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2006 DEC 22 P 2: 26

December 21, 2006

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DEC 22 2006

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Arizona Corporation Commission
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Phoenix, AZ 85007-2996

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Re: **2006 Arizona Demand Side Management Program Plan – Errata**
Docket No. G-01551A-04-0876; Decision No. 68487

On June 22, 2006, pursuant to Commission Decision No. 68487, dated February 23, 2006, Southwest Gas Corporation (Southwest) filed detailed descriptions of the DSM programs required to be filed for Commission approval. Subsequent to the filing, Southwest discovered inadvertent calculation errors in the High-Efficiency Commercial Equipment program. This affected eight pages of the filing. Southwest herewith tenders for filing an original and thirteen (13) copies of the attached replacement pages to the "2006 Arizona Demand Side Management Program Plan". Please replace the original pages in the filing with the revised replacement pages attached herein.

If there are any questions regarding this matter, please contact me at (702) 876-7163.

Respectfully submitted,

By
Debra S. Jacobson

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Director, Government & State Regulatory Affairs

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Table 1 – Potential for High-Efficiency Commercial Equipment

Appliance	Market Potential	Expected DSM Participants (Year 1)	Potential Annual Energy Savings
Spray valve	18,000	5,000	1,464,000 therms 7.877million kWh 250 million gallons of water
Water heater	18,000	111	74,938 therms 2.483 million kWh
Griddle	18,000	65	159,445 therms
Steamer	1,800	20	10,288 therms 61,148 kWh
Fryer	30,000	101	39,996 therms

It is important to take a long-term view of this program, in that it could help to transform a market that has otherwise been notoriously energy-inefficient. Over time, it is expected that the cost differential between standard and high-efficiency commercial equipment could decrease, as awareness and demand for high-efficiency equipment in the marketplace increase. The potential energy savings to be realized can more than justify the financial incentives required to turn this market around, reaping significant reductions in Arizona’s overall energy needs.

With reduced energy requirements, there are concomitant societal benefits in terms of water savings and less pollution associated with energy production and consumption. Water savings are crucial in Arizona where population growth demands a reliable water supply, while pollution has an effect on environmental quality and consequently the health of residents. Therefore, less energy equates to a better quality of life for Arizonans.

Products and Services to Be Provided

New and existing commercial customers will be offered consultation, advisement, and assistance in the purchase of high-efficiency commercial water heaters, griddles, steamers, and fryers. Financial incentives will be provided to overcome the often large, first-cost differential.

Opportunities

Compared to residential customers, commercial customers represent a wide diversity of types, and therefore, opportunities. This proposed program is designed to capture a segment of possible types of customers, yet one that potentially can produce significant energy savings. Since establishments where food service is provided comprise the primary type of commercial customer for

COST-EFFECTIVENESS TEST RESULTS

The cost-effectiveness test ratio for the Commercial Equipment program is 7.50. More cost-effectiveness information, including the results of the societal evaluation, is provided in Appendix D.

Societal Costs

Energy production consumes a large amount of water (about 0.45 gallon per kWh according to *The Last Straw*, The Hewlett Foundation, April 2003) and produces emissions that affect environmental quality and have an adverse effect on the health of Arizona residents. Therefore, reductions in energy requirements can lessen the impact on resources and the environment.

Economic Impacts

Arizona's population is growing at an estimated three percent annually, resulting in an approximately four percent yearly increase in the need for power. DSM programs can help slow this yearly demand increase, thus slowing the need for additional infrastructure and the resources required to produce and deliver energy. This helps to stabilize the region's economy. A strong economy is advantageous in continuing to attract businesses to Arizona.

Further, lower energy costs contribute to the economic viability of business enterprises, resulting in fewer business failures and defaults on business loans. This contributes to the health of Arizona's business climate.

Human Impacts

Less energy production and use reduce the impact on Arizona's resources and environment, helping to maintain the quality of life which draws so many new residents and businesses to the state. Lower energy costs will allow more businesses to be successful and more business owners to enjoy profitable enterprises.

