NEW APPLICATION

ORIGINAL

SOUTHWEST GAS CORPORATION

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AZ CORP COMMISSION
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Docket Control Office
Arizona Corporation Commission
1200 West Washington Street
Phoenix, AZ 85007-2996

G-01551A-08-0619

Subject: Application of Southwest Gas Corporation to Continue and Modify Its Demand Side Management Consumer Products Program

Southwest Gas Corporation (Southwest) herewith submits for filing and approval an original and thirteen (13) copies of the aforementioned Application.

Respectfully submitted,

SOUTHWEST GAS CORPORATION

By: Debra S. Gallo
Debra S. Gallo

c: Mr. Ernest Johnson, ACC
Mr. Stephen Ahearn, RUCO

Arizona Corporation Commission
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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF SOUTHWEST GAS CORPORATION FOR CONTINUANCE AND MODIFICATION OF ITS DEMAND SIDE MANAGEMENT CONSUMER PRODUCTS PROGRAM	DOCKET NO. G-01551A-08-_____ **APPLICATION**

APPLICATION TO CONTINUE AND MODIFY THE DEMAND SIDE MANAGEMENT CONSUMER PRODUCTS PROGRAM OF SOUTHWEST GAS CORPORATION

Introduction

Southwest Gas Corporation ("Southwest" or "Company") hereby submits its application to the Arizona Corporation Commission ("Commission" or "ACC") respectfully requesting continuance and modification of its Demand Side Management ("DSM") Consumer Products Program.

1. Southwest is a corporation duly organized and validly existing under the laws of the state of California and is qualified to transact intrastate business and is in good standing under the laws of the state of Arizona. Southwest is engaged in the retail transmission, distribution, transportation, and sale of natural gas for domestic, commercial, agricultural, and industrial uses to approximately 1.8 million customers in the states of Arizona, California, and Nevada. Southwest's corporate offices are located at 5241 Spring Mountain Road, P.O. Box 98510, Las Vegas, Nevada 89193-8510.

2. Southwest is a public utility in the state of Arizona and is subject to the Commission's jurisdiction with respect to its prices and terms of natural gas service to

retail customers in Arizona pursuant to the applicable sections of Article XV of the Arizona Constitution and the applicable chapters of Title 40 of the Arizona Revised Statutes. Southwest currently provides natural gas service to approximately 960,000 customers in ten counties in the state of Arizona, including Cochise, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pima, Pinal, and Yuma.

3. Communications regarding this filing should be addressed to:

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Background

1. On February 23, 2006, the Commission issued Decision No. 68487 in Southwest's general rate case, Docket No. G-01551A-04-0876. As part of the decision, the Commission approved the Company's proposal that its DSM programs be directed at all customer classes.

2. On September 27, 2007, in Decision No. 69916, the Commission approved the DSM Consumer Products Program as a one-year pilot program. The goal of this program was to increase the awareness and purchase of more efficient natural gas equipment, with the first approved measure being high-efficiency water heaters for

residential customer applications. Southwest currently offers an incentive of $75 to consumers for the purchase of high-efficiency water heaters with an Energy Factor (EF) of 0.62 or higher. After the purchase, the consumer submits an application and proof of purchase to Southwest, and the approved incentive (rebate) is paid directly to the customer. Southwest completed implementation of the approved program in March 2008. Southwest hereby requests that it be allowed to continue the existing Consumer Products Program through the transition period between the application filing date and the date the Commission acts on this Application, to avoid customer dissatisfaction and disruption of the program.

3. Southwest's DSM Consumer Products Program is currently offered to residential consumers who purchase or replace certain high-efficiency appliances (water heaters). Communications from Southwest, such as direct mail and website announcements, inform consumers of the available rebates, and point-of-purchase informational materials are also present at most retail stores. Southwest also communicates directly with plumbers and retailers to inform them of the program requirements. After the purchase, the consumer submits a rebate application and proof of purchase to Southwest, and the approved rebate is paid directly to the customer.

4. Southwest proposes to continue the DSM Consumer Products Program for three years, with proposed modifications to the existing high-efficiency water heater criteria to increase participation. Decision No. 69916 also ordered Southwest to review other potential gas consumer product DSM measures to determine if any can be included in the DSM Consumer Products Program. Southwest respectfully submits the addition of two new measures: programmable thermostats and "smart" showerheads.

