

**ORIGINAL  
OPEN MEETING**



**MEMORANDUM**

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Arizona Corporation Commission

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2010 NOV 10 P 12:32

TO: THE COMMISSION

NOV 10 2010

FROM: Utilities Division

AZ CORP COMMISSION  
DOCKET CONTROL

DATE: November 9, 2010

DOCKETED BY 

RE: UNS GAS, INC – REQUEST TO MODIFY ITS ENERGY SMART HOME PROGRAM (DOCKET NO. G-04204A-07-0274)

In Decision No. 70180 (February 27, 2008), the Arizona Corporation Commission (“Commission”) approved the UNS Gas, Inc. (“UNS Gas” or the “Company”) Demand-Side Management (“DSM”) Portfolio for 2008 through 2012 (the “DSM Portfolio”). Included in the DSM Portfolio is the Energy Smart Home (“ESH”) Program which was launched in the UNS Gas service territory on June 16, 2008.

Between June 16, 2008 and December 31, 2009, UNS Gas spent \$269,260 in total ESH program costs. The budget for this program was \$420,000 in 2008 and \$432,600 in 2009. Participation in the program, however, has been limited with a total of only 9 homes benefitting from the program as of December 31, 2009. UNS Gas has analyzed the program and has determined that it is not cost-effective at this time.

On November 12, 2009 UNS Gas filed its Request for Approval to Modify its ESH Program. UNS Gas is requesting Commission authorization to redesign the Program to work in cooperation with electric service providers. This new program design should deliver incrementally higher customer and societal benefits. Further, under the proposed redesigned program the electric and gas utilities will share both the cost and savings of the new program.

According to UNS Gas, the ESH Program has not been effective because of the economic downturn and corresponding slow-down in new home construction combined with a similar program launched by Arizona Public Service Company (“APS”) in part of UNS Gas’ service territory. APS’ program was launched several years in advance of the UNS Gas program and all production builders are already participating in APS’ program.

UNS Gas has determined that it must either eliminate the ESH program from the DSM Portfolio or redesign the program so it works compatibly and effectively with similar programs offered by both APS and UNS Electric, Inc. (“UNS Electric”). UNS Gas does not wish to eliminate the program at this time and is requesting Commission authorization to redesign the Program to work in cooperation with electric service providers. The program, as redesigned, will be called the UNS Gas Joint Utility – Residential New Construction Program.

According to UNS Gas, APS and UNS Electric worked closely with the Company to develop the redesigned program. UNS Gas recognizes the importance for the program re-design to work in all areas of its service territory, where electric service is provided by both APS and UNS Electric, so that there are not two separate program designs in the UNS Gas territory. There will be no changes to either APS' or UNS Electric's Residential New Construction programs (approved in Decision No. 68648 and Decision No. 70522, respectively).

### **Program Description**

#### *Energy Star Qualified Homes – National Performance Path*

UNS Gas' application for modification of its ESH program states that builders will sign on as U.S. Environmental Protection Agency ("EPA") and Department of Energy ("DOE") Energy Star Home partners and agree to adhere to all requirements of that program. There are two paths to qualify a home to meet Energy Star's guidelines for energy efficiency. The first, the National Performance Path, requires that a home meet a certain Home Energy Rating System ("HERS") rating, where software is used to model the home's energy use to verify that it meets the target score.<sup>1</sup> In Arizona, that rating is a HERS Index of 85. There are also mandatory requirements under the National Performance Path, such as the inclusion of at least one Energy Star qualified product. The second path is the National Prescriptive Path which is a Builder Option Package, where a builder constructs the home using a prescribed set of construction specifications that meet program requirements.<sup>2</sup> To date, all builders in the UNS Gas, UNS Electric, and APS programs have participated using only the National Performance Path.

Under the National Performance Path, there are certain mandatory requirements, including the inclusion of at least one Energy Star qualified product category. These categories include, but are not limited to, heating or cooling equipment, such as furnaces, and water heating equipment.

