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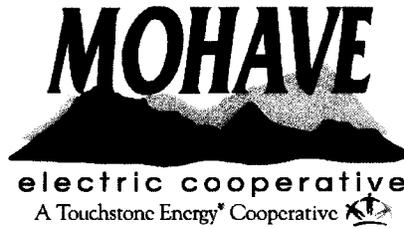
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Annual DSM Progress Report

January – December 2015

Docket # E-00000U-16-0069

Decision 74443

Submitted by
Peggy Gillman
Manager of Public Affairs and Energy Services

Mohave Electric Cooperative, Inc.
PO Box 1045
Bullhead City, AZ 86430

March 1, 2016

Mohave Electric Cooperative, Inc.
Energy Efficiency Implementation Plan

Annual Report: January-December 2015

BACKGROUND

Pursuant to A.A.C. R14-2-2409, Mohave Electric Cooperative, Inc. ("Mohave") submits this annual compliance report for the period beginning January 1, 2015 through December 31, 2015. This report relates to Mohave's Energy Efficiency ("EE") Plan approved by the Arizona Corporation Commission (the "Commission") in Decision No. 74443 dated April 18, 2014.

EXECUTIVE SUMMARY

Mohave's approved DSM/EE programs under Decision No. 74443 consist of the following:

- A. Residential Energy Review and Audit
- B. High Efficiency Heat Pumps
- C. Operation Cool Shade Tree
- D. Good Cents EE New Homes
- E. Education and Outreach Support
- F. CFL Give-aways
- G. Residential Lighting
- H. Residential Low-income Weatherization
- I. Residential Refrigerator/Freezer Recycling
- J. Commercial Lighting Discount CFL
- K. Commercial Lighting

The programs contained within Mohave's EE Plan are supported with surcharge dollars collected from Mohave's Commission-approved DSM Adjustor.

REQUIRED ANNUAL REPORTING REQUIREMENTS

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

- A. An analysis of progress towards meeting the annual energy efficiency standard;
- B. A list of 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 Mohave proposes to terminate the DSM program or DSM measure and the proposed date of termination.

The following tables are provided:

Table 1: Summary of kWh and KW Annualized Savings by Program

Table 2: Summary of Environmental Annualized Savings

Table 3: Summary of Expenses by Program

Table 1: Summary of kWh and KW Annualized Savings by Program

DSM Program	Units/Participation	kWh	KW Peak Demand
Residential Energy Review and Audit	62	33232	7
High Efficiency Heat Pumps	118	85196	42
Operation Cool Shade Tree	1800	194400	60
Good Cents EE New Homes	0	0	0
Education & Outreach Support	1165	117665	23
CFL Give-aways	3767	177049	23
Residential Lighting	0	0	0
Residential Low Income Weatherization	0	0	0
Residential Refrigerator/Freezer Recycling	57	69084	15
Commercial Lighting Discount CFL	0	0	0
Commercial Lighting	0	0	0
Totals	6969	676626	170
Preliminary 2015 kWh Sales: 657,143,643			

Table 2: Summary of Environmental Annualized Savings

DSM Program	Units/ Participation	Reporting kWh savings	Reporting CO2 Reduction (lbs)	Reporting SO2 Reduction (lbs)	Reporting Nox Reduction (lbs)
Residential Energy Review and Audit	62	33232	61280	114	173
High Efficiency Heat Pumps	118	85196	157101	291	443
Operation Cool Shade Tree	1800	194400	358474	665	1011
Good Cents EE New Homes	0	0	0	0	0
Education & Outreach Support	1165	117665	216974	402	612
CFL Give-aways	3767	177049	326478	606	921
Residential Lighting	0	0	0	0	0
Residential Low Income Weatherization	0	0	0	0	0
Residential Refrigerator/Freezer Recycling	57	69084	127391	236	359
Commercial Lighting Discount CFL	0	0	0	0	0
Commerical Lighting	0	0	0	0	0
Totals	6969	676626	1247698	2314	3518

