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Barbara Klemstine
Director
Regulation & Pricing

Tel. 602-250-4563
Fax 602-250-3003
e-mail Barbara.Klemstine@aps.com

Mail Station 9708
PO Box 53999
Phoenix, Arizona 85072-3999

February 28, 2008

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

RE: DEMAND SIDE MANAGEMENT SEMI-ANNUAL REPORT
DOCKET NO. E-01345A-03-0437 & E-01345A-05-0526

Dear Sir or Madam:

Pursuant to Arizona Corporation Commission Decision No. 67744, provided is the DSM Semi-Annual Report covering the period of July 1, 2007 through December 31, 2007.

If you have any questions or concerns please contact Susan Casady at (602) 250-2709.

Sincerely,

Barbara Klemstine /sc

Barbara Klemstine

BK/dst

Attachments

CC: Brian Bozzo

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ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2007

This progress report includes the following information for all APS Demand Side Management (DSM) programs that were in place during this reporting period, including programs for residential, non-residential and low income customers:

- A brief description of the program.
- Program modifications.
- Program goals, objectives, and savings targets.
- Programs terminated.
- The levels of participation.
- A description of evaluation and monitoring activities and results.
- kW and kWh savings.
- Benefits and net benefits, both in dollars, as well as Performance Incentive calculation.
- Problems encountered and proposed solutions.
- Costs incurred during the reporting period disaggregated by type of cost, such as administrative costs, rebates, and monitoring costs.
- Findings from all research projects.
- Other significant information.

Summary pages detailing the program expenses and DSM Electric Savings Benefits are provided in Tables 1 and 2. The Performance Incentive Calculation is shown in Table 3. A summary of 2007 DSM program expenses is provided in Table 4.

ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD:
JULY THROUGH DECEMBER 2007

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DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2007

Table 1
DSM Program Expenses: July – December 2007

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[1]	Program Marketing	Planning & Admin	Program Total Cost
Residential							
Low Income	$545,089	$9,828	$2,629	$53,949	$3,954	$36,618	$652,066
Res Existing Homes HVAC	$550,450	$21,815	$92,223	$219,406	$208,143	$22,317	$1,114,354
Res New Home Construction	$600,400	$72,550	$8,123	$116,913	$420,518	$30,392	$1,248,896
Consumer Products	$1,686,041	$202	$10,767	$598,340	$398,207	$48,132	$2,741,689
Totals for Residential	**$3,381,980**	**$104,395**	**$113,741**	**$988,608**	**$1,030,821**	**$137,459**	**$5,757,005**
Non-Residential							
Large Existing Facilities	$2,390,127	$48,310	$13,946	$713,583	$364,224	$103,573	$3,633,763
Large Non Res New Const	$605,609	$2,663	$6,536	$373,235	$89,343	$28,263	$1,105,647
Small Business	$111,800	$0	$4,475	$240,291	$56,543	$13,282	$426,390
Bldg Operator Training	$0	$6,898	$0	$4,354	$4,261	$53	$15,566
Energy Information Svcs	$3,447	$0	$0	$8,398	$0	$2,412	$14,257
Schools[2]	$159,599	$0	$2,011	$95,000	$30,050	$4,474	$291,135
Total for Non-Residential	**$3,270,581**	**$57,870**	**$26,968**	**$1,434,861**	**$544,421**	**$152,057**	**$5,486,758**
Segment Totals	**$6,652,561**	**$162,265**	**$140,709**	**$2,423,469**	**$1,575,242**	**$289,516**	**$11,243,763**
				Program Costs			**$11,243,763**
				Measurement, Evaluation, & Research (MER			**$643,278**
				Performance Incentive[3]			**$679,672**
				TOTAL			**$12,566,713**

Definitions

Rebates & Incentives - Includes dollars that go toward customer rebates and incentives, installation of low income weatherization and low income bill assistance.

Training & Technical Assistance - Includes all dollars that are used for energy efficiency training and technical assistance.

Consumer Education - Includes dollars that are used to support general consumer education about energy-efficient improvements.

Program Implementation - Program delivery costs associated with implementing the program - includes implementation contractor labor and overhead costs, as well as other direct program delivery costs.

Program Marketing - Includes all expenses related to marketing the program and increasing DSM consumer awareness (direct program marketing costs as opposed to general consumer education).

Planning and Administration - APS costs to plan, develop and administer programs-includes management of program budgets, oversight of the RFP process and implementation contractor, program development, program coordination and general overhead expenses.

Measurement, Evaluation, & Research (MER) -These activities will identify current baseline efficiency levels and the market potential of DSM measures, perform process evaluations, verify that energy-efficient measures are installed, track savings, and identify additional energy efficiency research.

Performance Incentive – Share (%) of DSM net economic benefits (benefits minus cost), capped at 10% of total DSM expenditures, inclusive of the Performance Incentive.

1 Includes costs for Implementation Contractor (IC) for the Small Non-Residential, Non-Residential Existing Facilities, New Construction & Major Renovation and Schools Programs.

2 Schools are allowed to receive funding from other non-residential programs as well. Refer to the subsection on the Schools Program for additional information on total funds allocated to school districts to date.

3 The Performance Incentive is calculated in Table 3 and the methodology/calculation was approved by the ACC in Decision No. 69663.

ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2007

Table 2
DSM Electric Savings Benefits

DSM Program	Capacity Savings MW	Lifetime[1] MWh Savings	Program Cost	Societal Benefits	Societal Costs	Net Benefits
Residential						
Low Income[2, 6]	0.06	5,144	$652,066	$542,553	$542,553	$0[4]
Res Existing Homes HVAC[3]	2.81	102,181	$1,114,354	$4,048,538	$2,691,291	$1,357,247
Res New Home Construction[3]	2.22	104,753	$1,248,896	$3,920,777	$1,549,032	$2,371,745
Consumer Products	14.63	473,307	$2,741,689	$28,666,482	$6,771,796	$21,894,686
Totals for Residential	**19.72**	**685,385**	**$5,757,005**	**$37,178,350**	**$11,554,672**	**$25,623,678**
Non-Residential						
Large Existing Facilities	4.55	550,180	$3,633,763	$13,858,925	$6,030,695	$7,828,230
Large Non Res New Const	1.18	216,883	$1,105,647	$5,901,793	$1,676,160	$4,225,633
Small Business	0.26	21,591	$426,390	$501,762	$482,651	$19,111
Bldg Operator Training	0.01	1,438	$15,566	$47,814	$29,216	$18,598
Energy Information Svcs	0.00	0	$14,257	$0	$14,257	($14,257)
Schools	0.35	40,707	$291,135	$990,037	$253,116	$736,921
Total for Non-Residential	**6.35**	**830,799**	**$5,486,758**	**$21,300,331**	**$8,486,095**	**$12,814,236**
Subtotal	**26.07**	**1,516,184**	**$11,243,763**	**$58,478,681**	**$20,040,767**	**$38,437,914**
Measurement, Evaluation & Research	-	-	$643,278	-	-	($643,278)
Performance Incentive[5]			$679,672			($679,672)
TOTAL			**$12,566,713**			**$37,114,964**

1 Refers to savings over the expected lifetime of all program measures.
2 Program Costs include weatherization and bill assistance. Societal Costs do not include bill assistance because it does not contribute to electric savings.
3 kW and kWh savings are not quantified for residential market transformation programs that were in place prior to April 2006.
4 Consistent with the ACC Staffs' analysis in Decision No. 68647, the societal benefit is equal to the societal cost, resulting in a benefit to cost ratio of 1.00.
5 As calculated in Table 3.
6 Semi-Annual Reports submitted prior to the July-December 2007 Report inadvertently reported only annual MWh savings for the Low Income Program. Starting with this report (July-December 2007 Report), lifetime MWh savings are being reported for the Low Income Program.

ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2007

Table 3
Performance Incentive Calculation

DSM Program	July - Dec 2007 Net Benefit	Program to Date Net Benefit	Program to Date 10% Share
Residential			
Res Existing Homes HVAC	$ 1,357,247	$ 2,847,990	$ 284,799
Res New Home Construction	$ 371,745	$ 2,215,948	$ 221,595
Consumer Products	$ 21,894,686	$ 67,636,699	$ 6,763,670
Non-Residential			
Large Existing Facilities	$ 7,826,230	$ 13,525,119	$ 1,352,512
Large Non Res New Construction	$ 4,225,633	$ 3,678,628	$ 367,863
Small Business	$ 21,591	$ (854,226)	$ (85,423)
Bldg Operator Training	$ 18,598	$ 166,791	$ 16,679
Energy Information Svcs	$ (14,257)	$ (70,379)	$ (7,038)
Schools	$ 736,921	$ 752,431	$ 75,243
Subtotal	**$ 36,438,394**	**$ 89,899,001**	**$ 8,989,900**
Measurement, Evaluation & Research	$ (643,278)	$ (1,429,007)	$ (142,901)
Total	**$ 35,795,116**	**$ 88,469,994**	**$ 8,846,999**
	Total DSM Spending 2005 - 2007		**$ 33,237,362**
	Maximum Performance Incentive		**$ 3,323,736**
	Performance Incentive Earned through June 2007		**$ 2,644,064**
	Performance Incentive Due this Period		**$ 679,672**

1 Performance incentive earned to date is subtracted from the total "program to date" 10% share of net benefits and compared to 10% of total program expenditures to arrive at the amount of performance incentive earned for this period.

This calculation does not include the Low Income Program. As per Staff's analysis in Decision 68647, the net benefits for this program are $0.

Maximum Performance Incentive allowed is 10% of the total spending level, including the performance incentive, as ordered in Decision No. 67744. This is capped at $4.8 million over the three-year period based on $48 million of total spending, including the $4.8 million performance incentive. Approval of the incentive calculation was issued by the ACC in Decision No. 69663.

PROGRAM: ENERGY WISE LOW INCOME WEATHERIZATION

Description
APS' Energy Wise Low Income Assistance Program is designed to improve the energy efficiency, safety and health attributes of homes for customers whose income falls within the defined federal poverty guidelines. This program serves low income customers with various home improvements including cooling system repair and replacement, insulation, sunscreens, water heaters, window repairs and improvements as well as other general repairs. In addition, low income families are provided crisis bill assistance. The program is administered by various community action agencies throughout APS' service territory.

