

ORIGINAL  
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MEMORANDUM

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Arizona Corporation Commission

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AZ CORP COMMISSION  
DOCKET CONTROL

TO: THE COMMISSION

FROM: Utilities Division

DATE: January 28, 2008

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RE: IN THE MATTER OF THE APPLICATION OF UNS GAS, INC. FOR APPROVAL OF ITS PROPOSED DEMAND-SIDE MANAGEMENT PROGRAM PORTFOLIO PLAN 2008-2012 (DOCKET NO. G-04204A-07-0274)

On May 4, 2007, UNS Gas, Inc. ("UNS Gas" or the "Company") filed an application for approval of its Demand-Side Management Program Portfolio Plan ("Plan"). The Plan includes the following four programs:

1. Low-Income Weatherization

UNS Gas proposes to move the existing Low-Income Weatherization ("LIW") program into its DSM portfolio. The Company also proposes to increase the program budget, and offer an expanded set of efficiency weatherization measures and services to low-income customers.

2. Efficient Home Heating

The proposed Efficient Home Heating ("EHH") Program would be newly implemented. Under the program, incentives would be provided to residential and multi-family homeowners to invest in energy-efficient, gas-fueled furnaces with a 90 percent or greater Annual Fuel Utilization Efficiency ("AFUE") rating.

3. Energy Smart Homes

The proposed UNS Gas Energy Smart Homes ("ESH") Program would be newly implemented. Under the program, incentives would be provided to builders to promote homes built to meet 2006 Energy Star® Home performance requirements.

4. Commercial and Industrial Facilities Gas Efficiency

The proposed Commercial and Industrial Facilities Gas Efficiency ("C&I") Program would be newly implemented. Under the program, prescriptive incentives would be provided to owners and operators of non-residential facilities for installation of energy-efficient restaurant equipment, and heating and cooling systems.

The total proposed budget for the UNS Gas DSM Portfolio is shown below:

Low-Income Weatherization	\$113,400
Efficient Home Heating	\$300,000
Energy Smart Homes	\$420,000
Commercial and Industrial	\$200,000
<b>Total DSM Portfolio</b>	<b>\$1,033,400</b>

More detailed descriptions of the four UNS Gas DSM programs follow below.

### 1. Low-Income Weatherization

#### Program Description

Goals. The primary goal of the LIW Program is to fund weatherization of low-income homes. Weatherization reduces energy costs and improves comfort and safety for low-income customers. The LIW Program would also conserve energy, resulting in a reduction of both electric and gas consumption. Proposed changes to the current LIW Program include an increase in funding (from \$71,600 to \$113,400), an expanded set of efficiency measures, and tracking to establish and verify energy savings realized by the program.

Eligibility. The LIW Program is available to UNS Gas residential customers with household incomes less than or equal to 150 percent of the federal poverty guidelines. (Currently, 150 percent of the federal poverty guidelines would be \$15,315 for a one-person household and \$30,975 for a four-person household). The LIW program is the only UNS Gas DSM program with income requirements.

In the UNS Gas territory, homes eligible for the LIW program consist primarily of older mobile homes, along with single-family homes constructed of slump block and/or wood frame construction. Homes are prioritized based on factors that include the following:

- No heat in the winter, or no cooling in the summer;
- Elderly or minors in the household;
- Physical handicaps or illness; and
- Number of people in the household.<sup>1</sup>

Weatherization Measures. Under the LIW Program, weatherization would be done in accordance with the Weatherization Assistance Program ("WAP"). WAP is funded by the U.S. Department of Energy and administered by the Arizona Department of Commerce Energy Office ("AEO"). The major weatherization measures would generally fall into four categories:

- Duct repair;

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<sup>1</sup> WAP rules indicate that "high energy consuming housing" is a priority, and energy consumption rises as the number of residents in a home increases.

- Pressure management/infiltration control;
- Attic insulation; and
- Repair or replacement of non-functional or hazardous appliances.

With respect to the last item, neither installation nor repair of equipment would be DSM measures, because these would result in *more* energy use, not less. When non-functioning equipment is repaired or replaced, Staff recommends that DSM program funds be used only to cover the incremental cost of installing high efficiency, rather than standard, equipment. The only exception to this would be equipment installed or repaired as part of a health and safety measure, as discussed below.

The actual measures installed in a specific home would be based on an on-site audit and would be required to meet WAP cost-effectiveness tests.

Additional Weatherization Measures. In addition to the above major weatherization efforts, additional measures may include the following lower-cost items: (i) compact fluorescent lamps (“CFLs”) will be installed, if not already in place; (ii) water heater blankets will be installed, if appropriate under health and safety rules; (iii) low-flow shower heads and (iv) faucet aerators.<sup>2</sup> (The last two items will be installed, if cost-effective and if funding is available.)

Health and Safety Measures. Community action agencies are allowed to use up to 25 percent of the UNS Gas funding for health and safety measures. Health and safety measures are not considered weatherization, but may be required in order to allow effective weatherization and to protect customers. Examples of these measures include work required to address rotting wood, mold or unsanitary conditions, lack of ventilation or potential fire hazards.

Staff recommends that, although health and safety measures are important, DSM funding should be utilized whenever possible for weatherization activities that conserve energy. In cases where alternate funding sources are available, those funds should be utilized for any non-weatherization activities before DSM funding is tapped. In no event are health and safety costs to exceed 25 percent of the UNS Gas LIW program budget. LIW program DSM funding used for any health and safety measure must be tracked against this 25 percent cap.

Emergency Home Repair. Community action agencies participating in the UNS Gas weatherization program will also be asked to install the lower cost measures listed in (i) through (iv), under “Additional Weatherization Measures”, in homes where they perform emergency repairs. (Agencies perform emergency repairs as part of programs such as the Utility Repair, Replace and Deposit Program (“URRD”).) The UNS Gas LIW program would not fund the emergency repairs, but would provide additional, alternative, funding for installation of the lower-cost energy efficiency measures.

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<sup>2</sup> Faucet aerators provide energy and water savings, and limit wastewater.

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The average cost for installing all four measures is estimated at approximately \$40 per home. If all homes from both the main weatherization program and the emergency home repair component received these installations the estimated cost would be 2.8 percent of the proposed average funding.<sup>3</sup>

Incentives. The UNS Gas LIW program would provide funding of up to \$2,000 per house for installation of weatherization and health/safety measures. (Agencies may request a waiver of this cap on a case-by-case basis.) While the program portfolio refers to these payments as "incentives," these payments represent reimbursements to community action agencies for completed weatherization work done on low-income homes.

### Delivery Strategy

Promotion and delivery of the LIW Program would be outsourced to four Community Action Agencies ("agencies") that serve UNS GAS service territories. Those agencies include: Northern Arizona Council of Government ("NACOG"); Coconino County Community Services ("CCCS"); Western Arizona Council of Governments ("WACOG"); and Southeastern Arizona Community Action Program ("SEACAP"). The four agencies would determine participant eligibility and priority, in addition to completing all work. Program administration, marketing, planning, coordination, labor, materials, equipment and entering results into tracking software would also be provided by the four agencies.

The agencies would be allowed to use UNS Gas funding for weatherization measures up to the maximum allowance of \$2,000 per home (unless a waiver is granted). Funding from UNS Gas will be limited to installation of measures which meet the cost-effectiveness tests and priority outlined in the WAP rules.

### Marketing

The LIW Program would be marketed through:

- UNS Gas employees;
- Referrals from the local Department of Economic Security ("DES");
- Health care service agencies, and individual caseworkers; and
- The UNS Gas website.

Agencies are allowed to use some UNS Gas funding for marketing. Some agencies have indicated that additional marketing may increase the current 18-24 month backlog of homes waiting for weatherization. The Company indicates that, due to the housing downturn, there is no longer a shortage of skilled workers for weatherization work in the UNS area, and that the current backlog is due to lack of funding.

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<sup>3</sup>With a 3% annual increase, the average budget for the LIW over five years would be \$120,411.

<sup>4</sup> An example of the type of situation where a waiver may be requested is when the HVAC system needs to be replaced and the home also requires major weatherization.

UNS Gas should consider shifting any unused funding from other UNS Gas DSM programs into LIW, if feasible. (Please see page 24, regarding Staff recommendations on funding shifts between and within DSM programs.)

### **Program Budget**

LIW funding will be distributed among the participating community action agencies as follows: (1) NACOG – 55 percent; (2) CCCS – 15 percent; (3) WACOG – 25 percent; and SEACAP – 5 percent. Currently, approximately 10 percent of LIW funding goes to administrative overhead for the participating agencies, and UNS Gas anticipates a similar level of funding for the proposed enhanced program. The varying amounts distributed to the above agencies are based, approximately, on the geographic distribution of UNS Gas customers.

The table below provides the expected annual budgets for the LIW program from 2008 through 2012. For its 2008 LIW Program, UNS Gas is proposing to increase available funding from \$71,500 to \$113,400. UNS Gas has also allowed for a 3 percent annual increase to compensate for inflation.

**2008 – 2012 Proposed LIW Program Budget**

Year	2008	2009	2010	2011	2012
Total Budget	\$113,400	\$116,802	\$120,306	\$123,915	\$127,633
Incentives	\$96,621	\$99,520	\$102,506	\$105,581	\$108,748
Administrative, Rebate Processing and Inspection, and Evaluation, Monitoring and Verification (“EM&V”) Costs <sup>5</sup>	\$13,779	\$14,282	\$14,800	\$15,334	\$15,885
Support Activity Labor (AEO)	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000

For 2008, if the per-home maximum of \$2,000 is spent, the average total cost to weatherize each home would be approximately \$2,268 ( $\$113,400 \div 50$ ). This amount would include program costs, funding to reimburse agencies for weatherization work and the cost of evaluation, monitoring and verification. If less than the \$2,000 maximum is spent, on a per home average, the number of homes weatherized would increase, and the per-home total cost would be lower.<sup>6</sup>

The 2008 Detailed Program Budget, below, provides additional details on LIW program budget allocations within the various categories.

<sup>5</sup> This category combines the Administrative, EM&V and Rebate Processing and Inspection categories from the more detailed budget, below.

<sup>6</sup> For example, if 98 homes were weatherized (see the Program Participation section), the per-home average total cost would be \$1,157. This figure includes administration, outside support (from AEO) and EM&V costs, in addition to direct weatherization costs.

**2008 Proposed Detailed LIW Program Budget**

Managerial & Clerical <sup>7</sup>	\$5,897
Travel & Direct Expenses <sup>8</sup>	\$0
Overhead <sup>9</sup>	\$590
<b>Total Administrative and O&amp;M Costs</b>	<b>\$6,487</b>
Internal Marketing Expense	\$0
Subcontracted Marketing Expense	\$0
<b>Total Marketing Cost<sup>10</sup></b>	<b>\$0</b>
Financial Incentives <sup>11</sup>	\$96,621
Rebate Processing & Inspection	\$2,756
<b>Total amount received by community action agencies<sup>12</sup></b>	<b>\$99,377</b>
Support Activity Labor (Arizona Energy Office) <sup>13</sup>	\$3,000
<b>Total Training Cost</b>	<b>\$3,000</b>
EM&V / Research Activity	\$4,082
EM&V Overhead	\$454
<b>Total EM&amp;V Cost<sup>14</sup></b>	<b>\$4,536</b>
<b>TOTAL PROGRAM BUDGET</b>	<b>\$113,400</b>

**Program Participation**

Thirty-seven homes were weatherized under the existing program in 2006. During that year, participating community action agencies spent \$37,355 out of a budget of \$71,500,<sup>15</sup> meaning that an average of \$1,009 was spent to weatherize each home. With \$99,377 budgeted for direct implementation and rebate processing/inspection, UNS Gas projects that 50 low-income homes will be weatherized under the LIW program in 2008, if the \$2,000 maximum per house is spent. If weatherization spending continues at approximately \$1,009 per home, UNS Gas estimates that 98 homes would be weatherized in 2008, with the increased budget.

**Cost-Effectiveness**

<sup>7</sup> The Managerial and Clerical category includes design and development, program planning, program and project management and clerical requirement.

<sup>8</sup> This is zero because travel associated with weatherization would not be reimbursed separately, but as part of a completed project. Direct Expenses, which are costs related to attending conferences, would not be reimbursed by UNS Gas.

<sup>9</sup> Office equipment, general administrative labor, office supplies, reproduction, labor for internal and subcontractor regulatory reporting.

<sup>10</sup> Marketing is zero because some agencies have indicated that marketing the LIW program would create more backlog than currently exists. (See page 4, under "Marketing.")

<sup>11</sup> Refers to the amount paid to community action agencies for work related to weatherization and health/safety measures.

<sup>12</sup> The participating community action agencies are allowed to retain 10% of this total amount for administrative overhead.

