inactive in 2014, there were no problems encountered.

Program Modifications

There were no Program modifications during this reporting period.

Programs or Measures Terminated

The entire program will remain inactive in 2015.

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C&I COMPREHENSIVE PROGRAM

Description

The TEP C&I Comprehensive Program is a multi-faceted program that provides incentives to TEP's large commercial customers for the installation of energy-efficiency measures including lighting equipment and controls, HVAC equipment, motors and motor drives, compressed air, and refrigeration. Incentives are offered for measures in each of these categories. The Program also provides customers with the opportunity to propose innovative energy efficiency solutions through custom energy efficiency measures.

Program Goals, Objectives, and Savings Targets

The primary goal of the Program is to encourage TEP's large commercial customers to install energy efficiency measures in existing facilities. More specifically, the Program is designed to:

- Provide incentives to facility operators for the installation of high-efficiency lighting equipment and controls, HVAC equipment, premium efficiency motors and motor controls, energy efficient compressed air and leak-repair measures, and energy-efficient refrigeration system retrofits;
- Overcome market barriers, such as:
 - Lack of awareness and knowledge about the benefits and cost of energy efficiency improvements;
 - Performance uncertainty associated with energy efficiency projects; and
 - High first costs for energy efficiency measures.
- Create a clear, easy to understand and simple participation process; and
- Increase the awareness and knowledge of facility operators, managers and decision-makers on the benefits of high-efficiency equipment and systems.

The savings goal for 2014:

Peak Demand Savings (MW)	12.37
Energy Savings (MWh)	32,776

Levels of Participation

291 businesses participated during this reporting period.

Costs Incurred

Costs incurred during this reporting period are listed below.

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
C&I Comprehensive	\$3,162,420	\$7,169	\$15,214	\$820,309	\$111,852	\$152,842	\$160,194	\$4,429,999

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2014. The evaluation resulted in a realization rate of 100% for coincident demand savings and 100% for energy savings. This report is attached in **Appendix 1**.

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kW, kWh, and Therm Savings

Measure	No. Installed	kW savings	kWh savings
Chillers	22	1,242	2,558,570
HVAC	705	369	1,943,480
Refrigeration	2,379	84	840,432
Motors	182	1,503	9,706,524
Lighting	31,393	493	4,577,414
Custom	297	5,637	22,970,163
Totals	34,978	9,328	42,596,582

Savings are adjusted for line losses of 9.5% for both demand and energy.

Problems Encountered and Proposed Solutions

No problems were encountered during this reporting period.

Program Modifications

No program modifications were made during this reporting period.

Programs or Measures Terminated

No measures were terminated during this reporting period. TEP does not plan to terminate this Program in 2015. In Decision No. 74885 the Commission determined that the following previously approved measures were no longer cost-effective:

- High Efficiency Ice Makers
- Standard T8 Lighting
- Variable Speed Screw Compressors

In addition, TEP has determined that the following previously approved measures are also no longer cost-effective:

- LED Street Parking Lights
- Night Covers
- T8 to T8 Lighting

All of these measures will be terminated starting January 2015.

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SMALL BUSINESS DIRECT INSTALL PROGRAM

Description

The TEP Small Business Direct Install Program is designed to minimize barriers related to the implementation of energy efficiency improvements in the small business market, such as lack of capital, information search costs, transaction costs, performance uncertainty, and the so-called "hassle factor". The purpose of the program is to assist small firms, whose main focus is generally their core businesses, with analyzing their energy use to improve efficiency.

The Program is an upstream market program providing incentives directly to contractors for the installation of selected high efficiency lighting, motors, HVAC, and refrigeration measures. The incentives are set at a higher level for this market in order to encourage contractors to market and deliver the Program, thus offsetting the need for TEP marketing and overhead expenses. In order to further reduce overhead expenses, the Program has employed internet-based measure analysis and customer proposal processing which has made the process easier for both contractors and customers.

The Program includes customer and trade ally education to help them with understanding the technologies being promoted, what incentives are offered, and how the Program functions.

Program Goals, Objectives, and Savings Targets

The primary objective of the Program is to encourage TEP's small business customers to install energy efficiency measures in existing facilities. More specifically, the Program is designed to:

- Encourage small business customers to install high-efficiency lighting equipment and controls, HVAC equipment, and energy-efficient refrigeration system retrofits in their facilities
- Encourage contractors to promote the Program and provide turn-key installation services to small business customers;
- Overcome the unique market barriers of the small business market including:
 - First costs and lack of access to capital for energy efficiency improvements;
 - Lack of awareness and knowledge about the benefits and cost of energy efficiency improvements;
 - Hassle and transactions costs; and
 - Performance uncertainty associated with energy efficiency projects.
- Assure that the participation process is clear, easy to understand and simple; and
- Increase the awareness and knowledge of business owners, building owners and managers, and other decision-makers on the benefits of high-efficiency equipment and systems.

