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AZ CORP COMMISSION
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February 27, 2015

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

ORIGINAL

RE: Arizona Public Service Company's 2014 Demand Side Management (DSM) Progress Report, Docket No. E-00000U-15-0053

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 for each of the affected utility's Commission-approved DSM programs....

In addition, Decisions No. 73089, 74406, 74703, and 74813 require the DSM Progress Reports to include supplemental information. As a result, APS submits its 2014 DSM Progress Report in compliance with the EERS and above-referenced decisions.

If you have any questions regarding this information, please contact Greg Bernosky at (602)250-4849.

Sincerely,

Lisa Malagon

LM/sb

cc: Brian Bozzo

Arizona Corporation Commission
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ARIZONA PUBLIC SERVICE COMPANY

2014 DEMAND SIDE MANAGEMENT ANNUAL PROGRESS REPORT

February 27, 2015

aps

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I. Introduction

Arizona Public Service Company ("APS" or "Company") is filing this Demand Side Management Annual Progress Report ("Progress Report") for 2014 ("Reporting Period") in compliance with R14-2-2409(A) and the reporting requirements contained in Arizona Corporation Commission ("ACC" or "Commission") Decision Nos. 73089, 74406, 74703, and 74813. 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 program;
- 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. 2014 DSM Program Results

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

For calendar year 2014, the Commission established a cumulative annual EE requirement of 7.25 percent of the utility's 2013 retail kilowatt-hour ("kWh") sales. A summary of APS's 2014 compliance with the Energy Efficiency Standard is shown in Table 1. In 2014, the Company achieved 98% of the Commission's annual EE goal. APS nearly achieved the cumulative megawatt hour ("MWh") savings goal for 2014, achieving cumulative savings of 7.21% against a goal of 7.25%, while spending $8.5 million less than the overall budget approved in 2013 and continued for 2014 of $68.9 million.

Table 1

2014 DSM Savings Goal & Achievement

Goal Calculation	
2013 Retail Sales[1]	28,087,605
2014 Cumulative EE Standard	7.25%
2014 Goal (MWh)	2,036,351
Less Cumulative Savings from 2013 Applied to 2014[2]	1,530,759
2014 DSM Savings Goal	**505,592**

Results	
Contribution From Demand Response (10% of Goal)	50,559
Contribution From Energy Efficiency Programs	444,851
Total 2014 MWh Achieved	**495,410**
Over or (Under) 2014 Goal	(10,183)
% of 2014 Savings Goal Achieved	**98.0%**
2014 Annual Savings % of 2013 Retail Sales	**1.76%**
2014 Cumulative Savings as a % of 2013 Retail Sales	**7.21%**

Note:

[1]Includes billed and unbilled sales, does not include line losses.

[2]Cumulative savings from 2013 includes a true-up of 1,055 MWh to reflect the difference in 2013 Annual Progress Report values versus the 2013 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 2014. Table 9 provides the environmental benefits associated with the lifetime energy savings resulting from DSM programs. Table 10 shows 2014 demand response ("DR") load reduction and savings values.

B. Year-To-Date DSM Program Expenses

Table 2a

Demand Response Program Expenses 2014

Program	Rebates & Incentives	Measurement Evaluation and Research ("MER")	Metering	Program Implementation[1]	Program Marketing	Planning & Administration	Total Program Costs
HEI Pilot	$75,452	$55,980	$0	-$28,670	$1,944	$195,699	$300,405
Marketing & MER of Rate Options	$0	$0	$422	$17,408	$30,770	$0	$48,600
Peak Solutions	$0	$0	$0	$1,763,500	$0	$57,740	$1,821,240
Total	**$75,452**	**$55,980**	**$422**	**$1,752,238**	**$32,714**	**$253,439**	**$2,170,245**

Table 2b

Energy Efficiency Program Expenses 2014

Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[1]	Program Marketing	Planning & Administration	Total Program Costs
Residential Programs							
Consumer Products	$4,373,444	$0	$0	$3,526,345	$165,494	$370,317	$8,435,600
Existing Homes HVAC	$3,968,045	$150,111	$125,999	$1,559,673	$104,179	$281,210	$6,189,217
Existing Homes - Home Performance	$1,650,935	$1,910	$2,843	$927,917	$65,693	$102,964	$2,752,262
New Construction	$4,281,050	$25,482	$19	$397,099	$172,236	$246,311	$5,122,197
Appliance Recycling	$219,180	$0	$0	$524,100	$182,904	$81,468	$1,007,652
Conservation Behavior	$0	$0	$0	$758,812	$0	$68,464	$827,276
Multi-Family	$473,938	$1,516	$0	$770,987	$12,472	$93,327	$1,352,240
Shade Tree	$58,575	$0	$315	$158,065	$3,989	$10,102	$231,046
Limited Income	$2,661,191	$11,721	$12,251	$50,000	$3,656	$99,413	$2,838,232
Total	**$17,686,358**	**$190,740**	**$141,427**	**$8,672,998**	**$710,623**	**$1,353,576**	**$28,755,722**
Non-Residential Programs							
Large Existing Facilities	$11,174,217	$195,668	$6,894	$2,868,252	$505,779	$409,139	$15,159,949
New Construction	$2,226,776	$14,143	$1,134	$421,839	$26,060	$41,752	$2,731,704
Small Business	$1,520,832	$26,992	$2,238	$685,116	$84,119	$62,482	$2,381,779
Energy Information Services	$26,913	$0	$0	$23,014	$0	$468	$50,395
Schools[2]	$1,182,784	$64,634	$1,119	$696,932	$29,986	$74,300	$2,049,755
Total	**$16,131,522**	**$301,437**	**$11,385**	**$4,695,153**	**$645,944**	**$588,141**	**$22,373,582**
Codes & Standards	$0	$0	$0	$51,482	$0	$24,278	$75,760
Total EE Program Costs	**$33,817,880**	**$492,177**	**$152,812**	**$13,419,633**	**$1,356,567**	**$1,965,995**	**$51,205,064**
						Measurement, Evaluation & Research	$1,785,617
						Performance Incentive[3]	$5,227,636
						Total EE Program Expense	$58,218,317
						Total DSM Expense	**$60,388,562**

Notes:

[1]Includes the cost for the Implementation Contractor.

[2]Schools 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.

[3]Details of the Performance Incentive calculation are provided in Table 8.

Table 2c

2014 Energy Efficiency Program Implementation Costs - APS Compared to Contractor[1]

Program	APS Expense	Contractor Expense	Total Implementation Cost
Residential Programs			
Consumer Products	$97,110	$3,429,235	$3,526,345
Existing Homes HVAC	$66,553	$1,493,120	$1,559,673
Existing Homes - Home Performance	$0	$927,917	$927,917
New Construction	$397,099	$0	$397,099
Appliance Recycling	$4,359	$519,741	$524,100
Conservation Behavior	$0	$758,812	$758,812
Multi-Family	$199,268	$571,719	$770,987
Shade Tree	$34,309	$123,756	$158,065
Limited Income	$0	$50,000	$50,000
Residential Total	**$798,698**	**$7,874,300**	**$8,672,998**
Non-Residential Programs			
Large Existing Facilities	$240,298	$2,627,954	$2,868,252
New Construction	$0	$421,839	$421,839
Small Business	$0	$685,116	$685,116
Energy Information Services	$0	$23,014	$23,014
Schools	$0	$696,932	$696,932
Non-Residential Total	**$240,298**	**$4,454,855**	**$4,695,153**
Codes & Standards	$13,129	$38,353	$51,482
EE Implementation Costs	**$1,052,125**	**$12,367,508**	**$13,419,633**

[1]Required by Commission Decision No. 73089.

C. Program-To-Date DSM Program Expenses

Table 3a

Program-To-Date Demand Response Program Expenses: January 2010 - December 2014

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	$11,303,058	$0	$263,480	$11,617,555
Total	**$596,904**	**$242,929**	**$88,773**	**$12,156,781**	**$297,139**	**$832,611**	**$14,215,137**

Table 3b

Program-To-Date: Energy Efficiency Program Expenses: January 2005 - December 2014

Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[1]	Program Marketing	Planning & Administration	Total Program Costs
Residential Programs							
Consumer Products	$32,428,548	$4,633	$53,335	$16,123,918	$3,903,204	$1,990,166	$54,503,804
Existing Homes HVAC	$30,659,127	$1,075,070	$1,668,240	$8,186,601	$1,966,529	$1,233,367	$44,788,934
Existing Homes - Home Performance	$9,893,476	$125,700	$2,944	$5,816,523	$867,660	$404,563	$17,110,866
New Construction	$15,569,556	$767,831	$130,145	$2,596,552	$2,879,986	$1,180,367	$23,124,437
Appliance Recycling	$1,231,701	$0	$0	$3,243,784	$958,729	$248,221	$5,682,435
Conservation Behavior	$0	$0	$0	$3,199,920	$0	$276,538	$3,476,458
Multi-Family	$1,710,699	$5,511	$101	$2,705,840	$32,358	$333,044	$4,787,553
Shade Tree	$165,389	$0	$3,837	$724,844	$19,407	$57,191	$970,668
Limited Income	$15,912,570	$118,015	$35,223	$769,860	$99,010	$1,058,114	$17,992,792
Total	**$107,571,066**	**$2,096,760**	**$1,893,825**	**$43,367,842**	**$10,726,883**	**$6,781,571**	**$172,437,947**
Non-Residential Programs							
Large Existing Facilities	$70,270,802	$1,309,073	$299,822	$18,047,719	$3,705,931	$2,640,589	$96,273,936
New Construction	$14,320,056	$243,868	$58,716	$5,892,147	$1,268,710	$827,757	$22,611,254
Small Business	$10,243,030	$158,871	$29,554	$4,479,131	$839,804	$551,903	$16,302,293
Building Operator Training	$0	$56,897	$0	$22,043	$15,783	$7,480	$102,203
Energy Information Services	$175,226	$18,317	$1,753	$216,118	$12,686	$28,894	$452,994
Schools[2]	$10,178,797	$247,160	$28,190	$3,878,367	$792,824	$509,546	$15,634,884
Total	**$105,187,911**	**$2,034,186**	**$418,035**	**$32,535,525**	**$6,635,738**	**$4,566,169**	**$151,377,564**
Codes & Standards	$0	$0	$0	$212,471	$0	$59,260	$271,731
Total EE Program Costs	**$212,758,977**	**$4,130,946**	**$2,311,860**	**$76,115,838**	**$17,362,621**	**$11,407,000**	**$324,087,242**
						Measurement, Evaluation & Research	$14,798,969
						Performance Incentive[3]	$ 41,582,126
						Total EE Program Expense	**$380,468,337**

Notes:

[1]Includes the cost for the Implementation Contractor.

[2]Schools 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.

[3]Details 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 2014[1, 3, 5]

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	10.7	111,188	943,114	10.7	111,188	943,114
Existing Homes HVAC	9.2	14,232	173,308	9.2	14,232	173,308
Existing Homes - Home Performance	2.7	4,199	65,544	2.7	4,199	65,544
New Construction	6.5	13,639	272,774	6.5	13,639	272,774
Appliance Recycling	1.3	9,046	54,276	1.3	9,046	54,276
Conservation Behavior	6.7	32,334	32,334	6.7	32,334	32,334
Multi-Family	0.6	7,594	60,033	0.6	7,594	60,033
Shade Tree	0.2	405	12,143	0.2	405	12,143
Limited Income[3]	0.2	1,443	25,248	0.2	1,443	25,248
Total	**38.1**	**194,080**	**1,638,774**	**38.1**	**194,080**	**1,638,774**
Non-Residential Programs						
Large Existing Facilities	33.4	160,298	2,048,526	33.4	160,298	2,048,526
New Construction	6.3	26,546	383,542	6.3	26,546	383,542
Small Business	4.0	14,289	183,827	4.0	14,289	183,827
Energy Information Services	2.0	29	143	2.0	29	143
Schools	2.8	12,432	167,904	2.8	12,432	167,904
Total	**48.5**	**213,594**	**2,783,942**	**48.5**	**213,594**	**2,783,942**
Codes & Standards	6.6	37,177	244,809	6.6	37,177	244,809
DR Contribution	0	50,559	0	0	50,559	0
Total DSM Savings	**93.2**	**495,410**	**4,667,525**	**93.2**	**495,410**	**4,667,525**

Notes:

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

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

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

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

[5]Measure level savings are too voluminous to include in this report and are provided to Commission Staff as part of Annual Progress Report workpapers.

E. Program-To-Date DSM Electric Savings

Table 5

Program-To-Date DSM Electric Savings: January 2005 - December 2014[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	142.3	1,238,437	7,657,255	123.9	1,092,344	6,823,846
Existing Homes HVAC	61.8	94,096	1,234,387	52.3	84,659	1,094,214
Existing Homes - Home Performance	16.6	29,318	402,407	16.4	28,913	397,950
New Construction	42.7	81,895	1,637,895	41.8	79,891	1,597,809
Appliance Recycling	8.8	57,821	346,923	8.0	52,382	314,289
Conservation Behavior	16.4	93,401	93,401	16.4	93,401	93,401
Multi-Family	2.4	26,261	236,985	2.4	26,261	236,985
Shade Tree	1.1	2,005	60,114	1.1	2,005	60,114
Limited Income	1.9	12,783	232,759	1.9	12,783	232,759
Total	**294.0**	**1,636,017**	**11,902,126**	**264.2**	**1,472,639**	**10,851,368**
Non-Residential Programs						
Large Existing Facilities	142.4	993,879	13,276,701	137.1	947,664	12,642,745
New Construction	31.1	251,124	3,613,196	28.5	215,763	3,109,416
Small Business	23.7	115,984	1,595,506	23.0	111,838	1,538,195
Building Operator Training	0.2	1,001	12,447	0.1	701	8,713
Energy Information Services	6.5	2,861	42,047	6.5	2,861	42,047
Schools	19.0	103,862	1,459,403	18.1	98,574	1,379,274
Total	**222.9**	**1,468,711**	**19,999,300**	**213.3**	**1,377,401**	**18,720,390**
Codes & Standards	12.0	61,733	452066	12.0	61,733	452,066
DR Contribution	-	200,142	0	-	200,142	0
Total DSM Savings	**528.9**	**3,366,603**	**32,353,492**	**489.5**	**3,111,915**	**30,023,824**

Notes:

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

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

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

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

F. Year-To-Date Energy Efficiency Societal Benefits

Table 6

Energy Efficiency Societal Benefits 2014

Program	Program Cost	Societal Benefits	Societal Cost	Net Benefits	Benefit/Cost Ratio
Residential Programs					
Consumer Products	$8,435,600	$37,847,254	$14,251,089	$23,596,165	2.66
Existing Homes HVAC	$6,189,217	$12,733,659	$7,854,332	$4,879,327	1.62
Existing Homes - Home Performance	$2,752,262	$5,700,803	$4,878,426	$822,377	1.17
New Construction	$5,122,197	$16,497,244	$10,872,883	$5,624,361	1.52
Appliance Recycling	$1,007,652	$2,087,305	$789,716	$1,297,589	2.64
Conservation Behavior	$827,276	$979,289	$771,712	$207,577	1.27
Multi-Family	$1,352,240	$3,727,377	$1,511,728	$2,215,649	2.47
Shade Tree	$231,046	$184,943	$209,682	-$24,739	0.88
Limited Income[1, 2]	$2,838,232	$2,770,780	$2,770,780	$0	1.00
Total	**$28,755,722**	**$82,528,654**	**$43,910,348**	**$38,618,306**	**1.88**
Non-Residential Programs					
Large Existing Facilities	$15,159,949	$63,753,156	$37,249,024	$26,504,132	1.71
New Construction	$2,731,704	$13,962,676	$5,387,932	$8,574,744	2.59
Small Business	$2,381,779	$5,858,647	$3,403,994	$2,454,653	1.72
Energy Information Services	$50,395	$346,188	$80,183	$266,005	4.32
Schools	$2,049,755	$5,047,277	$4,998,986	$48,291	1.01
Total	**$22,373,582**	**$88,967,944**	**$51,120,119**	**$37,847,824**	**1.74**
Codes & Standards	$75,760	$9,712,106	$6,643,338	$3,068,768	1.46
Measurement, Evaluation & Research	$1,785,617	$0	$1,785,617	-$1,785,617	
Performance Incentive	$5,227,636	$0	$5,227,636	-$5,227,636	
Total Energy Efficiency Societal Benefits	**$58,218,317**	**$181,208,704**	**$108,687,058**	**$72,521,645**	**1.67**

Notes:

[1]Program Costs include weatherization and bill assistance. Societal Costs do not include bill assistance because it does not contribute to electric savings.