<sup>13</sup> AEO provides training/education for crews on building science and data collection.

<sup>14</sup> Reserved for work completed by the Arizona Energy Office on measurement and evaluation.

<sup>15</sup> The \$71,500 represents the amount available to the community action agencies in 2006. The participating agencies have assured UNS Gas that their inability to utilize the entire LIW budget in 2006 was due to temporary staffing and contractor shortages. UNS Gas has also been assured by the agencies that, in the future, they will be able to spend the entire weatherization budget, even taking into account the proposed increase. The Company has noted that the agencies are on track for spending the entire current budget in 2007.

Staff calculated the benefit-cost ratio of the LIW program at 0.97, taking into account the therm savings that would constitute most of the energy saved through weatherization. Although this number is slightly below the cost-effectiveness threshold, the program can be considered cost-effective once the projected environmental savings (which are not monetized, but which are greater than zero) and the electric savings are also taken into account.

Staff estimates cost-effectiveness using the Societal Cost Test. The Societal Cost Test compares the incremental measure and program costs against avoided utility costs (such as therm savings over the life of the measure and avoided capacity costs) and avoided environmental impacts. Under the Societal Cost Test, a program's incremental benefits to society must exceed the incremental cost of having the program in place, in order for the program to be considered cost-effective. In the case of the LIW program, the projected cost of health and safety measures, estimated at 12 percent of the total LIW budget, would be excluded from the cost-effectiveness calculation.

The projected CO<sub>2</sub> savings from the LIW program are provided in the table below. This number represents an estimate of the lifetime CO<sub>2</sub> savings from the homes projected to be weatherized over the five-year course of the LIW program. This estimate may be conservative because if more than 50 homes are weatherized per year, carbon dioxide savings are likely to be higher.

**LIW Projected Environmental Benefits, 2008 – 2012**

CO <sub>2</sub>	50 homes	21,842,600	Pounds
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**Estimated Cost Per Therm Saved**

If 50 homes per year are weatherized (for 250 total), Staff's analysis indicates that the LIW program would save 1,765,000 therms over the lifetime of the measures installed from 2008 through 2012. The cost per therm saved would be approximately \$0.34. If 98 homes were weatherized annually, at the same level of therm savings per home, approximately 3,459,400 therms would be saved from measures installed during 2008-2012, at an estimated cost per therm saved of \$0.17.

**Monitoring and Evaluation**

See "Monitoring and Evaluation: All Programs," page 22.

**Reporting Requirements**

See "Reporting Requirements: All Programs," page 23.

## **2. Efficient Home Heating**

### **Program Description**

**Goals.** The EHH Program would promote the purchase and installation of Energy Star®-qualified high-efficiency gas-fueled furnaces. High-efficiency heating systems would help reduce customer energy bills, provide equal or better comfort conditions, conserve energy and are beneficial to the environment. Participation targets are 2,854 for high-efficiency furnaces and 684 for packaged systems with 90 percent AFUE furnaces over five years.

**Eligibility.** UNS Gas residential customers with existing homes in the Company's area are eligible to participate in this program. There are no income restrictions limiting participation in the EHH Program.

**Measures.** Replacement furnaces must meet or exceed the minimum Energy Star® standard of 90 percent AFUE. Furnaces installed without this program would typically be 80 percent efficient.

**Incentives.** Incentives for the purchase of qualifying high-efficiency equipment would be paid directly to homeowners. Incentives per measure and qualifying criteria are indicated in the table below.

**Proposed EHH Incentives Schedule**

Measure	Qualifying Criteria*	Average Incentive**
High Efficiency Furnaces	Minimum AFUE of 90%	\$244
Packaged Air Conditioners with High-efficiency Furnaces	90% AFUE or better furnace with CEE Tier 1 or 2 AC rating	\$254
*Consortium for Energy Efficiency ("CEE") is an independent rating agency.		
** Incentives vary depending on unit heating capacity and efficiency.		

The Company also proposes to pay a \$25 incentive to contractors for program promotion and to offset the contractors' costs. With average annual participation of 708 units (over five years), the total amount in incentives paid to contractors per year should be approximately \$17,700. The \$25 payment is intended to encourage contractors to: (i) promote high-efficiency furnaces; (ii) offset the cost of complying with detailed reporting requirements; and (iii) help cover the cost of processing applications and returning applications and invoices to UNS Gas for rebate payments.

Staff recommends that the \$25 incentive to contractors be reviewed by UNS Gas biannually, along with the other program incentives, to determine whether the incentive is necessary to maintain program participation.

### **Delivery Strategy**

The EHH program will be administered jointly by a qualified implementation contractor ("IC"), sought through a competitive bidding process, and an in-house Program Manager.

UNS Gas will provide overall program management, planning and coordination of customer and contractor participation. The IC will verify equipment efficiency, process rebates, provide marketing, tracking and technical support and evaluation.

Key partnering relationships will include:

- Heating training professionals;
- Heating contractors trained in program procedures; and
- The Arizona Energy Office to provide training, education and awareness.

For more information on implementation contractors, including the selection process, please see "Implementation Contractors: EHH, ESH and C&I Programs," on page 21.

### **Marketing**

UNS Gas marketing of the EHH program would inform customers that high-efficiency heating systems help to reduce energy bills, provide equal or better comfort, and benefit the environment. Customer awareness of the program and its benefits will be increased using the following methods:

- Promotions on the UNS Gas website about the benefits of purchasing high-efficiency heating equipment;
- Media advertising to raise awareness of the program;
- Information through the UNS Gas customer care center;
- Educational brochures and promotional materials to promote the benefits of high-efficiency heating equipment; and
- Responding to customer inquiries about the program and where to purchase qualifying equipment.

**Program Budget**

The table below provides the expected annual budgets for the EHH Program from 2008 through 2012. The average annual budget is \$318,548. For each program year, over 50 percent of the funds are allocated as financial incentives to customers, while the remaining funds would be used to cover program costs. The details of the proposed 2008 budget are shown below.

**2008 – 2012 Proposed EHH Program Budget**

Year	2008	2009	2010	2011	2012
Total budget	\$300,000	\$309,000	\$318,270	\$327,818	\$337,653
Incentives	\$163,800	\$173,905	\$179,122	\$190,003	\$201,376
Program Costs <sup>16</sup>	\$136,200	\$135,095	\$139,148	\$137,815	\$136,277
Incentives as % of budget	54.6%	56.3%	56.3%	58.0%	59.6%

For 2008, the total cost for each measure installed would be approximately \$450 ( $\$300,000 \div 666$ ). This amount includes program costs, incentives (incentives average \$244 for furnaces and \$254 for packaged systems), and the cost of evaluation, monitoring and verification. The 2008 Detailed Program Budget provides additional details on EHH program budget allocations within the various categories.

**2008 Detailed Proposed EHH Program Budget<sup>17</sup>**

Managerial & Clerical	\$43,200
Travel & Direct Expenses	\$6,480
Overhead	\$4,320
<b>Total Administrative Cost Allocation</b>	<b>\$54,000</b>
Internal Marketing Expense	\$18,000
Subcontracted Marketing Expense	\$18,000
<b>Total Marketing Allocation</b>	<b>\$36,000</b>
Financial Incentives	\$163,800
<b>Total Incentives<sup>18</sup></b>	<b>\$163,800</b>
Support Activity Labor <sup>19</sup>	\$7,800
Hardware & Materials <sup>20</sup>	\$3,900
Rebate Processing & Inspection	\$19,500
<b>Implementation Allocation (excluding incentives)</b>	<b>\$31,200</b>
EM&V Activity	\$14,250
EM&V Overhead	\$750
<b>Total EM&amp;V Cost Allocation</b>	<b>\$15,000</b>
<b>TOTAL PROGRAM BUDGET</b>	<b>\$300,000</b>

<sup>16</sup> This category combines administrative, marketing, EM&V and implementation costs (excluding incentives) from the more detailed budget, below.

<sup>17</sup> For details regarding some of the budget categories, please also see the footnotes on page 6.

<sup>18</sup> This amount covers only incentives paid to consumers. The \$25 incentives paid to contractors for promoting high-efficiency are considered part of marketing and are included in the "Subcontracted Marketing Expense" category.

<sup>19</sup> Covers the cost of collecting applications and invoices, and verifying that equipment efficiency standards meet program requirements.

<sup>20</sup> This category includes communications equipment, computer and office supplies.

### **Program Participation**

UNS Gas expects that, on average, 708 units would participate in the EHH program annually. This represents a program participation rate of approximately 11 percent of the projected system change-outs per year in the UNS Gas service territory. Total annual expected participation is shown below.

Year	2008	2009	2010	2011	2012
Number of Expected Participating Units	666	686	707	728	750

### **Cost-Effectiveness**

Staff has calculated the benefit-cost ratios at 1.46 for the furnace measure and 1.1 for the packaged air conditioner with high-efficiency furnace.

Staff determines cost-effectiveness using the Societal Cost Test. For the EHH program, both program measures are cost-effective before taking into account environmental and electric savings.

The projected CO<sub>2</sub> savings from the EHH program are provided in the table below. This number represents the estimated lifetime CO<sub>2</sub> savings from all the measures projected for installation over the five-year course of the EHH program.

CO <sub>2</sub> Emissions Avoided	82,501,696	Pounds
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### **Estimated Cost Per Therm Saved**

Staff's analysis indicates that the EHH program would save approximately 7,029,788 therms over the lifetime of the measures installed from 2008 through 2012. Staff estimates the cost per therm saved at approximately \$0.23.

### **Monitoring and Evaluation**

Customer contacts and site visits will be conducted on a sample basis to determine:

- Size and efficiency of actual equipment installed;
- Size, condition and configuration of the home;
- Whether the equipment was sized and installed correctly; and
- The energy consumption before and after installation.

For more details see, also, "Monitoring and Evaluation: All Programs," page 22.

**Reporting Requirements**

See "Reporting Requirements: All Programs," page 23.

**3. Residential New Construction (Energy Smart Homes)**

**Program Description**

Goals. The Residential New Construction program, marketed as Energy Smart Homes ("ESH"), would stimulate the construction of energy-efficient homes, promote the installation of high-efficiency equipment, help reduce peak demand and help reduce overall energy consumption of both gas and electricity in new homes. The program would also assist UNS Gas in meeting the energy demands of Mohave County, where the Company anticipates high levels of growth due to the building of the Hoover Dam bypass.

The ESH program would emphasize the whole-house approach to improving health, safety, comfort, durability and energy efficiency, and would promote construction of homes meeting the 2006 Environmental Protection Agency/Department of Energy ("EPA/DOE") Energy Star® Homes performance requirements. Program savings would be achieved through a combination of building envelope upgrades, high performance windows, controlled air filtration, upgraded heating and cooling systems, tight duct systems, installation of Energy Star® products and upgraded water heating equipment.

Eligibility. Builders of individually metered newly-constructed homes receiving gas service from UNS Gas are eligible to participate in the program. Eligible homes include home developments, townhouses, and condominiums.

Incentives. The ESH Program would provide incentives to home builders for each qualifying new home. The table below provides the builder incentive for meeting Energy Smart Homes performance standards.

**Energy Smart Homes Program Incentive**

Energy Smart Home Program	Incentive
Meets ESH and Energy Star® Homes performance standards including testing and inspection protocol	\$400 per home

The average incremental cost of building a home to Energy Star® standards is \$1,091.<sup>21</sup> This figure includes the cost of energy-efficient furnaces and improvements to the thermal envelope, such as better insulation and upgraded windows. The builder would also be required to pay for the on-site testing and inspections required to earn Energy Star® certification.

<sup>21</sup> In general, the incremental cost of building smaller town homes and condominiums to Energy Star standards would be lower.

### **Delivery Strategy**

The ESH program will be implemented by employing the services of a qualified IC sought through a competitive bidding process. The IC will be responsible for enrolling builders, facilitating recruitment and professional development for Residential Energy Service Net ("RESNET") certified home energy raters, and tracking performance to Energy Star® standards.

Key industry relationships will include: (1) EPA/DOE Energy Star Homes® for program branding and certification standards; (2) building science trainers; (3) testing and inspection contractors approved by RESNET for third party performance verification and energy ratings; (4) the Arizona Energy Office for support in all areas; and (5) local code officials.

The IC and UNS Gas representatives will develop key trade ally relationships including: (1) builders; (2) energy experts able to provide design assistance and building energy simulation modeling; (3) HVAC contractors for sizing, installation and start-up of HVAC systems; (4) framing contractors for framing and blocking detail to enhance insulation performance; and (5) insulation contractors for insulation installed according to specifications.

For more information on ICs, including the selection process, please see "Implementation Contractors: EHH, ESH and C&I Programs," on page 21.