Table 3: Summary of Expenses by Program

DSM Program	Program Expense	Labor Expense	Total Program Costs	Program Annual Budget
Residential Energy Review and Audit	\$0.00	\$25,806.69	\$25,806.69	\$23,920.00
High Efficiency Heat Pumps	\$20,050.00	\$3,189.09	\$23,239.09	\$51,147.00
Operation Cool Shade Tree	\$7,524.35	\$3,785.48	\$11,309.83	\$8,855.00
Good Cents EE New Homes	\$0.00	\$0.00	\$0.00	\$465.00
Education & Outreach Support	\$5,140.95	\$433.84	\$5,574.79	\$6,000.00
CFL Give-aways	\$6,369.20	\$0.00	\$6,369.20	\$7,331.00
Residential Lighting	\$0.00	\$0.00	\$0.00	\$32,555.00
Residential Low Income Weatherization	\$0.00	\$236.18	\$236.18	\$350,900.00
Residential Refrigerator/Freezer Recycling	\$9,698.00	\$0.00	\$9,698.00	\$45,933.00
Commercial Lighting Discount CFL	\$0.00	\$0.00	\$0.00	\$3,550.00
Commerical Lighting	\$0.00	\$0.00	\$0.00	\$1,335.00
Special Data Collection	\$0.00	\$0.00	\$0.00	\$6,000.00
General Administration	\$667.20	\$4,110.47	\$4,777.67	\$14,000.00

Mohave's various approved EE programs are described below. At the time of this report, all of the programs are in the first year of implementation. Information regarding the cost/benefit, participation, cost, problems, and recommendations for modification are being studied and will be contained in future reports.

Residential Energy Review and Energy Audit Program

Description

Mohave's Residential Energy Review and Energy Audit program consists primarily of a member energy review conducted by a Mohave employee trained in energy management who performs energy reviews by phone and onsite visits to the residence. The basic energy review consists of a survey of heating, ventilation and air conditioning (HVAC) systems, ducts, doors, windows, window treatments, shading, thermostats, lighting, and electric appliances, plus a review of living habits that may affect energy usage.

The energy management specialist then uses this information to make recommendations to help the member use less energy on a day-to-day basis.

Members may also request a more detailed energy audit to be performed by a qualified contractor. Mohave offers a \$199 incentive toward the cost of this more comprehensive audit.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

<u>DSM Program</u>	<u>Units</u>	<u>kWh</u> <u>Savings</u>	<u>Peak</u> <u>Demand</u> <u>kW</u> <u>savings</u>	<u>Program</u> <u>Cost</u>
Residential Energy Review and Audit	62	33232	0.581	\$25,806.69

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Mohave’s DSM/EE Programs during the formulation of Mohave’s proposed initial EE Implementation Plan. The results of such analysis can be provided upon request.

High Efficiency Heat Pump Program

Description

The High Efficiency Heat Pump Program is an incentive program with the objective to encourage improvements in residential and small commercial heating and cooling equipment. The program provides rebates based on kWh savings per ton achieved from replacing a less efficient system with a more efficient system in accordance with federal minimum efficiency standards. Mohave administers the program.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

<u>DSM Program</u>	<u>Units</u>	<u>kWh</u> <u>Savings</u>	<u>Peak</u> <u>Demand</u> <u>kW</u> <u>savings</u>	<u>Program</u> <u>Cost</u>
High Efficiency Heat Pump	118	85196	3.54	23,239.09

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Mohave’s DSM/EE Programs during the formulation of Mohave’s proposed initial EE Implementation Plan. The results of such analysis can be provided upon request.