#### *Existing Electric Utility Programs*

Both APS and UNS Electric offer Residential New Construction programs that require new homes to be built to EPA/DOE Energy Star Home performance requirements. Builders currently contract with the electric service provider in the area, either APS or UNS Electric, and receive only one incentive from either APS or UNS Electric. Both APS and UNS Electric offer a \$400 per home incentive for their programs.<sup>3</sup> APS does not currently claim any gas energy savings for homes that participate in their program and UNS Electric is willing to follow that same model and only claim electric energy savings. UNS Gas proposes that it would then claim

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<sup>1</sup> The HERS Index was developed by the Residential Energy Service Network (RESNET).

<sup>2</sup> More information about Energy Star Qualified Homes is available at [http://www.energystar.gov/index.cfm?c=bldrs\\_lenders\\_raters.homes\\_guidelns](http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.homes_guidelns).

<sup>3</sup> The DOE/EPA Energy Star Homes program currently requires energy efficiency that is 15 percent higher than the 2006 International Energy Conservation Code ("IECC").

gas energy savings for homes participating in the APS Energy Star Home Program or the UNS Electric ESH Program.

APS and UNS Electric both offer expanded ESH programs with additional incentives for homes that achieve reduced HERS Index scores. Under the first tier of both electric utilities' ESH programs, a \$400 incentive is offered for homes that are 15 percent more efficient than a standard home, achieving an HERS Index of 85. APS recently received approval for a second-tier to its Energy Star Home program, Energy Star Homes Plus, with an incentive of \$1,000 per home.<sup>4</sup> UNS Electric also recently received approval to offer an incentive of \$1,500 for its Zero-Net Energy Homes ("ZEH") Pilot Program,<sup>5</sup> an expansion of its New Home Construction Program (marketed as the Energy Smart Homes Program). Under both programs, homes must be 39 percent more efficient than a standard home, achieving less than or equal to a HERS Index of 70.

A third tier program, which incorporates solar technologies, is also available from both electric utilities. APS' Energy Star Homes Plus Solar program<sup>6</sup> offers additional incentives to homebuilders and home owners for installation of photovoltaic ("PV") panels and solar water heaters, with incentives varying depending on the percentage of homes built to incorporate those technologies. UNS Electric offers a similar third tier program through its ZEH Pilot Program with a \$3,000 per home incentive for homes that achieve a HERS Index of 45 or below through the use of PV panels and solar water heaters. Because not all homes may be able to incorporate solar water heaters, the opportunity still exists for UNS Gas to offer its incentive for high efficiency water heaters under the expanded ESH program options offered by the electric utilities, allowing those homes to potentially achieve lower HERS Index scores.

#### *UNS Gas Joint Utility Program Offerings*

The redesigned UNS Gas program would offer builders the option to earn an incentive in addition to the incentives from the applicable electric utility. UNS Gas would no longer offer a stand-alone residential new construction program. To earn the Joint Utility Energy Star Home Certification, a builder participating in the joint certification would contract with either APS or UNS Electric, similar to the process described above. The builder would also sign an additional agreement with UNS Gas to install gas appliances that meet or exceed the criteria required by the Energy Star Home Program offered by APS and UNS Electric. The builder would receive an incentive from the appropriate electric utility and an incentive from UNS Gas. The electric utility would claim only the electric savings from the UNS Gas Joint Utility Energy Star Home Certification and UNS Gas would claim only gas savings from the program.

Key proposed changes to the original program include:

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<sup>4</sup> APS' second tier requires energy efficiency that is 30% higher than the 2006 IECC. See Decision 71503 (March 17, 2010).

<sup>5</sup> See Decision No. 71641 (April 14, 2010).

<sup>6</sup> APS' Energy Star Plus Solar program was approved as part of APS' 2010 REST Implementation Plan. See Decision No. 71459 (January 29, 2010).

- UNS Gas, APS and UNS Electric marketing both opportunities for builders;
- UNS Gas, APS and UNS Electric working cooperatively to transfer builders to the appropriate utility depending on which certification is chosen;
- Increased minimum furnace efficiency from 90 AFUE to 95 AFUE;
- Increased minimum water heater efficiency from 0.58 EF to 0.62 EF;
- Improved thermal envelope and installation of ventilation system;
- Used 2009 updated incremental costs for equipment;
- Reduced the incentive to builder from \$400 per home to \$200 per home;
- Adjusted participation numbers to account for economic downturn;
- Delivery mechanism that includes the opportunity for all utilities involved to promote the program; and
- Decreased the overall program budget by \$670,811 for 2010-2012.

