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BEFORE THE ARIZONA CORPORATION COMMISSION

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Arizona Corporation Commission
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IN THE MATTER OF ELECTRIC ENERGY) DOCKET NO. E-00000U-17-0057
EFFICIENCY STANDARDS REPORTS FOR)
2017.)
_____)

Pursuant to A.A.C. R14-2-2409(A), Trico Electric Cooperative, Inc., submits its Demand Side Management Progress Report.

RESPECTFULLY SUBMITTED this 1st day of March, 2017.

TRICO ELECTRIC COOPERATIVE, INC.

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Original and 13 copies of the foregoing filed this 1st day of March 2017 with:

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

1 Copy of the foregoing hand-delivered/mailed
2 this 1st day of March 2017 to:

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4 Utilities Division
5 Arizona Corporation Commission
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Annual DSM Progress Report

January - December 2016

**Trico Electric Cooperative, Inc.
Energy Efficiency Implementation Plan
Annual Report
March 1, 2017**

BACKGROUND

Pursuant to A.C.C. R14-2-2409, Trico Electric Cooperative, Inc. ("Trico") submits this annual compliance report for the period beginning January 1, 2016 through December 31, 2016. This report relates to Trico's Energy Efficiency ("EE") portfolio approved by the Arizona Corporation Commission (the "Commission") in Decision No. 73929 dated June 27, 2013.

EXECUTIVE SUMMARY

Trico's approved EE portfolio under Decision No. 73929 consists of the following:

- A. Conservation Workshop Program
- B. Classroom Connections
- C. Operation Cool Shade
- D. Pima County Weatherization

Trico's Annual Report reflects information for all programs approved under Decision 73929.

The programs contained within Trico's EE portfolio are supported with surcharge dollars collected from Trico's Commissioned-approved DSM Adjustor.

REQUIRED ANNUAL REPORTING REQUIREMENTS

Pursuant to A.C.C. R14-2-2409, by March 1 of each year, Trico shall submit to the Commission, in a Commission established docket for that year, a DSM progress report providing information for each of Trico's Commission-approved DSM programs and including at least the following:

- A. An analysis of Trico's progress towards meeting the annual energy efficiency standard;
- B. A list of Trico's current Commission-approved DSM programs and measures, organized by customer segment;
- C. A description of the findings from any research projects completed during the previous year;

- D. The following information for each Commission-approved DSM program or DSM measure:
1. A brief description of the programs;
 2. Goals, objectives and savings targets;
 3. The level of customer participation during the previous year;
 4. The costs incurred during the previous year, disaggregated by type of cost, such as administrative costs, rebates, and monitoring costs;
 5. A description and the results of evaluation and monitoring activities during the previous year;
 6. Savings realized in kW, kWh, therms and Btus, as appropriate;
 7. The environmental savings realized, including emissions and water savings;
 8. Incremental and net benefits, in dollars, of the programs;
 9. Performance-incentive calculations for the previous year;
 10. Problems encountered during the previous year and proposed solutions;
 11. A description of any modifications proposed for the following year; and
 12. Whether Trico proposes to terminate the DSM program or DSM measure and the proposed date of termination.

A summary of Trico's progress toward meeting the Annual Energy Efficiency Standard is provided in Table 1; a summary detailing program participation is provided in Table 2; a summary detailing all DSM expenses by program is provided in Table 3; a summary of energy savings is provided in Table 4; a summary of environmental savings by program are provided in Table 5; and summary of incremental benefits and net benefits, in dollars are provided in Table 6. Commission approved DSM programs and measures are attached in Appendix 1.

Table 1 – Summary of Trico’s Progress toward Meeting the Annual Energy Efficiency Standard

ENERGY EFFICIENCY STANDARDS AND ACTUAL DSM ENERGY SAVINGS AS ESTABLISHED FOR TRICO IN DOCKET NO. E-01461A-11-0230 DECISION NO 73929 REPORTING PERIOD: TWELVE MONTHS ENDING DECEMBER 31, 2016					
	Approved Standard		Annual Results		Lifetime kWh Savings
	Capacity Savings	Annual kWh Savings	Capacity Savings	Annual kWh Savings	
	kW		kW		
Conservation Workshops	4.50	17,494	2.23	8,662	25,986
Classroom Connection	23.38	90,959	21.82	84,895	169,790
Operation Cool Shade	132.45	91,620	225.00	155,641	1,556,405
Pima County Weatherization	2.33	8,898	2.10	8,004	240,120
Total	162.66	208,971	251.15	257,202	1,992,301
Actual 2016 kWh Sales		685,036,852		685,036,852	