Program Modifications
No modifications for this reporting period.

Program Goals, Objectives, and Savings Targets
- To improve the energy efficiency of homes for customers whose income falls within the defined poverty guidelines.
- To provide customers information on energy management and conservation.
- To provide assistance in paying the electric bill for qualified customers in crisis situations.
- Decision No. 68647 acknowledged the estimates that the Weatherization component of the Energy Wise Program could serve 382 homes per year (based on APS' budget) and result in reduced energy consumption of 763 MWh per year and a demand reduction of 115 kW per year.

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
A total of 630 households received assistance during the reporting period, July through December 2007. Please note that a single household may have received more than one type of assistance.

Type of Assistance	Number of Households
Bill Assistance	486
Health and Safety	0
Repair and Replace	10
Weatherization	183
Total	**679**

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

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

Information from the AEO report is provided below:

An analysis of 38 homes was conducted on homes completed July 05 through the end of June 06, utilizing APS and Southwest Gas utility data. The number of homes reviewed was limited for this period due to the inability to include natural gas data for areas not served by Southwest Gas. The AEO is working with the other gas providers to access this data.

Provided are Savings to Investment Ratios (SIR) for total investment from all funding spent (diagnostics, energy measures and health and safety measures) and for energy related measure only (diagnostics and energy measures).

Assumptions

Present value is based on 15 years measure life, discount rate of 3% and a utility cost escalation rate of 3%.

KWH charge of $0.10.

Therm cost of $1.25.

On evaporative cooling conversions to Air Conditioning (AC) only, present value includes water saving of $100 per year.

Results Summary

The combined SIR of all jobs reviewed for funds spent on diagnostics, energy measures and health and safety measures was 1.17.

The combined SIR of all jobs reviewed for funds spent on energy measures only was 1.39.

kW and kWh Savings

Of the 630 households participating in the program, a total of 193 homes received weatherization and/or repair & replace services that contributed to the energy savings.

No. of Homes	kW Savings	Annual kWh Savings	Lifetime kWh Savings
193	64.00	423,404	5,144,359

The final savings are adjusted for line losses (9.8%).

The kW and kWh factors used to calculate the savings are based on data from the AEO study of 150 weatherized homes. The study normalized electric and gas savings into dollars with gas savings equaling about 10% of the total. The present value of the dollar savings was converted to "equivalent kWh" at 8 cents per kWh. The annual energy and demand savings per home in this study are estimated to be 1,998 "equivalent kWh" and 0.3 kW.

Benefits and Net Benefits/Performance Incentive Calculation
The benefits and net benefits are provided in Table 2. The Performance Incentive calculation does not include the Energy Wise Program because, as indicated in Decision No. 68647, this program has a zero net benefit. APS has performed well on this program and should not be penalized for the program. Consequently, the net benefits for the Energy Wise Program for this reporting period as shown in Table 2 are $0. However, the spending on the Energy Wise Low Income Weatherization Program is included in the total spending on which the performance incentive is calculated.

Problems Encountered and Proposed Solutions
No problems were encountered during this reporting period.

Costs Incurred
Costs incurred for this program during the current reporting period are listed below:

Activity	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Bill Assistance	$106,885	-	$2,629	-	-	-	$109,513
Health & Safety	$0	-	-	-	-	-	$0
Repair and Replace	$24,947	-	-	-	-	-	$24,947
Weatherization	$413,258	$9,828	$0	$ 24,683	-	-	$447,769
3rd Party Manager Arizona Community Action Association	-	-	-	$20,838	-	-	$20,838
APS Program Support	-	$0	$0	$8,427	$3,954	$36,618	$48,999
Total	**$545,089**	**$9,828**	**$2,629**	**$53,948**	**$3,954**	**$36,618**	**$652,065**

Findings From All Research Projects
On 09-12-07, APS filed a DSM Market Potential study that has been approved in Decision No. 67816.

Other Significant Information

In support of the Inter Tribal Council of Arizona (ITCA) Weatherization program, meetings were held to discuss the implementation of the APS Energy Wise program with the Cocopah Tribe. Contacts with the Cocopah Housing Authority were also initiated.

APS provided 2,000 CFLs to the Community Action Agencies participating in the APS Energy Wise program.

APS is participating in the Arizona Community Action Association Fuel Fund and provided input into the program guidelines, policies and procedures.

PROGRAM: RESIDENTIAL EXISTING HOMES HVAC

Description
The Residential Existing Homes HVAC program promotes energy-efficient equipment and proper installation and maintenance of residential heating and air conditioning systems. The program provides training and technical assistance for HVAC contractors and education for consumers about the benefits of energy-efficient heating and cooling systems. Through the APS Qualified Contractor program, APS provides customer referrals to contractors who meet strict program requirements for professional standards, technician training and customer satisfaction.

In June 2006 APS implemented the AC Rebate program. The AC Rebate program builds on the existing APS Qualified Contractor program, and offers financial incentives to encourage upgrades to high-efficiency equipment that meets US EPA/DOE Energy Star® energy-efficiency standards. As part of the AC Rebate program, APS began the Quality Installation measure on August 1, 2007 to optimize the installation of high efficiency equipment that meets the AC Rebate program requirements. The Quality Installation measure has high standards on air conditioning sizing, airflow and refrigerant charge to ensure that when the equipment is installed it will operate at a high level of efficiency.

The most recent addition (offered to customers Dec. 31, 2007) to the Residential Existing Homes HVAC program is the HVAC System Testing and Repair measure ("Testing and Repair") that offers financial incentives for our customers to test and, if necessary, repair the duct work in their home. This program is described in detail below.

Program Modifications
During this reporting period, APS' request for a modification to the program's energy efficiency requirements by adjusting the program EER levels to better match the availability of AC units and heat pumps was approved by Decision No. 69879 (Aug. 28, 2007). See the Problems Encountered and Proposed Solutions section for a detailed description.

Program Goals, Objectives and Savings Targets
This program uses a combination of financial incentives, contractor training and consumer education to promote high efficiency HVAC systems in existing residential homes within the APS service territory.

The ACC Staff's analysis of the initial three year's of the program shows that the energy-efficiency savings from the HVAC Efficiency Program could provide approximately $1.4 million in net benefits, reduce annual peak demand by 4.2 MW and energy consumption by 173,000 MWh over the life of the measures.

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
In the second half of 2007:

- A total of 1,857 rebates were paid in the High Efficiency AC Rebate program, including 1,279 of the $250 rebates for 14 SEER/11.5 EER equipment and 534 of the $400 rebates for 16 SEER/12.25 EER equipment.
- A total of 44 Quality Installation rebates were paid.
- There are currently 58 contractors participating in the APS Qualified Contractor program.
- Including both metro and non-metro training classes, 359 HVAC technicians participated in APS sponsored training courses in order to meet APS Qualified Contractor program training requirements from July – December 2007.
- APS provided over 1,900 referrals to customers seeking HVAC service, repair or replacement of their home HVAC system in this reporting period.
- There were 8,646 unique user visits to the APS Energy Survey home energy audit at aps.com.

Evaluation and Monitoring Activities and Results

The Residential Existing Home HVAC program MER research data collection and analysis activities included the following during the current reporting period:

- Developed a data collection instrument that allows the MER contractor to:
  - Verify program-level installations
  - Collect data for inputs to the energy savings algorithm that are the most uncertain
    - For example, sizing of residential systems has a large impact and high degree of variability, so detailed building characteristics were collected for a subset of the field-verified installations in order to derive an HVAC sizing ratio.
  - Complete ex-post gross energy savings calculations
- The MER contractor has conducted onsite field inspections on 40 installations.
- Constructed eQUEST models to determine peak and energy savings from residential AC use for varying AC sizes and SEER values.
- Developed an analytic database to estimate program level ex-post gross demand and energy savings.
- Began development of a benefit-cost analysis to estimate program total resource cost test value based on ex-post savings values.
- Completed a survey of 70 customers that received a rebate though the program.
- Completed interviews with 10 HVAC contractors to examine current equipment sales, specification, and installation practices.
- Completed general population survey of 450 residential customers that investigated HVAC program relevant topics.
- MER activities are currently being analyzed for the 2005-2007 period and MER results will be reported in the second quarter of 2008

kW and kWh Savings

Type Of Unit	Number of Units	Annual kWh Savings per Ton	Avg Tons/ Unit	TOTAL Annual MWh Savings	Est Measure Life	Total Lifetime MWh	kW Demand Savings Per Ton	Total MW Savings
14 SEER/11.5 EER	1,279	804	4	4,515	15	67,723	0.339	1.90
16 SEER/12.25 EER	534	953	4	2,235	15	33,529	0.376	0.88
Quality Install	44	321	4	62	15	929	0.120	0.02
TOTAL	**1,857**			**6,812**		**102,181**		**2.81**

The final savings are adjusted for line losses (9.8%).

In addition to the savings shown above, the Residential Existing Homes HVAC program includes a number of market transformation efforts such as contractor training and customer education activities designed to transform the market for energy efficiency. These elements of the program produce additional energy savings and benefits that are not quantified.

Benefits and Net Benefits/Performance Incentive Calculation
The benefits and net benefits are provided in Table 2. The details for the Performance Incentive Calculation are provided in Table 3.

Problems Encountered and Proposed Solutions

On August 28, 2007, ACC Decision No. 69879 approved APS' request to lower the minimum Energy Efficiency Ratio ("EER") levels to what is shown below. These changes better align the program with current market conditions and increase the availability of equipment that meets program standards.

Incentive Amount	Old SEER/EER Minimum Level	New SEER/EER Minimum Level
$250	14 SEER and 12 EER	14 SEER and 11.5 EER
$400	16 SEER and 14 EER	16 SEER and 12.25 EER

This change produced a number of important benefits to the program, which include permitting more customers to participate in energy efficiency programs, providing the ability for packaged equipment to qualify, encouraging more contractor participation as more units qualify, and better aligning the program with HVAC equipment that is currently available and with current EPA/DOE Energy Star® requirements (14 SEER/11.5 EER).