### **Marketing**

Marketing and promotion to homebuyers and builders within the UNS Gas territory will be accomplished through the following means:

- Advertisements and articles published in builder trade and homebuyer publications;
- Point-of-sale materials;
- The UNS Gas website;
- UNS Gas builder training events; and
- Brochures and bill stuffers.

### **Program Budget**

The table below provides the expected annual budgets for the ESH Program from 2008 through 2012. It is anticipated that the nature of the construction market in the UNS Gas service territory and the absence of past energy efficiency initiatives would result in higher marketing and administrative costs. The average annual budget is approximately \$446,000. Over the life of the program, on average, 49 percent of the funds are allocated as financial incentives to customers.

**2008 – 2012 Proposed ESH Program Budget**

Year	2008	2009	2010	2011	2012
Total budget	\$420,000	\$432,600	\$445,578	\$458,945	\$472,714
Incentives	\$161,312	\$195,624	\$219,280	\$265,144	\$249,264
Program Costs <sup>22</sup>	\$258,688	\$236,976	\$226,298	\$193,801	\$223,450
Incentives as % of budget	38%	45%	49%	58%	53%

For 2008, the average cost for each home built to Energy Star standards under this program would be approximately \$1,042 (\$420,000 ÷ 403). This amount includes the builder incentive, program costs and evaluation, monitoring and verification. The 2008 Detailed Program Budget provides additional details on budget allocations within the various categories.

**2008 Detailed Proposed ESH Program Budget <sup>23</sup>**

Managerial & Clerical	\$62,748
Travel & Direct Expenses <sup>24</sup>	\$3,780
Overhead	\$9,072
<b>Total Administrative and O&amp;M Cost Allocation</b>	<b>\$75,600</b>
Internal Marketing Expense	\$42,000
Subcontracted Marketing Expense	\$42,000
<b>Total Marketing Allocation</b>	<b>\$84,000</b>
Financial Incentives	\$161,312
<b>Total Incentives</b>	<b>\$161,312</b>
Support Activity Labor <sup>25</sup>	\$36,540
Hardware & Materials <sup>26</sup>	\$33,568
Rebate Processing & Inspection	\$12,180
<b>Implementation Allocation (excluding incentives)</b>	<b>\$82,288</b>
EM&V / Research Activity	\$15,120
EM&V Overhead	\$1,680
<b>Total EM&amp;V Cost Allocation</b>	<b>\$16,800</b>
<b>TOTAL PROGRAM BUDGET</b>	<b>\$420,000</b>

**Program Participation**

UNS Gas states that 200,000 new homes are planned in Mohave County during the next 20-30 years, with expansion primarily due to the planned 2010 completion of the Hoover Dam bypass. The bypass will significantly decrease travel time between Las Vegas and Mohave County, with most of the increased demand for housing projected to occur in the Kingman area. Annual growth in the UNS Gas territory was originally estimated at 5,435 units<sup>27</sup> per year from

<sup>22</sup> This category includes Administrative, Marketing, Implementation (excluding incentives) and EM&V.

<sup>23</sup> For details regarding some of the budget categories, please see the footnotes on page 6.

<sup>24</sup> This category includes REMRATE software/licenses to evaluate projects, travel within UNS Gas territory, and travel and conference attendance necessary for keeping UNS Gas employees administering this program updated on energy-efficient building standards.

<sup>25</sup> Labor by the IC to implement the ESH program. The IC must be in consistent contact to educate builders on the program requirements.

<sup>26</sup> This category includes the cost of building science training sessions given to builders by industry experts. Expert trainers charge up to \$3,500 per day, and hosting the sessions is costly. Also included are costs of EPA-approved software and RESNET fees.

<sup>27</sup> "Unit" includes single-family homes, condominiums, town homes, apartments and mobile homes.

2008 to 2012. Although that estimate is now expected to be revised downward due to the current housing downturn, UNS Gas still projects that it will complete an average of 545 homes per year under its ESH program.

The table below listed projected participation per year.

**Energy Smart Homes Projected Participation**

Year	2008	2009	2010	2011	2012
Projected Number of Permits	5,041	5,434	5,482	6,026	5,193
Projected ESH Program %	8%	9%	10%	11%	12%
Projected ESH Participants	403	489	548	663	623

Staff recommends that the number of houses completed under the program be carefully tracked and reported in the Company’s semi-annual DSM reports.

**Cost-Effectiveness**

Staff has calculated the benefit-cost ratio of the ESH program at 1.1. Staff determines cost-effectiveness using the Societal Cost Test. The ESH program is cost-effective before taking into account the environmental and electric savings.

The projected CO<sub>2</sub> savings from the ESH program are provided in the table below. This number represents the estimated lifetime savings from all the measures projected for installation over the five-year course of the ESH program.

**ESH Projected Environmental Benefits, 2008 - 2012**

CO <sub>2</sub> Emissions Avoided	362,684,354	Pounds
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**Estimated Cost Per Therm Saved**

Staff’s analysis indicates that the ESH program would save approximately 29,304,500 therms over the lifetime of the measures installed from 2008 through 2012. Staff estimates the cost per therm saved at approximately \$0.08.

**Monitoring and Evaluation**

See “Monitoring and Evaluation: All Programs,” page 22.

**Reporting Requirements**

See “Reporting Requirements: All Programs,” page 23.

**4. Commercial and Industrial Facilities Gas Efficiency**

### **Program Description**

**Goals.** The C&I Facilities Gas Efficiency Program would promote the installation of high-efficiency, gas-fueled equipment and systems at existing facilities within the UNS Gas service area. The measures would include space heating, service and domestic water heating<sup>28</sup>, and commercial food service equipment. The program is designed to overcome market barriers that include: (i) lack of knowledge concerning energy efficiency; (ii) higher first costs; (iii) uncertainties concerning the performance of energy-efficient equipment; (iv) competition for funds with other capital improvements; and (v) high transaction and information search costs.<sup>29</sup> In addition to helping customers reduce and manage their energy costs, the C&I Gas Efficiency Program would provide other societal and customer benefits, such as reduced greenhouse gas emissions, improved levels of service from energy expenditures, and lower overall rates and energy costs compared to other resource options.

The C&I program would include educational and promotional components. Non-residential customers would be educated on how to improve the energy efficiency of heating and cooling systems at their facilities. Both customers and trade allies would receive education on the program, as well as on the technologies offered by the program.

**Eligibility.** All non-residential UNS Gas customers would be eligible to participate in the program. Customers replacing existing systems (at burnout or prior to failure<sup>30</sup>) and customers installing systems during new construction are both eligible to participate in the program.

**Incentives.** The proposed new or replacement equipment must meet energy efficiency standards to qualify for incentives. The table below provides the average incentive per unit and unit definition.

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<sup>28</sup>“Service water heating” generally refers to water heaters in non-residential settings, such as hotels or Laundromats. “Domestic water heating” refers to typical residential use; however, in the context of the C&I program the term applies to apartments or small office buildings.

<sup>29</sup> The cost in time or money for researching, locating, specifying, contracting for and installing energy efficiency measures.

<sup>30</sup> UNS Gas does not anticipate that replacements prior to burnout will be a high percentage of program participation, due to the significant initial cost of the equipment being promoted by the program.

**Proposed C&I Program Incentives**

<b>Measure Description</b>	<b>Average Unit Incentive (\$)**</b>	<b>Unit Definition***</b>
<b>Space Heating and Water Heating Measures</b>		
High-efficiency Furnaces	\$258	90% AFUE or better furnace
High-efficiency Space Heating or Process Boilers*	\$250	85.6% efficient or better boiler
Packaged Air Conditioners with High-efficiency furnaces	\$457	90% AFUE or better furnace with CEE Tier 1 or 2 AC rating
Energy-efficient Storage Water Heaters	\$200	64% efficient or better tank type water heater
<b>Commercial Food Service Measures</b>		
High-efficiency Fryers <sup>31</sup>	\$400	42% efficient or better open or pressure fryer
High-efficiency Griddles	\$300	45% efficient or better griddle
High-efficiency Ovens <sup>32</sup>	\$915	45% efficient or better combination, deck, convection, or conveyor oven
* The high-efficiency boilers measure applies to both space heating and service water heating applications.		
** Incentives vary depending on unit heating capacity and efficiency.		
***Efficiencies would vary depending on specific machine type or configuration.		

Staff recommends that incentives be capped at \$8,000 per customer, per year, with the exception of school districts. (In this context "customer" means an individual or entity paying gas bills for one or more locations or accounts.) Staff recommends that school district incentives be capped at \$25,000 per district, per year.

Staff also recommends that UNS Gas apply to the Commission in cases where the Company feels that it would promote program objectives to exceed the per-customer or per-school district caps.

**Delivery Strategy**

Implementation of the C&I Facilities Gas Efficiency Program will be accomplished through an IC active in the DSM field. The IC would be responsible for program administration, application and incentive processing, tracking and reporting, project quality control and technical support. UNS Gas will assign an in-house manager to oversee the IC; this in-house manager

<sup>31</sup> Staff has recommended against inclusion of this measure in the C&I program, because it does not appear to be cost-effective.

<sup>32</sup> Staff has recommended against inclusion of this measure in the C&I program, because it does not appear to be cost-effective.

would provide a contact point for UNS Gas customers, educate the IC on program goals/customer service requirements, provide overall quality control and manage the delivery process.

For more information regarding ICs, including the selection process, please see "Implementation Contractors: EHH, ESH and C&I Programs," on page 21.

In addition to the IC, key partnering relationships will include: the local architectural and engineering community; electrical, mechanical, and building contractors; equipment manufacturers, distributors, and vendors; professional and trade service associations; and the AEO. UNS Gas will work with each of these groups, and provide education and training on the program.

### **Marketing**

The C&I Facilities Gas Efficiency Program will be marketed via the following methods:

- Educational seminars;
- Brochures;
- Targeted mailing;
- Customer and trade partner outreach and presentations;
- Print advertisements in local media;
- UNS Gas website;
- UNS Gas customer care representatives;
- Conferences and public events; and
- Presentations by the program manager to key customers and customer groups.

The marketing strategy will target key segments or groups, such as school districts, commercial kitchens, medical facilities and Laundromats.

### **Program Budget**

The table in this section provides the expected annual budgets for the C&I Facilities Gas Efficiency Program from 2008 through 2012. The average annual budget is approximately \$212,365. For each program year, over 50 percent of the funds are allocated as financial incentives to customers, while the remaining funds will be used to cover administrative, marketing, and implementation costs associated with the program.

The Company has indicated that the nature of the construction market in its service territory, and the absence of past energy efficiency initiatives, would result in high marketing and administrative costs. Most jurisdictions within the Company's service area have no energy code, or have only just begun to adopt energy codes. The Company believes that extensive marketing and training will be required to promote the desired level of participation, and to educate builders and their subcontractors on energy, performance, and health and safety issues required under the program.

**2008 – 2012 Proposed C&I Program Budget**

Year	2008	2009	2010	2011	2012
Total budget	\$200,000	\$206,000	\$212,180	\$218,545	\$225,102
Financial Incentives	\$101,680	\$104,730	\$107,872	\$111,108	\$114,442
Program Costs	\$98,320	\$101,270	\$104,308	\$107,437	\$110,660
Incentives as % of budget	50.84%	50.84%	50.84%	50.84%	50.84%

For 2008, the average utility cost for each energy-efficient measure installed under this program would be approximately \$512 ( $\$200,000 \div 391$ ). This amount includes the incentives, program costs and evaluation, monitoring and verification. The 2008 Detailed Program Budget provides additional details on budget allocations within the various categories.

**2008 Detailed C&I Program Budget<sup>33</sup>**

Managerial & Clerical	\$30,400
Travel & Direct Expenses	\$4,560
Overhead	\$3,040
<b>Total Administrative Cost Allocation</b>	<b>\$38,000</b>
Internal Marketing Expense	\$15,000
Subcontracted Marketing Expense	\$15,000
<b>Total Marketing Allocation</b>	<b>\$30,000</b>
Financial Incentives	\$101,680
<b>Total Incentives</b>	<b>\$101,680</b>
Support Activity Labor <sup>34</sup>	\$6,200
Hardware & Materials	\$4,960
Rebate Processing & Inspection	\$11,160
<b>Implementation Allocation (excluding incentives)</b>	<b>\$22,320</b>
EM&V Activity	\$7,600
EM&V Overhead	\$400
<b>Total EM&amp;V Cost Allocation</b>	<b>\$8,000</b>
<b>TOTAL PROGRAM BUDGET</b>	<b>\$200,000</b>

<sup>33</sup> For details regarding some of the budget categories, please see the footnotes on pages 6.

<sup>34</sup> Includes labor for database development and product research.

