

ORIGINAL OPEN MEETING



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MEMORANDUM

Arizona Corporation Commission

DOCKETED

DEC - 9 2011

TO: THE COMMISSION

FROM: Utilities Division

DATE: December 9, 2011

DOCKETED BY 

RE: **REVISED- ARIZONA PUBLIC SERVICE COMPANY – APPLICATION FOR APPROVAL OF THE COMPANY’S 2012 DEMAND SIDE MANAGEMENT IMPLEMENTATION PLAN (DOCKET NO. E-01345A-11-0232)**

On December 2, 2011, Staff was notified by Arizona Public Service Company (“APS” or the “Company”) of some errors in Staff’s memorandum and recommended order regarding the Company’s Application for Approval of the Company’s 2012 Demand Side Management (“DSM”) Implementation Plan that was filed in Docket Control on November 30, 2011.

Staff inadvertently excluded one measure, in-service compact fluorescent lamps (“CFL”), from its calculation of annual energy savings and miscalculated the savings from two other measures: 1) Residential Heating Ventilation Air Conditioning (“HVAC”) Duct Test and Repair and 2) HVAC Diagnostics in calculating total energy savings for APS’s 2012 Plan for purposes of calculating a performance incentive. Staff also included the wrong number of units for APS’s Air Sealing and Attic Insulation measure within the Home Performance with Energy Star component of the Existing Homes Program.

Correcting these errors results in changes to the cost effectiveness of the Existing Homes Program, discussed in Section II of Staff’s memorandum and proposed order; Staff’s proposed budget, discussed in Section V; the Demand Side Management Adjustment Charge, discussed in Section VI; and the energy savings and the performance incentive calculated for the proposed 2012 Plan, discussed in Section VII.

Attached to this addendum is a corrected version of Staff’s proposed order, with corrections identified in bold, italicized, and underlined font.

Steven M. Olea
Director
Utilities Division

SMO:LAF:tdp\MAS

ORIGINATOR: Laura A. Furrey

AZ CORP COMMISSION
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Appendix A

Table 2. Proposed 2012 DSM Portfolio Budget

Program	Rebates and Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Administration	Financing	Program Total Cost
Residential								
Consumer Products	\$4,126,250	\$2,000	\$2,000	\$2,150,000	\$850,000	\$475,000	\$0	\$7,605,250
Existing Homes								
• Residential HVAC	\$664,521	\$28,512	\$24,119	\$128,630	\$42,898	\$41,649	\$0	\$930,329
• Home Performance with Energy Star	\$2,521,000	\$103,000	\$75,000	\$1,070,000	\$560,000	\$289,000	\$255,000	\$4,873,000
New Construction	\$2,225,000	\$120,000	\$15,000	\$295,000	\$550,000	\$403,000	\$0	\$3,608,000
Appliance Recycling	\$300,000	\$0	\$21,000	\$888,500	\$359,000	\$165,000	\$0	\$1,733,500
Low Income	\$2,594,000	\$10,000	\$20,000	\$50,000	\$30,000	\$75,000	\$0	\$2,779,000
Conservation Behavior	\$0	\$6,000	\$10,000	\$952,000	\$0	\$85,000	\$0	\$1,053,000
Multi-Family	\$822,500	\$5,000	\$15,000	\$807,750	\$45,000	\$163,000	\$0	\$1,858,250
Shade Trees	\$50,000	\$40,000	\$12,500	\$237,500	\$65,000	\$42,000	\$0	\$447,000
Residential Subtotal	\$13,303,271	\$314,512	\$194,619	\$6,579,380	\$2,501,898	\$1,738,649	\$255,000	\$24,887,329
Non-Residential								
Large Existing	\$11,802,541	\$485,000	\$134,000	\$4,195,000	\$1,017,000	\$420,000	\$70,000	\$18,123,541
New Construction	\$2,064,670	\$122,000	\$33,000	\$902,000	\$203,000	\$173,000	\$0	\$3,497,670
Small Business	\$3,354,843	\$111,000	\$23,000	\$744,000	\$229,000	\$182,000	\$10,000	\$4,653,843
Schools	\$2,293,823	\$120,000	\$25,000	\$842,000	\$246,000	\$87,000	\$0	\$3,613,823
EIS	\$29,094	\$10,000	\$5,000	\$20,000	\$10,000	\$4,000	\$0	\$78,094
Non-Residential Subtotal	\$19,544,971	\$848,000	\$220,000	\$6,703,000	\$1,705,000	\$866,000	\$80,000	\$29,966,971
Demand Response								
APS Peak Solutions								\$8,665,000
DR Marketing and MER of Rate Options								\$200,000
HEI Pilot Program								\$899,000
Demand Response Subtotal								\$9,764,000

Other	
Building Codes	\$100,000
MER	\$2,500,000
Performance Incentive	\$6,538,453

2012 DSM Plan Total **\$73,756,753**

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BEFORE THE ARIZONA CORPORATION COMMISSION

GARY PIERCE
Chairman
BOB STUMP
Commissioner
SANDRA D. KENNEDY
Commissioner
PAUL NEWMAN
Commissioner
BRENDA BURNS
Commissioner

IN THE MATTER OF THE APPLICATION)
OF ARIZONA PUBLIC SERVICE)
COMPANY FOR APPROVAL OF THE)
COMPANY'S 2012 DEMAND SIDE)
MANAGEMENT IMPLEMENTATION)
PLAN.)

DOCKET NO. E-01345A-11-0232
DECISION NO. _____
ORDER

Open Meeting
January 10 and 11, 2012
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Arizona Public Service Company ("APS" or "the Company") is certificated to provide electric service as a public service corporation in the State of Arizona.
2. APS provides service in the counties of Apache, Cochise, Coconino, Gila, La Paz, Maricopa, Navajo, Pima, Pinal, Yavapai and Yuma. The Company services over 1.1 million customers in Arizona, including approximately 984,000 Residential and 120,000 Non-Residential customers.
3. On June 1, 2011, APS filed its Application for Approval of the Company's 2012 Demand Side Management ("DSM") Implementation Plan. On June 24, 2011, APS filed a Revised 2012 Plan ("2012 Plan"), replacing the Company's prior filing in its entirety. According to APS, the Revised 2012 Plan corrected a discrepancy in lifetime megawatt-hour savings calculations and other related information. On October 20, 2011, APS filed a revised Attachment

1 3 to the 2012 Plan, reducing the DSM Adjustment Charge (“DSMAC”) to reflect Commission
 2 Decision No. 72582 which did not approve the Company’s ev-READY project as a DSM program.

3 **I. Executive Summary (2012 Plan Overview)**

4 4. In its 2012 Plan, APS proposes to continue implementation of existing energy
 5 efficiency and demand response programs that have been previously approved by the Arizona
 6 Corporation Commission (“Commission”). APS’s current portfolio includes a mix of programs
 7 targeted to multiple customer segments as detailed below.

8 Residential Programs

- | | | |
|----|------------------------|---------------------------------|
| 9 | • Consumer Products | • Low Income* |
| 10 | • Existing Homes | • Conservation Behavior* |
| 11 | • New Construction | • Multifamily Energy Efficiency |
| | • Appliance Recycling* | • Shade Trees* |

12 Non-Residential Programs

- 13 • Large Existing Facilities
 14 • New Construction and Renovation
 15 • Small Businesses
 16 • Schools
 17 • Energy Information Systems*

18 5. No changes are proposed in APS’s 2012 Plan for previously approved programs
 19 marked with an asterisk. As such, Staff is not addressing these programs at this time.

20 6. The 2012 Plan includes new measures for existing programs in addition to
 21 modifying some existing programs, detailed below in Table 1. APS is also introducing a new pilot
 22 program that integrates renewable energy and energy efficiency to explore savings gained from
 23 system-wide improvements. The 2012 Plan also requests Commission approval for limited
 24 authority to shift budgeted funds between Residential and Non-Residential program sectors and
 25 clarification that APS must comply only with the energy efficiency reporting requirements of the
 26 Electric Energy Efficiency Standards (“EE Rules”), Arizona Administrative Code (“A.A.C.”) R14-
 27 2-2401, et seq., rendering miscellaneous energy efficiency reporting requirements ordered in other
 28 dockets unnecessary.

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Table 1. 2012 Proposed Energy Efficiency and Demand Response Program Changes

Residential Consumer Products	
• Lighting	• Update savings on 100 Watt equivalent compact fluorescent lamps (“CFLs”) due to change in baseline from Energy Independence and Security Act ¹ standards
• Swimming Pools	• Update baseline from single speed pumps to dual speed pool pumps due to State legislation becoming effective
Residential Existing Homes	
• Home Performance with ENERGY STAR [®]	• Add a performance-based rebate measure as an alternative rebate structure
Residential New Construction	
• ENERGY STAR [®] Homes	• Update the builder and home rater incentives to move builders to new ENERGY STAR [®] Version 3 standard and higher 2nd tier level
Residential Multifamily	
• New Construction/Major Renovation	<ul style="list-style-type: none"> • Redesign the Builder Option Packages (“BOP”) to allow builders flexibility in meeting the efficiency standards for new construction • Add a performance path to BOPs • Add an energy study incentive
Non-Residential Solutions for Business	
• Add Prescriptive Measures	<ul style="list-style-type: none"> • Energy Management Systems (“EMS”) • Six LED lighting measures
Other	
• Codes and Standards	• Encourage energy savings through adherence to local building codes and support energy codes and standards updates
• EE/RE Pilot	• Introduce a new pilot program that integrates energy efficiency, renewables, and smart grid initiatives
• ev-Ready	• Implement APS’s Electric Vehicle Readiness Demonstration Project including the use of demand response strategies

7. The 2012 Plan addresses the implementation strategy APS will use to achieve compliance with the EE Rules. The 2009 Settlement Agreement, approved in Decision No. 71448 (December 30, 2009), stated, “If higher goals are adopted by the Commission for 2010, 2011 or 2012 in another docket, then those higher goals will supersede the goals [in the Settlement Agreement], as will any higher performance incentives.” In 2012, the Electric Energy Efficiency

¹ Section 321. Efficient Light Bulbs, HR6 Energy Independence and Security Act of 2007 (December 17, 2007). Available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:h6enr.txt.pdf

1 Standard requires that APS achieve 1.75% savings of retail energy sales from the prior year or
2 cumulative (2011 and 2012) savings of 3.0%.² This goal results in savings of 533,298 megawatt-
3 hours (“MWh”). The 2009 Settlement Agreement requires APS to achieve only 1.5% energy
4 savings in 2012 based on total energy resources needed to meet retail load, or 479,169 MWh. The
5 2012 goal established in the Energy Efficiency Standard results in a higher savings goal and,
6 therefore, supersedes the 2012 goal established in the 2009 Settlement Agreement.

7 8. The Bill Impacts, Energy Savings, Net Benefits, Cost Effectiveness, Environmental
8 Benefits, and Measurement, Evaluation, and Research for the 2012 Plan are presented in Sections
9 VI – IX. Staff’s proposed budget for the 2012 Plan totals \$73,756,753. This level of investment
10 results in over 511,000 MWh of cost-effective energy savings. Using the Societal Cost Test
11 (“SCT”), the 2012 Plan has a benefit-cost ratio of 1.74.

12 9. Staff’s recommended budget and programs result in savings that fall short of the
13 prescribed 1.75 percent savings goal for 2012. As such, Staff has recommended that APS file a
14 revised 2012 Plan, reallocating approximately \$9.8 million to programs and measures, either new
15 or existing, that Staff has found to be cost effective to generate the necessary energy savings to
16 meet 100 percent of the 2012 savings target. Staff has recommended that APS file a revised 2012
17 Plan by February 10, 2012.

18 **II. 2012 Proposed Program Changes**

19 10. Existing residential programs to which APS proposes modifications include the
20 Consumer Products Program, the Existing Homes Program, the Residential New Construction
21 Program, and the Multifamily Energy Efficiency Program.

22 11. The 2012 Plan proposes to add Energy Management Systems and LED Lighting
23 measures to the relevant programs from APS’s existing non-residential program offerings which
24 are marketed as “APS Solutions for Business.” The four relevant non-residential program
25 offerings to which the additions apply include the Large Existing Facilities Program, the New
26 Construction Program, the Small Business Program and the Schools Program. The other program
27

28 _____
² A.A.C. RI4-2-2404(B)

1 in APS Solutions for Small Business is the Energy Information Services Program; no additions or
2 modifications are proposed for this program.

3 **a. Residential Programs**

4 **i. Consumer Products Program**

5 Current Program

6 12. The current program consists of two measures: United States Environmental
7 Protection Agency ("EPA")/Department of Energy ("DOE") ENERGY STAR[®] approved high-
8 efficiency lighting and dual and variable speed pool pumps with energy efficient motors.

9 13. For the lighting measure, APS solicits discount pricing from CFL manufacturers
10 and distribution of CFLs through local retailers. The discounted pricing is passed on to consumers
11 through a negotiated agreement with lighting manufacturers and retailers.

12 14. The efficient pool pump measure provides incentives to consumers, retailers and
13 installers to help overcome the higher initial cost of dual speed and variable speed pool pumps
14 with efficient motors and to increase adoption in the marketplace. An instant rebate is also
15 available for a new type of smart digital pool pump timer which provides savings by automatically
16 adjusting pool pump run times.

17 Proposed Changes

18 15. There are two major changes to APS's Consumer Products Program, both
19 compelled by recent legislation.

20 16. First, Section 321 of the Energy Independence and Security Act ("EISA"), passed
21 in 2007, mandates improved efficiency for light bulbs. Light bulbs manufactured after January 1,
22 2012, will need to meet the new efficiency levels, thereby creating a lower baseline level of energy
23 use for "conventional" light bulbs. The EISA standards are being phased in over a three year time
24 period: standards apply to 100 watt incandescent bulbs in 2012, 75 watt bulbs will be addressed in
25 2013, and 60 watt bulbs will be addressed in 2014.

26 17. Pursuant to Decision No. 72032 (December 10, 2010), APS has updated its savings
27 analysis for 100 watt equivalent CFL using the updated baseline level of savings. An EISA
28 compliant bulb will produce close to the equivalent light output of today's 100 watt incandescent

1 bulbs, while using only 75 watts of energy. By comparison, a CFL uses only 23-26 watts
2 (depending on the type of CFL bulb) to produce the same amount of light, so CFLs continue to be
3 a significant savings measure when compared to EISA-compliant incandescent bulbs.

4 18. The second change to APS's Consumer Products Program results from the passage
5 of Arizona legislation which requires pool pumps sold in Arizona after January 1, 2012 that are
6 greater than or equal to one horsepower to have a minimum of two-speeds.³ As such, dual speed
7 pumps will be the baseline against which variable speed pump costs and energy use will be
8 compared. The rebate previously available for dual-speed pumps will no longer be available. APS
9 also believes that, once actual savings impacts from the pool pump legislation can be determined,
10 it will meet the standard for claiming energy savings from building codes under A.A.C. R14-2-
11 2404(E).

12 19. The improved pool pump and pool pump motor efficiency standards entitled
13 "Appliances and Equipment Energy Efficiency Standards" are set forth in Title 44, Article 19 of
14 the Arizona Revised Statutes. Staff believes that the improved standards for residential pool
15 pumps and pool pump motors are appliance and equipment standards, not building codes. The EE
16 Rules apply only to building codes, not appliance and equipment standards.