[2]APS analysis is consistent with Decision No. 68647.

G. Program-To-Date EE Societal Benefits

Table 7

Program-To-Date Energy Efficiency Societal Benefits: January 2005 - December 2014

Program	Program Cost	Societal Benefits	Societal Cost	Net Benefits
Residential Programs				
Consumer Products	$54,503,804	$345,112,688	$86,711,460	$258,401,228
Existing Homes HVAC	$44,788,934	$86,999,468	$ 64,946,453	$22,053,015
Existing Homes - Home Performance	$17,110,866	$35,316,432	$ 27,558,214	$7,758,218
New Construction	$23,124,437	$108,501,247	$50,734,018	$57,767,229
Appliance Recycling	$5,682,435	$16,227,466	$4,451,977	$11,775,489
Conservation Behavior	$3,476,458	$3,389,153	$3,362,639	$26,514
Multi-Family	$4,787,554	$10,878,203	$6,133,761	$4,744,442
Shade Tree	$970,668	$4,512,595	$2,357,226	$2,155,369
Limited Income[1, 2]	$17,992,792	$15,966,086	$15,966,086	$0
Total	**$172,437,948**	**$626,903,338**	**$262,221,834**	**$364,681,504**
Non-Residential Programs				
Large Existing Facilities	$96,273,936	$553,611,416	$221,447,902	$332,163,514
New Construction	$22,611,254	$140,917,283	$46,080,441	$94,836,842
Small Business	$16,302,293	$85,543,172	$24,101,491	$61,441,681
Building Operator Training	$102,203	$424,302	$183,392	$240,910
Energy Information Services	$452,994	$2,339,520	$779,259	$1,560,261
Schools	$15,634,884	$70,043,862	$33,851,150	$36,192,712
Total	**$151,377,564**	**$852,879,555**	**$326,443,635**	**$526,435,920**
Codes & Standards	$271,731	$19,215,395	$12,119,839	$7,095,556
Measurement, Evaluation & Research	$14,798,969	$0	$14,798,969	-$14,798,969
Performance Incentive	$ 41,582,126	$0	$41,582,126	-$41,582,126
Total Energy Efficiency Societal Benefits	**$380,468,338**	**$1,498,998,288**	**$657,166,403**	**$841,831,885**

Notes:

[1]Program Costs include weatherization and bill assistance. Societal Costs do not include bill assistance because it does not contribute to electric savings.

[2]APS analysis is consistent with Decision No. 68647.

H. 2014 Performance Incentive Calculation

Table 8

2014 Performance Incentive

Achievement Relative to DSM Goal	Performance Incentive as % of Net Benefits	Performance Incentive Capped at No More Than $0.0125 per kWh saved
96% to 105%	7%	458,232,720 kWh x $0.0125
Net Benefits (Prior to PI and Codes & Standards)	$74,680,513	
Performance Incentive	$5,227,636	$5,727,909

Notes:

[1]The Performance Incentive methodology/calculation was approved in Decision No. 69663 and was modified in Decision No. 71448 and Decision No. 74406.

I. Net Environmental Benefits

Table 9

2014 Net Environmental Benefits

Reporting Period	Water (Mil Gal)	SOx (Lbs)	NOx (Lbs)	CO2 (Mil Lbs)	PM10 (Lbs)
Year-to-Date: Jan - Dec	1,480	20,770	394,639	4,196	115,288
Program-to-Date: Since Jan 2005	9,518	133,606	2,538,514	26,991	741,588

Notes:

[1]The environmental reductions are based on the net energy savings of all program measures installed during the Reporting Period over their expected lifetimes.

[2]Some measures will result in customer water savings, which this calculation does not include. Only utility water savings are included in this calculation.

J. Demand Response Load Reduction and Energy Savings

Table 10

Demand Response Program/Initiatives[1]

Load Reduction and Energy Savings 2014

Program/Initiative	Load Reduction (MW)	Energy Savings 2014 (MWh)[2]
APS Peak Solutions	35.0	153,300
Critical Peak Pricing	0.2	977
Peak Time Rebates	0.3	1,356
Time of Use Rates & Super Peak	157.0	690,726
Total	192.5	846,359

Maximum Demand Response Counted Towards the EES (10% of annual goal)[3]	**50,559**

Notes:

[1]No load reduction was assumed for the HEI Pilot because the savings are unknown at this time.

[2]Energy Savings (MWh) = Load reduction (MW) X (8,760/2) hours which is a 50% load factor.

[3]Per ACC Decision No. 71436, the credit for demand response and load management peak reductions shall not exceed 10% of the EE standard for any year.

K. Supplemental Charts

Table 11

DSM Funds Collected by Customer Class: January - December 2014[1]

	DSM Funds Collected by Class ($000)*	
Residential	$	25,804,917
Commercial	$	25,208,365
Industrial	$	4,460,227
Irrigation	$	43,752
Streetlights	$	294,666
Other Public Authority	$	5,708
Total DSM Funds	$	55,817,635

* Does not include $10 million collected in base rates through the system benefits charge.

Table 12

Retail Sales by Customer Class: January - December 2014[1]

Retail Sales	Year End 2014
Residential	12,837,752
Commercial	12,337,218
Industrial	2,258,224
Irrigation	11,039
Hwy Lighting & Other Public Authority	140,300
Total Retail Sales (MWhs)	27,584,533

Table 13

EE Savings for the Following Rate Schedules: January - December 2014[1]

Rate Schedule	MW Savings	Annual MWh Savings	Lifetime MWh Savings
E-32 L	10.0	50,972	644,596
E-32 TOU	0.3	5,559	78,592
E-34	1.3	6,062	74,969
E-35	1.2	9,748	143,364
E36 XL	-	-	-
GS on E-30	2.6	16,281	244,215
Lighting Services	0.3	1,308	23,077

[1] Supplemental information as required by Decision No. 74406. Table 13 contains a subset of all non-residential rates, therefore totals do not match Table 4.

Terms and Definitions Used in Tables 1-13

Consumer Education: Funds allocated to support general consumer education about EE improvements and programs.
Free-riders: Program participants who would have installed the energy-efficient DSM measures anyway, even if the program were not in operation.
Gross Savings: Demand and energy savings related to the DSM programs prior to accounting for reductions for free riders and additions for spillover.
Measurement, Evaluation & Research ("MER"): Activities that will identify current baseline energy efficiency levels and the market potential of DSM measures, perform process evaluations, verify that energy-efficient measures are installed, track savings, and identify additional EE research.
Net Savings: Demand and energy savings related to the DSM programs after accounting for reductions for free-riders and additions for spillover.
Performance Incentive: Percentage share of DSM net economic benefits (benefits minus costs), capped at a percent of total DSM expenditures, depending on the percent of MWh savings goal achieved.
Planning and Administration: APS's costs to plan, develop and administer programs, which includes management of program budgets, oversight of the RFP process and implementation contractor, program development, program coordination and general overhead expenses.
Program Implementation: Program delivery costs associated with implementing the program - includes implementation contract labor and overhead costs, as well as other direct program delivery costs.
Program Marketing: Expenses related to program marketing and increasing DSM consumer awareness (direct program marketing costs as opposed to general consumer education).
Rebates and Incentives: Money allocated for customer rebates and incentives, installation of low income weatherization and low income bill assistance.
Spillover: Refers to indirect energy impacts of the program and estimated savings from customers who implement energy-efficient savings strategies as a result of knowledge of APS's program but who do not receive an incentive through the program.
Training and Technical Assistance: Cost of EE training and technical assistance.

IV. Residential Energy Efficiency Programs

1. Consumer Products Program

Description

The Consumer Products Program is made up of two elements – Residential Lighting and Residential Pool Products. The Residential Lighting element of the program promotes high-efficiency ENERGY STAR® Compact Fluorescent Light Bulbs ("CFLs") and Light Emitting Diodes ("LEDs"). CFLs and LEDs use an average of 75 to 90% less energy than standard incandescent bulbs and last up to twenty-five times longer, typically saving consumers between $35 - $80 in energy costs over the life of each bulb. The program offers discounts on CFLs and LEDs through cooperative agreements with retailers and lighting manufacturers. This provides consumers with reduced retail prices on energy efficient lighting at local retailers.

As part of the Program, APS also offers CFL recycling in partnership with participating retailers and Veolia Environmental Services, which operates a recycling facility in Phoenix. Customers may take their burned out CFLs to participating retail locations (including select Ace, True Value and Home Depot stores) throughout the APS service territory for free recycling.

The Energy-Efficient Pool Pump element of the Consumer Products program is designed to improve residential pool operations while saving energy and maintaining equivalent or better standards for pool sanitation and cleanliness. The program promotes the installation and optimal calibration of energy-efficient variable-speed pool pumps with a rebate of $220 per pump.

Program Goals, Objectives and Savings Target

The goal of the lighting program element is to promote the purchase of high-efficiency CFLs and LEDS while increasing awareness on the benefits of ENERGY STAR® rated lighting products.

The goal of the Energy-Efficient Pool Pump program element is to promote the purchase of high-efficiency ENERGY STAR variable-speed pool pumps. In a typical Arizona home with a pool, the pool pump energy use can make up a substantial portion of annual energy use, often second after heating and cooling costs.

Table 14 - Consumer Products Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
14.5	134,400	929,700

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

During this Reporting Period, the energy-efficient lighting element of the program resulted in sales of 2,102,893 CFLs and 305,116 LEDs through participating retail locations. In

addition, APS distributed 140,102 CFLs during community outreach events, for a combined total of 2,548,111 CFLs and LEDs during 2014. In 2014, approximately 325 retail outlets participated throughout the APS service territory. Participating retailers during this Reporting Period included: 99 Cents, Ace Hardware, Big Lots, Costco, Dollar Tree, Goodwill Industries, Home Depot, Lowe's, Sam's Club, Target, and Wal-Mart.

The Pool Pump program element provided rebates for 6,395 variable-speed pool pumps purchased by customers during this Reporting Period and currently includes over 200 participating pool retailers, distributors, and pool builders. During this Reporting Period, 12 pump calibration training seminars were held with a total of more than 150 pool professionals trained. In addition, program representatives routinely conducted retail visits to inform pool professionals and provide updates regarding the APS rebate program.

Evaluation/Monitoring Activities and Research Results

- Completed a residential general population survey to assess purchasing behaviors and consumer understanding of current lighting market and technologies.
- Completed a field metering study and socket saturation study of residential lighting fixtures. These findings were used to update performance variables, including operation hours, coincidence factors, and in-service rates, for calculating impacts from CFLs and LEDs.
- Updated incremental material cost and avoided incandescent replacement cost assumptions for CFL and LED measures offered.
- Completed an analysis of field metered power consumption and runtime behavior of residential pool pumps, including single, dual and variable speed pumps. These findings were used to update energy impact estimates
- Adjusted incremental material cost and O&M cost savings for variable speed pool pumps, based on a mix of manufacturer and pump sizes derived from the implementation tracking data.
- Observed and provided process improvement feedback on pool pump calibration training for participating trade allies.
- Continued to review and update CFL, LED and Pool Pump, Measure Analysis Spreadsheets and Analytic Database.

Consumer Education and Outreach

The program conducted retailer visits and retailer trainings during the Reporting Period to educate retail sales staff, assess inventories of merchandise, check point of purchase displays, address availability of qualified product, and communicate with retail sales staff.

In addition to the bulb sales at retail locations, APS has purchased a supply of CFLs to use for the low income program and for customer education and awareness building purposes.

APS supported 181 community education and customer outreach events during this reporting period to promote the Consumer Products programs and educate customers about APS programs, rebates, and opportunities for saving energy and money. For a comprehensive list of events and dates, please refer to the work-papers provided to ACC Staff.

Advertising and article placements for the CFL program element included the following:

- Updated the "Lighting Savings Calculator" to include LEDs, available at: www.aps.com/main/various/CFL/calculator.html?source=hme or aps.com/calculator providing customers a way to predict the savings they could achieve by switching to energy efficient lighting. The calculator provides recommendations for which type of lighting should be used to replace each bulb in the home and then the tool will either email or print out a customized shopping list.
- LED radio spots aired October through November on local radio stations.
- Information on the homepage of aps.com including a listing of all participating retail locations and a retail locator function that shows the closest stores throughout the service area based on entering a zip code.
- Articles in the Lifestyles Residential newsletters/e-newsletters (English & Spanish): Lighting – May, August and September.
- Point of sale signage at participating Lighting and Pool retail locations.
- Produced a bill insert that went out to customers in September announcing the availability of discounted LEDs.
- Held over a dozen weekend staffed Costco retail events throughout the metropolitan area service territory resulting in increased sales and awareness. A significant digital marketing presence was implemented September through November providing additional awareness.
- Sent geo-targeted lighting messaging through social media to promote retail events September through November.
- Ran print ads for two weeks in the Prescott Valley market highlighting a three-day weekend LED promotion at the local Costco store in Prescott.

In addition, the program conducted a wide range of marketing and advertising activities to raise awareness about variable-speed pool pumps including:

- Provided program brochures for consumers at outreach events.
- Ran a September article in the Lifestyles Residential newsletter/e-newsletter.
- Maintained program web pages on aps.com including basic information, online application forms, video content, answers to frequently asked questions, and a list of participating Pool Retailers.
- Produced collateral for point-of-sale materials, including many different styles and sizes of store signage.

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Program Modifications/Terminations

During this reporting period, two new measures, LED Light bulbs and 2x Incandescent Light bulbs were added to this program per Commission Decision No. 74406. The same Commission Decision provided the ability to reduce incentive levels and subsequently APS reduced rebate for variable speed pool pumps to $220 per unit. No other program or measures were modified or terminated.

Other Significant Information

During this Reporting Period, the US EPA ENERGY STAR certification was incorporated as part of the required minimum criteria for qualifying eligible variable-speed pool pumps to participate in the program.

MER Adjusted Gross kW and kWh Savings

Table 15 - MER Adjusted Gross MW and MWh Savings - Consumer Products Program

Measure	# Units	Annual Gross MWh Savings[2]	Lifetime Gross MWh Savings[2]	MW Peak Demand Savings[2]
CFLs – Retail[1]	2,102,893	70,028	490,198	6.7
CFLs - Giveaway	140,102	5,349	37,444	0.5
LEDs	305,116	11,483	195,212	1.1
2014 In-Service CFLs	NA	14,337	100,359	1.4
2X Incandescent[3]	0	0	0	0.0
Variable Speed Pool Pumps	6,395	9,991	119,901	1.0
TOTAL	**2,554,506**	**111,188**	**943,114**	**10.7**

[1]The total number of units is adjusted for 1) bulbs not yet placed into service and 2) bulbs installed outside APS territory. Please refer to workpapers for the complete list of units in this reporting period.

[2]Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

[3]2x Incandescent bulbs are an approved measure, but there was no program activity in this reporting period due to a lack of product availability.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

2. Appliance Recycling Program

Description

The program educates APS customers regarding the energy savings that can be achieved by recycling their old, operating, extra refrigerator or freezer. These appliances use a great deal of energy and by turning those in for recycling, customers can save up to $100 per year on their electric bill. This program provides customers an incentive to remove old, inefficient appliances from the grid.

APS customers with an old operating extra refrigerator can receive a $30 rebate with free pick-up service at the customers' convenience that can be scheduled either online at aps.com/turnitin or by calling toll free 877-514-6654. APS partners with JACO Environmental, Inc. to provide the free pick up and recycling service.

As a result of creating this program, a recycling facility has been established in Phoenix where up to 95% of appliance elements are recycled and used to manufacture other products. During the recycling process, JACO Environmental safely disposes of all refrigerators and freezers preventing the release of hazardous chemicals into the environment. Program eligibility requirements can be found at www.aps.com/turnitin.

Program Goals, Objectives and Savings Targets

The program objective is to educate APS customers that their second older, working refrigerator or freezer in the garage or laundry room is costing them an additional $100 per year in energy costs to operate. Refrigerators and freezers today are much more energy-efficient than models built prior to 1993, with models sold today using about 1/3 the energy of older units.