**Program Participation**

The table below lists the projected annual average number of installations for each proposed measure in the C&I program:

**Projected Program Participation by Measure**

Proposed Measures	Average Annual Units
High-Efficiency Gas Fryer	11
High-Efficiency Gas Griddle	14
High-Efficiency Gas Ovens	14
Energy-efficient Space Heating/Process Hot Water Boiler	4
Energy-efficient Water heater	238
Packaged systems with a 90% AFUE or better Furnace	47
High-Efficiency Furnace 90% AFUE or better Furnace	63

The Company projects much higher participation for hot water systems, because nearly all commercial facilities have tank water heaters, space heating or service water boilers. The Company believes that institutional kitchens represent a much smaller market for energy-efficient products than hot water systems, but has agreed to shift incentive funding among the program's measures to accommodate levels of participation that are higher or lower than anticipated.

**Cost-Effectiveness**

The benefit-cost ratios calculated by Staff for the multiple measures within the C&I program vary according to measure. These are listed below:

**Benefit-Cost Ratios By Measure**

Commercial/Industrial Measures	Benefit-Cost Ratios
High-efficiency fryers	0.64
High-efficiency griddles	1.46
High-efficiency ovens	0.63
High-efficiency boilers	1.15
High-efficiency furnaces	2.55
High-efficiency water heaters	1.05
Packaged air conditioners with high-efficiency furnaces <sup>35</sup>	1.20

<sup>35</sup>This measure appears to be cost-effective even before taking into account electric savings arising from the high-efficiency air conditioners that are part of the packaged system.

Staff determines cost-effectiveness using the Societal Cost Test. In the case of the C&I program, two of the measures, high-efficiency fryers and high-efficiency ovens, are not cost-effective, primarily due to their relatively high incremental costs and comparatively low therm savings. Staff recommends against including these measures in the UNS Gas DSM program, unless and until more cost-effective equipment becomes available. Staff also recommends that UNS Gas look into including other, more cost-effective commercial kitchen equipment in the C&I program.

The projected CO<sub>2</sub> savings from the C&I program are provided in the table below. This number represents the estimated lifetime CO<sub>2</sub> savings for all the measures projected for installation over the five-year course of the C&I program. (This estimate does not include the projected CO<sub>2</sub> savings from the two measures that Staff has recommended against including in the C&I program.)

**C&I Projected Environmental Benefits, 2008-2012**

CO <sub>2</sub> Emissions	63,979,595	Pounds
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**Estimated Cost Per Therm Saved**

Staff's analysis indicates that the C&I program would save approximately 5,453,633 therms over the lifetime of the measures installed from 2008 through 2012, excluding the fryer and oven measures. Staff estimates the cost per therm saved at approximately \$0.19.

**Monitoring and Evaluation**

See "Monitoring and Evaluation: All Programs," page 22

**Reporting Requirements**

See "Reporting Requirements: All Programs," page 23.

**Implementation Contractors: EHH, ESH and C&I Programs**

The LIW program will be administered by UNS Gas, community action agencies and the AEO. The other three UNS Gas programs will be administered, jointly, by UNS Gas and one or more ICs. UNS Gas states that the national trend is to utilize ICs when delivering DSM programs, and believes that hiring an IC with a staff experienced in DSM allows utilities to deliver programs more quickly, without having to hire and train additional employees. UNS Gas also believes that hiring ICs is a more cost-effective way to deliver DSM programs.

Implementation Contractors will be sought through a competitive bidding process. UNS Gas is currently preparing Requests for Quotations ("RFQs") to be submitted to U.S. companies with experience in managing successful DSM programs. UNS Gas is seeking companies with at least three years of experience in this area. A UNS Gas Program Manager will oversee all IC

activities, provide guidance on program activities, provide a contact point for customers interested in the program, and provide overall quality control and management of the delivery process.

The items below provide a general description of the type of work that will be done by ICs hired by UNS Gas:

- *Implementation Plans:* ICs will build on program outlines developed by UNS Gas in order to achieve the energy and demand savings targeted for each program;
- *Marketing and Communications Plan:* Working with UNS Gas to finalize program marketing and communication;
- *Program Forms and Collateral Materials:* The IC will be expected to prepare and print all program documents, including customer agreements and applications, and marketing materials used to communicate with customers and trade allies;
- *Program Delivery to Customers:* In addition to duties specific to each program, the IC will have primary responsibility for coordinating, advertising and delivering training programs for all programs;
- *Program Administration and Management:* The IC will receive, process and verify customer applications, then provide UNS Gas with the information required to process incentive payments; and
- *Program Participation, Data Tracking, Documentation and Reporting.* The IC will develop and maintain a comprehensive program database, and to report program progress on a monthly, quarterly and annual basis.

### **Monitoring and Evaluation: All Programs**

Working with AEO (for the LIW program), or implementation contractors (EHH, ESH and C&I programs), UNS Gas would track, manage and evaluate each program, adopting a strategy of integrated data collection that would include the following activities:

- **Database management** – managing the tracking database and providing information for the semi-annual DSM reports to be filed with the Arizona Corporation Commission.
- **Integrated implementation data collection** – collecting data necessary to calculate values and yield more accurate evaluations through, for example, customer applications, field verifications and contractor invoices. The type of

data collected would include the quantity, capacity, efficiency and operating parameters for pre-existing and installed measures.

- **Field verification** – verifying the installation of a sample of measures.
- **Tracking of savings using deemed savings values** – tracking savings from completed installations. Savings would be verified by contractors. Measurement of savings from retrofit measures would include pre- and post-project billing comparisons (for example, heating bills before and after installation of high-efficiency equipment). Other means of evaluation would also be employed, including on-site inspection of equipment, data logging of equipment performance, and due diligence review of engineering calculations and documentation.

This approach would provide UNS Gas with ongoing feedback on program progress and enable management to adjust or correct programs to be more effective and more cost beneficial.

### **Reporting Requirements: All Programs**

Decision No. 70011 established that UNS Gas would file semi-annual reports for its DSM programs, in accordance with Staff's recommendations.

Staff recommends that, at a minimum, the UNS Gas reports should include (i) the number of participants; (ii) the number of measures taken, meaning Energy Star®-certified homes built or low-income homes weatherized, furnaces/packaged systems installed and, for the C&I program, the number and type of energy-efficient equipment installations; (iii) the average cost of the installed measures; (iv) descriptions of program marketing; (v) copies of new or revised marketing materials; (vi) estimated cost savings to participants; (vii) gas and electric savings as determined by the monitoring and evaluation process; (viii) the total amount of the program budget spent during the previous six months, the previous year and since the inception of the program; (xiv) any significant impacts on program cost-effectiveness; and (x) descriptions of any problems and proposed solutions, including movements of funding from one program to another.

### **Staff Recommendations: All Programs**

Staff makes the following recommendations concerning all UNS Gas DSM programs approved by the Commission:

- Staff recommends approval of the four UNS Gas DSM programs, with the modifications recommended below.
- Staff recommends that UNS Gas be allowed to shift up to 25 percent of funding between the EHH and ESH programs, or from either the EHH or ESH program into the LIW

program, if such shifting would promote more cost-effective demand-side management. No funds are to be moved out of the LIW program.

- Staff recommends that UNS Gas be allowed to shift funding from one measure to another within the C&I program, if such shifting would promote more cost-effective demand-side management.
- Staff recommends that any shifting of funds between programs in excess of 25 percent be approved by the Commission.
- Staff recommends that any increases in the overall DSM Portfolio budget in excess of 25 percent be approved by the Commission.
- Staff recommends that incentives to participants in the EHH, ESH, and C&I programs be limited to no more than 75 percent of incremental cost, and that UNS Gas include any federal or state tax credits when calculating the 75 percent cap on incentives as a percentage of incremental cost. The Commission has approved caps on incentives for the DSM programs of Arizona Public Service Company.
- Staff recommends that the nature and intent of the UNS Gas DSM programs not be changed without Commission approval.
- Staff recommends that UNS Gas report on progress of each program in its semi-annual reports filed with the Commission. At a minimum, the report should include (i) the number of participants; (ii) the number of measures taken, meaning Energy Star-certified homes built or low-income homes weatherized, furnaces/package systems installed and, for the C&I program, the number and type of energy-efficient equipment installations; (iii) the average cost of the installed measures; (iv) descriptions of program marketing; (v) copies of new or revised marketing materials; (vi) estimated cost savings to participants; (vii) gas and electric savings as determined by the monitoring and evaluation process; (viii) the total amount of the program budget spent during the previous six months, the previous year and since the inception of the program; (ix) any significant impacts on program cost-effectiveness; and (x) descriptions of any problems and proposed solutions, including movements of funding from one program to another.
- In each program where incentives are paid, the incentives should be reviewed biannually to determine whether the incentives can be reduced or eliminated without reducing program participation. This recommendation does not include the LIW program. For purposes of this recommendation, Staff does not consider payments made to community action agencies to reimburse the agencies for weatherization or health and safety activities to be incentives.
- Staff recommends that references to the Commission in UNS Gas DSM marketing appear as "Arizona Corporation Commission", rather than "ACC."

- Staff recommends that UNS Gas DSM energy efficiency program standards exceed federal minimum energy efficiency standards. In cases where the federal minimum energy efficiency standards are increased during the life of a UNS Gas DSM program, program standards should be increased to exceed the currently applicable federal standards. In instances where exceeding current federal standards would render a program or measure less than cost-effective, the program or measure should be terminated.

1. Low-Income Weatherization

- Staff recommends that, although health and safety measures are important, DSM funding should be utilized whenever possible for weatherization activities that conserve energy. In cases where alternate funding sources are available, those funds should be utilized for any non-weatherization activities before DSM funding is tapped. In no event are health and safety costs to exceed 25 percent of the UNS Gas program budget. LIW Program DSM funding used for any health and safety measure must be tracked against this 25 percent cap.
- Staff recommends that, with respect to repair or replacement of non-functioning equipment, DSM program funds be used only to cover the incremental cost of installing high efficiency, rather than standard, equipment. The only exception to this would be equipment installed or repaired as part of a health and safety measure.
- Staff recommends that UNS Gas compare utility bills of houses before and after weatherization, to verify and measure the effectiveness of the LIW program in reducing consumers' energy bills.
- Staff recommends that UNS Gas work to improve the cost-effectiveness of the program, if possible.

2. Efficient Home Heating

- Staff recommends that UNS Gas utilize bill inserts as part of its marketing.
- Staff recommends that the \$25 incentive to contractors be reviewed by UNS Gas biannually, along with the other program incentives, to determine whether the incentive is necessary to maintain program participation.
- Staff recommends that as part of monitoring and evaluating the effectiveness of the Efficient Home Heating Program, UNS Gas compare utility bills of Residential customers before and after installation of high-efficiency gas furnaces.

3. Energy Smart Homes

- Staff recommends that the number of houses completed under the program be carefully tracked and reported in the Company semi-annual DSM reports.

4. Commercial and Industrial Facilities Gas Efficiency

- Staff recommends that incentives be capped at \$8,000 per customer, per year, with the exception of school districts. (In this context "customer" means an individual or entity paying gas bills for one or more locations or accounts.) Staff recommends that school district incentives be capped at \$25,000 per district, per year.
- Staff also recommends that UNS Gas apply to the Commission in cases where the Company feels that it would promote program objectives to exceed the per-customer or per-school district caps.
- Staff recommends against including the fryer and oven measures in the UNS Gas DSM program, unless and until more cost-effective equipment becomes available. Staff also recommends that UNS Gas look into including other, more cost-effective commercial kitchen equipment in the C&I program.



for Ernest G. Johnson  
Director  
Utilities Division

EGJ:JKM:lhv\JMA

ORIGINATOR: Julie McNeely-Kirwan

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**BEFORE THE ARIZONA CORPORATION COMMISSION**

- MIKE GLEASON  
Chairman
- WILLIAM A. MUNDELL  
Commissioner
- JEFF HATCH-MILLER  
Commissioner
- KRISTEN K. MAYES  
Commissioner
- GARY PIERCE  
Commissioner

IN THE MATTER OF THE APPLICATION  
 OF UNS GAS, INC. FOR APPROVAL OF  
 ITS PROPOSED DEMAND-SIDE  
 MANAGEMENT PORTFOLIO FOR 2008-  
 2012

DOCKET NO. G-04204A-07-0274  
 DECISION NO. \_\_\_\_\_  
ORDER

Open Meeting  
 February 12 and 13, 2008  
 Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. UNS Gas, Inc. ("UNS" or the "Company") is engaged in providing natural gas within portions of Arizona, pursuant to authority granted by the Arizona Corporation Commission.
  2. On May 4, 2007, UNS Gas filed an application for approval of its Demand-Side Management Program Portfolio Plan ("Plan"). The Plan includes the following four programs:
  3. *Low-Income Weatherization*
- UNS Gas proposes to move the existing Low-Income Weatherization ("LIW") program into its DSM portfolio. The Company also proposes to increase the program budget, and offer an expanded set of efficiency weatherization measures and services to low-income customers.