Table 2 - Summary of Participation by Program

SUMMARY OF PARTICIPATION BY PROGRAM	
January 2016 - December 2016	
DSM Program	Units/Participants
Operation Cool Shade	1,500
Pima County Weatherization	6
EE/DSM Programs Subtotal	1,506
Conservation Workshops	51
Classroom Connections	840
Support Programs Subtotal	891
Portfolio Totals	2,397

Table 3 – Summary of Expenses by Program

SUMMARY OF EXPENSES BY PROGRAM			
January 2016 - December 2016			
DSM Program	Allocated Program Budget	Labor Expenses	Program Expenses
Operation Cool Shade	\$ 22,075.00	\$ 3,112.45	\$ 35,439.80
Pima County Weatherization	\$ 10,000.00	\$ -	\$ 10,000.00
EE/DSM Programs	\$ 32,075.00	\$ 3,112.45	\$ 45,439.80
Conservation Workshops	\$ 2,824.00	\$ 1,013.51	\$ 165.67
Classroom Connections	\$ 7,214.00	\$ 1,824.04	\$ 1,733.87
Support Programs	\$ 10,038.00	\$ 2,837.55	\$ 1,899.54
Program Development	\$ 12,866.00	N/A	\$ 9,339.24
Subtotal Program Costs	\$ 54,979.00	\$ 5,950.00	\$ 56,678.58

SUMMARY OF TOTAL OPERATING COSTS	
January 2016 - December 2016	
Total Labor Expenses	\$ 5,950.00
Total Program Expenses	\$ 47,339.34
Program Operation Costs	\$ 53,289.34
Program Development Expenses	\$ 9,339.24
Total Operation Costs	\$ 62,628.58

Table 4 – Summary of Energy Savings by Program

SUMMARY OF KW AND KWH SAVINGS BY PROGRAM			
January 2016 - December 2016			
DSM Program	Units/Participants	kW Savings	kWh Savings
Operation Cool Shade	1,500	225.00	155,641
Pima County Weatherization	6	2.10	8,004
EE/DSM Programs	1,506	227.10	163,645
Conservation Workshops	51	2.23	8,662
Classroom Connections	840	21.82	84,895
Support Programs	891	24.05	93,557
Total Program Units/Savings	2,397	251.15	257,202

Table 5 – Summary of Environmental Savings by Program

SUMMARY OF ENVIRONMENTAL SAVINGS BY PROGRAM					
January 2016 - December 2016					
DSM Program	Lifetime kWh Savings	Lifetime Sox Reduction (lbs)	Lifetime Nox Reduction (lbs)	Lifetime CO2 Reduction (lbs)	Lifetime Water Reduction (gallons)
Operation Cool Shade	1,556,405	5,323	8,093	313,093	716,040
Pima County Weatherization	240,120	821	1,249	442,781	110,470
EE/DSM Programs	1,796,525	6,144	9,342	755,874	826,509
Conservation Workshops	25,986	89	135	47,918	11,955
Classroom Connections	169,790	581	883	313,093	78,114
Support Programs	195,776	670	1,018	361,011	90,069
Total Program Savings	1,992,301	6,814	10,360	1,116,886	916,578

Table 6 – Summary of Incremental Benefits and Net Benefits, in dollars

SOCIETAL BENEFITS				
REPORTING PERIOD: TWELVE MONTHS ENDING DECEMBER 31, 2016				
	Program	Societal	Societal	Net
	Cost	Benefits	Costs	Benefits
Conservation Workshops	\$ 1,179	\$ 1,406	\$ 1,092	\$ 314
Classroom Connection	\$ 3,558	\$ 9,363	\$ 3,294	\$ 6,069
Operation Cool Shade	\$ 38,552	\$ 264,281	\$ 75,957	\$ 188,324
Pima County Weatherization	\$ 10,000	\$ 8,188	\$ 9,259	\$ (1,072)
Program Development	\$ 9,339		\$ 9,339	\$ (9,339)
Total	\$ 62,629	\$ 283,237	\$ 98,942	\$ 184,295

Conservation Workshop Program

Description

The Energy Conservation Workshop Program is an outreach program that provides homeowners ways to conserve energy and be more energy efficient.