17 20. The Commission recognizes a distinction between appliance and equipment
18 standards and building codes as evidenced by the inclusion of both categories in the Gas Utility
19 Energy Efficiency Standards at A.A.C. R14-2-2504(E). This provision allows an affected utility to
20 count up to one-third of the savings from improved energy efficiency building codes and up to
21 one-third of the savings from improved energy efficiency appliance standards towards meeting the
22 energy efficiency standard.

23 21. Because energy savings from improved energy efficiency appliance and equipment
24 standards were not included within the EE Rules, and pool pumps and pool pump motors are
25 considered appliances and equipment, Staff does not believe APS can claim energy savings from
26 the pool pump legislation under A.A.C. R14-2-2404(E).

27
28 ³ A.R.S. § 44-1375.02(B)(2), 2011.

Proposed Budget

22. The proposed budget for the Consumer Products Program for 2012 is presented in the table below:

2012 Proposed Consumer Products Program Budget

Rebates and Incentives	\$ 4,126,250
Program Implementation	\$ 2,150,000
Program Marketing	\$ 850,000
Planning and Administration	\$ 475,000
Financing Subtotal	\$ -
Training and Technical Assistance	\$ 2,000
Consumer Education	\$ 2,000
Total Program Cost	\$ 7,605,250
Incentives as % of Total Budget	54%

Cost Effectiveness

23. Staff's review of the benefits and costs associated with the proposed changes to the measures in the Consumer Products Program found that all of the measures and the program, as a whole, are cost effective, meaning that the benefits outweigh the costs. Staff's benefit-cost analysis is presented in the table below.

Cost Effectiveness of the Consumer Products Program

Measure	Units	Present Value DSM Savings	Present Value DSM Costs	B/C
CFLs	2,600,000	\$21,300,224.67	\$6,741,627.51	3.16
Giveaway CFLs	210,000	\$1,874,009.68	\$666,626.39	2.81
Variable Speed Pool Pump	1,000	\$463,126.19	\$444,371.67	1.04
Pool Pump Timers	750	\$261,687.13	\$158,276.06	1.65
Program Total		\$23,899,047.68	\$8,010,901.63	2.98

Recommendations

24. The proposed changes to the Consumer Products Program are cost-effective. As such, Staff has recommended approval of the revised Consumer Products Program.

1 25. It is Staff's expectation that, once APS has compiled 12 months of data regarding
2 actual energy savings associated with pool pump timers, the Company will file a letter detailing
3 the participation levels for this measure and whether or not the timer measure results in cost-
4 effective energy savings. While Staff finds this measure cost-effective for the 2012 Plan, Staff has
5 also recommended that timers cease to be included as a measure eligible for rebates unless savings
6 from the timers can be verified by the Company.

7 26. Staff does not recommend that APS be allowed to include savings impacts from the
8 pool pump and pool pump motor legislation as energy savings from building codes under A.A.C.
9 R14-2-2404(E) for reasons discussed above.

10 **ii. Existing Homes Program**

11 Current Program

12 27. APS's Existing Homes Program consists of two components: 1) Heating
13 Ventilation and Air Conditioning ("HVAC") Program and 2) Home Performance with ENERGY
14 STAR[®] ("HPwES") Program. In its 2012 Plan, APS is not proposing any enhancements or
15 measures for the HVAC component of its Residential Existing Homes program, but the Company
16 is proposing a performance-based rebate structure for the HPwES component.

17 28. The current HPwES program utilizes certified contractors to perform a detailed
18 checkup on a customer's home to diagnose energy inefficiencies. The HPwES checkup provides
19 the customer with a comprehensive list of potential improvements that would make their home
20 more energy efficient. The customer has the option of selecting the improvements, if any, which
21 the contractor is also qualified to install.

22 29. The cost of the checkup to the customer is \$99 and it includes ten CFLs, three
23 faucet aerators and one low flow showerhead in addition to the evaluation and energy efficiency
24 recommendations for the home. Of the customers who have received audits to date, approximately
25 40% have installed at least one additional energy efficiency measure. It is also worth noting that
26 customers participating in HPwES also gain access to APS's Residential Energy Efficiency
27 Financing ("REEF"). The REEF program offers customers financing for energy efficiency
28

1 improvements at below market rates, further reducing the upfront cost barrier for whole house
2 energy retrofits.

3 Proposed Changes

4 30. According to APS, a performance-based rebate would offer customers an
5 alternative to the prescriptive approach, in which the incentive is based on the modeled estimated
6 savings of the project. Under this incentive structure, customers would receive a greater reward
7 for projects that achieve deeper energy savings. Typically, these projects are more expensive and
8 include multiple envelope improvements combined with properly sized high efficiency HVAC
9 equipment. However, when installed all at the same time the project cost is reduced and the
10 contractor can more efficiently execute the combination of measures.

11 31. While many of the participating HPwES contractors are also participating in the
12 APS Residential HVAC program, very few HVAC replacements are taking place as a part of the
13 HPwES program.

14 32. APS believes a performance-based incentive would encourage customers to take
15 advantage of more measures when undertaking whole-home retrofits by potentially providing a
16 greater incentive commensurate with anticipated energy savings. APS anticipates that the
17 performance-based incentive would increase both the overall number of homes that adopt
18 measures and the number of measures adopted per home. This would allow participating
19 customers to earn the higher incentives associated with the combined energy savings of HVAC
20 and envelope measures.

21 33. Aside from the program incentives and slight changes to the delivery strategy
22 described below, all other aspects of the HPwES program remain the same, including the target
23 market, program eligibility, and monitoring and evaluation.

24 Program Incentives

25 34. The proposed incentive structure provides incentives based on tiers of modeled
26 whole house energy savings calculated on dollars per first-year energy savings. The total incentive
27 would be capped at 75% of incremental cost or \$3,000. APS's proposed incentive structure is
28

1 shown in the table below. Customers receiving a performance-based incentive would not be
2 eligible for any other incentives offered by APS that would apply to the measures being installed.

3 4	Percent of Whole House Energy Savings	Incentive (\$/kWh saved)	Total Incentive Cap
5	Tier 1: 10 - 15%	\$0.25	\$3,000
6	Tier 2: 15 - 20%	\$0.30	\$3,000
7	Tier 3: 20 - 30%	\$0.35	\$3,000
	Tier 4: > 30%	\$0.40	\$3,000

8 35. Customers that wish to take advantage of performance-based incentives may choose
9 any combination of the listed measures APS proposes to include in the performance-based
10 program, which are limited to:

- 11 • Duct sealing
- 12 • Air Sealing
- 13 • Insulation
- 14 • Shade Screens
- 15 • Pool Pumps
- 16 • Early Retirement HVAC with Quality Installation

17 Delivery Strategy and Administration

18 36. Similar to the current HPwES program, customers must undergo a \$99 home
19 energy checkup performed by a participating APS HPwES contractor. As a part of this
20 comprehensive evaluation, contractors are required to input the home data into energy modeling
21 software provided by APS. This software models the estimated impact for each recommended
22 measure, and provides the customers with accurate information on expected savings and payback
23 periods.

24 37. The new performance-based rebate amount would be automatically estimated by
25 the software and reported to the customer on their energy savings report. The final incentives
26 would be paid based on the post installation results as verified during test out protocols. The
27 software being used is EM Home™ produced by Conservation Services Group. This software has
28 met all DOE testing standards, and APS continually evaluates the output of the software for
accuracy and climate-specific variables.

Proposed Budget

38. The proposed budget for the Existing Homes Program for 2012 is presented in the table below:

Proposed 2012 Existing Homes Budget

Rebates and Incentives	\$10,190,722
Training and Technical Assistance	\$434,000
Consumer Education	\$355,000
Program Implementation	\$2,563,253
Program Marketing	\$1,058,000
Planning and Administration	\$772,500
Financing	\$255,000
Total Program Cost	\$15,628,475
Incentives as % of Total Budget	65%

Cost Effectiveness

39. Although new measures were only proposed for the HPwES component of the Existing Homes Program, Staff reviewed each measure within the Existing Homes Program to verify the cost-effectiveness of the program as a whole. Measures in whole-house programs are evaluated without programs costs at the measure level because the incremental measure costs for the suite of measures offered under these programs varies greatly. Including programs costs at the measure level for whole-house programs can provide an inaccurate view of cost-effectiveness. Program costs are included at the program level to ensure program cost effectiveness.

40. While the proposed performance-based HPwES measures are cost-effective, Staff has found that the Tier 2 and Tier 3 measures currently included in the Residential HVAC component of the Existing Homes Program are not cost-effective with SCT benefit-cost ratios of 0.63 and 0.37, respectively. Staff eliminated these measures and proportionately scaled back the 2012 units for the Duct Test & Repair and HVAC Diagnostics measures. Staff's benefit-cost analysis is presented in the table below.

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1 **Cost Effectiveness of the Proposed Existing Homes Program, amended by Staff**

2 Measure	2012 Units	Present Value DSM Savings	Present Value DSM Costs	Benefit/Cost Ratio
3 Tier 1 - Equipment + QI	2200	\$1,108,595.92	\$903,719.32	1.23
4 Duct Test & Repair	316	\$409,585.68	\$289,782.08	1.41
5 HVAC Diagnostics	904	\$198,064.96	\$197,597.04	1.00
6 Res HVAC Program TOTAL		\$1,716,246.56	\$1,391,098.44	1.23
7 HPwES Audits	4500	\$0.00	\$414,306.84	0.00
8 Duct Test & Repair	2100	\$2,843,265.09	\$881,644.95	3.22
9 Air Sealing	400	\$400,195.26	\$223,195.60	1.79
10 Air Sealing & Attic Insulation	<u>1050</u>	<u>\$1,140,982.37</u>	<u>\$1,099,906.66</u>	1.04
11 Direct Install - Shower Heads	2850	\$216,421.21	\$137,823.28	1.57
12 Direct Install - Faucet Aerators	7125	\$196,800.09	\$50,342.01	3.91
13 Direct Install - CFLs	38000	\$341,674.26	\$58,142.29	5.88
14 Shade Screens	150	\$156,007.06	\$129,732.44	1.20
15 Performance-based Tier 1	90	\$144,970.31	\$90,927.90	1.59
16 Performance-based Tier 2	120	\$314,592.00	\$219,718.61	1.43
17 Performance-based Tier 3	40	\$115,635.76	\$104,123.70	1.11
18 Performance-based Tier 4	15	\$56,879.59	\$53,978.68	1.05
19 HPwES Program Costs			\$2,352,000	
20 HPwES Program TOTAL		<u>\$5,927,423.00</u>	<u>\$5,815,842.97</u>	1.02
21				
22 Existing Homes TOTAL		<u>\$7,643,669.56</u>	<u>\$7,206,941.42</u>	1.06

23 Recommendations

24 41. Tiers 2 and 3 of the Residential HVAC program are not cost-effective and Staff has
 25 recommended that APS not be permitted to offer these measures within the Existing Homes
 26 Program. The minimal energy savings associated with the measures included in these two tiers are
 27 not commensurate with the significantly higher incremental costs when compared to the energy
 28 savings and costs of Tier 1 measures. Although a number of APS customers have taken advantage
 of the rebates for the Tier 2 and 3 equipment and quality install, it is not appropriate for APS to
 offer rebates nor for customers to pay for measures that are not cost-effective.

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1 42. Staff has recommended that APS continue to offer rebates for the Tier 1, Duct Test
2 and Repair, and HVAC diagnostics measures within the Residential HVAC program at the levels
3 suggested by Staff in the table above.

4 43. Staff has also recommended that the number of participants, energy savings,
5 coincident demand, measure life, actual expenses, etc. be reported separately for the Residential
6 HVAC and HPwES components of the Existing Homes Program in the Company's Annual DSM
7 Progress Report. Staff has further recommended that APS report the current HPwES measures
8 separate from the HPwES performance-based tiers but include sufficient information within the
9 tier-level reporting so Staff is aware of the measures being installed within each performance-
10 based tier.

11 iii. Residential New Construction Program

12 Current Program

13 44. The APS Residential New Construction program is based on the requirements of
14 the EPA ENERGY STAR[®] Homes ("ESH") program. Currently, APS provides builder incentives
15 of \$400 per home to comply with ENERGY STAR[®] Version 2 guidelines and a higher incentive
16 of \$1,000 per home for builders that meet higher savings levels of 30% compared to standard new
17 construction. The higher tier efficiency standard is approximately double the 15% savings of the
18 current ESH program.

19 Proposed Changes

20 45. In 2012, the EPA will release Version 3 guidelines for the ESH program. As a
21 result, ENERGY STAR[®] qualified homes under Version 3 will be approximately 15% more
22 efficient than homes built under Version 2.⁴ Due to the updated Version 3 guidelines, APS
23 proposes to update the APS Residential New Construction program builder incentive structure to
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26 ⁴Homes built to the new Version 3 guidelines will be at least 20% more energy efficient than homes built to the 2009
27 International Energy Conservation Code (IECC). By contrast, homes built to the Version 2 guidelines are 15% more
28 efficient than homes built to the 2006 IECC. The 2009 IECC incorporates a number of design changes including
improvements to duct sealing and verification, duct insulation, window U-factors, and efficient lighting requirements,
resulting in approximately 12 – 20% savings over the 2006 IECC. See R. Lucas, DOE, Analysis of 2009 International
Energy Conservation Code Requirements for Residential Buildings in Mesa, Arizona (March 2011). Available at
<http://www.mesaaz.gov/sustainability/pdf/MesaFINALResidentialReportMarch%202011.pdf>.

1 account for higher incremental costs that builders will incur to meet Version 3 requirements and
2 achieve significantly higher savings per participating home.

3 46. As APS has consistently done in the past, the Company proposes to continue to
4 include a higher “second tier” program savings level to encourage advanced builders to exceed the
5 ENERGY STAR[®] requirements and achieve even higher savings levels. APS proposes that this
6 level is set at a Home Energy Rating System (“HERS”) score of 60, which represents an average
7 savings of over 6,500 kWh per year compared to a typical new home in Arizona.

8 47. Unlike prior versions of ENERGY STAR[®], there is no longer one single HERS
9 score that can be associated with all Version 3 compliant homes. This is largely due to the new
10 size adjustment factor (“SAF”), which requires larger homes to achieve lower HERS scores to
11 qualify for ENERGY STAR[®]. In general, Version 3 compliant homes need to achieve HERS
12 scores of approximately 68 to 72 or lower in order to qualify. In addition, they must meet a
13 number of new prescriptive checklist requirements, discussed below, that provide additional
14 energy savings which are not captured in the HERS score, but are reflected in the energy modeling
15 of savings.

16 48. In addition to the transition to Version 3 guidelines, APS believes that in order to
17 ensure that the stringent energy efficiency levels of the new program requirements are being met,
18 program quality control is essential. This will require APS to acquire more data on the home
19 inspection process from the independent home energy raters who certify homes ENERGY STAR[®].
20 This additional field data will require home energy raters to spend added time collecting and
21 uploading data to APS. The data will help ensure program consistency and field compliance while
22 saving APS staff time in data collection. Moreover, Version 3 requires home energy raters to
23 complete four inspection checklists (compared to one checklist under Version 2).⁵ In exchange,
24

25
26 ⁵ Both the Performance and Prescriptive Paths of the Version 3 National Program Requirements require completion of
27 four inspection checklists: Thermal Enclosure System Rater Checklist; HVAC System Quality Installation Rater
28 Checklist; HVAC System Quality Installation Contractor Checklist; and Water Management System Builder
Checklist. For more information see ENERGY STAR Qualified Homes, Version 3 (Rev. 04) Inspection Checklists for
National Program Requirements, available at
http://www.energystar.gov/ia/partners/bldrs_lenders_raters/Bundled_Checklists_v68_2011-09-01_clean_fillable_508.pdf

1 APS proposes to provide an incentive for home energy raters who provide this additional field
2 data.

3 Primary Changes from Version 2 to Version 3

4 49. With Version 3, homes must meet baseline ENERGY STAR requirements, still
5 using either a prescriptive or performance path. Both options are based on a set of specifications
6 called the ENERGY STAR Reference Design. When the prescriptive path is used, the home is
7 simply built according to the Reference Design specifications (similar to the Builder Option
8 Package approach used in ENERGY STAR Version 2). No trade-offs are allowed when the
9 prescriptive path is used.

