

**ORIGINAL**

**OPEN MEETING**



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**MEMORANDUM  
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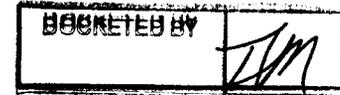
AZ CORP COMMISSION  
DOCKET CONTROL

TO: THE COMMISSION

FROM: Utilities Division

DATE: March 13, 2013

RE: UNS GAS, INC. – APPLICATION FOR APPROVAL OF ITS 2011-2012 GAS ENERGY EFFICIENCY IMPLEMENTATION PLAN (DOCKET NO. G-04204A-11-0149)



On October 19, 2012, Staff filed a Memorandum and Proposed Order regarding the UNS Gas, Inc. (“UNS Gas” or the “Company”) application for approval of its 2011-2012 Gas Energy Efficiency Implementation Plan. The Company filed its exceptions to Staff’s Proposed Order on October 31, 2012. Staff filed Proposed Amendment No. 1 on November 5, 2012. Comments were filed by the Residential Utility Consumer Office (“RUCO”) on November 7, 2012 and a Notice of Errata was filed by RUCO on November 20, 2012. On January 28, 2013, UNS Gas filed a response to RUCO’s comments.

Based on the length of time that has passed since the filing of Staff’s Proposed Order and a correction made to Staff’s analysis, Staff is submitting this Revised Memorandum and Proposed Order replacing the previously filed Open Meeting Memorandum and Proposed Order. The revised analysis takes into consideration changes in natural gas prices since May of 2012 and budget numbers that were revised by UNS Gas on February 16, 2013.

**INTRODUCTION**

On April 4, 2011, UNS Gas filed an application with the Arizona Corporation Commission (“Commission”) requesting approval of its 2011-2012 Gas Energy Efficiency Implementation Plan (“EE Plan”) and a change to its Demand-Side Management (“DSM”) Surcharge (“DSMS”).

On September 6, 2011, UNS Gas filed updated information applicable to its EE Plan. Specifically, UNS Gas updated the budget information and portfolio savings filed in its original application. UNS Gas also filed to update the DSMS that was filed in its original application and requested a waiver and modification of the Gas Energy Efficiency Standards (“GEES”) pursuant to A.A.C. R14-2-2520 and the Cumulative Energy Efficiency Standard set forth in A.A.C. R14-2-2504.B.

On April 17, 2012, UNS Gas filed an amendment to its original application for its EE Plan to include approval for the 2013 Energy Efficiency Plan. The Company did not plan to propose any changes to the proposed EE Plan programs, budgets, or DSMS previously filed in this docket and requested the Commission waive the requirement for the Company to file a separate 2013 Plan. UNS Gas also filed to modify its previous request for a waiver of the GEES to incorporate a new table outlining the GEES levels the Company believes it can obtain.

JANUARY

Prior to the completion of Staff's revised memorandum and proposed order, UNS Gas provided Staff with updated natural gas pricing and budgets more reflective of the current activity in the UNS Gas territory regarding the energy efficiency implementation plan for the remainder of 2013 ("2013 EE Plan").

UNS Gas is certificated to provide natural gas service as a public service corporation in the State of Arizona. UNS Gas is a wholly-owned subsidiary of UniSource Energy Services and is engaged in providing natural gas service within portions of Arizona, pursuant to authority granted by the Commission. UNS Gas provides natural gas service in the counties of Apache, Coconino, Mohave, Navajo, Santa Cruz and Yavapai. As of December 2011, the Company had approximately 147,500 customers. Of that total, 135,050 are Residential customers. The remainder of the customers are a mix of Commercial, Industrial, and Municipal customers.

### **EE PLAN OVERVIEW**

UNS Gas' 2013 EE Plan contains new programs, enhancements to existing programs, and continued support for already successful programs. The 2013 EE Plan is designed to comply with the Commission's GEES and to provide a framework for future compliance. For the Company's existing and proposed DSM programs, the 2013 EE Plan estimates each program's total cost and the cost per therm reduction, and explains how these programs comply with the requirements in the GEES.

To implement the 2013 EE Plan, UNS Gas is requesting an updated plan budget total of approximately \$2.3 million with a slight increase to the current DSMS.

The UNS Gas 2013 EE Plan includes the implementation of new programs, changes to current programs, and the continuation of cost-effective DSM programs already in place. Included in the new programs are: Multifamily Direct Install, Behavioral Comprehensive, Education and Outreach, Codes and Support, and a Renewable Energy Technology ("RET") program for Solar/Thermal Water Heating. The Company also is enhancing current programs through the addition of new measures to Existing Homes/Direct Install and Commercial and Industrial ("C&I") Facilities. UNS Gas has also filed to increase eligibility for its existing Low Income Weatherization Program ("LIWP") and to continue administering the Joint Utility Residential New Construction and Energy Efficiency Residential Financing program. The UNS Gas 2013 EE Plan includes a mix of programs targeted to multiple customer segments as detailed below.

#### Residential Programs

- Existing Homes
- New Construction
- LIWP
- Energy Financing
- Behavioral Comprehensive Program
- Solar Thermal Water Heating (RET)

Non-Residential Programs

- C&I Facilities
- Multifamily Direct Install
- Solar Thermal Water Heating (RET)

UNS Gas is also proposing a new Codes Support program and a new Education and Outreach program applicable to both residential and non-residential customers.

The 2013 EE Plan includes new measures for existing programs in addition to modifying some existing programs, detailed in the table below.

**2013 Proposed EE Program Modifications or Additions**

<b>Residential Existing Homes</b>	
HVAC	<ul style="list-style-type: none"> <li>• Add a High Efficiency Residential Steam Heating Boiler as an available energy efficiency upgrade.</li> </ul>
Water Heating	<ul style="list-style-type: none"> <li>• Add Pipe Wrap as an available energy efficiency upgrade.</li> <li>• Add High Efficiency Pool and Spa Heaters as available energy efficiency upgrades.</li> </ul>
<b>Residential New Construction</b>	
Joint Utility New Home Construction	<ul style="list-style-type: none"> <li>• Updated construction standards for builders to Energy Star® Version 3.</li> </ul>
<b>Residential LIWP</b>	
Home Weatherization	<ul style="list-style-type: none"> <li>• Modify income eligibility from 150% of poverty level to match Low Income Home Energy Assistance Program.</li> <li>• Increase the maximum spending per home from \$2,000 to \$3,000.</li> </ul>
<b>Residential Energy Financing</b>	
Upgrade Financing	<ul style="list-style-type: none"> <li>• Request to continue Pilot Program which provides financing for existing homes wanting to implement more efficient upgrades.</li> </ul>
<b>Residential Behavioral Comprehensive Program</b>	
K-12 Education	<ul style="list-style-type: none"> <li>• Implement a new program utilizing enthusiasm of kids and the community focal point of schools to push parents to take energy efficiency action.</li> </ul>
<b>Residential Solar Water Heating</b>	
Water Heating	<ul style="list-style-type: none"> <li>• Implement a new program offering incentives to participating new construction or retrofit customers on qualified solar thermal systems upon proof of purchase after system is installed and operational.</li> </ul>

<b>Commercial &amp; Industrial Facilities</b>	
Cooking (incentives paid to contractor)	<ul style="list-style-type: none"> <li>• Add a measure for High-Efficiency Fryers.</li> <li>• Add a measure for High-Efficiency Large Vat Fryers.</li> <li>• Add a measure for High-Efficiency Combination Oven.</li> <li>• Add a measure for High-Efficiency Convection Oven.</li> <li>• Add a measure for High-Efficiency Conveyor Oven &lt;25 inches.</li> <li>• Add a measure for High-Efficiency Conveyor Oven &gt;25 inches.</li> <li>• Add a measure for High-Efficiency Single Rack Oven.</li> <li>• Add a measure for High-Efficiency Double Rack Oven.</li> <li>• Add a measure for High-Efficiency Energy Star® Steam Cooker.</li> </ul>
HVAC/Process Heat (incentives paid to contractor)	<ul style="list-style-type: none"> <li>• Add a measure for High-Efficiency Condensing Unit Heaters (131,000-305,000 Btuh).</li> <li>• Add a measure for Power-Vented Unit Heaters (150,000-300,000 Btuh).</li> <li>• Add a measure for Programmable Thermostats.</li> <li>• Add a measure for Custom Modifications covering 75% of incremental costs for a custom project equivalent to \$2,700 based on first year savings.</li> <li>• Add a measure for High-Efficiency Space Heating Steam Boilers (&gt;300 kBtuh).</li> <li>• Add a measure for Survey and Replacement of Commercial Steam Traps.</li> <li>• Add a measure for Survey and Replacement of Industrial Steam Traps.</li> </ul>
Water Heating (incentives paid to contractor)	<ul style="list-style-type: none"> <li>• Add a measure for High-Efficiency Pool and Spa Heaters (&lt;500 kBtuh).</li> <li>• Add a measure for Low-Flow Pre Rinse Spray Valves.</li> <li>• Add measures for Commercial Multi-Family Clothes Washers CEE Tier 1, 2, and 3.</li> </ul>
<b>Multifamily Direct Install</b>	
Water Heating (incentives paid to contractor)	<ul style="list-style-type: none"> <li>• Implement a new program with a measure</li> </ul>

	<p>for Low Flow Shower Head (1.5 GPM).</p> <ul style="list-style-type: none"> <li>• Implement a new program with a measure for Kitchen Faucet Aerators (1.5 GPM).</li> <li>• Implement a new program with a measure for Bathroom Faucet Aerators (1 GPM).</li> </ul>
<b>Non-Residential Solar Water Heating</b>	
Water Heating	<ul style="list-style-type: none"> <li>• Implement a new program for qualified solar thermal systems new construction and retro-fit Commercial Gas Water Heater with incentive offered upon proof of purchase after system is installed and operational.</li> </ul>
<b>Other Support Programs</b>	
Codes Support	<ul style="list-style-type: none"> <li>• Implement a new program to increase energy savings through improving levels of compliance with existing building energy codes and supporting/informing residential and commercial sectors of energy code updates.</li> </ul>
Education and Outreach	<ul style="list-style-type: none"> <li>• Implement a new program to provide customers with the tools and knowledge necessary to better manage their energy use including marketing/education on available DSM options and the importance of energy efficiency.</li> </ul>

The Commission approved the GEES in Decision No. 72042 on December 10, 2010, in Docket No. RG-00000B-09-0428. The rules are designed to cause affected utilities to achieve therm or therm equivalent savings through DSM and RET programs in order to ensure reliable gas service at reasonable rates and costs. As established in these rules, “energy efficiency” means the production or delivery of an equivalent level and quality of end-use gas service using less energy, or the conservation of energy by end-use customers. Energy efficiency is a type of DSM. DSM programs promote materials, devices, technologies, educational programs, practices, or facility alterations designed to result in increased energy efficiency, including combined heat and power used to displace space heating, water heating, or another load. RET programs promote technology applications.

The GEES rules outline specific cumulative annual energy savings by calendar year. Under A.A.C. R14-2-2504.B, UNS Gas is required to meet a cumulative annual energy savings for calendar year 2011 of 0.50% of retail energy sales in the prior year. For 2012, that cumulative annual energy savings is 1.20% of retail energy sales in the prior year. Based on UNS Gas’ most recently filed full year Annual DSM Progress Report filed on April 2, 2012, UNS Gas reached a cumulative annual EE savings as a percent of previous year’s retail sales of 0.20% for 2011. Based on end of year estimates, UNS Gas will reach a cumulative annual EE savings as a percent of previous year’s retail sales of 0.36% for 2012.

## **PROPOSED PROGRAM CHANGES**

UNS Gas' 2013 EE Plan is comprised of several new programs falling into both the residential and non-residential categories and new programs which apply across both categories of customers. UNS Gas has designed a comprehensive portfolio of programs in an effort to deliver gas energy savings to meet, or come close to meeting, annual DSM energy savings goals as outlined in the GEES.

### A. Residential Programs: Existing Homes

UNS Gas is requesting budget approval to continue this program (previously referred to as the Residential HVAC Program and Efficient Home Heating Program) plus approval for adding these additional measures: high-efficiency residential boilers; pipe wrap; and high-efficiency pool and spa heaters.

#### *Current Program*

This program was approved by the Commission in Decision Nos. 72045 dated December 10, 2010, and 72056 dated January 6, 2011. The program is targeted to all existing homes in need of energy efficiency improvements. The program has two components. The first component is the current program. It involves an initial energy audit including the direct installation of low-flow shower heads and faucet aerators. This is followed by the identification of larger home energy efficiency improvements and a referral to a Building Performance Institute ("BPI") certified contractor who will assist with the larger improvements.

#### *Proposed Changes*

UNS Gas is requesting to continue the current residential existing homes program and add to it a second component that promotes the installation of pipe wrap, high-efficiency boilers, and high-efficiency pool and spa heaters. The program hopes to achieve increased energy savings from the installation of even more energy-efficient measures and contribute toward transforming the industry to emphasize best practice building science principles.

The high-efficiency steam heating boilers will be offered with an incentive of \$500 per unit for a replacement on burnout of existing boilers. UNS Gas estimates to install 4 units in 2013. The pipe wrap option will be an option for a homeowner to add pipe wrap to pipes on an existing water heater. UNS Gas plans to offer pipe wrap on the first six feet of pipe with an incentive of \$12 per installation. They plan to install 200 units in 2013. The high-efficiency pool and spa heater option is a replacement on burnout option allowing for an incentive of \$150 per unit with an estimated 5 units installed in 2013. UNS Gas will provide program management, oversight, and marketing through website promotion, community interest groups, mass-market channels, brochures and bill inserts, trade ally marketing efforts, contractor enrollment and training.

A third party implementation contractor will be responsible for the recruitment, training, and mentorship of participating contractors, retailers and manufacturers; training energy auditors; data tracking; rebate processing; and technical support. Program delivery will be coordinated with Arizona Public Service ("APS") and UNS Electric to address any overlap among the utilities.

*Proposed Budget*

The 2013 proposed budget for the Residential Existing Homes Program is \$941,965. Proposed incentives make up \$557,650 of the total program budget. Overall Program Development, Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy efficiency programs.

*Cost Effectiveness*

Staff's review of the benefits and costs associated with the proposed changes with the addition of new measures in the Residential Existing Homes Program found that the new measures are not cost-effective at this point in time. Given the nature of the current natural gas market, the benefits in terms of therm and capacity savings do not outweigh the costs associated with the measures. Staff's benefit-cost analysis is presented in the table below.

Measure	Units	Present Value DSM Savings	Present Value DSM Cost	Benefit/Cost Ratio
High Efficiency Boiler	4	\$2,164.40	\$4,540.88	0.48
Pipe Wrap	200	\$4,670.00	\$5,406.00	0.86
Pool and Spa Heater	5	\$1,387.85	\$1,631.15	0.85

*Recommendations*

UNS Gas' analysis submitted with its original application indicated the Company had calculated a measure level Societal Cost Test ratio for the three new measures as 1.2 for the boiler, 1.2 for the pipe wrap, and 2.2 for the pool and spa heaters. Staff's analysis led to the benefit-cost ratios indicated in the table above. Variances in the results can be pinpointed to a few analysis differences including the fact that Staff's analysis includes the Program Level Non-Incentive Costs into the cost per unit at the measure level. UNS Gas did not include program costs in its Societal Cost Test analysis. Staff also utilized a calculated after-tax cost of capital as the discount rate for UNS Gas equal to 6.99% based on data from UNS Gas' last rate case (Decision No. 73142 dated May 1, 2012). UNS Gas' analysis utilized a 4% discount rate. The avoided natural gas cost used in Staff's calculation was based on index pricing provided by UNS Gas dated February 1, 2013. UNS Gas' original application utilized avoided costs for UNS Gas as of August 4, 2010.