Operation Cool Shade Tree Program

Description

The Operation Cool Shade Tree Program offers members the opportunity to purchase low cost, desert-adapted trees to plant on the east, west, and south sides of their homes to provide shading. Mature shade trees help reduce cooling load and reduce members’ electric bills. Members receive information on planting trees with support from Mohave County Master Gardeners. Mohave administers the program.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

<u>DSM Program</u>	<u>Units</u>	<u>kWh Savings</u>	<u>Peak Demand kW savings</u>	<u>Program Cost</u>
Operation Cool Shade	1800	194400	49.5	\$11,309.83

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Mohave’s DSM/EE Programs during the formulation of Mohave’s proposed initial EE Implementation Plan. The results of such analysis can be provided upon request.

Good Cents EE New Home Program

Description

Mohave works with members and building contractors in the service territory to promote energy efficiency in new home construction. To attain Good Cents certification, the new home must meet program requirements for energy efficiency and energy savings over the life of the home. Mohave administers the program including inspections to verify the conditions of the Good Cents certification program and tracking of energy savings. A Good Cents home may also qualify for a high efficiency heat pump incentive as described above.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

There was no participation in this program during the period.

Evaluation and Monitoring Activities and Results

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

Education and Outreach Support Program

Description

The objective of Mohave's Education and Outreach Support Program is to promote and provide education about energy efficiency at schools and in the community within Mohave's service territory. The program is facilitated by a Mohave representative who attends school and community events such as school science fairs, chamber of commerce meetings, and various civic group meetings, seminars, or workshops. This program provides education about various energy saving tools and technologies.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

<u>DSM Program</u>	<u>Units</u>	<u>kWh</u> <u>Savings</u>	<u>Peak</u> <u>Demand</u> <u>kW</u> <u>savings</u>	<u>Program</u> <u>Cost</u>
Education & Outreach Support	1165	117665	1.89	\$5,574.79

Evaluation and Monitoring Activities and Results

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

CFL Giveaway Program

Description

Mohave's CFL Giveaway Program provides a free CFL with each tree purchased through the Operation Cool Shade Tree program and also to each member in

attendance at Mohave's Annual Meeting and to each new member that signs up for service.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

	<u>kWh</u>		<u>Peak Demand</u>	<u>Program</u>
<u>DSM Program</u>	<u>Units</u>	<u>Savings</u>	<u>kW savings</u>	<u>Cost</u>
CFL Give away	3767	177049	1.88	\$6,369.20

Evaluation and Monitoring Activities and Results

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

Residential Lighting Program

Description

The objective of Mohave's Residential Lighting Program is to promote installation of CFLs in member homes. This program offers residential members an opportunity to reduce their energy usage by purchasing CFLs from a local retailer at discount pricing. The discount is administered by Mohave and Ace Hardware using a discount coupon distributed as an insert in member bills.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

This program was in the development stage during the reporting period; it will be fully implemented in 2016.

Evaluation and Monitoring Activities and Results

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

Residential Low-Income Weatherization Program

Description

Mohave's Residential Low-Income Weatherization Program assists low-income members in reducing energy use and lowering utility bills by funding the weatherization of eligible homes. Weatherization measures include:

- Adding Thermal insulation, usually in the attic
- Shading sun-exposed windows
- Implementing air leak control measures to reduce excessive infiltration of outside air
- Testing tuning, and maintaining heating and cooling equipment
- Reducing duct leakage where heating and central refrigerated air is distributed by a forced air system
- Installing low-flow showerheads and other general and water efficiency measures

The program provides up to \$2,600 per eligible member residence for weatherization improvements in conjunction with the guidelines of the community action agency for Mohave's service territory, Western Arizona Council of Government ("WACOG"), a state-approved weatherization agency. The program is administered by WACOG, which includes responsibility for providing applications, determining eligibility based on income level at 150 percent of the federal poverty level, evaluation of the residence for weatherization measures, labor, materials, and coordination with the Governor's Office of Energy Policy ("GOEP"). Reporting and tracking of energy savings is provided by WACOG and the Department of Energy through the GOEP.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

This program was in the development stage during the reporting period. A contract has been executed between Mohave and WACOG and WACOG has accepted qualifying Mohave members into the program for weatherization improvements. WACOG will move forward with these approved participants' homes and will be receiving additional applications for future qualified projects.