The Joint Utility Program provides several products and services, including:

- Promotion of builders and subdivisions that meet or exceed Energy Star performance standards;
- Builder and sub-contractor education and training;
- Educational and promotional materials for builders and new home buyers; and
- Builder incentives of \$200 per home for meeting Energy Star Home standards and UNS Gas high efficiency equipment standards.

### **Delivery Strategy and Administration**

The ESH Program will be implemented by Conservation Services Group ("CSG"), a qualified implementation contractor ("IC") selected through a competitive bidding process. CSG will provide program administration, marketing, planning, coordination of builder and contractor training and consumer education activities. CSG will also work closely with electric service providers in the UNS Gas service territory and coordinate all co-operative features of the Joint Utility sales and promotion of new homes.

Key industry relationships include:

- EPA/DOE Energy Star Homes for program branding and certification standards;
- Building science trainers for training and education;
- Testing and inspection contractors approved by Residential Energy Services Network (“RESNET”) for third party Performance verification and energy ratings;
- The Arizona Energy Office for support in all areas;
- Local code officials;
- Arizona Public Service Company; and
- UNS Electric, Inc.

CSG and UNS Gas representatives will develop key trade ally relationships with builders; energy experts able to provide design assistance and building energy simulation modeling; HVAC Contractors for sizing, installation and start-up of HVAC systems; framing Contractors for framing and blocking detail to enhance insulation performance; and insulation Contractors for insulation installed according to specifications.

According to UNS Gas, it will be very easy to transition immediately into the new standards outlined in the Joint Utility – Residential New Home Construction Program, with the new program details and implementation taking place within 30 days of program approval by the Commission.

### **Marketing**

The goal for marketing the ESH program is to educate consumers on the benefits of Energy Star Home performance standards and promote builders who provide Energy Star Homes to include higher efficiency furnaces and water heaters. Marketing can drive consumers to homebuilders who adhere to these performance standards and as more consumers demand the product, more builders will choose to build to ESH standards. Higher participation by builders results in higher quality and more energy efficient homes being built in the UNS Gas service territory.

Builders will receive marketing and promotional support from CSG and UNS Gas. This support includes advertisements and articles in builder trade publications, direct sales, point of sale materials and tools, the UNS Gas website, and training events for builders. For home buyers, UNS Gas will provide brochures or bill-stuffers, advertisements or articles in targeted

publications, outreach and education at community events, point-of-sale materials in sales offices and model homes, and the UNS Gas website.

### Program Budget

The budget for the Joint Utility Program is significantly reduced from that approved for the original Energy Smart Homes Program. For example, the approved budget for 2011 was \$458,945 while the proposed budget for the modified program is \$218,375. Revised budget information was provided by the Company in September 2010 and differs slightly from that originally filed in the application. The reduced budget corresponds to the elimination of some measures from the original program that will be met through the programs offered by APS and UNS Electric.

**Table 1. 2011 Program Budget**

Total Program Budget	\$218,375
Total Administrative O&M	\$19,500
Internal Utility Oversight (Labor)	\$15,000
Travel & Direct Expenses	\$1,500
Overhead	\$3,000
Total Marketing Allocation	\$22,000
Internal Marketing Expense	\$22,000
Subcontracted Marketing Expense	\$0
Total Direct Implementation	\$160,075
Financial Incentives	\$45,675
Implementation Contractor (Labor)	\$66,950
Hardware & Materials	\$25,000
Contractor Training	\$7,000
Rebate Processing & Inspection	\$15,450
Total EM&V Cost Allocation	\$16,800
EM&V / Research Activity	\$15,120
EM&V Overhead	\$1,680
Total Program Cost	\$218,375

On average, over the life of the program, incentives are expected to account for about 21 percent of the total budget. Impacts from this program on the DSM Adjustor Clause would be reflected with the true up of the adjustor rate at the annual reset, as estimated by Staff in Table 2. Staff estimates that at full implementation, an average residential bill would decrease by \$0.96 per year, assuming consumption of 40 therms per month.

