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AZ CORP COMMISSION
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March 1, 2016

Arizona Corporation Commission
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Docket Control
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007

RE: Arizona Public Service Company's 2015 Demand Side Management (DSM) Progress Report; Docket No. E-00000U-16-0069.

Pursuant to the Electric Energy Efficiency Standard Rules (EERS) and A.A.C. R14-2-2409(A):

By March 1 of each year, an affected utility shall submit . . . a DSM progress report providing information on each of the affected utility's Commission-approved DSM programs. . .

In addition, Decisions No. 73089, 74006, 74703, and 74813 require the DSM Progress Reports to include supplemental information. As a result, APS submits its 2015 DSM Annual Progress Report in compliance with EERS and the above-referenced decisions.

If you have any questions regarding this information, please contact Kerri A. Carnes at (602) 250-3341.

Sincerely,

Kerri A. Carnes

KC/kr

cc: Barbara Keene
Brian Bozzo

ARIZONA PUBLIC SERVICE COMPANY

2015 DEMAND SIDE MANAGEMENT ANNUAL PROGRESS REPORT

March 1, 2016



aps

TABLE OF CONTENTS

I.	Introduction	1
II.	2015 DSM Program Results	1
A.	Compliance with Energy Efficiency ("EE") Requirements	1
III.	Program Results and Program Incentive Calculations	2
B.	Year-To-Date DSM Program Expenses	3
C.	Program-To-Date DSM Program Expenses	5
D.	Year-To Date DSM Electric Savings	6
E.	Program-To-Date DSM Electric Savings	7
F.	Year-To-Date Energy Efficiency Societal Benefits	8
G.	Program-To-Date EE Societal Benefits	9
H.	2015 Performance Incentive Calculation	10
I.	Net Environmental Benefits	10
J.	Demand Response Load Reduction and Energy Savings	11
K.	Supplemental Charts	12
IV.	Residential Energy Efficiency Programs	14
1.	Consumer Products Program	14
2.	Appliance Recycling Program	18
3.	Residential New Home Construction	20
4.	Residential Existing Homes Heating, Ventilation, and Air Conditioning Program	23
5.	Home Performance with ENERGY STAR®	26
6.	Residential Conservation Behavior Program	30
7.	Prepaid Energy Conservation Program	33
8.	Multifamily Energy-Efficiency Program	35
9.	Shade Tree Program	358
10.	Energy Wise Limited Income Weatherization	40
V.	Non-Residential Programs	44
11.	Large Existing Facilities	44
12.	New Construction and Major Renovations	51
13.	Small Business Program	55
14.	Schools Program	62

15. Energy Information Services ("EIS") Program.....	68
VI. Demand Response Programs	70
16. Home Energy Information Pilot	70
17. Peak Time Rebate – Residential	71
17. Time of Use ("TOU") Rates Including Super Peak Pricing ("SPP").....	72
19. APS Peak Solutions® Program	73
20. Critical Peak Pricing – General Service and Residential.....	74
VII. Financing Programs	75
VIII. Energy Efficiency Initiatives.....	76
IX. Measurement Evaluation and Research	82

I. Introduction

Arizona Public Service Company ("APS" or "Company") is filing this Demand Side Management Annual Progress Report ("Progress Report") for 2015 ("Reporting Period") in compliance with R14-2-2409(A) and the reporting requirements contained in Arizona Corporation Commission ("ACC" or "Commission") Decision Nos. 73089 (April 4, 2012), 74406 (March 19, 2014), 74703 (August 21, 2014), and 74813 (November 13, 2014). This report includes the following information for all APS Demand Side Management ("DSM") programs that were in place during the Reporting Period:

- APS's progress toward meeting the cumulative energy efficiency standard;
- An identification of Commission approved DSM Programs and measures 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;
- Level of customer participation;
- Costs incurred disaggregated by type of cost, such as administrative costs, rebates, and monitoring costs;
- A description of the results of evaluation and monitoring activities;
- kW and kWh savings;
- Environmental benefits including reduced emissions and water savings;
- Incremental benefits and net benefits in dollars;
- Performance Incentive calculations;
- Problems encountered and proposed solutions;
- A description of modifications proposed for the following year;
- If applicable, program or program measure termination and proposed date of termination;
- Where applicable, reporting requirements included in Commission Decision No. 73089, 74406, 74703, and 74813. Due to the length of Decision No. 74703 reporting requirements, this information has been included in separate work papers; and
- Other significant information.