The last approved budget for this program, approved in Decision Nos. 72045 and 72056, was equal to \$1,077,145 for 2011. The proposed budget for this program for 2013 is \$941,965. This represents a decrease of \$135,180 or roughly a 13% decrease.

Given the results of Staff's cost-benefit analysis, Staff does not recommend approval of the proposed new measures for the Residential Existing Homes Program.

**B. Residential Programs: New Construction**

UNS Gas is requesting budget approval to continue this program with one modification that updates the construction standard and energy savings to Energy Star® v3.

*Current Program*

This program was approved by the Commission in Decision No. 72023 dated December 10, 2010, as the Energy Smart Home-Joint Program. The program is designed with an incentive schedule that awards builders an additional incentive for installation of more efficient gas heating and water heating equipment than that required in the residential new home construction program. To qualify for an incentive, homes must first qualify for the APS Energy Star new home program, then be tested by an approved energy rater, and finally meet the required Home Energy Rating System ("HERS") Index score.

*Proposed Changes*

No new measures were requested for this program; however, new therm savings estimates were completed to update construction standards to Energy Star® v3.

*Proposed Budget*

The 2013 proposed budget for the Residential New Construction Program is \$140,932. Overall Program Development, Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy efficiency programs.

*Cost Effectiveness*

This program was found cost-effective in Decision No. 72023 dated December 10, 2010.

*Recommendations*

The last approved budget for this program was in Decision No. 72023 and was equal to \$218,375 for 2011. The proposed budget for this program for 2013 is \$140,932. This represents a decrease of \$77,443 or roughly a 35% decrease. Staff recommends continuation of the current program at the proposed budget numbers.

C. Residential Programs: Low Income Weatherization

UNS Gas is requesting budget approval to continue the LIWP and modify the income eligibility levels from 150% of poverty level to track more closely with the percent of poverty level set by the Low Income Home Energy Assistance Program ("LIHEAP"). The current level set by LIHEAP is approximately 200% of poverty level. UNS Gas is also requesting a change to increase the maximum spending per home from \$2,000 to \$3,000 to be consistent with the funding given, per home, by UNS Electric and Tucson Electric Power Company ("TEP").

*Current Program*

This program was approved by the Commission in Decision No. 70180 dated February 27, 2008. The program is designed so that funding from UNS Gas, up to \$2,000 per home currently, is utilized to pay for energy efficient weatherization measures, equipment replacement and/or repair and other home improvements which may lower the average household energy consumption for low-income customers within the UNS Gas service territory. Weatherization measures are conducted in accordance with the Weatherization Assistance Program ("WAP") funded by the U.S. Department of Energy.

*Proposed Changes*

UNS Gas is requesting to continue the current residential Low Income Weatherization Program with an increase to the funding per home from \$2,000 to \$3,000 and adjust the income eligibility levels from 150% of poverty level to track more closely with the percent of poverty level set by LIHEAP.

*Proposed Budget*

The 2013 proposed budget for the Residential Low Income Weatherization Program is \$201,501. Overall Program Development, Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy efficiency programs.

*Cost Effectiveness*

Staff's review of this program included an examination of the results from the LIWP for January through December 2011. According to the Annual DSM Progress Report filed by UNS Gas in April 2012, UNS Gas had 117 households receive weatherization assistance during 2011. The goal for the calendar year 2011 was 125 households. Savings reported for the same time period are 267,480 kWhs and 13,224 therms. By mid-year 2011, the Northern Arizona Council of Governments ("NACOG") had utilized all of the annual budget allocated to NACOG. An increase of \$25,000 was provided to NACOG in July 2011. NACOG completed 63% of the homes weatherized in 2011 for UNS Gas. No program marketing dollars were spent on this program in 2011 and none are being requested in 2013 as the popularity of the program is high without the need for advertising and promotion.

*Recommendations*

The last approved budget for this program was in Decision No. 71623 equal to \$200,000 for 2011. The proposed budget for this program is \$201,501 which represents an increase of \$1,501 or roughly less than 1% increase. Given the high degree of interest in the program in 2011, Staff recommends continuing the LIWP.

The change requested by the Company to increase the income eligibility from where it is currently set at 150% of the federal poverty level to track with LIHEAP which is currently 200% of poverty level seems reasonable to Staff as these guidelines are also used by the Governor's Office Of Energy Policy. However, Staff does not recommend approval of UNS Gas' request to provide increased dollar allocations per home being weatherized. Staff's benefit-cost analysis for the increase in spending versus leaving the per home dollar allocation where it is now revealed the current level of allocation is a benefit-cost ratio of 1.39. Staff recommends continuing with the current per home allocation of \$2,000.

D. Residential Programs: Energy Financing

UNS Gas is requesting budget approval to continue this pilot program with no modifications.

*Current Program*

This program was approved by the Commission in Decision No. 72062 (January 6, 2011) as a two-year pilot program. The program offers energy efficiency loans to UNS Gas customers who are seeking financing to assist in paying for energy efficiency improvements to their homes. Loan dollars can be used for energy efficiency measures that have been approved by the Commission as part of the Residential Existing Homes program. The program objective is to offer 9.99% interest unsecured loans with a 2% interest rate buy down resulting in a low-interest loan at 7.99%. Loans are available for up to \$10,000 with repayment terms up to 12 years.

*Proposed Changes*

UNS Gas is requesting to continue the current residential energy financing pilot program and to add those new measures submitted with the proposed changes to the Residential Existing Homes Program (pipe wrap, high-efficiency boilers, and high-efficiency pool and spa heaters) to the list of approved measures for which the loan can be used.

*Proposed Budget*

The 2013 proposed budget for the Residential Energy Financing Program is \$24,740.

*Cost Effectiveness*

Staff's review of this program included an examination of the results from the Residential Energy Financing Program for January through December 2011. According to the Annual DSM Progress Report filed by UNS Gas in April 2012, UNS Gas had no participants in this pilot program during 2011 and there were no savings reported for the same time period. Expenses for 2011 totaled \$16,917. UNS Gas redirected its efforts during 2011 to focus more on a local lending partner given the relative small scale of the program. In December 2011, UNS Gas had a contract with Vantage West Credit Union in Tucson to fund the residential loans. The loan terms from the original agreed upon terms in Decision No. 72062 have changed slightly with the switch to an in-state lender. There will be a reduction in the buy-down costs of approximately \$310,000 during the first two years of the program, a more liquid treatment of the loan loss reserve account, and a reduction in the term of the loan for the residential customer from 12 years to 10 years.

*Recommendations*

After talking with UNS Gas, Staff understands the challenges UNS Gas has faced in implementing this program during a downturn in the economy when so many residential customers are struggling to stay employed and pay existing bills. According to UNS Gas, it has had little interest from customers but has had a good dialogue open with participating contractors and are compiling feedback on barriers.

The last approved budget for this program was in Decision No. 72062 equal to \$321,386 for 2011. The proposed budget for this program is \$24,740 which represents a decrease of \$296,646 or roughly a 92% decrease.

Given the slow start to the implementation of this pilot program which included the vendor delaying implementation until the TEP Energy Efficiency program is approved and the lack of interest to date in this program, Staff recommends not going forward with the program at this point in time.

E. Residential Programs: Behavioral Comprehensive Program

UNS Gas is requesting budget approval to implement a K-12 Education measure as part of the new Behavioral Comprehensive Program. The Behavioral Comprehensive Program is designed to provide customers with more information to allow them to better understand and manage their energy usage. This K-12 program incorporates energy-based classroom curriculum instructing students on energy saving approaches that can be implemented in their homes. This program is an extension of the existing UNS Electric education program approved in Decision No.70401 (July 3, 2008).

*Current Program*

This is a new program and does not replace or modify any current program.

*Proposed Changes*

UNS Gas is requesting to implement a K-12 Education program which will target teachers who are willing to add the energy-based classroom curriculum to their existing educational program. The K-12 Education approach involves sending students home with energy conservation kits containing a low-flow shower head, faucet aerator, and furnace whistle in addition to educational materials regarding actions that can be taken to reduce energy use. A student report card will be developed to determine how many of the items delivered in the kit were actually installed. Implementation will be handled by a third party contractor, and extra effort will be made to coordinate the school program with other energy efficiency efforts in the same neighborhood. UNS Gas estimates delivering 1,000 energy conservation kits.

*Proposed Budget*

The 2013 proposed budget for the Residential K-12 Education Program is \$29,731.

*Cost Effectiveness*

Staff's review of the benefits and costs associated with the proposed new Residential K-12 Education Program found that the education program is cost-effective. In the analysis, Staff utilized UNS Gas' energy savings estimates which assumed installation of the low flow shower head (21 therm savings annually), kitchen aerator (34 therm savings annually), and a furnace whistle (7 therm savings annually). The savings estimates also took into consideration water savings benefits from the installation of a low flow shower head and a kitchen aerator.

Measure	# of Kits	Present Value DSM Savings	Present Value DSM Cost	Benefit/Cost Ratio
K-12 Education Program	1,000	\$216,780.00	\$73,060.00	2.97

\*Total participation was estimated at 50% of the total number of kits distributed.

*Recommendations*

UNS Gas' analysis submitted with its original application indicated the Company had calculated a measure level Societal Cost Test ratio for the Residential K-12 Education Program of 18.7. Staff's analysis led to the benefit-cost ratio indicated in the table above. Variances in

the results can be pinpointed to the fact that Staff's analysis includes the Program Level Non-Incentive Costs into the cost per unit at the measure level. UNS Gas did not include program costs in its Societal Cost Test analysis. Staff also included the cost of the shower head, kitchen aerator, and the furnace whistle as an implementation cost rather than an incentive cost as UNS Gas did. In addition, Staff utilized a calculated after-tax cost of capital as the discount rate for UNS Gas equal to 6.99% based on data from UNS Gas' last rate case (Decision No. 73142 dated May 1, 2012). UNS Gas' analysis utilized a 4% discount rate. The avoided natural gas cost used in Staff's calculation was based on index pricing provided by UNS Gas dated February 1, 2013. UNS Gas' original application utilized avoided costs for UNS Gas as of August 4, 2010.

Given the results of Staff's cost-benefit analysis, Staff recommends approval of the Residential K-12 Education Program.

F. Residential and Commercial Programs: Solar Water Heating

UNS Gas is requesting budget approval to implement a Residential and Commercial Solar Thermal Water Heating Program. The Solar Thermal Water Heating Program would be offered to existing residential customers, residential new construction customers, and existing and new small commercial customers.

*Current Program*

This is a new program and does not replace or modify any current program.

*Proposed Changes*

UNS Gas is requesting to implement a solar thermal water heating program which offers incentives to participating customers on qualified solar thermal systems upon proof of purchase and after the system is installed and operational. To qualify, a system must be listed by the Solar Rating Certification Council ("SRCC") and have OG-300 certification. Typically, customers in the UNS Gas service territory own and operate either conventional gas or electric storage water heaters. These water heating systems can be very energy inefficient. However, consumers are reluctant to change water heating systems due to capital constraints or lack of awareness of more energy efficient options. UNS Gas is proposing to remove barriers to the installation of solar thermal water heating and increase customer acceptance and program participation by allowing customers to receive the incentive themselves or choose to assign the incentive payment directly to the installer, thus reducing initial out-of-pocket investments. All UNS Gas customers who are property owners of existing residential or small commercial facilities, new home builders, and commercial property developers are eligible for this program.

UNS Gas plans to maximize opportunities for program coordination with other approved UNS Gas energy efficiency programs and with any electric utility energy efficiency programs in place to maximize benefits while minimizing promotional costs. The Company will also utilize trained and qualified trade allies to inform and educate residential and commercial customers about more efficient water heating technologies. The program has been designed to offer average incentive dollars equal to \$699 per home for existing residential customers for up to 50 customers; incentive dollars equal to \$699 per home for residential new construction for up to 12 customers; and incentive dollars equal to \$400 per panel for up to 12 existing commercial retrofits; and incentive dollars equal to \$400 per panel for up to 12 commercial new constructions.

*Proposed Budget*

The 2013 proposed budget for the Residential and Commercial Solar Thermal Water Heating Program is \$115,123. Proposed incentives make up \$52,938 of the total program budget. Overall Program Development, Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy efficiency programs.

*Cost Effectiveness*

Solar Thermal Water Heating is considered a RET. According to A.A.C. R14-2-2504.A., RET programs are approved as part of the GEES. Energy savings from RET programs expressed in therms or equivalent therms may be included toward meeting the energy saving goal. Staff completed a cost-benefit analysis of the Solar Thermal Water Heating Program examining the accuracy of the information and the economic feasibility of extending ratepayer dollars to support such a program. The result of that analysis indicated that the Solar Thermal Water Heating Program is not cost-effective at this point in time. However, as a RET program within the GEES, the program is not required to lead to a benefit-to-cost ratio greater than one to be implemented as part of an energy efficiency program.

*Recommendations*

Staff recognizes that reduced energy consumption from water heating may represent significant savings potential for UNS Gas' Energy Efficiency Portfolio and getting UNS Gas even closer to the required standards under GEES. Staff recommends the Solar Thermal Water Heating Program for approval under the following conditions:

- UNS Gas proposed as part of the Solar Thermal Water Heating Program that the Company will monitor incentives paid to customers for the same system from both the gas and the electric utility and that the maximum incentive that would be paid would be no more than 85% of the installed cost of the system requiring that customers pay at least 15% of the system installed cost. Staff does not agree that a customer should be able to collect an incentive from both the electric and natural gas utility for the same installation of a Solar Thermal Water Heater. Staff recommends that for areas of its system where the electric utility also offers an incentive for the installation of a Solar Thermal Water Heater that UNS Gas should work with the associated utility prior to payment of an incentive to insure that a customer does not receive incentive dollars from both utilities.
- For those instances where UNS Gas is the utility paying the incentive to the customer for the Solar Thermal Water Heater, Staff recommends that the incentive not exceed 50% of the installed cost of the system (comparable with the incentive cap set for Southwest Gas with its Solar Water Heating Program).
- UNS Gas will work with the associated electric utility in the service territory to insure that the energy savings resulting from the installation of a RET are not double-counted by both utilities to meet either the required gas energy efficiency standard or the REST requirement but rather is counted only by the utility paying the incentive dollars for the system.
- UNS Gas will also incorporate into its DSM Portfolio Savings Reports details as to how many Solar Thermal Water Heaters were installed and whether UNS Gas was the utility paying the incentive and reporting the associated energy savings from each installation.

G. C&I Facilities Programs: Cooking, HVAC, Water Heating

UNS Gas is requesting budget approval to continue the C&I Facilities program plus approval for adding 21 additional measures. UNS Gas is also requesting to modify the delivery of the program to a direct install program similar to what was approved as a Small Business Program for TEP in Decision No. 70457 (August 6, 2008) and the C&I Facilities Program for UNS Electric approved in Decision No. 70524 (September 30, 2008).

*Current Program*

This program was approved by the Commission in Decision No. 70180 (February 27, 2008). The program was established with incentives for specific energy efficiency measures in existing commercial and industrial facilities being paid directly to customers. The program is designed to promote the installation of high-efficiency, gas-fueled equipment and systems at existing commercial and industrial facilities within the UNS Gas service area. Current approved measures within the C&I Facilities program include: High Efficiency Space Heating Hot Water Boiler <300 kBtuh, High Efficiency Space Heating Hot Water Boiler >=300 kBtuh, High Efficiency Furnace <300,000 Btuh (AFUE > 92), High Efficiency Furnace <300,000 Btuh (AFUE > 95), Storage Water Heater >75,000 Btuh, High Efficiency Griddle, and Storage Water Heater <75,000 Btuh. Overall participation in the program has been low. According to the Annual DSM Progress Report for January through December 2011 filed in April 2012, 15 customers participated in this program in 2011. The energy savings goal of 95,000 therms in 2011 was reached and exceeded as the program recorded 195,820 therm savings. However, significant barriers exist which prevent higher participation levels such as the economic climate pushing for reduced spending when possible rather than increased incremental costs which may occur with the purchase of more energy-efficient equipment.