**Table 2. Estimated Impact on DSM Adjustor**

Year	2010	2011	2012
Original Program Budget	\$445,578	\$458,945	\$472,714
Joint Utility Program Budget	\$228,550	\$218,375	\$224,926
Decrease in Program Budget	\$217,028	\$240,570	\$247,788
Estimated Decrease in Adjustor	\$0.0018/therm	\$0.0020/therm	\$0.0020/therm

### **Program Participation**

UNS Gas anticipates a participation level of 15 percent of projected new home permits. As in the original 2007 ESH Program filing, UNS Gas assumed that the number of new homes was equivalent to the number of new accounts in the non-Kingman service territory. This was necessary due to the lack of market data for this area. Additionally, to reflect the stalled housing-market, UNS Gas assumed a reduction in this market forecast. This reduction was based on the projections that Bright Futures Consulting made for other Arizona markets. As a result, UNS Gas expects 228 participants in 2011, 232 participants in 2012 and 235 participants in 2013 (these values were provided by the Company in September 2010 and differ from those originally filed in the application).

Although UNS Electric's ESH Program had relatively low participation, with 16 homes built between July and December 2009, due to slow new home construction, APS paid homebuilder incentives for 730 Energy Star homes that were completed during its last reporting period (July through December 2009). Because UNS Gas will be operating this program in conjunction with both electric utilities, the estimated level of participation in UNS Gas' program for 2011 and 2012 seems reasonable to Staff.

### **Monitoring and Evaluation**

UNS Gas has already adopted a strategy for integrated data collection that is designed to provide a quality data resource for program tracking, management and evaluation. This approach will entail the following primary activities:

- Database management - As part of program operation, UNS Gas collects necessary data elements to populate the tracking database and provide periodic reporting.
- Integrated implementation data collection - UNS Gas works with the implementation contractor to collect the data needed to support effective program management and evaluation.
- Field verification – UNS Gas conducts field verification on the installation of a sample of measures throughout the implementation of the program.

- Tracking of savings using REM/Rate - Residential Energy Analysis and Rating Software v12.7. – UNS Gas and the CSG utilize actual REM/Rate files for each home and produce a report showing the actual savings for heating and water heating that has resulted from program standards for each individual home. REM/Rate is a residential energy analysis, code compliance, and rating software developed specifically for the needs of HERS providers.

According to UNS Gas, this approach provides the Company with ongoing feedback on program progress and enables program management to adjust or correct the program so as to be more effective, provide a higher level of service, and be more cost beneficial. Integrated data collection also provides a high quality data resource for evaluation activities. In this joint utility partnership, APS will collect all information on the home and UNS Gas will update the data collection to include higher efficiency gas equipment required as part of the UNS Gas program. Conservation Services Group, the implementation contractor for UNS Gas, will use actual REM/Rate files for homes to calculate the actual savings for heating, cooling, and water heating. UNS Gas will claim the gas savings and APS will claim the electric savings.

#### **Water Heater Minimum Efficiency**

The purpose of these ESH programs is to encourage long-term, cost-effective energy savings. UNS Gas's proposed increase in minimum water heater efficiency to 0.62 EF is below the current Energy Star standard, which increased in September of this year to 0.67 EF. Staff recommends that the incentive only be available to builders that install water heaters that have a minimum 0.67 EF.

#### **Estimated Energy Savings and Environmental Benefits**

Due to the whole-house nature of the Joint Utility Program, in addition to the natural gas savings associated with high efficiency equipment, there will also be natural gas savings from the improved thermal envelope that is a component of the Joint Utility Program. An improved thermal envelope reduces uncontrolled air infiltration and requires the installation of a mechanical ventilation system to provide for appropriate, controlled air exchange. At the time of this filing APS recommended installation of ventilation systems but did not make it a requirement with installation with electric water and space heating. However, ventilation is a health and safety requirement for UNS Gas to ensure against pressure induced back-drafting of combustion appliances. As such, the envelope measure is required as part of the overall Joint Utility Program with UNS Electric and APS. Staff estimates that with the recommended changes, utilizing a 0.67 EF water heater, the program would save approximately 580 therms per unit per year. This value includes natural gas savings associated with envelope upgrades which help to reduce heating and cooling costs and to improve indoor air quality.