The savings goals for 2014:

Peak Demand Savings (MW)	.84
Energy Savings (MWh)	5,347

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Levels of Participation

152 businesses participated during this reporting period.

Costs Incurred

Costs incurred during the reporting period are listed below.

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Small Business Direct Install	\$752,174	\$7,984	\$931	\$548,441	\$91,725	\$51,241	\$32,692	\$1,485,189

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2013. The evaluation resulted in a realization rate of 100% for coincident demand savings and 100% for energy savings. This report is attached in **Appendix 1**.

kW, kWh, and Therm Savings

Measure	No. Installed	kW savings	kWh savings
HVAC	252	105	488,794
Refrigeration	56	7	47,908
Motors	13	48	310,195
Lighting	8,191	308	3,624,221
Custom	115	73	1,141,928
Totals	8,627	541	5,613,047

Savings are adjusted for line losses of 9.5% for both demand and energy.

Problems Encountered and Proposed Solutions

Participation was slow during the first 6 months of 2014. TEP successfully restructured the incentives and initiated special promotions while remaining within Commission approved guidelines. Fully, 74% of annual program energy savings were realized from projects completed in the last 6 months 2014.

Program Modifications

See Problems Encountered section above.

Programs or Measures Terminated

No measures were terminated during this reporting period. TEP does not plan to terminate this Program in 2015. In Decision No. 74885, the Commission determined the following previously approved measures are no longer cost-effective:

- Screw-in Cold Cathode CFLs
- Standard T8 Lighting

In addition, TEP has determined the following previously approved measures are also no longer cost-effective:

- Night Covers
- T8 to T8 Lighting

The above mentioned measures will be terminated starting January 2015.

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COMMERCIAL NEW CONSTRUCTION PROGRAM

Description

The Commercial New Construction Program is geared towards the building owner/developer and is designed to promote improved building energy efficiency in new commercial construction, compared to standard building practices.

The Program is a performance-based program that includes design assistance for the design team, performance-based incentives for the building owner and developer, and energy design information resources. Design assistance involves efforts to integrate energy efficiency into a customer's design process as early as possible. The Program provides incentives to offset the additional design cost of alternative, energy-efficient designs.

In addition to the design incentives and performance-based incentives for the building owner/developer, this Program provides technical support services to the design community. The Program provides consumer education and promotional pieces designed to assist building owners/developers in understanding various energy efficiency options and encourage them to explore energy efficiency options.

Program Goals, Objectives, and Savings Targets

The primary goal of the Program is to encourage energy efficient new building design for new, commercial projects in TEP's service area. More specifically, the Program is designed to:

- Provide incentives to building owners/developers to design and build more energy-efficient buildings;
- Provide assistance to design teams to offset the additional cost and time of investigating more energy-efficient design;
- Overcome certain market barriers;
- Create a clear and easy to understand participation process that does not unduly burden the design and construction time schedule or budget process;
- Increase the awareness and knowledge of building owners/developers, architects, engineers, and decision-makers on the benefits of high efficiency buildings design; and
- Encourage building owners/developers and the design community to consider energy efficiency options as early in the design process as possible.

The savings goal for 2014:

Peak Demand Savings (MW)	1.69
Energy Savings (MWh)	3,021

Levels of Participation

There were 32 total participants during 2014. Eleven buildings were completed, four also received a design assistance incentive during 2014.

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Costs Incurred

Costs incurred during the reporting period are listed below.

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Commercial New Construction	\$ 301,784	\$ 258	\$ -	\$ 116,839	\$ 1,739	\$ 15,232	\$ 5,624	\$ 441,475

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2014. The evaluation resulted in a realization rate of 100% for coincident demand and energy savings. This report is attached in **Appendix 1**.

kW, kWh, and Therm Savings

Measure	Participants	kW savings	kWh savings
Design Assistance	7	NA	NA
Building Performance	32	1,650	3,411,449
Totals	39	1,650	3,411,449

Savings are adjusted for line losses of 9.5% for both demand and energy.

Problems Encountered and Proposed Solutions

No problems were encountered during this reporting period.

Program Modifications

No Program modifications were made during this reporting period.