*Proposed Changes*

UNS Gas is requesting to continue the current measures offered as part of the C&I Facilities program and expand the program to include 21 new measures. The Company is also requesting a revamp of how the program is delivered. The proposed changes include average incentive levels of 75% of the incremental cost being paid directly to the contractor rather than incentives paid to the customer. This program delivery option incorporates the use of an implementation contractor who is responsible for contractor recruitment, contractor training, applications processing, pre- and post-inspection of customers' facilities, rebate processing, and reporting to UNS Gas the administration of the program. This program delivery method has worked well for TEP and UNS Electric, and UNS Gas believes the change will remove barriers that are currently limiting participating in the program as commercial and industrial customers will only be required to pay the amount of the retro-fit that is not covered by utility incentives thus lowering the out-of-pocket expense to the customers. In addition, UNS Gas is also requesting to remove the \$8,000 incentive caps for C&I customers and the \$25,000 incentive cap per school district as these incentives have proven to be more of a disincentive to participation.

The new measures proposed by UNS Gas are listed in the table below along with estimated average incentive dollars per unit and the number of units expected for participation.

<b>C&amp;I Facilities Program Proposed New Measures</b>		
Measure	Average Incentive \$ per unit	Estimated # of Units
High Efficiency Space Heating Steam Boiler	\$1,800	10
High Efficiency Fryer	\$900	15
High Efficiency Large Vat Fryer	\$900	15
High Efficiency Combination Oven	\$1,000	10
High Efficiency Convection Oven	\$1,000	10
High Efficiency Conveyor Oven (<25 inches)	\$400	10
High Efficiency Conveyor Oven (>25 inches)	\$900	10
High Efficiency Single Rack Oven	\$1,000	10
High Efficiency Double Rack Oven	\$1,000	10
High Efficiency Energy Star Steam Cooker	\$1,750	10
Condensing Unit Heater	\$400	10
Power Vented Unit Heater	\$2,000	10
Programmable Thermostats	\$100	50
High Efficiency Pool and Spa Heater (<500 kBtuh)	\$150	5
Low-Flow Pre-Rinse Spray Valve	\$50	50
Commercial/Multifamily Clothes Washer CEE Tier 1	\$75	50
Commercial/Multifamily Clothes Washer CEE Tier 2	\$75	50
Commercial/Multifamily Clothes Washer CEE Tier 3	\$75	50
Steam Trap Survey and Replacement Commercial	\$250	200
Steam Trap Survey and Replacement Industrial	\$250	25
Custom Measures*	\$2,700	5

\*Custom incentive is based on a projection of covering 75% of the incremental cost for a typical custom project and is equivalent to \$2,700 based on first year savings.

The proposed changes to the program mean that it will be operated as an “up-stream” market program where the incentives are offered directly to the qualified contractor who will then provide installation services to customers. The program will also include promotion and education material designed to provide decision makers in the small business arena with necessary data to make informed decisions.

#### *Proposed Budget*

The 2013 proposed budget for the C&I Facilities Program is \$698,594. Incentives make up \$411,750 of the total program budget. Overall Program Development, Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy efficiency programs.

#### *Cost Effectiveness*

Staff’s review of the benefits and costs associated with the proposed new measures in the C&I Facilities Program found that a few of the new measures are not cost-effective at this point in time. As stated earlier, with the current depressed natural gas prices, the benefits in terms of

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therm and capacity savings do not necessarily outweigh the costs associated with the measures Staff's benefit-cost analysis is presented in the table below.

Measure	Units	Present Value DSM Savings	Present Value DSM Cost	Benefit / Cost Ratio
High Efficiency Space Heating Steam Boiler	10	\$42,647.49	\$41,070.22	1.04
High Efficiency Fryer	15	\$22,722.57	\$23,547.54	0.96
High Efficiency Large Vat Fryer	15	\$27,014.62	\$24,586.43	1.10
High Efficiency Combination Oven	10	\$16,957.77	\$18,877.36	0.90
High Efficiency Convection Oven	10	\$12,876.13	\$17,451.22	0.74
High Efficiency Conveyor Oven (<25 inches)	10	\$30,927.95	\$12,327.20	2.51
High Efficiency Conveyor Oven (>25 inches)	10	\$35,556.62	\$20,191.33	1.76
High Efficiency Single Rack Oven	10	\$43,509.52	\$24,064.47	1.81
High Efficiency Double Rack Oven	10	\$88,912.59	\$39,887.89	2.23
High Efficiency Energy Star Steam Cooker	10	\$64,591.02	\$40,257.07	1.60
Condensing Unit Heater	10	\$20,981.42	\$17,154.73	1.22
Power Vented Unit Heater	10	\$81,508.58	\$66,765.06	1.22
Programmable Thermostats	50	\$9,581.74	\$12,286.09	0.78
High Efficiency Pool and Spa Heater (<500 kBtuh)	5	\$1,387.86	\$1,337.47	1.04
Low-Flow Pre-Rinse Spray Valve	50	\$3,917.10	\$3,803.56	1.03
Commercial/Multifamily Clothes Washer CEE Tier 1	50	\$29,798.12	\$10,233.59	2.91
Commercial/Multifamily Clothes Washer CEE Tier 2	50	\$36,193.47	\$11,942.68	3.03
Commercial/Multifamily Clothes Washer CEE Tier 3	50	\$38,781.58	\$22,952.50	1.69
Steam Trap Survey and Replacement Commercial	200	\$99,209.04	\$99,115.97	1.00
Steam Trap Survey and Replacement Industrial	25	\$56,920.29	\$20,820.01	2.73
Custom Measures	5	\$48,177.05	\$28,286.53	1.70

*Recommendations*

UNS Gas' analysis submitted with its original application indicated the Company had calculated a measure level Societal Cost Test ratio for each of the new measures as detailed below. Staff's analysis led to the benefit-cost ratios indicated in the table above. Variances in the results can be pinpointed to analysis differences including the fact that Staff's analysis includes the Program Level Non-Incentive Costs into the cost per unit at the measure level. UNS Gas did not include program costs in its Societal Cost Test analysis. Staff also utilized a calculated after-tax cost of capital as the discount rate for UNS Gas equal to 6.99% based on data from UNS Gas' last rate case (Decision No. 73142 dated May 1, 2012). UNS Gas' analysis utilized a 4% discount rate. The avoided natural gas cost used in Staff's calculation was based on index pricing provided by UNS Gas dated February 1, 2013. UNS Gas' original application utilized avoided costs for UNS Gas as of August 4, 2010. Staff also included monetized water and electricity benefits when applicable based on energy/water savings provided by UNS Gas.

Measure	Staff Benefit/Cost Ratio	UNS Gas Societal Cost Test
High Efficiency Space Heating Steam Boiler	1.04	1.9
High Efficiency Fryer	0.96	1.6
High Efficiency Large Vat Fryer	1.10	1.8
High Efficiency Combination Oven	0.90	1.4
High Efficiency Convection Oven	0.74	1.1
High Efficiency Conveyor Oven (<25 inches)	2.51	7.1
High Efficiency Conveyor Oven (>25 inches)	1.76	3.6
High Efficiency Single Rack Oven	1.81	3.8
High Efficiency Double Rack Oven	2.23	5.5
High Efficiency Energy Star Steam Cooker	1.60	3.2
Condensing Unit Heater	1.22	2.4
Power Vented Unit Heater	1.22	2.4
Programmable Thermostats	0.78	1.2
High Efficiency Pool and Spa Heater (<500 kBtuh)	1.04	1.4
Low-Flow Pre-Rinse Spray Valve	1.03	3.9
Commercial/Multifamily Clothes Washer CEE Tier 1	2.91	3.6
Commercial/Multifamily Clothes Washer CEE Tier 2	3.03	3.7
Commercial/Multifamily Clothes Washer CEE Tier 3	1.69	2.0
Steam Trap Survey and Replacement Commercial	1.00	1.6
Steam Trap Survey and Replacement Industrial	2.73	8.1
Custom Measures*	1.70	3.3

The last approved budget for this program was in Decision No. 70180 equal to \$218,545 for 2011. The proposed budget for this program is \$698,594 which represents an increase of \$480,049 or roughly a 219% increase.

Staff recommends approval of all of the measures except: High Efficiency Combination Oven, High Efficiency Convection Oven, and Programmable Thermostats. For Staff's recommended measures, Staff did not monetize the environmental benefits associated with the proposed measures but recognizes that there are benefits to the environment from the

implementation of these measures. When taking into consideration those environmental benefits, Staff recommends also approving the High Efficiency Fryer as an additional measure to the C&I program.

After considering the low participation levels for this program and the proven success of the direct install methodology, Staff recommends that UNS Gas be allowed to implement a direct install design whereby 75% of the incremental cost is being paid directly to the contractor rather than incentives paid to the customer. UNS Gas also requested the removal of the \$8,000 incentive cap for C&I customers and the \$25,000 incentive cap per school district. After reviewing the approval of these caps with Decision No. 70180, Staff is concerned that a removal of the incentive cap would lead to several larger commercial and industrial customers receiving the majority of the budgeted incentive dollars. However, Staff recognizes that with the increased number of measures available, the incentive cap is more likely to be reached sooner than with the limited number of measures available prior to this filing. Staff recommends increasing the incentive cap for C&I customers to \$16,000 and increasing the incentive cap per school district to \$50,000.

#### H. Multifamily Programs: Direct Install

UNS Gas is requesting budget approval to implement a new Multifamily Direct Install program to its current energy efficiency portfolio. This program is designed to encourage energy efficiency upgrades in the multifamily buildings of five or more units. Three measures have been proposed as part of the new Multifamily Direct Install Program: Low Flow Shower Heads (1.5 GPM), Kitchen Faucet Aerators (1.5 GPM), and Bathroom Faucet Aerators (1 GPM).

#### *Current Program*

This is a new program and does not replace or modify any current program.

#### *Proposed Changes*

Multifamily housing represents a vast opportunity for energy efficiency potential; however, this segment also brings with it substantial barriers to implementing energy efficiency programs such as lack of capital and lack of awareness of the benefits to energy efficiency upgrades. UNS Gas believes the 2-4 unit market segment is best served by its Residential Existing Homes Program. At the same time the 5+ multifamily housing market segment can be reached by both the C&I Facilities Program and this new Multifamily Direct Install Program.

The program would be structured such that delivery will occur through direct installation of selected low cost energy efficiency improvements in existing complexes. The program would be open to all existing multifamily housing complexes and new construction projects within the UNS Gas service area with five dwelling units or more. All UNS Gas customers who are property owners of existing residential multifamily complexes or developers of new complexes with five or more dwelling units would be eligible for the program.

The program is designed so that delivery would be through a direct installation effort of the faucet aerators and low flow shower heads. The installation would be at no cost to the owner as the program itself would pay for the full cost of the product installation. The installation would be completed by either the facility's existing maintenance personnel or through a program authorized installation contractor.

UNS Gas will market the program via communications with apartment managers and owners including options such as direct outreach, local newspapers and radio, and bill inserts. UNS Gas will also work with contractors and industry specialists to communicate the new program. The Company anticipates that property managers will take advantage of the offer and donate the labor to install the energy efficient devices.

*Proposed Budget*

The 2013 proposed budget for the Multifamily Direct Install Program is \$47,130. Proposed incentives make up \$8,058 of the total program budget. Overall Program Development, Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy efficiency programs.

*Cost Effectiveness*

Staff's review of the benefits and costs associated with the proposed new measures in the Multifamily Direct Install Program found that all three of the proposed new measures are cost-effective. Staff's benefit-cost analysis is presented in the table below.

Measure	Units	Present Value DSM Savings	Present Value DSM Cost	Benefit/Cost Ratio
Low Flow Shower Head	275	\$60,065.50	\$33,093.50	1.82
Kitchen Faucet Aerator	275	\$30,313.25	\$8,929.25	3.40
Bathroom Faucet Aerator	275	\$18,026.25	\$8,299.50	2.17

*Recommendations*

UNS Gas' analysis submitted with its original application indicated the Company had calculated a measure level Societal Cost Test ratio for the three new measures as 8.6 for the Low Flow Shower Head, 36.6 for the Kitchen Faucet Aerator, and 33.8 for the Bathroom Faucet Aerator. Staff's analysis led to the benefit-cost ratios indicated in the table above. Variances in the results can be pinpointed to differences including the fact that Staff's analysis includes the Program Level Non-Incentive Costs into the cost per unit at the measure level. UNS Gas did not include program costs in its Societal Cost Test analysis. Staff also utilized a calculated after-tax cost of capital as the discount rate for UNS Gas equal to 6.99% based on data from UNS Gas' last rate case (Decision No. 73142 dated May 1, 2012). UNS Gas' analysis utilized a 4% discount rate. The avoided natural gas cost used in Staff's calculation was based on index pricing provided by UNS Gas dated February 1, 2013. UNS Gas' original application utilized avoided costs for UNS Gas as of August 4, 2010.

Given the results of Staff's cost-benefit analysis, Staff recommends approval of all three new measures proposed in the new Multifamily Direct Install Program.

I. Support Program: Education and Outreach

UNS Gas is requesting budget approval to add this program to the UNS Gas energy efficiency portfolio.

*Current Program*

This is a new program and does not replace or modify any current program.

*Proposed Changes*

UNS Gas believes that to further its ability to meet overall performance goals in energy savings, its customers must understand the concept of energy efficiency and embrace those concepts. To meet this goal, UNS Gas is proposing to implement a new Education and Outreach program designed to encourage higher levels of participation in DSM programs. The Company will strive to educate residential and commercial customers on how to conserve energy and in turn lower their gas utility bills. UNS Gas will strive to educate customers about their energy use decisions, actions, and options for increasing energy efficiency through the new Education and Outreach Program.

The education of consumers about their energy use would occur through a variety of avenues such as: bill messages, website interaction through uesaz.com, UNS Gas customer care representatives will be knowledgeable about energy efficiency issues, bill inserts, email newsletters, and even participation at fairs and other local events. The intention behind the program is to help customers understand and embrace the concept of DSM and to encourage higher levels of participation in the DSM programs offered. This program would support all DSM program marketing and advertising efforts.

All UNS Gas residential and commercial customers will be eligible for this program. In addition, UNS Gas' existing "Bright" energy efficiency marketing platform will still be used to keep in touch with customers via social media such as Facebook and Twitter.

*Proposed Budget*

The 2013 proposed budget for the Education and Outreach Program is \$29,731. Overall Program Development, Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy efficiency programs.

*Cost Effectiveness*

Staff's review of this program did not include completing a cost-benefit analysis since this is an education program, there is not a calculation for energy savings.

*Recommendations*

UNS Gas is requesting approval to recover the cost of the program through the DSMS but will not have accompanying direct energy savings from this program. Staff agrees with UNS Gas that the program will directly benefit other DSM programs by increasing awareness of those programs and ultimately increasing participation in those programs. Staff recommends approval of the Education and Outreach Program as a new program offered in the UNS Gas energy efficiency portfolio.

J. Support Programs: Codes Support

UNS Gas is requesting budget approval to add this pilot program to the UNS Gas energy efficiency portfolio.

