ORIGINAL

# OPEN MEETING

000011508

## MEMORANDUM



TO: THE COMMISSION

FROM: Utilities Division

DATE: May 11, 2010

RE: SOUTHWEST GAS CORPORATION – APPLICATION FOR APPROVAL OF PROPOSAL TO SUPPLEMENT AND MODIFY SOUTHWEST'S DEMAND SIDE MANAGEMENT PLAN (DOCKET NO. G-01551A-09-0039)

*Background*

Southwest Gas Corporation ("Southwest" or "the Company") serves approximately 982,000 customers in the counties of Gila, La Paz, Cochise, Graham, Maricopa, Pima, Greenlee, Mohave, Pinal and Yuma. Of these customers, approximately 940,000 are Residential, while 41,000 are Commercial; Southwest also serves a smaller number of Industrial, Irrigation and Transportation customers.

*The Application to Modify Southwest's DSM Portfolio.*

On June 11, 2009, Southwest submitted its proposal to modify the Company's demand-side management ("DSM"), or energy efficiency, program portfolio.

*Scope of Review*. Summarized descriptions will be provided for existing programs, but the focus of Staff's review and analysis will be changes to the overall portfolio, new programs, and program enhancements. Measures previously determined by Staff to be cost-effective will not be re-evaluated for cost-effectiveness at this time, unless new information indicates that re-evaluation is necessary.

*Current Programs and Overview of Proposed Modifications*. Southwest is proposing to enhance its portfolio (i) by modifying existing DSM programs; (ii) by introducing two new programs; and (iii) by requesting the flexibility to move funding among energy efficiency programs and measures.

A summary of the six previously Commission-approved individual programs and the proposed modifications are listed below. The modifications will be discussed in more detail in the following sections:

i. *Energy Star Homes*. A Residential new home construction program. Southwest is proposing to add two new measures;

ii. *Low-Income Energy Conservation*. A Residential existing homes weatherization program. Southwest is proposing added flexibility for distribution of bill assistance funding;

iii. *Consumer Products*. A Residential program designed to promote the adoption of more energy efficient home appliances. Southwest is proposing to add three new measures;

iv. *Commercial Equipment*. A Non-Residential program designed to promote the adoption of more energy efficient restaurant equipment. Southwest is proposing to add three new measures;

v. *Technology Information Center*. This program consists of a newsletter promoting energy efficiency for Commercial customers. Southwest is proposing a budget reduction from $35,000 to $15,000, along with reallocation of the $20,000 to other DSM measures; and

vi. *Distributed Generation*. A Non-Residential program designed to promote installation of high-efficiency Combined Heat and Power ("CHP") technologies. Southwest is proposing a budget increase.

*Proposed New Programs*. In addition to the existing portfolio and programs, which the Company proposes to modify, Southwest is proposing to add the following two programs, which will be discussed in more detail in the following sections:

vii. *Solar Thermal Advantage Rebate*. A Residential program designed to promote the adoption of solar thermal water heaters and space heaters. Although a renewable program, Southwest proposes to fund and administer the Solar Thermal Advantage Rebate program as part of the DSM portfolio.

viii. *Large Commercial Energy-Efficient Boiler Program*. A Non-Residential program for new and existing large commercial and industrial customers. The program is designed to promote the adoption of more efficient commercial boilers and maintenance practices that would enhance the energy efficiency of existing boilers.

**RESIDENTIAL EXISTING PROGRAMS**

**Energy Star Homes**

*Current Program Description*. The Energy Star ("EStar") program is an expansion of the Southwest Residential new homes program in existence since 1996. Under the Energy Star program, Southwest works with residential home builders to assist them in building more energy efficient homes. EStar is a performance-based (15 percent higher than current International

Energy Conservation Code ("IECC")), whole-house-type program that focuses on the thermal shell, improved mechanical systems and high efficiency gas equipment.

*Proposed Program Modifications*. Southwest is proposing to add incentives for high efficiency storage and tankless water heaters and/or Energy Star-certified furnaces. To be eligible for an incentive, one or both of these measures must be installed *in addition* to the measures currently required for the home to achieve Energy Star certification.

*Proposed Incentives for New Measures*. Southwest proposes that the new measures, if approved, be offered in conjunction with the following incentives.

| Measure | Proposed Incentive Amount | Company's Estimated Incremental Cost |
|---|---|---|
| High Efficiency Water Heater (Storage) | $100 | $105 |
| High Efficiency Water Heater (Tankless) | $200 | $520 |
| Energy Star Certified Furnace | $400 | $600 |

Staff recommends that Southwest track actual incremental costs over time and that the incentive amounts not be allowed to exceed 75 percent of the average incremental cost of individual measures.

At 95 percent, the incentive for the high efficiency storage water heater is well above the 75 percent cap being recommended for this program. Staff recommends that the incentive for this measure match the incentive being offered for the same measure in the existing *Consumer Products* program, meaning that Southwest offer an incentive of up to 75 percent of the incremental cost, with a cap of $100.

*Budget Allocations; Current and Proposed*. Southwest is proposing to increase the EStar budget by $150,000. The increase is intended to fund the additional measures and a projected increase in the level of participation.

| Description | 2010 | 2011 |
|---|---|---|
| Administration[1] | $38,500 | $38,500 |
| Outreach[2] | $61,500 | $61,500 |
| Incentives/Rebates[3] | $700,00 | $850,000 |
| Total | $800,00 | $950,000 |

*Cost-Effectiveness*. Staff analysis indicates that the additional measures proposed by Southwest are cost-effective. The incremental cost of installing an energy efficiency measure in a new home is generally lower, in comparison to installing the same measure in an existing home. (Installation of newer technologies in existing homes may require retrofitting, which can be expensive.) The benefit-cost ratios of the proposed new measures are as follows: (i) tankless water heater, 3.27; (ii) high-efficiency storage water heater, 1.63; and (iii) high-efficiency furnace, 2.18.

Although the tankless water heater measure appears very cost-effective based on current information, Staff is concerned that, in practice, incremental costs may be higher than anticipated. Not all tankless water heaters can meet the hot water requirements of households with high water usage, particularly households where there are simultaneous demands for hot water (for example, showers and dishwashers). In these cases, a second tankless water heater or a potentially more expensive "whole house" model may be installed, and may significantly impact cost-effectiveness. In order to address these concerns, Staff recommends that Southwest gather data on energy savings and incremental costs for the measure. Once the data has been reviewed, the Company should file a letter with the Commission stating whether or not the tankless water heater measure is cost-effective. If not cost-effective, the tankless water heater measure should cease to be eligible for incentives. The letter to the Commission on the cost-effectiveness of the new tankless measure should be filed no later than December 31, 2011.

*Staff Analysis and Recommendations on Proposed Program Modifications*. In its *Semiannual Demand Side Management Report* filed March 31, 2010, Southwest reports that 1,190 Residential homes were completed and certified under the program in 2009. In addition, a total of fifteen Arizona builders are participating and 6,959 homes have been committed to program participation. Staff recommends that the proposed additional measures be approved. Approving additional cost-effective measures has the potential to make the program more

[1] The Administration category includes rebate processing fees, database maintenance fees, maintenance of lists for qualifying models, rebate application development and printing, and other costs related to administering and implementing the program.
[2] The Outreach category covers costs associated with promoting the program to customers, retailers and manufacturers. The category includes development of retail point-of-sale materials, printing, distribution, website development and maintenance and miscellaneous outreach activities.
[3] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.

attractive to builders and homebuyers, and would improve the per-home energy savings in each case where the participants opted for the additional measures.

*Reporting Requirements*. Staff recommends that Southwest report on the modified Energy Star program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission, and that the reporting include information and data on the new, or enhanced, program components approved by the Commission. The information and data reported should include the number of customers participating, the level of spending for energy efficiency measures, the number of measures installed by type of measure, and the estimated energy and environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

**Low-Income Energy Conservation**

*Current Program Description*. The Low-Income Energy Conservation (or "LIEC") program has been in existence since 1998 (Decision No. 60976). The program helps to fund weatherization and health and safety measures for existing homes belonging to low-income customers. The LIEC program also includes a bill assistance component which provides up to $400 per year in bill assistance to Southwest customers experiencing problems in paying their natural gas bills.

*Administration*. The Arizona Department of Commerce Energy Office ("AEO") works in conjunction with Southwest to administer the weatherization and health and safety components of LIEC. The Arizona Community Action Association ("ACAA") administers the emergency bill assistance component and is responsible for distributing the funds to local community action agencies.

*Participation Levels.* In its semiannual reports, Southwest states that 115 households were weatherized during the first half of its July 2009/June 2010 program year, while 197 homes were weatherized during the entire July 2008/June 2009 program year. With respect to bill assistance, 538 homes received bill assistance during the first half of the 2009/2010 program year while 739 homes received bill assistance during the entire 2008/2009 program year.

*Proposed Program Modifications: Weatherization*. Southwest states that the weatherization component of the LIEC program works well in its current form. The Company is not currently proposing to modify the weatherization component.

*Proposed Program Modifications: Bill Assistance*. Southwest has proposed two modifications for the bill assistance program. The first modification would allow the ACAA to select the agencies used to disburse bill assistance funding, while the second would allow the ACAA to distribute a portion of the bill assistance funding according to a formula based on unemployment, customer population and poverty levels.

*Agency Selection*. Southwest proposes to modify the bill assistance program by allowing the ACAA to select the community action agencies used to disburse bill assistance funding, and to add or eliminate disbursing agencies without prior approval from the Commission, as long as the public benefited from distribution of the funds. Southwest has proposed that it provide written notification to the Director of the Utilities Division within 30 days of any changes to the group of community agencies participating in distribution of bill assistance funding.

*Rationale for Change*. The ability to transfer responsibility for distributing bill assistance to agencies with the resources to reach the target population, and to do so without going through the application process at the Commission, would enable the ACAA to help at-need customers more quickly and efficiently.

*Existing Process.* The ACAA has contracts with local community action agencies spelling out the ACAA's expectations regarding distribution of bill assistance funding. One requirement is that agencies report monthly on the amount of bill assistance funding expended. The ACAA stays in contact with participating agencies, also on a monthly basis and, at three months, begins to work with the agencies that are not distributing bill assistance funding in accordance with their contracts. After six months, if problems with reporting or distribution have continued, the ACAA steps up its efforts to work with the agencies, utilizing verbal and written contacts. The ACAA believes that if such continuing efforts do not result in improved reporting and distribution, then responsibility for distributing bill assistance funding should be transferred to a local agency with the resources to serve customers in need of such funding. In the event that a transfer of responsibility becomes necessary, the ACAA has promised it would not remove funding from an affected community, but would, instead, seek an agency in the same local area.

The second change requested by Southwest is that a new formula for distributing bill assistance funding be adopted, in light of the increase in funding from $50,000 to $200,000 (Decision No. 70660). Southwest proposes that each agency under contract receive a minimum of $5,000, but that funding over and above that amount be distributed based on a formula that takes into account unemployment levels, poverty levels and Southwest's customer density.[4] As with item (i), above, Southwest proposes to send a letter to the Director of the Utilities Division within 30 days of changing the funding distribution.

*Rationale for the Change*. With respect to the second proposed change, local agencies have sometimes been unable to utilize all their funding due to internal administrative issues. In addition, Southwest states that once bill assistance was increased from $50,000 to $200,000, some agencies were unable to utilize the additional funding because the target population in those agency areas was comparatively small. Altering the formula for distribution would allow the ACAA to reach the eligible target customer population more efficiently.

---

[4] ACAA weights the poverty rate at 80% and the unemployment rate at 20%, but also takes into account the percentage of Southwest customers in the service territory.

*Budget Allocations; Current and Proposed*. The Company is not proposing to change the budget for the LIEC program, or to revise allocations among the categories.

| Description | 2009-2010 Program Budget | 2010-2011 Program Budget |
|---|---|---|
| Weatherization/ Health & Safety ("H&S") Components | | |
| Weatherization | $200,500 | $200,500 |
| Health & Safety | $93,000 | $93,000 |
| Special Project[5] | $60,000 | $60,000 |
| Training and Monitoring | $20,000 | $20,000 |
| Administration – Arizona Energy Office | $22,500 | $22,500 |
| Community Action Agencies | $45,000 | $45,000 |
| Information/Outreach - Southwest | $9,000 | $9,000 |
| **Weatherization/H&S Subtotal** | $450,000 | $450,000 |
| Emergency Bill Assistance Component | | |
| Emergency Bill Assistance | $185,000 | $185,000 |
| Administration - ACAA | $15,000 | $15,000 |
| **Emergency Bill Assistance Subtotal** | $200,000 | $200,000 |
| **Total** | **$650,000** | **$650,000** |

*Cost-Effectiveness*. Southwest is not proposing any new measures for the LIEC program. The proposed modifications to the bill assistance funding component would not impact cost-effectiveness.

Staff Analysis and Recommendations on Proposed Program Modifications

*Agency Selection*. Bill assistance funding should be fairly distributed and widely available within the Southwest service area. In cases where a participating agency has been unable to disburse needed bill assistance funding, even after extensive outreach by the ACAA, that responsibility should be transferred to a local agency with the resources to distribute the funding to eligible Southwest customers. At the same time, the process for distributing ratepayer-funded bill assistance should be transparent, to both direct participants and ratepayers.

Staff recommends that Southwest use the following procedures: after six months, including at least three months of outreach efforts by Southwest or its agent, a consistently non-compliant participating agency should be notified that it has 60 days to begin filing reports and distributing bill assistance in accordance with the terms of its contract. At the end of the 60 days, if the participating agency does not make a reasonable effort to come into compliance, Staff

[5] Special Projects funds are used for large, cost-effective, multi-family weatherization projects.

recommends that Southwest file a letter in this docket stating that the responsibility for bill assistance funding is being transferred to another local agency. The transfer is not to take effect for an additional 60 days, to allow the Commission time to review and, if necessary, respond to the letter. Staff also recommends that it be possible to transfer responsibility for only a portion of an agency's funding above the $5,000 minimum level (discussed below), in cases where an agency is reporting appropriately and making distributions, but where the agency is unable to distribute a significant portion of the bill assistance funds for which it was originally responsible.