II. 2015 DSM Program Results

A. Compliance with Energy Efficiency ("EE") Requirements

For calendar year 2015, the Commission established a cumulative annual EE requirement of 9.50 percent of the utility's 2014 retail kilowatt-hour ("kWh") sales. A summary of APS's 2015 compliance with the Energy Efficiency Standard is shown in Table 1. In 2015, the Company achieved 102% of the Commission's annual EE goal. APS achieved the cumulative megawatt hour ("MWh") savings goal for 2015, achieving cumulative savings of 9.55% against a goal of 9.50%, while spending \$2.8 million less than the overall budget approved for 2015 of \$68.9 million.

Table 1
2015 DSM Savings Goal & Achievement

Goal Calculation	
2014 Retail Sales ¹	27,017,353
2015 Cumulative EE Standard	9.50%
2015 Goal (MWh)	2,566,649
Less Cumulative Savings from 2014 Applied to 2015 ²	<u>2,026,753</u>
2015 DSM Savings Goal	539,896
Results	
Contribution From Demand Response (10% of Goal)	53,990
Contribution From Energy Efficiency Programs	<u>498,434</u>
Total 2015 MWh Achieved	552,424
Over or (Under) 2015 Goal	12,528
% of 2015 Savings Goal Achieved	102.3%
2015 Annual Savings % of 2014 Retail Sales	2.04%
2015 Cumulative Savings as a % of 2014 Retail Sales	9.55%
3rd Party MER Verified Savings for 2015	552,069
Difference: 2015 MER Verified to 2015 APR	(355)

Note:

¹Includes billed and unbilled sales, does not include line losses, excludes Freeport McMoran Mine

²Cumulative savings through 2014 are MER Verified MWh savings.

III. Program Results and Program Incentive Calculations

Program expenses are provided in Tables 2a through 3b and DSM program megawatt ("MW") and MWh savings are provided in Tables 4 and 5. Tables 6 and 7 provide net benefits and Table 8 shows the performance incentive calculation for 2015. Table 9 provides the environmental benefits associated with the lifetime energy savings resulting from DSM programs. Table 10 shows 2015 demand response ("DR") load reduction and savings values.

Year To Date DSM Program Expenses

Table 2a
Demand Response Program Expenses 2015

Program	Measurement Evaluation and						Total Program Costs
	Rebates & Incentives	Research ("MER")	Metering	Program Implementation ¹	Program Marketing	Planning & Administration	
HEI Pilot ²	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Marketing & MER of Rate Options	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Peak Solutions	\$0	\$0	\$0	\$1,762,296	\$0	\$28,662	\$1,790,958
Total	\$0	\$0	\$0	\$1,762,296	\$0	\$28,662	\$1,790,958

Table 2b
Energy Efficiency Program Expenses 2015

Program	Training &						Total Program Costs
	Rebates & Incentives	Technical Assistance	Consumer Education	Program Implementation ¹	Program Marketing	Planning & Administration	
Residential Programs							
Consumer Products	\$4,621,674	\$0	\$0	\$3,064,113	\$163,538	\$417,028	\$8,266,353
Existing Homes HVAC	\$5,297,417	\$130,824	\$121,466	\$1,257,272	\$110,777	\$322,662	\$7,240,418
Existing Homes - Home Performance	\$1,325,377	\$1,761	\$4,751	\$928,233	\$61,866	\$109,452	\$2,431,440
New Construction	\$4,124,379	\$7,205	\$452	\$663,363	\$163,739	\$340,477	\$5,299,615
Appliance Recycling	\$288,630	\$0	\$0	\$477,673	\$185,138	\$108,055	\$1,059,496
Conservation Behavior	\$0	\$0	\$0	\$1,437,721	\$0	\$60,613	\$1,498,334
Multi-Family	\$879,280	\$0	\$0	\$846,527	\$32,033	\$94,915	\$1,852,755
Shade Tree	\$424	\$0	\$0	\$325	\$0	\$0	\$749
Prepaid Energy Conservation ²	\$0	\$0	\$0	\$7,866	\$1,744	\$47,832	\$57,442
Limited Income	\$2,092,653	\$0	\$22,541	\$59,186	\$23,959	\$76,003	\$2,274,342
Total	\$18,629,834	\$139,790	\$149,210	\$8,742,279	\$742,794	\$1,577,037	\$29,980,944
Non-Residential Programs							
Large Existing Facilities	\$13,666,171	\$176,262	\$8,125	\$4,146,342	\$826,794	\$440,019	\$19,263,713
New Construction	\$2,540,830	\$28,010	\$1,310	\$589,999	\$10,161	\$76,881	\$3,247,191
Small Business	\$1,473,246	\$27,606	\$2,432	\$546,778	\$111,043	\$87,885	\$2,248,990
Energy Information Services	\$31,526	\$0	\$0	\$5,141	\$0	\$218	\$36,885
Schools ³	\$1,341,909	\$13,786	\$732	\$838,925	\$30,240	\$56,522	\$2,282,114
Total	\$19,053,682	\$245,664	\$12,599	\$6,127,185	\$978,238	\$661,525	\$27,078,893
Codes & Standards	\$0	\$0	\$0	\$147,252	\$0	\$25,325	\$172,577
Total EE Program Costs	\$37,683,516	\$385,454	\$161,809	\$15,016,716	\$1,721,032	\$2,263,887	\$57,232,414
Measurement, Evaluation & Research							\$1,835,226
Performance Incentive ⁴							\$5,275,737
Total EE Program Expense							\$64,343,377
Total DSM Expense							\$66,134,335