...  
 ...  
 ...



1 in funding (from \$71,600 to \$113,400), an expanded set of efficiency measures and tracking to  
2 establish and verify energy savings realized by the program.

3       9. *Eligibility.* The LIW Program is available to UNS Gas residential customers with  
4 household incomes less than or equal to 150 percent of the federal poverty guidelines. (Currently,  
5 150 percent of the federal poverty guidelines would be \$15,315 for a one-person household and  
6 \$30,975 for a four-person household). The LIW program is the only UNS Gas DSM program with  
7 income requirements.

8       10. In the UNS Gas territory, homes eligible for the LIW program consist primarily of  
9 older mobile homes, along with single-family homes constructed of slump block and/or wood  
10 frame construction. Homes are prioritized based on factors that include the following:

- 11               • No heat in the winter, or no cooling in the summer;
- 12               • Elderly or minors in the household;
- 13               • Physical handicaps or illness; and
- Number of people in the household.<sup>1</sup>

14       11. *Weatherization Measures.* Under the LIW Program, weatherization would be done in  
15 accordance with the Weatherization Assistance Program (“WAP”). WAP is funded by the U.S.  
16 Department of Energy and administered by the Arizona Department of Commerce Energy Office  
17 (“AEO”). The major weatherization measures would generally fall into four categories:

- 18               • Duct repair;
- 19               • Pressure management/infiltration control;
- 20               • Attic insulation; and
- Repair or replacement of non-functional or hazardous appliances.

21       12. With respect to the last item, neither installation nor repair of equipment would be  
22 DSM measures, because these would result in more energy use, not less. When non-functioning  
23 equipment is repaired or replaced, Staff recommends that DSM program funds be used only to  
24 cover the incremental cost of installing high efficiency, rather than standard, equipment. The only  
25 exception to this would be equipment installed or repaired as part of a health and safety measure,  
26 as discussed below.

27

28 <sup>1</sup> WAP rules indicate that “high energy consuming housing” is a priority, and energy consumption rises as the number of residents in a home increases.

1           13. The actual measures installed in a specific home would be based on an on-site audit and  
2 would be required to meet WAP cost-effectiveness tests.

3           14. *Additional Weatherization Measures.* In addition to the above major weatherization  
4 efforts, additional measures may include the following lower-cost items: (i) compact fluorescent  
5 lamps (“CFLs”) will be installed, if not already in place; (ii) water heater blankets will be installed,  
6 if appropriate under health and safety rules; (iii) low-flow shower heads and (iv) faucet aerators.<sup>2</sup>  
7 (The last two items will be installed, if cost-effective and if funding is available.)

8           15. *Health and Safety Measures.* Community action agencies are allowed to use up to 25  
9 percent of the UNS Gas funding for health and safety measures. Health and safety measures are  
10 not considered weatherization, but may be required in order to allow effective weatherization and  
11 to protect customers. Examples of these measures include work required to address rotting wood,  
12 mold or unsanitary conditions, lack of ventilation or potential fire hazards.

13           16. Staff has recommended that, although health and safety measures are important, DSM  
14 funding should be utilized whenever possible for weatherization activities that conserve energy. In  
15 cases where alternate funding sources are available, those funds should be utilized for any non-  
16 weatherization activities before DSM funding is tapped. In no event are health and safety costs to  
17 exceed 25 percent of the UNS Gas LIW program budget. LIW program DSM funding used for  
18 any health and safety measure must be tracked against this 25 percent cap.

19           17. *Emergency Home Repair.* Community action agencies participating in the UNS Gas  
20 weatherization program will also be asked to install the lower cost measures listed in (i) through  
21 (iv), under “Additional Weatherization Measures”, in homes where they perform emergency  
22 repairs. (Agencies perform emergency repairs as part of programs such as the Utility Repair,  
23 Replace and Deposit Program (“URRD”).) The UNS Gas LIW program would not fund the  
24 emergency repairs, but would provide additional, alternative, funding for installation of the lower-  
25 cost energy efficiency measures.

26 \_\_\_\_\_  
27 <sup>2</sup> Faucet aerators provide energy and water savings, and limit wastewater.  
28

1 18. The average cost for installing all four measures is estimated at approximately \$40 per  
2 home. If all homes from both the main weatherization program and the emergency home repair  
3 component received these installations the estimated cost would be 2.8 percent of the proposed  
4 average funding.<sup>3</sup>

5 19. *Incentives.* The UNS Gas LIW program would provide funding of up to \$2,000 per  
6 house for installation of weatherization and health/safety measures. (Agencies may request a  
7 waiver of this cap on a case-by-case basis.<sup>4</sup>) While the program portfolio refers to these payments  
8 as “incentives,” these payments represent reimbursements to community action agencies for  
9 completed weatherization work done on low-income homes.

#### 10 20. Delivery Strategy

11 Promotion and delivery of the LIW Program would be outsourced to four  
12 Community Action Agencies (“agencies”) that serve UNS GAS service territories. Those agencies  
13 include: Northern Arizona Council of Government (“NACOG”); Coconino County Community  
14 Services (“CCCS”); Western Arizona Council of Governments (“WACOG”); and Southeastern  
15 Arizona Community Action Program (“SEACAP”). The four agencies would determine  
16 participant eligibility and priority, in addition to completing all work. Program administration,  
17 marketing, planning, coordination, labor, materials, equipment and entering results into tracking  
18 software would also be provided by the four agencies.

19 21. The agencies would be allowed to use UNS Gas funding for weatherization measures  
20 up to the maximum allowance of \$2,000 per home (unless a waiver is granted). Funding from  
21 UNS Gas will be limited to installation of measures which meet the cost-effectiveness tests and  
22 priority outlined in the WAP rules.

#### 23 22. Marketing

24 The LIW Program would be marketed through:

- 25 • UNS Gas employees;
- 26 • Referrals from the local Department of Economic Security (“DES”);
- 27 • Health care service agencies, and individual caseworkers; and

28 <sup>3</sup>With a 3% annual increase, the average budget for the LIW over five years would be \$120,411.

<sup>4</sup> An example of the type of situation where a waiver may be requested is when the HVAC system needs to be replaced and the home also requires major weatherization.

- The UNS Gas website.

23. Agencies are allowed to use some UNS Gas funding for marketing. Some agencies have indicated that additional marketing may increase the current 18-24 month backlog of homes waiting for weatherization. The Company indicates that, due to the housing downturn, there is no longer a shortage of skilled workers for weatherization work in the UNS area, and that the current backlog is due to lack of funding.

24. UNS Gas should consider shifting any unused funding from other UNS Gas DSM programs into LIW, if feasible.

#### 25. Program Budget

LIW funding will be distributed among the participating community action agencies as follows: (1) NACOG – 55 percent; (2) CCCS – 15 percent; (3) WACOG – 25 percent; and SEACAP – 5 percent. Currently, approximately 10 percent of LIW funding goes to administrative overhead for the participating agencies, and UNS Gas anticipates a similar level of funding for the proposed enhanced program. The varying amounts distributed to the above agencies are based, approximately, on the geographic distribution of UNS Gas customers.

26. The table below provides the expected annual budgets for the LIW program from 2008 through 2012. For its 2008 LIW Program, UNS Gas is proposing to increase available funding from \$71,500 to \$113,400. UNS Gas has also allowed for a 3 percent annual increase to compensate for inflation.

**2008 – 2012 Proposed LIW Program Budget**

Year	2008	2009	2010	2011	2012
Total Budget	\$113,400	\$116,802	\$120,306	\$123,915	\$127,633
Incentives	\$96,621	\$99,520	\$102,506	\$105,581	\$108,748
Administrative, Rebate Processing and Inspection, and Evaluation, Monitoring and Verification (“EM&V”) Costs <sup>5</sup>	\$13,779	\$14,282	\$14,800	\$15,334	\$15,885
Support Activity Labor (AEO)	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000

27. For 2008, if the per-home maximum of \$2,000 is spent, the average total cost to weatherize each home would be approximately \$2,268 ( $\$113,400 \div 50$ ). This amount would

<sup>5</sup>This category combines the Administrative, EM&V and Rebate Processing and Inspection categories from the more detailed budget, below.

1 include program costs, funding to reimburse agencies for weatherization work and the cost of  
 2 evaluation, monitoring and verification. If less than the \$2,000 maximum is spent, on a per home  
 3 average, the number of homes weatherized would increase, and the per-home total cost would be  
 4 lower.<sup>6</sup>

5 28. The 2008 Detailed Program Budget, below, provides additional details on LIW  
 6 program budget allocations within the various categories.

7 **2008 Proposed Detailed LIW Program Budget**

8	Managerial & Clerical <sup>7</sup>	\$5,897
	Travel & Direct Expenses <sup>8</sup>	\$0
9	Overhead <sup>9</sup>	\$590
	<b>Total Administrative and O&amp;M Costs</b>	<b>\$6,487</b>
10	Internal Marketing Expense	\$0
	Subcontracted Marketing Expense	\$0
11	<b>Total Marketing Cost<sup>10</sup></b>	<b>\$0</b>
12	Financial Incentives <sup>11</sup>	\$96,621
	Rebate Processing & Inspection	\$2,756
13	<b>Total amount received by community action agencies for implementation/Rebate Processing<sup>12</sup></b>	<b>\$99,377</b>
14	Support Activity Labor (Arizona Energy Office) <sup>13</sup>	\$3,000
15	<b>Total Training Cost</b>	<b>\$3,000</b>
16	EM&V / Research Activity	\$4,082
17	EM&V Overhead	\$454
18	<b>Total EM&amp;V Cost<sup>14</sup></b>	<b>\$4,536</b>
19	<b>TOTAL PROGRAM BUDGET</b>	<b>\$113,400</b>

20  
 21  
 22  
 23  
 24 <sup>6</sup>For example, if 98 homes were weatherized (see the Program Participation section), the per-home average total cost would be \$1,157. This figure includes administration, outside support (from AEO) and EM&V costs, in addition to direct weatherization costs.

25 <sup>7</sup>The Managerial and Clerical category includes design and development, program planning, program and project management and clerical requirement.

26 <sup>8</sup>This is zero because travel associated with weatherization would not be reimbursed separately, but as part of a completed project. Direct Expenses, which are costs related to attending conferences, would not be reimbursed by UNS Gas.

27 <sup>9</sup>Office equipment, general administrative labor, office supplies, reproduction, labor for internal and subcontractor regulatory reporting.

28 <sup>10</sup>Marketing is zero because some agencies have indicated that marketing the LIW program would create more backlog than currently exists. (See page 4, under "Marketing.")

<sup>11</sup>Refers to the amount paid to community action agencies for work related to weatherization and health/safety measures.

<sup>12</sup>The participating community action agencies are allowed to retain 10% of this total amount for administrative overhead.

<sup>13</sup>AEO provides training/education for crews on building science and data collection.

<sup>14</sup>Reserved for work completed by the Arizona Energy Office on measurement and evaluation.

1           29. Program Participation

2           Thirty-seven homes were weatherized under the existing program in 2006. During that  
3 year, participating community action agencies spent \$37,355 out of a budget of \$71,500,<sup>15</sup> meaning  
4 that an average of \$1,009 was spent to weatherize each home. With \$99,377 budgeted for direct  
5 implementation and rebate processing/inspection, UNS Gas projects that 50 low-income homes  
6 will be weatherized under the LIW program in 2008, if the \$2,000 maximum per house is spent. If  
7 weatherization spending continues at approximately \$1,009 per home, UNS Gas estimates that 98  
8 homes would be weatherized in 2008, with the increased budget.

9           30. Cost-Effectiveness

10           Staff calculated the benefit-cost ratio of the LIW program at 0.97, taking into account the  
11 therm savings that would constitute most of the energy saved through weatherization. Although  
12 this number is slightly below the cost-effectiveness threshold, the program can be considered cost-  
13 effective once the projected environmental savings (which are not monetized, but which are  
14 greater than zero) and the electric savings are also taken into account.

15           31. Staff estimates cost-effectiveness using the Societal Cost Test. The Societal Cost Test  
16 compares the incremental measure and program costs against avoided utility costs (such as therm  
17 savings over the life of the measure and avoided capacity costs) and avoided environmental  
18 impacts. Under the Societal Cost Test, a program's incremental benefits to society must exceed  
19 the incremental cost of having the program in place, in order for the program to be considered  
20 cost-effective. In the case of the LIW program, the projected cost of health and safety measures,  
21 estimated at 12 percent of the total LIW budget, would be excluded from the cost-effectiveness  
22 calculation.