Decision No. 69879 included a requirement that the change to the EER requirement became effective only concurrent with or after the Quality Installation measure was fully implemented. It also ordered APS to implement the Testing and Repair measure as soon as possible and required APS to file monthly progress reports with the ACC Staff until the program was implemented. APS implemented the Quality Installation measure on August 1, 2007, so the changes to the revised EER levels were effective on August 28, 2007 which is the date that Decision No. 69879 was issued. APS also implemented the Testing and Repair measure on December 31, 2007.

While the revision to the EER minimum levels has improved the number of units that qualify, there are still a limited number of units that qualify. APS anticipates that this situation will improve as manufacturers introduce new equipment in 2008 that is more efficient and that also complies with new Federal refrigerant requirements.

Costs Incurred

Costs incurred for this program during the current reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Res Existing HVAC	$550,450	$21,815	$92,223	$219,406	$208,143	$22,317	$1,114,354

Findings from all Research Projects
On 09-12-07, APS filed a DSM Market Potential study that has been approved in Decision No. 67816.

Other Significant Information
The APS Quality Installation rebate was made available to customers starting on August 1, 2007. It is an additional $100 rebate on high efficiency HVAC installations that can only be offered by APS Qualified Contractors who have met the program training requirements. APS held a contractor orientation meeting to inform HVAC contractors about the Quality Installation rebate on July 26, 2007. APS has been working directly with the APS Qualified Contractors to answer their questions and provide feedback on the rebate applications that we have received from them, and to also let them know what we are finding on our inspections. This effort has been effective in improving the quality of the applications that are being submitted and has also provided APS with constructive input.

The Testing and Repair measure was implemented on December 31, 2007. It was designed to be delivered though two channels, the HVAC contractors and "HERS" (Home Energy Rating System) contractors, who provide comprehensive home energy efficiency audits and repairs.

The following is an example of how the HVAC Contractor channel works when a customer calls about replacing their HVAC unit. When the HVAC contractor is at the house to replace the AC unit, they can also test the duct system and provide repairs, if necessary. This approach is convenient for customers that initially had an equipment problem and also optimizes the energy savings possible at that house through the use of the AC Rebate, Quality Installation and Testing and Repair rebates.

The other delivery mechanism is through a more comprehensive home energy audit that would be delivered by certified HERS (Home Energy Rating System) raters. This channel will be branded "Home Performance with Energy Star®" and utilizes the home energy efficiency contractors. The following is an example of when a customer calls in with a high bill complaint. The customer gets referrals to several contractors that can come out to their house and do a full home energy audit that is based on EPA Home Performance with Energy Star® specifications. A key part of the EPA's Home Performance with Energy Star audit is duct testing and repair work. The contractor will provide a recommendation on how the home can be repaired to reduce its energy usage and the customer's cost can be mitigated with the APS HVAC rebates.

During this reporting period, the Home Performance with Energy Star® referral process was not fully in place but will be finalized in early 2008. However, the HVAC contractor channel was available at the end of 2007.

To implement the Testing and Repair measure, APS worked with the EPA Energy Star® program, the Arizona Department of Commerce Energy Office (AEO), the Building Performance Institute ("BPI") and the non-profit FSL Home Improvements to offer BPI certification for contractors who offer home performance testing and repair. APS also worked with the AEO and Foundation for Senior Living (FSL) on the testing methods and protocol and the application forms. APS and FSL put together the website and content, customer and contractor brochures, and referral process. APS reviewed the rebate forms with a well respected local HVAC contractor for accuracy and ease of use.

Marketing and consumer/contractor education efforts for this program during the reporting period include:

- Monthly ad placements in HVACR Today newspaper targeted to the HVAC industry. The ads promote the new APS High Efficiency AC Rebate program to contractor and manufacturer/distributor trade allies.
- Articles in August and September/October 2007 APS Lifestyles residential customer newsletter and E News e-mail newsletter.
- Print ad placements to promote the program to APS customers in the Arizona Republic, Casa Grande Dispatch, East Valley Tribune, Glendale Star, Sun City News and the Yuma Daily Sun.
- Radio ads to promote the program on KOOL-FM, KMXP-FM, KESZ-FM, KNIZ-FM for a total of over 160 spots.
- TV ads to promote the program ran on Cox Cable during the MLB playoffs and during a few NFL games.
- The homepage of aps.com prominently features APS energy efficiency and renewable energy programs. These programs are grouped in one section of the homepage entitled "Green Choice", which is coordinated with the current advertising campaign and makes these programs easier to find for customers.

PROGRAM: RESIDENTIAL NEW HOME CONSTRUCTION

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

The program takes advantage of the national Energy Star® brand name, and promotes the EPA/DOE Energy Star® label to prospective homebuyers. To encourage builders to meet the program's high efficiency standards, APS provides builder incentives of $400 per home.

Program Modifications
During the reporting period, APS exercised the budget flexibility that was granted in Decision No. 68648 (the order that established the Residential New Construction program) by shifting 25% of the Residential New Construction program budget to the Consumer Products program. This was undertaken to help increase funding for the highly successful and cost effective Consumer Products program. While the Residential New Construction program has also been very successful, with over 22,000 homes signed up to date, the longer lead time for new construction projects resulted in unspent incentive dollars through this period.

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

According to ACC Staff's analysis of the new program for three years, the energy-efficiency savings expected to result from the New Construction Program could provide about $9.0 million in net benefits and could reduce annual peak demand by about 13.4 MW and energy consumption by about 380,000 MWh over the life of the measures.

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
During this reporting period, APS signed up 3,130 homes that are committed to being built to program standards. At the end of the reporting period, there were 26 homebuilders and 111 subdivisions with 22,282 lots signed up to participate in the program. The program currently

includes Energy Star communities throughout the APS service territory including the Phoenix metro area, Casa Grande, Prescott, Verde Valley, and Flagstaff.

APS paid homebuilder incentives for 1,501 APS Energy Star® homes that were completed and connected to the APS system during the reporting period.

APS partnered with SRP and Southwest Gas to sponsor two days of building industry training in the Phoenix metro area. The training was conducted by the Energy and Environmental Building Association ("EEBA"). Day one of the training titled "Houses that Work" focused on construction practices that produce high performance homes. Day two of the training was titled "Selling High Performance Homes" and it was targeted to help builder sales agents and Realtors learn how to sell energy efficient home features. The two days of training were attended by approximately 200 building industry professionals.

APS held several days of detailed training with participating APS Energy Star® homebuilders. Called "Success with Energy Star®" it trains builders and their subcontractors about techniques for improving construction details that impact efficiency and that allow the home to pass Energy Star® inspections. The training includes customized construction detail drawings and process checklists to ensure that the process is put into place at the job site. During this reporting period, APS held Success with Energy Star training sessions with Ashton Woods, Pulte Homes, and Countrywalk Homes.

Evaluation and Monitoring Activities and Results

During the current reporting period the Residential New Home Construction program MER research data collection and analysis activities included:

- Completed a benefit / cost analysis for a 50% more efficient and zero energy home using Arizona baseline house model
- Developed an Energy Star compliance model for manufactured homes in Phoenix.
- Started development of engineering models for estimating program level ex-post savings.
- Completed a 'ride-around' with HERS raters to better understand the inspection process and how it relates to ex-post savings estimates.
- Developed a report to benchmark energy performance of non-participant homes against those of participating homes. This will be used to entice non-participating builders to assist in the data collection effort.
- Began development of a benefit-cost analysis to estimate program total resource cost test value based on ex-post savings values.
- Manufactured Homes Program
    - Constructed and simulated eQUEST models for measure analysis of upgrading manufactured homes to Energy Star rated manufactured homes in climate zones 2 and 4 for Arizona.
    - Primary source was Manufactured Housing Research Alliance and Energy Star.
- Completed analysis of IECC standard home, and 50% of IECC standard
- Developed interview guides and conducted interviews with HERS raters and participating builders.
- Conducted interview guide and began interviews with construction superintendents.

- Developed interview guide for sales staff interviews. Interviews are scheduled for January 2008
- MER activities are currently being analyzed for the 2005-2007 period and MER results will be reported in the second quarter of 2008

kW and kWh Savings

Measure	Number of Homes Completed	Annual kWh Savings per Home	TOTAL Annual MWh Savings	Est Measure Life (yrs)	TOTAL Lifetime MWh	kW Demand Savings Per Home	TOTAL MW Savings
APS Energy Star Homes	1,501	3,178	5,238	20	104,753	1.3	2.22

The final savings are adjusted for line losses (9.8%).

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

Benefits and Net Benefits/Performance Incentive Calculation
The benefits and net benefits are provided in Table 2. The details for the Performance Incentive calculation are provided in Table 3.

Problems Encountered and Proposed Solutions
This program has been successful to date, despite the residential new construction market decline over the past couple of years. APS indicated the downturn in this market in our January - June 2006 Semi-Annual DSM Report and this concern is still valid going forward given the potential effect on future program results. The new construction market downturn has even resulted in national builders that were active in the Arizona market filing for bankruptcy during this reporting period.

Costs Incurred
Costs incurred for this program during the current reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Res New Home Construction	$600,400	$72,550	$8,123	$116,913	$420,518	$30,392	$1,248,896

Findings from all Research Projects
On 09-12-07, APS filed a DSM Market Potential study that has been approved in Decision No. 67816.

Other Significant Information
In recognition of the outstanding results from the APS Energy Star Homes Program, APS was selected by the US Environmental Protection Agency (EPA) and the US Department of Energy (DOE) as a 2008 Energy Star® Partner of the Year Award winner for "Energy Efficiency Program Delivery". This is a highly coveted award that is bestowed upon less than 1% of all Energy Star®

partners each year. APS earned the award for excellence in delivering the APS Energy Star® Homes Program to customers in Arizona and for achieving such significant market penetration and energy savings results.