5. Based on participation levels in 2008 during the pilot program, Southwest reevaluated the existing budget and proposes to add the two new measures and reduce the overall annual budgeted amount, including rebates and incentives, to $529,300.

6. For the existing measure and two newly proposed measures, Southwest proposes to continue communications, such as direct mail and website announcements, to inform consumers of the available rebates. Southwest will also continue with point-of-purchase informational materials at retail stores, and communications with plumbers and retailers to inform them of the program requirements.

High-Efficiency Water Heater Rebate Program

1. Southwest completed implementation of its high-efficiency water heater rebate program on or about March 1, 2008. In the first eight months of the program's operation, ending October 31, 2008, Southwest issued 321 rebates of $75 each, totaling $24,075, to customers who purchased qualifying high-efficiency water heaters. An additional 65 rebates, valued at $4,875, are pending. With the exception of August and September, the number of rebates issued to customers has increased slightly each month since the program's start. Likewise, the estimated annual therm savings resulting from the installation of high-efficiency water heaters has increased each month of the program's run, with the months of August and September, again, being the only exceptions. As of October 31, 2008, the purchase of high-efficiency water heaters that qualified for a Southwest rebate resulted in an annual energy savings of 7,490 therms. An energy savings of 97,370 therms is estimated to be achieved over the lifetime of these water heaters.

2. The cost-effectiveness of the water heater measure was 0.964 based on actual results through October 2008. The cost-effectiveness ratio was below 1.00 largely due to start-up and one-time costs coupled with a slow start to the rebate program in the early months and because the ratio only reflects eight months worth of data. As the program continues through the remainder of the one year pilot, the level of rebates will likely continue to increase and the program will achieve cost-effectiveness (only 22 more rebates would have been needed to achieve a cost-effectiveness ratio of 1.00).

3. Southwest proposes to continue the water heater measure in its DSM Consumer Products Program for models with an EF of 0.62 or higher at a higher $100 incentive (rebate) per appliance. The increase in the rebate more closely approximates the additional cost to purchase a high-efficiency water heater (compared to a standard model) and will incent more customers to make purchases of high-efficiency water heaters, and thus, increase participation in the program.

4. During the pilot year, Southwest identified that a 29-gallon high-efficiency water heater, the normal size used in mobile homes, fell outside the criteria established for the program. Southwest proposes modifying the current program to allow for incentives for these 29-gallon water heaters. Additionally, Southwest determined that greater than 50-gallon water heaters do not have an energy factor but rather have an equivalent energy efficiency rating. Southwest proposes to modify the high-efficiency water heater model criteria to allow for a 0.82 or higher energy efficiency rating on water heaters greater than 50 gallons, up to and including 75-gallon water heaters.

5. Southwest estimates 1,700 customers will participate in the high-efficiency water heater program in each of the next three years.

Addition of Programmable Thermostats to the DSM Consumer Products Program

1. Southwest proposes to add ENERGY STAR® labeled programmable thermostats as a qualifying energy efficiency measure to its DSM Consumer Products Program. Decision No. 69916 eliminated the programmable thermostats from Southwest's proposed Consumer Products program based on concerns that the Energy Star® designation was going to end and that energy consumption increased with programmable thermostats. However, since that time, the Department of Energy and the Environmental Protection Agency did not end the Energy Star® designation and have also concluded that savings attributable to programmable thermostats range from five percent to 12 percent of total household energy use.

2. Southwest has determined, based on a survey of retail outlets, that there are a wide range of costs of both programmable and non-programmable thermostats. The difference in cost between a programmable and non-programmable thermostat ranged from a high of over $79 to a low of around $10. As such, Southwest recommends that a rebate of $20 would provide the necessary incentive for customers to purchase an ENERGY STAR® programmable thermostat. The $20 rebate recommendation is fairly conservative, considering the potential for significant whole house energy savings.