23           32. The projected CO2 savings from the LIW program are provided in the table below.  
24 This number represents an estimate of the lifetime CO2 savings from the homes projected to be  
25 weatherized over the five-year course of the LIW program. This estimate may be conservative  
26

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27 <sup>15</sup> The \$71,500 represents the amount available to the community action agencies in 2006. The participating agencies have assured UNS Gas that  
28 their inability to utilize the entire LIW budget in 2006 was due to temporary staffing and contractor shortages. UNS Gas has also been assured by  
the agencies that, in the future, they will be able to spend the entire weatherization budget, even taking into account the proposed increase. The  
Company has noted that the agencies are on track for spending the entire current budget in 2007.

1 because if more than 50 homes are weatherized per year, carbon dioxide savings are likely to be  
2 higher.

3 **LIW Projected Environmental Benefits, 2008 – 2012**

4 CO <sub>2</sub>	50 homes	21,842,600	Pounds
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5  
6 **33. Estimated Cost Per Therm Saved**

7 If 50 homes per year are weatherized (for 250 total), Staff's analysis indicates that the LIW  
8 program would save 1,765,000 therms over the lifetime of the measures installed from 2008  
9 through 2012. The cost per therm saved would be approximately \$0.34. If 98 homes were  
10 weatherized annually, at the same level of therm savings per home, approximately 3,459,400  
11 therms would be saved from measures installed during 2008-2012, at an estimated cost per therm  
12 saved of \$0.17.

13 **34. Monitoring and Evaluation**

14 See "Monitoring and Evaluation: All Programs."

15 **35. Reporting Requirements**

16 See "Reporting Requirements: All Programs."

17 **Efficient Home Heating**

18 **36. Program Description**

19 *Goals.* The EHH Program would promote the purchase and installation of Energy  
20 Star®- qualified high-efficiency gas-fueled furnaces. High-efficiency heating systems would help  
21 reduce customer energy bills, provide equal or better comfort conditions, conserve energy and are  
22 beneficial to the environment. Participation targets are 2,854 for high-efficiency furnaces and 684  
23 for packaged systems with 90 percent AFUE furnaces over five years.

24 *37. Eligibility.* UNS Gas residential customers with existing homes in the Company's area  
25 are eligible to participate in this program. There are no income restrictions limiting participation  
26 in the EHH Program.

27 *38. Measures.* Replacement furnaces must meet or exceed the minimum Energy Star®  
28 standard of 90 percent AFUE. Furnaces installed without this program would typically be 80  
percent efficient.

39. *Incentives.* Incentives for the purchase of qualifying high-efficiency equipment would be paid directly to homeowners. Incentives per measure and qualifying criteria are indicated in the table below.

**Proposed EHH Incentives Schedule**

Measure	Qualifying Criteria*	Average Incentive**
High Efficiency Furnaces	Minimum AFUE of 90%	\$244
Packaged Air Conditioners with High-efficiency Furnaces	90% AFUE or better furnace with CEE Tier 1 or 2 AC rating	\$254
*Consortium for Energy Efficiency ("CEE") is an independent rating agency.		
** Incentives vary depending on unit heating capacity and efficiency.		

40. The Company also proposes to pay a \$25 incentive to contractors for program promotion and to offset the contractors' costs. With average annual participation of 708 units (over five years), the total amount in incentives paid to contractors per year should be approximately \$17,700. The \$25 payment is intended to encourage contractors to: (i) promote high-efficiency furnaces; (ii) offset the cost of complying with detailed reporting requirements; and (iii) help cover the cost of processing applications and returning applications and invoices to UNS Gas for rebate payments.

41. Staff recommends that the \$25 incentive to contractors be reviewed by UNS Gas biannually, along with the other program incentives, to determine whether the incentive is necessary to maintain program participation.

42. Delivery Strategy

The EHH program will be administered jointly by a qualified implementation contractor ("IC"), sought through a competitive bidding process, and an in-house Program Manager.

43. UNS Gas will provide overall program management, planning and coordination of customer and contractor participation. The IC will verify equipment efficiency, process rebates, provide marketing, tracking and technical support and evaluation.

44. Key partnering relationships will include:

- Heating training professionals;
- Heating contractors trained in program procedures; and
- The Arizona Energy Office to provide training, education and awareness.

45. For more information on implementation contractors, including the selection process, please see "Implementation Contractors: EHH, ESH and C&I Programs."

#### 46. Marketing

UNS Gas marketing of the EHH program would inform customers that high-efficiency heating systems help to reduce energy bills, provide equal or better comfort, and benefit the environment. Customer awareness of the program and its benefits will be increased using the following methods:

- Promotions on the UNS Gas website about the benefits of purchasing high-efficiency heating equipment;
- Media advertising to raise awareness of the program;
- Information through the UNS Gas customer care center;
- Educational brochures and promotional materials to promote the benefits of high-efficiency heating equipment; and
- Responding to customer inquiries about the program and where to purchase qualifying equipment.

#### 47. Program Budget

The table below provides the expected annual budgets for the EHH Program from 2008 through 2012. The average annual budget is \$318,548. For each program year, over 50 percent of the funds are allocated as financial incentives to customers, while the remaining funds would be used to cover program costs. The details of the proposed 2008 budget are shown below.

**2008 – 2012 Proposed EHH Program Budget**

Year	2008	2009	2010	2011	2012
Total budget	\$300,000	\$309,000	\$318,270	\$327,818	\$337,653
Incentives	\$163,800	\$173,905	\$179,122	\$190,003	\$201,376
Program Costs <sup>16</sup>	\$136,200	\$135,095	\$139,148	\$137,815	\$136,277
Incentives as % of budget	54.6%	56.3%	56.3%	58.0%	59.6%

<sup>16</sup> This category combines administrative, marketing, EM&V and implementation costs (excluding incentives) from the more detailed budget, below.

48. For 2008, the total cost for each measure installed would be approximately \$450 (\$300,000 ÷ 666). This amount includes program costs, incentives (incentives average \$244 for furnaces and \$254 for packaged systems), and the cost of evaluation, monitoring and verification. The 2008 Detailed Program Budget provides additional details on EHH program budget allocations within the various categories.

**2008 Detailed Proposed EHH Program Budget<sup>17</sup>**

Managerial & Clerical	\$43,200
Travel & Direct Expenses	\$6,480
Overhead	\$4,320
<b>Total Administrative Cost Allocation</b>	<b>\$54,000</b>
Internal Marketing Expense	\$18,000
Subcontracted Marketing Expense	\$18,000
<b>Total Marketing Allocation</b>	<b>\$36,000</b>
Financial Incentives	\$163,800
<b>Total Incentives<sup>18</sup></b>	<b>\$163,800</b>
Support Activity Labor <sup>19</sup>	\$7,800
Hardware & Materials <sup>20</sup>	\$3,900
Rebate Processing & Inspection	\$19,500
<b>Implementation Allocation (excluding incentives)</b>	<b>\$31,200</b>
EM&V Activity	\$14,250
EM&V Overhead	\$750
<b>Total EM&amp;V Cost Allocation</b>	<b>\$15,000</b>
<b>TOTAL PROGRAM BUDGET</b>	<b>\$300,000</b>

**49. Program Participation**

UNS Gas expects that, on average, 708 units would participate in the EHH program annually. This represents a program participation rate of approximately 11 percent of the projected system change-outs per year in the UNS Gas service territory. Total annual expected participation is shown below.

**Efficient Home Heating Program Annual Participation**

Year	2008	2009	2010	2011	2012
Number of Expected Participating Units	666	686	707	728	750

<sup>17</sup> For details regarding some of the budget categories, please also see the footnotes on page 7.

<sup>18</sup> This amount covers only incentives paid to consumers. The \$25 incentives paid to contractors for promoting high-efficiency are considered part of marketing and are included in the "Subcontracted Marketing Expense" category.

<sup>19</sup> Covers the cost of collecting applications and invoices, and verifying that equipment efficiency standards meet program requirements.

<sup>20</sup> This category includes communications equipment, computer and office supplies.



1 of both gas and electricity in new homes. The program would also assist UNS Gas in meeting the  
 2 energy demands of Mohave County, where the Company anticipates high levels of growth due to  
 3 the building of the Hoover Dam bypass.

4 57. The ESH program would emphasize the whole-house approach to improving health,  
 5 safety, comfort, durability and energy efficiency, and would promote construction of homes  
 6 meeting the 2006 Environmental Protection Agency/Department of Energy ("EPA/DOE") Energy  
 7 Star® Homes performance requirements. Program savings would be achieved through a  
 8 combination of building envelope upgrades, high performance windows, controlled air filtration,  
 9 upgraded heating and cooling systems, tight duct systems, installation of Energy Star® products  
 10 and upgraded water heating equipment.

11 58. *Eligibility.* Builders of individually metered newly-constructed homes receiving gas  
 12 service from UNS Gas are eligible to participate in the program. Eligible homes include home  
 13 developments, townhouses, and condominiums.

14 59. *Incentives.* The ESH Program would provide incentives to home builders for each  
 15 qualifying new home. The table below provides the builder incentive for meeting Energy Smart  
 16 Homes performance standards.

17 **Energy Smart Homes Program Incentive**

Energy Smart Home Program	Incentive
Meets ESH and Energy Star® Homes performance standards including testing and inspection protocol	\$400 per home

21 60. The average incremental cost of building a home to Energy Star® standards is  
 22 \$1,091.<sup>21</sup> This figure includes the cost of energy-efficient furnaces and improvements to the  
 23 thermal envelope, such as better insulation and upgraded windows. The builder would also be  
 24 required to pay for the on-site testing and inspections required to earn Energy Star® certification.

25 61. Delivery Strategy

26 The ESH program will be implemented by employing the services of a qualified IC  
 27 sought through a competitive bidding process. The IC will be responsible for enrolling builders,  
 28

<sup>21</sup> In general, the incremental cost of building smaller town homes and condominiums to Energy Star standards would be lower.

1 facilitating recruitment and professional development for Residential Energy Service Net  
2 (“RESNET”) certified home energy raters, and tracking performance to Energy Star® standards.

3 62. Key industry relationships will include: (1) EPA/DOE Energy Star Homes® for  
4 program branding and certification standards; (2) building science trainers; (3) testing and  
5 inspection contractors approved by RESNET for third party performance verification and energy  
6 ratings; (4) the Arizona Energy Office for support in all areas; and (5) local code officials.

7 63. The IC and UNS Gas representatives will develop key trade ally relationships  
8 including: (1) builders; (2) energy experts able to provide design assistance and building energy  
9 simulation modeling; (3) HVAC contractors for sizing, installation and start-up of HVAC systems;  
10 (4) framing contractors for framing and blocking detail to enhance insulation performance; and (5)  
11 insulation contractors for insulation installed according to specifications.

12 64. For more information on ICs, including the selection process, please see  
13 “Implementation Contractors: EHH, ESH and C&I Programs.”

14 65. Marketing

15 Marketing and promotion to homebuyers and builders within the UNS Gas territory  
16 will be accomplished through the following means:

- 17 • Advertisements and articles published in builder trade and homebuyer publications;
- 18 • Point-of-sale materials;
- 19 • The UNS Gas website;
- 20 • UNS Gas builder training events; and
- 21 • Brochures and bill stuffers.

22 66. Program Budget

23 The table below provides the expected annual budgets for the ESH Program from  
24 2008 through 2012. It is anticipated that the nature of the construction market in the UNS Gas  
25 service territory and the absence of past energy efficiency initiatives would result in higher  
26 marketing and administrative costs. The average annual budget is approximately \$446,000. Over  
27 the life of the program, on average, 49 percent of the funds are allocated as financial incentives to  
28 customers.

**2008 – 2012 Proposed ESH Program Budget**

Year	2008	2009	2010	2011	2012
Total budget	\$420,000	\$432,600	\$445,578	\$458,945	\$472,714
Incentives	\$161,312	\$195,624	\$219,280	\$265,144	\$249,264
Program Costs <sup>22</sup>	\$258,688	\$236,976	\$226,298	\$193,801	\$223,450
Incentives as % of budget	38%	45%	49%	58%	53%

67. For 2008, the average cost for each home built to Energy Star standards under this program would be approximately \$1,042 ( $\$420,000 \div 403$ ). This amount includes the builder incentive, program costs and evaluation, monitoring and verification. The 2008 Detailed Program Budget provides additional details on budget allocations within the various categories.