Program marketing efforts during this reporting period include the following placements:

- Arizona New Homes and Lifestyles – (magazine targeted to prospective homebuyers).
- Homestore.com/Move.com – (website for Realtors and homebuyers).
- Distributed APS Energy Star® Home program book for builder sales agents to use in selling the features of Energy Star® Homes to prospective homebuyers. The books are being distributed through model home sales offices of participating APS Energy Star® builders.
- Energy Cost Brochures – point of sale brochures that describe APS Energy Star® Homes features, currently being distributed to participating builders.
- Developed a new consumer brochure that is targeted to new buyers which discusses the features and benefits of an Energy Star home. The brochures are being distributed at community events and at participating builder's model home sales offices.
- Information on aps.com. Website homepage has been updated to highlight APS energy efficiency and renewable energy programs. APS Energy Star® Homes program is now featured prominently on aps.com.
- Article placement in the APS Lifestyles residential newsletter in the June/July issue.
- Sponsorship of the "Rosie on the House" home improvement radio show on KTAR radio station.
- New radio ad was aired as part of the "Better Tomorrow Starts Today" ad campaign. Focuses on the energy savings and environmental benefits of APS Energy Star® Homes.
- Produced APS Energy Star Homes TV commercial. Ran ad campaign which aired the spot during the local broadcast of the World Series and NFL Football games on Fox TV, on the Channel 15 news, and a package of green programming on Cox cable stations.

PROGRAM: CONSUMER PRODUCTS PROGRAM

Description
This program promotes high-efficiency EPA/DOE Energy Star® compact fluorescent lamps (CFLs). CFLs use an average of 75% less energy than standard incandescent bulbs and last up to ten times longer, typically saving consumers more than $30 in energy costs over the life of each bulb. The program offers discounts on CFLs at local retail locations through cooperative agreements with retailers and lighting manufacturers. This provides consumers with reduced retail prices for CFLs at local lighting retailers, with prices typically at or below $0.99 per bulb for standard 60 watt equivalent CFLs.

Program Modifications
During the reporting period, APS made two program budget modifications to direct more funding to this highly successful and cost effective program. First, APS exercised the budget flexibility that was granted in Decision No. 68648 (the order that established the Consumer Products program) by shifting 25% of the Residential New Construction program budget to the Consumer Products program budget. In addition, on December 4, 2007, ACC Decision No. 70033 authorized APS to shift $390,000 that was originally earmarked for the appliances portion of the Consumer Products budget to the lighting portion of the budget. This shift within the Consumer Products program was necessary because the appliances portion of the program was not approved by the Commission, so these dollars which were originally intended to support the appliances portion of the program were stranded unless they could be shifted to approved lighting measures.

Program Goals, Objectives and Savings Targets
The program goals, objectives, and savings targets are identified in the Consumer Products program plan. According to the ACC Staff's analysis, the lighting portion of the Consumer Products program "would result in about $20.8 million net benefits to society" over the lifetime of the measures installed through the current program planning period (2005-2007).

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
During the July to December reporting period, the program resulted in sales of 1,429,037 CFLs through participating retail locations. During the period, there were over 280 retail outlets throughout the APS service territory where APS customers could purchase discounted CFLs. Participating retailers during this reporting period include: 99 Cents stores, Ace Hardware (select locations), AJs Fine Foods, AKA Green, Bashas, Big Lots, Costco, Dollar Tree, Food City, Home Depot, Lowe's, True Value Hardware (select locations) and WalMart.

Evaluation and Monitoring Activities and Results
During the current reporting period the Consumer Products program (CPP) MER research data collection and analysis activities included:

- Constructed a spreadsheet tool for analyzing savings from CFLs.

- Reviewed literature for key assumptions regarding operating hours and load shapes specific to residential CFL usage.
- Began development of a benefit-cost analysis to estimate program total resource cost test value based on ex-post savings values.
- Continued review of program datasets, reviewed planning documents and memorandums of understanding provided by the implementation contractor.
- Conducted a general population survey of 450 residential customers in November 2007 that included CPP relevant topics
- Completed a survey of customers who purchased program CFL bulbs.
- MER activities are currently being analyzed for the 2005-2007 period and MER results will be reported in the second quarter of 2008

kW and kWh Savings

Calculation of Savings for JUL-DEC 2007 CFL Program

No. of Units Sold	Wattage	Watts Saved	Hours Per Year	Est. Measure Life (yrs)	MWH Savings Per Year	Lifetime MWh Savings	kW Demand Savings
698,698	13	47	1000	5.5	32,839	180,613	5,583
384,820	14	46	1000	5.5	17,702	97,359	3,009
66,341	14	51	1000	5.5	3,383	18,609	575
72,695	15	45	1000	5.5	3,271	17,992	556
41,155	15	50	1000	5.5	2,058	11,318	350
14,828	19	56	1000	5.5	830	4,567	141
3	23	42	1000	5.5	0	1	0
26,934	23	67	1000	5.5	1,805	9,925	307
24,633	23	70	1000	5.5	1,724	9,484	293
98,930	23	77	1000	5.5	7,618	41,897	1,295
	Indirect Cooling Savings = 5 kWh/bulb/yr				7,145	39,299	1,215
1,429,037				**TOTAL SAVINGS**	**86,056**	**473,307**	**14,630**

The final savings are adjusted for line losses (9.8%).

Benefits and Net Benefits/Performance Incentive Calculation

The benefits and net benefits are provided in Table 2. The details for the Performance Incentive calculation are provided in Table 3.

Problems Encountered and Proposed Solutions

No problems were encountered during this reporting period.

Costs Incurred

Costs incurred for this program during the current reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Consumer Products	$1,686,041	$202	$10,767	$598,340	$398,207	$48,132	$2,741,689

Findings from all Research Projects
On 09-12-07, APS filed a DSM Market Potential study that has been approved in Decision No. 67816.

Other Significant Information
During this reporting period, the APS program was awarded the American Council for an Energy Efficient Economy (ACEEE) award as an "Exemplary Program". In addition, the energy-efficiency information firm E Source featured the APS program as an energy efficiency success story in their lighting program design resource guide. And as part of the recognition for being awarded the Energy Star Partner of the Year award, APS was selected to host the 2008 Energy Star Lighting Partner meeting in Phoenix, with more than 200 national lighting experts in attendance at the 3-day conference in February 2008.

In recognition of the national EPA Energy Star "Change a Light, Change the World" day on Wednesday October 3rd, APS held a very successful lighting change-out event at the Steele Commons transitional housing facility for formerly homeless people in Phoenix. During the event, APS and volunteers changed out over 300 incandescent bulbs to CFLs, which will save the facility thousands of dollars in energy costs. The event was attended by ACC Commissioners Hatch-Miller and Pierce, as well as Phoenix Mayor Gordon and State Senator Huppenthal. The event was well covered by local press, including Hispanic media. The event was also featured in a special TV segment produced by and aired on Phoenix Channel 11.

In addition to the bulb sales at retail locations, APS has purchased a supply of CFLs to use for the low income program and for customer education and awareness building purposes. APS uses these bulbs for direct installation through the APS Low Income Weatherization program (2 bulbs provided for each home that is weatherized) and to hand out at local community events and other opportunities to educate the public about CFLs. During this reporting period, CFLs and energy efficient lighting were featured at many events throughout the holiday season including City of Phoenix tree lighting ceremony, Tempe Festival of Lights, and APS Electric Light Parade in downtown Phoenix.

The program conducted 597 retailer visits during the reporting period to provide retailer training, assess inventories of merchandise, check point of purchase displays, address availability of qualified product, and communicate with retail sales staff.

APS conducted extensive customer outreach efforts to promote the CFL program and educate customers. Consumer education events during the reporting period included:

- Change A Light event, October 3rd
- Live remote broadcast with Rosie on the House at Lowes in Glendale in September
- Retail events – field representatives set up a table top display at participating retail locations to provide education and outreach for customers buying lighting products. These events were held at least once a week from July-September.
- Tempe Tardeada festival.
- Presentation for Sunnyslope Block Watch group.

- Booth at the Maricopa County Home and Garden show held in August at the Phoenix Civic Center. Also conducted an energy efficient lighting seminar attended by close to 100 homeowners.
- Solar open house tour at APS STAR Center

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

- Ran "Green Choice" campaign TV spots featuring CFL program messages on Cox Cable stations throughout fall 2007.
- CFL radio spot was aired on local Diamondbacks baseball broadcasts.
- Live interviews, on-air promotions and website advertising with Rosie on the House radio show.
- Information on the homepage of aps.com.
- October issue of the APS Lifestyles newsletter.
- Point of sale signage at all participating retail locations.

PROGRAM: NON-RESIDENTIAL PROGRAM FOR LARGE EXISTING FACILITIES

Description
The Large Existing Facilities Program provides prescriptive incentives for owners and operators of large (over 200 kW aggregated demand) non-residential facilities for energy-efficiency improvements in lighting, HVAC, motors and refrigeration applications. For DSM applications not covered through the prescriptive incentives, the program provides custom efficiency incentives to implement energy-efficiency measures that are evaluated on a case-by-case basis. The program also provides incentives for covering a portion of the cost of an energy study that identifies energy saving opportunities. The program provides educational and promotional pieces designed to assist facility and business owners and operators in making decisions to improve the energy efficiency of their facilities.

KEMA Services Inc. provides turnkey implementation services for this program which was made available to APS customers on March 30, 2006.

Program Modifications
In Decision Number 69879, dated August 28, 2007, the Arizona Corporation Commission ordered the authorization for $3.5 million additional annual DSM funding for the Large Existing program incentives.

Program Goals, Objectives and Savings Targets
- Provide DSM opportunities for existing large non-residential customers.
- Promote the installation of high-efficiency technologies including, but not limited to lighting, HVAC equipment, motors, and refrigeration systems.
- Identify and pursue retrofit opportunities within this market segment.
- Increase the efficiency of existing facilities through the testing and retro-commissioning of large central HVAC systems, as well as other end-use measures.
- Promote integrated solutions to the extent possible.

According to the ACC Staff's analysis of this program – for three years, the energy efficiency savings expected to result from the Large Existing Program could reduce annual peak demand by about 10 MW and 856,000 MWh over the life of the measures.

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
The Large Existing Facilities Program has been the strongest performing Non-Residential program since its inception, and it continued to have significant growth in the second half of 2007. A total of 192 active applications for large existing incentives were received in this reporting period, from 58 unique customers. Applications from school districts comprise 32 of the 192 applications. From July through December 2007, $2,424,952 in Large Existing program incentives were paid, which is more than double the incentives paid in the previous reporting period. While the program offers a pre-notification process to reserve incentive funds, final applications are only processed

after the project is completed and all required documentation is submitted and approved by KEMA.