3. According to the Energy Information Administration (EIA), energy costs for heating and cooling (combined) constitute 42 percent of consumer home energy expenditures, on average. However, a significant portion of this energy expenditure is used for space conditioning during times that the home is unoccupied or occupants are sleeping. The Environmental Protection Agency (EPA) has found that an estimated 49

percent of all households that use thermostats for home conditioning do not have someone home during the day. These "unoccupied" periods represent a valuable opportunity to reduce home energy consumption.[1]

4. ENERGY STAR® labeled programmable thermostats save energy and money by reducing the amount of time heating and cooling systems operate. Residents program different temperature settings for different times of the day, and days of the week, according to how and when they use their homes. When programmed properly, heating and cooling systems will operate less frequently, consume less energy, and lower utility bills. Today's user-friendly programmable thermostats are more likely to change consumer behavior and motivate consumers to "set-back" or "set-up" thermostat settings than models used in earlier studies. Moreover, rising energy costs provide further incentive for consumers to earn energy savings through set-back programming.[2]

5. Thermostat set-back and set-up has proven to be an effective and inexpensive energy-saving strategy. A study conducted by the Canadian Centre for Housing Technology during the winter heating season of 2002-2003 and the summer cooling season of 2003 found significant energy savings from winter set-back and summer set-up. A seven-hour set-back of 7.2 degrees Fahrenheit produced a seasonal savings of 10 percent in furnace gas consumption, while a seven-hour set-back of 10.8 degrees Fahrenheit resulted in a savings of 13 percent in furnace gas consumption. During the summer cooling season, a temperature set-up of 3 degrees Fahrenheit yielded a season energy savings of approximately 304.37 kWh, or 11 percent. In addition,

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[1] ENERGY STAR®, *Summary of Research Findings from the Programmable Thermostat Market,* www.energystar.gov/ia/partners/prod_development/revisions/downloads/thermostats/Summary.pdf.
[2] GasNetworks, www.energystar.gov/ia/partners/prod_development/revisions/downloads/thermostats/GasNetworks.pdf.

savings from thermostat set-back were shown to increase with a decrease in outdoor temperature, while the highest savings from summer season thermostat set-up were achieved on the hottest, sunniest days with the highest cooling load.[3] Winter savings from thermostat set-back were also greater for homes in milder climates than for those in more severe climates, and as such, energy savings can be obtained by reducing the thermostat's temperature setting for as little as four hours per day during the winter season.[4] Programmable thermostats range in cost from $30 to $250 or more; however, with proper use, programmable thermostats can save approximately $180 every year in energy costs, which easily offsets the initial purchase price of the thermostat.[5]

6. Southwest estimates 3,100 customers will participate in the programmable thermostat measure in each of the next three years.

Addition of "Smart" Showerheads to the DSM Consumer Products Program

1. Southwest proposes the addition of "smart" showerheads (Evolve Roadrunner Showerhead with ShowerStart technology™) as a qualifying energy efficiency measure to its DSM Consumer Products Program. The incremental cost of the measure (low-flow showerhead with ShowerStart technology™, a water turn-off feature, compared to a low-flow showerhead without the water turn-off feature) is approximately $30. Southwest, due to the potential significant water savings and the reduction in energy by minimizing the amount of hot water wasted, is proposing that a $30 rebate be authorized for this measure.

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[3] Canadian Centre for Housing Technology, http://findarticles.com/p/articles/mi_m5PRC/is_1_113/ai_n25007440?tag=content;col1.
[4] Consumer Information Center, *Automatic and Programmable Thermostats,* www.pueblo.gsa.gov/cic_text/housing/thermo/thermo.htm.
[5] ENERGY STAR® Sales Associate Training, www.energystar.gov/ia/partners/manuf_res/salestraining_res/Programmable_Thermostat_Sales_Training.ppt.

2. The "smart" showerhead offers the potential to conserve water as well as reduce waste water and energy usage, while providing added convenience to the customer. The device's patented mechanism includes a compact thermostatic valve that automatically pauses a shower's water flow once it reaches bathing temperature. As a result, hot water that is frequently wasted between the time the hot water arrives at the shower and the time an individual enters the shower can be dramatically reduced. Studies on water waste have indicated that up to 75 percent of consumers leave the shower running unattended on a regular or occasional basis during the warm-up cycle. For example, the flow rate of the Evolve Roadrunner model is 1.59 gallons per minute (gpm). The showerhead requires only simple hand tools and is easily installed; therefore, the installation cost is assumed to be zero.

3. The Sempra Energy Utilities have adopted this measure in their California energy-efficiency programs and estimates that the single family savings per valve is 6.8 therms annually.[6] In addition, the City of San Diego conducted a study that documented an annual savings of 800 gallons of water per household with use of the Evolve Roadrunner Showerhead.[7] Southwest sampled the showerhead in three employee homes and found the results aligned positively with the San Diego pilot results.

4. Southwest estimates 3,100 customers will participate in the "smart" showerhead measure in each of the next three years.