Notes:

¹Includes the cost for the Implementation Contractor.

²The HEI Pilot incurred carry cost of \$362,3673, and the Prepaid Energy Conservation Program incurred carrying cost of \$241,338 in 2015

³Schools are permitted to receive funding from other Non-Residential programs. Refer to the Schools Program section for additional information regarding total funds allocated to school districts.

⁴Details of the Performance Incentive calculation are provided in Table 8.

Table 2c

2015 Energy Efficiency Program Implementation Costs - APS Compared to Contractor¹

Program	APS Expense	Contractor Expense	Total Implementation Cost
Residential Programs			
Consumer Products	\$244,291	\$2,819,822	\$3,064,113
Existing Homes HVAC	\$12,899	\$1,244,373	\$1,257,272
Existing Homes - Home Performance	\$2,475	\$925,758	\$928,233
New Construction	\$359,467	\$303,896	\$663,363
Appliance Recycling	\$7,178	\$470,495	\$477,673
Conservation Behavior	\$32,718	\$1,405,003	\$1,437,721
Multi-Family	\$34,578	\$811,949	\$846,527
Shade Tree	\$0	\$325	\$325
Prepaid Energy Conservation	\$304	\$7,562	\$7,866
Limited Income	<u>\$0</u>	<u>\$59,186</u>	<u>\$59,186</u>
Residential Total	\$693,910	\$8,048,369	\$8,742,279
Non-Residential Programs		\$8,048,369	
Large Existing Facilities	\$0	\$4,146,342	\$4,146,342
New Construction	\$0	\$589,999	\$589,999
Small Business	\$0	\$546,778	\$546,778
Energy Information Services	\$0	\$5,141	\$5,141
Schools	<u>\$0</u>	<u>\$838,925</u>	\$838,925
Non-Residential Total	\$0	\$6,127,185	\$6,127,185
Codes & Standards	<u>\$104,928</u>	<u>\$42,324</u>	<u>\$147,252</u>
EE Implementation Costs	\$798,838	\$14,217,878	\$15,016,716

¹Required by Commission Decision No. 73089.

Program-To-Date DSM Program Expenses

Table 3a

Program-To-Date Demand Response Program Expenses: January 2010 - December 2015

Program	Rebates & Incentives	Measurement Evaluation and Research	Metering	Program Implementation ¹	Program Marketing	Planning & Administration	Total Program Costs
HEI Pilot	\$596,904	\$242,929	\$0	\$706,433	\$129,123	\$569,131	\$2,244,520
Marketing & MER of Rate Options	\$0	\$0	\$37,756	\$147,290	\$168,016	\$0	\$353,062
Peak Solutions	\$0	\$0	\$51,017	\$13,065,354	\$0	\$292,142	\$13,408,513
Total	\$596,904	\$242,929	\$88,773	\$13,919,077	\$297,139	\$861,273	\$16,006,095

Table 3b

Program-To-Date: Energy Efficiency Program Expenses: January 2005 - December 2015

Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation ¹	Program Marketing	Planning & Administration	Total Program Costs
Residential Programs							
Consumer Products	\$37,050,222	\$4,633	\$53,335	\$19,188,031	\$4,066,742	\$2,407,194	\$62,770,157
Existing Homes HVAC	\$35,956,544	\$1,205,894	\$1,789,706	\$9,443,873	\$2,077,306	\$1,556,029	\$52,029,352
Existing Homes - Home Performance	\$11,218,853	\$127,461	\$7,695	\$6,744,756	\$929,526	\$514,015	\$19,542,306
New Construction	\$19,693,935	\$775,036	\$130,597	\$3,259,915	\$3,043,725	\$1,520,844	\$28,424,052
Appliance Recycling	\$1,520,331	\$0	\$0	\$3,721,457	\$1,143,867	\$356,276	\$6,741,931
Conservation Behavior	\$0	\$0	\$0	\$4,637,641	\$0	\$337,151	\$4,974,792
Multi-Family	\$2,589,979	\$5,511	\$101	\$3,552,367	\$64,391	\$427,959	\$6,640,308
Shade Tree	\$165,813	\$0	\$3,837	\$725,169	\$19,407	\$57,191	\$971,417
Prepaid Energy Conservation	\$0	\$0	\$0	\$7,866	\$1,744	\$47,832	\$57,442
Limited Income	\$18,005,223	\$118,015	\$57,764	\$829,046	\$122,969	\$1,134,117	\$20,267,134
Total	\$126,200,900	\$2,236,550	\$2,043,035	\$52,110,121	\$11,469,677	\$8,358,608	\$202,418,891
Non-Residential Programs							
Large Existing Facilities	\$83,936,973	\$1,485,335	\$307,947	\$22,194,061	\$4,532,725	\$3,080,608	\$115,537,649
New Construction	\$16,860,886	\$271,878	\$60,026	\$6,482,146	\$1,278,871	\$904,638	\$25,858,445
Small Business	\$11,716,276	\$186,477	\$31,986	\$5,025,909	\$950,847	\$639,788	\$18,551,283
Building Operator Training	\$0	\$56,897	\$0	\$22,043	\$15,783	\$7,480	\$102,203
Energy Information Services	\$206,752	\$18,317	\$1,753	\$221,259	\$12,686	\$29,112	\$489,879
Schools ²	\$11,520,706	\$260,946	\$28,922	\$4,717,292	\$823,064	\$566,068	\$17,916,998
Total	\$124,241,593	\$2,279,850	\$430,634	\$38,662,710	\$7,613,976	\$5,227,694	\$178,456,457
Codes & Standards	\$0	\$0	\$0	\$359,723	\$0	\$84,585	\$444,308
Total EE Program Costs	\$250,442,493	\$4,516,400	\$2,473,669	\$91,132,554	\$19,083,653	\$13,670,887	\$381,319,656
						Measurement, Evaluation & Research	\$16,634,195
						Performance Incentive ³	\$46,856,199
						Total EE Program Expense	\$444,810,050
						Total DSM Expense	\$460,816,145

Notes:

¹Includes the cost for the Implementation Contractor.

²Schools are permitted to receive funding from other Non-Residential programs. Refer to the Schools Program section for additional information regarding total funds allocated to school districts.

³Details of the Performance Incentive calculation are provided in Table 8. The program-to-date performance incentive amount is a summation of the performance incentive amount as calculated during each previous reporting period beginning with the January through June 2005 Progress Report.

D Year-to-Date DSM Electric Savings

Table 4
DSM Electric Savings 2015^{1, 3, 5}

Program	Gross Peak MW Capacity Savings	Gross Annual MWH Savings	Gross Lifetime MWH Savings ²	Capacity Savings ⁴	Net Annual MWH Savings ⁴	Net Lifetime MWH Savings ^{2,4}
Residential Programs						
Consumer Products	11.6	110,744	970,205	11.6	110,744	970,205
Existing Homes HVAC	14.0	18,232	243,598	14.0	18,232	243,598
Existing Homes - Home Performance	2.6	3,947	61,418	2.6	3,947	61,418
New Construction	5.8	11,257	225,140	5.8	11,257	225,140
Appliance Recycling	1.2	8,374	50,243	1.2	8,374	50,243
Conservation Behavior	12.0	57,444	57,444	12.0	57,444	57,444
Multi-Family	1.6	9,623	115,668	1.6	9,623	115,668
Prepaid Energy Conservation	0.4	1,929	1,929	0.4	1,929	1,929
Limited Income	<u>0.3</u>	<u>1,793</u>	<u>31,369</u>	<u>0.3</u>	<u>1,793</u>	<u>31,369</u>
Total	49.5	223,343	1,757,014	49.5	223,343	1,757,014
Non-Residential Programs						
Large Existing Facilities	32.7	164,814	2,368,952	32.7	164,814	2,368,952
New Construction	7.7	33,426	472,719	7.7	33,426	472,719
Small Business	4.1	14,867	178,080	4.1	14,867	178,080
Energy Information Services	2.1	31	157	2.1	31	157
Schools	<u>3.8</u>	<u>12,925</u>	<u>192,453</u>	<u>3.8</u>	<u>12,925</u>	<u>192,453</u>
Total	50.4	226,063	3,212,361	50.4	226,063	3,212,361
Codes & Standards	11.9	45,915	476,139	11.9	45,915	476,139
System Savings	0.1	3,113	16,322	0.1	3,113	16,322
DR Contribution		<u>53,990</u>			<u>53,990</u>	
Total DSM Savings	111.9	552,424	5,461,836	111.9	552,424	5,461,836