10 50. In contrast, the Version 3 performance path has been significantly changed from the
11 Version 2 approach. Using the Version 3 performance path, the home is modeled using the
12 ENERGY STAR Reference Design specifications to establish an Initial HERS Index Target Score.
13 For larger homes, an SAF is applied to the Initial Target Score when the home exceeds a defined
14 'Benchmark Home Size,' based on the number of bedrooms. The builder then has the flexibility to
15 select a custom set of energy-efficiency measures, provided the resulting HERS Score for the
16 home meets or performs better than the HERS Index Target Score (size-adjusted, when
17 appropriate) and all other requirements are met (e.g., minimum efficiency for windows, insulation
18 levels).

19 51. In addition to the baseline requirements, there are new checklists, as mentioned
20 previously, with detailed mandatory requirements for Thermal Enclosures, HVAC Quality
21 Installation, and Water Management.⁶

22 Program Eligibility

23 52. Consistent with previously approved versions of the ESH program, this program is
24 available to builders of newly-constructed residential single family homes built in the APS service
25 territory. However, EPA has stated that builders must complete the online ENERGY STAR
26 Orientation Training to be eligible to build homes qualified under Version 3. Effective January 1,
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28 ⁶ EPA ENERGY STAR® Homes, Version 3 Overview. Available at
http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_benefits_utilities_1a

1 2011, new builders must take this training to become partners. Builders who joined prior to 2011
2 must complete the training by December 31, 2011 to remain ENERGY STAR partners.⁷ A list of
3 builders currently participating in the EHS program may be found through APS's website,
4 www.aps.com.⁸ It is important to note that homes with permit dates beyond January 1, 2012 or
5 final inspection dates beyond July 1, 2012 must qualify under Version 3 of the guidelines in order
6 to earn the ENERGY STAR[®] label.⁹

7 Program Rationale

8 53. It is much easier and more cost effective to work with builders to implement energy
9 efficiency at the time of construction rather than attempt to retrofit efficiency after a home has
10 been built. For many new home measures such as building envelope improvements, the benefits
11 of energy-efficiency upgrades will be sustained for the life of the home to produce very cost-
12 effective savings.

13 54. As code requirements have become more rigorous and builder practices have
14 become more efficient, EPA has periodically modified the guidelines to ensure that qualified
15 homes represent a meaningful improvement over non-labeled homes. As stated previously, a
16 home built to Version 3 guidelines will be approximately 15% more efficient than homes built
17 under Version 2 guidelines.

18 Program Incentives

19 55. The proposed APS Residential New Construction program incentive structure for
20 2012 is as follows:

21 Tier 1:

- 22 • Requirement = ENERGY STAR[®] Version 3 Compliance
- 23 • Builder Incentive = \$1,000 per home
- 24 • Home Energy Rater Incentive = \$50 per home (only paid when data are provided)

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28 ⁷ EPA, Version 3 Training Requirements. Available at

http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_v3_training_req

⁸ The list of builders currently participating in the EHS program may be accessed at

http://www.aps.com/aps_services/residential/waystosave/ResWaystoSave_21.html

⁹ EPA, Which Version of the Guidelines Should I Use?

http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_version_guidelines_which

Tier 2:

- Requirements = ENERGY STAR® Version 3 Compliance, HERS score ≤ 60
- Builder Incentive = \$1,500 per home
- Home Energy Rater Incentive = \$50 per home (only paid when data are provided)

Delivery Strategy and Administration

56. The Delivery Strategy and Administration of the ESH program will remain the same as it has in the past. In May, APS held a full day forum on Version 3 with participating program HERS raters to ensure that communications with builders about upcoming program changes were done in a coordinated and consistent manner. APS and raters discussed aspects of the Version 3 specifications that pertain specifically to the Arizona market and climate with emphasis on how to manage the requirements for mechanical, supply-side ventilation.

57. In order to maintain consistency with the EPA's timeline for launching Version 3, a formal letter to participating builders was issued informing them of upcoming changes in program requirements beginning January 1, 2012. APS is working with Advanced Energy to revise APS's existing training manuals and materials for the "Success with ENERGY STAR®" builder workshops to more closely align with the new Version 3 specification changes.

Proposed Budget

58. The proposed budget for the Residential New Construction Program for 2012 is presented in the table below:

Proposed 2012 Residential New Construction Budget

Rebates and Incentives	\$ 2,225,000
Training and Technical Assistance	\$ 120,000
Consumer Education	\$ 15,000
Program Implementation	\$ 295,000
Program Marketing	\$ 550,000
Planning and Administration	\$ 403,000
Financing	\$ -
Total Program Cost	\$ 3,608,000
Incentives as % of Total Budget	62%

Cost Effectiveness

59. Staff's review of the benefits and costs associated with ENERGY STAR® for Homes Version 3 found that all of the measures and the program, as a whole, are cost effective, meaning that the benefits outweigh the costs. Staff's benefit-cost analysis is presented in the table below.

Cost Effectiveness of the Proposed Residential New Construction Program

Measure	2012 Units	Present Value DSM Savings	Present Value DSM Costs	Benefit/Cost Ratio
ENERGY STAR 3 (HERS 70)	1,750	\$10,434,362	\$7,662,950	1.36
ENERGY STAR Tier 2 (Insulation at Roof Deck)	250	\$1,730,890	\$1,243,292	1.39
Total		\$12,165,252	\$8,906,243	1.37

Recommendations

60. The proposed changes to the APS's Residential New Construction Program are cost-effective and continue to encourage increased energy savings in new homes. As such, Staff has recommended approval of APS's proposed changes to the Residential New Construction Program.

iv. Multifamily Energy Efficiency ProgramCurrent Program

61. The Multifamily Energy Efficiency Program ("MEEP") targets multifamily properties and dormitories with EE measures and solutions designed to promote energy savings.

62. The MEEP takes a two track approach to address the challenges of reaching the multifamily market:

- Energy efficient CFL light bulbs, showerheads, and faucet aerators to retrofit each dwelling unit in an existing community, at no cost to that community; energy assessments to assist communities in identifying additional energy saving opportunities and available APS rebates.
- Builder incentives for new construction or major renovation projects that meet or exceed energy efficiency guidelines outlined in one of four Builder Option Packages ("BOP") which utilize a prescriptive list of measures.

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1 Proposed Changes

2 63. APS proposes to add more flexibility to the MEEP BOPs in its 2012 Plan by
3 restructuring the delivery of the prescriptive component and adding a performance component.

4 64. For the prescriptive path, APS proposes to modify the BOPS to mirror the
5 ENERGY STAR[®] Qualified Homes National Attached Home Builder Option Package (“ENERGY
6 STAR[®] BOP”).¹⁰ Under the ENERGY STAR[®] BOP, requirements are met by completing all
7 mandatory measures plus a specific number of optional measures. BOP 1 requires all mandatory
8 measures plus one from the optional section. BOPs 2 and 3 also require all mandatory measures
9 plus two and three measures from the optional section, respectively. The ENERGY STAR[®] BOP
10 may be found in Table 4 of the application at page 13.

11 65. For the performance path, APS proposes to allow builders to utilize HERS scores to
12 test and rate building performance. If a builder is unable to meet the requirements outlined in the
13 prescriptive path, a builder may earn the BOP incentive by building the facility using any desired
14 combination of measures as long as the building’s performance does not rate below the minimum
15 acceptable score. These projects will require performance testing by a certified HERS rater. The
16 minimum HERS index score for each BOP is presented in the table below.

17 **Proposed MEEP New Construction Performance Standards**

Builder Option Package	HERS Score
BOP 1	81
BOP 2	78
BOP 3	75
BOP Major Renovation	79

21 66. The target market, program eligibility, program rationale, delivery and
22 administration have not changed for the MEEP.

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28 ¹⁰ Note that APS’s program mirrors the ENERGY STAR[®] Qualified Homes National Attached Home Builder Option Package. While MEEP participants can pursue the ENERGY STAR[®] designation on their own if they wish, participation in the MEEP program alone will not earn them the ENERGY STAR[®] designation.

1 Program Incentives

2 67. The current incentives for the MEEP were approved in Decision No. 72060
3 (January 6, 2011).¹¹ The current incentives, presented in the table below, apply to both the
4 prescriptive and performance-based BOPs.

5 **Incentives for MEEP**

Builder Option Package	Incentive (per dwelling unit)
BOP 1	\$650
BOP 2	\$800
BOP 3	\$900
BOP Major Renovation	\$650

10 68. In addition to the current incentives offered to builders in the MEEP, APS proposes
11 to offer a design incentive to multifamily project developers. APS considers multifamily buildings
12 commercial facilities if they are master metered and residential if the units are individually
13 metered. The primary objective of the new construction program is to encourage builders and
14 developers to emphasize energy efficiency in their construction practices. This will often require
15 energy studies to estimate building performance when varying combinations of measures are
16 incorporated in the building's design.

17 69. APS proposes to offer a design incentive to project developers of 50% of study
18 costs up to \$5,000 for the multifamily market. If the participant qualifies as a commercial facility,
19 the \$5,000 incentive will be paid out of the Solutions for Business program budgets. If the facility
20 qualifies as a residential facility, the \$5,000 incentive will be paid out of the MEEP program
21 budget.

22 70. All projects that receive a design incentive will be tracked to determine the degree
23 to which the energy study influenced decisions to install energy saving measures. Specifically, a
24 comparison of the project's design before the energy study and the design actually constructed will
25 be made to estimate the influence the energy study had in decisions to build to a higher standard. If
26

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28 ¹¹ Decision No. 72060 (January 6, 2011), Docket No. E-01345A-10-0219

1 a construction standard is adopted that is more efficient than the one initially proposed, the
2 incremental kWh savings between the two BOPs is attributed to the design incentive's influence.

3 Proposed Budget

4 71. The proposed 2012 budget for the MEEP is presented in the table below.

5 **Proposed 2012 MEEP Budget**

6 Rebates and Incentives	\$822,500
7 Training and Technical Assistance	\$5,000
8 Consumer Education	\$15,000
9 Program Implementation	\$807,750
10 Program Marketing	\$45,000
11 Planning and Administration	\$163,000
12 Financing	\$0
Total Program Cost	\$1,858,250
Incentives as % of Total Budget	44%

13 Cost Effectiveness

14 72. Staff evaluated the cost effectiveness of the MEEP in two separate components
15 given that the Direct Install measures (showerheads, faucet aerators, and CFLs) are provided
16 independent of the BOPs. Furthermore, the four categories of BOPs were evaluated together
17 because, without MER information about actual implementation, it is difficult to determine which
18 optional measures will be installed and, subsequently, what are the energy savings associated with
19 those measures. Staff's review of the benefits and costs associated with the MEEP has found that
20 both the Direct Install and BOP measures are cost-effective, meaning that the benefits of the
21 measures outweigh the costs. Additionally, Staff included the new Design Incentive in the overall
22 MEEP program-level cost-benefit analysis and found that the MEEP program, as a whole, is cost-
23 effective as presented in the table below.

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1 **Cost Effectiveness of the Proposed MEEP**

2 Measure	2012 Units	Present Value DSM Savings	Present Value DSM Costs	Benefit/Cost Ratio
3 Direct Install Measures	82,500	\$2,157,245	\$1,467,909	1.47
4 Builder Option Packages	240	\$347,841	\$330,560	1.05
5 Design Assistance -- 6 Incentive Only	5	\$0.00	\$23,250	0.00
7 MEEP Total		\$2,505,086	\$1,821,719	1.38

8 Recommendations

9 73. The proposed changes to APS's MEEP are cost-effective and help to overcome the
10 barriers associated with increasing energy efficiency in multifamily housing. As such, Staff has
11 recommended approval of APS's proposed changes to the MEEP.

12 74. Staff has also recommended that APS track and report in the Company's Annual
13 DSM Progress Report the number of direct install measures installed by individual measures
14 (showerheads, faucets, and CFLs) and the number and type of optional measures that
15 builders/developers are choosing to install under the BOPs along with the energy savings,
16 coincident demand savings, and actual costs for each measure.

17 **b. Non-Residential Programs**

18 Current Program

19 75. The five current Non-Residential energy efficiency programs, consisting of the
20 Large Existing Facilities Program, the New Construction Program, the Small Business Program,
21 the Schools Program, and the Energy Information Services Program, are marketed under the APS
22 Solutions for Business program name.

23 Proposed Changes

24 76. In its 2012 Plan, APS is proposing to add new prescriptive measures in the area of
25 Energy Management Systems ("EMS") and light emitting diode ("LED") lighting to all of the
26 current Non-Residential Programs except the Energy Information Services Program to which these
27 measures are inapplicable.

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1 **i. Energy Management Systems**

2 77. EMS can help save electricity by providing a centralized control of HVAC systems
3 and lighting circuits. In the past, APS customers installing EMS were eligible to receive APS
4 Solutions for Business incentives through the custom measures available within the program. APS
5 proposes to offer EMS as prescriptive measures in order to offer a more streamlined incentive
6 application process for its customers and trade allies. Additionally, APS believes that the EMS
7 prescriptive measures help promote and market the technology as an approved energy efficiency
8 mechanism that will ultimately increase customer participation. The program incentives for the
9 EMS measures are detailed in the table below.

10 **Proposed EMS Incentives**

	HVAC Control Pneumatic Baseline	HVAC Control Digital Baseline	Lighting Control
Saving versus Standard	21%	16%	25%
Customer Incentive	\$0.35/sq. ft.	\$0.25/sq. ft.	\$0.10/sq. ft.
Customer Payback	4.5 years	4.6 years	2.5 years

14
15 **ii. LED Lighting**

16 78. In the past, the APS Solutions for Business program provided incentives for LED
17 exit signs and green and red traffic signal lights. In its 2012 Plan, APS proposes to add a number
18 of additional LED technologies to the Solutions for Business schedule of prescriptive incentives:

- 19
- Pedestrian Crossing Lights;
 - LED Replacement of Incandescent Bulbs;
 - LED Replacement of Multifaceted reflector ("MR")-16 Halogen Lamps (typically used in jewelry and retail display cases and accent lighting applications); and
 - Refrigeration Case Strip Lighting.
- 22

23 79. The program incentives for the LED Lighting measures are detailed in the table
24 below.

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Proposed LED Lighting Incentives

	Pedestrian Crossing	Incandescent Replacement		MR-16 Replacement	Refrigeration Strip Lighting	
		W/O Reflector	With Reflector		W/O Motion Sensor	With Motion Sensor
Saving versus Standard	93%	85%	80%	87%	70%	79%
Customer Incentive	\$25/signal	\$10/lamp	\$15/lamp	\$10/lamp	\$25/lamp	\$30/lamp
Customer Payback	3.9 years	0.8 years	1.4 years	2.4 years	3.1 years	2.8 years

Proposed Budget

80. The proposed 2012 budget for APS's Non-Residential Programs, which includes both existing and proposed measures, is presented in the table below.