*Current Program*

This is a new program and does not replace or modify any current program.

*Proposed Changes*

UNS Gas is requesting to implement a pilot Energy Codes Support Program designed to increase energy savings in new construction and renovated buildings in both the residential and commercial segments to improve compliance levels with building codes and establish a process passing on periodic energy code updates. The Company recognizes that building energy codes are a simple cost-effective way of achieving energy savings; however, the Company also recognizes that many energy code officials lack the time and resources to enforce those codes. In addition, building design professionals may not be well informed of energy code requirements. UNS Gas believes that the Energy Codes Support Program will reduce energy consumption and assist in improving compliance with existing and future energy codes.

This program will be open to all new construction and existing facilities that receive gas service from UNS Gas. All UNS Gas customers who are property owners of existing residential or small commercial facilities, new home builders, and commercial property developers can take part in this program. To reach this audience with the energy codes message, UNS Gas will hold trainings for local code officials and building design professionals to promote code compliance. UNS Gas will also keep apprised of changes and market trends in energy codes and pass that information on to local groups responsible for energy code compliance and enforcement.

In addition, the Energy Codes Support Program will facilitate energy savings through adoption of codes where they currently do not exist and act as an advocate for energy code updates over time. The program will also provide support to local jurisdictions through such activities as: classroom training sessions/brown bag training sessions/field training sessions for code officials and building professionals, purchasing energy code books for officials and supporting energy code certifications. UNS Gas will also coordinate activities with the Southwest Energy Efficiency Project ("SWEEP") to support research on and adoption of building codes and equipment standards.

*Proposed Budget*

The 2013 proposed budget for the Energy Codes Support Program is \$38,077. Overall Program Development, Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy efficiency programs.

*Cost Effectiveness*

Staff's review of this program did not include completing a cost-benefit analysis since this is an education program, there is not a calculation for energy savings.

*Recommendations*

UNS Gas will take an integrated evaluation approach to develop savings methodologies for estimating savings from the implementation of more stringent energy code adoption and increased energy code compliance. UNS Gas will propose a calculation methodology to gauge energy savings from energy code adoption to the Commission.

Staff agrees with UNS Gas' assessment that energy savings can be achieved through the adherence to energy codes. Staff also understands that these codes vary widely across the state of Arizona and that education on what the codes are is key to implementation. Staff recommends approval of the Energy Codes Support Program.

**BUDGET**

<b>UNS GAS, INC. 2013 EE BUDGET</b>				
	<u>Actuals</u>	<u>Actuals</u>	<u>UNS Proposed</u>	<u>Staff Proposed</u>
	<u>2011</u>	<u>2012**</u>	<u>2013</u>	<u>2013</u>
<b>Residential Programs</b>				
Existing Homes	\$564,125	\$622,152	\$941,965	<b>\$933,120</b>
New Construction	\$47,328	\$90,504	\$140,932	<b>\$140,932</b>
Low Income Weatherization	\$201,500	\$143,696	\$201,500	<b>\$201,500</b>
Energy Financing	\$16,917	\$2,310	\$24,740	<b>\$0</b>
Behavioral Comprehensive (K-12)	\$0	\$0	\$29,731	<b>\$29,731</b>
<b>Non-Residential Programs</b>				
C&I Facilities	\$114,484	\$150,908	\$698,594	<b>\$665,047</b>
Multifamily Direct Install	\$0	\$0	\$47,130	<b>\$47,130</b>
<b>Both Residential &amp; Non-Residential Programs</b>				
Solar Thermal Water Heating	\$0	\$0	\$115,122	<b>\$115,122</b>
<b>Support Programs</b>				
Education & Outreach	\$0	\$0	\$29,731	<b>\$29,731</b>
Codes Support	\$0	\$0	\$38,077	<b>\$38,077</b>
Program Development, Analysis, Reporting, Software*	\$134,451	\$26,881	\$118,485	<b>\$118,485</b>
Baseline Study	\$7,046	\$0	\$0	<b>\$0</b>
<b>Annual Program Cost/Budget Per Year</b>	<b>\$1,085,851</b>	<b>\$1,036,451</b>	<b>\$2,386,007</b>	<b>\$2,318,875</b>

\*Program Development, Analysis, Reporting Software costs are allocated across all programs for benefit-cost analysis purposes.

\*\*2012 Actuals were supplied by UNS Gas but have not been reported on the DSM report yet this year.

The above table details UNS Gas' proposed energy efficiency budget for the remainder of 2013 and Staff's recommended budget (in bold) which removes funding for those programs not cost-effective. Staff's proposed budget for 2013 represents an increase of approximately \$1.3 million which is just slightly more than double the actual budget for 2012. Given the number of new measures UNS Gas is proposing that have a benefit-cost ratio greater than one, Staff recommends approval of the Staff-proposed budget as stated above.

Given that a few of the new measures proposed by UNS Gas were not considered cost-effective at this point in time, Staff has adjusted the projected savings UNS Gas may reach in 2013 below.

PROJECTED ENERGY EFFICIENCY SAVINGS (with recommended measures)				
	2010	2011	2012	2013
Actual/Projected Sales (therms)	140,222,684	139,990,850	135,765,533	150,607,549
Required Savings (%)		0.50%	1.20%	1.80%
Required Savings From Prior Year Sales (therms)		701,113	1,679,890	2,443,780
Energy Efficiency Programs Savings (therms)		281,203	217,426	476,895
Renewable Energy Technology Programs Savings (therms)		0	0	19,113
Total Savings (therms)		281,203	217,426	496,008
Total Cumulative Savings (therms)		281,203	498,629	994,637
Savings (%)		0.201%	0.356%	0.733%
Difference Between Required Savings and Projected/Actual Savings (therms)		419,910	1,181,261	1,449,143

### BUDGET SHIFTING

UNS Gas has requested the ability to shift up to 50 percent of its approved funds from residential to non-residential sector programs, or from non-residential to residential sector programs, based on program activity. The Company has also requested that it be allowed to increase the total budget for the energy efficiency programs by up to 25 percent, where cost-effective. The Company states that this type of flexibility maximizes participation in successful programs and allows it to continue accepting applications from customers in cases where an individual program may be over-subscribed.

While the Commission has allowed utilities to shift energy efficiency program funding among programs or measures within the residential sector, or among programs or measures within the non-residential sector, recent practice has been to limit shifting from sector to sector, to ensure that both residential and non-residential customers have reasonable opportunity to participate in energy efficiency programs. Allowing funding shifts among programs or measures within a sector allows a reasonable degree of flexibility, but ensures reasonable access to participation in energy efficiency programs for both residential and non-residential customers.

When considering the proposed budget that Staff is recommending for 2013 includes an almost doubling of actual dollars spent in 2011 and 2012, Staff believes that a reasonable amount of flexibility has already been incorporated into the 2013 proposed budget. Staff recommends that UNS Gas be allowed to shift funds (up to 25% of the program's budgeted funds) between measures and programs within each customer segment but not be allowed to shift funds between residential and non-residential segments (with the exception that budgeted dollars for LIWP

should not be allocated to other programs). Staff agrees with UNS Gas that it is helpful for utilities to have the flexibility to increase the budget slightly if necessary to maximize participation. Staff recommends that UNS Gas be allowed to increase the total budget for the energy efficiency programs by up to 5 percent, where cost-effective.

#### MEASUREMENT, EVALUATION, AND RESEARCH (MER)

In its original application, UNS Gas requested that the reporting requirements outlined in A.A.C. R14-2-2509 supersede the reporting requirements detailed in Decision No. 70011 dated November 27, 2008. Currently, UNS Gas is required to file its DSM surcharge filing on April 1<sup>st</sup> each year (with the surcharge taking effect June 1<sup>st</sup> of each year) and its semi-annual DSM reports on March 1<sup>st</sup> and September 1<sup>st</sup> of each year. A.A.C. R14-2-2509 outlines that specific DSM reports be filed April 1<sup>st</sup> and October 1<sup>st</sup> of each year.

Staff agrees that in order to avoid confusion and duplicative filings, the reporting requirements detailed in A.A.C. R14-2-2509 supersede those reporting requirements outlined in Decision No. 70011 so that UNS Gas would be required to file DSM reports on April 1<sup>st</sup> and October 1<sup>st</sup> of each year.

#### DSMS

In order to propose a DSMS that is most reflective of the Company's current position, Staff requested updated DSM balance (estimated as of December 2012) information and projected sales for 2013. The updated balance and terms can be seen in the table below along with Staff's calculation of the proposed DSMS (with the reduced budget for measures not cost-effective) and the impact to a residential customer bill.

DEMAND SIDE MANAGEMENT SURCHARGE		
STAFF PROPOSED 2012-2013 PLAN CALCULATION		
(a)	Total Therm Sales (Including CARES):*	154,937,268
(b)	Less CARES Sales Forecast:	3,981,782
(a) – (b) = (c)	Total Therms Applicable to Surcharge	150,955,486
	Total Budget	\$2,318,875
	Carry-Over DSM Balance (over-collected)	\$348,625
(d)	Total DSM Cost to be Recovered	\$1,970,250
(d) / (c) = (e)	Proposed Surcharge (per therm)	\$0.0131
(f)	Current Surcharge (per therm)**	\$0.0084
(g)	Average Residential Monthly Usage (therms)	45

(f) x (g) = (h)	Surcharge \$ Collected (Current Surcharge)	\$0.3780
(e) x (g) = (i)	Surcharge \$ Collected (Proposed Surcharge)	\$0.5873
(i) - (h)	Monthly Bill Impact for Residential Customers	\$0.2093

\*Total therm sales for purposes of calculating the surcharge include all customer volumes including transport customers. Therm sales reported for purposes of meeting the GEES do not include transport only customers.

**WAIVER REQUEST**

In its original application, UNS Gas indicated that it would make all efforts to meet the 2011 EE Standard target of 0.50% of prior year sales. Actual 2011 savings was 0.201%. Given the result for 2011 and the time that has passed in implementing a new energy efficiency plan with additional measures, UNS Gas has requested a waiver of the GEES in A.A.C. R14-2-2504.B. Specifically in its September 2011 filing, UNS Gas has requested a modification of the GEES as detailed in the table below.

Requested Waiver To Standard		
Calendar Year	Cumulative Energy Efficiency Standard (Current)	Cumulative Energy Efficiency Standard (UNS Gas Requested Modification)
2011	0.5%	0.08%
2012	1.2%	0.61%
2013	1.8%	1.20%
2014	2.4%	1.80%
2015	3.0%	2.40%
2016	3.6%	3.00%
2017	4.2%	3.60%
2018	4.8%	4.20%
2019	5.4%	4.80%
2020	6.0%	5.40%

Staff recognizes UNS Gas' efforts in implementing cost-effective energy efficiency programs that are beneficial to all customer classes. Staff also realizes that the current market dominated with low natural gas prices leads to difficulty in finding cost-effective options to save on natural gas usage. UNS Gas has an established energy efficiency program and has provided new measures for increasing the opportunity for energy savings. However, Staff believes that UNS Gas should continue to strive to hit the established GEES each year. Staff recommends a waiver be granted to UNS Gas of the GEES Standards established in A.A.C. R14-2-2504.B for the calendar years 2012 and 2013. Waivers of future years' requirements can be evaluated during future years' implementation plan reviews.

Staff recommends that UNS Gas implement its plan as modified by Staff above for the remainder of 2013 and be required to file its next energy efficiency plan no later than June 1, 2013 pursuant to A.A.C. R14-2-2505. Also, as indicated above, Staff recommends that A.A.C.

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R14-2-2509 supersede those reporting requirements outlined in Decision No. 70011 so that UNS Gas would be required to file DSM reports on April 1<sup>st</sup> and October 1<sup>st</sup> of each year.

In addition, Staff recommends that the UNS Gas EE Plan filed in compliance with A.A.C. R14-2-2505 be considered sufficient in meeting the requirements of R14-2-313.

Staff also recommends that UNS Gas revise Exhibit 3 (Clean Version and Redlined Version) from its September 6, 2011 filing, the Demand Side Management Surcharge (DSMS) tariff – Rider R-2, so that the tariff is consistent with the terms of the Commission's Decision. This tariff should be submitted to Docket Control within 30 days of the effective date of this Decision



Steven M. Olea  
Director  
Utilities Division

SMO:RSP:sms/WVC

ORIGINATOR: Ranelle Paladino

BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP  
Chairman  
GARY PIERCE  
Commissioner  
BRENDA BURNS  
Commissioner  
BOB BURNS  
Commissioner  
SUSAN BITTER SMITH  
Commissioner

IN THE MATTER OF THE APPLICATION  
OF UNS GAS, INC. FOR APPROVAL OF  
ITS GAS ENERGY EFFICIENCY  
IMPLEMENTATION PLAN FOR 2011 AND  
2012

DOCKET NO. G-04204A-11-0149

DECISION NO. \_\_\_\_\_

ORDER

Open Meeting  
April 9 and April 10, 2013  
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. On October 19, 2012, Staff filed a Memorandum and Proposed Order regarding the UNS Gas, Inc. ("UNS Gas" or the "Company") application for approval of its 2011-2012 Gas Energy Efficiency Implementation Plan. The Company filed its exceptions to Staff's Proposed Order on October 31, 2012. Staff filed Proposed Amendment No. 1 on November 5, 2012. Comments were filed by the Residential Utility Consumer Office ("RUCO") on November 7, 2012 and a Notice of Errata was filed by RUCO on November 20, 2012. On January 28, 2013, UNS Gas filed a response to RUCO's comments.

2. Based on the length of time that has passed since the filing of Staff's Proposed Order and a correction made to Staff's analysis, Staff has submitted a Revised Memorandum and Proposed Order replacing the previously filed Open Meeting Memorandum and Proposed Order.

...

1 The revised analysis takes into consideration changes in natural gas prices since May of 2012 and  
2 budget numbers that were revised by UNS Gas on February 6, 2013.

### 3 INTRODUCTION

4 3. On April 4, 2011, UNS Gas filed an application with the Arizona Corporation  
5 Commission ("Commission") requesting approval of its 2011-2012 Gas Energy Efficiency  
6 Implementation Plan ("EE Plan") and a change to its Demand-Side Management ("DSM")  
7 Surcharge ("DSMS").

8 4. On September 6, 2011, UNS Gas filed updated information applicable to its EE  
9 Plan. Specifically, UNS Gas updated the budget information and portfolio savings filed in its  
10 original application. UNS Gas also filed to update the DSMS that was filed in its original  
11 application and requested a waiver and modification of the Gas Energy Efficiency Standards  
12 ("GEES") pursuant to A.A.C. R14-2-2520 and the Cumulative Energy Efficiency Standard set  
13 forth in A.A.C. R14-2-2504.B.

14 5. On April 17, 2012, UNS Gas filed an amendment to its original application for its  
15 EE Plan to include approval for the 2013 Energy Efficiency Plan. The Company did not plan to  
16 propose any changes to the proposed EE Plan programs, budgets, or DSMS previously filed in this  
17 docket and requested the Commission waive the requirement for the Company to file a separate  
18 2013 Plan. UNS Gas also filed to modify its previous request for a waiver of the GEES to  
19 incorporate a new table outlining the GEES levels the Company believes it can obtain.

20 6. Prior to the completion of Staff's revised memorandum and proposed order, UNS  
21 Gas provided Staff with updated natural gas pricing and budgets more reflective of the current  
22 activity in the UNS Gas territory regarding the energy efficiency implementation plan for the  
23 remainder of 2013 ("2013 EE Plan").