### Cost-Effectiveness

The Commission's 1991 Resource Planning Decision established the Societal Cost Test ("SCT") as the methodology to be used for determining the cost-effectiveness of a DSM program. Under the SCT, in order to be cost-effective, the ratio of benefits to costs must be greater than one. The societal costs for a DSM program include the cost of the measure and the cost of implementing the program, excluding rebates. The societal benefits of a DSM program include the avoided demand and energy costs as well as avoided environmental impacts, which are quantified, but do not have to be monetized. Staff has determined that this program, with Staff's recommended changes, has an SCT benefit to cost ratio of 2.31.

**Table 3. Estimated Cost per Therm Saved**

Year	2011	2012	2013
Units	228	232	235
Therm Savings	132,924	135,256	137,005
Total Program Costs	\$218,375	\$224,241	\$230,273
Cost per Therm Saved	\$1.64	\$1.66	\$1.68

### Reporting Requirements

Staff recommends that the UNS Gas DSM reports should include, at a minimum, for both the Existing and Joint Utility certifications (i) the number of Energy Star-certified homes built; (ii) copies of marketing materials; (iii) estimated cost savings to participants; (iv) gas and electric savings as determined by the monitoring and evaluation process; (v) estimated environmental savings; (vi) the total amount of the program budget spent during the previous six months, the previous year, and since inception of the program; (vii) any significant impacts on program cost-effectiveness; and (viii) descriptions of any problems and proposed solutions including movements of funding from one program to another.

### Recommendations

Staff recommends approval of the Joint Utility – Residential New Construction Program, as discussed herein, and is encouraged that the electric and gas utilities would be working jointly to offer more robust options for residential new construction, implementing whole-house energy efficiency programs which reduce both electric and natural gas consumption. Staff recommends that the UNS Gas incentive only be available to home builders that incorporate both a water

THE COMMISSION

November 9, 2010

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heater and a furnace that meet or exceed current Energy Star criteria. Staff supports UNS Gas' proposed increase for furnace efficiency to a minimum 95 AFUE, which is above the current minimum Energy Star standard.



Steven M. Olea  
Director  
Utilities Division

SMO:LAF:lhmr\RM

ORIGINATOR: Laura A. Furrey

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**BEFORE THE ARIZONA CORPORATION COMMISSION**

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

IN THE MATTER OF UNS GAS, INC.'S  
REQUEST TO MODIFY ITS ENERGY  
SMART HOME PROGRAM

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

Open Meeting  
November 22 and 23, 2010  
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

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

BACKGROUND

2. In Decision No. 70180 (February 27, 2008), the Commission approved the UNS Gas Demand-Side Management ("DSM") Portfolio for 2008 through 2012 (the "DSM Portfolio"). Included in the DSM Portfolio is the Energy Smart Home ("ESH") Program which was launched in the UNS Gas service territory on June 16, 2008.

3. Between June 16, 2008 and December 31, 2009, UNS Gas spent \$269,260 in total ESH program costs. The budget for this program was \$420,000 in 2008 and \$432,600 in 2009. Participation in the program, however, has been limited with a total of only 9 homes benefitting from the program as of December 31, 2009. UNS Gas has analyzed the program and has determined that it is not cost-effective at this time.

1           4.       On November 12, 2009 UNS Gas filed its Request for Approval to Modify its ESH  
2 Program. UNS Gas is requesting Commission authorization to redesign the Program to work in  
3 cooperation with electric service providers. This new program design should deliver incrementally  
4 higher customer and societal benefits. Further, under the proposed redesigned program the electric  
5 and gas utilities will share both the cost and savings of the new program.

6           5.       According to UNS Gas, the ESH Program has not been effective because of the  
7 economic downturn and corresponding slow-down in new home construction combined with a  
8 similar program launched by Arizona Public Service Company (“APS”) in part of UNS Gas’  
9 service territory. APS’ program was launched several years in advance of the UNS Gas program  
10 and all production builders are already participating in APS’ program.

11          6.       UNS Gas has determined that it must either eliminate the ESH program from the  
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14 to eliminate the program at this time and is requesting Commission authorization to redesign the  
15 Program to work in cooperation with electric service providers. The program, as redesigned, will  
16 be called the UNS Gas Joint Utility – Residential New Construction Program.