Proposed 2012 Non-Residential Budget

	Large Existing Facilities	New Construction	Small Business	Schools	EIS	Non-Residential Total
Rebates and Incentives	\$11,802,541	\$2,064,670	\$3,354,843	\$2,293,823	\$29,094	\$19,544,971
Training and Technical Assistance	\$485,000	\$122,000	\$111,000	\$120,000	\$10,000	\$848,000
Consumer Education	\$134,000	\$33,000	\$23,000	\$25,000	\$5,000	\$220,000
Program Implementation	\$4,195,000	\$902,000	\$744,000	\$842,000	\$20,000	\$6,703,000
Program Marketing	\$1,017,000	\$203,000	\$229,000	\$246,000	\$10,000	\$1,705,000
Planning and Administration	\$420,000	\$173,000	\$182,000	\$87,000	\$4,000	\$866,000
Financing	\$70,000	\$0	\$10,000	\$0	\$0	\$80,000
Program Total Cost	\$18,123,541	\$3,497,670	\$4,653,843	\$3,613,823	\$78,094	\$29,966,971
Incentives as % of Total Budget	65%	59%	72%	63%	37%	65%

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Cost Effectiveness

81. Staff evaluated the cost effectiveness of the proposed EMS and LED measures as separate components because, at this point in time, it is difficult to determine which measure(s) from each component might suit various categories of non-residential customers. Staff's review of the benefits and costs associated with the EMS and LED found all of the proposed measures to be cost effective as presented in the table below.

Cost Effectiveness of EMS and LED Measures

Measure	2012 Units	Present Value DSM Savings	Present Value DSM Costs	Benefit/Cost Ratio
<i>EMS Measures</i>				
Replace/Install Pneumatic Controls	500,000	\$812,759.85	\$803,623.83	1.01
Replacing Digital Controls	500,000	\$650,207.88	\$657,192.71	0.99
Replacing Lighting Controls	100,000	\$51,497.79	\$43,397.63	1.19
<i>LED Measures</i>				
Pedestrian Signs	500	\$117,788.32	\$108,344.93	1.09
Incandescent without Reflector	3,000	\$344,792.26	\$115,294.43	2.99
Incandescent with Reflector	3,000	\$318,442.67	\$158,718.43	2.01
MR-16 Replacement	1,000	\$124,335.16	\$52,153.90	2.38
Refrigeration Strip Lighting without Motion Sensor	1,700	\$510,175.72	\$230,779.99	2.21
Refrigeration Strip Lighting with Motion Sensor	1,325	\$423,885.08	\$185,730.96	2.28

Recommendations

82. The proposed EMS and LED measures are cost-effective additions to APS's Non-Residential Program offerings, and Staff has recommended approval of these measures.

83. Staff has recommended that APS report in its Annual DSM Progress Report the number of measures installed, the annual energy and capacity savings, and the measure life for the EMS and LED measures on an individual measure basis. This will enable the Company and Staff to clearly identify those measures preferred by customers and the individual energy savings characteristics associated with these new measures.

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1 **III. New Energy Efficiency Initiatives**

2 **a. Codes & Standards Support Project**

3 Program Objective and Description

4 84. According to A.A.C. R14-2-2404(E), “An affected utility may count toward
5 meeting the standard up to one third of the energy savings, resulting from energy efficiency
6 building codes, that are quantified and reported through a measurement and evaluation study
7 undertaken by the affected utility.”

8 85. The objective of the Energy Codes & Standards Support Project (“ECSSP”) is to
9 increase energy savings in new construction and renovated buildings in both the residential and
10 commercial sectors through efforts to: 1) improve levels of compliance with existing building
11 energy codes & standards; and 2) support and inform periodic energy code & standards updates as
12 warranted by changing market conditions. Specific ECSSP activities will depend on the market
13 needs expressed by local code officials and, according to APS, are likely to include a combination
14 of efforts to:

- 15 • Better prepare code officials and building professionals to adhere to existing standards;
- 16 • Provide data and market insight to document the specific local benefits of code & standards enforcement, and inform energy code changes over time;
- 17 • Ensure utility incentive programs align well with local energy codes & standards;
- 18 • Provide codes & standards training to Non-Residential Trade Allies as part of the Solutions for Business training series;
- 19 • Collaborate with relevant stakeholders to build a more robust community working to advance strong and effective building energy codes and standards across the local jurisdictions within APS’s service territory; and
- 20 • Advocate for energy code and standards updates over time.

21 Delivery Strategy and Administration

22 86. According to APS, delivery activities might include: participation in energy code
23 adoption committees; technical support (calculations, research, and information) to code adoption
24 committees; public testimony in support of code and standards adoption before city councils;
25 ensuring that ongoing DSM programs align well with energy code and standards requirements; and
26 funding for local code agencies to enforce and improve energy code and standards over time.
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1 87. Outreach and education strategy will likely include website promotion and direct
2 outreach to local code officials and networks of municipal leaders who are members of committees
3 conducting activities related to building code & standards enhancement.

4 Monitoring and Evaluation Plan

5 88. All evaluation activities will be conducted by Navigant Consulting, APS's MER
6 contractor. The overall goal of the impact evaluation will be to develop methodologies for
7 estimating savings from more stringent code and standards adoption and increased code and
8 standards compliance rates in both the residential and commercial sectors. Process related
9 evaluation activities will review utility code promotion implementation strategies and seek to
10 identify ways to improve program delivery and market adoption of more aggressive residential and
11 commercial codes.

12 Proposed Budget

13 89. APS is proposing an overall budget of \$ 100,000 in 2012, for the ECSSP that will
14 be allocated on an as needed basis, between the Residential and Non-Residential programs.

15 Recommendations

16 90. Under A.A.C. R14-2-2404(E), APS may count up to one-third of the energy savings
17 resulting from improved energy efficiency building codes toward meeting the Energy Efficiency
18 Standard. The ECSSP appears to be a first step toward determining what level of participation
19 APS may have in the code adoption process and what the potential for savings from such codes
20 could be. Staff has recommended approval of the ECSSP.

21 91. However, to clarify the program name, Staff has recommended that the program be
22 called the Energy Building Codes Support Project ("EBCSP") rather than the Energy Codes &
23 Standards Support Project because only savings from improved building codes are eligible to be
24 counted under the standard. The EE Rules do not include a provision for inclusion of energy
25 savings for improved appliance standards.

26 92. Staff has also recommended that MER information for the EBCSP be included in
27 APS's Annual DSM Progress Report.

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1 **b. Renewable Energy and Energy Efficiency Integration Pilot Program**

2 93. In Decision No. 72060 (January 6, 2011), APS was ordered to develop an integrated
3 renewable energy and energy efficiency pilot program, focused on a bounded territory, building on
4 the Company's Community Power Project and integrating energy efficiency programs.

5 94. During the site selection process, APS identified a bounded area where several
6 utility smart grid technologies were planned for deployment in the North Phoenix area. This same
7 site meets the criteria for the EE/RE Pilot and also offers the opportunity to complement these
8 projects with smart grid technology.

9 95. APS's pilot program consists of offering:

- 10 • public EE/RE demonstration events;
11 • an enhanced energy audit (offered to 1,000 customers) to provide customers with cost and
12 • a personal Energy Advisor to help customers choose the most beneficial energy upgrades
13 • incentives (offered to 100 customers) for installing grid-tied photovoltaic ("PV") with an
14 • a suite of Smart Home technologies.

15 96. At this point in time, Staff does not believe that APS has presented a concrete
16 program that fully integrates energy efficiency and renewable energy measures such that
17 customers are presented with a combined product. While an enhanced energy audit and the use of
18 an Energy Advisor may help customers in the decision-making process, customers would simply
19 choose renewable energy and energy efficiency options offered through other APS programs. The
20 pilot, as presented, does not offer a product that reliably integrates renewable energy and energy
21 efficiency measures such that customers would consistently benefit from both renewable energy
22 and energy efficiency technologies simply by participating in the program.

23 97. Moreover, APS has not included in its proposal a number of elements that the
24 Company is required to provide under A.A.C. R14-2-2407 when requesting Commission approval
25 of a new program or measure. While Staff is aware that this program is being proposed as a pilot,
26 the Company has failed to include an estimate of the baseline; the estimated societal benefits and
27 savings from the proposed program; the estimated societal costs of the program, the estimated
28

1 environmental benefits to be derived from the program and the estimated benefit-cost ratio of the
2 program – all of which are important criteria considered by Staff when evaluating DSM programs.

3 98. Staff does not recommend approval of the Renewable Energy and Energy
4 Efficiency Integration Pilot Program at this time.

5 **c. Reporting Requirements**

6 99. According to A.A.C. R14-2-2409(D), an affected utility may request within its
7 implementation plan that the reporting requirements prescribed in A.A.C. R14-2-2409 supersede
8 specific existing DSM reporting requirements. APS is subject to a number of different reporting
9 requirements imposed by other rules or Commission decisions. To avoid multiple requirements
10 for similar information and to eliminate inefficient reporting processes, APS requests:

- 11 • clarification that the EE Rules requirement (A.A.C. R14-2-2409) supersedes similar
12 requirements of A.A.C. R14-2-213, which requires APS to file an updated Energy
13 Conservation Plan; and
14 • clarification that the EE Rules reporting requirements (A.A.C. R14-2-2409) supersede
15 similar DSM semi-annual reporting requirements contained in other Commission Orders.¹²

16 100. The specific requirements that APS requests be superseded by the EE Rules
17 reporting requirements are discussed individually:

18 Arizona Administrative Code R14-2-213

19 101. The purpose of A.A.C. R14-2-213 was formal Commission recognition of the need
20 for conservation of energy resources. The energy conservation plans filed by utilities were
21 designed to help customers reduce energy consumption and cost and encourage participation in
22 energy conservation programs sponsored by other municipal, state, or federal government entities
23 having such jurisdiction. Implementation plans filed under the EE Rules encourage participation
24 in other programs because APS's portfolio of DSM programs is designed to work with, not
25 compete against other available energy saving programs. APS's incentive structure is designed to
26 take into account other rebates that may be available from other entities, such as federal or state tax
27 credits. Additionally, APS works closely with local municipalities to coordinate with them in

28 ¹² See Decision Nos. 59601 (December 5, 1995); 67744 (April 7, 2005); 68648 (April 12, 2006); 70637 (December 11,
2008); 71444 (December 23, 2009); 71866 (September 1, 2010); 72032 (December 10, 2010); 72060 (January 6,
2011); 72088 (January 20, 2011).

1 regard to ARRA funded projects and other offerings. Staff has recommended that APS's programs
2 continue to encourage participation in other municipal, state, or federal government energy
3 conservation programs and that the reporting requirements of A.A.C. R14-2-213 be superseded by
4 A.A.C. R14-2-2409 and the reporting requirements included in the Commission's decision in this
5 docket.

6 Decision No. 59601 (December 5, 1995)

7 102. In the Amended Agreement approved in Decision No. 59601, APS was ordered to
8 "file detailed semi-annual reports with Staff and in Docket Control on all DSM and renewable
9 activities, although confidential information need not be filed in Docket Control."¹³ Staff has
10 recommended that the reporting requirements from Decision No. 59601 be superseded by A.A.C.
11 R14-2-2409 and the reporting requirements included in the Commission's Decision in this docket.

12 Decision No. 67744 (April 7, 2005)

13 103. The reporting requirements contained in the Settlement Agreement approved in
14 Decision No. 67744 (April 7, 2005)¹⁴ are very similar to the listed requirements of A.A.C. R14-2-
15 2409(A). Staff has recommended that the reporting requirements from Decision No. 67744 be
16 superseded by A.A.C. R14-2-2409 and the reporting requirements included in the Commission's
17 Decision in this docket.

18 Decision No. 68648 (April 12, 2006)

19 104. In Decision No. 68468, the Commission approved Staff's recommendation that
20 APS include a description of its DSM marketing activities for all Residential programs included in
21 the Portfolio Plan and provide Staff with examples of marketing materials in its semi-annual
22 reports filed with the Commission.¹⁵

23 105. The EE Rules do not require examples of marketing materials in the Company's
24 Annual DSM Progress Report. Currently, the Company provides a list of community education

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26 ¹³ Decision No. 59601, In the Matter of Arizona Public Service Company's Rate Reduction Agreement, Docket No. U-
1345-95-491, Ordering Paragraph, page 10, lines 27-28; Exhibit 1, page 6, subparagraph f (December 5, 1995).

27 ¹⁴ Decision No. 67744, Attachment A, paragraph 52 (April 7, 2005).

28 ¹⁵ Decision No. 68648, In the Matter of Arizona Public Service Company for Approval of its Demand-Side
Management Program Portfolio Plan and Related Programs, Docket No. E-01345A-050477, page 5, lines 7-8; page 4,
lines 17-19 (April 12, 2006).

1 and consumer outreach efforts and advertising and marketing activities. Staff finds this
2 information useful and would like APS to continue providing this information in its Annual DSM
3 Progress Report.

4 106. Staff has recommended that the reporting requirements of Decision No. 68468 be
5 superseded by Staff's recommended reporting requirements in this Decision, specifically that APS
6 provide a list of community education and consumer outreach efforts and advertising and
7 marketing activities at the program level.

8 Decision No. 70637 (December 11, 2008)¹⁶

9 107. In Decision No. 70637, APS was ordered to continue tracking "DSM applications
10 resulting from studies for which incentives have been paid..."¹⁷ Staff's intent in recommending
11 this requirement was to identify if a tendency exists toward APS customers being paid for studies
12 for which no DSM measures resulted. APS continues to offer a number of incentives for design
13 assistance and feasibility studies, including a proposed \$5,000 design assistance incentive for the
14 MEEP. As long as APS continues to offer incentives for studies, Staff has recommended that APS
15 report in its Annual DSM Progress Report on whether, and what type of, DSM measures are
16 installed by customers subsequent to the receipt of study or design assistance incentives.

17 108. This Decision also required APS to include samples of marketing materials in its
18 Semi-Annual DSM Progress Reports.¹⁸ Staff has recommended that this reporting requirement be
19 superseded by Staff's recommended reporting requirements in this Decision, specifically that APS
20 continue to provide a list of community education and consumer outreach efforts and advertising
21 and marketing activities at the program level.

22 109. Regarding reporting requirements, APS was ordered to "continue to report its MWh
23 savings resulting from DSM measures installed during the reporting period in terms of 'lifetime'

24 _____
25 ¹⁶ Decision No. 70637, In the Matter of the Application of the Arizona Public Service Company for Approval of
26 Modifications and Final Approval of its Non-Residential Demand-Side Management Programs, pp. 9-12 (December
27 11, 2008).

28 ¹⁷ Decision No. 70637, In the Matter of the Application of the Arizona Public Service Company for Approval of
29 Modifications and Final Approval of its Non-Residential Demand-Side Management Programs, p. 9, ll. 3-4.
(December 11, 2008).

¹⁸ Decision No. 70637, In the Matter of the Application of the Arizona Public Service Company for Approval of
30 Modifications and Final Approval of its Non-Residential Demand-Side Management Programs, p. 10, ll. 20.5-23.5
(December 11, 2008).