Table 16 - Appliance Recycling Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
1.7	11,700	70,200

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

During this Reporting Period, APS recycled 7,310 refrigerators and freezers, and paid $219,300 in incentives to customers. Units were picked up across APS's service territory statewide.

Evaluation/Monitoring Activities and Research Results

- Continued to review and update program Measure Analysis Spreadsheets and Analytic Database.
- Continued review of implementation program tracking database.

Consumer Education and Outreach

- Program marketing efforts during this Reporting Period include the following:

- Bill inserts – March, July and September.
- Newsletter article – December.
- Segmented direct mail campaign launched in October.
- Targeted email letter campaign that dropped during the month of October.
- Geo-targeted Facebook campaign ran in July.
- Radio advertising - September through November.
- A significant digital marketing presence was implemented September through October providing additional participation and awareness.

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Program Modifications/Terminations

No program or measures were modified or terminated during this Reporting Period.

Other Significant Information

Based on customer feedback, APS has developed and implemented a process that provides customers the option to donate their $30 refrigerator recycling rebate to The Salvation Army's Project S.H.A.R.E. (Service to Help Arizonans with Relief on Energy). On average, 4% of participating customers (257 customers) donated their rebates for a total of $7,710 donated to the Salvation Army in 2014 from this program.

MER Adjusted Gross kW and kWh Savings

Table 17 - MER Adjusted Gross MW and MWh Savings - Appliance Recycling Program

Measure	# Units	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Refrigerators	6,524	8,264	49,584	1.2
Freezers	786	782	4,693	0.1
TOTAL	**7,310**	**9,046**	**54,277**	**1.3**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c). Commission Decision No. 73089 requires APS to report spending for non-EE measures in the Appliance Recycling Program. There were no non-EE measures or associated spending in this program during this Reporting Period.

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

3. Residential New Home Construction

Description

This program promotes high-efficiency construction practices for new homes. It offers incentives to builders that meet the program's EE standards. The program emphasizes the whole building approach to improving EE and includes field testing of homes to ensure performance. Participating builders are trained to apply building science principles to assure that high efficiency homes also have superior comfort and performance. The program also provides education for prospective homebuyers about the benefits of choosing an energy-efficient home and the features to consider.

The program takes advantage of the national ENERGY STAR® brand name, and promotes the U.S. Environmental Protection Agency ("EPA") ENERGY STAR® label to prospective homebuyers. To encourage builders to meet the program's high-efficiency standards, APS provides builder incentives of $600 per home for ENERGY STAR version 3 compliant homes. To encourage builders to meet even higher EE standards, the program also offers a second tier incentive of $1,500 per home for builders that meet the higher savings level of Home Energy Rating System ("HERS") 60.

Program Goals, Objectives and Savings Targets

The program objective is to increase the penetration of homes built to high-efficiency standards. The rationale for this program is that residential new construction in the APS service territory, particularly the Phoenix metro area, has historically been one of the biggest drivers of APS's system load growth. It is more cost-effective to work with builders to implement EE at the time of construction rather than to attempt to retrofit efficiency after a home has been built. For many new home measures, such as building envelope improvements, the benefits of EE upgrades will be sustained for the life of the home to produce cost-effective savings.

Table 18 - Residential New Construction Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
12.3	23,800	476,500

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

During this Reporting Period, APS signed 6390 homes that are committed to being built to ENERGY STAR® V3 and ENERGY STAR® V3 – HERS 60 program standards. At the end of this Reporting Period, there were 63 homebuilders and 340 subdivisions currently participating. The program currently includes ENERGY STAR® communities throughout the APS service territory including the Phoenix metro area, Yuma, Casa Grande, Florence, Prescott, Verde Valley, and Flagstaff.

Specifically, in 2014 APS paid builder incentives for the following completed homes:

- 3,346 ENERGY STAR Version 3
- 821 ENERGY STAR Version 3 – HERS 60

Evaluation/Monitoring Activities and Research Results

- Conducted statistical billing records analysis of program homes to determine an Energy Use Index (kWh/sq. ft.) associated with HERS ratings in APS service territory. Calculated annual and lifetime cost savings impacts resulting from this reduced energy consumption.
- Updated baseline efficiency assumptions and energy savings impacts for non-participant homes based on new building code adoptions across all APS jurisdictions.
- Continued to review and update Residential New Construction Measure Analysis Spreadsheets and Analytic Database.
- Continued support on data requirements of implementation tracking system to meet evaluation needs.

Consumer Education and Outreach

Program marketing and education efforts during this Reporting Period include the following:

- *Television* – APS developed and aired a new ENERGY STAR homes TV content for NewHomeSource TV that aired on channel 3. The hosted segments tout the energy savings and benefits of ENERGY STAR homes.
- *Online Ads* – APS developed banner ads that ran all year on newhomesource.com. Newhomesource.com is one of the most used wed resources for customers searching for new homes listings and information on local builders.
- *Realtor Publication* – Monthly publication lists all new home communities and homes for sale in the metro Phoenix area. APS advertising includes banner ads highlighting all participating ENERGY STAR communities.
- *2014 Homebuilders Association Member Directory* - the back cover ad to promote the APS ENERGY STAR® Home program to builders
- *Provided Sales Agent Training* - for APS ENERGY STAR® Home builder sales staff.
- *Distributed APS ENERGY STAR® Home Program Sales Book* - for builder sales agents to use in selling the features of ENERGY STAR® Homes to prospective homebuyers.
- *Distributed APS ENERGY STAR® Model Home Materials* - for builders to put in model homes to advertise the different features and benefits of an ENERGY STAR® homes.
- *Distributed APS Energy Cost Brochures* – customized point of sale brochures that describe APS ENERGY STAR® Homes features and outline the approximate annual and monthly energy costs per model.
- *Distributed a homebuyer brochure* - that is targeted to new buyers and discusses the features and benefits of an ENERGY STAR® home. The brochures are being distributed at community events and at participating builders' model home sales offices.

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Program Modifications/Terminations

During this reporting period, subsequent to Commission Decision No. 74406 allowing APS to reduce incentive levels, APS lowered the incentive for meeting the ENERGY STAR Version 3 tier of the program requirements from $1000/home to $600/home. The incentive level for the higher HERS 60 tier of the program remained unchanged at $1500/home to encourage participants to meet higher savings levels.

Other Significant Information

In recognition of the ongoing success of the APS EE program portfolio and the APS ENERGY STAR® Homes and Home Performance with ENERGY STAR Programs, APS was selected by EPA as a 2014 ENERGY STAR® Partner of the Year, Sustained Excellence Award winner. This is the highest award that can be earned by an ENERGY STAR® partner, and is bestowed on partners who show sustained excellence in their commitment to EE and whose organization is a national model of best practices in advancing EE. APS has now earned ENERGY STAR® awards for eight consecutive years.

In October, APS participated in the Southwest Builder Show trade expo and met with builders, HERS raters, and other industry partners.

MER Adjusted Gross kW and kWh Savings

Table 19 - MER Adjusted Gross MW and MWh Savings
Residential New Construction Program

Measure	# Units	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
APS ENERGY STAR Homes V3	3,346	10,162	203,237	4.8
APS ENERGY STAR Homes HERS60	821	3,477	69,538	1.7
TOTAL	**4,167**	**13,639**	**272,774**	**6.5**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

In addition, program consumer education and homebuilder training efforts produce significant additional energy savings and benefits that are not quantified here.

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

4. Residential Existing Homes Heating, Ventilation, and Air Conditioning Program

Description

The Residential Existing Homes Heating, Ventilation, and Air Conditioning Program ("Residential HVAC") uses a combination of financial incentives, contractor training and consumer education to promote the proper installation and maintenance of energy-efficient HVAC systems. The Air Conditioner ("AC") Rebate, Duct Test and Repair, Prescriptive Duct Repair and Residential Diagnostic measures support energy-efficient Residential air conditioning and heating systems along with the proper installation, maintenance and repair of these systems.

The Residential Existing Homes HVAC program provides APS customers with referrals to contractors who meet strict program requirements for professional standards, technician training, and customer satisfaction.

The AC Rebate with Quality Installation ("QI") measure offers financial incentives to homeowners for buying energy efficient HVAC equipment (≥13 SEER/10.8 EER), that is installed in such a manner that it meets the program requirements for air flow, refrigerant charge and sizing. The Duct Test and Repair ("DTR") measure provides financial incentives to customers for having their HVAC system's duct work tested for leakage and repaired. The Prescriptive Duct Repair ("PDR") measure provides financial incentives to customer for having the HVAC system sealed to reduce are leakage. It does not require a full test in and test out of the HVAC system like the DTR measure. APS also has a Residential Diagnostic ("RD") measure to provide a financial incentive for an advanced diagnostic tune-up on existing air conditioning and heat pump equipment to ensure that it operates more efficiently. The main components of this measure are the correction of the refrigeration charge, leak repair, condenser coil cleaning and air flow verification.

Program Goals, Objectives and Savings Targets

The Existing Homes HVAC program uses a combination of financial incentives, contractor training and consumer education to promote high-efficiency HVAC systems. The program focuses on the proper installation of equipment, increasing existing equipment efficiency, and the testing, sealing and repair of duct work in existing Residential homes.

Table 20 - Existing Homes HVAC Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
10.0	14,600	162,200

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

- A total of 14,365 rebates were paid through the HVAC element of the program in 2014. APS has paid:
  - Quality Installation: 9,794 of the $245 AC rebates for all SEER/10.8 EER equipment

  - HVAC Advanced Diagnostics: 749 of the $100 Residential Diagnostic rebates.
  - Duct Test and Repair participation levels in 2014:
    - 3,818 DTR reported rebates. There was 4,418 total rebates, 600 were for tests without repairs. Only the repair (3,818) rebates are used for calculating the demand and energy savings shown in the savings tables.
    - 4 Prescriptive Duct Repair rebates. This measure was launched in Oct. 2014 with a small number of contractors so the participation was very low due to the limited time it was available and low activity during the holiday season.
- There are currently 149 contractors that can offer the APS AC Rebate of which 118 are APS Qualified Contractors. There are 31 Rebate Eligible contractors that entered the program through the application process approved by the ACC in October 2009, which does not require membership in the Arizona Heat Pump Council. There are currently 27 contractors that can offer the rebates outside the Phoenix metropolitan ("metro") area.
- There are currently 52 active Duct Test and Repair contractors. There are 13 contractors that can provide the rebate outside of the Phoenix metro area.

Evaluation and Monitoring Activities and Research Results

- Reviewed and analyzed performance data collected and submitted by participating contractors in the Advanced Diagnostic Tune Up measure. Determined that updates made to HVAC contractor training in 2014 had a positive impact on overall performance of equipment installed and receiving a rebated tune-up.
- Completed analysis of field meter data and incremental equipment costs for Evaporative Cooling technologies.
- Completed a number of process activities – including contractor mystery calls, contractor in-depth interviews, and participating and non-participating customer surveys to assess customer and contractor satisfaction, barriers to participation, incremental costs, and potential program improvements for the advanced diagnostic and tune up program.

  Continued to review and update Residential HVAC Measure Analysis Spreadsheets and Analytic Database including Quality Installation, Duct Test and Repair, Prescriptive Duct Repair, and Advanced Diagnostic Tune Up measure offerings.

Consumer Education and Outreach

Residential Existing Home HVAC program marketing and consumer/contractor education efforts for this Reporting Period include:

- Articles in APS FYI Newsletter for January (DTR), March (Residential Diagnostic), April (AC), June (DTR), August (AC), and October (DTR).
- Targeted Direct E-mail campaign for Residential Diagnostic in March and DTR in November.
- Facebook ads in July (AC), August (AC) and November (DTR).
- Online Banner Ads and search engine marketing (SEM) in September (AC), October (AC) and November (DTR).
- Presentations on the APS Residential DSM programs to numerous community groups. Most of the consumer education events listed under Consumer Products also include information on the AC Rebate and other APS Residential programs.

- The aps.com homepage prominently features APS EE programs. These programs are grouped in one section of the homepage entitled "Save Energy and Money."

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period

Program Modifications/Terminations

Decision No. 74406 approved the Prescriptive Duct Repair measure that was opened for customer participation on Oct. 1, 2014, lowered the AC Rebate down to $245 and raised the maximum Duct Test and Repair rebate to $400. No other programs or measures were modified or terminated during this Reporting Period.

MER Adjusted Gross kW and kWh Savings

Table 21 - MER Adjusted Gross MW and MWh Savings - Existing Homes HVAC Program

Measure	# Units	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
AC with Quality Installation	9,794	9,715	97,150	5.4
Diagnostics	749	429	2,574	0.3
Duct Test and Repair	3,818	4,086	73,548	3.5
Prescriptive Duct Test and Repair	4	2	36	0.0
TOTAL	**14,365**	**14,232**	**173,308**	**9.2**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

** Duct Test and Repair number of units shows only rebates paid for repair work. Rebates paid for duct tests only are not included.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

5. Home Performance with ENERGY STAR®

Description

The Home Performance with ENERGY STAR program promotes a whole house approach to energy efficiency by offering incentives for improvements to the building envelope and mechanical systems of existing Residential homes within the APS service territory. HPwES includes measures that improve the EE of the home with air sealing, insulation and duct sealing.

The program offers home owners a $99 comprehensive home energy checkup to help identify ways to improve energy efficiency and comfort throughout the home. This program element offers a direct install feature that includes up to ten CFLs and one low-flow showerhead that are installed at the time of the checkup. Additional financial incentives are available for duct sealing, air sealing, and insulation once a home owner has completed an HPwES checkup. After measures are installed, rigorous testing and quality assurance protocols then verify installation quality and performance.

Program Goals, Objectives and Savings Targets

The HPwES measures promote a whole house approach to EE by offering education, technical assistance and financial incentives for improvements to the building envelope of existing Residential homes within the APS service territory.

Table 22 - Existing Homes - Home Performance Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
5.6	10,000	148,000

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

During this Reporting Period:

- A total of 4,374 contractor incentives were paid through HPwES for completed and approved energy audits. Each home that received a $99 home energy audit, also received a direct install bag containing one low-flow showerhead and ten 13 watt compact florescent light bulbs (CFLs).
- The APS HPwES program paid rebates for measures installed in 1,470 participating homes. This indicates an approximate 34% of homes that completed an audit during the Reporting Period took steps to install additional measures as a result of the audit. The total number of customer rebates paid was 2,962. Specifically, APS has paid:
  - 1,838 duct sealing and repair rebates.
  - 11 air sealing only rebates.
  - 1,113 air sealing and attic insulation rebates.
- During this reporting period, APS received approval to add smart power strips as a measure in the program and implemented this measure starting in July. Smart power

strips provide EE savings by intelligently controlling home electronics to reduce energy wasted in standby mode. In the program, smart strips are offered to customers who proceed with energy saving improvements identified in their Home Performance energy audit.

- There are currently 43 qualified HPwES contractors. Contractors must complete the Building Performance Institute's Building Analyst certification and undergo a mentorship prior to becoming active. HPwES currently serves Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Navajo, Pima, Pinal, Santa Cruz, Yavapai, and Yuma counties.
- During this reporting period, the APS Home Performance answer line received 1,132 referral inquires by telephone.

Evaluation/Monitoring Activities and Research Results

- Completed over 350 telephone surveys with customers who participated in all stages of the HPwES program ranging from using the online Energy Analyzer portal only, through full participation in a Home Energy Checkup and installation of rebated measures. Reported on customer satisfaction with program components, their experiences with program contractors, barriers to participation, installation rates of direct install measures, and other program performance metrics.
- Developed a methodology for calculating savings for behavioral tips provided through the Energy Analyzer online interface. Provided design assistance to ensure systems are in place to collect data and make it available for evaluation of potential energy savings resulting from behavioral tips.
- Provided guidance on structuring exports of participant audit data containing building characteristics, including insulation levels, blower door test results, window types, HVAC system type and efficiency, to support energy model assumptions.
- Continued to review and update program Measure Analysis Spreadsheets and Analytic Database.
- Continued review of program implementation data, utilizing standardized data collection and transfer methods incorporated in the national data standards, otherwise known as HPxML to support energy model assumptions.