24 7. UNS Gas is certificated to provide natural gas service as a public service  
25 corporation in the State of Arizona. UNS Gas is a wholly-owned subsidiary of UniSource Energy  
26 Services and is engaged in providing natural gas service within portions of Arizona, pursuant to  
27 authority granted by the Commission. UNS Gas provides natural gas service in the counties of  
28 Apache, Coconino, Mohave, Navajo, Santa Cruz and Yavapai. As of December 2011, the

1 Company had approximately 147,500 customers. Of that total, 135,050 are Residential customers.  
2 The remainder of the customers are a mix of Commercial, Industrial, and Municipal customers.

### 3 **EE PLAN OVERVIEW**

4 8. UNS Gas' 2013 EE Plan contains new programs, enhancements to existing  
5 programs, and continued support for already successful programs. The 2013 EE Plan is designed  
6 to comply with the Commission's GEES and to provide a framework for future compliance. For  
7 the Company's existing and proposed DSM programs, the 2013 EE Plan estimates each program's  
8 total cost and the cost per therm reduction, and explains how these programs comply with the  
9 requirements in the GEES.

10 9. To implement the 2013 EE Plan, UNS Gas is requesting an updated plan budget  
11 total of approximately \$2.3 million with a slight increase to the current DSMS.

12 10. The UNS Gas 2013 EE Plan includes the implementation of new programs, changes  
13 to current programs, and the continuation of cost-effective DSM programs already in place.  
14 Included in the new programs are: Multifamily Direct Install, Behavioral Comprehensive,  
15 Education and Outreach, Codes and Support, and a Renewable Energy Technology ("RET")  
16 program for Solar/Thermal Water Heating. The Company also is enhancing current programs  
17 through the addition of new measures to Existing Homes/Direct Install and Commercial and  
18 Industrial ("C&I") Facilities. UNS Gas has also filed to increase eligibility for its existing Low  
19 Income Weatherization Program ("LIWP") and to continue administering the Joint Utility  
20 Residential New Construction and Energy Efficiency Residential Financing program. The UNS  
21 Gas 2013 EE Plan includes a mix of programs targeted to multiple customer segments as detailed  
22 below.

#### 23 Residential Programs

- 24 • Existing Homes
- 25 • New Construction
- 26 • LIWP
- 27 • Energy Financing
- Behavioral Comprehensive Program
- Solar Thermal Water Heating (RET)

28



1		<ul style="list-style-type: none"> <li>• &gt;25 inches.</li> <li>• Add a measure for High-Efficiency Single Rack Oven.</li> <li>• Add a measure for High-Efficiency Double Rack Oven.</li> <li>• Add a measure for High-Efficiency Energy Star® Steam Cooker.</li> </ul>
2		
3	HVAC/Process Heat (incentives paid to contractor)	<ul style="list-style-type: none"> <li>• Add a measure for High-Efficiency Condensing Unit Heaters (131,000-305,000 Btuh).</li> <li>• Add a measure for Power-Vented Unit Heaters (150,000-300,000 Btuh).</li> <li>• Add a measure for Programmable Thermostats.</li> <li>• Add a measure for Custom Modifications covering 75% of incremental costs for a custom project equivalent to \$2,700 based on first year savings.</li> <li>• Add a measure for High-Efficiency Space Heating Steam Boilers (&gt;300 kBtuh).</li> <li>• Add a measure for Survey and Replacement of Commercial Steam Traps.</li> <li>• Add a measure for Survey and Replacement of Industrial Steam Traps.</li> </ul>
4		
5		
6		
7		
8		
9		
10	Water Heating (incentives paid to contractor)	<ul style="list-style-type: none"> <li>• Add a measure for High-Efficiency Pool and Spa Heaters (&lt;500 kBtuh).</li> <li>• Add a measure for Low-Flow Pre Rinse Spray Valves.</li> <li>• Add measures for Commercial Multi-Family Clothes Washers CEE Tier 1, 2, and 3.</li> </ul>
11		
12		
13	<b>Multifamily Direct Install</b>	
14	Water Heating (incentives paid to contractor)	<ul style="list-style-type: none"> <li>• Implement a new program with a measure for Low Flow Shower Head (1.5 GPM).</li> <li>• Implement a new program with a measure for Kitchen Faucet Aerators (1.5 GPM).</li> <li>• Implement a new program with a measure for Bathroom Faucet Aerators (1 GPM).</li> </ul>
15		
16	<b>Non-Residential Solar Water Heating</b>	
17	Water Heating	<ul style="list-style-type: none"> <li>• Implement a new program for qualified solar thermal systems new construction and retro-fit Commercial Gas Water Heater with incentive offered upon proof of purchase after system is installed and operational.</li> </ul>
18		
19	<b>Other Support Programs</b>	
20	Codes Support	<ul style="list-style-type: none"> <li>• Implement a new program to increase energy savings through improving levels of compliance with existing building energy codes and supporting/informing residential and commercial sectors of energy code updates.</li> </ul>
21		
22	Education and Outreach	<ul style="list-style-type: none"> <li>• Implement a new program to provide customers with the tools and knowledge necessary to better manage their energy use including marketing/education on available DSM options and the importance of energy efficiency.</li> </ul>
23		
24		

13. The Commission approved the GEES in Decision No. 72042 on December 10, 2010, in Docket No. RG-00000B-09-0428. The rules are designed to cause affected utilities to achieve therm or therm equivalent savings through DSM and RET programs in order to ensure reliable gas service at reasonable rates and costs. As established in these rules, "energy efficiency" means the production or delivery of an equivalent level and quality of end-use gas service using Decision No. \_\_\_\_\_

1 less energy, or the conservation of energy by end-use customers. Energy efficiency is a type of  
2 DSM. DSM programs promote materials, devices, technologies, educational programs, practices,  
3 or facility alterations designed to result in increased energy efficiency, including combined heat  
4 and power used to displace space heating, water heating, or another load. RET programs promote  
5 technology applications.

6 14. The GEES rules outline specific cumulative annual energy savings by calendar  
7 year. Under A.A.C. R14-2-2504.B, UNS Gas is required to meet a cumulative annual energy  
8 savings for calendar year 2011 of 0.50% of retail energy sales in the prior year. For 2012, that  
9 cumulative annual energy savings is 1.20% of retail energy sales in the prior year. Based on UNS  
10 Gas' most recently filed full year Annual DSM Progress Report filed on April 2, 2012, UNS Gas  
11 reached a cumulative annual EE savings as a percent of previous year's retail sales of 0.20% for  
12 2011. Based on end of year estimates, UNS Gas will reach a cumulative annual EE savings as a  
13 percent of previous year's retail sales of 0.36% for 2012.

#### 14 **PROPOSED PROGRAM CHANGES**

15 15. UNS Gas' 2013 EE Plan is comprised of several new programs falling into both the  
16 residential and non-residential categories and new programs which apply across both categories of  
17 customers. UNS Gas has designed a comprehensive portfolio of programs in an effort to deliver  
18 gas energy savings to meet, or come close to meeting, annual DSM energy savings goals as  
19 outlined in the GEES.

##### 20 A. Residential Programs: Existing Homes

21 16. UNS Gas is requesting budget approval to continue this program (previously  
22 referred to as the Residential HVAC Program and Efficient Home Heating Program) plus approval  
23 for adding these additional measures: high-efficiency residential boilers; pipe wrap; and high-  
24 efficiency pool and spa heaters.

##### 25 *Current Program*

26 17. This program was approved by the Commission in Decision Nos. 72045 dated  
27 December 10, 2010, and 72056 dated January 6, 2011. The program is targeted to all existing  
28 homes in need of energy efficiency improvements. The program has two components. The first

1 component is the current program. It involves an initial energy audit including the direct  
2 installation of low-flow shower heads and faucet aerators. This is followed by the identification of  
3 larger home energy efficiency improvements and a referral to a Building Performance Institute  
4 (“BPI”) certified contractor who will assist with the larger improvements.

5 *Proposed Changes*

6 18. UNS Gas is requesting to continue the current residential existing homes program  
7 and add to it a second component that promotes the installation of pipe wrap, high-efficiency  
8 boilers, and high-efficiency pool and spa heaters. The program hopes to achieve increased energy  
9 savings from the installation of even more energy-efficient measures and contribute toward  
10 transforming the industry to emphasize best practice building science principles.

11 19. The high-efficiency steam heating boilers will be offered with an incentive of \$500  
12 per unit for a replacement on burnout of existing boilers. UNS Gas estimates to install 4 units in  
13 2013. The pipe wrap option will be an option for a homeowner to add pipe wrap to pipes on an  
14 existing water heater. UNS Gas plans to offer pipe wrap on the first six feet of pipe with an  
15 incentive of \$12 per installation. They plan to install 200 units in 2013. The high-efficiency pool  
16 and spa heater option is a replacement on burnout option allowing for an incentive of \$150 per unit  
17 with an estimated 5 units installed in 2013. UNS Gas will provide program management,  
18 oversight, and marketing through website promotion, community interest groups, mass-market  
19 channels, brochures and bill inserts, trade ally marketing efforts, contractor enrollment and  
20 training.

21 20. A third party implementation contractor will be responsible for the recruitment,  
22 training, and mentorship of participating contractors, retailers and manufacturers; training energy  
23 auditors; data tracking; rebate processing; and technical support. Program delivery will be  
24 coordinated with Arizona Public Service (“APS”) and UNS Electric to address any overlap among  
25 the utilities.

26 ...

27 ...

28 ...

1 *Proposed Budget*

2 21. The 2013 proposed budget for the Residential Existing Homes Program is  
3 \$941,965. Proposed incentives make up \$557,650 of the total program budget. Overall Program  
4 Development, Analysis, and Reporting Software costs would be allocated across all of the cost-  
5 effective energy efficiency programs.

6 *Cost Effectiveness*

7 22. Staff's review of the benefits and costs associated with the proposed changes with  
8 the addition of new measures in the Residential Existing Homes Program found that the new  
9 measures are not cost-effective at this point in time. Given the nature of the current natural gas  
10 market, the benefits in terms of therm and capacity savings do not outweigh the costs associated  
11 with the measures. Staff's benefit-cost analysis is presented in the table below.

Measure	Units	Present Value DSM Savings	Present Value DSM Cost	Benefit/Cost Ratio
High Efficiency Boiler	4	\$2,164.40	\$4,540.88	0.48
Pipe Wrap	200	\$4,670.00	\$5,406.00	0.86
Pool and Spa Heater	5	\$1,387.85	\$1,631.15	0.85

16 *Recommendations*

17 23. UNS Gas' analysis submitted with its original application indicated the Company  
18 had calculated a measure level Societal Cost Test ratio for the three new measures as 1.2 for the  
19 boiler, 1.2 for the pipe wrap, and 2.2 for the pool and spa heaters. Staff's analysis led to the  
20 benefit-cost ratios indicated in the table above. Variances in the results can be pinpointed to a few  
21 analysis differences including the fact that Staff's analysis includes the Program Level Non-  
22 Incentive Costs into the cost per unit at the measure level. UNS Gas did not include program costs  
23 in its Societal Cost Test analysis. Staff also utilized a calculated after-tax cost of capital as the  
24 discount rate for UNS Gas equal to 6.99% based on data from UNS Gas' last rate case (Decision  
25 No. 73142 dated May 1, 2012). UNS Gas' analysis utilized a 4% discount rate. The avoided  
26 natural gas cost used in Staff's calculation was based on index pricing provided by UNS Gas dated  
27 February 1, 2013. UNS Gas' original application utilized avoided costs for UNS Gas as of August  
28 4, 2010.

1           24.    The last approved budget for this program, approved in Decision Nos. 72045 and  
2 72056, was equal to \$1,077,145 for 2011. The proposed budget for this program for 2013 is  
3 \$941,965. This represents a decrease of \$135,180 or roughly a 13% decrease.

4           25.    Given the results of Staff’s cost-benefit analysis, Staff has not recommended  
5 approval of the proposed new measures for the Residential Existing Homes Program.

6 B. Residential Programs: New Construction

7           26.    UNS Gas is requesting budget approval to continue this program with one  
8 modification that updates the construction standard and energy savings to Energy Star® v3.

9 *Current Program*

10          27.    This program was approved by the Commission in Decision No. 72023 dated  
11 December 10, 2010, as the Energy Smart Home-Joint Program. The program is designed with an  
12 incentive schedule that awards builders an additional incentive for installation of more efficient  
13 gas heating and water heating equipment than that required in the residential new home  
14 construction program. To qualify for an incentive, homes must first qualify for the APS Energy  
15 Star new home program, then be tested by an approved energy rater, and finally meet the required  
16 Home Energy Rating System (“HERS”) Index score.

17 *Proposed Changes*

18          28.    No new measures were requested for this program; however, new therm savings  
19 estimates were completed to update construction standards to Energy Star® v3.

20 *Proposed Budget*

21          29.    The 2013 proposed budget for the Residential New Construction Program is  
22 \$140,932. Overall Program Development, Analysis, and Reporting Software costs would be  
23 allocated across all of the cost-effective energy efficiency programs.

24 *Cost Effectiveness*

25          30.    This program was found cost-effective in Decision No. 72023 dated December 10,  
26 2010.

27 ...

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1 *Recommendations*

2 31. The last approved budget for this program was in Decision No. 72023 and was  
3 equal to \$218,375 for 2011. The proposed budget for this program for 2013 is \$140,932. This  
4 represents a decrease of \$77,443 or roughly a 35% decrease. Staff has recommended continuation  
5 of the current program at the proposed budget numbers.

6 C. Residential Programs: Low Income Weatherization

7 32. UNS Gas is requesting budget approval to continue the LIWP and modify the  
8 income eligibility levels from 150% of poverty level to track more closely with the percent of  
9 poverty level set by the Low Income Home Energy Assistance Program ("LIHEAP"). The current  
10 level set by LIHEAP is approximately 200% of poverty level. UNS Gas is also requesting a  
11 change to increase the maximum spending per home from \$2,000 to \$3,000 to be consistent with  
12 the funding given per home by UNS Electric and Tucson Electric Power Company ("TEP").

13 *Current Program*

14 33. This program was approved by the Commission in Decision No. 70180 dated  
15 February 27, 2008. The program is designed so that funding from UNS Gas, up to \$2,000 per  
16 home currently, is utilized to pay for energy efficient weatherization measures, equipment  
17 replacement and/or repair and other home improvements which may lower the average household  
18 energy consumption for low-income customers within the UNS Gas service territory.  
19 Weatherization measures are conducted in accordance with the Weatherization Assistance  
20 Program ("WAP") funded by the U.S. Department of Energy.

21 *Proposed Changes*

22 34. UNS Gas is requesting to continue the current residential Low Income  
23 Weatherization Program with an increase to the funding per home from \$2,000 to \$3,000 and  
24 adjust the income eligibility levels from 150% of poverty level to track more closely with the  
25 percent of poverty level set by LIHEAP.

26 ...

27 ...

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1 *Proposed Budget*

2 35. The 2013 proposed budget for the Residential Low Income Weatherization Program  
3 is \$201,501. Overall Program Development, Analysis, and Reporting Software costs would be  
4 allocated across all of the cost-effective energy efficiency programs.

5 *Cost Effectiveness*

6 36. Staff's review of this program included an examination of the results from the  
7 LIWP for January through December 2011. According to the Annual DSM Progress Report filed  
8 by UNS Gas in April 2012, UNS Gas had 117 households receive weatherization assistance during  
9 2011. The goal for the calendar year 2011 was 125 households. Savings reported for the same  
10 time period are 267,480 kWhs and 13,224 therms. By mid-year 2011, the Northern Arizona  
11 Council of Governments ("NACOG") had utilized all of the annual budget allocated to NACOG.  
12 An increase of \$25,000 was provided to NACOG in July 2011. NACOG completed 63% of the  
13 homes weatherized in 2011 for UNS Gas. No program marketing dollars were spent on this  
14 program in 2011 and none are being requested in 2013 as the popularity of the program is high  
15 without the need for advertising and promotion.