PROGRAM COST-EFFECTIVENESS AND SOCIETAL BENEFITS

The DSM programs proposed by Southwest provide energy savings, water savings, and emissions reductions through energy-efficient products, services, and/or practices. The programs are designed to influence energy decisions by both residential and non-residential customers through a combination of education, training, financial incentives, and technical assistance. The proposed DSM program portfolio is expected to produce long-term energy savings, monetary savings, and positive environmental impacts.

Table 2 summarizes the expected total program net benefits and cost-benefit ratios over the lifetime of the equipment and measures installed. Values in the table are based on three years of program activity, from 2007 through 2009. Because the Technology Information Center program is more educational in nature, values for this program are not readily calculated.

Program net benefits are equal to the benefits less the costs. The present value of the total net benefits for the quantifiable programs in the DSM portfolio is \$112,365,578.

The cost-benefit ratio is equal to the benefits divided by the costs. Program ratios vary from 1.15 to 7.50, with a weighted average cost-benefit ratio for the portfolio of 4.67. In other words, for every dollar invested in DSM within Southwest's Arizona service area, Arizona customers will realize \$4.67 in total benefits, not counting the environmental and societal benefits, which are described in more detail below.

Table 2 – Total Program Net Benefits and Cost-Benefit Ratios, 2007-2009

PROGRAM	PRESENT VALUE BENEFITS	PRESENT VALUE COSTS	PRESENT VALUE NET BENEFITS	COST-BENEFIT RATIO
Low-Income Energy Conservation	\$ 1,297,188	\$ 1,124,283	\$ 172,905	1.15
ENERGY STAR Home	\$58,485,618	\$10,521,912	\$47,963,706	5.56
Multi-Family New Construction	\$ 7,571,560	\$ 3,495,700	\$ 4,075,860	2.17
Consumer Products	\$18,085,619	\$ 3,591,677	\$14,493,942	5.04
Commercial Equipment	\$22,282,016	\$ 2,967,994	\$19,314,022	7.50
Distributed Generation	\$30,857,254	\$ 4,512,111	\$26,345,143	6.84
Technology Information Center	n/a	n/a	n/a	n/a
TOTAL	\$138,579,255	\$26,213,677	\$112,365,578	4.67

Table 3 summarizes the expected total energy savings (kilowatt hours, kilowatts, and therms) that can be achieved over the lifetime of the equipment and measures installed. This table is based on three years of program activity, from 2007 through 2009. Although the Technology Information Center is educational in nature, and therefore not quantified in this table, it is anticipated that some energy savings will also be achieved from this program.

Overall, the portfolio of DSM programs is expected to save approximately 2.23 billion kilowatt hours, 43,960 kilowatts, and 63.8 million therms over the life of the equipment and measures, based on a three-year program time frame.

Table 3 – Total Program Energy Savings, 2007-2009

PROGRAM	KILOWATT-HOUR (KWH)	KILOWATT (KW)	THERMS
Low-Income Energy Conservation	18,451,048	450	600,210
ENERGY STAR Home	1,119,125,040	9,768	27,165,600
Multi-Family New Construction	334,839,966	5,940	(3,859,200)
Consumer Products	265,199,006	21,960	569,250
Commercial Equipment	157,189,209	3,742	17,306,190
Distributed Generation	336,186,900	2,100	22,063,200
Technology Information Center	n/a	n/a	n/a
TOTAL	2,230,991,169	43,490	63,845,250

Table 4 summarizes the expected total savings in air emissions and water over the lifetime of the equipment and measures installed. Values in the table are based on three years of program activity, from 2007 through 2009. As noted earlier, the Technology Information Center is educational in nature, and therefore not quantified in this table. However, it is anticipated that some environmental benefits will also be achieved through this program.

The environmental benefits from the proposed portfolio of DSM programs is significant. From the six quantifiable programs, a total of 2.1 billion pounds of carbon dioxide emissions will be saved. In addition, the emission of 383,748 pounds of nitrous oxide and 9,593 pounds of sulfur dioxide will be avoided. As for water—a precious resource in the arid state of Arizona—a total of over 2.7 billion gallons of water will be saved (enough to meet the annual needs of over 40,000 Arizona residents).