Consumer Education and Outreach

HPwES marketing and consumer/contractor education efforts for this Reporting Period include:

- Utilized the Energy Analyzer online audit tool on aps.com and social media channels as a lead generator for the HPwES program. Educated customers on how their home uses energy and what energy efficiency program recommendations are available to them. When customers receive a recommendation to consider an on-site energy audit, customers can apply immediately from the results page to enter into the HPwES program and receive contractor referrals.
- From initial engagement to project completion, APS provides customers with a simple, streamlined process to help guide them- including a "My Project" dashboard that helps track their project status, review program documents and receive digital coaching throughout their program participation.
- Employed search engine marketing (SEM) and digital ads to better target customers actively searching for ways to improve their energy efficiency.

- Designed a new application form with a "hometown" concept for homeowners that match them with one contractor whose service area includes their hometown. This feature was designed to eliminate confusion for customers looking at an entire list of contractors. The new referral tool now captures the contractors' bio, website link, BBB profile and logo for a more thorough description.
- Distributed HPwES brochures through community events, trade allies, contractors, and other industry partners.
- Executed trigger based direct email communications to customers with a high propensity to participate in the program.
- Using the APS call center, we held a call center campaign to promote home energy checkups to qualified customers that called during the summer months. A script is now used by call center associates during high bill calls to promote the program.
- Re-designed the aps.com/checkup program page to make it more customer friendly. A stand-alone website is available at www.azhomeperformance.com.
- Employed event based marketing with Arizona Highways, Diamondbacks, and several trade shows.
- Placed articles in: APS Lifestyles newsletter and e-newsletter for February, July, September, and November.
- Delivered presentations on the APS Residential DSM programs to numerous community groups. Most of the consumer education events listed under Consumer Products included information on the HPwES and other APS Residential programs.

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Program Modifications/Terminations

During this reporting period, APS received approval in Decision No. 74406 to add smart power strips as a measure in the program and APS implemented this measure starting in July 2014.

APS took a major step forward in early 2014 by becoming the first Home Performance with ENERGY STAR® program nationally to implement the recently adopted national data standards (BPI 2100 and BPI 2200), otherwise known as HPxML. This advance offers flexibility for participating contractors, allowing them to choose their preferred energy modeling software tool, while still giving APS access to robust reporting and data collection in a standardized format. In this new program environment contractors have their own choice in modeling and customer education tools they want to use, allowing them to work more quickly in the field. As a result, contractors have decreased their administrative time per job by an average of 31 percent (including time spent filling out paperwork, submitting rebate forms, tracking rebates, etc.), which directly reduces project costs while improving contractor satisfaction. Contractors report they have more control over the reports each customer receives as part of their energy audit, which leads to better interactions with customers to educate them on the best ways to save energy in their homes. APS will continue to explore how the additional data gained in this system better informs marketing efforts to refine customer acquisition strategies.

Other Significant Information

The Home Performance with ENERGY STAR® program is a valuable program to assist residential customers in improving the energy efficiency of their homes and in supporting a local network of home performance contractors who can help deliver efficiency services. The program is a driver for customers to participate in energy efficiency and often customer's first experience and entry point with APS when trying to diagnose high bill concerns or comfort problems inside their home. By channeling customers into the program, we are able to provide important services and education to help rate payers manage their bill and provide solutions. In addition to electric energy savings the program also generates significant additional savings for customers such as health and safety and indoor air quality.

In recognition of the ongoing success of the APS EE program portfolio and the APS Home Performance with ENERGY STAR® and ENERGY STAR Homes Programs, APS was selected by the EPA as a 2014 ENERGY STAR® Partner of the Year, Sustained Excellence Award winner. This is the highest award that can be earned by an ENERGY STAR® partner, and is bestowed on partners who show sustained excellence in their commitment to EE and whose organization is a national model of best practices in advancing EE.

APS works closely with other utilities in the state to coordinate the delivery of HPwES statewide. In 2014, APS continued to work closely with Salt River Project and Southwest Gas as we coordinate program delivery to optimize delivery across both electric service territories. This coordination allowed us to further ensure market consistency, while enhancing the customer experience through a joint program delivery.

MER Adjusted Gross kW and kWh Savings

Table 23 - MER Adjusted Gross kW and kWh Savings - Existing Homes - Home Performance

Measure	# Units	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Direct Install Low Flow Showerhead	4,374	295	2,955	0.01
Direct Install CFLs	43,740	901	5,406	0.09
Direct Install Smart Strips	663	138	551	0.02
Duct Repair	1,838	1,833	32,986	2.12
Air Sealing	11	12	183	0.00
Air Sealing and Attic Insulation	1,113	1,021	23,464	0.44
TOTAL	**51,739**	**4,200**	**65,544**	**2.68**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

In addition to the savings shown above, HPwES conducts a number of market transformation efforts, such as contractor training and customer education activities designed to transform the EE market. This results in spillover which produces additional energy savings and net benefits which are not quantified here.

Benefits and Net Benefits/Performance Incentive Calculation

MER adjusted net benefits and performance incentives are provided in Tables 6 and 8.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

6. Residential Conservation Behavior Program

Description

The Residential Conservation Behavior Program provides participating Residential customers with periodic reports containing information designed to motivate them to change their energy usage behavior to save energy.

To drive conservation behavior, this program direct mails comparative Home Energy Reports to participants that show how the energy usage in that customer's home compares with similar homes. Coupled with the comparison data, customers receive recommendations for specific and targeted actions they can take to save energy.

Derived from best practices in behavioral science research, this program uses the power of normative messaging to successfully engage and motivate conservation actions of targeted individuals. Comparing an individual's energy use to what is "normal" has proven to be an effective mechanism to attract attention and motivate action. Normative messaging on energy use, combined with recommendations on how to improve, is the basis of the concept for the Conservation Behavior program. The program provides a benchmark for customers to achieve and instills a sense of competition to produce sustained conservation behaviors.

Program Goals, Objectives, and Savings Targets

The goal of this Program is to motivate Program participants to save energy by changing their energy use behavior.

Table 24 - Conservation Behavior Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
5.0	36,500	36,500

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

The 2014 program targeted an average of approximately 89,000 Residential (both single and multi-family) customers with a control group average of approximately 49,000 additional customers. In April 2014, approximately 30,000 customers were added to the program to replenish attrition due to move outs and to increase overall program savings and cost effectiveness performance. The highest customer count for the year was 99,064. Customers were able to "opt out" of the program at any time. Three hundred seventy four (374) participants opted out of the program in 2014.

Evaluation/Monitoring Activities and Research Results

- Validated that customers added to the program in 2014 are consistent with a Randomized Controlled Trial, as required to support evaluation of program savings.
- Conducted statistical analysis of monthly billing records to verify implementation contractor model savings estimates.

- Continued to review model employed by implementation contractor to assess accuracy and reasonableness of model outputs.
- Researched persistence of behavioral-based program savings to inform measure lifetime assumption.
- Continued to review and update program Measure Analysis Spreadsheets and Analytic Database.

Consumer Education and Outreach

Participants receive periodic, direct mailed reports that provide energy usage benchmarks and customized energy efficiency tips to educate and help them reduce consumption. Participants also have access to a web portal that provides even greater insight into usage, comparisons (both personal and with similar homes) and a plethora of energy savings tips.

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Program Modifications/Terminations

No programs or measures were modified or terminated during this Reporting Period.

Other Significant Information

In addition to conservation behavior savings, one of the key benefits of this program is that it promotes the wide array of APS rebate programs in the tips offered on each report.

MER Adjusted Gross kW and kWh Savings

Table 25 - MER Adjusted Gross kW and kWh Savings - Conservation Behavior Program

Measure	# Participants	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Home Energy Reports	93,138	32,334	32,334	6.7
TOTAL	**93,138**	**32,334**	**32,334**	**6.7**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

7. Multifamily Energy-Efficiency Program

Description

The Multifamily Energy Efficiency Program ("MEEP") is a program that encourages EE improvements in multifamily complexes within the APS service territory. The MEEP received ACC approval in Commission Decision No. 72060 (January 6, 2012).

MEEP uses a three-track approach to promote EE within the multifamily market segment.

- ***Track 1*** provides free direct install components to retrofit the Residential dwellings of existing communities. Participating communities receive enough CFLs, low flow showerheads, and faucet aerators to retrofit every community dwelling. Facility personnel, with implementation contractor field support, conduct all direct install installations.
- ***Track 2*** utilizes the APS Solutions for Business programs to provide complementary energy assessments of the community commercial facilities. The energy assessment identifies opportunities for additional EE savings and the applicable Solutions for Business incentives that are available.
- ***Track 3*** targets new construction and major renovation multifamily projects. This track builds from the success of the APS ENERGY STAR® Homes program and encourages energy efficient building principles by paying an incentive to builders on a per unit basis for building to the energy efficiency standards outlined in one of four builder option packages ("BOP"). Larger incentives are offered for achieving increasingly higher levels of energy efficiency.

Program goals, objectives, and savings targets

The MEEP program objectives are to:

- Reduce peak demand and overall energy consumption in the multifamily housing market segment.
- Promote existing community EE retrofits of both dwelling units and common areas.
- Promote higher efficiency construction standards in the development of new multifamily projects.
- Increase overall awareness about the importance and benefits of EE improvements to the landlord and property ownership community.

Table 26 - Multi-Family Energy Efficiency Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
0.5	7,600	67,900

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

A total of 91 multifamily properties participated in the direct install program in 2014 totaling 15,046 apartment dwellings. All totaled 115,229 CFLs, 11,287 faucet aerators, and 7,506 showerheads were installed in multifamily dwellings.

The New Construction/Major renovation program saw 2 projects participate in 2014. A total of 147 units received rebates in 2014.

Evaluation/Monitoring Activities and Research Results

- Adjusted savings based on comparison of predicted and actual building characteristics derived from program HERS files.
- Updated energy and demand impacts for direct install lighting measures based on findings from field study of residential lighting fixtures.
- Compared 2009 and 2012 IECC building codes and ENERGY STAR® building specifications to inform potential future program design modifications.
- Included water savings, gas savings and operation and maintenance benefits for cost-effectiveness analysis of all direct install and new construction MEEP measures.
- Continued to review and update program Measure Analysis Spreadsheets and Analytic Database.
- Developed a baseline data collection process for program measures with the program implementation contractor.
- Continued review of implementation program tracking database and supporting HERS rating documentation to refine savings assumptions.

Consumer Education and Outreach

MEEP consumer education and outreach efforts for this Reporting Period include:

- Distribution of MEEP New Construction brochures to customers.
- Direct Call outreach was utilized to get program messaging out in the market place and to secure many of the program's participants.
- Maintained a presence on aps.com to give customers a point of reference for all program information.
- Provided customer educational leave behind materials promoting EE in all dwellings that were retrofitted.
- MEEP presentations at community events.
- Offered a Success with Energy Star for Multifamily building training
- Developed and distributed Direct Install and New Construction case studies
- Developed a common area improvement program brochure
- Developed and distributed a promotional leave behind for residents to inform them of other APS EE program offerings

MEEP marketing efforts for this Reporting Period include:

- Print ad in the Arizona Multifamily Association (AMA) Newsletter
- Print ad in the Arizona Rental Housing Journal (RHJ)
- Website Banner ad on the AMA website
- Direct Email to property managers

Problems encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Program Modifications/Terminations

No programs or measures were modified or terminated during this Reporting Period.

MEEP New Construction Optional Measures Installed

In Commission Decision 73089, APS was directed to report the number and type of optional measures that builders/developers are choosing to install, as well as energy savings, coincident demand savings, and actual cost for each optional measure selected by Multifamily New Construction participants.

Two Multifamily projects received rebates in 2014. Both projects were rebated through the performance path. The performance path allows builders or developers of Multifamily new construction projects to use any building design to reach program compliance as long as the building's performance, when tested by a certified HERS rater, meets the minimum performance HERS scores standards established for each BOP. Thus performance path projects don't select optional items from the prescriptive list. Because neither project participated using the prescriptive path, there are no optional measures to report.

MER Adjusted Gross kW and kWh Savings

Table 27 - MER Adjusted Gross kW and kWh Savings - Multi-Family Energy Efficiency Program

Measure	# Units	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Direct Install Low Flow Showerhead	7,506	2,042	20,417	0.1
Direct Install Low Flow Faucet Aerators	11,287	538	5,383	0.1
Direct Install CFLs	115,229	4,718	28,310	0.5
Builder Option Package (BOP) 1	0	0	0	0.0
Builder Option Package (BOP) 2	0	0	0	0.0
Builder Option Package (BOP) 3	147	296	5,923	0.1
TOTAL	**137,169**	**7,594**	**60,033**	**0.6**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

Other Significant Information

No information to report at this time.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

8. Shade Tree Program

Description

The Shade Tree program provides free shade trees to APS's residential customers that have attended an APS Shade Tree workshop or participated in an online training. The program educates customers on successful tree planting and care techniques, and provides a customer specific site map indicating the ideal tree planting location(s) to help reduce customer cooling needs. Customers can qualify to receive between two (homes built after 1980) and three (homes built prior to 1980) free shade trees per residence. This program is available to residential customers in Maricopa County. Program eligibility requirements can be found at www.aps.com/trees.

Program Goals, Objectives, and Savings Targets

The goal of this program is to encourage customers, through education and incentives, to plant shade trees in areas near their homes to reduce home cooling needs.

Table 28 - Shade Tree Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
0.4	700	20,500

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Level of Customer Participation

A total of 4,820 trees were distributed in 2014 to Maricopa County residential customers. A total of 468 trees were distributed using in-person workshops and 4,352 trees were distributed using the online program. A total of 8 shade tree events were held throughout the year (3 in the spring and 5 in the fall) where a total of 2,016 participants were educated.

Evaluation/Monitoring Activities and Research Results

- Continued to review and update program Measure Analysis Spreadsheets and Analytic Database.
- Provided guidance to implementation contractor for performing on-site inspections of program participants for continued assessment of planting practices.

Consumer Education and Outreach

The shade tree education and outreach includes a workshop curriculum that was vetted with local arborists with the following designations:

- International Society of Arboriculture ("ISA") Certified Arborist
- ISA Certified Arborist/Utility Specialist ISA Certified Arborist/Municipal Specialist

Each participant receives the following educational materials:

- Aerial photo of his/her home with the ideal EE planting locations highlighted
- Blue Stake Guide

- Right Tree, Right Place brochure
- Detailed watering guide published by the Arizona Municipal Water Users Association

In addition to the materials listed above, additional resources including a copy of the curriculum, tree information and helpful links are provided on aps.com.

Marketing Materials

- Created instructional video for aps.com and the online training module
- Created a narrated PowerPoint lecture video using the in person workshop curriculum with the narration script vetted by the same organizations listed above.
- Distributes a program awareness brochure

Advertising

- Flyer distributed at local community events
- aps.com/trees webpage
- aps.com banner ads on main aps.com page
- Direct email campaigns targeting customers by zip code
- Facebook ads targeted geographically
- Call Center referrals
- Page one bill message for metro Phoenix zip codes
- Contractor messaging to their member groups
- Local area sustainability program newsletter publications

Problems Encountered and Proposed Solutions

During this Reporting Period the Shade Tree program had a benefit cost ratio of less than 1.0, using the current methodology for calculating the present value of benefits and costs to determine benefit-cost ratios, as ordered in Commission Decision No. 73089. The program was not cost effective in 2013, and while APS initiatives to improve the cost effectiveness of the program in 2014 did increase the program's participation and reduce costs, these efforts were not enough to return the program to cost effectiveness in 2014. APS has decided to suspend this program for the 2015 program year while program modifications are made. APS intends to propose a revised program implementation model that includes a request to expand the program into other areas of the APS service area in its 2016 implementation plan.

Program Modifications/Terminations

APS is recommending a suspension of this program for the 2015 program year. APS will work with stakeholders to attempt to redesign the program to return it to cost effectiveness.

Gross kW and kWh Savings

Table 29 - MER Adjusted Gross kW and kWh Savings - Shade Tree Program

Measure	# Units	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Shade Trees	4,820	405	12,143	0.2
TOTAL	**4,820**	**405**	**12,143**	**0.2**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

9. Energy Wise Limited Income Weatherization

Description

APS's Energy Wise Limited Income Assistance Program is designed to improve the EE, safety and health attributes of homes for customers whose income falls within the defined federal poverty guidelines. This program serves low income customers with various home improvements including cooling system repair and replacement, insulation, sunscreens, water heaters, window repairs and improvements as well as other general repairs. Per Commission Decision No. 68647, the program is conducted in accordance with the rules of the federal Weatherization Assistance Program ("WAP"). WAP incorporates a performance-based energy audit procedure that focuses on optimizing investment in energy efficiency through a systems approach. Participating agencies utilize a Department of Energy site specific REM Design energy audit procedure that ensures that the overall Savings to Investment Ratio ("SIR") for the entire package of materials/measures including the cost of incidental repairs is greater or equal to one. In addition, low income families are provided crisis bill assistance. The program is administered by various community action agencies throughout APS's service territory.