Programs or Measures Terminated

No measures were terminated during this reporting period. TEP does not plan to terminate this Program or any Program measures in 2015. TEP will eliminate the Design Assistance incentive starting in 2015, per Commission Decision No. 74885.

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COMMERCIAL AND INDUSTRIAL DIRECT LOAD CONTROL PROGRAM

Description

The TEP C&I DLC Program is designed to manage peak demand and mitigate system emergencies through a C&I load curtailment program. The Program is delivered on a turn-key basis by a third-party Implementation Contractor ("IC"), who negotiates load reduction agreements with multiple customers and "aggregates" those customers to provide TEP a confirmed and guaranteed load reduction capacity available upon request. The Program will provide up to 40 MW of summer peak demand reduction, available for up to 80 hours per year, with a typical load control event lasting 3-4 hours.

Program Goals, Objectives, and Savings Targets

The primary goal of the Program is to provide up to 40 MW of summer peak demand reduction, available for up to 80 hours per year, in order to mitigate system emergencies.

Levels of Participation

46 participants were enrolled, with a peak commitment of 16.53MW of load reduction under contract. Six load control events were initiated during this reporting period. The MW reduction per event as reported by the IC is:

Date of Event	Duration of Event	MW Reduction
5/15/2014	2.5 hours	2.34
6/26/2014	2.67 hours	3.31
7/22/2014	1.5 hours	2.91
7/30/2014	1 hour	9.17
9/19/2014	2 hours	6.62
11/06/2014	2 hours	6.18

Event participation on May 15 and July 22 was voluntary for the last half-hour of each event.

Costs Incurred

Costs incurred during this reporting period are listed below.

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
C&I Demand Response - Direct Load Control	\$0	\$3,458	\$0	\$456,906	\$0	\$16,526	\$2,110	\$479,000

Program implementation expenses include participant incentives, however, the specific incentives provided to participants is confidential.

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2014. The evaluation confirmed that TEP's calculation of the demand response energy credit allowed per the Standard is correct. The report is attached in **Appendix 1**.

kW, kWh, and Therm Savings

The Standard allows a credit for demand response and load management programs per A.A.C. R14-2-2404 (C). Peak reduction capability may be converted to an annual energy savings equivalent based on an assumed 50% load factor. The credit shall not exceed 10% of the annual standard. The following

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table shows the allowable credit for this Program based on the available capacity reduction and the 10% cap.

Participants	Maximum MW Commitment	MWh savings credit
46	16.5	20,948

Problems Encountered and Proposed Solutions

Peak customer enrollment occurred in April of 2014. No events were initiated until May, at which point some participants had elected to no longer participate in the program. In addition, some participants remaining in the program did not participate in all of the events. TEP initiated dialogue with the remaining participants and secured their commitment to participate in future events. TEP is committed to enrolling more participants in 2015 in order to achieve the maximum energy saving credit allowed per A.A.C. R14-2-2404 (C). TEP Customer Relationship Managers will be engaged to solicit further enrollment and participation.

Program Modifications

There have been no Program modifications during this reporting period.

Programs or Measures Terminated

No measures were terminated during this reporting period. TEP does not plan to terminate this Program in 2015.

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DSM PROGRESS REPORT FOR THE PERIOD: January through December 2014

MISCELLANEOUS DSM INFORMATION

In Commission Decision No. 74885, the ACC approved the 2014 EE Plan that was filed on May 31, 2013. Because of the delay in approval for the 2014 EE Plan, TEP did not file a new EE Plan for 2015, but requested that the 2014 plan be used again for 2015. Decision No. 74885 provided approval to continue TEP's existing DSM programs for 2015, and for the addition of several new programs and various new EE measures, which were cost-effective by Staff analysis and had been previously approved for use by APS and/or UNSE.

Although the delay in approval for new programs and new EE measures has hindered TEP's ability to meet the Standard for both 2013 and 2014, some of the programs out-performed TEP's expectations in 2014. Even with the exceptional program performance, TEP was still unable to make up the deficiency from 2013 to meet the 2014 cumulative EE standard. Decision 74885 provides a waiver for meeting the EE Standard R14-2-2404(B) for 2014 and 2015.

Decision No. 74885 allows TEP to count toward the Energy Efficiency Standard, any savings arising from CHP projects in its service territory. Two CHP projects became operational in 2014:

- University of Arizona Health Sciences Center – a 5.5 MW generator operating 24 hours / day
- Pima County Jail – a 100kW generator operating 24 hours / day

The annualized energy savings from these projects are reported in Table 2. TEP is reporting this energy savings credit toward the Standard per A.A.C. R14-2-2404 (F) and Decision No. 74885.