*Distribution Formula*. At present, for population or other reasons, bill assistance funding may be under-utilized by some agencies, while other agencies have insufficient funding to meet the bill assistance needs of their communities.[6] A formula that allocates a portion of the funding based on where the greatest need is concentrated would help more customers, and is likely to limit or eliminate the problem of unused bill assistance funding. Staff recommends adoption of the formula, recommends that it apply only to funding above the $5,000 minimum level and recommends that the allocations be reported, by agency, in Southwest's DSM semiannual report, or any succeeding report ordered by the Commission.

*Reporting Requirements*. Staff recommends that Southwest report on the modified LIEC program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission, and that the reporting include information and data on how bill assistance funding is being distributed. The information and data reported should include the number of customers being assisted, the level of spending for energy efficiency measures, the number of homes weatherized, and the estimated energy and environmental savings arising from the weatherization component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported. The allocations by agency should also be reported.

**Consumer Products**

*Current Program Description*. This program promotes the adoption of high efficiency measures by Residential customers. The Commission initially approved the Consumer Products program in September 2007 on a pilot basis, with only the water heater measure (Decision No. 69916). In October 2009, the Commission approved a Southwest application to continue the Consumer Products program and add two measures (programmable thermostats and "smart" showerheads) on a pilot basis. (Decision No. 71289). Decision No. 71289 also expanded the eligibility of the water heater measure to different capacity models.

Southwest Gas is reporting high levels of participation in the current Consumer Products program. The March 31, 2010, *Semiannual Demand Side Management Report* states that 3,068 rebates were paid during 2009, with another 398 rebates pending approval by the end of the year. (All but a few rebates were paid for the water heater measure, because the programmable thermostat and "smart" showerhead measures were approved for inclusion as pilot measures on

[6] Unused bill assistance funds are allocated back to general LIEC weatherization component.

October 2009, and these measures are still in the process of being ramped up.) The Company attributes the increase in participation to improved outreach to retailers, better communication with manufacturers and plumbers, greater customer awareness and program continuity.

*Proposed Program Modifications*. Southwest proposes to add tankless water heaters and high efficiency clothes washers and dryers. Tankless water heaters avoid "standby loss," which is the energy wasted by maintaining stored water at a particular temperature. High efficiency washers use less hot water and leave clothing dryer at the end of the wash cycle, thereby reducing the amount of time required to dry the load. To be eligible for rebates, dryers would have to be natural-gas fueled and include a moisture sensor that turns off the machine once the clothing is dry, so that energy is not wasted on already-dry clothing. For washers to be eligible for rebates, the home must include a gas-fueled water heater (because washer savings arise, in part, from using less hot water).

The Company originally proposed the washer and dryer measure as a combination, but has expressed a willingness to break apart the washer and dryer combination, as was done in Nevada. This would allow customers to receive rebates for either the washer or the dryer, or both. Because customers may only replace one appliance at a time, and because both measures are individually cost-effective (as discussed below), Staff concurs that it is reasonable to allow customers to participate in both measures, or in either measure separately.

Southwest would offer incentives for two tiers of energy efficient clothes washers and program standards would track those set by Energy Star. The proposed Tier 1 standards reflect those currently in place for Energy Star. Energy Star standards are scheduled to increase in January 2011, when they will equal the Tier 2 standards proposed by Southwest. Offering the second tier allows consumers to opt for a higher level of efficiency without waiting for the change in standards, and would allow the Southwest program to transition more easily once the higher standard takes effect, since that efficiency level would already be eligible for incentives.

Tier 2 clothes washers offer savings more than 20 percent higher than Tier 1 washers, at an incremental cost that is approximately 17 percent higher. (The incentive for Tier 1 washers would be \$50, as shown in the table below, while the incentive for Tier 2 would be \$100.) Once the new Energy Star standard for clothes washers is in place, Southwest proposes to either drop the first Tier, while continuing with a \$100 incentive for Tier 2, or to modify both Tier 1 and Tier 2 in response to the change. Staff recommends that Southwest modify Tier 1 standards to reflect the higher Energy Star standards for clothes washers and modify Tier 2 to reflect appliances that exceed the Energy Star standard.

*Proposed Incentives for New Measures*. Southwest proposes that the new measures, if approved, be offered in conjunction with the incentives shown in the table below. It is Staff's position that the initial incentive amounts proposed by the Company are reasonable (with the exception of the Tier 2 clothes washer, as discussed below), but that Southwest should have the flexibility to adjust program incentives in response to market conditions, either downward or up to a level that does not exceed 75 percent of the average incremental cost of individual measures.

Staff has also recommended that Southwest track the incremental costs over time to ensure that the incentive amounts do not exceed 75 percent of the average incremental cost of individual measures.

Staff notes that the proposed incentive for Tier 2 clothes washers is slightly over this limit, at 76 percent. Staff recommends that Southwest review the actual cost of Tier 2 clothes washers in the Arizona market and adjust the incentive, if necessary, to ensure that it is in compliance with the 75 percent limit discussed above.

| Measure | Proposed Incentive Amount | Estimated Incremental Cost |
|---|---|---|
| Tankless Gas Water Heater | $200 | $670[7] |
| High Efficiency Clothes Washer (Tier 1 and Tier 2) | $50/$100 | $108/$131 |
| High Efficiency Gas Clothes Dryer | $30 | $50 |

*Budget Allocations*. The proposed budget for the Consumer Products program for 2010 and 2011 is listed below:

| Description | 2010 | 2011 |
|---|---|---|
| Administration[8] | $44,418 | $52,868 |
| Outreach[9] | $36,632 | $36,632 |
| Incentives/Rebates[10] | $448,250 | $610,500 |
| Total | $529,300 | $700,000 |

Due to the high levels of participation in this program, Southwest is requesting an additional $100,000 for the remaining program year (an increase to $629,300). The Company has informed Staff that, even with an additional $100,000, the program's budget could be exhausted if participation rates are high enough. The Company has expressed concern that, if the

[7] Staff estimate. Does not include installation cost, although the installation cost is used for evaluating cost-effectiveness.
[8] The Administration category includes rebate processing fees, database maintenance fees, maintenance of lists for qualifying models, rebate application development and printing, and other costs related to administering and implementing the program.
[9] The Outreach category covers costs associated with promoting the program to customers, retailers and manufacturers. The category includes development of retail point-of-sale materials, printing, distribution, website development and maintenance and miscellaneous outreach activities.
[10] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.

program is halted temporarily due to lack of funding, it will have a negative impact on the program going forward.

The Company has requested flexibility to transfer funding from less to more active programs, not only within the Residential and Non-Residential segments, but between segments. (This proposal and Staff's analysis are discussed herein, in more detail, in the section headed "Request for Funding Flexibility.") The Company cites limited opportunities to transfer funding from the two other Residential programs, because LIEC funding is already committed and EStar program participation has significantly increased.

Staff is concerned about the impact of the Consumer Products program exhausting its funding, particularly in terms of the impact on participation. Staff also believes, however, that there are equity issues related to transferring money from Non-Residential to Residential programs. In order to avoid exhausting the Consumer Product program budget, without transferring funds from Non-Residential programs and customers, Staff has recommended that the 2011 budget of $700,000 be approved for both the 2010 and 2011 program years.

*Cost-Effectiveness: Tankless Water Heater*. The tankless water heater is cost-effective under Staff's analysis, with a benefit-cost ratio of 2.63. Staff analysis of the cost-effectiveness of the tankless water heater measures takes into account estimates for the cost of installation in an existing home. Installation costs for an existing home can be significant because retrofitting is likely to be required in order to replace a storage water heater with a tankless water heater. With respect to cost-effectiveness, however, the expense of installation is countered to some extent by the longer estimated lifespan of a tankless water heater (20 years versus 12-13 years for a storage model).

Although the tankless water heater measure appears very cost-effective based on current information, Staff is concerned that, in practice, incremental costs may be higher than anticipated. Not all tankless water heaters can meet the hot water requirements of households with high water usage, particularly households where there are simultaneous demands for hot water (for example, showers and dishwashers). In these cases, a second tankless water heater or a potentially more expensive "whole house" model may be installed, and may significantly impact cost-effectiveness. In order to address these concerns, Staff recommends that Southwest gather data on energy savings and incremental costs for the measure. Once the data has been reviewed, the Company should file a letter with the Commission stating whether or not the tankless water heater measure is cost-effective. If not cost-effective, the tankless water heater measure should cease to be eligible for incentives. The letter to the Commission on the cost-effectiveness of the new tankless measure should be filed no later than December 31, 2011.

*Cost-Effectiveness: High Efficiency Clothes Washers and Dryers*. In Decision No. 69916, in September 2007, the Commission did not approve high efficiency clothes washers and dryers for inclusion in the Consumer Products program. Incremental costs were too high, and energy savings too poorly established, for the measures to be considered cost-effective. In the interim, incremental costs for more efficient washers and dryers have decreased, and energy savings have been more clearly established, making these measures more clearly cost-effective.

In the case of the clothes dryer measure, savings have been calculated based on the moisture sensor feature. Staff's research indicates that, although there are overall efficiency ratings for dryers, this information is not readily available. If such information becomes available in the future, Staff recommends that Southwest incorporate efficiency level requirements into this measure, if it can be done so on a cost-effective basis.

Staff analysis indicates that the benefit-cost ratio for a Tier 1 high efficiency clothes washer is 1.25, while for a Tier 2 clothes washer the benefit-cost ratio is slightly higher at 1.38. The benefit-cost ratio for a high efficiency dryer is 1.55. Given these benefit-cost ratios, all three measures are cost-effective.

*Staff Analysis and Recommendations on Proposed Program Modifications*. Staff recommends that the tankless water heater measure be approved for inclusion in the Consumer Products program. Staff has also recommended that the high efficiency washer and dryer measures be approved for inclusion in the Consumer Products program, either as a combined measure or as two separate measures.

*Reporting Requirements*. Staff has recommended that Southwest report on the modified Consumer Products program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission, and that the reporting include information and data on the new, or enhanced, program components approved by the Commission. The information and data reported should include the number of customers participating, the level of spending for energy efficiency measures, the number of measures installed by type of measure, and the estimated energy and environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

## NON-RESIDENTIAL EXISTING PROGRAMS

### Commercial Equipment

*Current Program Description*. The Commercial Equipment program primarily promotes the installation of high efficiency equipment by commercial food service customers including restaurants, schools and hospitals. Commercial customers are not required to be in the food service industry in order to be eligible for participation in the high efficiency commercial water heater measure.

Commercial food preparation equipment is generally characterized by high levels of per unit energy consumption, in part because of the long hours of use typical in a restaurant or cafeteria setting. Currently approved measures include commercial water heaters, griddles and steamers.

*Problems Experienced by the Commercial Equipment Program*. Approved in August 2007 (Decision No. 69880), Southwest's Commercial Equipment program has been slow to attract participants. Although the high per-unit consumption of energy by commercial food preparation equipment could provide significant energy savings, the high initial cost and economic difficulties of the food service industry have resulted in limited participation. Only six high efficiency commercial water heaters and one high efficiency griddle were installed under the program in 2009.

There are indications of improvement. Following a letter mailing in October 2009 and a targeted postcard mailing in November 2009, applications increased and an additional 16 rebates were processed and approved in December 2009. (The 16 new rebates were not included in the 2009 count because the actual rebate checks were not issued to customers until January 2010.) Two more rebates were approved in January 2010, and another four were pending by the end of February 2010. Assuming that all the pending rebates are approved, this would mean that program participation increased from seven for all of 2009, to 22 during the first two months of 2010.

*Proposed Program Modifications*. Southwest is proposing to add three high efficiency commercial equipment measures: (i) tankless water heaters; (ii) combinations ovens, and (iii) fryers. The measures are discussed in more detail below.

*Tankless Water Heaters*. High-efficiency commercial storage water heaters are already eligible for incentives under the current Commercial Equipment program guidelines. In its application the Company notes the following: "Commercial water heaters account for approximately 11 percent of the total energy load for the average commercial facility. A hospital facility may use up to 40 percent of its energy for heating water."

Southwest is proposing to add tankless water heaters with an efficiency rating of 80 percent. Information from Southwest indicates that the incremental cost of a commercial tankless water heater is far lower than that of a commercial storage water heater ($400 versus $1,700), and that the lifespan for tankless models is significantly longer than for storage models (20 years versus 12 years). The differences in cost and lifespan are likely to make the water heater measure attractive to a wider range of potential participants.

Although the tankless water heater appears to be very cost-effective based on current information, Staff is concerned that, in practice, incremental costs may be higher than anticipated. Staff recommends that Southwest gather data on energy savings and incremental costs, and file a letter with the Commission stating whether or not the tankless water heater measure is cost-effective. If not cost-effective, the tankless water heater measure should cease to be eligible for incentives. The letter to the Commission on the cost-effectiveness of the new Commercial tankless water heater measure should be filed no later than December 31, 2011.

*High Efficiency Commercial Natural Gas Combination Oven*. The Company proposes to make commercial natural gas combination ovens with a combustion efficiency rate of 40 percent or higher eligible for incentives. Combination ovens use steam and forced convection hot air to cook food, or can combine dry heat with steam to control the moisture levels in food.

*High Efficiency Commercial Natural Gas Fryers*. Southwest is proposing to make Energy Star high efficiency commercial natural gas fryers eligible for incentives. Energy Star fryers feature advanced burner and heat exchange designs, resulting in shorter cook times and higher production rates.