1 MWh savings over the expected life of the measures; and additionally, it shall report MWh savings
2 for the six-month reporting period; and it shall report both lifetime and reporting period MWh
3 savings by program not only for the period, but year-to-date and DSM program-to-date.”¹⁹

4 110. Beyond requiring that an affected utility report “Savings realized in kW, kWh,
5 therms, and BTUs, as appropriate,”²⁰ the EE Rules do not specify the period for which energy
6 savings should be reported or the terms for such reporting. Staff has recommended that, in its
7 Annual DSM Progress Report, APS report energy savings, as required by the EE Rules, for the
8 previous calendar year and program-to-date, in terms of annual energy savings, lifetime energy
9 savings over the expected life of the measure, and peak load MW savings, and that Staff’s
10 recommended reporting requirement supersede this reporting requirement of Decision No. 70637.

11 111. It is Staff’s recommendation that the EE Rules requirement that an affected utility
12 report “The costs incurred during the previous year, disaggregated by type of cost, such as
13 administrative costs, rebates, and monitoring costs”²¹ supersedes the requirement of Decision No.
14 70637 that APS “add program spending by budget category”²² to its DSM Progress Reports.
15 However, Staff would clarify that the Annual DSM Progress Report along with the September 1
16 status report are to include both cost (actual expenditures) and budget information in the
17 disaggregated manner dictated by the EE Rules.

18 112. Decision No. 70637 called for reporting of “environmental savings in terms of
19 Sulphur Oxide (SOx), Nitrogen Oxides (NOx), Carbon Dioxide (CO₂), Particulate Matter (PM₁₀),
20 and Water (H₂O)” with savings reported “both for measure lifetime savings from DSM measures
21 installed during the reporting period and for savings during the six-month reporting period only;
22 and that such savings shall be reported for the reporting period, year-to-date, and program-to-

23
24
25 ¹⁹ Decision No. 70637, In the Matter of the Application of the Arizona Public Service Company for Approval of
26 Modifications and Final Approval of its Non-Residential Demand-Side Management Programs, p. 11, ll. 14-17
(December 11, 2008).

27 ²⁰ A.A.C. R14-2-2409(A)(4)(f).

28 ²¹ A.A.C. R14-2-2409(A)(4)(d).

²² Decision No. 70637, In the Matter of the Application of the Arizona Public Service Company for Approval of
Modifications and Final Approval of its Non-Residential Demand-Side Management Programs, p. 11, ll. 18-20.
(December 11, 2008).

1 date.”²³ The EE Rules require that “environmental benefits realized, including reduced emissions
2 and water savings”²⁴ be reported in the Annual DSM Progress Report. Staff has recommended
3 that this requirement be superseded by the EE Rules with the understanding that, at this time,
4 “reduced emissions” includes reduced emissions of SO_x, NO_x, CO₂, and PM₁₀.

5 113. Decision No. 70637 ordered APS to “establish a separate reporting category in its
6 DSM Semi-Annual Progress Report within each program section to which Direct Install activities
7 including but not limited to: 1) active number of contractors and contractor identification, 2)
8 number of Direct Install jobs completed, 3) dollar value of the Direct Install incentives paid to
9 contractors, 4) dollar value of Direct Install jobs paid by the customer, 5) number of each Direct
10 Install measure for which incentives were paid, 6) number of instances when incentives were
11 reduced because of eligibility for incentives paid by other entities, 7) spending and savings
12 numbers attributable to Direct Install for the period and year-to-date and program-to-date, 8)
13 descriptions of the types of businesses participating in Direct Install with frequencies of
14 participation for each type, and 9) an estimation of the reduced marketing or other program or
15 administration costs compared to those that would have been expended if the measures were
16 implemented through a non-Direct Install program.”²⁵ Given the prevalence of Direct Install
17 measures throughout APS’s DSM portfolio and the level of specificity of this reporting
18 requirement, which is quite substantial in comparison to the EE Rules, Staff has recommended that
19 APS continue to report this information in its Annual DSM Progress Report with the exception
20 that information reported need only be for the previous calendar and program-to-date.

21 Decision No. 71444 (December 23, 2009)

22 114. Decision No. 71444 required that APS “describe its [low-income] marketing and
23 consumer education activities and provide copies of brochures and other marketing materials in the
24 semi-annual report filed with the Commission, or any successive report ordered by the
25

26 ²³ Decision No. 70637, In the Matter of the Application of the Arizona Public Service Company for Approval of
27 Modifications and Final Approval of its Non-Residential Demand-Side Management Programs, p. 11, ll. 21-25.
(December 11, 2008).

28 ²⁴ A.A.C. R14-2-2409(A)(4)(g).

²⁵ Decision No. 70637, In the Matter of the Application of the Arizona Public Service Company for Approval of
Modifications and Final Approval of its Non-Residential Demand-Side Management Programs, p. 12, ll. 9-17.
(December 11, 2008).

1 Commission²⁶ Staff has recommended that this reporting requirement be superseded by Staff's
2 recommended reporting requirements in this Decision, specifically that APS continue to provide a
3 list of community education and consumer outreach efforts and advertising and marketing
4 activities at the program level.

5 115. APS was also ordered to "report on the Energy Wise program..." including the
6 "number of customers participating, the level of spending for energy efficiency measures, the level
7 of spending associated with non-energy-efficiency measures, the number of measures installed, by
8 type of measure, and the estimated energy and environmental savings arising from this portfolio
9 component, along with any other information necessary for the Commission to understand the
10 progress and status of the program."²⁷

11 116. Much of the information required by Decision No. 71444 for the Energy Wise
12 program has been superseded by the reporting requirements of the EE Rules. However, Staff has
13 recommended that APS continue to include in its Annual DSM Progress Report the level of
14 spending associated with non-energy efficiency measures in the Energy Wise program.

15 117. Staff has recommended that the reporting requirements for the Appliance Recycling
16 program ordered in Decision No. 71444²⁸ be superseded by reporting requirements of the EE
17 Rules. However, similar to the additional requirement for the Energy Wise program, Staff has
18 recommended that APS continue to include in its Annual DSM Progress Report the level of
19 spending associated with non-energy efficiency measures in the Appliance Recycling program.

20 118. Staff has recommended that the order that "APS address the Self Direction
21 component in its Demand Side Management Semi-Annual Report filed with the Commission"²⁹ be
22 superseded by the reporting requirements of the EE Rules.

23 ...

24 _____
25 ²⁶ Decision No. 71444, In the Matter of the Application of Arizona Public Service Company for Approval of its 2010
Energy Efficiency Implementation Plan, Docket No. E-01345A-08-0172, p. 12, ll. 17-22. (December 23, 2009).

26 ²⁷ Decision No. 71444, In the Matter of the Application of Arizona Public Service Company for Approval of its 2010
Energy Efficiency Implementation Plan, Docket No. E-01345A-08-0172, p. 14, ll. 12-20. (December 23, 2009).

27 ²⁸ Decision No. 71444, In the Matter of the Application of Arizona Public Service Company for Approval of its 2010
Energy Efficiency Implementation Plan, Docket No. E-01345A-08-0172, p. 16, l. 24 – p. 17, l. 5. (December 23,
2009).

28 ²⁹ Decision No. 71444, In the Matter of the Application of Arizona Public Service Company for Approval of its 2010
Energy Efficiency Implementation Plan, Docket No. E-01345A-08-0172, p. 20, ll. 17-21. (December 23, 2009).

1 119. While the elements required to be reported for Self Direction projects³⁰ are those
2 required by A.A.C. R14-2-2409, Staff has recommended that Self Direction projects be reported
3 separately from the Non-Residential Large Existing Facilities or New Construction DSM
4 Programs. Staff has recommended that the actual reporting requirements be superseded by the EE
5 Rules.

6 Decision No. 71866 (September 1, 2010)

7 120. Decision No. 71866 required APS to “report on the [Residential Energy Efficiency
8 Financing (“REEF”)] program in its DSM semi-annual report filed with the Commission, or in any
9 succeeding form of report ordered by the Commission. The information and data reported shall
10 include the number and size of the loans, the number and size of the loans in default, the total
11 amount found to be uncollectible, and any other information necessary for the Commission to
12 understand the progress and status of the program, including any ongoing problems and their
13 proposed solutions.”³¹

14 121. While the REEF may be its own program, subject to the reporting requirements of
15 A.A.C. R14-2-2409, Staff has recommended that APS continue to report to the Commission the
16 number and size of the loans, the number and size of the loans in default, the total amount found to
17 be uncollectible, and any other information necessary for the Commission to understand the
18 progress and status of the program. Staff has recommended that this reporting requirement be
19 superseded by Staff’s recommended reporting requirements in this Decision.

20 122. A similar financing reporting requirement was imposed by Decision No. 71460
21 (January 26, 2010). APS was ordered to report on the Non-Residential Customer Repayment
22 Financing program including “the number and size of the loans, the number of borrowers in each
23 classification (schools, small businesses or municipalities), the number and size of the loans in
24 default, the total amount found to be uncollectible, and any other information necessary for the
25 _____

26 ³⁰ Decision No. 71444, In the Matter of the Application of Arizona Public Service Company for Approval of its 2010
27 Energy Efficiency Implementation Plan, Docket No. E-01345A-08-0172, p. 20, l. 22 – p. 21, l. 2. (December 23,
2009).

28 ³¹ Decision No. 71866, In the Matter of Arizona Public Service Company for Approval of its 2010 Energy Efficiency
Implementation Plan – Residential Repayment Financing Program, Docket No. E-01345A-08-0172, p. 12, ll. 17-22.
(September 1, 2010).

1 Commission to understand the progress and status of the program. Any ongoing problems and
2 their proposed solutions should also be reported.”³² Staff has recommended that this reporting
3 requirement be superseded by the EE Rules but, similar to the REEF, that APS continue to report
4 to the Commission the number and size of the loans, the number of borrowers in each
5 classification (schools, small businesses or municipalities), the number and size of the loans in
6 default, the total amount found to be uncollectible, and any other information necessary for the
7 Commission to understand the progress and status of the program.

8 Decision No. 72032 (December 10, 2010)

9 123. Decision No. 72032 ordered “that the status of all programs [Consumer Products,
10 Appliance Recycling, Energy Wise] shall be reported in semi-annual reports, or in any succeeding
11 form of report ordered by the Commission. Information reported shall include, but not be limited
12 to, the types of information and data currently covered in the current semi-annual reports.”³³ Staff
13 has recommended that this requirement be superseded by the EE Rules.

14 Decision No. 72060 (January 6, 2011)

15 124. Decision No. 72088 ordered APS to “include detailed information regarding the
16 implementation budget for each program...including information on the program-specific costs
17 included in the Implementation budget category for that program and, for each program, how
18 much Implementation funding is retained by APS and how much is paid to outside contractors.”³⁴
19 Staff has recommended that this reporting requirement be superseded by the EE Rules but would
20 clarify that information on the program-specific costs included in the Implementation budget
21 category for that program and, for each program, how much Implementation funding is retained by
22 APS and how much is paid to outside contractors shall continue to be reported in APS’s Annual
23 DSM Progress Report.

24 _____
25 ³² Decision No. 71460, In the Matter of the Application of Arizona Public Service Company for Approval of its 2010
Energy Efficiency Implementation Plan. Docket No. E-01345A-08-0172, p. 19, ll. 5-12 (January 26, 2010).

26 ³³ Decision No. 72032, In the Matter of the Application of Arizona Public Service Company for Approval of the
Company’s 2011 Demand Side Management Implementation Plan, Docket No. E-01345A-10-0219, p. 18, ll. 1-4.
27 (December 10, 2010).

28 ³⁴ Decision No. 72060, In the Matter of the Application of Arizona Public Service Company for Approval of the
Company’s 2011 Demand Side Management Implementation Plan, Docket No. E-01345A-10-0219, p. 25, ll.1-5
(January 6, 2011).

1 Decision No. 72088 (January 20, 2011)

2 125. In Decision No. 72088, APS was ordered to report on its Bid for Efficiency pilot
3 measure including “detailed information on how savings from the Bid for Efficiency pilot measure
4 are being verified.”³⁵

5 126. APS was also ordered to report on “the status of the Nonresidential programs,
6 including data on whether the new measures are cost-effective in practice”³⁶ and to include
7 “information on: (i) the program-specific costs included in the Implementation category; (ii) how
8 much Implementation funding is retained by Arizona Public Service Company; and (iii) how much
9 Implementation funding is paid to outside contractors.”³⁷

10 127. Staff has recommended that these reporting requirements be superseded by the EE
11 Rules and Staff’s recommended reporting requirements in this Decision, specifically that, in its
12 Annual DSM Progress Report, APS continue to report detailed information on how savings from
13 the Bid for Efficiency pilot measure are verified and that all applicable programs include
14 information on the program-specific costs included in the Implementation budget category for that
15 program and, for each program, how much Implementation funding is retained by APS and how
16 much is paid to outside contractors.

17 Recommendations

18 128. Staff has recommended that, in general, all of the reporting requirements discussed
19 above be superseded by the EE Rules such that APS only be required to file an Annual DSM
20 Progress Report on March 1 of each year, and a status report on September 1, in a Commission-
21 established docket for that year, rather than filing separate reporting materials in the various
22 dockets discussed above.

23 ...

24 _____
25 ³⁵ Decision No. 72088, In the Matter of the Application of Arizona Public Service Company for Approval of the
Company’s 2011 Demand Side Management Implementation Plan, Docket No. E-01345A-10-0219, p. 18, ll.22-25
(January 20, 2011).

26 ³⁶ Decision No. 72088, In the Matter of the Application of Arizona Public Service Company for Approval of the
Company’s 2011 Demand Side Management Implementation Plan, Docket No. E-01345A-10-0219, p. 19, ll. 18-20
27 (January 20, 2011).

28 ³⁷ Decision No. 72088, In the Matter of the Application of Arizona Public Service Company for Approval of the
Company’s 2011 Demand Side Management Implementation Plan, Docket No. E-01345A-10-0219, p. 20, ll.1-5
(January 20, 2011).

1 129. Beyond the reporting requirements of the EE Rules detailed in A.A.C. R14-2-2409,
2 Staff also has recommended that APS include the following information in its Annual DSM
3 Progress Reports:

- 4 • whether, and what type of, DSM measures are installed by customers subsequent to the
5 receipt of study or design assistance incentives;
- 6 • a list of community education and consumer outreach efforts and advertising and marketing
7 activities at the program level for each program;
- 8 • energy savings, as required by the EE Rules, for each measure for the previous calendar
9 year and program-to-date, in terms of annual energy savings, lifetime energy savings over
10 the expected life of the measure, and peak load MW savings;
- 11 • cost (actual expenditures) and budget information in the disaggregated manner dictated by
12 the EE Rules;
- 13 • reduced emissions of SO_x, NO_x, CO₂, and PM₁₀;
- 14 • for Direct Install measures, the 1) active number of contractors and contractor
15 identification, 2) number of Direct Install jobs completed, 3) dollar value of the Direct
16 Install incentives paid to contractors, 4) dollar value of Direct Install jobs paid by the
17 customer, 5) number of each Direct Install measure for which incentives were paid, 6)
18 number of instances when incentives were reduced because of eligibility for incentives paid
19 by other entities, 7) spending and savings numbers attributable to Direct Install for the
20 previous calendar year and program-to-date, 8) descriptions of the types of businesses
21 participating in Direct Install with frequencies of participation for each type, and 9) an
22 estimation of the reduced marketing or other program or administration costs compared to
23 those that would have been expended if the measures were implemented through a non-
24 Direct Install program;
- 25 • the level of spending associated with non-energy efficiency measures in the Energy Wise
26 program;
- 27 • the level of spending associated with non-energy efficiency measures in the Appliance
28 Recycling program;
- a separate section for Self Direction projects;
- the number and size of the loans, the number and size of the loans in default, the total
 amount found to be uncollectible, and any other information necessary for the Commission
 to understand the progress and status of the REEF program and the Non-Residential
 Customer Repayment Financing program;
- detailed information on how savings from the Bid for Efficiency pilot measure are verified;
 and
- an Implementation budget category for applicable programs and, for each applicable
 program, how much Implementation funding is retained by APS and how much is paid to
 outside contractors.