16 *Recommendations*

17 37. The last approved budget for this program was in Decision No. 71623 equal to  
18 \$200,000 for 2011. The proposed budget for this program is \$201,501 which represents an  
19 increase of \$1,501 or roughly less than 1% increase. Given the high degree of interest in the  
20 program in 2011, Staff has recommended continuing the LIWP.

21 38. The change requested by the Company to increase the income eligibility from  
22 where it is currently set at 150% of the federal poverty level to track with LIHEAP which is  
23 currently 200% of poverty level seems reasonable to Staff as these guidelines are also used by the  
24 Governor's Office Of Energy Policy. However, Staff has not recommended approval of UNS Gas'  
25 request to provide increased dollar allocations per home being weatherized. Staff's benefit-cost  
26 analysis for the increase in spending versus leaving the per home dollar allocation where it is now  
27 revealed the current level of allocation is a benefit-cost ratio of 1.39. Staff has recommended  
28 continuing with the current per home allocation of \$2,000.

1 D. Residential Programs: Energy Financing

2 39. UNS Gas is requesting budget approval to continue this pilot program with no  
3 modifications.

4 *Current Program*

5 40. This program was approved by the Commission in Decision No. 72062 (January 6,  
6 2011) as a two-year pilot program. The program offers energy efficiency loans to UNS Gas  
7 customers who are seeking financing to assist in paying for energy efficiency improvements to  
8 their homes. Loan dollars can be used for energy efficiency measures that have been approved by  
9 the Commission as part of the Residential Existing Homes program. The program objective is to  
10 offer 9.99% interest unsecured loans with a 2% interest rate buy down resulting in a low-interest  
11 loan at 7.99%. Loans are available for up to \$10,000 with repayment terms up to 12 years.

12 *Proposed Changes*

13 41. UNS Gas is requesting to continue the current residential energy financing pilot  
14 program and to add those new measures submitted with the proposed changes to the Residential  
15 Existing Homes Program (pipe wrap, high-efficiency boilers, and high-efficiency pool and spa  
16 heaters) to the list of approved measures for which the loan can be used.

17 *Proposed Budget*

18 42. The 2013 proposed budget for the Residential Energy Financing Program is  
19 \$24,740.

20 *Cost Effectiveness*

21 43. Staff's review of this program included an examination of the results from the  
22 Residential Energy Financing Program for January through December 2011. According to the  
23 Annual DSM Progress Report filed by UNS Gas in April 2012, UNS Gas had no participants in  
24 this pilot program during 2011 and there were no savings reported for the same time period.  
25 Expenses for 2011 totaled \$16,917. UNS Gas redirected its efforts during 2011 to focus more on a  
26 local lending partner given the relative small scale of the program. In December 2011, UNS Gas  
27 had a contract with Vantage West Credit Union in Tucson to fund the residential loans. The loan  
28 terms from the original agreed upon terms in Decision No. 72062 have changed slightly with the

1 switch to an in-state lender. There will be a reduction in the buy-down costs of approximately  
2 \$310,000 during the first two years of the program, a more liquid treatment of the loan loss reserve  
3 account, and a reduction in the term of the loan for the residential customer from 12 years to 10  
4 years.

5 *Recommendations*

6 44. After talking with UNS Gas, Staff understands the challenges UNS Gas has faced in  
7 implementing this program during a downturn in the economy when so many residential customers  
8 are struggling to stay employed and pay existing bills. According to UNS Gas, it has had little  
9 interest from customers but has had a good dialogue open with participating contractors and are  
10 compiling feedback on barriers.

11 45. The last approved budget for this program was in Decision No. 72062 equal to  
12 \$321,386 for 2011. The proposed budget for this program is \$24,740 which represents a decrease  
13 of \$296,646 or roughly a 92% decrease.

14 46. Given the slow start to the implementation of this pilot program which included the  
15 vendor delaying implementation until the TEP Energy Efficiency program is approved and the  
16 lack of interest to date in this program, Staff does not recommend going forward with the program  
17 at this point in time.

18 E. Residential Programs: Behavioral Comprehensive Program

19 47. UNS Gas is requesting budget approval to implement a K-12 Education measure as  
20 part of the new Behavioral Comprehensive Program. The Behavioral Comprehensive Program is  
21 designed to provide customers with more information to allow them to better understand and  
22 manage their energy usage. This K-12 program incorporates energy-based classroom curriculum  
23 instructing students on energy saving approaches that can be implemented in their homes. This  
24 program is an extension of the existing UNS Electric education program approved in Decision  
25 No.70401 (July 3, 2008).

26 *Current Program*

27 48. This is a new program and does not replace or modify any current program.

28 ...

1 *Proposed Changes*

2 49. UNS Gas is requesting to implement a K-12 Education program which will target  
3 teachers who are willing to add the energy-based classroom curriculum to their existing  
4 educational program. The K-12 Education approach involves sending students home with energy  
5 conservation kits containing a low-flow shower head, faucet aerator, and furnace whistle in  
6 addition to educational materials regarding actions that can be taken to reduce energy use. A  
7 student report card will be developed to determine how many of the items delivered in the kit were  
8 actually installed. Implementation will be handled by a third party contractor, and extra effort will  
9 be made to coordinate the school program with other energy efficiency efforts in the same  
10 neighborhood. UNS Gas estimates delivering 1,000 energy conservation kits.

11 *Proposed Budget*

12 50. The 2013 proposed budget for the Residential K-12 Education Program is \$29,731.

13 *Cost Effectiveness*

14 51. Staff's review of the benefits and costs associated with the proposed new  
15 Residential K-12 Education Program found that the education program is cost-effective. In the  
16 analysis, Staff utilized UNS Gas' energy savings estimates which assumed installation of the low  
17 flow shower head (21 therm savings annually), kitchen aerator (34 therm savings annually), and a  
18 furnace whistle (7 therm savings annually). The savings estimates also took into consideration  
19 water savings benefits from the installation of a low flow shower head and a kitchen aerator.

Measure	# of Kits	Present Value DSM Savings	Present Value DSM Cost	Benefit/Cost Ratio
K-12 Education Program	1,000	\$216,780.00	\$73,060.00	2.97

22 \*Total participation was estimated at 50% of the total number of kits distributed.

23 *Recommendations*

24 52. UNS Gas' analysis submitted with its original application indicated the Company  
25 had calculated a measure level Societal Cost Test ratio for the Residential K-12 Education  
26 Program of 18.7. Staff's analysis led to the benefit-cost ratio indicated in the table above.  
27 Variances in the results can be pinpointed to the fact that Staff's analysis includes the Program  
28 Level Non-Incentive Costs into the cost per unit at the measure level. UNS Gas did not include

1 program costs in its Societal Cost Test analysis. Staff also included the cost of the shower head,  
2 kitchen aerator, and the furnace whistle as an implementation cost rather than an incentive cost as  
3 UNS Gas did. In addition, Staff utilized a calculated after-tax cost of capital as the discount rate  
4 for UNS Gas equal to 6.99% based on data from UNS Gas' last rate case (Decision No. 73142  
5 dated May 1, 2012). UNS Gas' analysis utilized a 4% discount rate. The avoided natural gas cost  
6 used in Staff's calculation was based on index pricing provided by UNS Gas dated February 1,  
7 2013. UNS Gas' original application utilized avoided costs for UNS Gas as of August 4, 2010.

8 53. Given the results of Staff's cost-benefit analysis, Staff has recommended approval  
9 of the Residential K-12 Education Program.

10 F. Residential and Commercial Programs: Solar Water Heating

11 54. UNS Gas is requesting budget approval to implement a Residential and  
12 Commercial Solar Thermal Water Heating Program. The Solar Thermal Water Heating Program  
13 would be offered to existing residential customers, residential new construction customers, and  
14 existing and new small commercial customers.

15 *Current Program*

16 55. This is a new program and does not replace or modify any current program.

17 *Proposed Changes*

18 56. UNS Gas is requesting to implement a solar thermal water heating program which  
19 offers incentives to participating customers on qualified solar thermal systems upon proof of  
20 purchase and after the system is installed and operational. To qualify, a system must be listed by  
21 the Solar Rating Certification Council ("SRCC") and have OG-300 certification. Typically,  
22 customers in the UNS Gas service territory own and operate either conventional gas or electric  
23 storage water heaters. These water heating systems can be very energy inefficient. However,  
24 consumers are reluctant to change water heating systems due to capital constraints or lack of  
25 awareness of more energy efficient options. UNS Gas is proposing to remove barriers to the  
26 installation of solar thermal water heating and increase customer acceptance and program  
27 participation by allowing customers to receive the incentive themselves or choose to assign the  
28 incentive payment directly to the installer, thus reducing initial out-of-pocket investments. All

1 UNS Gas customers who are property owners of existing residential or small commercial facilities,  
2 new home builders, and commercial property developers are eligible for this program.

3 57. UNS Gas plans to maximize opportunities for program coordination with other  
4 approved UNS Gas energy efficiency programs and with any electric utility energy efficiency  
5 programs in place to maximize benefits while minimizing promotional costs. The Company will  
6 also utilize trained and qualified trade allies to inform and educate residential and commercial  
7 customers about more efficient water heating technologies. The program has been designed to  
8 offer average incentive dollars equal to \$699 per home for existing residential customers for up to  
9 50 customers; incentive dollars equal to \$699 per home for residential new construction for up to  
10 12 customers; and incentive dollars equal to \$400 per panel for up to 12 existing commercial  
11 retrofits; and incentive dollars equal to \$400 per panel for up to 12 commercial new constructions.

12 *Proposed Budget*

13 58. The 2013 proposed budget for the Residential and Commercial Solar Thermal  
14 Water Heating Program is \$115,123. Proposed incentives make up \$52,938 of the total program  
15 budget. Overall Program Development, Analysis, and Reporting Software costs would be  
16 allocated across all of the cost-effective energy efficiency programs.

17 *Cost Effectiveness*

18 59. Solar Thermal Water Heating is considered a RET. According to A.A.C. R14-2-  
19 2504.A., RET programs are approved as part of the GEES. Energy savings from RET programs  
20 expressed in therms or equivalent therms may be included toward meeting the energy saving goal.  
21 Staff completed a cost-benefit analysis of the Solar Thermal Water Heating Program examining  
22 the accuracy of the information and the economic feasibility of extending ratepayer dollars to  
23 support such a program. The result of that analysis indicated that the Solar Thermal Water  
24 Heating Program is not cost-effective at this point in time. However, as a RET program within the  
25 GEES, the program is not required to lead to a benefit-to-cost ratio greater than one to be  
26 implemented as part of an energy efficiency program.

27 ...

28 ...

1 *Recommendations*

2           60. Staff recognizes that reduced energy consumption from water heating may  
3 represent significant savings potential for UNS Gas' Energy Efficiency Portfolio and getting UNS  
4 Gas even closer to the required standards under GEES. Staff has recommended the Solar Thermal  
5 Water Heating Program for approval under the following conditions:

- 6           • UNS Gas proposed as part of the Solar Thermal Water Heating Program that the Company  
7 will monitor incentives paid to customers for the same system from both the gas and the  
8 electric utility and that the maximum incentive that would be paid would be no more than  
9 85% of the installed cost of the system requiring that customers pay at least 15% of the  
10 system installed cost. Staff does not agree that a customer should be able to collect an  
11 incentive from both the electric and natural gas utility for the same installation of a Solar  
12 Thermal Water Heater. Staff has recommended that for areas of its system where the  
13 electric utility also offers an incentive for the installation of a Solar Thermal Water Heater  
14 that UNS Gas should work with the associated utility prior to payment of an incentive to  
15 insure that a customer does not receive incentive dollars from both utilities.
- 16           • For those instances where UNS Gas is the utility paying the incentive to the customer for  
17 the Solar Thermal Water Heater, Staff has recommended that the incentive not exceed 50%  
18 of the installed cost of the system (comparable with the incentive cap set for Southwest Gas  
19 with its Solar Water Heating Program).
- 20           • UNS Gas will work with the associated electric utility in the service territory to insure that  
21 the energy savings resulting from the installation of a RET are not double-counted by both  
22 utilities to meet either the required gas energy efficiency standard or the REST requirement  
23 but rather is counted only by the utility paying the incentive dollars for the system.
- 24           • UNS Gas will also incorporate into its DSM Portfolio Savings Reports details as to how  
25 many Solar Thermal Water Heaters were installed and whether UNS Gas was the utility  
26 paying the incentive and reporting the associated energy savings from each installation.

19 G. C&I Facilities Programs: Cooking, HVAC, Water Heating

20           61. UNS Gas is requesting budget approval to continue the C&I Facilities program plus  
21 approval for adding 21 additional measures. UNS Gas is also requesting to modify the delivery of  
22 the program to a direct install program similar to what was approved as a Small Business Program  
23 for TEP in Decision No. 70457 (August 6, 2008) and the C&I Facilities Program for UNS Electric  
24 approved in Decision No. 70524 (September 30, 2008).

25 *Current Program*

26           62. This program was approved by the Commission in Decision No. 70180 (February  
27 27, 2008). The program was established with incentives for specific energy efficiency measures in  
28 existing commercial and industrial facilities being paid directly to customers. The program is

1 designed to promote the installation of high-efficiency, gas-fueled equipment and systems at  
2 existing commercial and industrial facilities within the UNS Gas service area. Current approved  
3 measures within the C&I Facilities program include: High Efficiency Space Heating Hot Water  
4 Boiler <300 kBtuh, High Efficiency Space Heating Hot Water Boiler >=300 kBtuh, High  
5 Efficiency Furnace <300,000 Btuh (AFUE > 92), High Efficiency Furnace <300,000 Btuh (AFUE  
6 > 95), Storage Water Heater >75,000 Btuh, High Efficiency Griddle, and Storage Water Heater  
7 <75,000 Btuh. Overall participation in the program has been low. According to the Annual DSM  
8 Progress Report for January through December 2011 filed in April 2012, 15 customers participated  
9 in this program in 2011. The energy savings goal of 95,000 therms in 2011 was reached and  
10 exceeded as the program recorded 195,820 therm savings. However, significant barriers exist  
11 which prevent higher participation levels such as the economic climate pushing for reduced  
12 spending when possible rather than increased incremental costs which may occur with the  
13 purchase of more energy-efficient equipment.

#### 14 *Proposed Changes*

15 63. UNS Gas is requesting to continue the current measures offered as part of the C&I  
16 Facilities program and expand the program to include 21 new measures. The Company is also  
17 requesting a revamp of how the program is delivered. The proposed changes include average  
18 incentive levels of 75% of the incremental cost being paid directly to the contractor rather than  
19 incentives paid to the customer. This program delivery option incorporates the use of an  
20 implementation contractor who is responsible for contractor recruitment, contractor training,  
21 applications processing, pre- and post-inspections of customers' facilities, rebate processing, and  
22 reporting to UNS Gas the administration of the program. This program delivery method has  
23 worked well for TEP and UNS Electric, and UNS Gas believes the change will remove barriers  
24 that are currently limiting participating in the program as commercial and industrial customers  
25 will only be required to pay the amount of the retro-fit that is not covered by utility incentives thus  
26 lowering the out-of-pocket expense to the customers. In addition, UNS Gas is also requesting to  
27 remove the \$8,000 incentive caps for C&I customers and the \$25,000 incentive cap per school  
28 district as these incentives have proven to be more of a disincentive to participation.

64. The new measures proposed by UNS Gas are listed in the table below along with estimated average incentive dollars per unit and the number of units expected for participation.