Trico conducts energy efficiency presentations at meetings of homeowners associations, community groups and at Trico's headquarters. Trico actively seeks meetings and events where they can address Trico customers.

The presentation includes information on:

- Energy savings associated with installing CFLs
- Energy savings associated with installing programmable thermostats
- Benefits of weatherization and insulation
- Basic home maintenance and its effects on energy efficiency
- Benefits of purchasing Energy Star-rated appliances
- Distribution of home energy savings guides to further help them reduce their energy usage.

Program Goals, Objectives and Savings Targets

This Program is designed to educate Trico's Residential and Commercial customers, in a group environment, on ways to save energy by providing them with techniques on how to better conserve energy through behavior modifications and other energy conservation measures.

Program Goals for 2016:

DSM Program	Units	kWh Savings	kW Savings	Program Cost
Conservation Workshops	103	17,494	4.50	\$2,824.26

Levels of Participation

For the period January 1 – December 31, 2016:

DSM Program	Units/Participants
Conservation Workshop Program	51

Costs Incurred

For the period January 1 – December 31, 2016:

DSM Program	Labor Expenses	Program Expenses
Conservation Workshops	\$1,013.51	\$165.67

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Trico's DSM/EE Programs during the formulation of Trico's proposed 2013-2014 EE Implementation Plan. The results of such analysis can be provided upon request.

kW, kWh, and Therm Savings

DSM Program	kW Savings	kWh Savings
Conservation Workshops	2.23	8,662

Problems Encountered and Proposed Solutions

Trico experienced an increase in participation in this program in 2016. Trico actively marketed the program through several channels that included, but were not limited to, notifying customers on the back of their bills, newspaper advertising and posters in the Trico lobby. We also offered a workshop in one of Trico's larger retirement communities, at the request of the Members, which resulted in increased participation.

Program Modifications

We plan to continue offering workshops during other Trico community events to encourage additional attendance.

Programs or Measures Terminated

Trico is not requesting to make any modifications to this program at this time.

Classroom Connections

Description

The Classroom Connection program educates elementary school students on the value and importance of energy efficiency and teaches them ways they can save energy in their own home.

Trico conducts an age-appropriate learning session during classroom time to teach the students ways to conserve energy and how to choose energy efficient appliances. Students are shown basic energy savings measures as well as the benefits of saving energy. An Energy Savings Information Sheet is distributed to all students. The students are also provided with an energy savings survey to fill out with their parents. All students that fill out and return the survey receive a "prize" that promotes energy efficiency as a reminder to continue to conserve.

Program Goals, Objectives and Savings Targets

This Program is designed to educate Trico's younger customers about ways to conserve energy in their homes and to encourage them to share this information with their parents.

Program Goals for 2016:

DSM Program	Units	kWh Savings	kW Savings	Program Cost
Classroom Connections	900	90,959	23.38	\$7,214.04

Levels of Participation

For the period January 1 – December 31, 2016:

DSM Program	Units/Participants
Classroom Connections	840

Costs Incurred

For the period January 1 – December 31, 2016:

DSM Program	Labor Expenses	Program Expenses
Classroom Connections	\$1,824.04	\$1,733.87

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Trico's DSM/EE Programs during the formulation of Trico's proposed 2013-2014 EE Implementation Plan. The results of such analysis can be provided upon request.

kW, kWh, and Therm Savings

DSM Program	kW Savings	kWh Savings
Classroom Connections	21.82	84,895

Problems Encountered and Proposed Solutions

Trico staff increased its marketing efforts through email communications throughout the year in an effort to increase participation in 2016. This proved successful. Trico plans to continue its more personalized approach in contacting the schools either by email or phone moving forward.

Program Modifications

Trico is not requesting any program modifications at this time.

Programs or Measures Terminated

Due to the continued interest in this program, Trico is not requesting to make any modifications to this program at this time.

Operation Cool Shade

Description

Trico's Operation Cool Shade program is an existing program, which promotes energy conservation through the planting of low-water use shade trees.