*Proposed Incentives for New Measures*. Southwest proposes that the new measures, if approved, be offered in conjunction with the incentives shown in the table below. Staff believes the initial incentive amounts proposed by the Company are reasonable, but that Southwest should have the flexibility to adjust program incentives in response to market conditions, either downward or up to a level that does not exceed 75 percent of the average incremental cost of individual measures. Staff has also recommended that Southwest track the incremental costs over time to ensure that the incentive amounts do not exceed 75 percent of the average incremental cost of individual measures.

| Measure | Estimated Incentive Amount | Incremental Cost[11] |
|---|---|---|
| Combination Oven | 50% up to $2,500 | $4,000 |
| High-Efficiency Fryer | 50% up to $2,500 | $2,500 |
| Tankless Water Heater | 50% up to $400 | $400 |

*Budget Allocations; Current and Proposed*. The proposed budgets for the Commercial Equipment program for 2010 and 2011 are listed below.

| Description | 2010 | 2011 |
|---|---|---|
| Administration[12] | $41,500 | $41,500 |
| Outreach[13] | $125,000 | $125,000 |
| Incentives/Rebates[14] | $824,200 | $944,500 |
| Total | $990,700 | $1,111,000 |

*Cost-Effectiveness*. The three proposed new measures are discussed below:

---

[11] The cost (including incremental cost) of commercial cooking equipment varies according to factors like size, features and efficiency levels. The range of cost is, in general, significantly greater than the range of costs for residential equipment.

[12] The Administration category includes rebate processing fees, database maintenance fees, maintenance of lists for qualifying models, rebate application development and printing, and other costs related to administering and implementing the program.

[13] The Outreach category covers costs associated with promoting the program to customers, retailers and manufacturers. The category includes development of retail point-of-sale materials, printing, distribution, website development and maintenance and miscellaneous outreach activities.

[14] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.

(i) Tankless Water Heaters. Due to the relatively low incremental cost, high savings, high commercial usage levels and long lifespan (a long useful life enhances the overall savings for any energy efficiency measure), Staff's analysis shows a benefit-cost ratio of 3.26 for this commercial measure.

(ii) Fryers. When initially proposed, the comparatively high cost and low energy savings of fryers made them less than cost-effective, and the Commission did not originally approve their inclusion in the Commercial Equipment program. Costs are now lower and potential energy savings are higher, and Staff estimates a benefit-cost ratio of 1.38.

(iii) Combination Ovens. Under Staff's analysis, this measure has a benefit-cost ratio of 0.98. Staff believes, however, that the environmental savings arising from this measure would be greater than zero. If dollar values were assigned to these environmental impacts and used as benefits in the analysis, net societal benefits would be positive. Therefore, Staff considers this measure to be cost-effective.

*Staff Analysis and Recommendations on Proposed Program Modifications*. Staff remains concerned about the level of participation in the Commercial Equipment program, but recognizes that more targeted marketing, the proposed program enhancements, and (possibly) improved economic conditions may boost the number of installations going forward. As noted, the per-unit savings for commercial food equipment can be significant, making these measures a potentially valuable source of energy savings. Another consideration is that this program provides an opportunity for participation by small business, a segment of the customer community for which it has been difficult to identify energy savings opportunities.

Staff recommends approval of the proposed modifications to the Commercial Equipment program. All three measures have benefit-cost ratios above 1.0 and are therefore cost-effective. Another advantage to the additional measures is that a wider range of high efficiency products may make the program, as a whole, more attractive to potential participants in the food service industry. Staff recommends that the Company continue to market the program with a focus on improving participation.[15]

*Reporting Requirements*. Staff recommends that Southwest report on the modified Commercial Equipment program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission, and that the reporting include information and data on the new, or enhanced, program components approved by the Commission. The information and data reported should include the number of customers participating, continuing efforts to address the low participation levels so far, the level of spending for energy efficiency measures, the number of measures installed by type of measure, and the estimated energy and

[15] Southwest plans to continue using targeted postcard marketing, and will also be using the same postcard as an insert in the magazine *Arizona Restaurateur,* which is distributed to 8,500 commercial and institutional food service patrons.

environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

**Technology Information Center**

*Current Program Description*. The Technology Information Center ("TIC") program is a newsletter designed to promote energy efficient practices, and the adoption of energy efficient measures, by Southwest's commercial, industrial and transportation-eligible customers. It should be noted that, for this section, the Company has asked that Staff utilize the updated information on the TIC program drawn from the Company's Application to continue the Technology Information Center Demand-Side Management Program filed on October 1, 2009 (in Docket No. G-01551A-09-0474), rather than the TIC section of the Proposal to Supplement and Modify the Arizona Demand-Side Management Plan for Program Years 2009 and 2010 filed June 11, 2009 (in Docket No. G-01551A-09-0039).

*Proposed Program Modifications*. Southwest is proposing a budget reduction from $35,000 to $15,000, along with reallocation of the $20,000 to other DSM measures. The lower amount is more reflective of current costs for the TIC program. The $20,000 subtracted from the TIC budget would be moved to other DSM programs, and would allow Southwest to make better use of its funding.

*Budget Allocations; Proposed*. Southwest is requesting that the proposed budget be approved for three years, or until December 31, 2012, whichever comes later.

| Description | Annual |
|---|---:|
| Administration | $2,000 |
| Implementation | $13,000 |
| Incentives/Rebates | n/a |
| Total | $15,000 |

*Cost-Effectiveness and Program Benefits*. The TIC newsletter reaches a customer segment with high per-customer potential for energy savings. However, because TIC is educational, it is difficult to identify and measure energy efficiency gains directly attributable to the program, as could be done for a DSM program involving installation of equipment.

*Bill Comparison*. In accordance with Decision No. 70526, the Company performed bill comparison for a sample of 18 large commercial/industrial customers (out of 315 current recipients).[16] Thirteen out of the 18 customers showed decreasing therm usage from 2007 to

[16] The 18 customers chosen for the TIC bill comparison were selected because Southwest had the best data on these customers for purposes of comparison.

2008, while the overall therm usage for this group of 18 customers[17] decreased by 1,051,449 therms. The Company acknowledges that it has been unable to determine how much of the decrease was due to the economic downturn and how much was due to the information made available through the TIC newsletter.

It should also be noted that therm usage for 17 of the same 18 customers for January through July of 2009 showed a decrease of 17,531 therms. Although this demonstrates a second year in which there is a decrease in usage for the sample group, it is a far smaller decrease, even taking into account that the number represents only seven months of data. Although this raises the question of how much any large decrease may be due to the TIC program, versus other factors such as business cycles, the two years of declining usage indicate that the program may be having an effect.

In addition, a survey of TIC participants indicated that all of the respondents find the newsletter "somewhat or very valuable," and that 80 percent forward information in the newsletter to individuals involved in the energy management decision-making process. As companies come to replace equipment or undergo remodeling, Southwest believes that an awareness of energy efficient options provided by the TIC program will make it likely that energy efficiency measures will be implemented as a result.

*Staff Analysis and Recommendations on Proposed Program Modification and Continuation*. Staff recommends that the proposed decrease in budget be approved. If participation can be maintained or increased on a reduced budget, it makes sense to use the unneeded TIC funding elsewhere. Staff recommends that the funding being moved out of the TIC budget be allocated according to the recommendations set forth in the section herein entitled "Request for Funding Flexibility." Staff has also recommended that the continuation of the program be approved. Although savings cannot be quantified, the participation rate, survey results and bill comparisons tend to support continuation. Also, although the application for continuation is filed in another docket, it is appropriate to deal with the program's budget modification and continuation together in the same Decision, since the issues are intertwined. Staff has also recommended that, where appropriate, the TIC newsletter be used to specifically promote the Southwest Gas DSM portfolio.

*Reporting Requirements*. Staff recommends that Southwest report on the Technology Information Center program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission. The information and data reported should include the number of customers participating and bill comparison data for a sampling of program participants, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

[17] In communication with the Staff, the Company indicated that the 18 customers chosen for bill comparisons were customers for whom the Company had the right type of data for purposes of comparison.

**Distributed Generation**

*Program Description.* Under the current Distributed Generation ("DG") program, Southwest is promoting localized on-site power generation by commercial and industrial customers, using combined heat and power ("CHP") technologies. CHP technologies generate electrical or mechanical energy and capture byproduct heat. The captured heat is used for thermal needs such as space heating, water heating, industrial steam loads, air conditioning, humidity control, water cooling, and product drying. CHP may also use excess heat from industrial processes to generate electricity.

*Proposed Program Modification.* Southwest is proposing to increase the incentive budget from $400,000 to $700,000.

*Program Issues.* The DG program was approved on September 27, 2007 (Decision No. 69917) to promote one to three distributed generation projects on an annual basis. The program is restricted to projects offering the greatest potential for natural gas savings, and it targets large commercial or industrial customers. To date, Southwest has been unable to attract any participants, due to the high upfront costs (typically, $700,000 to $1,050,000) of distributed generation/CHP projects and to a business environment in which companies are dealing with economic challenges, rather than focusing on investment in new equipment. Southwest notes, however, that it takes one to two years to establish interest in CHP, and that American Recovery and Reinvestment Act ("ARRA") funding administered by the Arizona Department of Commerce Energy Office ("AEO") would provide another $300 per kW for a CHP project. The Company states that the ARRA funding has created additional interest in Southwest's program.

Another potential issue with respect to the DG program is that there are two non-residential customer classes which do not contribute to DSM funding. Non-residential customers on the G-30 (Optional Gas Service) and B-1 (Potential Bypass/Standby Gas Service) schedules do not pay the DSM surcharge, but a customer on one of these schedules has expressed interest in participating in the DG program, and other such customers may do so in the future.

While it would clearly be inequitable to allow participation in DSM by customers who do not fund DSM, it may not be in the public's interest to entirely exclude G-30 and B-1 customers from utility DSM programs that promote energy efficiency. Southwest has discussed the possibility of allowing G-30 and B-1 customers to participate if they contribute an amount equivalent to what they would have paid as customers on a DSM-contributing schedule, and if they agree to pay the DSM surcharge going forward. It is Staff's position that, although this could address the inequity of allowing non-contributing customers to participate in DSM, it could also be considered a change in rates, which should be addressed in a rate case.

Staff recommends that customers from non-contributing customer classes not be eligible to participate in DSM programs at this time, but that Southwest propose an equitable solution to the participation of G-30 and B-1 customers in DSM programs in its next rate case.

*Budget Allocations; Current and Proposed.* Below is the proposed budget for the Distributed Generation project:

| Description | 2010 | 2011 |
|---|---|---|
| Administration[18] | $10,000 | $10,000 |
| Outreach[19] | $40,000 | $40,000 |
| Incentives/Rebates[20] | $350,000 | $650,000 |
| Total | $400,000 | $700,000 |

*Staff Analysis and Recommendations on Proposed Program Modifications.* Staff has concerns that incentive levels could be excessive for some projects, particularly in combination with ARRA funding. Depending on the kW savings, incentives could equal $800/kW of a $1,000/kW project, or 80 percent of the project cost, although this is unlikely due to the large size of most projects. Southwest has proposed, and the State Energy Office (which distributes the ARRA funding on DG/CHP) has agreed, that the combined incentive will be limited to no more than 75 percent of total installed costs. Staff concurs and has also recommended that combined incentives be limited to no more than 75 percent of total installed costs.

*Reporting Requirements.* Staff recommends that Southwest continue to report on the Distributed Generation program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission. The information and data reported should include the number of customers participating, the level of spending for the projects, and the estimated energy and environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

## NEW PROGRAMS

### Solar Thermal Advantage Rebate.

*Program Description.* This is a newly proposed program. The Solar Thermal Advantage Rebate ("Solar"[21]) program would provide incentives to customers to install solar thermal water heaters and space heaters. The Solar program promotes renewable measures, rather than traditional demand-side management measures, and is designed to contribute to an increase in

---

[18] The Administration category includes training/education, design consultant services, travel for meetings, sponsorship of events such as the InterMountain CHP Center and miscellaneous fees attributable to administering the program.

[19] The Outreach category covers brochure/flyer development, printing and distribution, website development and maintenance and outreach activities designed to increase program participation.

[20] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.

[21] The Company abbreviation for this program is "STAR.". This program is referred to herein as the "Solar" program to better distinguish it from the EStar program discussed elsewhere in the document.

awareness and demand that could reduce the cost differential between standard and solar systems.

*Inclusion in the DSM Portfolio*. Southwest indicates that including the Solar program in the DSM portfolio would provide for savings in the overall cost of administration and outreach. The Solar program would be administered by Southwest's existing DSM department and would be promoted along with the overall DSM portfolio. Inclusion in the DSM portfolio also would allow the Company to track and report on the Solar program in conjunction with its DSM portfolio, rather than doing so separately.

*Proposed Incentives for New Measures*. Southwest proposes that the new measures, if approved, be offered in conjunction with the following incentives.

| Measure | Incentive Amount | Incremental Cost |
|---|---|---|
| Solar Thermal Water Heaters | 30% up to $1,500 | $6,000 |
| Solar Thermal Space Heaters | 30% up to $3,000 | $3,500 |

*Budget Allocations*. The proposed budget for the Solar program is set out below:

| Description | 2010 | 2011 |
|---|---|---|
| Administration[22] | $35,000 | $36,000 |
| Outreach[23] | $60,000 | $60,000 |
| Incentives/Rebates[24] | $405,000 | $513,000 |
| Total | $500,000 | $609,000 |

*Staff's Analysis and Recommendations*. Staff is concerned about whether a renewables program should be included in a DSM portfolio. The measures proposed for the Solar program are not energy efficiency or DSM measures, which are designed to use less energy to produce a similar or superior level of performance by appliances or buildings, and in some cases to reduce peak demand. In contrast, renewable measures do not necessarily use less energy but, instead, use an alternative source of energy, in this case, solar power. In addition, if the traditional DSM cost-effectiveness analysis is applied to these renewable measures, both measures fall well below the benefit-cost ratio of 1.0 usually required for DSM measures to be approved by the

[22] The Administration category includes rebate processing fees, database maintenance fees, maintenance of lists for qualifying models, rebate application development and printing, and other costs related to administering and implementing the program.