**2008 Detailed Proposed ESH Program Budget<sup>23</sup>**

Managerial & Clerical	\$62,748
Travel & Direct Expenses <sup>24</sup>	\$3,780
Overhead	\$9,072
<b>Total Administrative and O&amp;M Cost Allocation</b>	<b>\$75,600</b>
Internal Marketing Expense	\$42,000
Subcontracted Marketing Expense	\$42,000
<b>Total Marketing Allocation</b>	<b>\$84,000</b>
Financial Incentives	\$161,312
<b>Total Incentives</b>	<b>\$161,312</b>
Support Activity Labor <sup>25</sup>	\$36,540
Hardware & Materials <sup>26</sup>	\$33,568
Rebate Processing & Inspection	\$12,180
<b>Implementation Allocation (excluding incentives)</b>	<b>\$82,288</b>
EM&V / Research Activity	\$15,120
EM&V Overhead	\$1,680
<b>Total EM&amp;V Cost Allocation</b>	<b>\$16,800</b>
<b>TOTAL PROGRAM BUDGET</b>	<b>\$420,000</b>

**68. Program Participation**

UNS Gas states that 200,000 new homes are planned in Mohave County during the next 20-30 years, with expansion primarily due to the planned 2010 completion of the Hoover Dam

<sup>22</sup> This category includes Administrative, Marketing, Implementation (excluding incentives) and EM&V.

<sup>23</sup> For details regarding some of the budget categories, please see the footnotes on page 7.

<sup>24</sup> This category includes REMRATE software/licenses to evaluate projects, travel within UNS Gas territory, and travel and conference attendance necessary for keeping UNS Gas employees administering this program updated on energy-efficient building standards.

<sup>25</sup> Labor by the IC to implement the ESH program. The IC must be in consistent contact to educate builders on the program requirements.

<sup>26</sup> This category includes the cost of building science training sessions given to builders by industry experts. Expert trainers charge up to \$3,500 per day, and hosting the sessions is costly. Also included are costs of EPA-approved software and RESNET fees.

1 bypass. The bypass will significantly decrease travel time between Las Vegas and Mohave  
 2 County, with most of the increased demand for housing projected to occur in the Kingman area.  
 3 Annual growth in the UNS Gas territory was originally estimated at 5,435 units<sup>27</sup> per year from  
 4 2008 to 2012. Although that estimate is now expected to be revised downward due to the current  
 5 housing downturn, UNS Gas still projects that it will complete an average of 545 homes per year  
 6 under its ESH program.

7 69. The table below listed projected participation per year.

<b>Energy Smart Homes Projected Participation</b>					
Year	2008	2009	2010	2011	2012
Projected Number of Permits	5,041	5,434	5,482	6,026	5,193
Projected ESH Program %	8%	9%	10%	11%	12%
Projected ESH Participants	403	489	548	663	623

11  
 12 70. Staff has recommended that the number of houses completed under the program be  
 13 carefully tracked and reported in the Company's semi-annual DSM reports.

14 71. Cost-Effectiveness

15 Staff has calculated the benefit-cost ratio of the ESH program at 1.1. Staff  
 16 determines cost-effectiveness using the Societal Cost Test. The ESH program is cost-effective  
 17 before taking into account the environmental and electric savings.

18 72. The projected CO<sub>2</sub> savings from the ESH program are provided in the table below.  
 19 This number represents the estimated lifetime savings from all the measures projected for  
 20 installation over the five-year course of the ESH program.

<b>ESH Projected Environmental Benefits, 2008 - 2012</b>		
CO <sub>2</sub> Emissions Avoided	362,684,354	Pounds

21  
 22  
 23  
 24 73. Estimated Cost Per Therm Saved

25 Staff's analysis indicates that the ESH program would save approximately  
 26 29,304,500 therms over the lifetime of the measures installed from 2008 through 2012. Staff  
 27 estimates the cost per therm saved at approximately \$0.08.

28  
<sup>27</sup> "Unit" includes single-family homes, condominiums, town homes, apartments and mobile homes.

1           74. Monitoring and Evaluation

2                     See “Monitoring and Evaluation: All Programs.”

3           75. Reporting Requirements

4                     See “Reporting Requirements: All Programs.”

5                             **Commercial and Industrial Facilities Gas Efficiency**

6           76. Program Description

7           *Goals.* The C&I Facilities Gas Efficiency Program would promote the installation of high-  
8 efficiency, gas-fueled equipment and systems at existing facilities within the UNS Gas service  
9 area. The measures would include space heating, service and domestic water heating<sup>28</sup>, and  
10 commercial food service equipment. The program is designed to overcome market barriers that  
11 include: (i) lack of knowledge concerning energy efficiency; (ii) higher first costs; (iii)  
12 uncertainties concerning the performance of energy-efficient equipment; (iv) competition for funds  
13 with other capital improvements; and (v) high transaction and information search costs.<sup>29</sup> In  
14 addition to helping customers reduce and manage their energy costs, the C&I Gas Efficiency  
15 Program would provide other societal and customer benefits, such as reduced greenhouse gas  
16 emissions, improved levels of service from energy expenditures, and lower overall rates and  
17 energy costs compared to other resource options.

18           77. The C&I program would include educational and promotional components. Non-  
19 residential customers would be educated on how to improve the energy efficiency of heating and  
20 cooling systems at their facilities. Both customers and trade allies would receive education on the  
21 program, as well as on the technologies offered by the program.

22           78. *Eligibility.* All non-residential UNS Gas customers would be eligible to participate in  
23 the program. Customers replacing existing systems (at burnout or prior to failure<sup>30</sup>) and customers  
24 installing systems during new construction are both eligible to participate in the program.

25  
26  
27 <sup>28</sup>“Service water heating” generally refers to water heaters in non-residential settings, such as hotels or Laundromats. “Domestic water heating”  
refers to typical residential use; however, in the context of the C&I program the term applies to apartments or small office buildings.

28 <sup>29</sup> The cost in time or money for researching, locating, specifying, contracting for and installing energy efficiency measures.

<sup>30</sup> UNS Gas does not anticipate that replacements prior to burnout will be a high percentage of program participation, due to the significant initial  
cost of the equipment being promoted by the program.

79. *Incentives.* The proposed new or replacement equipment must meet energy efficiency standards to qualify for incentives. The table below provides the average incentive per unit and unit definition.

**Proposed C&I Program Incentives**

Measure Description	Average Unit Incentive (\$)**	Unit Definition***
<b>Space Heating and Water Heating Measures</b>		
High-efficiency Furnaces	\$258	90% AFUE or better furnace
High-efficiency Space Heating or Process Boilers*	\$250	85.6% efficient or better boiler
Packaged Air Conditioners with High-efficiency furnaces	\$457	90% AFUE or better furnace with CEE Tier 1 or 2 AC rating
Energy-efficient Storage Water Heaters	\$200	64% efficient or better tank type water heater
<b>Commercial Food Service Measures</b>		
High-efficiency Fryers <sup>31</sup>	\$400	42% efficient or better open or pressure fryer
High-efficiency Griddles	\$300	45% efficient or better griddle
High-efficiency Ovens <sup>32</sup>	\$915	45% efficient or better combination, deck, convection, or conveyor oven
* The high-efficiency boilers measure applies to both space heating and service water heating applications.		
** Incentives vary depending on unit heating capacity and efficiency.		
***Efficiencies would vary depending on specific machine type or configuration.		

80. Staff has recommended that incentives be capped at \$8,000 per customer, per year, with the exception of school districts. (In this context “customer” means an individual or entity paying gas bills for one or more locations or accounts.) Staff recommends that school district incentives be capped at \$25,000 per district, per year.

81. Staff has also recommended that UNS Gas apply to the Commission in cases where the Company feels that it would promote program objectives to exceed the per-customer or per-school district caps.

<sup>31</sup> Staff has recommended against inclusion of this measure in the C&I program, because it does not appear to be cost-effective.

<sup>32</sup> Staff has recommended against inclusion of this measure in the C&I program, because it does not appear to be cost-effective.

1           82. Delivery Strategy

2           Implementation of the C&I Facilities Gas Efficiency Program will be accomplished  
3 through an IC active in the DSM field. The IC would be responsible for program administration,  
4 application and incentive processing, tracking and reporting, project quality control and technical  
5 support. UNS Gas will assign an in-house manager to oversee the IC; this in-house manager  
6 would provide a contact point for UNS Gas customers, educate the IC on program goals/customer  
7 service requirements, provide overall quality control and manage the delivery process.

8           83. For more information regarding ICs, including the selection process, please see  
9 "Implementation Contractors: EHH, ESH and C&I Programs."

10          84. In addition to the IC, key partnering relationships will include: the local architectural  
11 and engineering community; electrical, mechanical, and building contractors; equipment  
12 manufacturers, distributors, and vendors; professional and trade service associations; and the AEO.  
13 UNS Gas will work with each of these groups, and provide education and training on the program.

14          85. Marketing

15          The C&I Facilities Gas Efficiency Program will be marketed via the following methods:

- 16           • Educational seminars;  
17           • Brochures;  
18           • Targeted mailing;  
19           • Customer and trade partner outreach and presentations;  
20           • Print advertisements in local media;  
21           • UNS Gas website;  
            • UNS Gas customer care representatives;  
            • Conferences and public events; and  
            • Presentations by the program manager to key customers and customer groups.

22          The marketing strategy will target key segments or groups, such as school districts,  
23 commercial kitchens, medical facilities and Laundromats.

24          86. Program Budget

25          The table in this section provides the expected annual budgets for the C&I Facilities Gas  
26 Efficiency Program from 2008 through 2012. The average annual budget is approximately  
27 \$212,365. For each program year, over 50 percent of the funds are allocated as financial  
28

1 incentives to customers, while the remaining funds will be used to cover administrative, marketing,  
2 and implementation costs associated with the program.

3 87. The Company has indicated that the nature of the construction market in its service  
4 territory, and the absence of past energy efficiency initiatives, would result in high marketing and  
5 administrative costs. Most jurisdictions within the Company's service area have no energy code,  
6 or have only just begun to adopt energy codes. The Company believes that extensive marketing  
7 and training will be required to promote the desired level of participation, and to educate builders  
8 and their subcontractors on energy, performance, and health and safety issues required under the  
9 program.

2008 - 2012 Proposed C&amp;I Program Budget

Year	2008	2009	2010	2011	2012
Total budget	\$200,000	\$206,000	\$212,180	\$218,545	\$225,102
Financial Incentives	\$101,680	\$104,730	\$107,872	\$111,108	\$114,442
Program Costs	\$98,320	\$101,270	\$104,308	\$107,437	\$110,660
Incentives as % of budget	50.84%	50.84%	50.84%	50.84%	50.84%

14 88. For 2008, the average utility cost for each energy-efficient measure installed under this  
15 program would be approximately \$512 ( $\$200,000 \div 391$ ). This amount includes the incentives,  
16 program costs and evaluation, monitoring and verification. The 2008 Detailed Program Budget  
17 provides additional details on budget allocations within the various categories.

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**2008 Detailed C&I Program Budget<sup>33</sup>**

Managerial & Clerical	\$30,400
Travel & Direct Expenses	\$4,560
Overhead	\$3,040
<b>Total Administrative Cost Allocation</b>	<b>\$38,000</b>
Internal Marketing Expense	\$15,000
Subcontracted Marketing Expense	\$15,000
<b>Total Marketing Allocation</b>	<b>\$30,000</b>
Financial Incentives	\$101,680
<b>Total Incentives</b>	<b>\$101,680</b>
Support Activity Labor <sup>34</sup>	\$6,200
Hardware & Materials	\$4,960
Rebate Processing & Inspection	\$11,160
<b>Implementation Allocation (excluding incentives)</b>	<b>\$22,320</b>
EM&V Activity	\$7,600
EM&V Overhead	\$400
<b>Total EM&amp;V Cost Allocation</b>	<b>\$8,000</b>
<b>TOTAL PROGRAM BUDGET</b>	<b>\$200,000</b>

**89. Program Participation**

The table below lists the projected annual average number of installations for each proposed measure in the C&I program:

**Projected Program Participation by Measure**

Proposed Measures	Average Annual Units
High-Efficiency Gas Fryer	11
High-Efficiency Gas Griddle	14
High-Efficiency Gas Ovens	14
Energy-efficient Space Heating/Process Hot Water Boiler	4
Energy-efficient Water heater	238
Packaged systems with a 90% AFUE or better Furnace	47
High-Efficiency Furnace 90% AFUE or better Furnace	63

90. The Company projects much higher participation for hot water systems, because nearly all commercial facilities have tank water heaters, space heating or service water boilers. The Company believes that institutional kitchens represent a much smaller market for energy-efficient

<sup>33</sup> For details regarding some of the budget categories, please see the footnotes on pages 7.

<sup>34</sup> Includes labor for database development and product research.

1 products than hot water systems, but has agreed to shift incentive funding among the program's  
2 measures to accommodate levels of participation that are higher or lower than anticipated.