Table 4 – Total Program Environmental Benefits, 2007-2009

PROGRAM	CARBON DIOXIDE (LBS)	NITROUS OXIDE (LBS)	SULFUR DIOXIDE (LBS)	WATER (GALLONS)
Low-Income Energy Conservation	16,919,611	3,174	79	4,299,094
ENERGY STAR Home	1,026,237,662	192,490	4,812	260,756,134
Multi-Family New Construction	307,134,080	57,609	1,440	78,039,521
Consumer Products	243,187,489	45,614	1,140	520,431,368
Commercial Equipment	144,142,541	27,037	676	1,786,625,095
Distributed Generation	308,283,387	57,824	1,446	78,331,548
Technology Information Center	n/a	n/a	n/a	n/a
TOTAL/AVERAGE	2,045,904,770	383,748	9,593	2,728,482,760

Table 5 assigns monetary values to the expected total savings in air emissions and water shown above. As before, these values represent the lifetime of the equipment and measures installed. Values in the table are based on three years of program activity, from 2007 through 2009.

Overall, the proposed portfolio of DSM programs provide major environmental value. The combined total value of the air emissions savings is over \$34 million, while the water savings are approximately \$3.25 million. These benefits are in addition to the reported program net benefits reported in Table 1, and therefore cause the programs to be even more cost-effective than indicated.

Table 5 – Value of Total Program Environmental Benefits, 2007-2009

PROGRAM	CARBON DIOXIDE	NITROUS OXIDE	SULFUR DIOXIDE	WATER
Low-Income Energy Conservation	\$163,845	\$41,515	\$77,494	\$5,116
ENERGY STAR Home	\$9,937,830	\$2,518,031	\$4,700,325	\$310,300
Multi-Family New Construction	\$2,974,210	\$753,601	\$1,406,721	\$92,867
Consumer Products	\$2,354,967	\$596,698	\$1,113,836	\$619,313
Commercial Equipment	\$1,395,841	\$353,676	\$660,195	\$2,126,084
Distributed Generation	\$2,985,340	\$756,421	\$1,411,985	\$93,215
Technology Information Center	n/a	n/a	n/a	n/a
TOTAL/AVERAGE	\$19,812,033	\$5,019,942	\$9,370,556	\$3,256,895

APPENDIX A - Equipment and Measures - Commercial Equipment - Revised

	Pre-Rinse Spray Valves		Tank Water Heaters		Griddles		Steamers		Fryers	
	Natural Gas	Electric	Natural Gas	Electric	Natural Gas	Electric	Natural Gas	Electric	Natural Gas	Electric
BASELINE (STANDARD) MEASURES										
Average Number of Customers										
Existing customer base	10,800	7,200	10,800	7,200	10,800	7,200	1,080	720	18,000	
New construction	210	63	312	70	160		35	16	400	
Useful Life (years)	7	7	10	10	10		10	10	10	
Natural Gas Consumption (therms)										
Winter (5 months, Nov-Mar)	783	-	4,478	-	3,490	-	999	-	1,270	
Summer (7 months, Apr-Oct)	326		1,866		1,454		416		529	
	457		2,612		2,036		583		741	
Electric Consumption (kWh)		16,879		112,854				15,287		
Electric Demand (kW)		3.86		24.00				3.50		
Baseline Costs										
Initial cost	-	-	\$ 2,500	\$ 2,400	\$ 1,759	\$ 12,371	\$ 850	\$ 12,321	\$ 1,520	\$ 850
Annual maintenance costs	-	-	-	-	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850
DSM (HIGH EFFICIENCY) MEASURES										
Number of Natural Gas Appliances Installed Due to Program	4,000	1,000	89	22	65		16	4	101	
Useful Life (years)	7		10		10		10		10	
Natural Gas Consumption (therms)										
Winter (5 months, Nov-Mar)	417		3,636		1,037		356		874	
Summer (7 months, Apr-Oct)	174		1,515		432		148		364	
	243		2,121		605		208		510	
Water Savings (gallons)	50,000									
Electric Consumption (kWh)		9,002		107,085						
Electric Demand (kW)		2.06		24.00						
DSM Costs										
Initial cost	\$ 25		\$ 4,200		\$ 3,861		\$ 12,903		\$ 4,103	
Annual maintenance costs			-		\$ 850		\$ 850		\$ 850	