Notes:

¹Savings for 2008 and after are MER adjusted, per Decision No. 69663, and savings prior to 2008 are not MER adjusted.

²Refers to savings over the expected lifetime of all program measures.

³Savings are adjusted for line losses (energy 7.0%, demand 11.7%) and a capacity reserve factor of 15%.

⁴Based on 2010 MER net to gross ratio ("NTGR") analysis, APS is utilizing a NTGR of 1.0 for all DSM programs and measures. workpapers.

Program-To-Date DSM Electric Savings

Table 5
Program-To-Date DSM Electric Savings: January 2005 - December 2015^{1,3}

Program	Gross Peak MW Capacity Savings	Gross Annual MWH Savings	Gross Lifetime MWH Savings ²	Net Peak MW Capacity Savings ⁴	Net Annual MWH Savings ⁴	Net Lifetime MWH Savings ^{2,4}
Residential Programs						
Consumer Products	153.9	1,349,181	8,627,460	135.5	1,203,088	7,794,051
Existing Homes HVAC	75.8	112,328	1,477,985	66.3	102,891	1,337,812
Existing Homes - Home Performance	19.2	33,265	463,825	19.0	32,860	459,368
New Construction	48.5	93,152	1,863,035	47.6	91,148	1,822,949
Appliance Recycling	10.0	66,195	397,166	9.2	60,756	364,532
Conservation Behavior	28.4	150,845	150,845	28.4	150,845	150,845
Multi-Family	4.0	35,884	352,653	4.0	35,884	352,653
Shade Tree	1.1	2,005	60,114	1.1	2,005	60,114
Prepaid Energy Conservation	0.4	1,929	1,929	0.4	1,929	1,929
Limited Income	<u>2.2</u>	<u>14,576</u>	<u>264,128</u>	<u>2.2</u>	<u>14,576</u>	<u>264,128</u>
Total	343.5	1,859,360	13,659,140	313.7	1,695,982	12,608,381
Non-Residential Programs						
Large Existing Facilities	175.1	1,158,693	15,645,653	169.8	1,112,478	15,011,697
New Construction	38.8	284,550	4,085,915	36.2	249,189	3,582,135
Small Business	27.8	130,851	1,773,586	27.1	126,705	1,716,275
Building Operator Training	0.2	1,001	12,447	0.1	701	8,713
Energy Information Services	8.6	2,892	42,204	8.6	2,892	42,204
Schools	<u>22.8</u>	<u>116,787</u>	<u>1,651,856</u>	<u>21.9</u>	<u>111,499</u>	<u>1,571,727</u>
Total	273.3	1,694,774	23,211,661	263.7	1,603,464	21,932,751
Codes & Standards	23.9	107,648	928,205	23.9	107,648	928,205
System Savings	0.1	3,113	16,322	0.1	3,113	16,322
DR Contribution		<u>254,132</u>			<u>254,132</u>	
Total DSM Savings	640.8	3,919,027	37,815,328	601.4	3,664,339	35,485,659

Notes:

¹Savings for 2008 and after are MER adjusted, per Decision No. 69663, and savings prior to 2008 are not MER adjusted.

²Refers to savings over the expected lifetime of all program measures.

³Savings are adjusted for line losses (energy 7.0%, demand 11.7%) and a capacity reserve factor of 15%.

⁴Based on 2010 MER Net to Gross Ratio ("NTGR") analysis, APS is utilizing a NTGR of 1.0 for all DSM programs and measures.