[23] The Outreach category covers costs associated with promoting the program to customers, retailers and manufacturers. The category includes development of retail point-of-sale materials, printing, distribution, website development and maintenance and miscellaneous outreach activities.

[24] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.

Commission and funded by ratepayers.[25] (Staff's analysis, based on the Societal Cost Test normally applied to DSM measures, indicates that the solar water heater measure has a benefit-cost ratio of 0.42, while the solar space heater has a benefit-cost ratio of 0.50.) Staff also believes that renewable programs, and customers interested in renewables, would benefit from administration and marketing/outreach that is uniquely tailored to the implementation and promotion of renewable measures. For these reasons, Staff recommends against approval of the Solar program as part of Southwest's enhanced DSM portfolio.

**Large Commercial Energy-Efficient Boiler Program**

*Program Description*. This is a newly proposed program. The Large Commercial Energy Efficient Boiler ("Commercial Boiler") program is designed to promote both the maintenance of existing boilers and the installation of new high-efficiency natural gas boilers. The program would target both new and existing facilities. The customer segment targeted by this program includes manufacturing plants, colleges, universities and hospitals.

The measures that provide for installation of high-efficiency natural gas boilers in new or existing facilities are intended to take advantage of the significant savings available from large commercial boilers. Boilers are high per-unit energy users, and the Company notes that "[b]oilers generally account for more than 40 percent of the heating energy in commercial buildings."

Maintenance measures are proposed for inclusion in the program because boiler maintenance and adjustments are frequently neglected, resulting in equipment that function at lower efficiency levels. While some boilers need to be replaced, others can be rendered more energy efficient through improved maintenance. The Company anticipates that these generally lower cost measures will attract more participants than the measure providing for installation of a new boiler.

*Proposed Incentives for New Measures*. Southwest proposes that the new program's measures, if approved, be offered in conjunction with the incentives shown in the table below. Staff believes the initial incentive amounts proposed by the Company are reasonable, but that Southwest should have the flexibility to adjust program incentives in response to market conditions, either downward or up to a level that does not exceed 75 percent of the average incremental cost of individual measures. Staff has also recommended that Southwest track the incremental costs over time to ensure that the incentive amounts do not exceed 75 percent of the average incremental cost of individual measures.

| Measure | Incentive Amount | Incremental Cost |
|---|---|---|
| Boiler Tune-ups | 75% up to $375 | $300-$500 per boiler |
| Modular Burner Controls | 25% up to $5,000 | $16,000-$50,000 |
| $O_2$ Trim Control Pads | 25% up to $5,000 | $13,000-$20,000 |

[25] Measures falling slightly below 1.0 have been approved based on the environmental savings created by DSM measures, which have not yet been monetized, but which are known to be greater than zero.

| | | |
|---|---|---|
| Steam Trap Survey | 25% up to $250 | $1,000-$1,500 |
| Steam Trap Replacement/Parts | 25% up to $250/trap. Maximum $10,000 per facility | $150-$500 |
| New Boilers: Non-condensing[26] | $1,000/MMBTUH[27] up to $20,000 | $25,000-$300,000 |

*Budget Allocations*. The proposed budget for the Commercial Boiler program is set out below:

| Description | 2010 | 2011 |
|---|---|---|
| Administration[28] | $21,000 | $22,250 |
| Outreach[29] | $34,000 | $34,000 |
| Incentives/Rebates[30] | $445,000 | $593,750 |
| Total | $500,000 | $650,000 |

*Cost-Effectiveness*. The benefit-cost ratios for the Commercial Boiler program measures are listed in the table below.

| Measure | Estimated Cost-Effective |
|---|---|
| Boiler Tune-ups | 1.56 |
| Modular Burner Controls | 0.61-1.88 |
| $O_2$ Trim Control Pads | 1.18 |
| Steam Trap Survey | 1.67 |
| Steam Trap Replacement/Parts | 7.31 |
| New Boilers: Non-condensing[31] | 1.35 |

*Staff Analysis and Recommendations*. Staff recommends approval of the Commercial Boiler program. Although Staff's research indicates that a commercial boiler program has the potential for significant cost-effective savings, the available data, particularly for the steam trap measure, is limited, and there should be a pilot period to determine whether the measures are cost-effective in practice. Staff also has specific concerns about the cost-effectiveness of the modular burner control measure. The range of incremental costs reported for this measure is

[26] Must include Modular Burner Controls and O2 Trim Control Pads.
[27] 1 MMBTUH = 1 million British Thermal Unit ("BTU") per hour. As an example, an eligible 3.3 MMBTU boiler costing $25,000 to $60,000 would receive a rebate of $3,300.
[28] The Administration category includes training/education, travel for meetings, sponsorship of events and miscellaneous fees attributable to administering the program.
[29] The Outreach category covers brochure/flyer development, printing and distribution, website development and maintenance and outreach activities designed to increase program participation.
[30] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.
[31] Must include Modular Burner Controls and O2 Trim Control Pads.

very large and, at the upper end of the range, the measure is no longer cost-effective at the reported savings level. Staff recommends that this measure be monitored carefully to ensure that each project is cost-effective.

Staff recommends that Southwest gather data on energy savings and incremental costs, and that the Company file a letter with the Commission stating whether or not each measure is cost-effective. Non-cost-effective measures should cease to be eligible for incentives. The letter to the Commission on the cost-effectiveness of measures in the new Commercial Boiler program should be filed no later than December 31, 2011.

*Reporting Requirements*. Staff recommends that Southwest report on the new Large Commercial Energy Efficient Boiler program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission. The information and data reported should include the number of customers participating, the level of spending for each measure, the number of measures installed by type of measure, and the estimated energy and environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

## REQUEST FOR FUNDING FLEXIBILITY

*Southwest's Request*. Southwest has requested flexibility to move DSM funding from measure to measure within programs, and also from program to program, in order to ensure that the available funds are used in as efficient a manner as possible. Southwest has also requested the flexibility to move any unspent administrative and outreach funds into rebates/incentives.

*Staff Analysis*. Spending levels can be difficult to predict accurately. A program that is ramping up slowly or experiencing lower-than-anticipated participation may use only a portion of its planned budget. In some cases, these funds could be utilized to promote energy efficiency, if they could be moved into more active measures or programs. Staff believes that more flexibility to direct funding into these more active measures and programs would enhance energy efficiency, promote better use of DSM funding and allow the Company to be more responsive to market conditions. Staff also believes, however, that limits should be put into place (i) to avoid under-funding programs that are still ramping up and might be hampered in their development by excessive budget shifts; (ii) to maintain an equitable opportunity for both Residential and Non-Residential customers to participate in DSM programs; and (iii) to exempt the LIEC program from having funds moved out of its budget.

Staff concurs that the Company should have the flexibility to shift unspent administrative and outreach funding into rebates/incentives, as long as these shifts do not conflict with any of the limitations on budget shifting recommended below. Staff also notes that, to the extent program costs (such as administration and outreach) can be reasonably reduced, and participation increased, this also reduces the overall cost of a measure and improves its cost-effectiveness.

*Recommendations*. Staff recommends that Southwest be allowed to move funds from measure to measure within programs in response to participation levels. Staff has also recommended that Southwest be allowed to move funds from program to program (within, but not between, the Residential and Non-Residential portfolio segments), for up to 50 percent of each budget from which funds are being moved. Staff recommends, in addition, that the LIEC program be exempt from the above recommendation, in that no funds be moved out of the LIEC program. Staff further recommends that Southwest be able to shift unspent administrative and outreach funds into the incentive/rebate category. Staff has also recommended that there be no transfers of funding between the Residential and Non-Residential portfolio segments, in order to ensure that both customer segments have a reasonable opportunity to participate in energy efficiency measures and programs.

*Reporting Requirements*. The amount spent on each measure should be part of the reporting for each DSM program. In addition, budget shifts among programs within the Residential and Non-Residential programs should be reported, along with the reasons for these shifts.

**Eligibility for Incentives; Generally**

Federal and other governmental appliance efficiency standards and building codes evolve and tend to increase over time. What was once the most energy efficient technology available may, as technology improves, become the industry standard. Since it is the purpose of DSM incentives to promote energy efficiency that exceeds current standards, Staff recommends that the Company track changes in federal and other governmental standards and adapt program criteria to ensure that incentives are offered only for measures that provide cost-effective energy savings above the current minimum standards and codes.

Staff recommends that the changes to the Southwest Gas Demand-Side Management portfolio be approved, as discussed herein.

Steven M. Olea
Director
Utilities Division

SMO:JMK:lhm\CH

ORIGINATOR: Julie McNeely-Kirwan

**BEFORE THE ARIZONA CORPORATION COMMISSION**

KRISTIN K. MAYES
Chairman
GARY PIERCE
Commissioner
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

| | |
|---|---|
| IN THE MATTER OF SOUTHWEST GAS CORPORATION'S PROPOSAL TO SUPPLEMENT AND MODIFY ITS DEMAND SIDE MANAGEMENT PLAN | DOCKET NO. G-01551A-09-0039<br>DECISION NO. ____________<br>ORDER |

Open Meeting
May 26 and 27, 2010
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Southwest Gas Corporation ("Southwest" or "the Company") is engaged in providing natural gas within portions of Arizona, pursuant to authority granted by the Arizona Corporation Commission.

2. Southwest serves approximately 982,000 customers in the counties of Gila, La Paz, Cochise, Graham, Maricopa, Pima, Greenlee, Mohave, Pinal and Yuma. Of these customers, approximately 940,000 are Residential, while 41,000 are Commercial; Southwest also serves a smaller number of Industrial, Irrigation and Transportation customers.

*The Application to Modify Southwest's DSM Portfolio.*

3. On June 11, 2009, Southwest submitted its proposal to modify the Company's demand-side management ("DSM"), or energy efficiency, program portfolio.

. . .

. . .

4. *Scope of Review*. Summarized descriptions will be provided for existing programs, but the focus of Staff's review and analysis will be changes to the overall portfolio, new programs, and program enhancements. Measures previously determined by Staff to be cost-effective will not be re-evaluated for cost-effectiveness at this time, unless new information indicates that re-evaluation is necessary.

5. *Current Programs and Overview of Proposed Modifications*. The current portfolio consists of six Commission-approved programs. Southwest is proposing to enhance its portfolio (i) by modifying existing DSM programs; (ii) by introducing two new programs; and (iii) by requesting the flexibility to move funding among energy efficiency programs and measures.

6. A summary of the individual programs and the proposed modifications is listed below. The modifications will be discussed in more detail in the following sections:

i. *Energy Star Homes*. A Residential new home construction program. Southwest is proposing to add two new measures;

ii. *Low-Income Energy Conservation*. A Residential existing homes weatherization program. Southwest is proposing added flexibility for distribution of bill assistance funding;

iii. *Consumer Products*. A Residential program designed to promote the adoption of more energy efficient home appliances. Southwest is proposing to add three new measures;

iv. *Commercial Equipment*. A Non-Residential program designed to promote the adoption of more energy efficient restaurant equipment. Southwest is proposing to add three new measures;

v. *Technology Information Center*. This program consists of a newsletter promoting energy efficiency for Commercial customers. Southwest is proposing a budget reduction from $35,000 to $15,000, along with reallocation of the $20,000 to other DSM measures; and

vi. *Distributed Generation*. A Non-Residential program designed to promote installation of high-efficiency Combined Heat and Power ("CHP") technologies. Southwest is proposing a budget increase.

7. *Proposed New Programs*. In addition to the existing portfolio and programs, which the Company proposes to modify, Southwest is proposing to add the following two programs, which will be discussed in more detail in the following sections:

i. *Solar Thermal Advantage Rebate*. A Residential program designed to promote the adoption of solar thermal water heaters and space heaters. Although a renewable program, Southwest proposes to fund and administer the Solar Thermal Advantage Rebate program as part of the DSM portfolio.

ii. *Large Commercial Energy-Efficient Boiler Program*. A Non-Residential program for new and existing large commercial and industrial customers. The program is designed to promote the adoption of more efficient commercial boilers and maintenance practices that would enhance the energy efficiency of existing boilers.

**RESIDENTIAL EXISTING PROGRAMS**

**Energy Star Homes**

8. *Current Program Description*. The Energy Star ("EStar") program is an expansion of the Southwest Residential new homes program in existence since 1996. Under the Energy Star program, Southwest works with residential home builders to assist them in building more energy efficient homes. EStar is a performance-based (15 percent higher than current International Energy Conservation Code ("IECC")), whole-house-type program that focuses on the thermal shell, improved mechanical systems and high efficiency gas equipment.

9. *Proposed Program Modifications*. Southwest is proposing to add incentives for high efficiency storage and tankless water heaters and/or Energy Star-certified furnaces. To be eligible for an incentive, one or both of these measures must be installed *in addition* to the measures currently required for the home to achieve Energy Star certification.

10. *Proposed Incentives for New Measures*. Southwest proposes that the new measures, if approved, be offered in conjunction with the following incentives.

| Measure | Proposed Incentive Amount | Company's Estimated Incremental Cost |
|---|---|---|
| High Efficiency Water Heater (Storage) | $100 | $105 |
| High Efficiency Water Heater (Tankless) | $200 | $520 |
| Energy Star Certified Furnace | $400 | $600 |

11. Staff has recommended that Southwest track actual incremental costs over time to ensure that incentive amounts are not allowed to exceed 75 percent of the average incremental cost of individual measures.