TEP is also including an energy savings credit toward the Standard for changes in energy efficient building codes per A.A.C. R14-2-2404 (E). The annualized energy savings from these projects are reported in Table 2.

TEP will file its 2016 EE Plan by June 1, 2015.

Tucson Electric Power Company

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APPENDIX 1 – MEASUREMENT, EVALUATION, AND RESEARCH REPORTS

- GOEP Training, Monitoring, and Evaluation Report – January 2015
- Navigant Consulting - TEP PY2014 Year-end Measurement, Evaluation, and Research Report ⁴

⁴ These reports are being provided directly to Commission Staff.

Tucson Electric Power Company

DSM PROGRESS REPORT FOR THE PERIOD:
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APPENDIX 2 – COMMISSION APPROVED DSM PROGRAMS AND MEASURES FOR 2014

DSM Program	Approved Measures
Residential Programs	
Low-Income Weatherization	Whole House Low Income Weatherization
Residential New Construction	Energy Efficient New Homes
Shade Tree Program	Shade Trees
ENERGY STAR® Lighting (CFL)	Integral CFL
Existing Home Program	Air Sealing
	Air Sealing & Attic Insulation
	Duct Sealing (Performance)
	Duct Sealing (Prescriptive)
	Early Retirement HVAC with QI and Duct Sealing (Performance)
	Early Retirement HVAC with QI and Duct Sealing (Prescriptive)
	ROB HVAC with QI and Duct Sealing (Performance)
	ROB HVAC with QI and Duct Sealing (Prescriptive)
	Shade Screens
	Home Energy Audits
Commercial Programs	
Non-Residential Existing Facilities	Custom Measures
	14 SEER Packaged and Split AC's
	14 SEER Packaged and Split HP's
	15 SEER Packaged and Split AC's
	15 SEER Packaged and Split HP's
	16 SEER Packaged and Split AC's
	16 SEER Packaged and Split HP's
	17 SEER Packaged and Split AC's
	17 SEER Packaged and Split HP's
	18 SEER Packaged and Split AC's
	18 SEER Packaged and Split HP's
	Air Cooled Chillers < 150 tons
	Air Cooled Chillers > 150 tons
	EER Rated Packaged AC (> 20tons ,10.9 EER)
	EER Rated Packaged AC (11.5 - 20 tons ,11.24 EER)
	EER Rated Packaged AC (5.4 - 11.25 tons ,11.36 EER)
	EER Rated Packaged HP (> 20 tons ,11.11 EER)
EER Rated Packaged HP (11.25 - 20 tons ,11.02 EER)	
EER Rated Packaged HP (5.4 - 11.25 tons ,11.31 EER)	

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	Programmable Thermostats
	Variable Speed Screw Compressor
	Water Cooled Chillers < 200 tons
	Water Cooled Chillers > 400 tons
	Water Cooled Chillers 201 - 400 tons
	Daylighting controls
	Delamping
	Energy efficient exit signs
	HIDs to T8/T5
	Integral Screw In CFL
	Occupancy sensors
	Screw in cold cathode CFL
	Standard T8 Lighting
	Energy efficient ODP motors
	Energy Efficient TEFC Motors
	Variable Speed Drives
	Anti-sweat heater controls
	High Efficiency Evaporator Fan Motors
	High Efficiency Ice Makers
	High Efficiency Reach-in Refrigerators and Freezers
	Strip Curtains and Night Covers
Small Business/Schools	Programmable Thermostats
	14 SEER Packaged and Split AC's
	14 SEER Packaged and Split HP's
	15 SEER Packaged and Split AC's
	15 SEER Packaged and Split HP's
	16 SEER Packaged and Split AC's
	16 SEER Packaged and Split HP's
	Daylighting controls
	Delamping
	Energy efficient exit signs
	Hard Wire CFL
	HIDs to T8/T5
	Integral Screw In CFL
	Occupancy sensors
	Screw in cold cathode CFL
	Standard T8 Lighting
	Variable Speed Drives

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	Anti-sweat heater controls
	Strip Curtains and Night Covers
Efficient Commercial Building Design	New Commercial Construction
	Design Assistance
C & I Demand Response	Demand Response/Direct Load Control
Support Programs	
Consumer Education and Outreach	K-12 Education Kits

**ARIZONA GOVERNOR'S OFFICE of ENERGY POLICY
TRAINING, MONITORING AND EVALUATION REPORT
FISCAL YEAR 2014 ANNUAL REPORT**

January 2015

UNS ENERGY CORPORATION

Subsidiary – Tucson Electric Power

Re: Governor's Office of Energy Policy

Training and Monitoring for Weatherization

Training for the Weatherization Assistance Program (WAP) is done through a variety of methods; the two biggest ones are one-on-one field training when an issue is noted in the field and class room/lab training. The one-on-one field training is done by the state monitors when they are out in the field looking at work in progress and monitoring jobs that are completed. When a monitor sees something that is not to WAP standards it is noted and brought to the agencies' attention. If training is required it is done right then, in the field where it is best, as it is hands-on training.