25 **d. Website Enhancement**

26 130. At the Open Meeting held on November 23, 2010, APS committed to provide
27 additional program-related information on the aps.com website that would make it easier for
28

1 customers and contractors to monitor the status of the programs and to obtain information about
2 similar programs across utilities.

3 131. APS currently provides information about its DSM programs to customers on the
4 aps.com website. Based on the discussion at the Commission, there was a desire to have
5 information added to the program pages on the website to include: a description of the Arizona
6 Energy Efficiency Standard and what APS is doing to meet the Standard; information on available
7 federal and state tax credits for energy efficiency projects; the annual budget for energy efficiency
8 programs; and the amount of money spent on these programs. APS plans to make this additional
9 information available on the modified program web pages by the end of 2011 in conjunction with
10 an ongoing effort to re-design the entire aps.com website.

11 **IV. Demand Response and Load Management Programs**

12 132. In its 2012 Plan, APS is seeking continued funding of the APS Peak Solutions®
13 program, Home Energy Information Pilot (“HEI Pilot”) and marketing/measurement of Demand
14 Response (“DR”) rates.

15 133. APS plans to meet 10% of the 2012 DSM Energy Efficiency Standard energy
16 savings (kWh) with the following DR programs and rates: APS Peak Solutions®, Residential Super
17 Peak rate, and Time of Use rates. For APS, 10% of the 2012 Energy Efficiency Standard kWh
18 savings amounts to 53,000 MWh.³⁸ The anticipated 2012 demand reductions are detailed in the
19 table below.

20 **Proposed 2012 Demand Reductions**

21 DR Program	MW Reduced
22 APS Peak Solutions	100
23 Super Peak Pricing	0.2
Time of Use Rates	109
Total	209

24 ...

25 ...

26

27 ³⁸ Substituting the 209 MW DR load reduction into the DR energy savings formula yields 915,420 MWh of potential
28 energy savings from DR programs and rates. Since the EE Rules cap the DR contribution at 10% of the energy savings
goal (10% of 533,000 MWh), 53,000 MWh will be attributed to the 2012 DSM energy savings in lieu of the higher
calculated value of 915,420 MWh.

1 **a. Home Energy Information Pilot**

2 134. On March 3, 2011, in Decision No. 72214 (Docket No. E-01345A-10-0075), the
3 Commission approved APS’s HEI Pilot. APS had expected that the HEI Pilot would be
4 operational sometime during the 2011 summer season. The HEI Pilot is planned to be conducted
5 through two summer seasons, and the related Schedule 16 was proposed to be available through at
6 least December 31, 2012. According to APS, the Company is most interested in evaluating the HEI
7 Pilot’s effect on the summer peak demand. Because approval and implementation occurred later
8 than anticipated, the HEI Pilot was not implemented during the summer of 2011.

9 135. On November 4, 2011, APS filed a request for revision to the schedule for the HEI
10 Pilot, extending the availability of HEI Pilot until December 31, 2013. Because the HEI Pilot was
11 intended to be evaluated over two summer seasons, Staff has recommended granting APS’s
12 request to extend the pilot period so that two summers of information may be captured, as
13 proposed in the original application and as approved by the Commission.

14 136. Staff has further recommended that the budget for the HEI Pilot be limited to the
15 budgets approved for the pilot program in Decision No. 72214 (March 3, 2011) and the
16 Commission’s Decision in this docket on the 2012 Plan.

17 **b. Electric Vehicle Readiness Demonstration Project**

18 137. In its application, APS originally included the Electric Vehicle Readiness
19 Demonstration Project (“ev-READY Project”) as a DR program. A revised version of the ev-
20 READY Project was approved in Decision No. 72582 (September 15, 2011, Docket No.
21 E-01345A-10-0123), but the program was not approved as a DSM program. APS filed notice with
22 the Commission on October 20, 2011, that this program was to be removed from the Company’s
23 2012 plan with corresponding reductions made to the DSMAC as discussed in Section V.

24 Budget

25 138. The proposed 2012 DR budget, adjusted to reflect the removal of the ev-READY
26 Project, is presented in the table below.

27 ...

28 ...

Proposed 2012 DR Budget

DR Program	Budget
APS Peak Solutions	\$8,665,000
DR Marketing and MER of Rate Options	\$200,000
HEI Pilot Program	\$899,000
Total	\$9,764,000

Recommendations

139. Staff has recommended approval of the proposed DR budget and of continuation of APS's previously approved suite of DR programs.

V. Budget**a. Energy Efficiency and Demand Response Budget**

140. Staff evaluated the budgets for each program and for the DSM portfolio. Individual program budgets are commensurate with levels of funding previously approved by the Commission. The total DSM portfolio budget, amended by Staff to reflect the recommended changes to the 2012 Plan, is presented in Table 2 in Appendix A. The 2012 Plan budget, as amended by Staff, totals \$73,756,753.

141. Staff recognizes that eliminating Tier 2 and 3 measures from the Existing Homes Program, which resulted in a reduced budget of \$9,825,424 and reduced energy savings of approximately 22,000 MWh, places APS at less than 100 percent of the 2012 savings target prescribed in the EE Rules. Cost-effective energy efficiency investments present a valuable opportunity to both the Company and to its customers to realize reduced energy costs. Moreover, it is not Staff's intention to have APS achieve less than the prescribed 1.75 percent savings target for 2012.

142. Staff has recommended that APS file a revised 2012 Plan, reallocating approximately \$9.8 million to programs and measures, either new or existing, that Staff has found to be cost effective to generate the necessary 22,000 MWh to meet 100 percent of the 2012 savings target. Staff has recommended that APS file a revised 2012 Plan by February 10, 2012.

...

...

1 **b. Budget Shifting**

2 143. APS is requesting the ability to shift energy efficiency funds between the
3 Residential and Non-Residential classes. To ensure that the approved balance of funding between
4 the customer classes remains largely intact, APS is also proposing to limit the total amount that
5 could be shifted between customer classes to 10 percent of that class's total annual budget. No
6 budget funding will be shifted out of the Low Income or Schools programs.

7 144. The section of the EE Rules dealing with parity and equity, A.A.C. R14-2-2408(B),
8 dictates that "An affected utility shall allocate DSM funds collected from residential customers and
9 from non-residential customers proportionately to those customer classes to the extent
10 practicable."

11 145. The Residential budget represents 54 percent of the total 2012 Plan budget, while
12 the Non-Residential budget represents 46 percent of the total. This seems to be comparable to the
13 split for actual expenditures in 2010, the most recent year for which information is available. In
14 2010, APS allocated 52 percent of actual program expenditures to Residential programs, with the
15 remaining 48 percent allocated to Non-Residential programs.

16 146. In 2010 APS collected about 42 percent of total DSMAC revenue from Residential
17 customers with Non-Residential customers contributing the remaining 58 percent.

18 147. While the amounts collected from each customer class are not exactly the same as
19 the amounts spent on programs for that customer class, the level of funding collected through the
20 DSMAC is roughly commensurate with the program funding for each customer class. Staff does
21 not recommend that APS be allowed to shift up to 10 percent of energy efficiency funds between
22 the Residential and Non-Residential classes. Staff does, however, recommend that APS more
23 closely track its expenditures and make an effort to more closely allocate funds to each customer
24 class proportionate with the revenue collected from that customer class through the DSMAC.

25 148. APS has previously been approved for various budget-flexibility mechanisms.
26 Decision No. 70637 (December 11, 2008) allowed APS to exceed any DSM program annual
27 budget by up to 15 percent without prior Commission authorization. However, APS was ordered
28 to notify the Commission whenever any DSM program annual budget is exceeded and to seek

1 Commission approval prior to exceeding any Commission-authorized annual budget for any DSM
2 program by more than 15 percent.

3 149. Decision Nos. 68488 (February 23, 2006) and 68648 (April 12, 2006) allow APS to
4 shift a maximum of 25 percent of budgeted funds from one program to another program in the
5 same sector (Residential or Non-Residential) per calendar year with the exception that funds may
6 not be shifted from Low Income or Schools programs.

7 150. In previous DSM filings, APS has indicated that flexibility is a key to implementing
8 a successful program so that it can make adjustments to maximize the results of the DSM
9 programs. At that time, Staff expressed concern that too much flexibility for new programs could
10 result in loss of the Commission's ability to monitor and provide valuable input regarding certain
11 aspects of the program while it is being developed and implemented. (Decision No. 68488). Staff
12 understands the need for flexibility and agrees that it is necessary to maximize results of DSM
13 programs, especially given the current state of the economy and its impact on APS customers.
14 However, after implementing energy efficiency programs for quite some time, APS should be
15 conscious of its programs, the levels of participation, and the changes it has observed in its
16 programs over time.

17 151. Staff has recommended that APS continue to have various flexibility mechanisms at
18 its disposal. Staff has recommended maintaining the flexibility to shift budgeted funds from one
19 program to another program in the same sector (Residential or Non-Residential) per calendar year
20 with the exception that funds may not be shifted from Low Income or Schools programs. Staff has
21 also recommended that APS be allowed to exceed any DSM program annual budget by up to 5
22 percent without prior Commission authorization, rather than the 15 percent approved in Decision
23 No. 70637 (December 11, 2008). Staff does not recommend that APS be allowed to shift up to 10
24 percent of energy efficiency funds between the Residential and Non-Residential classes. Staff
25 does, however, recommend that APS more closely track its expenditures and make an effort to
26 more closely allocate funds to each customer class proportionate with the revenue collected from
27 that customer class through the DSMAC.

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1 **VI. Demand Side Management Adjustment Charge**

2 152. The DSMAC mechanism structure agreed to by the parties in the 2009 Settlement
3 allows for more concurrent recovery of DSM program costs and incentives than was allowed
4 previously. Because of the transition from a lagging DSMAC to a forward-looking DSMAC in
5 2009, the old DSMAC recovered costs through 2008 and the new DSMAC began recovering 2010
6 costs leaving 2009 costs unrecovered. Decision No. 71460 authorized APS to recover one-third of
7 all unrecovered 2009 costs each year over the three years of 2010, 2011, and 2012 without interest.

8 153. Because 2012 will be the third of three transition years to the new forward-looking
9 DSMAC, the DSMAC charges for 2012 will recover the projected costs for 2012 (less \$10 million
10 recovered in base rates), the final third of 2009 costs, and the true-up of 2010 costs. There is no
11 credit taken for gains on the sale of APS property this year.

12 154. Decision No. 71104 (June 5, 2009) authorized the projected costs from the
13 approved Commercial and Industrial Customer Load Management DR program to also be
14 recovered through the DSMAC beginning in 2010. In addition, the Company is requesting
15 Commission approval for recovery of incremental costs for marketing, customer acquisition, and
16 MER for DR rates, which includes time-of-use rates, through the DSMAC. Staff has
17 recommended approval for recovery of incremental costs for marketing, customer acquisition, and
18 MER for DR rates, which includes time-of-use rates, through the DSMAC and has included these
19 costs in its DSMAC calculation.

20 155. Staff has recommended DSMAC charges of \$0.002521 per kWh and \$0.9580 per
21 kW³⁹. These values are comparable to the present charges of \$0.002717 per kWh and \$0.9685 per
22 kW. The bill impact of the DSMAC to the typical residential customer using 1,100 kWh per
23 month is anticipated to be \$2.77 per month. This represents a decrease of approximately 22 cents
24 per month for the average residential customer.

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27 ³⁹ The DSMAC is based on the Total 2012 DSM Budget, amended by Staff's proposed changes to the Residential
28 HVAC program. Staff's changes reduced the Total 2012 DSM Budget by \$9.825 million. If this amount were included
in the budget, the DSMAC charges would be \$0.002880 per kWh and \$1.0950 per kW.

156. The table below summarizes the DSM program costs used by Staff to calculate APS's proposed 2012 DSMAC. With Commission approval, the 2012 DSMAC will be effective with billing cycle 1 of March 2012.

2012 DSM Budget	
Energy Efficiency Program Costs	\$54,854,300
Codes & Standards	\$100,000
Measurement, Evaluation and Research	\$2,500,000
Performance Incentive	<u>\$6,538,453</u>
Demand Response Program Costs	\$9,764,000
Total 2012 DSM Budget	<u>\$73,756,753*</u>
2012 Revenue Requirement for DSMAC	
Total 2012 DSM Budget	<u>\$73,756,753*</u>
2009 Budget Carryover for 2012	\$4,875,000
Amount Recovered in Rate Base	(\$10,000,000)
Recovery of True-up Balance	\$429,000
Total Revenue Requirement for DSMAC - 2012	<u>\$69,060,753</u>

* **\$73,756,753** is the Total 2012 DSM Budget, amended by Staff's proposed changes to the Residential HVAC program. Staff's changes reduced the Total 2012 DSM Budget by \$9.825 million. If this amount was included, the Total 2012 DSM Budget would amount to **\$83,582,177**.

157. The true-up balance is the difference between actual expenses and actual revenue recovered through the DSMAC. The DSMAC for 2012 includes the true-up amount for 2010 DSM programs. The total true-up amount also includes a true-up for the performance incentive in which APS verifies (1) actual energy savings (kWh) (2) the present value of net benefits from DSM programs and (3) actual program costs. APS then determines whether the level of energy savings places the Company in the performance incentive tier for which it was approved and whether the amount of the performance incentive has changed based on actual program costs.

158. Staff has recommended that the calculations for the performance incentive portion of the annual true-up be presented in a separate section of the Annual DSM Progress Report. For example, in the Annual DSM Progress Report filed by the Company on March 1, 2012, which will provide information for programs implemented in January – December 2011, Staff has recommended inclusion of a separate section in the report which details how the performance incentive for 2011 programs was trued-up. This portion of the true-up would then be included in the DSMAC for the 2013 DSM Implementation Plan.

1 **VII. 2012 Plan Energy Savings, Benefits and Cost Effectiveness**

2 **Energy Savings**

3 159. The total energy savings anticipated to result from proposed 2012 programs, as
4 amended by Staff, is presented in the table below.