12. At 95 percent, the incentive for the high efficiency storage water heater is well above the 75 percent cap being recommended for this program. Staff has recommended that the incentive for this measure match the incentive being offered for the same measure in the existing Consumer Products program, meaning that Southwest should offer an incentive of up to 75 percent of the incremental cost, with a cap of $100.

13. *Budget Allocations; Current and Proposed*. Southwest is proposing to increase the EStar budget by $150,000. The increase is intended to fund the additional measures and a projected increase in the level of participation.

| Description | 2010 | 2011 |
|---|---|---|
| Administration[1] | $38,500 | $38,500 |
| Outreach[2] | $61,500 | $61,500 |
| Incentives/Rebates[3] | $700,00 | $850,000 |
| Total | $800,00 | $950,000 |

14. *Cost-Effectiveness*. Staff analysis indicates that the additional measures proposed by Southwest are cost-effective. The incremental cost of installing an energy efficiency measure in a new home is generally lower, in comparison to installing the same measure in an existing home. (Installation of newer technologies in existing homes may require retrofitting, which can be expensive.) The benefit-cost ratios of the proposed new measures are as follows: (i) tankless water heater, 3.27; (ii) high-efficiency storage water heater, 1.63; and (iii) high-efficiency furnace, 2.18.

15. Although the tankless water heater measure appears very cost-effective based on current information, Staff is concerned that, in practice, incremental costs may be higher than anticipated. Not all tankless water heaters can meet the hot water requirements of households with high water usage, particularly households where there are simultaneous demands for hot water (for

---

[1] The Administration category includes rebate processing fees, database maintenance fees, maintenance of lists for qualifying models, rebate application development and printing, and other costs related to administering and implementing the program.

[2] The Outreach category covers costs associated with promoting the program to customers, retailers and manufacturers. The category includes development of retail point-of-sale materials, printing, distribution, website development and maintenance and miscellaneous outreach activities.

[3] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.

example, showers and dishwashers). In these cases, a second tankless water heater or a potentially more expensive "whole house" model may be installed, and may significantly impact cost-effectiveness. In order to address these concerns, Staff has recommended that Southwest gather data on energy savings and incremental costs for the measure. Once the data has been reviewed, the Company should file a letter with the Commission stating whether or not the tankless water heater measure is cost-effective. If not cost-effective, the tankless water heater measure should cease to be eligible for incentives. The letter to the Commission on the cost-effectiveness of the new tankless measure should be filed no later than December 31, 2011.

16. *Staff Analysis and Recommendations on Proposed Program Modifications*. In its *Semiannual Demand Side Management Report* filed March 31, 2010, Southwest reports that 1,190 Residential homes were completed and certified under the program in 2009. In addition, a total of fifteen Arizona builders are participating and 6,959 homes have been committed to program participation. Staff has recommended that the proposed additional measures be approved. Approving additional cost-effective measures has the potential to make the program more attractive to builders and homebuyers, and would improve the per-home energy savings in each case where the participants opted for the additional measures.

17. *Reporting Requirements*. Staff has recommended that Southwest report on the modified Energy Star program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission, and that the reporting include information and data on the new, or enhanced, program components approved by the Commission. The information and data reported should include the number of customers participating, the level of spending for energy efficiency measures, the number of measures installed by type of measure, and the estimated energy and environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

**Low-Income Energy Conservation**

18. *Current Program Description*. The Low-Income Energy Conservation (or "LIEC") program has been in existence since 1998 (Decision No. 60976). The program helps to fund

weatherization and health and safety measures for existing homes belonging to low-income customers. The LIEC program also includes a bill assistance component which provides up to $400 per year in bill assistance to Southwest customers experiencing problems in paying their natural gas bills.

19. *Administration*. The Arizona Department of Commerce Energy Office ("AEO") works in conjunction with Southwest to administer the weatherization and health and safety components of LIEC. The Arizona Community Action Association ("ACAA") administers the emergency bill assistance component and is responsible for distributing the funds to local community action agencies.

20. *Participation Levels.* In its semiannual reports, Southwest states that 115 households were weatherized during the first half of its July 2009/June 2010 program year, while 197 homes were weatherized during the entire July 2008/June 2009 program year. With respect to bill assistance, 538 homes received bill assistance during the first half of the 2009/2010 program year while 739 homes received bill assistance during the entire 2008/2009 program year.

21. *Proposed Program Modifications: Weatherization*. Southwest states that the weatherization component of the LIEC program works well in its current form. The Company is not currently proposing to modify the weatherization component.

22. *Proposed Program Modifications: Bill Assistance*. Southwest has proposed two modifications for the bill assistance program. The first modification would allow the ACAA to select the agencies used to disburse bill assistance funding, while the second would allow the ACAA to distribute a portion of the bill assistance funding according to a formula based on unemployment, customer population and poverty levels.

23. *Agency Selection*. Southwest proposes to modify the bill assistance program by allowing the ACAA to select the community action agencies used to disburse bill assistance funding, and to add or eliminate disbursing agencies without prior approval from the Commission, as long as the public benefited from distribution of the funds. Southwest has proposed that it provide written notification to the Director of the Utilities Division within 30 days of any changes to the group of community agencies participating in distribution of bill assistance funding.

24. *Rationale for Change*. The ability to transfer responsibility for distributing bill assistance to agencies with the resources to reach the target population, and to do so without going through the application process at the Commission, would enable the ACAA to help at-need customers more quickly and efficiently.

25. *Existing Process*. The ACAA has contracts with local community action agencies spelling out the ACAA's expectations regarding distribution of bill assistance funding. One requirement is that agencies report monthly on the amount of bill assistance funding expended. The ACAA stays in contact with participating agencies, also on a monthly basis and, at three months, begins to work with the agencies that are not distributing bill assistance funding in accordance with their contracts. After six months, if problems with reporting or distribution have continued, the ACAA steps up its efforts to work with the agencies, utilizing verbal and written contacts. The ACAA believes that if such continuing efforts do not result in improved reporting and distribution, then responsibility for distributing bill assistance funding should be transferred to a local agency with the resources to serve customers in need of such funding. In the event that a transfer of responsibility becomes necessary, the ACAA has promised it would not remove funding from an affected community, but would, instead, seek an agency in the same local area.

26. The second change requested by Southwest is that a new formula for distributing bill assistance funding be adopted, in light of the increase in funding from $50,000 to $200,000 (Decision No. 70660). Southwest proposes that each agency under contract receive a minimum of $5,000, but that funding over and above that amount be distributed based on a formula that takes into account unemployment levels, poverty levels and Southwest's customer density.[4] As with item (i), above, Southwest proposes to send a letter to the Director of the Utilities Division within 30 days of changing the funding distribution.

27. *Rationale for the Change*. With respect to the second proposed change, local agencies have sometimes been unable to utilize all their funding due to internal administrative issues. In addition, Southwest states that once bill assistance was increased from $50,000 to

---

[4] ACAA weights the poverty rate at 80% and the unemployment rate at 20%, but also takes into account the percentage of Southwest customers in the service territory.

$200,000, some agencies were unable to utilize the additional funding because the target population in those agency areas was comparatively small. Altering the formula for distribution would allow the ACAA to reach the eligible target customer population more efficiently.

28. *Budget Allocations; Current and Proposed*. The Company is not proposing to change the budget for the LIEC program, or to revise allocations among the categories.

| Description | 2009-2010 Program Budget | 2010-2011 Program Budget |
|---|---|---|
| Weatherization/ Health & Safety ("H&S") Components | | |
| Weatherization | $200,500 | $200,500 |
| Health & Safety | $93,000 | $93,000 |
| Special Project[5] | $60,000 | $60,000 |
| Training and Monitoring | $20,000 | $20,000 |
| Administration – Arizona Energy Office | $22,500 | $22,500 |
| Community Action Agencies | $45,000 | $45,000 |
| Information/Outreach - Southwest | $9,000 | $9,000 |
| **Weatherization/H&S Subtotal** | $450,000 | $450,000 |
| Emergency Bill Assistance Component | | |
| Emergency Bill Assistance | $185,000 | $185,000 |
| Administration - ACAA | $15,000 | $15,000 |
| **Emergency Bill Assistance Subtotal** | $200,000 | $200,000 |
| **Total** | **$650,000** | **$650,000** |

29. *Cost-Effectiveness*. Southwest is not proposing any new measures for the LIEC program. The proposed modifications to the bill assistance funding component would not impact cost-effectiveness.

Staff Analysis and Recommendations on Proposed Program Modifications

30. *Agency Selection*. Bill assistance funding should be fairly distributed and widely available within the Southwest service area. In cases where a participating agency has been unable to disburse needed bill assistance funding, even after extensive outreach by the ACAA, that responsibility should be transferred to a local agency with the resources to distribute the funding to . . .

[5] Special Projects funds are used for large, cost-effective, multi-family weatherization projects.

eligible Southwest customers. At the same time, the process for distributing ratepayer-funded bill assistance should be transparent, to both direct participants and ratepayers.

31. Staff has recommended that Southwest use the following procedures: after six months, including at least three months of outreach efforts by Southwest or its agent, a consistently non-compliant participating agency should be notified that it has 60 days to begin filing reports and distributing bill assistance in accordance with the terms of its contract. At the end of the 60 days, if the participating agency does not make a reasonable effort to come into compliance, Staff has recommended that Southwest file a letter in this docket stating that the responsibility for bill assistance funding is being transferred to another local agency. The transfer is not to take effect for an additional 60 days, to allow the Commission time to review and, if necessary, respond to the letter. Staff also has recommended that it be possible to transfer responsibility for only a portion of an agency's funding above the $5,000 minimum discussed below, in cases where an agency is reporting appropriately and making distributions, but where the agency is unable to distribute a significant portion of the bill assistance funds for which it was originally responsible.

32. *Distribution Formula*. At present, for population or other reasons, bill assistance funding may be under-utilized by some agencies, while other agencies have insufficient funding to meet the bill assistance needs of their communities.[6] A formula that allocates a portion of the funding based on where the greatest need is concentrated would help more customers, and is likely to limit or eliminate the problem of unused bill assistance funding. Staff has recommended adoption of the formula, has recommended that it apply only to funding above the $5,000 minimum level and has recommended that the allocations be reported, by agency, in Southwest's DSM semiannual report, or any succeeding report ordered by the Commission.

33. *Reporting Requirements*. Staff has recommended that Southwest report on the modified LIEC program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission, and that the reporting include information and data on how bill assistance funding is being distributed. The information and data reported should include

[6] Unused bill assistance funds are allocated back to general LIEC weatherization component.

the number of customers being assisted, the level of spending for energy efficiency measures, the number of homes weatherized, and the estimated energy and environmental savings arising from the weatherization component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported. The allocations by agency should also be reported.

**Consumer Products**

34. *Current Program Description*. This program promotes the adoption of high efficiency measures by Residential customers. The Commission initially approved the Consumer Products program in September 2007 on a pilot basis, with only the water heater measure (Decision No. 69916). In October 2009, the Commission approved a Southwest application to continue the Consumer Products program and add two measures (programmable thermostats and "smart" showerheads) on a pilot basis. (Decision No. 71289). Decision No. 71289 also expanded the eligibility of the water heater measure to different capacity models.

35. Southwest Gas is reporting high levels of participation in the current Consumer Products program. The March 31, 2010, *Semiannual Demand Side Management Report* states that 3,068 rebates were paid during 2009, with another 398 rebates pending approval by the end of the year. (All but a few rebates were paid for the water heater measure, because the programmable thermostat and "smart" showerhead measures were approved for inclusion as pilot measures in October 2009, and these measures are still in the process of being ramped up.) The Company attributes the increase in participation to improved outreach to retailers, better communication with manufacturers and plumbers, greater customer awareness and program continuity.

36. *Proposed Program Modifications*. Southwest proposes to add tankless water heaters and high efficiency clothes washers and dryers. Tankless water heaters avoid "standby loss," which is the energy wasted by maintaining stored water at a particular temperature. High efficiency washers use less hot water and leave clothing dryer at the end of the wash cycle, thereby reducing the amount of time required to dry the load. To be eligible for rebates, dryers would have to be natural-gas fueled and include a moisture sensor that turns off the machine once the clothing is dry, so that energy is not wasted on already-dry clothing. For washers to be eligible for rebates,

the home must include a gas-fueled water heater (because washer savings arise, in part, from using less hot water).

37. The Company originally proposed the washer and dryer measure as a combination, but has expressed a willingness to break apart the washer and dryer combination, as was done in Nevada. This would allow customers to receive rebates for either the washer or the dryer, or both. Because customers may only replace one appliance at a time, and because both measures are individually cost-effective (as discussed below) Staff concurs that it is reasonable to allow customers to participate in both measures, or in either measure separately.

38. Southwest would offer incentives for two tiers of energy efficient clothes washers, and program standards would track those set by Energy Star. The proposed Tier 1 standards reflect those currently in place for Energy Star. Energy Star standards are scheduled to increase in January 2011, when they will equal the Tier 2 standards proposed by Southwest. Offering the second tier allows consumers to opt for a higher level of efficiency without waiting for the change in standards, and would allow the Southwest program to transition more easily once the higher standard takes effect, since that efficiency level would already be eligible for incentives.

39. Tier 2 clothes washers offer savings more than 20 percent higher than Tier 1 washers, at an incremental cost that is approximately 17 percent higher. (The incentive for Tier 1 washers would be $50, as shown in the table below, while the incentive for Tier 2 would be $100.) Once the new Energy Star standard for clothes washers is in place, Southwest proposes to either drop the first Tier, while continuing with a $100 incentive for Tier 2, or to modify both Tier 1 and Tier 2 in response to the change. Staff has recommended that Southwest modify Tier 1 standards to reflect the higher Energy Star standards for clothes washers and modify Tier 2 to reflect appliances that exceed the Energy Star standard.