Incentive Status by Fund for Active Applications	Incentives Paid
Large Existing – Prescriptive & Custom	$ 2,390,127
Large Existing – Studies	$34,825
Total Large Existing Funds	**$ 2,424,952**

During this reporting period, there were five study incentives paid for a total of $34,825. Four of the five study applications resulted in submitted applications for the associated custom and prescriptive measures. The fifth study was for a New Construction project and was erroneously charged to the Large Existing budget. This $10,000 incentive will be moved to the correct New Construction program budget in 2008. The actual Large Existing study incentives were therefore $24,825.

Evaluation and Monitoring Activities and Results

During the current reporting period the Large Existing Facilities program MER research data collection and analysis activities included:

- Completed onsite verification inspections at 53 unique customer sites representing 147 measures.
- Completed engineering model of pump test pilot program measures.
- Constructed a detailed chiller model to calculate energy savings for chillers with different performance characteristics in different sectors.
- Completed a detailed engineering review of all prescriptive measures and related saving.
- Began development of a benefit-cost analysis to estimate program total resource cost test value based on ex-post savings values.
- Developed survey instrument and conducted a survey of participating commercial customers.
- Developed survey instruments for non participating customers.
- Developed interview guide and conducted interviews with APS Account Executives
- MER activities are currently being analyzed for the 2005-2007 period and MER results will be reported in the second quarter of 2008

kW and kWh Savings

The following table reflects the total energy and demand saving achievements in the second half of 2007 for the Large Existing Facilities. Only savings from projects that are completed and incentives paid are being counted in this report.

kW Savings	Annual kWh Savings	Lifetime kWh Savings
5,064	38,647,547	550,180,216

The kW savings listed above represent the savings at the customers' site. The demand savings coincident to the APS peak is 4,554 kW. All final saving values are adjusted for line losses (9.8%).

Benefits and Net Benefits/Performance Incentive Calculation
The benefits and net benefits are provided in Table 2. The details for the Performance Incentive calculation are provided in Table 3.

Problems Encountered and Proposed Solutions
The 13-month filing submitted in March 2007 addresses three issues related to the Large Existing Facilities Program in which ACC approval has been requested:

1. **Study Incentive Enhancements:** To date, no customers have submitted retro-commissioning applications. The current program attributes no savings to retro-commissioning studies. In practice, retro-commissioning will yield significant savings from improved operations and system efficiencies. In the 13-month filing, the Company requested that retro-commissioning be categorized as a measure with associated kWh energy savings. Since retro-commissioning studies are more labor intensive and result in direct kWh energy savings once implemented, the 13 month filing requests increasing the retro-commissioning cap from $10,000 **per customer** to $20,000 **per facility**. For all other studies, the 13 month filing requests that the $10,000 cap be changed from a per customer basis to a per facility basis. All study incentives would still apply to the $300,000 per customer annual cap.
2. **Custom Application Enhancements:** The program currently has separate incentives for prescriptive and custom measures. If a customer utilizes both types of measures, the customer must submit separate applications and documentation. In the 13 month filing, APS proposed that in cases where there is an integrated building energy simulation that quantifies the energy savings through the Custom Program, that prescriptive and custom measures would be allowed to be presented in one custom application and treated as a single measure. This change will simplify the application process for customers while assuring that measures would not be double-counted during the application processing.
3. **Budgeting Flexibility:** Due to the success of the Large Existing Facilities Program, demand for the program could exceed the budget ceiling, even after exercising an allowed 25% budget shift. APS requested to increase the incentive funding in a submittal to the ACC on June 18, 2007 for expedited approval. This request was granted by the Arizona Corporation Commission in Decision Number 69879, dated August 28, 2007, which ordered the authorization for $3.5 million additional annual DSM funding for the Large Existing program incentives.

Costs Incurred
Costs incurred for this program during the current reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement*	Program Marketing	Planning & Admin	Program Total Cost
Large Existing Facilities	$2,390,127	$48,310	$13,946	$713,583	$364,224	$103,573	$3,633,763

*The following table provides a more detailed breakdown of the Implementation Contractor (IC) costs, which are included in the Program Implement column above.

DSM Program	IC - Implementation	IC - Marketing	IC - Education	IC - Technical Services	IC - Total Cost
Large Existing Facilities	$334,020	$202,246	$55,423	$121,895	$713,583

Findings from all Research Projects
On 09-21-07, APS filed a DSM Market Potential study that has been approved in Decision No. 67816.

Other Significant Information
During the second half of 2007, program development activities focused on increasing program participation and leveraging program experience by developing technical resources and advertisements to engage more customers. These activities fall into two general categories: market outreach and expanding technical and training resources. Specific activities include the following:

Market Outreach:
Marketing activities for the Large Existing Customer program consisted of three areas of focus:

1. **Trade Ally Development:** Trade Ally recruitment focused primarily on one-on-one development and training. Thirty-five meetings were held with potential trade allies. These meetings allowed program staff to address the specific needs and opportunities of Trade Allies. Thirty-five meetings were held with existing and potential Trade Allies, and three new trade allies were added to the Trade Ally list during the last 6 months of 2007.

2. **Customer awareness and Advertising:** One-on-one meetings were held with 170 customers to identify potential projects, and help them move forward with existing ones. In addition to meetings in the metro area, meetings with customers were held in Flagstaff, Casa Grande, Prescott and Yuma.

   As the program matured, outreach turned to a larger mass market with the purchase of advertising space in a number of publications and the development of new ads. Advertising and article placements for the APS Solutions for Business Program included the following:

   - Solutions for Business was highlighted in a two-page spread in the Eloy Chamber of Commerce newsletter in August.
   - Two ads were developed.
     - One for Office buildings that ran in AZ Real Estate Magazine in 2007, and will run in several other publications in 2008
     - A Thank You ad was developed to acknowledge the companies who participated in the Solutions for Business program to date and to let the community know the cumulative savings of energy, emissions and water the program has achieved. This ad was placed in several newspapers; each was a full page color ad which ran twice in December 2007. The publications included:
       - The Arizona Republic
       - East Valley Tribune
       - Arizona Daily Sun (Flagstaff)
       - East Valley Tribune

- Tri-Valley Dispatch
- West Valley Sun
- Yuma Daily Sun

3. Generate Program Awareness through key events: Trade shows included the following:
   a. **Arizona League of Cities and Towns** conference in August
   b. **AAED Governor's Rural Development Conference** in August
   c. **"Good Morning, Yuma"** event in September
   d. **Arizona Association of School Business Officials** meeting in September
   e. **Arizona Association of Industries Environmental Summit** in September
   f. **Facility Managers Association Tradeshow** in November
   g. **Arizona Farm Bureau** Conference in November

   In addition, a partnership with the EPA/DOE ENERGY STAR® program continued to enable business customers to access additional resources to implement energy-efficiency improvements and to market their efforts internally and publicly. More ENERGY STAR® information was posted to the program website, and program staff met with ENERGY STAR® representatives to explore additional resources to leverage in the Solutions for Business programs.

Expanding Technical and Training Resources:
APS' Technical Training Series was rolled out and held three classes during the reporting period to educate customers and contractors on energy efficiency. Materials were developed for this training series, including class notebooks for participants, class evaluations, invitation fliers, and certificates of completion.

Classes held in the 2nd half of 2007 included:

Class	Date	Number of Attendees
Motors	July 11	27
Retro-Commissioning	September 27	46
Lighting	October 18	35

In addition to the technical training series, the following program materials were developed:

- Created promotional items which were purchased and provided to customers to further support the program promotion outreach efforts.
- Developed fact sheets for customer handouts and placement on APS' website:
  - Grocery
  - Lodging
  - Small Office

PROGRAM: NON-RESIDENTIAL NEW CONSTRUCTION AND MAJOR RENOVATIONS

Description
The Non-Residential New Construction and Major Renovations program includes three components: design assistance, custom efficiency, and prescriptive measures. Design assistance involves efforts to integrate energy-efficiency into a customer's design process to influence equipment/systems selection and specification as early in the design process as possible. Custom efficiency provides incentives for large non-residential customers and provides feasibility studies to assess the savings from complex applications. Prescriptive incentives are available for energy-efficiency improvements in lighting, HVAC, motors and refrigeration applications.

KEMA Services Inc. provides turnkey implementation services for this program which was made available to APS customers on March 30, 2006.

Program Modifications
There were no program modifications made to the New Construction program during this reporting period.

Program Goals, Objectives and Savings Targets
- Promote integrated design and integrated analysis of alternative high-efficiency design packages through design assistance in new construction and major renovation applications.
- Assist the customer design team in examining alternative high-efficiency design packages through the provision of the design incentive.
- Encourage facility-specific efficiency improvements through custom incentives that are otherwise difficult to cover in a prescriptive program.
- Encourage the integrated systems approach to incorporating energy-efficiency improvements in new construction and major renovation projects.
- Promote integrated energy efficiency solutions where possible to capture interactive effects and synergistic savings opportunities.
- Train commercial qualified contractors to meet APS' standards for installation and operation of high efficiency systems.

According to the ACC Staff's analysis of this program for three years, the energy efficiency savings expected to result from the Large New Construction Program could reduce annual peak demand by about 8.8 MW and 729,000 MWh over the life of the measures.

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
The New Construction program participation lags behind the Large Existing program due to the long lead times for new construction that typically result in a longer ramp up time for program participation. However, after 22 months of implementation, the New Construction program is beginning to experience more robust participation. Incentives paid in the second half of 2007 grew by a factor of 12 over the previous six months. A total of 27 applications for New Construction incentives have been received, from 22 unique customers. Four of the 26 applications are from school districts. In the second half of 2007, $605,609 in New Construction incentives were paid.

To date, funds paid in this program represent approximately 27% of the total New Construction incentive budget. While the program offers a pre-notification process to reserve incentive funds, final applications are only processed after the project is completed and all required documentation is submitted and approved by KEMA.