C&I Facilities Program Proposed New Measures		
Measure	Average Incentive \$ per unit	Estimated # of Units
High Efficiency Space Heating Steam Boiler	\$1,800	10
High Efficiency Fryer	\$900	15
High Efficiency Large Vat Fryer	\$900	15
High Efficiency Combination Oven	\$1,000	10
High Efficiency Convection Oven	\$1,000	10
High Efficiency Conveyor Oven (<25 inches)	\$400	10
High Efficiency Conveyor Oven (>25 inches)	\$900	10
High Efficiency Single Rack Oven	\$1,000	10
High Efficiency Double Rack Oven	\$1,000	10
High Efficiency Energy Star Steam Cooker	\$1,750	10
Condensing Unit Heater	\$400	10
Power Vented Unit Heater	\$2,000	10
Programmable Thermostats	\$100	50
High Efficiency Pool and Spa Heater (<500 kBtuh)	\$150	5
Low-Flow Pre-Rinse Spray Valve	\$50	50
Commercial/Multifamily Clothes Washer CEE Tier 1	\$75	50
Commercial/Multifamily Clothes Washer CEE Tier 2	\$75	50
Commercial/Multifamily Clothes Washer CEE Tier 3	\$75	50
Steam Trap Survey and Replacement Commercial	\$250	200
Steam Trap Survey and Replacement Industrial	\$250	25
Custom Measures*	\$2,700	5

\*Custom incentive is based on a projection of covering 75% of the incremental cost for a typical custom project and is equivalent to \$2,700 based on first year savings.

65. The proposed changes to the program mean that it will be operated as an “up-stream” market program where the incentives are offered directly to the qualified contractor who will then provide installation services to customers. The program will also include promotion and education material designed to provide decision makers in the small business arena with necessary data to make informed decisions.

#### *Proposed Budget*

66. The 2013 proposed budget for the C&I Facilities Program is \$698,594. Incentives make up \$411,750 of the total program budget. Overall Program Development, Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy efficiency programs.

#### *Cost Effectiveness*

67. Staff’s review of the benefits and costs associated with the proposed new measures

1 in the C&I Facilities Program found that a few of the new measures are not cost-effective at this  
 2 point in time. As stated earlier, with the current depressed natural gas prices, the benefits in terms  
 3 of therm and capacity savings do not necessarily outweigh the costs associated with the measures.  
 4 Staff's benefit-cost analysis is presented in the table below.

Measure	Units	Present Value DSM Savings	Present Value DSM Cost	Benefit / Cost Ratio
High Efficiency Space Heating Steam Boiler	10	\$42,647.49	\$41,070.22	1.04
High Efficiency Fryer	15	\$22,722.57	\$23,547.54	0.96
High Efficiency Large Vat Fryer	15	\$27,014.62	\$24,586.43	1.10
High Efficiency Combination Oven	10	\$16,957.77	\$18,877.36	0.90
High Efficiency Convection Oven	10	\$12,876.13	\$17,451.22	0.74
High Efficiency Conveyor Oven (<25 inches)	10	\$30,927.95	\$12,327.20	2.51
High Efficiency Conveyor Oven (>25 inches)	10	\$35,556.62	\$20,191.33	1.76
High Efficiency Single Rack Oven	10	\$43,509.52	\$24,064.47	1.81
High Efficiency Double Rack Oven	10	\$88,912.59	\$39,887.89	2.23
High Efficiency Energy Star Steam Cooker	10	\$64,591.02	\$40,257.07	1.60
Condensing Unit Heater	10	\$20,981.42	\$17,154.73	1.22
Power Vented Unit Heater	10	\$81,508.58	\$66,765.06	1.22
Programmable Thermostats	50	\$9,581.74	\$12,286.09	0.78
High Efficiency Pool and Spa Heater (<500 kBtuh)	5	\$1,387.86	\$1,337.47	1.04
Low-Flow Pre-Rinse Spray Valve	50	\$3,917.10	\$3,803.56	1.03
Commercial/Multifamily Clothes Washer CEE Tier 1	50	\$29,798.12	\$10,233.59	2.91
Commercial/Multifamily Clothes Washer CEE Tier 2	50	\$36,193.47	\$11,942.68	3.03
Commercial/Multifamily Clothes Washer CEE Tier 3	50	\$38,781.58	\$22,952.50	1.69
Steam Trap Survey and Replacement Commercial	200	\$99,209.04	\$99,115.97	1.00
Steam Trap Survey and Replacement Industrial	25	\$56,920.29	\$20,820.01	2.73
Custom Measures	5	\$48,177.05	\$28,286.53	1.70

#### 17 *Recommendations*

18 68. UNS Gas' analysis submitted with its original application indicated the Company  
 19 had calculated a measure level Societal Cost Test ratio for each of the new measures as detailed  
 20 below. Staff's analysis led to the benefit-cost ratios indicated in the table above. Variances in the  
 21 results can be pinpointed to analysis differences including the fact that Staff's analysis includes the  
 22 Program Level Non-Incentive Costs into the cost per unit at the measure level. UNS Gas did not  
 23 include program costs in its Societal Cost Test analysis. Staff also utilized a calculated after-tax  
 24 cost of capital as the discount rate for UNS Gas equal to 6.99% based on data from UNS Gas' last  
 25 rate case (Decision No. 73142 dated May 1, 2012). UNS Gas' analysis utilized a 4% discount rate.  
 26 The avoided natural gas cost used in Staff's calculation was based on index pricing provided by  
 27 UNS Gas dated February 1, 2013. UNS Gas' original application utilized avoided costs for UNS  
 28

1 Gas as of August 4, 2010. Staff also included monetized water and electricity benefits when  
2 applicable based on energy/water savings provided by UNS Gas.

Measure	Staff Benefit/Cost Ratio	UNS Gas Societal Cost Test
High Efficiency Space Heating Steam Boiler	1.04	1.9
High Efficiency Fryer	0.96	1.6
High Efficiency Large Vat Fryer	1.10	1.8
High Efficiency Combination Oven	0.90	1.4
High Efficiency Convection Oven	0.74	1.1
High Efficiency Conveyor Oven (<25 inches)	2.51	7.1
High Efficiency Conveyor Oven (>25 inches)	1.76	3.6
High Efficiency Single Rack Oven	1.81	3.8
High Efficiency Double Rack Oven	2.23	5.5
High Efficiency Energy Star Steam Cooker	1.60	3.2
Condensing Unit Heater	1.22	2.4
Power Vented Unit Heater	1.22	2.4
Programmable Thermostats	0.78	1.2
High Efficiency Pool and Spa Heater (<500 kBtuh)	1.04	1.4
Low-Flow Pre-Rinse Spray Valve	1.03	3.9
Commercial/Multifamily Clothes Washer CEE Tier 1	2.91	3.6
Commercial/Multifamily Clothes Washer CEE Tier 2	3.03	3.7
Commercial/Multifamily Clothes Washer CEE Tier 3	1.69	2.0
Steam Trap Survey and Replacement Commercial	1.00	1.6
Steam Trap Survey and Replacement Industrial	2.73	8.1
Custom Measures*	1.70	3.3

16 69. The last approved budget for this program was in Decision No. 70180 equal to  
17 \$218,545 for 2011. The proposed budget for this program is \$698,594 which represents an  
18 increase of \$480,049 or roughly a 219% increase.

19 70. Staff has recommended approval of all of the measures except: High Efficiency  
20 Combination Oven, High Efficiency Convection Oven, and Programmable Thermostats. For  
21 Staff's recommended measures, Staff did not monetize the environmental benefits associated with  
22 the proposed measures but recognizes that there are benefits to the environment from the  
23 implementation of these measures. When taking into consideration those environmental benefits,  
24 Staff has recommended also approving the High Efficiency Fryer as an additional measure to the  
25 C&I program.

26 71. After considering the low participation levels for this program and the proven  
27 success of the direct install methodology, Staff has recommended that UNS Gas be allowed to  
28 implement a direct install design whereby 75% of the incremental cost is being paid directly to the

1 contractor rather than incentives paid to the customer. UNS Gas also requested the removal of the  
2 \$8,000 incentive cap for C&I customers and the \$25,000 incentive cap per school district. After  
3 reviewing the approval of these caps with Decision No. 70180, Staff is concerned that a removal of  
4 the incentive cap would lead to several larger commercial and industrial customers receiving the  
5 majority of the budgeted incentive dollars. However, Staff recognizes that with the increased  
6 number of measures available, the incentive cap is more likely to be reached sooner than with the  
7 limited number of measures available prior to this filing. Staff has recommended increasing the  
8 incentive cap for C&I customers to \$16,000 and increasing the incentive cap per school district to  
9 \$50,000.

#### 10 H. Multifamily Programs: Direct Install

11 72. UNS Gas is requesting budget approval to implement a new Multifamily Direct  
12 Install program to its current energy efficiency portfolio. This program is designed to encourage  
13 energy efficiency upgrades in the multifamily buildings of five or more units. Three measures  
14 have been proposed as part of the new Multifamily Direct Install Program: Low Flow Shower  
15 Heads (1.5 GPM), Kitchen Faucet Aerators (1.5 GPM), and Bathroom Faucet Aerators (1 GPM).

#### 16 *Current Program*

17 73. This is a new program and does not replace or modify any current program.

#### 18 *Proposed Changes*

19 74. Multifamily housing represents a vast opportunity for energy efficiency potential;  
20 however, this segment also brings with it substantial barriers to implementing energy efficiency  
21 programs such as lack of capital and lack of awareness of the benefits to energy efficiency  
22 upgrades. UNS Gas believes the 2-4 unit market segment is best served by its Residential Existing  
23 Homes Program. At the same time the 5+ multifamily housing market segment can be reached by  
24 both the C&I Facilities Program and this new Multifamily Direct Install Program.

25 75. The program would be structured such that delivery will occur through direct  
26 installation of selected low cost energy efficiency improvements in existing complexes. The  
27 program would be open to all existing multifamily housing complexes and new construction  
28 projects within the UNS Gas service area with five dwelling units or more. All UNS Gas

1 customers who are property owners of existing residential multifamily complexes or developers of  
2 new complexes with five or more dwelling units would be eligible for the program.

3 76. The program is designed so that delivery would be through a direct installation  
4 effort of the faucet aerators and low flow shower heads. The installation would be at no cost to the  
5 owner as the program itself would pay for the full cost of the product installation. The installation  
6 would be completed by either the facility's existing maintenance personnel or through a program  
7 authorized installation contractor.

8 77. UNS Gas will market the program via communications with apartment managers  
9 and owners including options such as direct outreach, local newspapers and radio, and bill inserts.  
10 UNS Gas will also work with contractors and industry specialists to communicate the new  
11 program. The Company anticipates that property managers will take advantage of the offer and  
12 donate the labor to install the energy efficient devices.

### 13 *Proposed Budget*

14 78. The 2013 proposed budget for the Multifamily Direct Install Program is \$47,130.  
15 Proposed incentives make up \$8,058 of the total program budget. Overall Program Development,  
16 Analysis, and Reporting Software costs would be allocated across all of the cost-effective energy  
17 efficiency programs.

### 18 *Cost Effectiveness*

19 79. Staff's review of the benefits and costs associated with the proposed new measures  
20 in the Multifamily Direct Install Program found that all three of the proposed new measures are  
21 cost-effective. Staff's benefit-cost analysis is presented in the table below.

Measure	Units	Present Value DSM Savings	Present Value DSM Cost	Benefit/Cost Ratio
Low Flow Shower Head	275	\$60,065.50	\$33,093.50	1.82
Kitchen Faucet Aerator	275	\$30,313.25	\$8,929.25	3.40
Bathroom Faucet Aerator	275	\$18,026.25	\$8,299.50	2.17

### 26 *Recommendations*

27 80. UNS Gas' analysis submitted with its original application indicated the Company  
28 had calculated a measure level Societal Cost Test ratio for the three new measures as 8.6 for the

1 Low Flow Shower Head, 36.6 for the Kitchen Faucet Aerator, and 33.8 for the Bathroom Faucet  
2 Aerator. Staff's analysis led to the benefit-cost ratios indicated in the table above. Variances in  
3 the results can be pinpointed to differences including the fact that Staff's analysis includes the  
4 Program Level Non-Incentive Costs into the cost per unit at the measure level. UNS Gas did not  
5 include program costs in its Societal Cost Test analysis. Staff also utilized a calculated after-tax  
6 cost of capital as the discount rate for UNS Gas equal to 6.99% based on data from UNS Gas' last  
7 rate case (Decision No. 73142 dated May 1, 2012). UNS Gas' analysis utilized a 4% discount rate.  
8 The avoided natural gas cost used in Staff's calculation was based on index pricing provided by  
9 UNS Gas dated February 1, 2013. UNS Gas' original application utilized avoided costs for UNS  
10 Gas as of August 4, 2010.

11 81. Given the results of Staff's cost-benefit analysis, Staff has recommended approval  
12 of all three new measures proposed in the new Multifamily Direct Install Program.

13 I. Support Program: Education and Outreach

14 82. UNS Gas is requesting budget approval to add this program to the UNS Gas energy  
15 efficiency portfolio.

16 *Current Program*

17 83. This is a new program and does not replace or modify any current program.

18 *Proposed Changes*

19 84. UNS Gas believes that to further its ability to meet overall performance goals in  
20 energy savings, its customers must understand the concept of energy efficiency and embrace those  
21 concepts. To meet this goal, UNS Gas is proposing to implement a new Education and Outreach  
22 program designed to encourage higher levels of participation in DSM programs. The Company  
23 will strive to educate residential and commercial customers on how to conserve energy and in turn  
24 lower their gas utility bills. UNS Gas will strive to educate customers about their energy use  
25 decisions, actions, and options for increasing energy efficiency through the new Education and  
26 Outreach Program.

27 85. The education of consumers about their energy use would occur through a variety  
28 of avenues such as: bill messages, website interaction through uesaz.com, UNS Gas customer care

1 representatives will be knowledgeable about energy efficiency issues, bill inserts, email  
2 newsletters, and even participation at fairs and other local events. The intention behind the  
3 program is to help customers understand and embrace the concept of DSM and to encourage  
4 higher levels of participation in the DSM programs offered. This program would support all DSM  
5 program marketing and advertising efforts.

6 86. All UNS Gas residential and commercial customers will be eligible for this  
7 program. In addition, UNS Gas' existing "Bright" energy efficiency marketing platform will still  
8 be used to keep in touch with customers via social media such as Facebook and Twitter.

9 *Proposed Budget*

10 87. The 2013 proposed budget for the Education and Outreach Program is \$29,731.  
11 Overall Program Development, Analysis, and Reporting Software costs would be allocated across  
12 all of the cost-effective energy efficiency programs.

13 *Cost Effectiveness*

14 88. Staff's review of this program did not include completing a cost-benefit analysis.  
15 Since this is an education program, there is not a calculation for energy savings.

16 *Recommendations*

17 89. UNS Gas is requesting approval to recover the cost of the program through the  
18 DSMS but will not have accompanying direct energy savings from this program. Staff agrees with  
19 UNS Gas that the program will directly benefit other DSM programs by increasing awareness of  
20 those programs and ultimately increasing participation in those programs. Staff has recommended  
21 approval of the Education and Outreach Program as a new program offered in the UNS Gas energy  
22 efficiency portfolio.

23 J. Support Programs: Codes Support

24 90. UNS Gas is requesting budget approval to add this pilot program to the UNS Gas  
25 energy efficiency portfolio.

26 *Current Program*

27 91. This is a new program and does not replace or modify any current program.

28 ...