40. <u>*Proposed Incentives for New Measures*</u>. Southwest proposes that the new measures, if approved, be offered in conjunction with the incentives shown in the table below. It is Staff's position that the initial incentive amounts proposed by the Company are reasonable (with the exception of the Tier 2 clothes washer, as discussed below), but that Southwest should have the flexibility to adjust program incentives in response to market conditions, either downward or up to

a level that does not exceed 75 percent of the average incremental cost of individual measures. Staff has also recommended that Southwest track the incremental costs over time to ensure that the incentive amounts do not exceed 75 percent of the average incremental cost of individual measures.

41. Staff notes that the proposed incentive for Tier 2 clothes washers is slightly over this limit, at 76 percent. Staff has recommended that Southwest review the actual cost of Tier 2 clothes washers in the Arizona market and adjust the incentive, if necessary, to ensure that it is in compliance with the 75 percent limit discussed above.

| Measure | Proposed Incentive Amount | Estimated Incremental Cost |
|---|---|---|
| Tankless Gas Water Heater | $200 | $670[7] |
| High Efficiency Clothes Washer (Tier 1 and Tier 2) | $50/$100 | $108/$131 |
| High Efficiency Gas Clothes Dryer | $30 | $50 |

42. *Budget Allocations*. The proposed budget for the Consumer Products program for 2010 and 2011 is listed below:

| Description | 2010 | 2011 |
|---|---|---|
| Administration[8] | $44,418 | $52,868 |
| Outreach[9] | $36,632 | $36,632 |
| Incentives/Rebates[10] | $448,250 | $610,500 |
| Total | $529,300 | $700,000 |

43. Due to the high levels of participation in this program, Southwest is requesting an additional $100,000 for the remaining program year (an increase to $629,300). The Company has

---

[7] Staff estimate. Does not include installation cost, although the installation cost is used for evaluating cost-effectiveness.

[8] The Administration category includes rebate processing fees, database maintenance fees, maintenance of lists for qualifying models, rebate application development and printing, and other costs related to administering and implementing the program.

[9] The Outreach category covers costs associated with promoting the program to customers, retailers and manufacturers. The category includes development of retail point-of-sale materials, printing, distribution, website development and maintenance and miscellaneous outreach activities.

[10] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.

informed Staff that, even with an additional $100,000, the program's budget could be exhausted if participation rates are high enough. The Company has expressed concern that, if the program is halted temporarily due to lack of funding, it will have a negative impact on the program going forward.

44. The Company has requested flexibility to transfer funding from less to more active programs, not only within the Residential and Non-Residential segments, but between segments. (This proposal and Staff's analysis are discussed herein, in more detail, in the section headed "Request for Funding Flexibility.") The Company cites limited opportunities to transfer funding from the two other Residential programs, because LIEC funding is already committed and EStar program participation has significantly increased.

45. Staff is concerned about the impact of the Consumer Products program exhausting its funding, particularly in terms of the impact on participation. Staff also believes, however, that there are equity issues related to transferring money from Non-Residential to Residential programs. In order to avoid exhausting the Consumer Product program budget, without transferring funds from Non-Residential programs and customers, Staff has recommended that the 2011 budget of $700,000 be approved for both the 2010 and 2011 program years.

46. *Cost-Effectiveness: Tankless Water Heater*. The tankless water heater is cost-effective under Staff's analysis, with a benefit-cost ratio of 2.63. Staff analysis of the cost-effectiveness of the tankless water heater measures takes into account estimates for the cost of installation in an existing home. Installation costs for an existing home can be significant because retrofitting is likely to be required in order to replace a storage water heater with a tankless water heater. With respect to cost-effectiveness, however, the expense of installation is countered to some extent by the longer estimated lifespan of a tankless water heater (20 years versus 12-13 years for a storage model).

47. Although the tankless water heater measure appears very cost-effective based on current information, Staff is concerned that, in practice, incremental costs may be higher than anticipated. Not all tankless water heaters can meet the hot water requirements of households with high water usage, particularly households where there are simultaneous demands for hot water (for

example, showers and dishwashers). In these cases, a second tankless water heater or a potentially more expensive "whole house" model may be installed, and may significantly impact cost-effectiveness. In order to address these concerns, Staff has recommended that Southwest gather data on energy savings and incremental costs for the measure. Once the data has been reviewed, the Company should file a letter with the Commission stating whether or not the tankless water heater measure is cost-effective. If not cost-effective, the tankless water heater measure should cease to be eligible for incentives. The letter to the Commission on the cost-effectiveness of the new tankless measure should be filed no later than December 31, 2011.

48. _Cost-Effectiveness: High Efficiency Clothes Washers and Dryers_. In Decision No. 69916, in September 2007, the Commission did not approve high efficiency clothes washers and dryers for inclusion in the Consumer Products program. Incremental costs were too high, and energy savings too poorly established, for the measures to be considered cost-effective. In the interim, incremental costs for more efficient washers and dryers have decreased, and energy savings have been more clearly established, making these measures more clearly cost-effective.

49. In the case of the clothes dryer measure, savings have been calculated based on the moisture sensor feature. Staff's research indicates that, although there are overall efficiency ratings for dryers, this information is not readily available. If such information becomes available in the future, Staff has recommended that Southwest incorporate efficiency level requirements into this measure, if it can be done so on a cost-effective basis.

50. Staff analysis indicates that the benefit-cost ratio for a Tier 1 high efficiency clothes washer is 1.25, while for a Tier 2 clothes washer the benefit-cost ratio is slightly higher at 1.38. The benefit-cost ratio for a high efficiency dryer is 1.55. Given these benefit-cost ratios, all three measures are cost-effective.

51. _Staff Analysis and Recommendations on Proposed Program Modifications_. Staff has recommended that the tankless water heater measure be approved for inclusion in the Consumer Products program. Staff has also recommended that the high efficiency washer and dryer measures be approved for inclusion in the Consumer Products program, either as a combined measure or as two separate measures.

52. *Reporting Requirements*. Staff has recommended that Southwest report on the modified Consumer Products program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission, and that the reporting include information and data on the new, or enhanced, program components approved by the Commission. The information and data reported should include the number of customers participating, the level of spending for energy efficiency measures, the number of measures installed by type of measure, and the estimated energy and environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

**NON-RESIDENTIAL EXISTING PROGRAMS**

**Commercial Equipment**

53. *Current Program Description*. The Commercial Equipment program primarily promotes the installation of high efficiency equipment by commercial food service customers including restaurants, schools and hospitals. Commercial customers are not required to be in the food service industry in order to be eligible for participation in the high efficiency commercial water heater measure.

54. Commercial food preparation equipment is generally characterized by high levels of per unit energy consumption, in part because of the long hours of use typical in a restaurant or cafeteria setting. Currently approved measures include commercial water heaters, griddles and steamers.

55. *Problems Experienced by the Commercial Equipment Program*. Approved in August 2007 (Decision No. 69880), Southwest's Commercial Equipment program has been slow to attract participants. Although the high per-unit consumption of energy by commercial food preparation equipment could provide significant energy savings, the high initial cost and economic difficulties of the food service industry have resulted in limited participation. Only six high efficiency commercial water heaters and one high efficiency griddle were installed under the program in 2009.

. . .

56. There are indications of improvement. Following a letter mailing in October 2009 and a targeted postcard mailing in November 2009, applications increased and an additional 16 rebates were processed and approved in December 2009. (The 16 new rebates were not included in the 2009 count because the actual rebate checks were not issued to customers until January 2010.) Two more rebates were approved in January 2010, and another four were pending by the end of February 2010. Assuming that all the pending rebates are approved, this would mean that program participation increased from seven for all of 2009, to 22 during the first two months of 2010.

57. *Proposed Program Modifications*. Southwest is proposing to add three high efficiency commercial equipment measures: (i) tankless water heaters; (ii) combinations ovens, and (iii) fryers. The measures are discussed in more detail below.

58. *Tankless Water Heaters*. High-efficiency commercial storage water heaters are already eligible for incentives under the current Commercial Equipment program guidelines. In its application the Company notes the following: "Commercial water heaters account for approximately 11 percent of the total energy load for the average commercial facility. A hospital facility may use up to 40 percent of its energy for heating water."

59. Southwest is proposing to add tankless water heaters with an efficiency rating of 80 percent. Information from Southwest indicates that the incremental cost of a commercial tankless water heater is far lower than that of a commercial storage water heater ($400 versus $1,700), and that the lifespan for tankless models is significantly longer than for storage models (20 years versus 12 years). The differences in cost and lifespan are likely to make the water heater measure attractive to a wider range of potential participants.

60. Although the tankless water heater appears to be very cost-effective based on current information, Staff is concerned that, in practice, incremental costs may be higher than anticipated. Staff has recommended that Southwest gather data on energy savings and incremental costs, and file a letter with the Commission stating whether or not the tankless water heater measure is cost-effective. If not cost-effective, the tankless water heater measure should cease to

be eligible for incentives. The letter to the Commission on the cost-effectiveness of the new Commercial tankless water heater measure should be filed no later than December 31, 2011.

61. *High Efficiency Commercial Natural Gas Combination Oven*. The Company proposes to make commercial natural gas combination ovens with a combustion efficiency rate of 40 percent or higher eligible for incentives. Combination ovens use steam and forced convection hot air to cook food, or can combine dry heat with steam to control the moisture levels in food.

62. *High Efficiency Commercial Natural Gas Fryers*. Southwest is proposing to make Energy Star high efficiency commercial natural gas fryers eligible for incentives. Energy Star fryers feature advanced burner and heat exchange designs, resulting in shorter cook times and higher production rates.

63. *Proposed Incentives for New Measures*. Southwest proposes that the new measures, if approved, be offered in conjunction with the incentives shown in the table below. Staff believes the initial incentive amounts proposed by the Company are reasonable, but that Southwest should have the flexibility to adjust program incentives in response to market conditions, either downward or up to a level that does not exceed 75 percent of the average incremental cost of individual measures. Staff has also recommended that Southwest track the incremental costs over time to ensure that the incentive amounts do not exceed 75 percent of the average incremental cost of individual measures.

| Measure | Estimated Incentive Amount | Incremental Cost[11] |
|---|---|---|
| Combination Oven | 50% up to $2,500 | $4,000 |
| High-Efficiency Fryer | 50% up to $2,500 | $2,500 |
| Tankless Water Heater | 50% up to $400 | $400 |

64. *Budget Allocations; Current and Proposed*. The proposed budgets for the Commercial Equipment program for 2010 and 2011 are listed below.

. . .

[11] The cost (including incremental cost) of commercial cooking equipment varies according to factors like size, features and efficiency levels. The range of cost is, in general, significantly greater than the range of costs for residential equipment.

| Description | 2010 | 2011 |
|---|---|---|
| Administration[12] | $41,500 | $41,500 |
| Outreach[13] | $125,000 | $125,000 |
| Incentives/Rebates[14] | $824,200 | $944,500 |
| Total | $990,700 | $1,111,000 |

65. *Cost-Effectiveness*. The three proposed new measures are discussed below:

(i) Tankless Water Heaters. Due to the relatively low incremental cost, high savings, high commercial usage levels and long lifespan (a long useful life enhances the overall savings for any energy efficiency measure), Staff's analysis shows a benefit-cost ratio of 3.26 for this commercial measure;

(ii) Fryers. When initially proposed, the comparatively high cost and low energy savings of fryers made them less than cost-effective, and the Commission did not originally approve their inclusion in the Commercial Equipment program. Costs are now lower and potential energy savings are higher, and Staff estimates a benefit-cost ratio of 1.38.

(iii) Combination Ovens. Under Staff's analysis, this measure has a benefit-cost ratio of 0.98. Staff believes, however, that the environmental savings arising from this measure would be greater than zero. If dollar values were assigned to these environmental impacts and used as benefits in the analysis, net societal benefits would be positive. Therefore, Staff considers this measure to be cost-effective.

66. *Staff Analysis and Recommendations on Proposed Program Modifications*. Staff remains concerned about the level of participation in the Commercial Equipment program, but recognizes that more targeted marketing, the proposed program enhancements, and (possibly) improved economic conditions may boost the number of installations going forward. As noted, the per-unit savings for commercial food equipment can be significant, making these measures a potentially valuable source of energy savings. Another consideration is that this program provides

---

[12] The Administration category includes rebate processing fees, database maintenance fees, maintenance of lists for qualifying models, rebate application development and printing, and other costs related to administering and implementing the program.

[13] The Outreach category covers costs associated with promoting the program to customers, retailers and manufacturers. The category includes development of retail point-of-sale materials, printing, distribution, website development and maintenance and miscellaneous outreach activities.

[14] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.

an opportunity for participation by small business, a segment of the customer community for which it has been difficult to identify energy savings opportunities.

67. Staff has recommended approval of the proposed modifications to the Commercial Equipment program. All three measures have benefit-cost ratios above 1.0 and are therefore cost-effective. Another advantage to the additional measures is that a wider range of high efficiency products may make the program, as a whole, more attractive to potential participants in the food service industry. Staff has recommended that the Company continue to market the program with a focus on improving participation.[15]

68. *Reporting Requirements*. Staff has recommended that Southwest report on the modified Commercial Equipment program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission, and that the reporting include information and data on the new, or enhanced, program components approved by the Commission. The information and data reported should include the number of customers participating, continuing efforts to address the low participation levels so far, the level of spending for energy efficiency measures, the number of measures installed by type of measure, and the estimated energy and environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

**Technology Information Center**

69. *Current Program Description*. The Technology Information Center ("TIC") program is a newsletter designed to promote energy efficient practices, and the adoption of energy efficient measures, by Southwest's commercial, industrial and transportation-eligible customers. It should be noted that, for this section, the Company has asked that Staff utilize the updated information on the TIC program drawn from the Company's Application to continue the Technology Information Center Demand-Side Management Program filed on October 1, 2009 (in Docket No. G-01551A-09-0474), rather than the TIC section of the Proposal to Supplement and

---

[15] Southwest plans to continue using targeted postcard marketing, and will also be using the same postcard as an insert in the magazine *Arizona Restaurateur,* which is distributed to 8,500 commercial and institutional food service patrons.