3 91. Cost-Effectiveness

4 The benefit-cost ratios calculated by Staff for the multiple measures within the C&I  
5 program vary according to measure. These are listed below:

6 **Benefit-Cost Ratios By Measure**

Commercial/Industrial Measures	Benefit-Cost Ratios
High-efficiency fryers	0.64
High-efficiency griddles	1.46
High-efficiency ovens	0.63
High-efficiency boilers	1.15
High-efficiency furnaces	2.55
High-efficiency water heaters	1.05
Packaged air conditioners with high-efficiency furnaces <sup>35</sup>	1.20

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12 92. Staff determines cost-effectiveness using the Societal Cost Test. In the case of the C&I  
13 program, two of the measures, high-efficiency fryers and high-efficiency ovens, are not cost-  
14 effective, primarily due to their relatively high incremental costs and comparatively low therm  
15 savings. Staff recommends against including these measures in the UNS Gas DSM program,  
16 unless and until more cost-effective equipment becomes available. Staff also recommends that  
17 UNS Gas look into including other, more cost-effective commercial kitchen equipment in the C&I  
18 program.

19 93. The projected CO<sub>2</sub> savings from the C&I program are provided in the table below.  
20 This number represents the estimated lifetime CO<sub>2</sub> savings for all the measures projected for  
21 installation over the five-year course of the C&I program. (This estimate does not include the  
22 projected CO<sub>2</sub> savings from the two measures that Staff has recommended against including in the  
23 C&I program.)

24 **C&I Projected Environmental Benefits, 2008-2012**

CO <sub>2</sub> Emissions	63,979,595	Pounds
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28 <sup>35</sup>This measure appear to be cost-effective even before taking into account electric savings arising from the high-efficiency air conditioners that are part of the packaged system.

1           94. Estimated Cost Per Therm Saved

2                   Staff's analysis indicates that the C&I program would save approximately  
3 5,453,633 therms over the lifetime of the measures installed from 2008 through 2012, excluding  
4 the fryer and oven measures. Staff estimates the cost per therm saved at approximately \$0.19.

5           95. Monitoring and Evaluation

6                   See "Monitoring and Evaluation: All Programs."

7           96. Reporting Requirements

8                   See "Reporting Requirements: All Programs."

9                   **Implementation Contractors: EHH, ESH and C&I Programs**

10           97. The LIW program will be administered by UNS Gas, community action agencies and  
11 the AEO. The other three UNS Gas programs will be administered, jointly, by UNS Gas and one  
12 or more ICs. UNS Gas states that the national trend is to utilize ICs when delivering DSM  
13 programs, and believes that hiring an IC with a staff experienced in DSM allows utilities to deliver  
14 programs more quickly, without having to hire and train additional employees. UNS Gas also  
15 believes that hiring ICs is a more cost-effective way to deliver DSM programs.

16           98. Implementation Contractors will be sought through a competitive bidding process.  
17 UNS Gas is currently preparing Requests for Quotations ("RFQs") to be submitted to U.S.  
18 companies with experience in managing successful DSM programs. UNS Gas is seeking  
19 companies with at least three years of experience in this area. A UNS Gas Program Manager will  
20 oversee all IC activities, provide guidance on program activities, provide a contact point for  
21 customers interested in the program, and provide overall quality control and management of the  
22 delivery process.

23           99. The items below provide a general description of the type of work that will be done by  
24 ICs hired by UNS Gas:

- 25                   • *Implementation Plans:* ICs will build on program outlines developed by UNS Gas  
26 in order to achieve the energy and demand savings targeted for each program;
- 27                   • *Marketing and Communications Plan:* Working with UNS Gas to finalize program  
28 marketing and communication;

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- *Program Forms and Collateral Materials:* The IC will be expected to prepare and print all program documents, including customer agreements and applications, and marketing materials used to communicate with customers and trade allies;
- *Program Delivery to Customers:* In addition to duties specific to each program, the IC will have primary responsibility for coordinating, advertising and delivering training programs for all programs;
- *Program Administration and Management:* The IC will receive, process and verify customer applications, then provide UNS Gas with the information required to process incentive payments; and
- *Program Participation, Data Tracking, Documentation and Reporting.* The IC will develop and maintain a comprehensive program database, and to report program progress on a monthly, quarterly and annual basis.

**Monitoring and Evaluation: All Programs**

100. Working with AEO (for the LIW program), or implementation contractors (EHH, ESH and C&I programs), UNS Gas would track, manage and evaluate each program, adopting a strategy of integrated data collection that would include the following activities:

- **Database management** – managing the tracking database and providing information for the semi-annual DSM reports to be filed with the Arizona Corporation Commission.
- **Integrated implementation data collection** – collecting data necessary to calculate values and yield more accurate evaluations through, for example, customer applications, field verifications and contractor invoices. The type of data collected would include the quantity, capacity, efficiency and operating parameters for pre-existing and installed measures.
- **Field verification** – verifying the installation of a sample of measures.
- **Tracking of savings using deemed savings values** – tracking savings from completed installations. Savings would be verified by contractors. Measurement of savings from retrofit measures would include pre- and post-project billing comparisons (for example, heating bills before and after installation of high-efficiency equipment). Other means of evaluation would also be employed, including on-site inspection of equipment, data logging of equipment performance, and due diligence review of engineering calculations and documentation.



1           108. Staff has recommended that any shifting of funds between programs in excess of 25  
2 percent be approved by the Commission.

3           109. Staff has recommended that any increases in the overall DSM Portfolio budget in  
4 excess of 25 percent be approved by the Commission.

5           110. Staff has recommended that incentives to participants in the EHH, ESH, and C&I  
6 programs be limited to no more than 75 percent of incremental cost, and that UNS Gas include any  
7 federal or state tax credits when calculating the 75 percent cap on incentives as a percentage of  
8 incremental cost. The Commission has approved caps on incentives for the DSM programs of  
9 Arizona Public Service Company.

10           111. Staff has recommended that the nature and intent of the UNS Gas DSM programs  
11 not be changed without Commission approval.

12           112. Staff has recommended that UNS Gas report on progress of each program in its  
13 semi-annual reports filed with the Commission. At a minimum, the report should include (i) the  
14 number of participants; (ii) the number of measures taken, meaning Energy Star-certified homes  
15 built or low-income homes weatherized, furnaces/package systems installed and, for the C&I  
16 program, the number and type of energy-efficient equipment installations; (iii) the average cost of  
17 the installed measures; (iv) descriptions of program marketing; (v) copies of new or revised  
18 marketing materials; (vi) estimated cost savings to participants; (vii) gas and electric savings as  
19 determined by the monitoring and evaluation process; (viii) the total amount of the program budget  
20 spent during the previous six months, the previous year and since the inception of the program;  
21 (xiv) any significant impacts on program cost-effectiveness; and (x) descriptions of any problems  
22 and proposed solutions, including movements of funding from one program to another.

23           113. In each program where incentives are paid, the incentives should be reviewed  
24 biannually to determine whether the incentives can be reduced or eliminated without reducing  
25 program participation. This recommendation does not include the LIW program. For purposes of  
26 this recommendation, Staff does not consider payments made to community action agencies to  
27 reimburse the agencies for weatherization or health and safety activities to be incentives.

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1           114. Staff has recommended that references to the Commission in UNS Gas DSM  
2 marketing appear as "Arizona Corporation Commission", rather than "ACC."

3           115. Staff has recommended that UNS Gas DSM energy efficiency program standards  
4 exceed federal minimum energy efficiency standards. In cases where the federal minimum energy  
5 efficiency standards are increased during the life of a UNS Gas DSM program, program standards  
6 should be increased to exceed the currently applicable federal standards. In instances where  
7 exceeding current federal standards would render a program or measure less than cost-effective,  
8 the program or measure should be terminated.

9           *Low-Income Weatherization*

10           116. Staff has recommended that, although health and safety measures are important,  
11 DSM funding should be utilized whenever possible for weatherization activities that conserve  
12 energy. In cases where alternate funding sources are available, those funds should be utilized for  
13 any non-weatherization activities before DSM funding is tapped. In no event are health and safety  
14 costs to exceed 25 percent of the UNS Gas program budget. LIW Program DSM funding used for  
15 any health and safety measure must be tracked against this 25 percent cap.

16           117. Staff has recommended that, with respect to repair or replacement of non-  
17 functioning equipment, DSM program funds be used only to cover the incremental cost of  
18 installing high efficiency, rather than standard, equipment. The only exception to this would be  
19 equipment installed or repaired as part of a health and safety measure.

20           118. Staff has recommended that UNS Gas compare utility bills of houses before and  
21 after weatherization, to verify and measure the effectiveness of the LIW program in reducing  
22 consumers' energy bills.

23           119. Staff has recommended that UNS Gas work to improve the cost-effectiveness of the  
24 program, if possible.

25           *Efficient Home Heating*

26           120. Staff has recommended that UNS Gas utilize bill inserts as part of its marketing.

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1 installed measures; (iv) descriptions of program marketing; (v) copies of new or revised marketing  
2 materials; (vi) estimated cost savings to participants; (vii) gas and electric savings as determined  
3 by the monitoring and evaluation process; (viii) the total amount of the program budget spent  
4 during the previous six months, the previous year and since the inception of the program; (xiv) any  
5 significant impacts on program cost-effectiveness; and (x) descriptions of any problems and  
6 proposed solutions, including movements of funding from one program to another.

7 IT IS FURTHER ORDERED that in each program where incentives are paid, the  
8 incentives shall be reviewed biannually to determine whether the incentives can be reduced or  
9 eliminated without reducing program participation. This does not include the LIW program.

10 IT IS FURTHER ORDERED that references to the Commission in UNS Gas DSM  
11 marketing appear as "Arizona Corporation Commission", rather than "ACC."

12 IT IS FURTHER ORDERED that UNS Gas DSM energy efficiency program standards  
13 exceed federal minimum energy efficiency standards. In cases where the federal minimum energy  
14 efficiency standards are increased during the life of a UNS Gas DSM program, program standards  
15 shall be increased to exceed the currently applicable federal standards. In instances where  
16 exceeding current federal standards would render a program or measure less than cost-effective,  
17 the program or measure shall be terminated.

18 *Low-Income Weatherization*

19 IT IS FURTHER ORDERED that DSM funding shall be utilized whenever possible for  
20 weatherization activities that conserve energy. In cases where alternate funding sources are  
21 available, those funds shall be utilized for any non-weatherization activities before DSM funding is  
22 tapped. In no event are health and safety costs to exceed 25 percent of the UNS Gas program  
23 budget. LIW Program DSM funding used for any health and safety measure must be tracked  
24 against this 25 percent cap.

25 IT IS FURTHER ORDERED that, with respect to repair or replacement of non-functioning  
26 equipment, DSM program funds be used only to cover the incremental cost of installing high  
27 efficiency, rather than standard, equipment. The only exception to this would be equipment  
28 installed or repaired as part of a health and safety measure.

1 IT IS FURTHER ORDERED that UNS Gas compare utility bills of houses before and after  
2 weatherization, to verify and measure the effectiveness of the LIW program in reducing  
3 consumers' energy bills.

4 IT IS FURTHER ORDERED that UNS Gas work to improve the cost-effectiveness of the  
5 LIW program, if possible.

6 *Efficient Home Heating*

7 IT IS FURTHER ORDERED that UNS Gas utilize bill inserts as part of its marketing.

8 IT IS FURTHER ORDERED that the \$25 incentive to contractors be reviewed by UNS  
9 Gas biannually, along with the other program incentives, to determine whether the incentive is  
10 necessary to maintain program participation.

11 IT IS FURTHER ORDERED that as part of monitoring and evaluating the effectiveness of  
12 the Efficient Home Heating Program, UNS Gas compare utility bills of Residential customers  
13 before and after installation of high-efficiency gas furnaces.

14 *Energy Smart Homes*

15 IT IS FURTHER ORDERED that the number of houses completed under the program be  
16 carefully tracked and reported in the Company semi-annual DSM reports.

17 *Commercial and Industrial Facilities Gas Efficiency*

18 IT IS FURTHER ORDERED that incentives be capped at \$8,000 per customer, per year,  
19 with the exception of school districts. (In this context "customer" means an individual or entity  
20 paying gas bills for one or more locations or accounts.)

21 IT IS FURTHER ORDERED that school district incentives be capped at \$25,000 per  
22 district, per year.

23 IT IS FURTHER ORDERED that UNS Gas apply to the Commission in cases where UNS  
24 Gas feels that it would promote program objectives to exceed the per-customer or per-school  
25 district caps.

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IT IS FURTHER ORDERED that the fryer and oven measures not be included in the UNS Gas DSM program, unless and until more cost-effective equipment becomes available. UNS Gas shall look into including other, more cost-effective commercial kitchen equipment in the C&I program.

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 DEAN S. MILLER, Interim 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 \_\_\_\_\_, 2008.

\_\_\_\_\_  
DEAN S. MILLER  
Interim Executive Director

DISSENT: \_\_\_\_\_

DISSENT: \_\_\_\_\_

EGJ:JMK:lhv\JMA

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