1 *Proposed Changes*

2           92.    UNS Gas is requesting to implement a pilot Energy Codes Support Program  
3 designed to increase energy savings in new construction and renovated buildings in both the  
4 residential and commercial segments to improve compliance levels with building codes and  
5 establish a process passing on periodic energy code updates. The Company recognizes that  
6 building energy codes are a simple cost-effective way of achieving energy savings; however, the  
7 Company also recognizes that many energy code officials lack the time and resources to enforce  
8 those codes. In addition, building design professionals may not be well informed of energy code  
9 requirements. UNS Gas believes that the Energy Codes Support Program will reduce energy  
10 consumption and assist in improving compliance with existing and future energy codes.

11           93.    This program will be open to all new construction and existing facilities that receive  
12 gas service from UNS Gas. All UNS Gas customers who are property owners of existing  
13 residential or small commercial facilities, new home builders, and commercial property developers  
14 can take part in this program. To reach this audience with the energy codes message, UNS Gas  
15 will hold trainings for local code officials and building design professionals to promote code  
16 compliance. UNS Gas will also keep apprised of changes and market trends in energy codes and  
17 pass that information on to local groups responsible for energy code compliance and enforcement.

18           94.    In addition, the Energy Codes Support Program will facilitate energy savings  
19 through adoption of codes where they currently do not exist and act as an advocate for energy code  
20 updates over time. The program will also provide support to local jurisdictions through such  
21 activities as: classroom training sessions/brown bag training sessions/field training sessions for  
22 code officials and building professionals, purchasing energy code books for officials and  
23 supporting energy code certifications. UNS Gas will also coordinate activities with the Southwest  
24 Energy Efficiency Project ("SWEEP") to support research on and adoption of building codes and  
25 equipment standards.

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1 *Proposed Budget*

2 95. The 2013 proposed budget for the Energy Codes Support Program is \$38,077.  
3 Overall Program Development, Analysis, and Reporting Software costs would be allocated across  
4 all of the cost-effective energy efficiency programs.

5 *Cost Effectiveness*

6 96. Staff's review of this program did not include completing a cost-benefit analysis  
7 since this is an education program, there is not a calculation for energy savings.

8 *Recommendations*

9 97. UNS Gas will take an integrated evaluation approach to develop savings  
10 methodologies for estimating savings from the implementation of more stringent energy code  
11 adoption and increased energy code compliance. UNS Gas will propose a calculation  
12 methodology to gauge energy savings from energy code adoption to the Commission.

13 98. Staff agrees with UNS Gas' assessment that energy savings can be achieved  
14 through the adherence to energy codes. Staff also understands that these codes vary widely across  
15 the state of Arizona and that education on what the codes are is key to implementation. Staff has  
16 recommended approval of the Energy Codes Support Program.

17 **BUDGET**

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19 **UNS GAS, INC. 2013 EE BUDGET**

	Actuals	Actuals	UNS Proposed	Staff Proposed
	2011	2012**	2013	2013
<b>Residential Programs</b>				
Existing Homes	\$564,125	\$622,152	\$941,965	\$933,120
New Construction	\$47,328	\$90,504	\$140,932	\$140,932
Low Income Weatherization	\$201,500	\$143,696	\$201,500	\$201,500
Energy Financing	\$16,917	\$2,310	\$24,740	\$0
Behavioral Comprehensive (K-12)	\$0	\$0	\$29,731	\$29,731
<b>Non-Residential Programs</b>				
C&I Facilities	\$114,484	\$150,908	\$698,594	\$665,047
Multifamily Direct Install	\$0	\$0	\$47,130	\$47,130
<b>Both Residential &amp; Non-Residential Programs</b>				
Solar Thermal Water Heating	\$0	\$0	\$115,122	\$115,122
<b>Support Programs</b>				
Education & Outreach	\$0	\$0	\$29,731	\$29,731
Codes Support	\$0	\$0	\$38,077	\$38,077

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Program Development, Analysis, Reporting, Software*	\$134,451	\$26,881	\$118,485	<b>\$118,485</b>
Baseline Study	\$7,046	\$0	\$0	<b>\$0</b>
Annual Program Cost/Budget Per Year	\$1,085,851	\$1,036,451	\$2,386,007	<b>\$2,318,675</b>

\*Program Development, Analysis, Reporting Software costs are allocated across all programs for benefit-cost analysis purposes.

\*\*2012 Actuals were supplied by UNS Gas but have not been reported on the DSM report yet this year.

99. The above table details UNS Gas' proposed energy efficiency budget for the remainder of 2013 and Staff's recommended budget (in bold) which removes funding for those programs not cost-effective. Staff's proposed budget for 2013 represents an increase of approximately \$1.3 million which is just slightly more than double the actual budget for 2012. Given the number of new measures UNS Gas is proposing that have a benefit-cost ratio greater than one, Staff has recommended approval of the Staff-proposed budget as stated above.

100. Given that a few of the new measures proposed by UNS Gas were not considered cost-effective at this point in time, Staff has adjusted the projected savings UNS Gas may reach in 2013 below.

PROJECTED ENERGY EFFICIENCY SAVINGS (with recommended measures)				
	2010	2011	2012	2013
Actual/Projected Sales (therms)	140,222,684	139,990,850	135,765,533	150,607,549
Required Savings (%)		0.50%	1.20%	1.80%
Required Savings From Prior Year Sales (therms)		701,113	1,679,890	2,443,780
Energy Efficiency Programs Savings (therms)		281,203	217,426	476,895
Renewable Energy Technology Programs Savings (therms)		0	0	19,113
Total Savings (therms)		281,203	217,426	496,008
Total Cumulative Savings (therms)		281,203	498,629	994,637
Savings (%)		0.201%	0.356%	0.733%
Difference Between Required Savings and Projected/Actual Savings (therms)		419,910	1,181,261	1,449,143

#### BUDGET SHIFTING

101. UNS Gas has requested the ability to shift up to 50 percent of its approved funds from residential to non-residential sector programs, or from non-residential to residential sector programs, based on program activity. The Company has also requested that it be allowed to increase the total budget for the energy efficiency programs by up to 25 percent, where cost-

1 effective. The Company states that this type of flexibility maximizes participation in successful  
2 programs and allows it to continue accepting applications from customers in cases where an  
3 individual program may be over-subscribed.

4 102. While the Commission has allowed utilities to shift energy efficiency program  
5 funding among programs or measures within the residential sector, or among programs or  
6 measures within the non-residential sector, recent practice has been to limit shifting from sector to  
7 sector, to ensure that both residential and non-residential customers have reasonable opportunity to  
8 participate in energy efficiency programs. Allowing funding shifts among programs or measures  
9 within a sector allows a reasonable degree of flexibility, but ensures reasonable access to  
10 participation in energy efficiency programs for both residential and non-residential customers.

11 103. When considering the proposed budget that Staff has recommended for 2013  
12 includes an almost doubling of actual dollars spent in 2011 and 2012, Staff believes that a  
13 reasonable amount of flexibility has already been incorporated into the 2013 proposed budget.  
14 Staff has recommended that UNS Gas be allowed to shift funds (up to 25% of the program's  
15 budgeted funds) between measures and programs within each customer segment but not be  
16 allowed to shift funds between residential and non-residential segments (with the exception that  
17 budgeted dollars for LIWP should not be allocated to other programs). Staff agrees with UNS Gas  
18 that it is helpful for utilities to have the flexibility to increase the budget slightly if necessary to  
19 maximize participation. Staff has recommended that UNS Gas be allowed to increase the total  
20 budget for the energy efficiency programs by up to 5 percent, where cost-effective.

21 **MEASUREMENT, EVALUATION, AND RESEARCH (MER)**

22 104. In its original application, UNS Gas requested that the reporting requirements  
23 outlined in A.A.C. R14-2-2509 supersede the reporting requirements detailed in Decision No.  
24 70011 dated November 27, 2008. Currently, UNS Gas is required to file its DSM surcharge filing  
25 on April 1st each year (with the surcharge taking effect June 1st of each year) and its semi-annual  
26 DSM reports on March 1st and September 1st of each year. A.A.C. R14-2-2509 outlines that  
27 specific DSM reports be filed April 1st and October 1st of each year.

28 ...

1 105. Staff agrees that in order to avoid confusion and duplicative filings, the reporting  
2 requirements detailed in A.A.C. R14-2-2509 supersede those reporting requirements outlined in  
3 Decision No. 70011 so that UNS Gas would be required to file DSM reports on April 1st and  
4 October 1st of each year.

### 5 DSMS

6 106. In order to propose a DSMS that is most reflective of the Company's current  
7 position, Staff requested updated DSM balance (estimated as of December 2012) information and  
8 projected sales for 2013. The updated balance and therms can be seen in the table below along  
9 with Staff's calculation of the proposed DSMS (with the reduced budget for measures not cost-  
10 effective) and the impact to a residential customer bill.

DEMAND SIDE MANAGEMENT SURCHARGE		
STAFF PROPOSED 2012-2013 PLAN CALCULATION		
(a)	Total Therm Sales (Including CARES):*	154,937,268
(b)	Less CARES Sales Forecast:	3,981,782
(a) - (b) = (c)	Total Therms Applicable to Surcharge	150,955,486
	Total Budget	\$2,318,875
	Carry-Over DSM Balance (over-collected)	\$348,625
(d)	Total DSM Cost to be Recovered	\$1,970,250
(d) / (c) = (e)	Proposed Surcharge (per therm)	\$0.0131
(f)	Current Surcharge (per therm)**	\$0.0084
(g)	Average Residential Monthly Usage (therms)	45
(f) x (g) = (h)	Surcharge \$ Collected (Current Surcharge)	\$0.3780
(e) x (g) = (i)	Surcharge \$ Collected (Proposed Surcharge)	\$0.5873
(i) - (h)	Monthly Bill Impact for Residential Customers	\$0.2093

24 \*Total therm sales for purposes of calculating the surcharge include all customer volumes including transport customers. Therm  
25 sales reported for purposes of meeting the GEES do not include transport only customers.

### 26 WAIVER REQUEST

27 107. In its original application, UNS Gas indicated that it would make all efforts to meet  
28 the 2011 EE Standard target of 0.50% of prior year sales. Actual 2011 savings was 0.201%.

1 Given the result for 2011 and the time that has passed in implementing a new energy efficiency  
 2 plan with additional measures, UNS Gas has requested a waiver of the GEES in A.A.C. R14-2-  
 3 2504.B. Specifically in its September 2011 filing, UNS Gas has requested a modification of the  
 4 GEES as detailed in the table below.

Requested Waiver To Standard		
Calendar Year	Cumulative Energy Efficiency Standard (Current)	Cumulative Energy Efficiency Standard (UNS Gas Requested Modification)
2011	0.5%	0.08%
2012	1.2%	0.61%
2013	1.8%	1.20%
2014	2.4%	1.80%
2015	3.0%	2.40%
2016	3.6%	3.00%
2017	4.2%	3.60%
2018	4.8%	4.20%
2019	5.4%	4.80%
2020	6.0%	5.40%

14 108. Staff recognizes UNS Gas' efforts in implementing cost-effective energy efficiency  
 15 programs that are beneficial to all customer classes. Staff also realizes that the current market  
 16 dominated with low natural gas prices leads to difficulty in finding cost-effective options to save  
 17 on natural gas usage. UNS Gas has an established energy efficiency program and has provided  
 18 new measures for increasing the opportunity for energy savings. However, Staff believes that  
 19 UNS Gas should continue to strive to hit the established GEES each year. Staff has recommended  
 20 a waiver be granted to UNS Gas of the GEES Standards established in A.A.C. R14-2-2504.B for  
 21 the calendar years 2012 and 2013. Waivers of future years' requirements can be evaluated during  
 22 future years' implementation plan reviews.

23 109. Staff has recommended that UNS Gas implement its plan as modified by Staff  
 24 above for the remainder of 2013 and be required to file its next energy efficiency plan no later than  
 25 June 1, 2013 pursuant to A.A.C. R14-2-2505. Also, as indicated above, Staff has recommended  
 26 that A.A.C. R14-2-2509 supersede those reporting requirements outlined in Decision No. 70011 so  
 27 that UNS Gas would be required to file DSM reports on April 1st and October 1st of each year.

28 ...



1 IT IS FURTHER ORDERED that UNS Gas, Inc.'s proposed Residential and Commercial  
2 Solar Water Heating Program, with the modifications recommended by Staff in Finding of Fact 60,  
3 is approved.

4 IT IS FURTHER ORDERED that UNS Gas, Inc.'s proposed Commercial & Industrial  
5 Facilities: Cooking, HVAC, & Water Heating Program (except for High Efficiency Combination  
6 Ovens, High Efficiency Convection Ovens, and Programmable Thermostats) with the  
7 modifications recommended by Staff in Findings of Fact 69, 70 and 70, is approved.

8 IT IS FURTHER ORDERED that UNS Gas, Inc.'s proposed Multifamily Direct Install  
9 Program is approved.

10 IT IS FURTHER ORDERED that UNS Gas, Inc.'s proposed Education and Outreach  
11 Program is approved.

12 IT IS FURTHER ORDERED that UNS Gas, Inc.'s proposed Codes Support Program is  
13 approved.

14 IT IS FURTHER ORDERED that the total budget be increased to \$2,318,875 for 2013  
15 with the budget flexibility recommended by Staff in Finding of Fact 103.

16 IT IS FURTHER ORDERED that the DSM Surcharge be increased to \$0.0131 per therm.

17 IT IS FURTHER ORDERED that UNS Gas, Inc.'s request for waiver of the Gas Energy  
18 Efficiency Standard is granted with the modifications recommended by Staff in Finding of Fact  
19 108.

20 IT IS FURTHER ORDERED that UNS Gas, Inc. file its next Energy Efficiency  
21 Implementation Plan no later than June 1, 2013 for the 2014-2015 calendar years pursuant to  
22 A.A.C. R14-2-2505.

23 IT IS FURTHER ORDERED that UNS Gas, Inc. follow reporting requirements as outlined  
24 in A.A.C. R14-2-2509 and those reporting requirements supersede any reporting requirements  
25 outlined in Decision No. 70011.

26 ...

27 ...

28 ...

1 IT IS FURTHER ORDERED that UNS Gas, Inc. file with Docket Control, as a compliance  
2 matter in this case, a tariff consistent with the terms of this Decision within 30 days of the effective  
3 date of this Decision.

4 IT IS FURTHER ORDERED that UNS Gas, Inc. provide notice to its customers of the  
5 increased DSM surcharge within 30 days of the effective date of this Decision in a form acceptable  
6 to Staff.

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

8  
9 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

10  
11  
12 CHAIRMAN

COMMISSIONER

13  
14  
15 COMMISSIONER

COMMISSIONER

COMMISSIONER

16  
17 IN WITNESS WHEREOF, I, JODI JERICH, Executive  
18 Director of the Arizona Corporation Commission, have  
19 hereunto, set my hand and caused the official seal of this  
20 Commission to be affixed at the Capitol, in the City of  
21 Phoenix, this \_\_\_\_\_ day of \_\_\_\_\_, 2013.

22 \_\_\_\_\_  
23 JODI JERICH  
EXECUTIVE DIRECTOR

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

25  
26 DISSENT: \_\_\_\_\_

27 SMO:RSP:sms/WVC

1 SERVICE LIST FOR: UNS GAS, INC.  
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13 Ms. Lyn A. Farmer, Esq.  
14 Chief Administrative Law Judge  
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15 Arizona Corporation Commission  
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16 Phoenix, Arizona 85007

17 Ms. Janice M. Alward  
18 Chief Counsel, Legal Division  
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20 Mr. Steven M. Olea  
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24  
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28