Trico offers the Operation Cool Shade Program in conjunction with Tucson Clean and Beautiful or "Trees for Tucson" who conducts the program management items associated with the program. Trico has responsibility for administering the purchase of the trees by the customers and ensuring eligibility to purchase trees. Tucson Clean and Beautiful has responsibility for the delivery of the trees to the customers, educating the customers about the appropriate locations to plant the trees and how to care for the trees. Tucson Clean and Beautiful also has responsibility for providing Trico with detailed reports tracking the amount of trees delivered to the customers and the energy savings to be expected for each tree sold detailed by the type of tree delivered.

Program Goals, Objectives and Savings Targets

The purpose of this Program is to promote energy conservation and the environmental benefits associated with planting low water use trees.

Program Goals for 2016:

DSM Program	Units	kWh Savings	kW Savings	Program Cost
Operation Cool Shade	883	91,620	132.45	\$22,075.00

Levels of Participation

For the period January 1 – December 31, 2016:

DSM Program	Units/Participants
Operation Cool Shade	1,500

Costs Incurred

For the period January 1 – December 31, 2016:

DSM Program	Labor Expenses	Program Expenses
Operation Cool Shade	\$3,112.45	\$35,439.80

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Trico's DSM/EE Programs during the formulation of Trico's proposed 2013-2014 EE Implementation Plan. The results of such analysis can be provided upon request.

kW, kWh, and Therm Savings

DSM Program	kW Savings	kWh Savings
Operation Cool Shade	225.00	155,641

Problems Encountered and Proposed Solutions

Trico has not encountered any problems with its Operation Cool Shade program. Member interest has continued in 2016, resulting in Trico selling out of trees in August 2016.

Program Modifications

Trico is not requesting any program modifications at this time.

Programs or Measures Terminated

Due to the continued interest in this program, Trico is not requesting to make any modifications to this program at this time.

Pima County Weatherization

Description

For Trico's 2013-2014 EE Plan, it plans to provide \$10,000 each year to the Pima County Weatherization program.

To qualify for the program, the applicant must contact Pima County for an application. Eligible applicants must have a household income less than 150 percent of the federal poverty level. Program participation is subject to funding availability.

This program includes Pima County representatives determining the work needed and installing weatherization measures on approved homes and structures, including:

- Caulking & weather-stripping
- Insulation (attic, wall, & duct)
- Water heater insulation & exposed pipe wrap
- Attic ventilation
- Sunscreens
- Paint roof & exposed ducts white
- Service evaporative coolers
- Replace evaporative coolers or motors with two-speed motors
- Plant trees on south/west exposures
- Installation of evaporative cooler thermostat
- Installation of low-flow shower heads

Program Goals, Objectives and Savings Targets

The goal of this program is to improve energy efficiency in homes in the Trico service area by assisting low-income residents in reducing energy use and lowering their utility bills by implementing year-round weatherization measures. This program is provided at no cost to eligible customers.

Program Goals for 2016:

DSM Program	Units	kWh Savings	kW Savings	Program Cost
Pima County Weatherization	6.67	8,898	2.33	\$10,005.00

Levels of Participation

For the period January 1 – December 31, 2016:

DSM Program	Units/Participants
Pima County Weatherization	6

Costs Incurred

For the period January 1 – December 31, 2016:

DSM Program	Labor Expenses	Program Expenses
Pima County Weatherization	\$0	\$10,000.00

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Trico's DSM/EE Programs during the formulation of Trico's proposed 2013-2014 EE Implementation Plan. The results of such analysis can be provided upon request.

kW, kWh, and Therm Savings

DSM Program	kW Savings	kWh Savings
Pima County Weatherization	2.10	8,004

Problems Encountered and Proposed Solutions

Trico has not encountered any problems with its Pima County Weatherization program. Participation in the program began at a slower pace than the previous year, likely due to some program administration changes at Pima County. However, the participation through the second half of the year has increased.

Program Modifications

Trico is not requesting any program modifications at this time.

Programs or Measures Terminated

Due to the continued interest in this program, Trico is not requesting to make any modifications to this program at this time.

Appendix 1

Commission Approved DSM Programs and Measures for 2014

DSM Program	Customer Segment	Approved Measures
Conservation Workshops	Residential	Energy Conservation Workshops
Classroom Connections	Residential	Classroom Presentations
Operation Cool Shade	Residential/Commercial	Shade Trees
Pima County Weatherization	Residential	Whole House Low Income Weatherization