Cost-Effectiveness Results

1. All three measures proposed by Southwest in this application are cost-effective as shown in Table 1 below. The cost-benefit ration ranges from a high of 16.32

[6] Sempra Energy Working Paper – Showerstart Technology.
[7] City of San Diego Water Conservation Program – Showerstart Pilot Project White Paper, August 2008.

for the programmable thermostats to a low of 1.60 for the "smart" showerheads. The high-efficiency water heaters, based on expected costs and results, yield a 2.44 cost-benefit ratio.

2. ENERGY STAR® programmable thermostats have a high cost-benefit ratio primarily due to their relatively low incremental cost. It is estimated by the Department of Energy and the Environmental Protection Agency that savings attributable to programmable thermostats can range from five percent to 12 percent of total household energy use. Southwest, in its cost-effectiveness modeling, used eight percent of total energy use as a conservative assumption to determine the cost-benefit ratio. It should be noted, that had Southwest utilized the lowest estimated energy savings of five percent, the cost-benefit ratio would still have exceeded ten-to-one. Based on Southwest's modeling results, the cumulative lifetime energy savings from installation of 3,100 programmable thermostats, annually over the next three years, will be more than 100 million kilowatt-hours (kwh) and nearly 2.6 million therms. Additionally, Southwest estimates that the installation of the proposed programmable thermostats will result in the reduction of almost 74,000 metric tons of CO_2 equivalent (CO_2e) and approximately 2.5 billion gallons of water.

3. High-efficiency water heaters (0.62 energy factor or greater) have a cost-benefit ratio of better than two-to-one. The high-efficiency water heater saves 16 therms annually over a standard or base model (0.58 energy factor) water heater. Based on Southwest's modeling results, the cumulative lifetime energy savings from installation of 1,700 high-efficiency water heaters, annually over the next three years, will be over 1

million therms. Additionally, there will be more than 5,600 metric tons of CO_2e not released into the atmosphere.

4. The "smart" showerheads save 6.8 therms annually (through less hot water wastage), and have an incremental cost of approximately $30; thus, a cost-benefit ratio of less than two-to-one (but still 60 percent better than one). That is not to suggest the lifetime energy savings are insignificant (the savings are estimated at more than 630,000 therms), but one of the primary benefits of the "smart" showerheads is the potential savings of approximately 74.4 million gallons of water (lifetime) based on the 3,100 installations per year, for a three-year period. In addition, because less natural gas will be burned, the installation of the "smart" showerheads should reduce CO_2e emissions by approximately 3,400 metric tons.

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Table 1: Cost Effectiveness

Table 1 DSM Consumer Products Program Cost Effectiveness				
Description	**Lifetime kWh Energy Savings per Program Year**	**Lifetime Therm Energy Savings per Program Year**	**Lifetime CO2 Savings per Program Year (1)**	**Lifetime Water Savings per Program Year (2)**
Programmable Thermostats				
Electric 2009-2011	33,387,000		20,010	837,012,090
Gas 2009-2011		864,900	4,590	
TOTAL LIFETIME SAVNGS – ALL PROGRAM YEARS	**100,161,000**	**2,594,700**	**73,800**	**2,511,036,270**
Energy-Efficient Water Heaters				
Gas 2009-2011		353,600	1,872	
TOTAL LIFETIME SAVINGS – ALL PROGRAM YEARS		**1,060,800**	**5,616**	
"Smart" Showerheads				
Gas 2009-2011		210,800	1,120	24,800,000
TOTAL LIFETIME SAVINGS – ALL PROGRAM YEARS		**632,400**	**3,360**	**74,400,000**
Cost-Benefit Ratio				
Programmable Thermostats	**16.32**			
Energy-Efficient Water Heaters	**2.44**			
"Smart" Showerheads	**1.60**			

(1) in metric tons of CO2 equivalent
(2) in gallons

Budget

1. Southwest proposes an annual budget of $529,300, for each program year, as detailed in Table 2 below. Program dollars are collected through a Demand Side Management Adjuster Mechanism (DSMAM), payable by all full-margin customer classes. The proposed budget details three general categories: Administration, Outreach and Incentives/Rebates. Program dollars may be adjusted among categories of

expenditures, based on program effectiveness. The flexibility will ensure optimal program performance for the total budgeted amount.