Program Goals, Objectives, and Savings Targets

- To improve the EE of homes for customers whose income falls within the defined poverty guidelines.
- To provide customers information on energy management and conservation.
- To provide assistance in paying the electric bill for qualified customers in crisis situations.

Table 30 - Limited Income Weatherization Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
0.2	1,700	30,600

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

A total of 723 households received assistance during the Reporting Period. A single household may have received more than one type of assistance.

Table 31 - Limited Income Weatherization Program Participation

Type of Assistance	Number of Households
Bill Assistance	129
Health and Safety	0
Repair and Replace	0
Weatherization	594
Total	**723**

Evaluation/Monitoring Activities and Research Results

Weatherization measures must pass the cost effectiveness test that is detailed in the federal government's WAP rules. These rules allow certain prescriptive measures, which vary with the climate zone and type of housing construction. Measures not on the prescriptive list must be assessed by a computer analysis to determine the economic feasibility.

The Arizona Governor's Office of Energy Policy ("GOEP"), with information from APS, is analyzing the electric energy used in weatherized homes before and after the weatherization measures are implemented. It takes a year of data before the weatherization and another year of data after the weatherization to get an accurate gauge of the impact of the measures. As the data base grows over time, a more accurate picture of the impact of the weatherization activities will emerge.

Information from the GOEP report for fiscal year 2013, submitted January 2014 is provided below:

Utility Bill Analysis

This report includes an analysis of 208 homes utilizing 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 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 measure life, discount rate of 3% and a utility cost escalation rate of 3%.

Results Summary

The combined SIR of all jobs reviewed to date for funds (Low Income Home Energy Assistance Program, Department of Energy ("DOE"), Utilities, Community Development Block Grant, Utility Repair, Replace and Deposit, Sustainability Energy Resources for Consumers) spent on diagnostics, energy measures, and health and safety measures was 1.04. The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics was 1.26.

The average savings per home reviewed was 2,270 kWh.

It should be noted that, GOEP study savings are based on an average of all homes located throughout the state that participated in the study. APS is currently working with the GOEP to get specific information on average KWh and natural gas therm savings for participating homes within APS's service territory.

Consumer Education and Outreach

Program marketing efforts and outreach included:

- Weatherization outreach and field visits to participating CAP offices
- Sponsored Weatherization Workshop with Red Feather on Hopi Nation, December 7, 2014
- Participated in Governor's Office of Energy Policy State Weatherization Policy Advisory Committee meetings for developing the D.O.E. State plan

- Attended Energy Outwest Conference, April, 15, 2014
- Involved with Arizona Community Action Association and Arizona Corporation Commission Weatherization tour on April, 22,2014
- Attended Weatherization Peer to Peer meetings.
- Weatherized the U.S. Vets Multifamily Housing project – 4th Quarter, 2014
- Presented online tool for energy analysis at an Arizona State Weatherization Peer to Peer meeting, September 18, 2014.

Problems Encountered and Proposed Solutions
No problems encountered.

Program Modifications/Terminations
No programs or measures were modified or terminated during this Reporting Period.

MER Adjusted Gross kW and kWh Savings

Table 32 - MER Adjusted Gross kW and kWh Savings - Low Income Weatherization

Measure	# Homes	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Weatherization	594	1,443	25,248	0.2
TOTAL	**594**	**1,443**	**25,248**	**0.2**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

The kW factor used to calculate the savings are based on data from the Arizona Energy Office study of 208 weatherized homes. The annual energy demand savings per home in this study are estimated to be 0.3 kW. A 17.5 years measure life and kWh savings factor of 2,270 kWh per home, from the current GOEP report, has been utilized to determine the appropriate kWh savings.

Benefits and Net Benefits/Performance Incentive Calculation
The net benefits for this program are provided in Tables 6 and 8.

Costs Incurred

Costs incurred for this program during the current Reporting Period are listed below:

Table 33 – Cost Incurred - Low Income Weatherization

Activity	Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Program Total Cost
Bill Assistance	$ 30,370	$ -	$ -	$ -	$ -	$ 37,081	$ 67,452
Health & Safety	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Repair and Replace	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Weatherization	$2,630,821	$ 11,721	$ 12,251	$ -	$ 3,656	$ 62,332	$ 2,720,781
3rd Party Manager - Arizona Community Action Association	$ -	$ -	$ -	$ 50,000	$ -	$ -	$ 50,000
APS Program Support	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$2,661,191**	**$ 11,721**	**$ 12,251**	**$ 50,000**	**$ 3,656**	**$ 99,413**	**$ 2,838,232**

Note: This table displays all Energy Wise Program costs, including Health and Safety, and Repair and Replace. However, these categories are not included in Table 2.

Commission Decision No. 73089 requires APS to report spending for non-EE measures in the Energy Wise Program. There were no non-EE measures or associated spending in this program during this timeframe.

V. Non-Residential Programs

10. Large Existing Facilities

Description

The Large Existing Facilities Program provides prescriptive incentives for owners and operators of large (more than 100 kW aggregated peak monthly demand) Non-Residential facilities to promote energy efficiency improvements in technologies such as lighting, HVAC, motors and refrigeration applications. The Direct Install approach is available for facilities that are individually metered with a peak demand of 400 kW and less. For EE applications not covered by the prescriptive incentives, the program offers custom incentives that are evaluated individually based on energy savings. The program also provides incentives to reduce the cost of an energy study that identifies energy-saving opportunities. The program provides educational and promotional materials designed to assist facility and business owners and operators in making decisions to improve the EE of their facilities.

Program Goals, Objectives and Savings Targets

- Promote and support EE opportunities for existing large Non-Residential customers.
- Promote the installation of high-efficiency technologies including, but not limited to lighting, HVAC equipment, motors and refrigeration systems.
- Promote market transformation through APS trade allies, customer outreach and technical training classes.

Table 34 - Large Existing Facilities Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
24.8	174,600	2,388,800

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

The Large Existing Facilities Program has been the strongest performing Non-Residential program since its inception. During this Reporting Period, APS paid $11,201,130 in Large Existing program incentives. This figure represents a total of 1,485 paid applications from 568 unique customers and includes projects implemented through Direct Install. Payments to school districts and charter schools comprised 53 of the 1,485 applications.

Table 35 - Large Existing Facilities Program Incentives Paid

Incentive Status by Fund for Paid Applications	Incentives Paid
Large Existing – Prescriptive & Custom	$10,836,448
Large Existing – Studies	$ 110,254
Large Existing – Retro-commissioning Studies	$ 227,515
Total Large Existing Funds	**$11,174,217**

In Commission Decision No. 70637, APS was required to track DSM applications resulting from studies for which incentives have been paid and to report results to the Commission. During this Reporting Period, APS paid incentives for 55 study applications from 22 customers including 19 feasibility studies, 12 benchmarking studies and 24 retro commissioning studies. Sixteen (16) of the 55 studies have already resulted in implementation of the associated measures. Since the program's inception, 386 studies have been completed. Of those 386 studies, 176 have resulted in EE project applications to date.

In Commission Decision No. 73089, APS was required to report the type of measures installed by customers after a study was completed. The following measures were installed for studies completed in 2014: custom, HVAC, lighting, motors and refrigeration.

Evaluation/Monitoring Activities and Research Results

- Updated energy savings impacts based on results of a field metering study of program participants receiving rebates for Variable Frequency Drives (VFDs) across multiple commercial applications and building types.
- Developed and implemented a tool for calculating savings from implementation of various control strategies for Energy Management Systems. Provides discrete options for tracking and customizing savings to specific projects rebated through the program.
- Launched a field metering study of lighting projects rebated through the Direct Install program to determine operation hours and coincidence factors by building type. This analysis will be completed in early 2015 and used to update energy and demand impacts for lighting measures for 2015.
- Completed and reported on in-depth interviews with Solutions for Business trade allies to assess program satisfaction, barriers to participation, potential program improvements, and to understand and compare differences with SRP's Business Program. Lighting contractors were interviewed to refine baseline estimates for premium T8 linear fluorescent rebates.
- Reviewed and provided feedback on leveraging online availability of commercial customers' hourly and monthly energy consumption to encourage energy savings behaviors.
- Conducted ongoing review and analysis of implementation contractor participation databases.
- Reviewed and updated non-residential Measure Analysis Spreadsheets and Analytic Database
- Calculated energy and demand impacts and researched incremental costs to determine the cost effectiveness for Linear LEDs offered in this program.
- Assisted the program implementation contractor by conducting a review of incremental cost assumptions for a large custom project application under consideration for an incentive.

Consumer Education and Outreach

The focal point of program development activities is centered on specific market segments. The program developed technical resources, information, trainings and advertisements to engage and educate these specific segments.

The program continued to develop and foster relationships with industry and stakeholder associations to enhance outreach efforts and connections with members. During the 2014 Reporting Period, these activities included participation in the following:

- January 16 – Living Building Challenge (12 attendees)
- April 1 – USGBC Annual Conference (75+ attendees)
- April 9 – Electric League BOT Training (16 attendees)
- June 10 – APS Customer Update Breakfast (120 attendees)
- June 12 – Arizona Forward Livability Summit, table (100+ attendees)
- June 26 – Sustainable Cities Network (12 attendees)
- July 17/18 – Arizona Association of School Business Officers Annual Conference, booth (1,000 attendees)
- November 5 – APS Customer Update Breakfast (130 attendees)
- November 15 – American Institute of Architects Annual Awards Program, judge/presenter (200 attendees)

Customer Awareness and Advertising

In 2014, The APS Solutions for Business program partnership with Energize Phoenix was recognized by Arizona Forward with an Award of Merit in the Livable Communities-Sustainable Communities category. Marketing efforts in 2014 focused on reaching targeted segments and highlighting the Express Solutions small business program. Efforts utilized a variety of channels to maximize effectiveness and included bill inserts, print articles, case studies, electronic communications, and promotion of trainings and events. This layered approach promoted the Solutions for Business program and the benefits of energy efficiency.

- Developed and executed co-branding marketing program for top-tier Trade Allies. The program included developing the program and legal document, training and communicating with contractors, developing a suite of seven brochures, and working with contractors to customize and print their brochures.
- Developed a series of case studies highlighting Express Solutions and municipal customers to better educate those segments on the benefits of energy savings.
- Wrote quarterly newsletter articles and assorted newspaper/trade publication articles profiling small business customers and the Express Solutions program.
- Developed and executed a marketing campaign to promote the LED and Tstat giveaway promotions. The campaign included developing print material, creating and distributing email communications, and creating and distributing customer surveys.
- Created an insert to ride along with incentive checks encouraging customers to reinvest their rebate money in future energy efficiency projects.
- Produced a series of bill inserts focused on the Express Solutions and HVAC tune-up programs that were sent to small business customers.
- Updated and produced giveaway items and existing print collateral for program and outreach use when promoting the program.
- Created segment-specific thank you advertisements for the *Phoenix Business Journal* that recognized the education, healthcare, industrial/data centers and municipality segments.
- Produced and printed large checks for presentations to recognize participation and help raise awareness of the program at customer events.
- Oversaw customization and distribution of the annual 2015 *Arizona Highways* calendars to customers and contractors. The project involved creating two program-specific back pages; one page highlighted customer projects and the other included

the program Quick Look. Additionally, energy efficiency tips were included each month.

- Updated the trade ally portal with program news, collateral, applications and trainings as needed throughout the year.

Technical Training

Training courses help customers and trade allies understand technologies and potential for energy savings. This understanding promotes quicker adoption of energy efficiency technologies and encourages customers to undertake more in-depth and holistic projects. Classes allow interaction among customers, topic experts and contractors who can perform work, thus facilitating the contracting process. Feedback from this educational series indicates that customers are more likely to adopt alternative technology following such presentations and the knowledge gained from them.

APS continued to work closely with the Arizona Chapter of the Association of Energy Engineers ("AEE-AZ") to promote and manage registration of the APS Technical Training series. AEE-AZ provided access to their membership to promote the trainings and the Solutions for Business program and also provided APS with turnkey registration support for the training classes that occurred during this Reporting Period. Attendance remained strong during this Reporting Period with many repeat attendees.

The classes held during this Reporting Period attracted 584 attendees at Technical Trainings and 357 at Trade Ally-exclusive events:

- January 22–Motors (35 attendees)
- January 29 - Benchmarking with ENERGY STAR (59 attendees)
- February 27– Selling Energy Efficiency (50 attendees)
- March 26 – Compressed Air (40 attendees)
- March 28 – Veolia Lamp Recycling Tour (14 attendees)
- April 23 – TA Casual Networking (14 attendees)
- April 24 – Municipal Energy Plans (36 attendees)
- April 30/May 1 – Energy Modeling (38 attendees)
- May 8 - Semi Annual Trade Ally Event (193 attendees)
- May 21 – Lighting (40 attendees)
- May 28 - Custom Application (18 attendees)
- June 17 – Cobranding Training (24 attendees)
- June 26 – Trade Ally Make-up Event (28 attendees)
- August 13 - Energy 101- (54 attendees)
- August 14 – Pool Pump Training (20 attendees)
- September 11 – Industrial Segment Energy Plans (20 attendees)
- October 7 – Semi Annual Trade Ally Event (122 attendees)
- October 14 – 2012 IECC Energy Code Yuma (25 attendees)
- October 15 – Pump System Training (50 attendees)
- November 5 – 2012 IECC Energy Codes (52 attendees)
- December 3 – Window Science Class (23 attendees)

The program sponsored the following training organizations and related classes:

- Building Owners & Managers Association – Benchmarking with ENERGY STAR®
- AEE – Certified Energy Manager series – semester-long class with 50 participants

Problems Encountered and Proposed Solutions

The following measures were found to have a benefit to cost ratio less than one during this reporting period.

- EMS – Lighting Controls
- LED – Refrigeration Strip Lighting w/o Motion Sensors
- LED – Refrigeration Strip Lighting w Motion Sensors
- T8/T5 and Electronic Ballast 2-foot T8/T5
- Night Covers

APS will monitor these measures in 2015 and reevaluate them in future Implementation Plans. If these measures are found to not pass, these measures will be suspended.

Program Modifications/Terminations

Commission Decision No. 73089 requires APS to report Energy Management System ("EMS") and LED measures, annual savings, capacity savings and measure life individually. See Table 36 below:

Table 36 - Large Existing Facilities Program Measures

Measure	Quantity	kWh Savings	kW Savings	Measure Life
EMS - DDC Replacing Pneumatic or Manual Tstat	1,875,848 sq. ft.	6,122,607	651	13
EMS - DDC Replacing Programmable Tstat or Digital System	2,832,510 sq. ft.	8,365,705	748	13
EMS - Integrated Lighting Control	991,454 sq. ft.	1,140,172	0	10
LED - Non-reflector	43,011	8,445,199	2,290	7
LED – Reflector	36,354	7,462,607	2,005	7
LED - MR16	5,971	916,763	247	7

Commission Decision No. 68488 requested that APS inform staff when incentives were paid out that exceeded 50% of the incremental cost of the measure. During 2014, APS did not raise the rebate amount for any measures causing it to exceed 50% of the incremental cost of the measure.

The prescriptive EMS measure specifications were modified during this reporting period. The specifications were modified to create two separate tiers which provided a higher incentive to control systems that pursue a greater degree of control strategies and increased accuracy of deemed savings.

Additionally, to address changes in federal appliance standards the T12 to standard T8 measure was removed from the prescriptive program offering. Participants are still able to apply for T12 to premium T8 and standard T8 to premium T8 measures. The specifications

for the measures were also modified to reference the Consortium of Energy Efficiency (CEE) high-performance T8 specifications.