Incentive Status for Active Applications	Incentives Paid
Large New Construction – Prescriptive, Custom & Design Assistance	$605,609
Large New Construction – Feasibility and Commissioning Studies	$0*
Total Large New Construction Funds	$605,609

* One design assistance study that should have been charged to the New Construction budget was erroneously charged to the Large Existing budget. This $10,000 incentive will be moved to the correct New Construction program budget in 2008. Since this study was associated with a large construction project with a long lead time, measure applications have not yet been received by the program.

Evaluation and Monitoring Activities and Results
During the current reporting period the Non-Res New Construction program MER research data collection and analysis activities included:

- Completed onsite verification inspections at 5 sites representing 19 measures
- Completed a detailed engineering review of all prescriptive measures and related savings
- Began development of a benefit-cost analysis to estimate program total resource cost test value based on ex-post savings values
- MER activities are currently being analyzed for the 2005-2007 period and MER results will be reported in the second quarter of 2008

kW and kWh Savings
The following table reflects the total energy and demand saving achievements in the second half of 2007 for the Large New Construction Program. Only savings from projects that are completed and incentives paid will be counted in this report.

kW Savings	Annual kWh Savings	Lifetime kWh Savings
1,423	13,805,668	216,833,003

The kW Savings listed above represent the savings at the customers' site. The demand savings coincident to the APS peak is 1,184 kW. All final saving values are adjusted for line losses (9.8%).

Benefits and Net Benefits/Performance Incentive Calculation
The benefits and net benefits are provided in Table 2. The details for the Performance Incentive calculation are provided in Table 3.

Problems Encountered and Proposed Solutions
While program participation increased significantly, the Large New Construction projects often have a long lead / lag-time between the design phase, start of construction and complete build-out

of a project. There is often an 18 month or longer lead time with new construction projects, and this could affect the timing of savings results and incentives paid in this program. Active marketing and project development is ongoing to raise program participation. These efforts are described in the Market Outreach section below.

In addition, the Studies and Custom Application issues described in the Large Existing section apply to this program as well.

Costs Incurred
Costs incurred for this program during the current reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement*	Program Marketing	Planning & Admin	Program Total Cost
Large Non Res New Const	$605,609	$2,663	$6,536	$373,235	$89,343	$28,262	$1,105,647

*The following table provides a more detailed breakdown of the IC costs, which are included in the Program Implement column above.

DSM Program	IC - Implementation	IC - Marketing	IC - Education	IC - Technical Services	IC - Total Cost
Large Non Res New Const	$181,887	$94,874	$28,246	$68,228	$373,235

Findings from all Research Projects
On 09-12-07, APS filed a DSM Market Potential study that has been approved in Decision No. 67816.

Other Significant Information
During the second half of 2007, program development activities focused primarily on increasing program participation. Specific activities include the following:

Market Outreach:
In addition to many of the Marketing Outreach activities described for the Large Existing program, marketing activities associated with the New Construction program focused on the most likely participants: Owner-occupied buildings, government buildings (schools, county, city, state), and signature projects. Unlike tenant occupied or spec buildings, the developers of these owner-occupied buildings are more likely to incorporate the long-term operating costs when evaluating construction options. They are more willing to make the investment in energy efficiency.

New Construction projects have been identified and approached on a number of fronts. During this reporting period the Solutions for Business program made significant contacts with the contractor community, and worked with developers and contractors throughout the project development cycle, and have been actively engaged in a pipeline list of approximately 80 new construction projects. Some specific examples of New Construction outreach include

- Monthly networking at construction industry association meetings, including the Alliance for Construction Excellence (ACE), the Arizona chapter of the US Green Building

Council, and BOMA meetings. This attendance is an important part of lead development for future projects that could participate in the program. It also helps to identify and recruit potential Trade Allies into the program.

- Project specific meetings with Architecture and Engineering firms, Developers, Contractors and Customers. In the second half of 2007, APS Solutions for Business program staff held approximately 50 such meetings.
- Sponsorship of key events that will attract the attention of Architects and Developers, that range from supporting the Green Building Expo's key note speaker with hundreds of attendees, to supporting the Prescott Chapter of the American Institute of Architects event with less than 10 attendees.

Examples of resources would include newspapers, Dodge reports, and the LEED Database through the USGBC.

PROGRAM: SMALL BUSINESS PROGRAM

Description
The Small Non-Residential Program provides prescriptive incentives for small non-residential customers (≤200 kW of aggregated demand) for energy-efficiency improvements in lighting, HVAC ("heating, ventilation, and air conditioning"), motors, and refrigeration applications through a simple and straightforward mechanism for program participation. In addition, the program provides educational and promotional materials designed to assist building owners and lease-holders in making decisions to improve the energy-efficiency of their facilities.

KEMA Services Inc. provides turnkey implementation services for this program which was made available to APS customers on March 30, 2006.

Program Modifications
There were no program modifications made to the Small Business program during this reporting period.

Program Goals, Objectives and Savings Targets
- Provide Demand Side Management opportunities for small non-residential customers
- Promote the installation of high-efficiency lighting, packaged HVAC equipment, motors, and refrigeration systems.
- Increase the availability of trained and qualified contractors and service technicians who are knowledgeable about systems performance issues, proper testing, operation and commissioning techniques, and the importance of energy and comfort conditioning benefits of systems that are properly installed and operated.
- Promote cross-training and energy-efficiency assessment and referral opportunities among HVAC and lighting contractors.

According to the ACC Staff's analysis of this program – for three years, the energy efficiency savings expected to result from the Small Non-Residential Program could reduce annual peak demand by about 6.5 MW and 571,000 MWh over the life of the measures.

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
While incentives paid through the Small Business program grew significantly in this reporting period, the program is still experiencing a relatively slow uptake. This slow uptake has occurred even after significant and focused outreach to the small business segment since program inception. As reported in the previous Semi Annual Report, the small business sector is difficult to reach and often requires greater incentives than other markets. A total of 34 applications for Small Business incentives were received from 27 unique customers. From July 1 through December 31, 2007, $111,800 in Small Business program incentives were paid. To date, incentives paid for this program represent 12% of the program incentive budget. While the program offers a pre-notification process to reserve incentive funds, final applications are only processed after the project is completed and all required documentation is submitted and approved by KEMA.

Incentive Status for Active Applications	Incentives Paid
Small Business	$111,800

Evaluation and Monitoring Activities and Results
The research plan for the Small Business program is incorporated within the Solutions for Business MER Research Plan and includes activities to be undertaken in support of the Large Existing Facilities, Small Business, and Schools programs. MER research data collection and analysis activities conducted specifically for the Small Business market include:

- Completed onsite verification inspections at 2 sites representing 3 measures
- Completed a detailed engineering review of all prescriptive measures and related savings
- Began development of a benefit-cost analysis to estimate program total resource cost test value based on ex-post savings values
- Conducted interviews with APS and KEMA staff, and created a summary of project level activity
- Developed survey instrument and conducted a survey of participating commercial customers
- Developed survey instruments for conducting surveys with non-participating customers that were fielded in January 2008
- MER activities are currently being analyzed for the 2005-2007 period and MER results will be reported in the second quarter of 2008

kW and kWh Savings
The following table reflects the total energy and demand saving achievements in the second half of 2007 for Small Businesses. Only savings from projects that are completed and incentives paid will be counted in this report.

kW Savings	Annual kWh Savings	Lifetime kWh Savings
278	1,307,879	21,590,702

The kW Savings listed above represent the savings at the customers' site. The demand savings coincident to the APS peak is 259 kW. All final saving values are adjusted for line losses (9.8%).

Benefits and Net Benefits/Performance Incentive Calculation
The benefits and net benefits are provided in Table 2. The details for the Performance Incentive calculation are provided in Table 3.

Problems Encountered and Proposed Solutions
Low participation in this program remains the key challenge even though focused marketing has been implemented. This challenge is consistent with other DSM markets, which is why APS proposed modifications to the program in the 13-Month filing. These modifications include reducing the "small business customer" classification to include customers that have 100 kW or less of aggregated monthly demand, and increasing incentives for some measures under a "Direct Install" program as proposed in APS' 13-Month Filing which is pending ACC approval.

Costs Incurred

Costs incurred for this program during the current reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement*	Program Marketing	Planning & Admin	Program Total Cost
Small Business	$111,800	$0	$4,475	$240,291	$56,543	$13,282	$426,391

*The following table provides a more detailed breakdown of the IC costs, which are included in the Program Implement column above.

DSM Program	IC - Implementation	IC - Marketing	IC - Education	IC - Technical Services	IC - Total Cost
Small Business	$137,702	$61,418	$17,235	$23,936	$240,291

Findings from all Research Projects

On 09-12-07, APS filed a DSM Market Potential study that has been approved in Decision No. 67816.

Other Significant Information

In addition to many of the Marketing Outreach activities described for the Large Existing program, marketing activities associated with the Small Business program leveraged small business associations such as Chambers of Commerce as well as development of program education and information to assist small businesses. Program outreach efforts included:

- A presentation to approximately 100 attendees at the Yuma Chamber of Commerce event, "Good Morning Yuma!" in September
- A two-page spread in the Eloy Chamber of Commerce Newsletter in August
- A panel presentation at a luncheon with 3 Casa Grande area Chambers in November on "Greening your Business"
- The development of training curriculum for BOMA targeted toward multi-tenant buildings which often house multiple small businesses
- A Small Business case study was finalized and added to the program website

PROGRAM: BUILDING OPERATOR TRAINING ("BOT") PROGRAM

Description
The Building Operator Training Program ("BOT") which was made available to APS customers on March 15, 2006, provides training incentives for building operators (managers) and facility maintenance technicians on energy-efficient building operating and maintenance practices. Program training is provided through a cooperative effort with the Electric League of Arizona ("ELA") in support of their "Institute for Facility Management Education" program, which includes industry expert training targeted to reach facility managers and building operators of medium to large commercial and industrial facilities. The ELA issues a certificate of completion for participants that successfully complete Facility Maintenance Technician Training and Building Operator Training.

Program Modifications
No modifications for this reporting period.