Mohave is in discussion with other agencies that offer low income weatherization programs, including the City of Bullhead City and Mohave County, and is intending to procure additional contracts for low income weatherization assistance under the conditions and budget of this program.

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Mohave's DSM/EE Programs during the formulation of Mohave's proposed initial EE Implementation. The results of such analysis can be provided upon request.

Residential Refrigerator/freezer Recycling Program

Description

Mohave's Residential Refrigerator/freezer Recycling Program is focused on removing and recycling operating second refrigerators and freezers from members' homes. The intent is to produce long-term electric energy savings by permanently removing operating second appliances, as well as recycling them in an environmentally safe manner. Mohave also provides a \$35 rebate to members per unit recycling to promote participation in the program.

The marketing and advertising of this program is the responsibility of Mohave. A third party implementation contractor, JACO, manages the requests, appliance pick up, recycling, and provides tracking of the energy savings associated with the program.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

<u>DSM Program</u>	<u>Units</u>	<u>kWh Savings</u>	<u>Peak Demand kW savings</u>	<u>Program Cost</u>
Residential refrigerator/freezer recycling	57	69084	1.23	\$9,698

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Mohave's DSM/EE Programs during the formulation of Mohave's proposed initial EE Implementation. The results of such analysis can be provided upon request.

Commercial Lighting discount CFL Program

Description

Promoting the installation of CFLs in member businesses is the objective of this program, which is identical to the Residential Lighting Program described above, except that it is available for commercial members.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

There was no participation in the program during the reporting period.

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Mohave's DSM/EE Programs during the formulation of Mohave's proposed initial EE Implementation. The results of such analysis can be provided upon request.

Commercial Lighting Program

Description

The Commercial Lighting Program is designed to help commercial members replace less efficient lighting with higher efficiency equipment. The program provides a rebate for the per-watt savings associated with the lighting change, not including CFLs. Participating members or their contractors provide information about the estimated reduction in wattage from replacing existing lighting with higher efficiency lighting. Mohave then provides a \$0.04 per-watt rebate.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

There was no participation in the program during the reporting period.

Evaluation and Monitoring Activities and Results

CH Guernsey completed an analysis of Mohave's DSM/EE Programs during the formulation of Mohave's proposed initial EE Implementation. The results of such analysis can be provided upon request.

Special Data Collection

Description

Mohave's Special Data Collection is in conjunction with the Residential Low-income Weatherization Program. Members participating in the low-income weatherization program are asked to volunteer for a monitoring program. For approximately 20 low-income members, Mohave provides the costs for an energy audit and data collection both before and after the weatherization measures are installed, and monitors the impacts on their utility bills for a 12-month period after completion of the weatherization.

Special Data Collection is a measurement and evaluation tool to gain knowledge and improve energy efficiency in the future.

Levels of Participation, Costs Incurred and Savings

For the period January 1 - December 31, 2015

This evaluation tool was in the development stage during the reporting period; it will be fully implemented in 2016 in conjunction with the Residential Low-Income Weatherization Program.

General Administration

Description

This component of Mohave's EE Plan is intended to help with general administrative costs. These costs include plan preparation, securing Commission review, approval of the implementation plans, and reporting and notices required by A.A.C. R14-2-2405 through - 2409.

Additionally this budget can be used for non-recurring costs incurred to develop and distribute new or revised educational literature and other advertising, to prepare application forms, to update Mohave's website, to implement accounting procedures to track revenue and expenses and to install any required software. These are one-time charges that apply across several programs and are listed as general administrative costs, not allocated to specific programs.

Costs Incurred

For the period January 1 - December 31, 2015

\$4,777.67