The variable speed motor incentive level was modified in 2014. As of July 1st, 2014, MER results prompted the tracking of variable speed drives by application type in order to accommodate the realized savings per application. The incentive level before this change was a flat $50 per horse power (HP) for all variable speed applications. The incentives were changed to reflect the type of application. The average incentive will continue to be approximately $50 per HP. The changes were communicated to contractors through the use of email and also via announcement at Trade Ally events. The incentive levels were altered to the following:

Table 37 - Large Existing Facilities Program Measure Incentives

Measure	Incentive Per Unit
Chilled Water Pump	$70.00
Condenser Water Pump	$40.00
Domestic Water Pump	$50.00
HVAC Fan	$70.00
Cooling Tower Fan	$35.00
Chiller Compressor	$30.00
Process Motor	$35.00
Air Compressor	$70.00
Refrigeration Compressor	$50.00
Refrigeration Fan	$70.00
Other/Misc	$50.00
Pool Pump	$70.00

Self-Direction

On January 23, 2009, the Commission issued Decision No. 71444 approving Self-Direction. In this Reporting Period, one (1) customer participated in Self-Direction. The project included the installation of variable speed drives and LED lighting at a new tailings thickener mine processing facility.

- Total Project Cost: $1,971,764.98
- Incremental Cost: $1, 971,764.98
- Annual Energy Savings: 16,530,990 kWh
- Lifetime Carbon Savings (generation-side): 7,431 tons CO2
- Lifetime Water Savings: 5.24 million gallons

Direct Install

The Direct Install measures were launched in April 2009. While these measures are targeted to small businesses, program rules allow small facilities (under 400 kW demand) of large customers to participate. K-12 school buildings of any size can also participate in Direct Install measures. In this Reporting Period, 218 Direct Install projects for Large Existing Facilities were paid a total of $1,001,723 in incentives. Pursuant to Commission Decision

No. 73089, APS has provided a breakdown of required Direct Install program information within the Small Business section.

Trade Allies

Trade allies are contractors and other industry professionals who deliver EE solutions to customers. The program incorporates a Trade Ally program to ensure an informed and engaged network of service providers work with APS's customers. To be listed as a Solutions for Business Trade Ally, a company must submit an application and attend program training that includes prescriptive application instruction. To remain on the list, the company must participate in the rebate program and attend an annual training.

Outreach is conducted through strategic partnerships with professional associations within the energy and contracting industry as well as trade show and event participation. Throughout the year, more than 20 events or training classes were conducted with over 900 attendees.

In addition to the monthly Trade Ally training classes and multiple on-site contractor hosted events, the program produced the following Trade Ally focused events:

- March 28 – Veolia Lamp Recycling Tour (14 attendees)
- April 23 – TA Casual Networking (14 attendees)
- May 8 - Semi Annual Trade Ally Event (193 attendees)
- June 17 – Co-branding Training (24 attendees)
- June 26 – Trade Ally Make-up Event (28 attendees)
- August 14 – Pool Pump Training (20 attendees)
- October 7 – Semi Annual Trade Ally Event (122 attendees)

Also as a result of the program's focus on Trade Ally development and recruiting efforts, 30 new trade allies (companies) were approved during this Reporting Period for a total at the end of this Reporting Period of 199 trade allies (companies).

MER Adjusted Gross kW and kWh Savings

The following table reflects the MER adjusted total energy and demand saving achievements in this Reporting Period for the Large Existing Facilities program. Only savings from projects that were completed and incentives paid are counted in this Progress Report.

Table 38 - MER Adjusted Gross kW and kWh Savings - Large Existing Facilities

Program	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Large Existing Facilities	160,298	2,048,526	33.4
TOTAL	**160,298**	**2,048,526**	**33.4**

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

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

Costs Incurred During the Reporting Period

Cost information is provided in Tables 2(b) and 2(c).

11. New Construction and Major Renovations

Description

The Non-Residential New Construction and Major Renovations program includes four elements: 1) design assistance and feasibility studies, 2) custom measures, 3) prescriptive measures, and 4) whole building applications (construction & design incentives). Design incentives involve efforts to integrate EE into a customer's design process to influence equipment/systems selection and specification as early in the process as possible. Custom and prescriptive incentives are available for EE improvements in lighting, HVAC, motors and refrigeration applications. Whole building applications are intended to promote integrated design strategies.

Program Goals, Objectives and Savings Targets

- Promote integrated design and integrated analysis of alternative high-efficiency design packages through design assistance in new construction and major renovation applications.
- Assist the customer design team in examining alternative high-efficiency design packages through the provision of the design incentive.
- Promote market transformation through APS trade allies, customer outreach and technical training classes.

Table 39 - New Construction Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
4.9	31,300	476,400

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

The majority of new construction and major renovation projects under way are choosing the Whole Building application. Many of these new projects are highly energy efficient and will receive significant incentives. In this Reporting Period, APS paid a total of $2,226,776 in New Construction incentives. This represents 120 applications from 58 unique customers. Four (4) of the 120 applications were from a school district.

Incentive status is provided below.

Table 40 - New Construction Program Incentives Paid

Incentive Status for Paid Applications	Incentives Paid
Large New Construction – Prescriptive & Custom	$2,150,134
Large New Construction – Studies	$76,642
Total Large New Construction Funds	**$2,226,776**

Commission Decision No. 70637 required APS to continue tracking DSM customer applications resulting from studies for paid incentives, and report the semi-annual and cumulative results of its program-to-date tracking efforts. During this Reporting Period, 10 design assistance studies were paid a total of $76,642 and zero commissioning studies were paid. Nine (9) of these 10 applications have resulted in EE projects to date. Since program inception, 75 studies have been completed. Of those 75 studies, 54 resulted in applications for EE projects.

Commission Decision No. 73089 required APS to report the type of measures installed subsequent to the receipt of study or design assistance incentives. The following measures were installed for studies completed in 2014: whole building, custom, HVAC, lighting, motors and building envelope.

APS Solutions for Business launched the whole building incentive in January 2010. During this Reporting Period, the program received 13 Whole Building Pre-Notification applications and 21 Whole Building Final-Notification applications; 20 Whole Building projects were paid incentives.

Evaluation and Monitoring Activities and Research Results

- Updated energy savings impacts based on results of a field metering study of program participants receiving rebates for Variable Frequency Drives (VFDs) across multiple commercial applications and building types.
- Developed and implemented a tool for calculating savings from implementation of various control strategies for Energy Management Systems. Provides discrete options for tracking and customizing savings to specific projects rebated through the program.
- Launched a field metering study of lighting projects rebated through the Direct Install program to determine operation hours and coincidence factors by building type. This analysis will be completed in early 2015 and used to update energy and demand impacts for lighting measures.
- Completed and reported on in-depth interviews with Solutions for Business trade allies to assess program satisfaction, barriers to participation, potential program improvements, and to compare and understand differences with SRP's Business Program. Lighting contractors were interviewed to refine the baseline estimates for premium T8 linear fluorescent rebates.
- Developed guides for participant and non-participant telephone surveys to be conducted in early 2015.
- Conducted ongoing review and analysis of implementation contractor participation databases.
- Continued to review and update non-residential Measure Analysis Spreadsheets and Analytic Database

Consumer Education and Outreach

Strategic partnerships continue to play an important role in New Construction outreach. During this Reporting Period, APS continued to sponsor the Energy Award at the annual awards of the AIA. This partnership will help the program attract allies in the architectural sector and promote the Whole Building incentive. Architects can access low cost Continuing Education Units through the APS Technical Training program. Staff represents the program at AIA and USGBC membership meetings.

In addition to many of the marketing and outreach activities described for the Large Existing program, outreach activities for the New Construction program focus on educating potential

program participants from the following customer segments: owner-occupied buildings, government buildings (schools, county, city, state) and signature projects.

Additional New Construction program events:
February 13 – Living Building Challenge (15 attendees)
February 27 – Archsol Open House (50 attendees)

Problems Encountered and Proposed Solutions

The following measures were found to have a benefit to cost ratio less than one during this reporting period.

- Single Phase AC & HP Units
- Night Covers

APS will monitor these measures in 2015 and reevaluate them in future Implementation Plans. If these measures are found to not pass, these measures will be suspended.

Program Modifications/Terminations

The New Construction Whole Building Program was modified to reflect changes approved in Commission Decision No. 74406. The changes included changing the incentive rates for both the design team and building owner as well as modifying the baseline to follow the United States Green Building Council's Leadership in Energy and Environmental Design (LEED) certification.

As of July 1, 2014, two Lighting Power Density watts reduced application types for Penitentiary and Multi-Family were added to the measure offerings in order to stay in line with measure evaluation results.

MER Adjusted Gross kW and kWh Savings

The following table reflects the MER adjusted total energy and demand saving achievements in this Reporting Period for the Large New Construction Program. Only savings from projects that were completed and incentives paid are counted in this Progress Report.

Table 41 - MER Adjusted Gross kW and kWh Savings
Non-Residential New Construction and Major Renovation

Program	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
New Construction and Major Renovation	26,546	383,542	6.3
TOTAL	**26,546**	**383,542**	**6.3**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

12. Small Business Program

Description

The Non-Residential Small Business Program provides prescriptive incentives for small Non-Residential customers (≤100 kW of aggregated peak monthly demand) for EE improvements in lighting, HVAC, motors and refrigeration applications through a simple and straightforward mechanism for program participation. Small Business customers are also eligible for custom incentives to implement EE measures. The program provides incentives for conducting an energy study that identifies energy saving opportunities. Direct Install measures were introduced to the Small Business market in April 2009.

Program Goals, Objectives and Savings Targets

- Promote and support EE opportunities for small Non-Residential customers.
- Promote the installation of high-efficiency lighting, packaged HVAC equipment, motors and refrigeration systems.
- Provide customers with direct energy saving opportunity identification and implementation services through the Direct Install family of measures.
- Promote cross-training and EE assessment and referral opportunities among lighting and refrigeration contractors.
- Promote market transformation through APS trade allies, customer outreach.

Table 42 - Small Business Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
4.6	25,400	366,200

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

While the program offers a pre-notification process, final applications are only processed after the project is completed and all required documentation is submitted and approved.

Table 43 - Small Business Program Incentives Paid

Incentive Status for Paid Applications	Incentives Paid
Small Business – Prescriptive	$1,516,832
Small Business – Studies	$4,000
Small Business – Retro commissioning Studies	$0
Total Small Business Funds	**$1,520,832**

Of the 740 small business projects paid, 268 were conducted through the Classic prescriptive/custom program and 472 were conducted through Direct Install. None of the 740 applications were from school districts.

APS paid incentives on 740 applications from 616 unique customers during this Reporting Period.

Commission Decision No. 70637, required APS to continue tracking DSM customer applications resulting from studies for paid incentives, and report the semi-annual and cumulative results of its program-to-date tracking efforts. There was one study incentive paid in the Small Business program during this Reporting Period and this study did result in a DSM application. Eight studies have been completed since program inception, of which six study applications have resulted in EE projects.

In Commission Decision No. 73089, required APS to report the type of measures installed by customers after a study was completed. Custom was the only type of measure that was installed as a result of studies.

Evaluation and Monitoring Activities and Results

- Updated energy savings impacts based on results of a field metering study of program participants receiving rebates for Variable Frequency Drives (VFDs) across multiple commercial applications and building types.
- Developed and implemented a tool for calculating savings from implementation of various control strategies for Energy Management Systems. Provides discrete options for tracking and customizing savings to specific projects rebated through the program.
- Launched a field metering study of lighting projects rebated through the Direct Install program to determine operation hours and coincidence factors by building type. Analysis will be completed in early 2015 and used to update energy and demand impacts for lighting measures.
- Completed and reported on in-depth interviews with Solutions for Business trade allies to assess program satisfactions, barriers to participation, potential program improvements, and to compare and understand differences with SRP's Business Program. Lighting contractors were interviewed to refine baseline estimates for premium T8 linear fluorescent rebates.
- Conducted ongoing review and analysis of implementation contractor participation databases.
- Continued to review and update non-residential Measure Analysis Spreadsheets and Analytic Database

Direct Install

Pursuant to Commission Decision No. 73089, APS is providing a breakdown of required direct install program information below. Direct Install incentives were paid on 472 projects for Small Business customers during this Reporting Period. While small businesses are the primary target for the Direct Install offering, large customers with facilities of 400 kW or less premise demand qualify for Direct Install measure incentives, and schools of any size can participate. In addition to the 472 projects paid to small businesses, 234 Direct Install projects for Large Businesses and Schools were paid.

Projects implemented through Direct Install during this Reporting Period saved 17,054 MWh annually and 230,409 MWh over the lifetime of the measures.

1. Active Number of Contractors and Contractor Identification: Direct Install contractor participation from approved contractors has remained consistent. During

this Reporting Period, 23 approved contractors participated in Direct Install. Contractors participating during the current Reporting Period include the following:

- Accel Electric AZ LLC
- ATS Electric Inc
- Burden Electric LLC
- D & H Electric, Inc.
- Demand Drop
- Double B Electrical Contractor Inc.
- Eco Power LLC
- Goodman Contracting Inc.
- Inline Electrical Resources
- J & S Electric LLC
- Ker Electric Inc
- LightDay Solar Inc.
- Lone Mountain Electric LLC
- Proformance Electric Inc
- Red Mountain Lighting & Energy Service
- Redline Electric LLC
- Rob Love Electric Inc
- Stone Kat Development
- SuperMarket Energy Technologies
- Tepcon Construction, Inc.
- The Signery
- US Energy Services Inc
- Wilson Electric Services Corp

Three contractor training meetings were held and attended by 14 parties interested in participating in Direct Install. These training meetings provided an in-depth review of the Direct Install measure software and included a "hands-on" approach that allowed participants to input sample projects into the Direct Install software. Two new companies were approved for Direct Install measure participation during the 2014 program year.

2. Number of Direct Install Jobs Completed: A total of 706 Direct Install projects were paid incentives during this Reporting Period.

***3. Dollar Value of the Direct Install Incentives Paid to Contractors*:** During this Reporting Period, $2,305,933 in Direct Install incentives was paid to contractors. This represents 63% of the total project costs.

***4. Dollar Value of the Direct Install Jobs Paid by the Customer*:** The total cost of the Direct Install projects during this Reporting Period was $3,637,195. Customers paid $1,331,262 toward these Direct Install projects during this Reporting Period.

5. Quantity of Each Direct Install measure for which incentives were paid:

Table 44 - Small Business Program Direct Install Measures

Direct Install Measure	Quantity
Delamping	14,465
T8 Lighting	23,242
Screw-in CFL	635
Occupancy Sensors	1,363
Exit Signs	384
Refrigerated Case Fan Motors	1,721
Anti-Sweat Heater Controls	1,522
Refrigerated Novelty Case Controls	376
Refrigerated Case Evaporator Fan Controls	950
Hard-Wired CFL	3,940
Occupancy Sensors - Vending Machines	17

***6. Number of Instances Where Incentives Were Reduced Because of Eligibility for Incentives Paid by Other Entitles*:** No known occurrences during this Reporting Period.

***7. Spending and Savings Numbers Attributable to Direct Install for the Period and Year-to-Date and Program-to-Date*:**

Table 45 - Small Business Program Direct Install Savings Year-to-Date

kW Savings	Annual kWh Savings	Lifetime kWh Savings
4,420	17,053,890	230,409,100

Table 46 - Small Business Program Direct Install Savings MER Adjusted Program-to-Date

kW Savings	Annual kWh Savings	Lifetime kWh Savings
29,614	138,701,193	1,983,561,786

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

8. Descriptions of the Types of Businesses Participating in Direct Install: The "Retail" sector participated in the Direct Install measure at the highest rate of frequency within identified business segments and accounted for 21% of Direct Install projects paid during this Reporting Period.

Table 47 - Small Business Program Direct Install Participation

Participation included the following business types:	
College/University	9
Grocery	96
Hotel/Motel	2
K-12 School	21
Medical	10
Miscellaneous	208
Office	90
Process Industrial	11
Restaurant	69
Retail	151
Warehouse	39

9. Estimate of Avoided Marketing or Other Program or Administration Costs: The costs to implement and market the Small Business program prior to implementing the Direct Install measures were higher on a $/kWh basis as compared to the classic program. This is because low participation resulted in low kWh savings over which to spread implementation costs. From the program inception through 2008 because Direct Install was not available, implementation and marketing costs for Small Business was $1.41M (excluding incentives). Program net annual savings

achieved were 5,544,000 kWh. This resulted in non-incentive program costs of $.25/kWh saved for the Small Business program.