Modify the Arizona Demand-Side Management Plan for Program Years 2009 and 2010 filed June 11, 2009 (in Docket No. G-01551A-09-0039).

70. *Proposed Program Modifications*. Southwest is proposing a budget reduction from $35,000 to $15,000, along with reallocation of the $20,000 to other DSM measures. The lower amount is more reflective of current costs for the TIC program. The $20,000 subtracted from the TIC budget would be moved to other DSM programs, and would allow Southwest to make better use of its funding.

71. *Budget Allocations; Proposed*. Southwest is requesting that the proposed budget be approved for three years, or until December 31, 2012, whichever comes later.

| Description | Annual |
|---|---|
| Administration | $2,000 |
| Implementation | $13,000 |
| Incentives/Rebates | n/a |
| Total | $15,000 |

72. *Cost-Effectiveness and Program Benefits*. The TIC newsletter reaches a customer segment with high per-customer potential for energy savings. However, because TIC is educational, it is difficult to identify and measure energy efficiency gains directly attributable to the program, as could be done for a DSM program involving installation of equipment.

73. *Bill Comparison*. In accordance with Decision No. 70526, the Company performed bill comparison for a sample of 18 large commercial/industrial customers (out of 315 current recipients)[16]. Thirteen out of the 18 customers showed decreasing therm usage from 2007 to 2008, while the overall therm usage for this group of 18 customers[17] decreased by 1,051,449 therms. The Company acknowledges that it has been unable to determine how much of the decrease was due to the economic downturn and how much was due to the information made available through the TIC newsletter.

. . .

---

[16] The 18 customers chosen for the TIC bill comparison were selected because Southwest had the best data on these customers for purposes of comparison.

[17] In communication with the Staff, the Company indicated that the 18 customers chosen for bill comparisons were customers for whom the Company had the right type of data for purposes of comparison.

74. It should also be noted that therm usage for 17 of the same 18 customers for January through July of 2009 showed a decrease of 17,531 therms. Although this demonstrates a second year in which there is a decrease in usage for the sample group, it is a far smaller decrease, even taking into account that the number represents only seven months of data. Although this raises the question of how much any large decrease may be due to the TIC program, versus other factors such as business cycles, the two years of declining usage indicate that the program may be having an effect.

75. In addition, a survey of TIC participants indicated that all of the respondents find the newsletter "somewhat or very valuable," and that 80 percent forward information in the newsletter to individuals involved in the energy management decision-making process. As companies come to replace equipment or undergo remodeling, Southwest believes that an awareness of energy efficient options provided by the TIC program will make it likely that energy efficiency measures will be implemented as a result.

76. _Staff Analysis and Recommendations on Proposed Program Modification and Continuation_. Staff has recommended that the proposed decrease in budget be approved. If participation can be maintained or increased on a reduced budget, it makes sense to use the unneeded TIC funding elsewhere. Staff has recommended that the funding being moved out of the TIC budget be allocated according to the recommendations set forth in the section herein entitled "Request for Funding Flexibility." Staff has also recommended that the continuation of the program be approved. Although savings cannot be quantified, the participation rate, survey results and bill comparisons tend to support continuation. Also, although the application for continuation is filed in another docket, it is appropriate to deal with the program's budget modification and continuation together in the same Decision, since the issues are intertwined. Staff has also recommended that, where appropriate, the TIC newsletter be used to specifically promote the Southwest Gas DSM portfolio.

77. _Reporting Requirements_. Staff has recommended that Southwest report on the Technology Information Center program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission. The information and data reported

should include the number of customers participating and bill comparison data for a sampling of program participants, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

**Distributed Generation**

78. *Program Description*. Under the current Distributed Generation ("DG") program, Southwest is promoting localized on-site power generation by commercial and industrial customers, using combined heat and power ("CHP") technologies. CHP technologies generate electrical or mechanical energy and capture byproduct heat. The captured heat is used for thermal needs such as space heating, water heating, industrial steam loads, air conditioning, humidity control, water cooling, and product drying. CHP may also use excess heat from industrial processes to generate electricity.

79. *Proposed Program Modification*. Southwest is proposing to increase the incentive budget from $400,000 to $700,000.

80. *Program Issues*. The DG program was approved on September 27, 2007 (Decision No. 69917) to promote one to three distributed generation projects on an annual basis. The program is restricted to projects offering the greatest potential for natural gas savings, and it targets large commercial or industrial customers. To date, Southwest has been unable to attract any participants, due to the high upfront costs (typically, $700,000 to $1,050,000) of distributed generation/CHP projects and to a business environment in which companies are dealing with economic challenges, rather than focusing on investment in new equipment. Southwest notes, however, that it takes one to two years to establish interest in CHP, and that American Recovery and Reinvestment Act ("ARRA") funding administered by the Arizona Department of Commerce Energy Office ("AEO") would provide another $300 per kW for a CHP project. The Company states that the ARRA funding has created additional interest in Southwest's program.

81. Another potential issue with respect to the DG program is that there are two non-residential customer classes which do not contribute to DSM funding. Non-residential customers on the G-30 (Optional Gas Service) and B-1 (Potential Bypass/Standby Gas Service) schedules do

not pay the DSM surcharge, but a customer on one of these schedules has expressed interest in participating in the DG program, and other such customers may do so in the future.

82. While it would clearly be inequitable to allow participation in DSM by customers who do not fund DSM, it may not be in the public's interest to entirely exclude G-30 and B-1 customers from utility DSM programs that promote energy efficiency. Southwest has discussed the possibility of allowing G-30 and B-1 customers to participate if they contribute an amount equivalent to what they would have paid as customers on a DSM-contributing schedule, and if they agree to pay the DSM surcharge going forward. It is Staff's position that, although this could address the inequity of allowing non-contributing customers to participate in DSM, it could also be considered a change in rates, which should be addressed in a rate case.

83. Staff has recommended that customers from non-contributing customer classes not be eligible to participate in DSM programs at this time, but that Southwest propose an equitable solution to the participation of G-30 and B-1 customers in DSM programs in its next rate case.

84. *Budget Allocations; Current and Proposed*. Below is the proposed budget for the Distributed Generation project:

| Description | 2010 | 2011 |
|---|---|---|
| Administration[18] | $10,000 | $10,000 |
| Outreach[19] | $40,000 | $40,000 |
| Incentives/Rebates[20] | $350,000 | $650,000 |
| Total | $400,000 | $700,000 |

85. *Staff Analysis and Recommendations on Proposed Program Modifications*. Staff has concerns that incentive levels could be excessive for some projects, particularly in combination with ARRA funding. Depending on the kW savings, incentives could equal $800/kW of a $1,000/kW project, or 80 percent of the project cost, although this is unlikely due to the large size of most projects. Southwest has proposed, and the State Energy Office (which distributes the

[18] The Administration category includes training/education, design consultant services, travel for meetings, sponsorship of events such as the InterMountain CHP Center and miscellaneous fees attributable to administering the program.

[19] The Outreach category covers brochure/flyer development, printing and distribution, website development and maintenance and outreach activities designed to increase program participation.

[20] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.

ARRA funding on DG/CHP) has agreed, that the combined incentive will be limited to no more than 75 percent of total installed costs. Staff concurs and has also recommended that combined incentives be limited to no more than 75 percent of total installed costs.

86. *Reporting Requirements*. Staff has recommended that Southwest continue to report on the Distributed Generation program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission. The information and data reported should include the number of customers participating, the level of spending for the projects, and the estimated energy and environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

**NEW PROGRAMS**

**Solar Thermal Advantage Rebate**.

87. *Program Description*. This is a newly proposed program. The Solar Thermal Advantage Rebate ("Solar"[21]) program would provide incentives to customers to install solar thermal water heaters and space heaters. The Solar program promotes renewable measures, rather than traditional demand-side management measures, and is designed to contribute to an increase in awareness and demand that could reduce the cost differential between standard and solar systems.

88. *Inclusion in the DSM Portfolio*. Southwest indicates that including the Solar program in the DSM portfolio would provide for savings in the overall cost of administration and outreach. The Solar program would be administered by Southwest's existing DSM department and would be promoted along with the overall DSM portfolio. Inclusion in the DSM portfolio also would allow the Company to track and report on the Solar program in conjunction with its DSM portfolio, rather than doing so separately.

89. *Proposed Incentives for New Measures*. Southwest proposes that the new measures, if approved, be offered in conjunction with the following incentives.

. . .

---

[21] The Company abbreviation for this program is "STAR." This program is referred to herein as the "Solar" program to better distinguish it from the EStar program discussed elsewhere in the document.

| Measure | Incentive Amount | Incremental Cost |
|---|---|---|
| Solar Thermal Water Heaters | 30% up to $1,500 | $6,000 |
| Solar Thermal Space Heaters | 30% up to $3,000 | $3,500 |

90. *Budget Allocations*. The proposed budget for the Solar program is set out below:

| Description | 2010 | 2011 |
|---|---|---|
| Administration[22] | $35,000 | $36,000 |
| Outreach[23] | $60,000 | $60,000 |
| Incentives/Rebates[24] | $405,000 | $513,000 |
| Total | $500,000 | $609,000 |

91. *Staff's Analysis and Recommendations*. Staff is concerned about whether a renewables program should be included in a DSM portfolio. The measures proposed for the Solar program are not energy efficiency or DSM measures, which are designed to use less energy to produce a similar or superior level of performance by appliances or buildings, and in some cases to reduce peak demand. In contrast, renewable measures do not necessarily use less energy but, instead, use an alternative source of energy, in this case, solar power. In addition, if the traditional DSM cost-effectiveness analysis is applied to these renewable measures, both measures fall well below the benefit-cost ratio of 1.0 usually required for DSM measures to be approved by the Commission and funded by ratepayers.[25] (Staff's analysis, based on the Societal Cost Test normally applied to DSM measures, indicates that the solar water heater measure has a benefit-cost ratio of 0.42, while the solar space heater has a benefit-cost ratio of 0.50.) Staff also believes that renewable programs, and customers interested in renewables, would benefit from administration and marketing/outreach that is uniquely tailored to the implementation and promotion of

[22] The Administration category includes rebate processing fees, database maintenance fees, maintenance of lists for qualifying models, rebate application development and printing, and other costs related to administering and implementing the program.
[23] The Outreach category covers costs associated with promoting the program to customers, retailers and manufacturers. The category includes development of retail point-of-sale materials, printing, distribution, website development and maintenance and miscellaneous outreach activities.
[24] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.
[25] Measures falling slightly below 1.0 have been approved based on the environmental savings created by DSM measures, which have not yet been monetized, but which are known to be greater than zero.

renewable measures. For these reasons, Staff has recommended against approval of the Solar program as part of Southwest's enhanced DSM portfolio.

**Large Commercial Energy-Efficient Boiler Program**

92. *Program Description*. This is a newly proposed program. The Large Commercial Energy Efficient Boiler ("Commercial Boiler") program is designed to promote both the maintenance of existing boilers and the installation of new high-efficiency natural gas boilers. The program would target both new and existing facilities. The customer segment targeted by this program includes manufacturing plants, colleges, universities and hospitals.

93. The measures that provide for installation of high-efficiency natural gas boilers in new or existing facilities are intended to take advantage of the significant savings available from large commercial boilers. Boilers are high per-unit energy users, and the Company notes that "[b]oilers generally account for more than 40 percent of the heating energy in commercial buildings."

94. Maintenance measures are proposed for inclusion in the program because boiler maintenance and adjustments are frequently neglected, resulting in equipment that function at lower efficiency levels. While some boilers need to be replaced, others can be rendered more energy efficient through improved maintenance. The Company anticipates that these generally lower cost measures will attract more participants than the measure providing for installation of a new boiler.

95. *Proposed Incentives for New Measures*. Southwest proposes that the new program's measures, if approved, be offered in conjunction with the incentives shown in the table below. Staff believes the initial incentive amounts proposed by the Company are reasonable, but that Southwest should have the flexibility to adjust program incentives in response to market conditions, either downward or up to a level that does not exceed 75 percent of the average incremental cost of individual measures. Staff has also recommended that Southwest track the incremental costs over time to ensure that the incentive amounts do not exceed 75 percent of the average incremental cost of individual measures.

. . .

| Measure | Incentive Amount | Incremental Cost |
|---|---|---|
| Boiler Tune-ups | 75% up to $375 | $300-$500 per boiler |
| Modular Burner Controls | 25% up to $5,000 | $16,000-$50,000 |
| $O_2$ Trim Control Pads | 25% up to $5,000 | $13,000-$20,000 |
| Steam Trap Survey | 25% up to $250 | $1,000-$1,500 |
| Steam Trap Replacement/Parts | 25% up to $250/trap. Maximum $10,000 per facility | $150-$500 |
| New Boilers: Non-condensing[26] | $1,000/MMBTUH[27] up to $20,000 | $25,000-$300,000 |

96. *Budget Allocations*. The proposed budget for the Commercial Boiler program is set out below:

| Description | 2010 | 2011 |
|---|---|---|
| Administration[28] | $21,000 | $22,250 |
| Outreach[29] | $34,000 | $34,000 |
| Incentives/Rebates[30] | $445,000 | $593,750 |
| Total | $500,000 | $650,000 |

97. *Cost-Effectiveness*. The benefit-cost ratios for the Commercial Boiler program measures are listed in the table below.

| Measure | Estimated Cost-Effective |
|---|---|
| Boiler Tune-ups | 1.56 |
| Modular Burner Controls | 0.61-1.88 |
| $O_2$ Trim Control Pads | 1.18 |
| Steam Trap Survey | 1.67 |
| Steam Trap Replacement/Parts | 7.31 |
| New Boilers: Non-condensing[31] | 1.35 |

---

[26] Must include Modular Burner Controls and O2 Trim Control Pads.
[27] 1 MMBTUH = 1 million British Thermal Unit ("BTU") per hour. As an example, an eligible 3.3 MMBTU boiler costing $25,000 to $60,000 would receive a rebate of $3,300.
[28] The Administration category includes training/education, travel for meetings, sponsorship of events and miscellaneous fees attributable to administering the program.
[29] The Outreach category covers brochure/flyer development, printing and distribution, website development and maintenance and outreach activities designed to increase program participation.
[30] The Incentives/Rebates category includes only the incentives/rebates. No other fees associated with incentives/rebates are included in this budget category.
[31] Must include Modular Burner Controls and O2 Trim Control Pads.