The class room/lab training is provided by the Southwest Building Science Training Center (Training Center), operated by the Foundation for Senior Living Home Improvement (FSL). The state's weatherization program has a long history working with the training center in developing training curriculum and training weatherization workers. The main stay of WAP training from the training center is WAP boot camp and Success with Weatherization (Critical Details), which is required by all WAP field workers. The Boot Camp is a five-day training that covers the basics of building science, pressure diagnostics, health and safety and residential energy auditing.

The Success with Weatherization training was developed through a two-year grant for quality control in weatherization by the Training Center and Advance Energy. The course focuses on critical details of the work being performed and teaches the steps necessary to complete the work, correctly every time. The training material and detail sheets that are taught in the class are available online to the students once they completed the course. This is the first year that Success with Weatherization has been incorporated into the program. The state mandated that at least one field personnel and one member of management must attend the course from each agency.

The training center also offers courses in Lead RRP, OSHA 10 and OSHA 30 Certifications, WAP administration and many more, which some are required by the weatherization program but other facilities can provide the training. The two previously mentioned courses above can only be taken at the Training Center. A complete list of training courses they offer can be found at:
<http://www.swbstc.org/trainings/>

The Training Center, in partnership with the Building Performance Institute, Inc. (BPI), provides nationally recognized building science certifications to Arizona's weatherization agencies. All agencies have BPI Certified staff members or contractors that are BPI certified.

Details on BPI
<http://www.bpi.org/>

Peer-to-Peer Fiscal and Technical Procedures

The Arizona WAP has a peer-to-peer working group that allows the fiscal and technical staff from the agencies and the Governor's Office of Energy Policy (OEP) to meet and discuss issues that arise in the program. Agencies are able to share solutions to common problems and other information. These peer-to-peer meetings occur every few months and have been a great arena to discuss any changes or improvement to the program.

Agency Personnel Performance Reviews

A review and monitoring process to evaluate the competency of agency personnel performing the various requirements of the weatherization program was developed for the statewide weatherization assistance program. Based on this process, additional one-on-one training and technical assistance is provided on an as-needed basis.

Monitoring

The Arizona WAP has implemented a monitoring program that focuses on determining areas that need improvement and utilizes the monitoring process to implement needed changes. The areas covered include: auditing, diagnostics, testing and measures completed and program operations. This process begins with the review of 100% of the technical reports for auditing, diagnostics, testing and work completed each month. These reports can highlight instances where opportunities were missed or program requirements were not followed. When there are concerns with some element of the report, a site visit is conducted to address the concerns. At the job site, the diagnostic, testing and work are reviewed to determine if any improvements can be made. A minimum of 5% of the job sites will be visited, with each agency being monitored at least once during the twelve-month period. Based on the site visit results, follow-up training and technical assistance is provided to the local agency. For agencies where the technical reports do not show concerns, the site visit consists of monitoring a number of randomly selected homes and reviewing the diagnostics, testing and work completed. These efforts, combined with the training and competence programs, have a goal of ensuring that the program is providing the clients with a high return on Utility's investments, while maintaining or improving the customers' health and safety.

Utility Bill Analysis

This report includes jobs completed across Arizona using data provided by APS, TEP, Unisource Gas and Electric and Southwest Gas utility data. This analysis is ongoing, new data will be updated to these values on a quarterly basis.

Provided are Savings to Investment Ratios (SIR) for total investment from all funding spent (diagnostics, energy measures and health and safety measures) and for energy related measure only (diagnostics and energy measures).

Assumptions

Present value is based on 17.5 years measured life, discount rate of 3% and utility cost escalation rate of 3%.

Results Summary

The combined SIR of all jobs reviewed to date for funds (LIHEAP, DOE, Utilities, CDBG, URRD, SERC) spent on diagnostics, energy measures and health and safety measures is currently at a 1 to 1. Health and safety represented 19% of expenditures.

The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics was 1.22

The average saving per home reviewed was 2270 kWh and 33 therms of natural gas (gas therms average includes all electric homes).