Program Goals, Objectives and Savings Targets

- Promote operation and maintenance practices that increase the energy-efficiency of commercial and industrial facilities.
- Help participants understand general utility rate concepts and energy consumption.
- Institute a preventative maintenance program in their facility, which includes written maintenance logs that must be completed periodically. Include checks for efficient equipment operation (i.e., economizer/dampers for leaks, coil cleaning, air filter cleaning, system balancing, controls, etc.).
- Learn how to perform an energy audit of their facility and identify savings opportunities
- Learn to create reports for management that justify energy-efficiency capital expenses intended to produce O&M savings.
- Improve purchasing requirements by knowing what to look for when repairing or replacing equipment, and how to calculate the payback of energy savings associated with purchase options; and
- Provide a mechanism for channeling participation to the prescriptive and custom incentive portion of the APS Solutions For Business Program.

According to the ACC Staff's analysis of this program – for three years, the energy efficiency savings expected to result from the BOT Program could reduce annual peak demand by about 6.43 MW and 81,000 MWh over the life of the measures.

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
The BOT Program had six APS customer participants in the Fall 2007 Building Operator Training session, and all six successfully received a passing grade from the ELA and received their BOT Certificate of completion. The training subsidy paid to the ELA to cover the tuition subsidy for APS customer participation totaled $3,585 or $597.50 per participant.

The Facilities Maintenance Training (FMT) session also had eight APS customer participants in the Fall 2007, and seven participants successfully received a passing grade from the ELA. The FMT subsidy paid to the ELA to cover the tuition subsidy for APS customers was $3,132 or $447.50 per passing customer.

Evaluation and Monitoring Activities and Results
During the current reporting period the Building Operator Training program MER research data collection and analysis activities included:

- Developed leave-behind course evaluation forms for the BOT Lighting, HVAC and Air Flow courses as well as a leave-behind end of training evaluation form. ELA distributed and collected these forms.
- Developed leave-behind mid term and end of training evaluation forms for FMT Electrical and HVAC courses. ELA distributed and collected these forms.
- Conducted six to twelve month follow up survey with Fall 2006 and Spring 2007 BOT and FMT participants.
- Developed detailed interview guides to identify savings associated with energy efficiency activities that participants reported installing in the six to twelve month follow up surveys. These interviews will be conducted with the same persons who responded to the six to twelve month follow up survey to identify savings achieved by the program.
- Developed savings algorithms and energy models to estimate gross program ex-post kW, kWh, and therms saved through installation identified in the participant surveys.
- Developed measure level Net-to-Gross analysis strategy.
- Began development of a benefit-cost analysis to estimate program total resource cost test value based on ex-post savings values.
- MER activities are currently being analyzed for the 2005-2007 period and MER results will be reported in the second quarter of 2008

kW and kWh Savings

Participants	Est. Measure Life (yrs)	kWh Savings per Year*	Lifetime kWh Savings	kW Demand Savings *
BOT = 6	15	44,258	663,873	6.3
FMT = 7	15	51,635	774,518	7.3

* Annual energy and demand savings per participant approved equals 6,718 kWh and .87 kW. The kW Savings listed above represent the savings at the customers' site. The total demand savings coincident to the APS peak is 12.5 kW. All final saving values are adjusted for line losses (9.8%).

Benefits and Net Benefits/Performance Incentive Calculation
The benefits and net benefits are provided in Table 2. The details for the Performance Incentive calculation are provided in Table 3.

Problems Encountered and Proposed Solutions
No problems were encountered during this reporting period.

Costs Incurred

Costs incurred for this program during the current reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Building Operator Training	$0	$6,898	$0	$4,354	$4,261	$53	$15,566

Findings from all Research Projects

On 09-12-07, APS filed a DSM Market Potential study that has been approved in Decision No. 67816.

Other Significant Information

Both the Facility Maintenance and the Building Operator Training Programs have been ongoing for a number of years (Fall of 2002 and 2003 respectively) prior to the ACC interim approval of tuition reimbursement for these programs in 2006. During that time, the Building Operator Training Program had been administered and marketed under the Electric League of Arizona's Institute for Facility Management Education. For the first two years of the Solutions for Business program (2006 and 2007), we continued to have the Electric League market these classes under the Institute. Beginning in 2008, APS will be marketing these classes under the APS Solutions for Business banner. The Electric League of Arizona will continue to administer these classes.

PROGRAM: ENERGY INFORMATION SERVICES ("EIS") PROGRAM

Description
The EIS Program which was made available to APS customers on November 16, 2006, helps large customers (>200 kW) save energy by giving them a better understanding and control of their facilities' electric use. EIS provides data not only regarding usage and demand, but also when, where and how much power is used in specific areas of each facility. This detailed information allows customers to fine-tune equipment use and operations and to document the impact of those changes. Participating customers monitor their electric usage through a web-based energy information system that allows them to receive historical (previous day) 15 minute usage and demand graphics. This information can be used to improve or monitor energy usage patterns, reduce energy use, reduce demands during on-peak periods and better manage their overall energy operations.

APS is encouraging customers to take advantage of EIS by providing a one-time incentive of up to a maximum of $900 or 75% of the cost of installing a meter and communications equipment necessary to participate in the program.

Program Modifications
No modifications for this reporting period.

Program Goals, Objectives and Savings Targets

- Provide monthly energy usage information to large non-residential customers.
- Identify strategies to lower energy cost by reducing energy usage and demand.
- Educate EIS program participants about utility rate concepts and how managing or reducing their energy consumption through energy-efficiency measures and operational practices can reduce their energy expenses.
- Teach participants how to download billing history information and create spreadsheets to chart and graph their energy use, as well as identify consumption trends and savings opportunities.
- Educate EIS participants about creating reports for management that justify energy-efficient capital expenses intended to produce operations and maintenance ("O&M") savings; and
- Facilitate analysis of what-if scenarios to help large facility managers assess the benefits of capital improvements or operating adjustments to improve energy-efficiency.

According to the ACC Staff's analysis of this program – for three years, the energy efficiency savings expected to result from the EIS Program could reduce annual peak demand by about 3.57 MW and 45,000 MWh over the life of the measures.

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
The EIS program started in late 2006, so the program is still considered to be in the initial phase of implementation. The EIS Program has three APS customers participating in the program, for which ten meters are gathering data to be utilized on the web-based energy information system,

the meters were not in service until Fall of 2007. Three more customers have signed proposals and are in the process of having their meters changed out for a total of fourteen additional meters to be utilized on the energy information system.

During the reporting period the incentive level for participation was $3,447. The incentive value is reported on a customers invoice as a discounted item for EIS services received.

Evaluation and Monitoring Activities and Results
During the current reporting period a draft of the EIS program MER research plan was developed. APS will finalize and submit the EIS MER plan to the ACC Staff during second quarter of 2008. All other Program MER plans were submitted on July 31, 2007.

This program had limited participation and the MER contractor is working with APS and the implementation contractor to status projects currently in design or early installation stages to identify near term researchable issues for the process and impact evaluations.

kW and kWh Savings
The EIS Program did not pay incentives until late in the fourth quarter of 2007. Therefore, there are no savings to report during this period.

Benefits and Net Benefits/Performance Incentive Calculation
The benefits and net benefits are provided in Table 2. The details for the Performance Incentive calculation are provided in Table 3. Since there were no kW or kWh savings that have been estimated and quantified to date, the EIS program benefits are zero to date.

Problems Encountered and Proposed Solutions
The Energy Information Services (EIS) program customer incentive caps were designed around the basis of a one meter EIS application costing a maximum of $1200. Based on a limit of 75% incentive to incremental cost factor that was used throughout the Non-Residential incentive program design, the maximum incentive per customer was set at $900. However, most Non-Residential customers have more than one meter. The Company has received feedback from one of our large government segment customers stating that this customer cap does not make sense for them since they have approximately 300 meters. They would like to see the program cap be raised to recognize the fact that program participants will install EIS on multiple meters within their domain.

The Company, through the 13 Month Filing, is now recommending that the EIS program incentives be expanded to allow more incentives for those customers with multiple meters. However, the Company still needs to insure that one customer does not dominate the incentives. Therefore, APS recommends that any one EIS customer be capped at $12,000 (5% of the EIS incentive budget) over any one year. In addition, this EIS incentive would be included in the total large customer DSM incentive cap of $300,000 per year.

Costs Incurred
Costs incurred for this program during the current reporting period are listed below:

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DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Energy Information Services	$3,447	$0	$0	$8,398	$0	$2,412	$14,257

Findings from all Research Projects
On 09 -12-07, APS filed a DSM Market Potential study that has been approved in Decision No. 67816.

Other Significant Information
None.

PROGRAM: SCHOOLS PROGRAM

Description
The Schools program includes a set-aside budget for schools and provides assistance in reducing the energy used in school buildings, including public, private and charter schools. The incentives available for schools include the same DSM measures that are available for all non-residential customers.

KEMA Services Inc. provides turnkey implementation services for this program which was made available to APS customers on March 30, 2006 and includes a grant to the Arizona Department of Commerce Energy Office to provide outreach to rural school districts.

Program Modifications
No modifications for this reporting period.

Program Goals, Objectives and Savings Targets
- Maximize the energy savings that can be attained with available DSM funds by providing schools incentives to upgrade lighting, HVAC, and refrigeration systems.
- Provide educational and training materials to aid schools in other energy conservation projects.
- Provide design assistance, commissioning and energy feasibility incentives to aid schools in identifying energy savings opportunities.
- Provide incentives for other cost effective DSM projects by allowing schools to participate in any Non-Residential DSM Program.

According to the ACC Staff's analysis of this program – for three years, the energy efficiency savings expected to result from the lighting component of the Schools Program alone could reduce annual peak demand by about 6.37 MW and 178,000 MWh over the life of the measures. Staff also indicated to the extent that other cost-effective measures would be undertaken by Schools, additional savings could accrue.

Programs Terminated
No programs were terminated during this reporting period.

Levels of Participation
In the second half of 2007, a total of 39 applications from schools were received, representing 13 unique school districts. To date, schools have had a healthy level of participation in the program. While school districts comprise less than 8% of APS's non-residential energy use, to date they have received 24% of the paid program incentive funds for their non-residential energy efficiency projects.