98. *Staff Analysis and Recommendations*. Staff has recommended approval of the Commercial Boiler program. Although Staff's research indicates that a commercial boiler program has the potential for significant cost-effective savings, the available data, particularly for the steam trap measure, is limited, and there should be a pilot period to determine whether the measures are cost-effective in practice. Staff also has specific concerns about the cost-effectiveness of the modular burner control measure. The range of incremental costs reported for this measure is very large and, at the upper end of the range, the measure is no longer cost-effective at the reported savings level. Staff has recommended that this measure be monitored carefully to ensure that each project is cost-effective.

99. Staff has recommended that Southwest gather data on energy savings and incremental costs, and that the Company file a letter with the Commission stating whether or not each measure is cost-effective. Non-cost-effective measures should cease to be eligible for incentives. The letter to the Commission on the cost-effectiveness of measures in the new Commercial Boiler program should be filed no later than December 31, 2011.

100. *Reporting Requirements*. Staff has recommended that Southwest report on the new Large Commercial Energy Efficient Boiler program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission. The information and data reported should include the number of customers participating, the level of spending for each measure, the number of measures installed by type of measure, and the estimated energy and environmental savings arising from this portfolio component, along with any other information necessary for the Commission to understand the progress and status of the program. Any ongoing problems and their proposed solutions should also be reported.

**REQUEST FOR FUNDING FLEXIBILITY**

101. *Southwest's Request*. Southwest has requested flexibility to move DSM funding from measure to measure within programs, and also from program to program, in order to ensure that the available funds are used in as efficient a manner as possible. Southwest has also requested the flexibility to move any unspent administrative and outreach funds into rebates/incentives.

. . .

102. *Staff Analysis*. Spending levels can be difficult to predict accurately. A program that is ramping up slowly or experiencing lower-than-anticipated participation may use only a portion of its planned budget. In some cases, these funds could be utilized to promote energy efficiency, if they could be moved into more active measures or programs. Staff believes that more flexibility to direct funding into these more active measures and programs would enhance energy efficiency, promote better use of DSM funding and allow the Company to be more responsive to market conditions. Staff also believes, however, that limits should be put into place (i) to avoid under-funding programs that are still ramping up and might be hampered in their development by excessive budget shifts; (ii) to maintain an equitable opportunity for both Residential and Non-Residential customers to participate in DSM programs; and (iii) to exempt the LIEC program from having funds moved out of its budget.

103. Staff concurs that the Company should have the flexibility to shift unspent administrative and outreach funding into rebates/incentives, as long as these shifts do not conflict with any of the limitations on budget shifting recommended below. Staff also notes that, to the extent program costs (such as administration and outreach) can be reasonably reduced, and participation increased, this also reduces the overall cost of a measure and improves its cost-effectiveness.

104. *Recommendations*. Staff has recommended that Southwest be allowed to move funds from measure to measure within programs in response to participation levels. Staff has also recommended that Southwest be allowed to move funds from program to program (within, but not between, the Residential and Non-Residential portfolio segments), for up to 50 percent of each budget from which funds are being moved. Staff has recommended, in addition, that the LIEC program be exempt from the above recommendation, in that no funds be moved out of the LIEC program. Staff further has recommended that Southwest be able to shift unspent administrative and outreach funds into the incentive/rebate category. Staff has also recommended that there be no transfers of funding between the Residential and Non-Residential portfolio segments, in order to ensure that both customer segments have a reasonable opportunity to participate in energy efficiency measures and programs.

105. *Reporting Requirements*. The amount spent on each measure should be part of the reporting for each DSM program. In addition, budget shifts among programs within the Residential and Non-Residential programs should be reported, along with the reasons for these shifts.

**Eligibility for Incentives; Generally**

106. Federal and other governmental appliance efficiency standards and building codes evolve and tend to increase over time. What was once the most energy efficient technology available may, as technology improves, become the industry standard. Since it is the purpose of DSM incentives to promote energy efficiency that exceeds current standards, Staff has recommended that the Company track changes in federal and other governmental standards and adapt program criteria to ensure that incentives are offered only for measures that provide cost-effective energy savings above the current minimum standards and codes.

CONCLUSIONS OF LAW

1. Southwest is an Arizona public service corporation within the meaning of Article XV, Section 2, of the Arizona Constitution.

2. The Commission has jurisdiction over Southwest and over the subject matter of the application.

3. The Commission, having reviewed the application and Staff's Memorandum dated May 11, 2010, concludes that it is in the public interest to approve changes to the Southwest Gas DSM portfolio, with the changes and limitations recommended by Staff.

ORDER

IT IS THEREFORE ORDERED that the changes to the Southwest Gas Corporation Demand-Side Management portfolio be approved, as discussed herein.

**Energy Star Homes**

IT IS FURTHER ORDERED that Southwest Gas Corporation shall track actual incremental costs over time for the new water heater and furnace measures to ensure that incentive amounts do not exceed 75 percent of the average incremental cost of the individual measures.

. . .

IT IS FURTHER ORDERED that the incentive for the high efficiency storage water heater shall conform to the incentive offered for the same measure in the existing Consumer Products program.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall gather data on energy savings and incremental costs for the Energy Star Homes program's tankless water heater measure and shall file a letter stating whether or not the measure is cost-effective no later than December 31, 2011.

IT IS FURTHER ORDERED that if the tankless water heater measure is determined to be not cost-effective, it shall cease to be eligible for incentives.

IT IS FURTHER ORDERED that the high efficiency storage water heaters, tankless water heaters and Energy Star-certified furnaces shall be approved as new measures for the Energy Star Homes program.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall report on the modified Energy Star homes program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission.

**Low-Income Energy Conservation**

IT IS FURTHER ORDERED that Southwest Gas Corporation or its agent follow the procedures described herein in order to transfer responsibility for distributing bill assistance funding to a new agency.

IT IS FURTHER ORDERED that Southwest Gas Corporation or its agent shall have the option of transferring responsibility for only a portion of an agency's funding above the $5,000 minimum.

IT IS FURTHER ORDERED that Southwest Gas Corporation or its agent shall adopt a new formula for allocating bill assistance funding based on the poverty rate, unemployment and customer density, but that this formula shall only apply to amounts above the $5,000 minimum.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall report on the modified Low-Income Energy Conservation program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission.

**Consumer Products**

IT IS FURTHER ORDERED that Southwest Gas Corporation shall track actual incremental costs for the Consumer Products program over time to ensure that incentive amounts are not allowed to exceed 75 percent of the average incremental cost of the individual measures.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall have the flexibility to adjust program incentives in response to market conditions, either downward or up to a level that does not exceed 75 percent of the average incremental cost of individual measures.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall review the actual cost of Tier 2 clothes washers in the Arizona market and shall adjust the incentive, if necessary, to ensure that it is in compliance with the 75 percent cap on incentives.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall modify Tier 1 and Tier 2 standards for clothes washers in response to changes in Energy Star standards.

IT IS FURTHER ORDERED that the Consumer Products program shall be approved with a budget of $700,000 for each of the 2010 and 2011 program years.

IT IS FURTHER ORDERED that the Consumer Products program's tankless water heater and high efficiency clothes washer and clothes dryer measures shall be approved for inclusion in the Consumer Products program, and that the clothes washer and dryer be approved either as a combined measure or as two separate measures.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall gather data on energy savings and incremental costs for the tankless water heater measure and shall file a letter stating whether or not the measure is cost-effective no later than December 31, 2011.

IT IS FURTHER ORDERED that if the tankless water heater measure is determined to be not cost-effective, it shall cease to be eligible for incentives.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall incorporate efficiency level requirements into the clothes dryer measure, if such information becomes readily available.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall report on the modified Consumer Products program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission.

**Commercial Equipment**

IT IS FURTHER ORDERED that Southwest Gas Corporation shall gather data on energy savings and incremental costs for the Commercial Equipment program's tankless water heater measure and shall file a letter stating whether or not the measure is cost-effective no later than December 31, 2011.

IT IS FURTHER ORDERED that if the tankless water heater measure is determined to be not cost-effective, it shall cease to be eligible for incentives.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall have the flexibility to adjust Commercial Equipment program incentives in response to market conditions, either downward, or up to a level that does not exceed 75 percent of the average incremental cost of individual measures.

IT IS FURTHER ORDERED that the tankless water heater, fryer and combination oven measures shall be approved for inclusion in the Commercial Equipment program.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall continue to market the Commercial Equipment program with a focus on improving participation.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall report on the modified Commercial Equipment program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission.

**Technology Information Center**

IT IS FURTHER ORDERED that the budget for the Technology Information Center program shall be changed from $35,000 to $15,000 and the $20,000 difference shall be reallocated to another Non-residential program.

IT IS FURTHER ORDERED that the Technology Information Center shall be approved for continuation for three years or until December 31, 2012, whichever is later.

IT IS FURTHER ORDERED that, where appropriate, the Technology Information Center newsletter shall be used to specifically promote the Southwest Gas Corporation DSM portfolio.

. . .

. . .

IT IS FURTHER ORDERED that Southwest Gas Corporation shall report on the Technology Information Center program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission.

**Distributed Generation**

IT IS FURTHER ORDERED that customers from customer classes which do not contribute to DSM funding shall not be eligible to participate in DSM programs at this time, but that Southwest shall propose an equitable way for such classes to participate in DSM programs in its next rate case.

IT IS FURTHER ORDERED that the Distributed Generation budget shall be increased from $400,000 to $700,000 and that combined incentives for a project shall be limited to no more than 75 percent of total installed costs.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall report on the Distributed Generation program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission.

**Solar Thermal Advantage Rebate Program**

IT IS FURTHER ORDERED that the Solar Thermal Advantage Rebate program shall not be approved as part of the Southwest Gas Corporation DSM portfolio.

**Large Commercial Energy-Efficient Boiler Program**

IT IS FURTHER ORDERED that Southwest Gas Corporation shall track actual incremental costs for the Large Commercial Energy-Efficient Boiler program over time to ensure that incentive amounts are not allowed to exceed 75 percent of the average incremental cost of the individual measures.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall have the flexibility to adjust the Large Commercial Energy-Efficient Boiler program's incentives in response to market conditions, either downward or up to a level that does not exceed 75 percent of the average incremental cost of individual measures.

. . .

. . .

IT IS FURTHER ORDERED that the new Large Commercial Energy-Efficient Boiler program shall be approved, but that Southwest Gas Corporation shall gather data on energy savings and incremental costs and file a letter with the Commission no later than December 31, 2011, stating whether or not each measure is cost-effective.

IT IS FURTHER ORDERED that any measures found not to be cost-effective shall cease to be eligible for incentives.

IT IS FURTHER ORDERED that the modular burner control measure shall be monitored to ensure that each project is cost-effective.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall report on the new Large Commercial Energy-Efficient Boiler program in its semi-annual report filed with the Commission, or in any succeeding form of report ordered by the Commission.

**Request for Funding Flexibility**

IT IS FURTHER ORDERED that Southwest Gas Corporation shall have the flexibility to shift unspent administrative and outreach funding into rebates/incentives, as long as these shifts do not conflict with any of the limitations on budget shifting ordered herein.

IT IS FURTHER ORDERED that Southwest Gas Corporation shall be allowed to move funds from measure to measure within programs, and to move funds from program to program for up to 50 percent of each budget from which funds are being moved.

IT IS FURTHER ORDERED that no funds shall be moved out of the LIEC program.

IT IS FURTHER ORDERED that there shall be no transfers of funding between the Residential and Non-Residential portfolio segments.

IT IS FURTHER ORDERED that the amount spent on each measure shall be part of the reporting for each DSM program, that budget shifts among programs within the Residential and Non-Residential programs shall be report in the DSM semi-annual report or in any succeeding form of report ordered by the Commission, along with the reasons for these shifts.

**Eligibility for Incentives; Generally**

IT IS FURTHER ORDERED that Southwest Gas Corporation shall track changes in federal and other governmental standards and adapt program criteria to ensure that incentives are offered only for measures that provide cost-effective energy savings above the current minimum standards and codes.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

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

CHAIRMAN COMMISSIONER

COMMISSIONER COMMISSIONER COMMISSIONER

IN WITNESS WHEREOF, I, ERNEST G. JOHNSON, Executive Director of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this _______day of ___________________ , 2010.

ERNEST G. JOHNSON
EXECUTIVE DIRECTOR

DISSENT: ____________________________

DISSENT: ____________________________

SMO:JMK:lhm\CH

SERVICE LIST FOR: Southwest Gas Corporation
DOCKET NO. G-01551A-09-0039

Mr. Roger Montgomery
Southwest Gas Corporation
5291 Spring Mountain Road
Post Office Box 98510
Las Vegas, Nevada 89193-8510

Ms. Debra S. Gallo
Director, Government & State
Regulatory Affairs
Southwest Gas Corporation
5241 Spring Mountain Road
Las Vegas, Nevada 89150-0002

Mr. Steven M. Olea
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Ms. Janice M. Alward
Chief Counsel, Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007