2. The proposed budget includes increased and targeted outreach efforts with both consumers and retailers to improve program participation. The initial implementation of the high-efficiency water heater program identified several areas in which additional outreach efforts are needed. Southwest plans to increase communications, such as direct mail and website announcements, as well as through other media, to inform consumers of the available rebates. Southwest will also continue and make additional efforts to work directly with retail stores to provide point-of-purchase informational materials along with program information and requirements.

Table 2: Budget

Table 2 DSM Consumer Products Program Proposed Budget				
Description	**2008 Actual**	**2009**	**2010**	**2011**
Administration	$ 41,538	$ 67,500	$ 67,500	$ 67,500
Outreach	$ 43,015	$ 136,800	$ 136,800	$ 136,800
Incentives/Rebates	$ 35,000	$ 325,000	$ 325,000	$ 325,000
Total	**$ 119,553**	**$ 529,300**	**$ 529,300**	**$ 529,300**

Incentives/Rebates

1. Incentives will be paid to customers who install one or more of any of the three DSM Consumer Product measures: high-efficiency water heater, programmable thermostats, and "smart" showerheads. The customer will complete the application for a

rebate, attach the paid retail invoice or sales receipt, and submit the forms for payment. Due to the higher cost of high-efficiency equipment, incentives/rebates are an effective way to encourage customers to purchase this equipment by reducing the incremental up-front cost to the customer. This will lead to the success of the program and the desired market transformation.

2. Southwest proposes to increase the incentive for the high-efficiency water heater measure to $100. The increase in the rebate will more closely approximate the cost differential between a high-efficiency water heater and a standard model. The goal is to incent more customers to make purchases of high-efficiency water heaters, and thus, increase participation in the program.

3. Southwest proposes a rebate of $20 for the ENERGY STAR® programmable thermostat measure. The difference in cost between a programmable and non-programmable thermostat ranges from a high of over $79 to a low of around $10. As such, Southwest determined that a rebate of $20 would provide the necessary incentive for customers to purchase an ENERGY STAR® programmable thermostat.

4. Southwest also proposes a $30 incentive for the "smart" showerhead. The incremental cost of the showerhead measure (low-flow showerhead with ShowerStart technology™) compared to a low-flow showerhead without the feature is $30. Southwest believes this level of rebate is appropriate to incent customers to purchase this measure due to the potential significant water savings and the reduction in energy by minimizing the amount of hot water wasted.

5. Table 3 below details the incentive amounts for all three consumer product measures.

Table 3: Incentives

Table 3 DSM Consumer Products Program Incentives/Rebates 2009 – 2011			
Measure	**Number of Participants**	**Incentive Amount**	**Annual Total**
Water Heater	1,700	$ 100	$ 170,000
Programmable Thermostat	3,100	$ 20	$ 62,000
"Smart"Showerhead	3,100	$ 30	$ 93,000
Total	**7,900**		**$ 325,000**

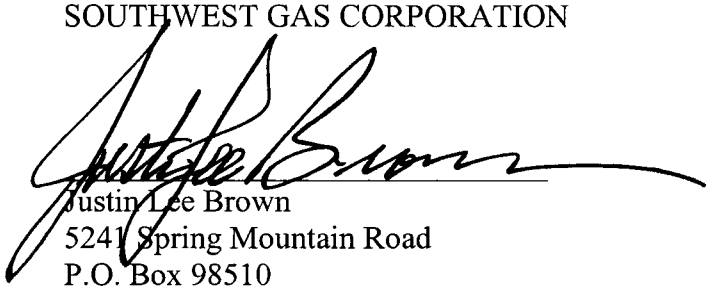
Summary and Conclusion

Southwest proposes to continue its DSM Consumer Products Program to include three measures: high-efficiency water heaters, ENERGY STAR® labeled programmable thermostats and "smart" showerheads. These three measures are cost-effective and energy-efficient and will encourage consumers to pursue energy-saving options when purchasing consumer products. Southwest further proposes that the DSM Consumer Products Program be approved for a period of three years from the effective date of the order in this proceeding or until December 31, 2011, whichever occurs later.

Based upon the foregoing, Southwest respectfully requests that the Commission issue an order authorizing Southwest to continue, and to modify, its DSM Consumer Products Program as proposed herein and to extend the program for a three year period or until December 31, 2011, whichever occurs later.

DATED this 30th day of December 2008.

Respectfully submitted by,
SOUTHWEST GAS CORPORATION



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