In this Reporting Period, estimated Direct Install implementation and marketing costs decreased to $0.045/kWh saved, due to increased kWh savings and lower costs of the Direct Install process. The total Small Business program cost savings is estimated to be $3,496,047 over the 2008 program cost rate. [Reduced program costs = ($0.25 - $0.045) x 17,053,890 net annual savings.]

Consumer Education and Outreach

In 2014, specific marketing activities targeted small- and medium-size customers to promote program awareness and participation. Express Solutions marketing efforts for 2014 included:

- Developing and producing a series of case studies highlighting small business customers and their energy-saving projects.
- Developing and producing a series of Express Solutions bill inserts to promote the program and inform customers of the program participation process.
- Writing quarterly newsletter articles for the FYI newsletter, as well for newspapers and trade publications, to highlight small business customers and their projects.

Problems Encountered and Proposed Solutions

The following measures were found to have a benefit to cost ratio less than one during this reporting period.

- Direct Install - Occupancy Sensors
- AC & HP Units >= 65,000 Btu/h <135,000 Btu/h
- LED – Refrigeration Strip Lighting w/o Motion Sensors
- T8/T5 and Electronic Ballast 2-foot T8/T5

APS will monitor these measures in 2015 and reevaluate them in future Implementation Plans. If these measures are found to not pass, these measures will be suspended.

Program Modifications/Terminated

Commission Decision No. 73089 requires APS report the number of EMS and LED measures installed, the annual energy and capacity savings, and measure life on an individual basis. Please see Table 48 below:

Table 48 - Small Business Program Direct Install Program Modifications

Measure	Quantity	kWh Savings	kW Savings	Measure Life
EMS - DDC Replacing Pneumatic or Manual T-stat	0	0	0	0
EMS - DDC Replacing Programmable T-stat or digital system	0	0	0	0
EMS - Integrated Lighting Control	0	0	0	0
LED - non-reflector	4,862	953,747	258.87	7
LED – reflector	4,058	838,063	223.83	7
LED - MR16	1,740	266,858	71.92	7

To address changes in federal appliance standards the T12 to standard T8 measure was removed from the Direct Install. The specifications for the Premium T8 measure were also updated to be consistent with the changes to the Large Business program.

Additionally, all lighting and sensor measures within direct install were subject to a reduction of 17% in all reported savings to account for MER findings surrounding the realization rate of operating hours.

MER Adjusted Gross kW and kWh Savings

The following table reflects the total energy and demand saving achievements in this Reporting Period for Small Businesses. Only savings from projects that were completed and incentives paid are counted in this Progress Report.

Table 49 - MER Adjusted Gross kW and kWh Savings
Non-Residential Small Business Program

Program	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Small Business	14,289	183,827	4.0
TOTAL	**14,289**	**183,827**	**4.0**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

13. Schools Program

Description

The Schools program includes a dedicated budget for schools and provides assistance for reducing the energy used in school buildings, including public, private and charter schools ("K-12"). The incentives available for schools include the same DSM measures that are available for all Non-Residential customers, as well as Direct Install measures for K-12 schools of any size.

Program Goals, Objectives and Savings Targets

- Maximize the energy savings that can be attained with available DSM funds by providing schools incentives to upgrade lighting, HVAC, refrigeration, and any other energy consuming systems.
- Provide educational and training materials to facility managers and trade allies in order to aid schools in other energy conservation projects.
- Promote market transformation through APS trade allies, customer outreach and technical training classes.
- Provide incentives for other cost effective DSM projects by allowing schools to participate in any Non-Residential DSM Program including Direct Install.

Table 50 - Schools Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
3.0	17,300	222,800

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

In this Reporting Period, APS paid incentives for 144 applications from schools, representing 35 unique school districts and charter schools. Schools have had a very high level of participation in the program.

The self-reported size of the school entity (based on the number of students) for approved applications paid in this Reporting Period are:

Table 51 - Schools Program Applications

Division	Programs	# of Applications	# of Students
Metro	Custom Measures - Retrofit, Prescriptive Measures - New Construction, Prescriptive Measures - Retrofit	14	37,052
Metro	Custom Measures - Retrofit, Prescriptive Measures - Retrofit	15	33,978
Metro	Custom Measures - Retrofit, Express Solutions, Prescriptive Measures - Retrofit	16	32,927

Table 51 - Schools Program Applications (cont.)

Division	Programs	# of Applications	# of Students
Metro	Express Solutions, Prescriptive Measures - New Construction, Prescriptive Measures - Retrofit	4	26,392
Metro	Custom Measures - Retrofit, New Construction - Whole Building Construction, New Construction - Whole Building Design, Prescriptive Measures - New Construction, Prescriptive Measures - Retrofit, Technical Assistance & Studies	21	23,249
Metro	Prescriptive Measures - Retrofit	1	14,062
Metro	Custom Measures - Retrofit, Prescriptive Measures - Retrofit	5	13,934
Metro	Custom Measures - Retrofit, Express Solutions, Prescriptive Measures - Retrofit	23	11,013
Non Metro	Custom Measures - Retrofit, Prescriptive Measures - Retrofit	2	9,756
Metro	Custom Measures - Retrofit	1	7,234
Non Metro	Express Solutions, Prescriptive Measures - Retrofit	3	7,067
Metro	Prescriptive Measures - Retrofit	1	5,702
Metro	Custom Measures - Retrofit	1	4,822
Non Metro	Prescriptive Measures - Retrofit	1	3,732
Metro	Custom Measures - Retrofit	1	2,717
Non Metro	Custom Measures - Retrofit, Prescriptive Measures - Retrofit	6	1,862
Non Metro	Custom Measures - Retrofit, Prescriptive Measures - Retrofit	2	1,398
Metro	Prescriptive Measures - New Construction, Prescriptive Measures - Retrofit, Technical Assistance & Studies	3	1,270
Non Metro	Custom Measures - Retrofit, Prescriptive Measures - Retrofit	4	1,220
Non Metro	Prescriptive Measures - Retrofit	3	1,160
Metro	Custom Measures - Retrofit	1	1,106
Non Metro	Prescriptive Measures - New Construction	1	695
Non Metro	Prescriptive Measures - Retrofit	1	629
Metro	Prescriptive Measures - Retrofit	1	502
Metro	Technical Assistance & Studies	1	487
Metro	Custom Measures - Retrofit	1	409
Non Metro	Express Solutions	1	350

Table 51 - Schools Program Applications (cont.)

Division	Programs	# of Applications	# of Students
Non Metro	Custom Measures - Retrofit	1	190
Metro	Prescriptive Measures - Retrofit	1	161
Non Metro	Custom Measures - Retrofit	2	147
Non Metro	Prescriptive Measures - Retrofit	1	144
Non Metro	Prescriptive Measures - Retrofit	1	114
Non Metro	Express Solutions, Custom Measures - Retrofit	2	79
Non Metro	Express Solutions	1	23

When an incentive application is received from a school district and deemed eligible, funding is first allocated from the Schools budget up to a maximum of $100,000. Any additional funding required to cover the application is then allocated from the appropriate Large Existing, New Construction or Small Business program budget.

APS paid $2,048,283 in incentives to schools during the Reporting Period, of which $1,182,784 was paid from the Schools program budget. The remaining $865,499 was paid to schools from the Large Existing program and New Construction program budgets (see Tables 52 and 53 below).

Table 52 - Schools Program Incentives Paid from Program Budget

Incentive Status by Fund for Paid Applications	Incentives Paid
Schools Budget – Prescriptive, Custom, and Direct Install	$1,170,484
Schools Budget – Feasibility, Design Assistance	$12,300
Schools Budget – Retro commissioning Studies	$0
Total School Funds	**$1,182,784**

Table 53 – Total Schools Program Incentives Paid

Schools Funding Summary:	Incentives Paid
Schools – School Funds	$1,182,784
Schools – Large Existing Funds	$799,624
Schools – New Construction Funds	$65,875
Schools – Small Business Funds	$0
Total Paid to Schools	**$2,048,283**

In Commission Decision No. 70637, the Commission ordered APS to continue tracking DSM applications resulting from studies for which incentives have been paid, and report the semi-annual and cumulative results of its program-to-date tracking efforts. Three study incentives were paid from school funds during this Reporting Period; two feasibility studies were paid for a total of $6,300, and one design assistance study was paid for a total of $6,000. Two of these three applications have resulted in energy efficiently projects to date.

Since program inception, 45 studies have been completed at schools; of those 45 studies, 39 have resulted in EE projects at schools.

In Commission Decision No. 73089, the ACC requested that APS report the type of measures installed after a study was completed. The following measures were installed for studies completed in 2014: whole building and motors.

Schools Direct Install

Direct Install incentives were paid on 17 school projects during this Reporting Period. Of the 17 projects, 16 were paid from the Schools fund. Direct Install activities for this period are described in the Small Business Program report.

Pursuant to Commission Decision No. 73089, APS is providing a breakdown of required direct install program information within the Small Business section.

Evaluation and Monitoring Activities and Research Results

- Updated energy savings impacts based on results of a field metering study of program participants receiving rebates for Variable Frequency Drives across multiple commercial applications and building types.
- Developed and implemented a tool for calculating savings from implementation of various control strategies for Energy Management Systems. Provides discrete options for tracking and customizing savings to specific projects rebated through the program.
- Launched a field metering study of lighting projects rebated through the Direct Install program to determine operation hours and coincidence factors by building type. This analysis will be completed in early 2015 and used to update energy and demand impacts for lighting measures.
- Completed and reported on in-depth interviews with Solutions for Business trade allies to assess program satisfactions, barriers to participation, potential program improvements, and to compare and understand differences with SRP's Business Program. Lighting contractors interviewed to refine baseline estimates for premium T8 linear fluorescent rebates.
- Conducted ongoing review and analysis of implementation contractor participation databases.
- Continued to review and update non-residential Measure Analysis Spreadsheets and Analytic Database

Consumer Education and Outreach

In addition to many of the marketing outreach activities described for the large existing program, marketing activities associated with the Schools program centered on four areas of focus:

Customer awareness and project generation

During this Reporting Period, 93 contacts were made including phone calls, e-mails and meetings with districts to identify potential new projects. Staff supported a booth at the Arizona Association of School Board Officials ("AASBO") summer conference in Tucson, making contacts with school officials as well as contractors.

Coordination with the Schools Facility Board ("SFB")
Staff attends all SFB meetings to stay abreast of school EE projects, both funding and progress. Emergency repairs approved by SFB include equipment covered by program specifications such as cooling systems. As these are approved, Solutions for Business follows up with the districts.

Coordination with the APS Schools Key Account Manager
Program staff has coordinated with the APS Key Account Managers ("KAM") who have schools assigned to them, to maximize the customer's time and value during planned meetings. The partnership with the APS's Schools KAMs has facilitated troubleshooting of other related customer issues as well as the cross-selling of other DSM programs.

Attended conference and meetings of the AASBO
Program staff has attended AASBO bi-monthly meetings where school business and finance professionals meet. Latest news on legislative and financial issues pertaining to schools is disseminated at these meetings and contacts have been made with school business officials.

Problems Encountered and Proposed Solutions
The following measures were found to have a benefit to cost ratio less than one during this reporting period.

- EMS - Replacing Pneumatic Controls or no existing EMS Controls
- Direct Install - T8 to T8 premium

APS will monitor these measures in 2015 and reevaluate them in future Implementation Plans. If these measures are found to not pass, these measures will be suspended.

Program Modifications/Terminations
During this Reporting Period, EMS and LED measures were installed. Commission Decision No. 73089 requires APS report the number of these measures installed, the annual energy and capacity savings, and measure life on an individual basis. Please see Table 54 below:

Table 54 –Schools Program Measures Savings

Measure	Quantity	kWh Savings	kW Savings	Measure Life
EMS - DDC Replacing Pneumatic or Manual T-stat	271,796 sqft	1,093,112	2.6	13
EMS - DDC Replacing Programmable T-stat or digital system	1,066,235 sqft	3,580,975	227.8	13
EMS - Integrated Lighting Control	90,800 sqft	120,764	-	10
LED - non-reflector	53	10,774	2.8	7
LED – reflector	285	57,999	183,328	7
LED - MR16	0	0	-	7

See the Large Existing, New Construction and Direct Install program sections for changes to the Schools Program.

MER Adjusted Gross kW and kWh Savings
The following table reflects the total energy and demand saving achievements for schools projects completed and paid during this Reporting Period.

Table 55 - MER Adjusted Gross kW and kWh Savings - Non-Residential Schools Program

Program	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Schools - School Program Funds	12,432	167,904	2.8
Schools - Large Existing Program Funds	8,819	124,022	3.8
Schools - New Construction Program Funds	908	11,001	0.3
Schools - Small Business Program Funds	0	0	0.0
TOTAL	**22,159**	**302,926**	**6.9**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c). During this reporting period, $100,000 of administrative costs was misallocated to the Schools budget instead of the Large Existing Non-Res budget. This error has been corrected after the fact by re-allocating $100,000 to the Large Existing Non-Res budget. Tables 2b and 2c reflect these corrected amounts.

14. Energy Information Services ("EIS") Program

Description

The EIS Program started in November 2006 with an objective to help customers (>100 kW) save energy through better understanding and control of their facilities' electrical usage. EIS is a tool that provides data regarding usage (kWh) and demand (kW). This detailed information allows customers the ability to fine-tune equipment use, operations and produce summaries to document the impact of usage and demand modifications. Participating customers monitor their electric usage through a web-based dashboard that allows them to view historical 15-minute interval usage and demand graphics from the previous day. This information can be used to improve and monitor energy usage patterns, reduce energy use, reduce demands during on-peak periods and better manage overall facility energy operations.

APS is encouraging customers to take advantage of the EIS program by providing a one-time incentive of up to a maximum of $12,000 per year or 75% of the cost of installing metering and communications equipment necessary to participate in the program.

Program Goals, Objectives and Savings Targets

- Provide monthly energy usage information to participating Non-Residential customers.
- Participants identify strategies to lower energy cost by reducing energy usage and demand.
- Educate EIS program participants about utility rate concepts and how managing or reducing their energy consumption through EE measures and operational practices can reduce their energy expenses.
- Educate participants on how to download billing history information and create spreadsheets to chart and graph their energy use, as well as to identify consumption trends and savings opportunities.
- Educate EIS participants about creating reports for management that justify energy-efficient capital expenses intended to produce operations and maintenance savings.
- Facilitate analysis of what-if scenarios to help facility manager to assess the benefits of capital improvements or operating adjustments to promote energy efficient changes.

Table 56 - Energy Information Services Program Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
5.7	100	400

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

Nine new customers were added to the EIS program in 2014 resulting in the addition of 51 meters. A total of 64 customers comprised of 269 meters are currently enrolled in the EIS program.

Evaluation and Monitoring Activities and Research Results

- Interviewed program manager and implementation contractor to determine research topics for 2015 including: observation of user group meetings, on-site verification of energy efficient equipment/settings, telephone surveys with participants, benchmarking against similar analytical tools.
- Continued to review and update program Measure Analysis Spreadsheets and Analytic Database.
- Conducted ongoing tracking and review of program participation data.

Consumer Education and Outreach

As reported in the Large Existing Program section of this progress report, APS sponsored a municipalities training class in which a brief training course on EIS was presented on April 24. Thirty-six customers and trade allies attended this class.

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Program Modifications/Terminations

No programs or measures were modified or terminated during this Reporting Period.

MER Adjusted Gross kW and kWh Savings

Table 57 - MER Adjusted Gross kW and kWh Savings
Non-Residential Energy Information Services Program

Program	# Meters	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Energy Information Services	51	29	143	2.0
TOTAL	**Total**	**29**	**143**	**2.0**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

Costs Incurred

Cost information is provided in Tables 2(b) and 2(c).

VI. Demand Response Programs

15. Home Energy Information Pilot

Description

On March 3, 2011, the Commission approved the Company's Home Energy Information ("HEI") Pilot.[1] APS's HEI Pilot was designed to test available home area network technologies and determine communication devices, DR strategies, and the mix of "smart" home applications that can be most effectively employed in a residential setting. In addition, the HEI Pilot assessed customer acceptance, value, and frequency of usage of in-home energy displays or other communication devices or channels designed to assist customers in managing their daily energy usage.