The self-reported size of the school entity, based on the number of students as submitted on approved applications is:

Metro/Non-Metro	Project Type	Size	No. of Students in District
Metro	Prescriptive & Custom Measures – Retrofit	>200 kW	35,700
Metro	Prescriptive Measures - Retrofit	>200kW	28,000
Metro	Prescriptive & Custom Measures – New Construction	>200kW	18,000
Non-Metro	Custom Measures - Retrofit	>200kW	11,100
Non-Metro	Prescriptive & Custom Measures – New Construction	>200kW	10,500
Metro	Prescriptive Measures - Retrofit	>200kW	8,553
Metro	Prescriptive Measures - Retrofit	>200kW	6,251
Non-Metro	Prescriptive Measures - Retrofit	>200 kW	3,522
Non-Metro	Prescriptive Measures - Retrofit	>200kW	1,400
Non-Metro	Prescriptive Measures - Retrofit	>200kW	560
Metro	Technical Assistance & Studies	<200 kW	292
Metro	Prescriptive Measures - Retrofit	<200kW	139
Non-Metro	Prescriptive Measures - Retrofit	<200 kW	70

When an incentive application is received from a school district and deemed eligible, funding is first allocated from the Schools budget up to, a maximum of $25,000 or $15/student cap. Any additional funding required to cover the application is then allocated from the appropriate Large Existing, New Construction or Small Business program budget.

During this reporting period, $982,501 in incentives were paid to schools. The Schools Program incentives of $159,599 were paid under the schools program. The remaining $822,902 in incentives was paid to schools under the other non-residential programs (see table below).

Incentive Status by Fund for Active Applications	Incentives Paid
Schools Budget – Prescriptive & Custom	$159,599
Schools Budget – Feasibility, Commissioning and Retro-commissioning Studies	$0
Total School Funds	**$159,599**
Schools Summary:	
Schools – School Funds	$159,599
Schools – Large Existing Funds	$620,575
Schools – New Construction Funds	$185,664
Schools – Small Business Funds	$16,662
Total Paid to Schools	**$982,501**

During this reporting period, there was one study completed and paid to a School district. The district is currently seeking budget approval for the associated projects identified in this study.

Evaluation and Monitoring Activities and Results
During the current reporting period the Schools program MER research data collection and analysis activities included:

- Completed onsite verification inspections at 4 sites representing 20 measures
- Developed interactive effects model for various energy efficient lighting and HVAC measures
- Completed a detailed engineering review of all prescriptive measures and related savings
- Constructed a detailed chiller model to calculate energy savings for chillers with different performance characteristics in different sectors
- Began development of a benefit-cost analysis to estimate program total resource cost test value based on ex-post savings values.
- MER activities are currently being analyzed for the 2005-2007 period and MER results will be reported in the second quarter of 2008

kW and kWh Savings
The following table reflects the total energy and demand saving achievements in the second half of 2007 for schools projects. Only actual savings from projects that are completed and incentives paid will be counted in this report.

	kW Savings	Annual kWh Savings	Lifetime kWh Savings
Schools – School Funds	414	2,428,783	40,706,534
Schools – Large Existing Funds	1,115	8,760,234	132,694,705
Schools – New Construction Funds	353	4,569,293	70,820,140
Schools – Small Business Funds	50	223,521	3,405,299
Total Attributable to Schools	**1,933**	15,981,831	247,626,678

The kW Savings listed above represent the savings at the customers' site. The demand savings coincident to the APS peak is 1718 kW. All final saving values are adjusted for line losses (9.8%).

Benefits and Net Benefits/Performance Incentive Calculation
The benefits and net benefits are provided in Table 2. The details for the Performance Incentive calculation are provided in Table 3.

Problems Encountered and Proposed Solutions

APS is evaluating the concept to allow schools to participate in the "Direct Install" program that it recommended for the Small Business program. This would lower up-front cost for these school projects. This would also remove documentation requirements for school districts for prescriptive lighting and refrigeration measures that are part of the Direct Install program. Schools would still be eligible to participate in the broader program.

The Schools program also has the Custom Measure and Studies issues as discussed earlier in the Large Existing Facilities and New Construction Program sections.

Costs Incurred
Program costs incurred during the second half of 2007 are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement*	Program Marketing	Planning & Admin	Program Total Cost
Schools	$159,599	$0	$2,011	$95,000	$30,050	$4,474	$291,135

* The following details the IC costs, which are included in the Program Implement column above.

DSM Program	Implementation	Marketing	Education	Technical Services	Program Total Cost
Schools	$40,895	$32,641	$6,456	$15,008	$95,000

Findings from all Research Projects
There were no findings from any Research Projects during this reporting period.

Other Significant Information

In addition to many of the Marketing Outreach activities described for the Large Existing program, marketing activities associated with the Schools program consisted of three areas of focus:

1. **Trade Ally Development:** Trade Ally recruitment focused on one-on-one development and training. Several meetings were held with individual potential trade allies, and program staff worked with existing trade allies to streamline application processes. These individual meetings allowed program staff to address the specific needs and opportunities of schools and the trade ally.

2. **Customer awareness and project generation:** One-on-one meetings were held with several school districts in an effort to identify potential projects.

3. **Key Events and Training**:

   - Solutions for Business program personnel attended an Arizona Association of School Business Officials (AASBO) meeting in Mesa to make participants aware of the program, learn more about issues facing Arizona's school districts, and be available to answer questions.
   - A ceremonial check was presented at a Scottsdale USD board meeting for just under $230,000 in incentives which was the highest amount received by any school district to date. An associated press release was sent out, in an effort to encourage other school districts to participate in the program.

Schools Program Participation in this Reporting Period: Direct marketing of the DSM program to 32 school districts, including 15 Rural and Non-metro and 17 Metro school districts was completed during the reporting timeframe.

PORTFOLIO PLANNING: DSM MEASUREMENT, EVALUATION AND RESEARCH

Description

On April 12, 2006 in Decision No. 68648, the ACC approved funding for Measurement, Evaluation, and Research (MER) activities to assist in verifying the impact and cost effectiveness of APS' DSM programs. As required per Decision No. 68648, APS submitted MER program plans for Staff review on July 31, 2007. A draft EIS MER research plan was completed and will be finalized and filed during the second quarter of 2008.

There are currently two major efforts within Measurement, Evaluation and Research (MER):

- Baseline and Market Potential Studies.
- Ongoing Measurement and Evaluation of the current DSM programs.

The Baseline and Market Potential Studies are complete. These studies identify current baseline efficiency levels and the market potential of DSM measures. The Baseline Study was filed at the ACC on 4-11-07, and the Market Potential Study was filed on 9-12-07.

Summit Blue has been hired to provide the DSM program Measurement and Evaluation services. These Measurement and Evaluation activities will:

- perform process evaluation research to indicate how well programs are working to achieve their objectives,
- perform impact evaluation research to verify that energy-efficient measures are installed as expected, measurement 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.
- track savings measurement to monitor the actual program savings that are achieved.
- research activities to identify additional opportunities for energy efficiency.

In addition to these activities Summit Blue also provided evaluation support for the Portfolio Update filing that was made on December 28, 2007.

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

Program Modifications

Not applicable.

Program Goals, Objectives and Savings Targets

Not applicable.

Programs Terminated

Not applicable.

Levels of Participation

Not applicable.

Evaluation and Monitoring Activities and Results
The Baseline and Market Potential Studies were completed by ICF Consulting on 03-09-07 and 08-24-07, 2007, respectively and were filed with the ACC on 4-11-07, and 9-12-07, respectively.

The process evaluation and verification of savings is an ongoing series of activities and APS will report the results through 2007 during the second quarter of 2008. See specific program sections for additional information.

kW and kWh Savings
Not applicable.

Benefits and Net Benefits/ Performance Incentive Calculation
Not applicable.

Problems Encountered and Proposed Solutions
Not applicable.

Costs Incurred
Total costs incurred for Measurement and Evaluation during this reporting period were $643,278.

Findings from all Research Projects
Not applicable.

Other Significant Information
MER activities are currently being analyzed for the 2005-2007 period and MER results will be reported in the second quarter of 2008.

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Table 4
DSM Program Expenses: January – December 2007

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Program Total Cost
Residential							
Low Income	$1,218,161	$10,996	$6,325	$77,514	$5,115	$63,785	$1,381,896
Res Existing Homes HVAC	$1,084,200	$54,272	$162,446	$310,261	$303,329	$42,978	$1,957,485
Res New Home Const	$740,400	$73,368	$10,822	$202,429	$557,858	$66,624	$1,651,501
Consumer Products	$2,688,444	$788	$11,517	$835,851	$427,887	$103,136	$4,067,622
Totals for Residential	**$5,731,204**	**$139,424**	**$191,110**	**$1,426,055**	**$1,294,189**	**$276,523**	**$9,058,504**
Non-Residential							
Large Existing Facilities	$3,547,540	$63,730	$21,946	$1,433,239	$370,071	$193,919	$5,630,446
Large Non Res New Const	$656,990	$16,065	$6,591	$746,469	$91,954	$81,122	$1,599,191
Small Business	$131,471	$390	$9,922	$480,548	$58,402	$45,240	$725,973
Bldg Operator Training	$0	$19,585	$0	$11,112	$11,423	$53	$42,173
Energy Information Svcs	$3,447	$0	$583	$31,498	$0	$4,678	$40,206
Schools	$198,819	$2,193	$2,848	$190,000	$30,694	$18,094	$442,649
Total for Non-Residential	**$4,538,267**	**$101,963**	**$41,890**	**$2,892,866**	**$562,545**	**$343,106**	**$8,480,637**
Segment Totals	**$10,269,471**	**$241,387**	**$233,000**	**$4,318,921**	**$1,856,733**	**$619,628**	**$17,539,142**
				Program Costs			**$17,539,142**
				Measurement, Evaluation, & Research (MER)			**$1,181,197**
				Performance Incentive			**$679,672**
				TOTAL			**$19,400,010**

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DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD:
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CERTIFICATION BY APS
OF
DSM SEMI-ANNUAL PROGRESS REPORT
FOR THE PERIOD:
JULY THROUGH DECEMBER 2007

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

2/28/08
Date

Tammy McLeod
Vice President and Chief Customer Officer