5 **Proposed 2012 Plan Energy Savings**

6 Program	2012 Units	Annual kWh Savings per unit	Total kWh Savings 2012
Residential			
Residential Consumer Products			
CFLs	2,600,000	42	108,508,384
Giveaway CFLs	210,000	45	9,546,649
Variable Speed Pool Pump - 2012	1,000	1434	1,433,866
Pool Pump Timers	750	1080	810,199
Residential Existing Homes			
Residential HVAC			
Tier 1 - Equipment + QI	2,200	1020	2,243,506
Duct Test & Repair	316	1069	338,215
HVAC Diagnostics	904	710	641,825
Home Performance with Energy Star*			
HPwES Audits	4,500	0	0
Duct Test & Repair	2,100	1039	2,182,851
Air Sealing	400	1662	664,946
Air Sealing & Attic Insulation	1050	1742	1,829,194
Direct Install - Shower Heads	2,850	238	679,114
Direct Install - Faucet Aerators	7,125	81	575,661
Direct Install - CFLs	38,000	43	1,625,193
Shade Screens	150	1861	279,194
Performance-based Tier 1	90	2071	186,391
Performance-based Tier 2	120	3179	381,494
Performance-based Tier 3	40	4732	189,264
Performance-based Tier 4	15	6657	99,855
Residential New Construction			
ENERGY STAR 3 (HERS 70)	1,750	5328	9,323,698
ENERGY STAR Tier 2 (Insulation at Roof Deck)	250	6520	1,629,907
Residential Multi-Family			
Direct Install Measures	82,500	67	5,565,154
Builder Option Packages	240	2004	480,970

Non-Residential Solutions for Business			
Energy Management Systems			
Replacing/Installing Pneumatic Controls	500,000	4	2,183,874
Replacing Digital Controls	500,000	3	1,747,099
Replacing Lighting Controls	100,000	1	138,374
LED			
Pedestrian Signs	500	676	337,863
Incandescent without Reflector	3,000	251	751,613
Incandescent with Reflector	3,000	199	596,774
MR-16 Replacement	1,000	141	140,860
Refrigeration Strip Lighting without Motion Sensor	1,700	589	1,001,153
Refrigeration Strip Lighting with Motion Sensor	1,325	665	880,654
Total			156,993,791

Cost Effectiveness

160. The cost effectiveness of the Company's proposed programs for 2012, as calculated by Staff, is presented in the table below. Staff has recommended that, in all future DSM Implementation Plans, the Company use the same input values and methodology as Staff for calculating the present value benefits and costs to determine benefit-cost ratios.

Proposed 2012 Plan Cost Effectiveness

Program	2012 Units	Present Value Societal Benefits	Present Value Societal Costs	Benefit-Cost Ratio
Residential				
Residential Consumer Products				
CFLs	2,600,000	\$21,300,225	\$6,741,628	3.16
Giveaway CFLs	210,000	\$1,874,010	\$666,626	2.81
Variable Speed Pool Pump	1,000	\$463,126	\$444,372	1.04
Pool Pump Timers	750	\$261,687	\$158,276	1.65
Residential Existing Homes				
Residential HVAC				
Tier 1 - Equipment + QI	2,200	\$1,108,596	\$903,719	1.23
Duct Test & Repair	316	\$409,586	\$289,782	1.41
HVAC Diagnostics	904	\$198,065	\$197,597	1.00
<i>Res HVAC Program TOTAL</i>		<i>\$1,716,247</i>	<i>\$1,391,098</i>	<i>1.23</i>
Home Performance with Energy Star*				
HPwES Audits	4,500	\$0	\$414,307	0.00

1	Duct Test & Repair	2,100	\$2,843,265	\$881,645	3.22
2	Air Sealing	400	\$400,195	\$223,196	1.79
3	Air Sealing & Attic Insulation	1050	\$1,140,982	\$1,099,907	1.04
4	Direct Install - Shower Heads	2,850	\$216,421	\$137,823	1.57
5	Direct Install - Faucet Aerators	7,125	\$196,800	\$50,342	3.91
6	Direct Install - CFLs	38,000	\$341,674	\$58,142	5.88
7	Shade Screens	150	\$156,007	\$129,732	1.20
8	Performance-based Tier 1	90	\$144,970	\$90,928	1.59
9	Performance-based Tier 2	120	\$314,592	\$219,719	1.43
10	Performance-based Tier 3	40	\$115,636	\$104,124	1.11
11	Performance-based Tier 4	15	\$56,880	\$53,979	1.05
12	HPwES Program Costs			\$2,352,000	
13	<i>HPwES Program TOTAL</i>		\$5,927,423	\$5,815,843	1.02
14	Residential New Construction				
15	ENERGY STAR 3 (HERS 70)	1,750	\$10,434,362	\$7,662,950	1.36
16	ENERGY STAR Tier 2 (Insulation at Roof Deck)	250	\$1,730,890	\$1,243,292	1.39
17	Residential Multi-Family				
18	Direct Install Measures	82,500	\$2,157,245	\$1,467,909	1.47
19	Builder Option Packages	240	\$347,841	\$330,560	1.05
20	Non-Residential - Solutions for Business				
21	Energy Management Systems				
22	Replacing/Installing Pneumatic Controls	500,000	\$812,760	\$803,624	1.01
23	Replacing Digital Controls	500,000	\$650,208	\$657,193	0.99
24	Replacing Lighting Controls	100,000	\$51,498	\$43,398	1.19
25	LED				
26	Pedestrian Signs	500	\$117,788	\$108,345	1.09
27	Incandescent without Reflector	3,000	\$344,792	\$115,294	2.99
28	Incandescent with Reflector	3,000	\$318,443	\$158,718	2.01
29	MR-16 Replacement	1,000	\$77,487	\$49,729	1.56
30	Refrigeration Strip Lighting without Motion Sensor	1,700	\$350,947	\$220,051	1.59
31	Refrigeration Strip Lighting with Motion Sensor	1,325	\$295,396	\$177,096	1.67
32	Energy Efficiency Total		\$49,232,374	\$28,256,004	1.74

* Measures in whole-house programs are evaluated without program costs at the measure level because the incremental cost for the suite of measures offered under these programs vary greatly. Program costs are included at the program level to ensure program cost effectiveness.

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1 Performance Incentive

2 161. The current tiered structure of APS's performance incentive is a product of the
3 Settlement Agreement in APS's last rate case, approved in Decision No. 71448 (December 30,
4 2009). In 2012, the EE Rules require that APS achieve 1.75 percent savings of retail energy sales
5 from the prior year or cumulative (2011 and 2012) savings of 3.0 percent.⁴⁰ This goal results in
6 savings of 533,298 megawatt-hours ("MWh") for 2012. As filed, APS's 2012 Plan would have
7 met 100 percent of the energy efficiency standard for 2012, and the third performance incentive
8 tier (96 -105 percent) would be used to calculate the performance incentive.

9 162. After eliminating two measures from the Existing Homes program that were not
10 cost effective, the total energy savings from 2012 programs, including 10 percent of DR savings,
11 totals approximately 511,000 MWh. This level of savings represents about 96 percent of the 2012
12 savings target such that the third performance incentive tier is still used to calculate the
13 performance incentive.

14 163. Removal of the non-cost effective measures required Staff to recalculate the net
15 benefits for the entire 2012 plan portfolio of programs. Staff made its best effort to approximate
16 the net benefits resulting from 2012 programs. However, because Staff and the Company utilize
17 different inputs and methodologies for calculating net benefits (and cost effectiveness) and Staff
18 cannot recalculate the net benefits for all 2012 Plan programs, this figure is inaccurate and is
19 slightly higher than it would be had Staff calculated the net benefits for the 2012 portfolio.

20 164. Under the third performance incentive tier, the performance incentive is the lower
21 value of seven percent of net benefits resulting from 2012 programs or 14 percent of 2012 program
22 costs.⁴¹ Although Staff's net benefits calculation is inaccurate, seven percent of the net benefits is
23 still the lower value. Staff has recommended that APS's performance incentive for 2012 be
24 \$6,538,453.

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27 ⁴⁰ A.A.C. RI4-2-2404(B)

28 ⁴¹ Program costs include only the total program costs for residential and non-residential programs, MER costs and, for 2012, the costs for the ESCP.

2012 Proposed Performance Incentive Calculation

Achievement Relative to the Energy Efficiency Goals	Performance Incentive as % of Net Benefits	Performance Incentive Capped at % of Program Costs
<85%	0%	0%
85% to 95%	6%	12%
96% to 105%	7%	14%
106% to 115%	8%	16%
116% to 125%	9%	18%
>125%	10%	20%

Energy Savings (kWh)	<u>511,031,113</u>
Percent of Goal	<u>96%</u>

	Net Benefits	Program Costs
Incentive %	<u>7%</u>	<u>14%</u>
Program Plan	<u>\$93,406,473</u>	\$57,454,300
Calculated Incentive	<u>\$6,538,453</u>	<u>\$8,043,602</u>

Performance Incentive	<u>\$6,538,453</u>
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VIII. 2012 Plan Environmental Benefits

165. The estimated environmental benefits associated with APS's 2012 Plan, as amended by Staff, are presented in the table below.

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1 **Proposed 2012 Environmental Benefits**

	Water (million gallons)	SOx (lbs)	NOx (lbs)	CO₂ (million lbs)	PM₁₀ (lbs)
Residential					
Consumer Products	232	3,252	61,787	657	18,050
Existing Homes	109	1,534	29,151	310	8,516
New Construction	69	975	18,253	197	5,411
Appliance Recycling	29	406	7,719	82	2,255
Low Income	11	156	2,957	31	864
Conservation Behavior	10	139	2,632	28	769
Multi-Family	17	232	4,407	47	1,287
Shade Trees	6	90	1,714	18	501
Residential Totals	483	6,784	128,620	1,370	37,653
Non-Residential					
Large Existing	649	9,104	172,985	1,839	50,535
New Construction	130	1,825	34,680	369	10,131
Small Business	165	2,318	44,033	468	12,863
Schools	147	2,063	39,205	417	11,453
EIS	3	44	844	9	247
Non-Residential Totals	1,094	15,354	291,747	3,102	85,229
2012 Program Totals	1,577	22,138	420,367	4,472	122,882

16 **IX. 2012 Plan Measurement, Evaluation, and Research**

17 166. The MER process verifies the impact and cost effectiveness of the EE programs.
 18 Navigant Consulting, an independent third-party, energy consulting company, provides the EE
 19 program measurement and evaluation services. These measurement and evaluation activities
 20 include, but are not limited to:

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

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1 167. The approach for measurement and evaluation of the energy efficiency programs is
2 to integrate data collection and tracking activities directly into the program implementation
3 process. In fact, Commission Decision No. 69663 (June 28, 2007) requires APS to:

4 Use measured savings obtained from APS customers by the MER contractor
5 beginning no later than July 1, 2007; and that the averages of actual measured
6 usage, for both standard and upgraded equipment, should be recalculated by the
7 MER from usage samples for each prescriptive measure based on new
8 measurements from the field no less frequently than every two years.

9 168. APS integrates the most recent annual MER adjustments and process and impact
10 findings into its annual Implementation Plan.

11 MER Budget

12 169. APS proposes to maintain a MER budget of \$2.5 million for 2012 to cover ongoing
13 MER activities associated with the energy efficiency programs. APS will perform measurement
14 and verification of the DR programs peak load reduction with detailed modeling and statistical
15 techniques.

16 X. Recommendations

17 170. Staff has recommended approval of APS's 2012 Plan, as discussed herein. A
18 summary of Staff's recommendations are presented below.

19 171. Staff has recommended approval of the revised Consumer Products Program; the
20 Residential HVAC Program, as modified by Staff; the revised Home Performance with Energy
21 Star Program; the revised Residential New Construction Program; the revised Multifamily Energy
22 Efficiency Program; the proposed EMS and LED measures within the Non-Residential Program;
23 and the Energy Codes & Standards Support Project.

24 172. It is Staff's expectation that, once APS has compiled 12 months of data regarding
25 actual energy savings associated with pool pump timers, the Company will file a letter detailing
26 the participation levels for this measure and whether or not the timer measure results in cost-
27 effective energy savings.

28 173. Staff has recommended that timers cease to be included as a measure eligible for
rebates in future years unless savings from the timers can be verified by the Company.

1 174. Staff has recommended that APS not be allowed to include savings impacts from
2 the pool pump and pool pump motor legislation as energy savings from building codes under
3 A.A.C. R14-2-2404(E).

4 175. Staff has recommended that the number of participants, energy savings, coincident
5 demand, measure life, actual expenses, etc. be reported separately for the Residential HVAC and
6 HPwES components of the Existing Homes Program in the Company's Annual DSM Progress
7 Report.

8 176. Staff has further recommended that APS report the current HPwES measures
9 separate from the HPwES performance-based tiers but include sufficient information within the
10 tier-level reporting so Staff is aware of the measures being installed within each performance-
11 based tier.

12 177. Staff has recommended that APS track and report in the Company's Annual DSM
13 Progress Report the number and type of optional measures that builders/developers are choosing to
14 install under the MEEP BOPs along with the energy savings, coincident demand savings, and
15 actual costs for each measure.

16 178. Staff has recommended that APS report in its Annual DSM Progress Report the
17 number of measures installed, the annual energy and capacity savings, and the measure life for the
18 EMS and LED measures on an individual measure basis so that both the Company and Staff are
19 able to clearly identify those measure preferred by customers and the individual energy savings
20 characteristics associated with these new measures.

21 179. Staff has recommended that the Energy Codes & Standards Support Project be
22 renamed the Energy Building Codes Support Project to reflect that only savings from improved
23 building codes, and not appliance standards, are eligible to be counted under the standard.

24 180. Staff has recommended that MER information for the Energy Building Codes
25 Support Project be included in APS's Annual DSM Progress Report.

26 181. Staff has not recommended approval of the Renewable Energy and Energy
27 Efficiency Integration Pilot Program at this time.

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1 182. Staff has recommended granting APS's request to extend the HEI pilot period so
2 that two summers of information may be captured, as proposed in the original application and as
3 approved by the Commission.

4 183. Staff has further recommended that the budget for the HEI Pilot be limited to the
5 budgets approved for the pilot program in Decision No. 72214 (March 3, 2011) and the
6 Commission's decision in this docket for the 2012 Plan.

7 184. Staff has recommended maintaining the flexibility to shift budgeted funds from one
8 program to another program in the same sector (Residential or Non-Residential) per calendar year
9 with the exception that funds may not be shifted from Low Income or Schools programs.

10 185. Staff has also recommended that APS be allowed to exceed any DSM program
11 annual budget by up to 5 percent without prior Commission authorization, rather than the 15
12 percent approved in Decision No. 70637 (December 11, 2008).

13 186. Staff has recommended that, in all future DSM Implementation Plans, the Company
14 use the same input values and methodology as Staff for calculating the present value benefits and
15 costs to determine benefit-cost ratios.

16 187. Staff has recommended approval for recovery of incremental costs for marketing,
17 customer acquisition, and MER for DR rates, which includes time-of-use rates, through the
18 DSMAC and has included these costs in its DSMAC calculation.

19 188. Staff has recommended DSMAC charges of \$0.002521 per kWh and \$0.9580 per
20 kW. Staff has recommended that APS file its DSMAC tariff in compliance with the Decision in
21 this case within 15 days of the effective date of the Decision.

22 189. Staff has recommended that APS file a revised 2012 Plan, reallocating
23 approximately \$9.8 million to programs and measures, either new or existing, that Staff has found
24 to be cost effective to generate the necessary 22,000 MWh to meet 100 percent of the 2012 savings
25 target. Staff has recommended that APS file a revised 2012 Plan by February 10, 2012.

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1 190. Staff has recommended that APS's performance incentive for 2012 be \$6,538,453
2 and that the performance incentive true-up calculation be provided in the Annual DSM Progress
3 Report.

4 191. Staff has recommended that APS's programs continue to encourage participation in
5 other municipal, state, or federal government energy conservation programs and that the reporting
6 requirements of A.A.C. R14-2-213 be superseded by A.A.C. R14-2-2409 and the reporting
7 requirements included in the Commission's decision in this docket.