APS deployed the following programs as part of the HEI Pilot:

- A - Critical Peak Pricing with Customer Control Device
- B- In Home Energy Information Display: Discontinued in 2013
- C - Direct Load Control
- D - "Smart" Communication Devices
- E - Pre-Pay Energy Service

On February 13, 2015, APS filed end-of-pilot reports for the HEI Pilot programs in Docket No. E-01345A-10-0075. The reports include full descriptions, background, goals, objectives, participation levels, measurement and evaluation activities, results and plans for the future for the pilot programs.

[1] Decision No. 72214 (March 3, 2011).

16. Peak Time Rebate – Residential

Description
Peak Time Rebates ("PTR"), is a DR program for APS's Residential customers. PTR is a Pilot program which became effective on January 1, 2010.

The program provides a price signal to incent customers to reduce their usage during events initiated by APS. PTR events will take place during June through September, weekdays between 2 p.m. and 7 p.m. (Monday through Friday), excluding holidays. Customers will be notified of an event by telephone or e-mail by 4:00 p.m. of the day prior to the PTR Event. Events are limited to 80 hours during the season. APS is required to initiate a minimum of six events and a maximum of 18 events.

Customers will receive a 25 cent per kWh discount off of their electricity bill for all of the electricity usage reduced from their baseline usage during an event.

Program Goals, Objectives and Savings Targets
The program is estimated to provide a 2014 average load reduction amount of 0.31 MW. The 0.31 MW load reduction will provide 1,356 MWh of annual savings. Load reduction and savings targets are summarized in Table 10 – Demand Response Program/Initiatives Load Reduction and Energy Savings 2014.

Levels of Customer Participation
Approximately 850 Residential customers are enrolled in the program.

Evaluation and Monitoring Activities and Results
18 PTR events were called during this Reporting Period and resulted in an average of 0.36 kW per customer load reduction per event.

Problems Encountered and Proposed Solutions
No problems were encountered during this Reporting Period.

Program Modifications/Terminated
No programs or measures were modified or terminated during this Reporting Period.

Consumer Education Outreach
A residential email campaign was held from April-May with the intent of getting customers to sign up for the service plan.

17. Time of Use ("TOU") Rates Including Super Peak Pricing ("SPP")

Description
TOU rates are designed 1) to reflect the time variation in the cost of producing electricity, to more accurately match those costs with the service being provided to the customer thereby encouraging efficient use of energy, and 2) to encourage customers to reduce consumption during peak hours or to shift energy usage to off-peak periods.

APS currently offers five Residential TOU rates:

a. Two "Series 1" rates that have on-peak hours from 9:00 a.m. to 9:00 p.m. and have been offered since 1982. The Series 1 rates were closed to new customers on January 1, 2010,
b. Two "Series 2" rates that have on-peak hours from 12:00 pm Noon to 7:00 p.m. and have been offered since 2006. These rates offer customers 40% fewer on-peak hours; and
c. One Super-Peak Pricing TOU rate that went into effect on January 1, 2010. The Super Peak periods are pre-determined and set forth in the rate schedule. Participating customers will pay higher charges during the "Super-Peak" periods, but will pay lower charges during off-peak periods. The "Super-Peak" period is 3:00 p.m. to 6:00 p.m., Monday thru Friday during June, July, and August (excluding holidays).

Program Goals, Objectives and Savings Targets
The program is estimated to provide a 2014 load reduction amount of approximately 155 MW from the Series 1 and 2 rates and 2 MW from the Super Peak rate. The 157 MW total load reduction will provide 690,726 MWh of annual savings from January through December 2014. Load reduction and savings targets are summarized in Table 10 – Demand Response Program/Initiatives Load Reduction and Energy Savings 2014.

Levels of Customer Participation
Approximately 566,000 customers are enrolled in the TOU rates of which 1,300 are super peak customers. As of December 2014, 116 schools were enrolled in the TOU school rates.

Evaluation/Monitoring Activities and Research Results
No evaluation of TOU rates was performed during this Reporting Period.

Consumer Education and Outreach
The TOU marketing outreach is outlined below:

- Lifestyles Newsletter May and October
- Rate Brochures

Problems Encountered and Proposed Solutions
No problems were encountered during this Reporting Period.

Programs or Measures Modifications/Terminations
No programs or measures were modified or terminated during this Reporting Period.

18. APS Peak Solutions® Program

Description
APS Peak Solutions® is a commercial and industrial demand response ("DR") program for APS's Yuma and Phoenix metro customers utilizing direct load control and manual load reduction.

The program began on June 1, 2010 and is available for the summer months of June through September between 12:00 noon and 8:00 p.m. (Sunday - Saturday) daily. Customers are notified approximately two hours prior to the start of a Peak Solutions® event. Events are limited to minimum of one hour and maximum of four hours per day and 80 event-hours during the season. The program is required to have one test at the start of the season between June 1 and July 15 lasting for four hours.

Customers are paid an incentive check at the end of the season for their load reduction amount based on $/kW or $/ton of air conditioning.

Program Goals, Objectives and Savings Targets
In 2014, a 35 MW load reduction provided 153,300 MWh of annual savings realized from January through December 2014. Load reduction and savings targets are summarized in Table 10 – Demand Response Program/Initiatives Load Reduction and Energy Savings 2014.

Levels of Customer Participation
Approximately 840 customers are enrolled in the program.

Evaluation/Monitoring Activities and Research Results
During this Reporting Period one Peak Solutions® test was called in July 2014.

Consumer Education and Outreach
Customer program enrollment has been accomplished; outreach is primarily to customers enrolled in the program in preparation of an event.

Problems Encountered and Proposed Solutions
No problems were encountered during this Reporting Period.

Programs or Measures Modifications/Terminations
No programs or measures were modified or terminated during this Reporting Period.

19. Critical Peak Pricing – General Service and Residential

Description

Critical Peak Pricing ("CPP"), or its marketing name of Peak Event Pricing, is a DR program for both APS's business (or General Service) and Residential customers in the Yuma and Phoenix metro areas utilizing manual load reduction. CPP is a Pilot program which became effective on January 1, 2010.

The program provides a price signal to incent customers to reduce their usage during events initiated by APS. CPP events will take place during June through September, weekdays between 2 p.m. and 7 p.m. (Monday through Friday), excluding holidays. Customers will be notified of an event by telephone or e-mail by 4:00 p.m. of the day prior to the CPP event. Peak Events are limited to 80 hours during the season. APS is required to initiate a minimum of six events and a maximum of 18 events.

Customers receive a kWh discount incentive off of their existing rate for all of the electricity usage during the program months of June through September.

Program Goals, Objectives and Savings Targets

The program is estimated to provide a 2014 load reduction amount of 0.22 MW. The 0.22 MW load reduction will provide 977 MWh of annual savings. Load reduction and savings targets are summarized in Table 10 – Demand Response Program/Initiatives Load Reduction and Energy Savings 2014.

Levels of Customer Participation

Approximately 474 Residential and no business customers are enrolled in the program.

Evaluation/Monitoring Activities and Research Results

14 CPP events were called during this Reporting Period and resulted in an average of 0.47 kW load reduction/customer per event.

Consumer Education and Outreach

Customers in the program were emailed energy reduction tips during event periods and were given a satisfaction survey at the end of the season.

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Programs or Measures Modifications/Terminations

No programs or measures were modified or terminated during this Reporting Period.

VII. Financing Programs

Non-Residential Energy Efficiency Financing

On January 26, 2010, the Commission issued Commission Decision No. 71460, which approved the Non-Residential Customer Repayment Financing option. The option was approved for schools, municipalities and small businesses. Commission Decision No. 72088 expanded eligibility for the financing program to include all Non-Residential customers.

APS has partnered with National Bank of Arizona ("NBAZ") to offer this financing option. The Financing option was launched in May of 2010. More than half of the program trade allies have participated in financing training. The program developed educational materials for bankers, customers and trade allies to facilitate the process. Non-Residential loans made in 2014 are summarized below:

Table 58 – Non-Residential Financing Programs

Category	Number of Loans	Total Loan Value	Amount in Default
Large Existing	0	$0	0
Small	0	$0	0
Schools	0	$0	0
Total	**0**	**$0**	**0**

Residential Energy Efficiency Financing

On September 1, 2010, the Commission issued Decision No. 71866, which approved the Residential Energy Efficiency Financing ("REEF") Program. Through this program, APS customers who participate in the Home Performance with ENERGY STAR® program can gain access to financing for energy efficient home improvements.

Launched in February 2011, APS partnered with NBAZ to deliver the REEF program throughout the APS territory.

No customers defaulted in 2014 and APS will continue to monitor defaults closely. Residential loans are summarized below:

Table 59 – Residential Financing Programs

Category	Number of Loans	Total Loan Value
Loans issued Jan - Dec. 31, 2014	26	$163,566
Jobs in default	0	0
Jobs deemed unrecoverable	0	0

VIII. Codes and Standards Support

Description

The Energy Codes and Appliance Standards ("C&S") Initiative encourages energy savings by supporting better compliance with energy codes and appliance standards in jurisdictions throughout the APS service area by working with code officials, building professionals and other market actors to develop strategies for achieving better code compliance more cost effectively.

C&S can be one of most cost-effective ways of promoting EE. C&S activities may be utilized to deliver low cost energy savings while supporting Arizona building officials, the construction community, customers and stakeholders. APS supports C&S activities with a multifaceted approach that provides unbiased support, information, resources, and expertise to jurisdictions and trade allies within the APS service area.

- **Residential and Commercial Energy Codes** - Activities are intended to support building officials, the builder community, and interested stakeholders. Targeted activities include providing technical support, research, subject matter expertise, resources, and training. Training classes are customized to meet local jurisdictional needs and are based on the climate zone and code that is currently being adopted. The classes help to translate building code requirements into a process for builders to follow with subcontractors in the field to ensure that each trade knows their role in code compliance and how to properly install construction details to meet code.

- **Appliance Standards** – Activities target appliance standards with recently updated energy efficiency requirements and standards where rulemakings have yet to begin. APS quantifies savings created from recently updated standards where APS EE programs have helped create market demand and market readiness in Arizona.

Utility programs are inextricably linked to building codes and appliance standards. Utility EE programs act as a catalyst to ready the market for new technologies or standards that are not currently common practice in the market place. By providing incentives, trade ally training and educating consumers, utility programs help to increase adoption of new energy efficient technologies and practices. Over time these practices become the commonly accepted business practice and the market adopts higher C&S as a result. While this helps to further the goal of energy efficiency, it also has a direct impact on the available market potential from utility programs. This is due to the fact that utility program savings are calculated using current building codes and appliance standards as the "baseline" for comparison.

In general, energy savings for utility program measures are calculated by taking the efficiency differential from the baseline product (typically represented by current building codes and appliance standards) as compared to the high efficiency product being promoted by the utility program. For example the APS Pools program promotes energy efficient variable speed pool pumps. When the program started in 2010, the pump savings were compared to a single speed pump as the baseline efficiency level. Starting in 2012, Arizona enacted a new appliance standard that sets dual speed pumps as the minimum efficiency requirement. As a result, the new 'baseline' for calculating variable speed pump savings is now based on a higher efficiency dual speed pump, since it is now the minimum efficiency level that someone can legally purchase. It also means that APS now counts less EE program savings from variable speed pumps based on this higher baseline efficiency level, even though customers who are replacing single speed pumps with variable speed will still see the full savings in their bills. Because of this, increases to building codes and appliance

standards can make it more difficult to cost effectively meet utility program EE goals without some consideration being given for code and standards changes in the EE rules.

Program Goals, Objectives and Savings Targets

The goal of the APS Codes and Standards Initiative is to promote increased energy efficiency in the APS service territory through advancement of building codes and appliance standards, including increasing code awareness and better code compliance. Savings are quantified through independent MER evaluation. During this reporting period, energy savings are being reported resulting from codes and standards efficiency increases in motors, general service lighting, T-12 lighting, Residential New Construction, Commercial New Construction, and Title 44 requiring dual speed pumps with new and replacement pool pump installations.

Table 60 - Codes Initiative Goals and Objectives

Peak Demand Savings (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)
0.7	5,000	50,000

*Based on 2013 goals and objectives as filed in the 2013 DSM Implementation Plan Supplement Dec. 13, 2012; subsequently approved in March 2014 as the 2014 DSM Implementation Plan.

Levels of Customer Participation

Participation levels are identified in APS's Codes and Standards Report for 2014 issued by Navigant Consulting. This report will be submitted to the Commission in a subsequent filing.

Evaluation/Monitoring Activities and Research Results

Evaluation, monitoring, and research results are identified in APS's Codes and Standards MER Report for 2014, as issued by Navigant Consulting. This report will be submitted to the Commission in a subsequent filing. MER activities included:

- Quantified savings due to codes and standards for motors, residential and commercial new construction, pool pumps, general service lamps, and linear fluorescent lamps for 2014.
- Refined commercial new construction square footage estimate using a sampling approach with new meter set data and google maps to confirm building type and square footage.
- Updated savings calculations for new construction based on new building code adoptions across all APS jurisdictions.
- Continued to review and update program Measure Analysis Spreadsheets and Analytic Database for C&S measures.

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Program Modifications/Terminations
No programs or measures were modified or terminated during this Reporting Period.

Consumer Education & Outreach/Codes Support Activities
See other significant information section for more information on support activities related to specific energy efficiency codes and standards.

Other Significant Information
No other significant information to report at this time.

MER Adjusted Gross kW and kWh Savings

Table 61 - MER Adjusted Gross kW and kWh Savings

Building Codes and Appliance Standards Initiative

Measure	# Units	Annual Gross MWh Savings	Lifetime Gross MWh Savings	MW Peak Demand Savings
Motors	17,890	1,523	22,839	0.5
General Service Lighting	5,340,201	26,015	52,030	3.0
T-12 Fluorescent Lighting	738,197	3,920	58,803	1.0
Residential New Construction	7,068	2,325	50,777	1.4
Commercial New Construction	424	2,988	55,498	0.6
Dual Speed Pool Pumps	1,512	405	4,862	0.0
TOTAL	**6,105,292**	**37,177**	**244,809**	**6.6**

*Savings are adjusted for line losses (Energy 7.0%, Demand 11.7%) and a capacity reserve factor of 15%.

Benefits and Net Benefits/Performance Incentive Calculation
The MER adjusted net benefits and performance incentive are provided in Tables 6 and 8.

Costs Incurred
Costs incurred for this program during this Reporting Period are shown in Tables 2b and 2c.

Consumer Education and Outreach
CS promotional flyers were distributed to promote the Success with 2009 & 2012 IECC code classes.

IX. Measurement Evaluation and Research

Description
Navigant Consulting provides MER Services for APS's DSM programs. These Measurement and Evaluation activities include, but are not limited to:

- Performing process evaluation research to indicate how well programs are working to achieve their objectives;
- Performing impact evaluation research to verify that energy-efficient measures are installed as expected; measuring savings on installed projects to monitor the actual program savings that are achieved; and conducting research activities to refine savings and cost benefit models and identify additional opportunities for EE;
- Performing and tracking savings measurements to monitor the actual program savings that are achieved; and
- Researching additional opportunities for EE.

The approach for measurement and evaluation of the DSM programs is to integrate data collection and tracking activities directly into the program implementation process.

The MER Verification Report for 2014, prepared by Navigant Consulting, will be provided as a separate filing.

Program Modifications
A Technical Reference Manual detailing savings algorithms, performance variables, and incremental cost assumptions for all measures rebated through APS' DSM programs was developed and filed with the ACC on December 30, 2014, as required in Commission Decision No. 73183.

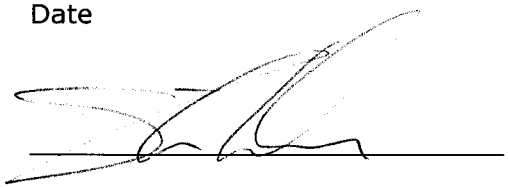
CERTIFICATION BY APS OF DSM ANNUAL PROGRESS REPORT FOR THE PERIOD:

JANUARY THROUGH DECEMBER 2014

Pursuant to Decision No. 67744 (April 7, 2005), I certify that to the best of my knowledge and based on the information made available to me, the DSM Annual Progress Report is complete and accurate in all material respects.

2-26-15

Date



Stacy Derstine
Vice President and Chief Customer Officer