8 192. Staff has recommended that the reporting requirements ordered in Decision Nos.
9 59601 (December 5, 1995); 67744 (April 7, 2005); 68648 (April 12, 2006); 70637 (December 11,
10 2008); 71444 (December 23, 2009); 71866 (September 1, 2010); 72032 (December 10, 2010);
11 72060 (January 6, 2011); 72088 (January 20, 2011) be superseded by the EE Rules such that APS
12 only be required to file an Annual DSM Progress Report on March 1 of each year, and a status
13 report on September 1, in a Commission-established docket for that year, rather than filing
14 separate reporting materials in the various dockets discussed above.

15 193. Beyond the reporting requirements of the EE Rules detailed in A.A.C. R14-2-2409,
16 Staff has also recommended that APS include the following information in its Annual DSM
17 Progress Reports:

- 18 • whether, and what type of, DSM measures are installed by customers subsequent to the
- 19 • receipt of study or design assistance incentives;
- 20 • a list of community education and consumer outreach efforts and advertising and marketing
- 21 • activities at the program level for each program;
- 22 • energy savings, as required by the EE Rules, for each measure for the previous calendar
- 23 • year and program-to-date, in terms of annual energy savings, lifetime energy savings over
- 24 • the expected life of the measure, and peak load MW savings;
- 25 • cost (actual expenditures) and budget information in the disaggregated manner dictated by
- 26 • the EE Rules;
- 27 • reduced emissions of SO_x, NO_x, CO₂, and PM₁₀;
- 28 • for Direct Install measures, the 1) active number of contractors and contractor
- identification, 2) number of Direct Install jobs completed, 3) dollar value of the Direct
- Install incentives paid to contractors, 4) dollar value of Direct Install jobs paid by the
- customer, 5) number of each Direct Install measure for which incentives were paid, 6)
- number of instances when incentives were reduced because of eligibility for incentives paid
- by other entities, 7) spending and savings numbers attributable to Direct Install for the
- previous calendar year and program-to-date, 8) descriptions of the types of businesses
- participating in Direct Install with frequencies of participation for each type, and 9) an

1 estimation of the reduced marketing or other program or administration costs compared to
2 those that would have been expended if the measures were implemented through a non-
Direct Install program;

- 3 • the level of spending associated with non-energy efficiency measures in the Energy Wise
program;
- 4 • the level of spending associated with non-energy efficiency measures in the Appliance
Recycling program;
- 5 • a separate section for Self Direction projects;
- 6 • the number and size of the loans, the number and size of the loans in default, the total
amount found to be uncollectible, and any other information necessary for the Commission
7 to understand the progress and status of the REEF program and the Non-Residential
Customer Repayment Financing program;
- 8 • detailed information on how savings from the Bid for Efficiency pilot measure are verified;
and
- 9 • an Implementation budget category for applicable programs and, for each applicable
program, how much Implementation funding is retained by APS and how much is paid to
10 outside contractors.

11 194. Staff has recommended that APS present an overview of its Annual DSM Progress
12 Report to the Commission at a Spring (April or May) DSM Open Meeting to be scheduled within
13 60 days of APS filing its Annual DSM Progress Report on March 1 of each year.

14 CONCLUSIONS OF LAW

15 1. Arizona Public Service Company is an Arizona public service corporation within
16 the meaning of Article XV, Section 2, of the Arizona Constitution.

17 2. The Commission has jurisdiction over APS and over the subject matter of the
18 Application.

19 3. The Commission, having reviewed the application and Staff's Memorandum dated
20 November 30, 2011, concludes that it is in the public interest to approve APS's DSM
21 Implementation Plan, as discussed herein.

22 ORDER

23 IT IS THEREFORE ORDERED that Arizona Public Service Company 2012 DSM
24 Implementation Plan be and hereby is approved, as discussed herein.

25 IT IS FURTHER ORDERED that the revised Consumer Products Program; the Residential
26 HVAC Program, as modified by Staff; the revised Home Performance with Energy Star Program;
27 the revised Residential New Construction Program; the revised Multifamily Energy Efficiency
28

1 Program; the proposed EMS and LED measures within the Non-Residential Program; and the
2 Energy Codes & Standards Support Project be approved, as discussed herein.

3 IT IS FURTHER ORDERED that, once Arizona Public Service Company has compiled 12
4 months of data regarding actual energy savings associated with pool pump timers, the Company
5 will file a letter detailing the participation levels for this measure and whether or not the timer
6 measure results in cost-effective energy savings.

7 IT IS FURTHER ORDERED that that timers cease to be included as a measure eligible for
8 rebates in future years unless savings from the timers can be verified by the Company.

9 IT IS FURTHER ORDERED that Arizona Public Service Company not be allowed to
10 include savings impacts from the pool pump and pool pump motor legislation as energy savings
11 from building codes under A.A.C. R14-2-2404(E).

12 IT IS FURTHER ORDERED that the number of participants, energy savings, coincident
13 demand, measure life, actual expenses, etc. be reported separately for the Residential HVAC and
14 Home Performance with ENERGY STAR[®] components of the Existing Homes Program in the
15 Company's Annual DSM Progress Report.

16 IT IS FURTHER ORDERED that Arizona Public Service Company report the current
17 Home Performance with ENERGY STAR[®] measures separate from the Home Performance with
18 ENERGY STAR[®] performance-based tiers but include sufficient information within the tier-level
19 reporting so Staff is aware of the measures being installed within each performance-based tier.

20 IT IS FURTHER ORDERED that Arizona Public Service Company track and report in the
21 Company's Annual DSM Progress Report the number and type of optional measures that
22 builders/developers are choosing to install under the Multifamily Energy Efficiency Program
23 Builder Option Packages along with the energy savings, coincident demand savings, and actual
24 costs for each measure.

25 IT IS FURTHER ORDERED that Arizona Public Service Company report in its Annual
26 DSM Progress Report the number of measures installed, the annual energy and capacity savings,
27 and the measure life for the Energy Management Systems and Light Emitting Diode measures on
28 an individual measure basis so that both the Company and Staff are able to clearly identify those

1 measure preferred by customers and the individual energy savings characteristics associated with
2 these new measures.

3 IT IS FURTHER ORDERED that the Energy Codes & Standards Support Project be
4 renamed the Energy Building Codes Support Project to reflect that only savings from improved
5 building codes, and not appliance standards, are eligible to be counted under the standard.

6 IT IS FURTHER ORDERED that Measurement, Evaluation and Research information for
7 the Energy Building Codes Support Project be included in APS's Annual DSM Progress Report.

8 IT IS FURTHER ORDERED that the Renewable Energy and Energy Efficiency
9 Integration Pilot Program is not approved at this time.

10 IT IS FURTHER ORDERED that the HEI pilot period be extended so that two summers of
11 information may be captured, as proposed in the original application and as approved by the
12 Commission.

13 IT IS FURTHER ORDERED that the budget for the HEI Pilot be limited to the budgets
14 approved for the pilot program in Decision No. 72214 (March 3, 2011) and the Commission's
15 decision in this docket for the 2012 Plan.

16 IT IS FURTHER ORDEREDED that Arizona Public Service Company shall maintain the
17 flexibility to shift budgeted funds from one program to another program in the same sector
18 (Residential or Non-Residential) per calendar year with the exception that funds may not be shifted
19 from Low Income or Schools programs.

20 IT IS FURTHER ORDERED that Arizona Public Service Company be allowed to exceed
21 any DSM program annual budget by up to 5 percent without prior Commission authorization.

22 IT IS FURTHER ORDERED that, in all future DSM Implementation Plans, the Company
23 use the same input values and methodology as Staff for calculating the present value benefits and
24 costs to determine benefit-cost ratios.

25 IT IS FURTHER ORDERED that recovery of incremental costs for marketing, customer
26 acquisition, and MER for Demand Response rates, which includes time-of-use rates, through the
27 DSMAC be and hereby is approved.

28 ...

1 IT IS FURTHER ORDERED that the DSMAC charges of \$0.002521 per kWh and \$0.9580
2 per kW be and hereby is approved.

3 IT IS FURTHER ORDERED that Arizona Public Service Company shall file its DSMAC
4 tariff in compliance with the Decision in this case within 15 days of the effective date of the
5 Decision.

6 IT IS FURTHER ORDERED that Arizona Public Service Company file a revised 2012
7 Plan, reallocating approximately \$9.8 million to programs and measures, either new or existing,
8 that Staff has found to be cost effective to generate the necessary 22,000 MWh to meet 100 percent
9 of the 2012 savings target. Arizona Public Service Company shall file this revised 2012 Plan by
10 February 10, 2012.

11 IT IS FURTHER ORDERED that Arizona Public Service Company performance incentive
12 for 2012 be \$6,538,453 and that the performance incentive true-up calculation be provided in the
13 Annual DSM Progress Report.

14 IT IS FURTHER ORDERED that Arizona Public Service Company programs continue to
15 encourage participation in other municipal, state, or federal government energy conservation
16 programs and that the reporting requirements of A.A.C. R14-2-213 be superseded by A.A.C. R14-
17 2-2409 and the reporting requirements included in the Commission's decision in this docket.

18 IT IS FURTHER ORDERED that the reporting requirements ordered in Decision Nos.
19 59601 (December 5, 1995); 67744 (April 7, 2005); 68648 (April 12, 2006); 70637 (December 11,
20 2008); 71444 (December 23, 2009); 71866 (September 1, 2010); 72032 (December 10, 2010);
21 72060 (January 6, 2011); 72088 (January 20, 2011) be superseded by the EE Rules such that APS
22 only be required to file an Annual DSM Progress Report on March 1 of each year, and a status
23 report on September 1, in a Commission-established docket for that year, rather than filing
24 separate reporting materials in the various dockets discussed above.

25 IT IS FURTHER ORDERED that, beyond the reporting requirements of the EE Rules
26 detailed in A.A.C. R14-2-2409, Arizona Public Service Company include the following
27 information in its Annual DSM Progress Reports:
28

- 1 • whether, and what type of, DSM measures are installed by customers subsequent to the receipt of study or design assistance incentives;
- 2 • a list of community education and consumer outreach efforts and advertising and marketing activities at the program level for each program;
- 3 • energy savings, as required by the EE Rules, for each measure for the previous calendar year and program-to-date, in terms of annual energy savings, lifetime energy savings over the expected life of the measure, and peak load MW savings;
- 4 • cost (actual expenditures) and budget information in the disaggregated manner dictated by the EE Rules;
- 5 • reduced emissions of SO_x, NO_x, CO₂, and PM₁₀;
- 6 • for Direct Install measures, the 1) active number of contractors and contractor identification, 2) number of Direct Install jobs completed, 3) dollar value of the Direct Install incentives paid to contractors, 4) dollar value of Direct Install jobs paid by the customer, 5) number of each Direct Install measure for which incentives were paid, 6) number of instances when incentives were reduced because of eligibility for incentives paid by other entities, 7) spending and savings numbers attributable to Direct Install for the previous calendar year and program-to-date, 8) descriptions of the types of businesses participating in Direct Install with frequencies of participation for each type, and 9) an estimation of the reduced marketing or other program or administration costs compared to those that would have been expended if the measures were implemented through a non-Direct Install program;
- 7 • the level of spending associated with non-energy efficiency measures in the Energy Wise program;
- 8 • the level of spending associated with non-energy efficiency measures in the Appliance Recycling program;
- 9 • a separate section for Self Direction projects;
- 10 • the number and size of the loans, the number and size of the loans in default, the total amount found to be uncollectible, and any other information necessary for the Commission to understand the progress and status of the REEF program and the Non-Residential Customer Repayment Financing program;
- 11 • detailed information on how savings from the Bid for Efficiency pilot measure are verified; and
- 12 • an Implementation budget category for applicable programs and, for each applicable program, how much Implementation funding is retained by APS and how much is paid to outside contractors.

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1 IT IS FURTHER ORDERED that Arizona Public Service Company shall present an
 2 overview of its Annual DSM Progress Report to the Commission at a Spring (April or May) DSM
 3 Open Meeting to be scheduled within 60 days of Arizona Public Service Company filing its
 4 Annual DSM Progress Report on March 1 of each year.

5 IT IS FURTHER ORDERED that this Order shall become effective immediately.

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8 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

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CHAIRMAN

COMMISSIONER

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COMMISSIONER

COMMISSIONER

COMMISSIONER

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IN WITNESS WHEREOF, I ERNEST G. JOHNSON,
 Executive Director of the Arizona Corporation Commission,
 have hereunto, set my hand and caused the official seal of this
 Commission to be affixed at the Capitol, in the City of Phoenix,
 this _____ day of _____, 2011.

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ERNEST G. JOHNSON
 EXECUTIVE DIRECTOR

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DISSENT: _____

23

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DISSENT: _____

25

SMO:LAF:tdp/MAS

26

27

28

1 SERVICE LIST FOR: Arizona Public Service Company
2 DOCKET NO. E-01345A-11-0232

3
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Appendix A

Table 2. Proposed 2012 DSM Portfolio Budget

Program	Rebates and Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Administration	Financing	Program Total Cost
Residential								
Consumer Products Existing Homes	\$4,126,250	\$2,000	\$2,000	\$2,150,000	\$850,000	\$475,000	\$0	\$7,605,250
• Residential HVAC	\$664,521	\$28,512	\$24,119	\$128,630	\$42,898	\$41,649	\$0	\$930,329
• Home Performance with Energy Star	\$2,521,000	\$103,000	\$75,000	\$1,070,000	\$560,000	\$289,000	\$255,000	\$4,873,000
New Construction	\$2,225,000	\$120,000	\$15,000	\$295,000	\$550,000	\$403,000	\$0	\$3,608,000
Appliance Recycling	\$300,000	\$0	\$21,000	\$888,500	\$359,000	\$165,000	\$0	\$1,733,500
Low Income	\$2,594,000	\$10,000	\$20,000	\$50,000	\$30,000	\$75,000	\$0	\$2,779,000
Conservation Behavior	\$0	\$6,000	\$10,000	\$952,000	\$0	\$85,000	\$0	\$1,053,000
Multi-Family	\$822,500	\$5,000	\$15,000	\$807,750	\$45,000	\$163,000	\$0	\$1,858,250
Shade Trees	\$50,000	\$40,000	\$12,500	\$237,500	\$65,000	\$42,000	\$0	\$447,000
Residential Subtotal	\$13,303,271	\$314,512	\$194,619	\$5,579,380	\$2,501,898	\$1,738,649	\$255,000	\$24,887,329
Non-Residential								
Large Existing	\$11,802,541	\$485,000	\$134,000	\$4,195,000	\$1,017,000	\$420,000	\$70,000	\$18,123,541
New Construction	\$2,064,670	\$122,000	\$33,000	\$902,000	\$203,000	\$173,000	\$0	\$3,497,670
Small Business	\$3,354,843	\$111,000	\$23,000	\$744,000	\$229,000	\$182,000	\$10,000	\$4,653,843
Schools	\$2,293,823	\$120,000	\$25,000	\$842,000	\$246,000	\$87,000	\$0	\$3,613,823
EIS	\$29,094	\$10,000	\$5,000	\$20,000	\$10,000	\$4,000	\$0	\$78,094
Non-Residential Subtotal	\$19,544,971	\$848,000	\$220,000	\$6,703,000	\$1,705,000	\$866,000	\$80,000	\$29,966,971
Demand Response								
APS Peak Solutions								\$8,665,000
DR Marketing and MER of Rate Options								\$200,000
HEI Pilot Program								\$899,000
Demand Response Subtotal								\$9,764,000

Other	
Building Codes	\$100,000
MER	\$2,500,000
Performance Incentive	\$6,538,453

2012 DSM Plan Total	\$73,756,753
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