17          7.       According to UNS Gas, APS and UNS Electric worked closely with the Company  
18 to develop the redesigned program. UNS Gas recognizes the importance for the program re-design  
19 to work in all areas of its service territory, where electric service is provided by both APS and  
20 UNS Electric, so that there are not two separate program designs in the UNS Gas territory. There  
21 will be no changes to either APS’ or UNS Electric’s Residential New Construction programs  
22 (approved in Decision No. 68648 and Decision No. 70522, respectively).

23 **PROGRAM DESCRIPTION**

24 *Energy Star Qualified Homes – National Performance Path*

25          8.       UNS Gas’ application for modification of its ESH program states that builders will  
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28 paths to qualify a home to meet Energy Star’s guidelines for energy efficiency. The first, the

1 National Performance Path, requires that a home meet a certain Home Energy Rating System  
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16 Builders currently contract with the electric service provider in the area, either APS or UNS  
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- 23 • Builder incentives of \$200 per home for meeting Energy Star Home standards  
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## 25 DELIVERY STRATEGY AND ADMINISTRATION

26 16. The ESH Program will be implemented by Conservation Services Group ("CSG"),  
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19 Contractors for insulation installed according to specifications.

20 19. According to UNS Gas, it will be very easy to transition immediately into the new  
21 standards outlined in the Joint Utility – Residential New Home Construction Program, with the  
22 new program details and implementation taking place within 30 days of program approval by the  
23 Commission.

#### 24 MARKETING

25 20. The goal for marketing the ESH program is to educate consumers on the benefits of  
26 Energy Star Home performance standards and promote builders who provide Energy Star Homes  
27 to include higher efficiency furnaces and water heaters. Marketing can drive consumers to  
28 homebuilders who adhere to these performance standards and as more consumers demand the

1 product, more builders will choose to build to ESH standards. Higher participation by builders  
2 results in higher quality and more energy efficient homes being built in the UNS Gas service  
3 territory.

4 21. Builders will receive marketing and promotional support from CSG and UNS Gas.  
5 This support includes advertisements and articles in builder trade publications, direct sales, point  
6 of sale materials and tools, the UNS Gas website, and training events for builders. For home  
7 buyers, UNS Gas will provide brochures or bill-stuffers, advertisements or articles in targeted  
8 publications, outreach and education at community events, point-of-sale materials in sales offices  
9 and model homes, and the UNS Gas website.

10 **PROGRAM BUDGET**

11 22. The budget for the Joint Utility Program is significantly reduced from that approved  
12 for the original ESH Program. For example, the approved budget for 2011 was \$458,945 while the  
13 proposed budget for the modified program is \$218,375. Revised budget information was provided  
14 by the Company in September 2010 and differs slightly from that originally filed in the  
15 application. The reduced budget corresponds to the elimination of some measures from the  
16 original program that will be met through the programs offered by APS and UNS Electric.

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**Table 1. 2011 Program Budget**

Total Program Budget	\$218,375
Total Administrative O&M	\$19,500
Internal Utility Oversight (Labor)	\$15,000
Travel & Direct Expenses	\$1,500
Overhead	\$3,000
Total Marketing Allocation	\$22,000
Internal Marketing Expense	\$22,000
Subcontracted Marketing Expense	\$0
Total Direct Implementation	\$160,075
Financial Incentives	\$45,675
Implementation Contractor (Labor)	\$66,950
Hardware & Materials	\$25,000
Contractor Training	\$7,000
Rebate Processing & Inspection	\$15,450
Total EM&V Cost Allocation	\$16,800
EM&V / Research Activity	\$15,120
EM&V Overhead	\$1,680
Total Program Cost	\$218,375

23. On average, over the life of the program, incentives are expected to account for about 21 percent of the total budget. Impacts from this program on the DSM Adjustor Clause would be reflected with the true up of the adjustor rate at the annual reset, as estimated by Staff in Table 2. Staff estimates that at full implementation, an average residential bill would decrease by \$0.96 per year, assuming consumption of 40 therms per month.

**Table 2. Estimated Impact on DSM Adjustor**

Year	2010	2011	2012
Original Program Budget	\$445,578	\$458,945	\$472,714
Joint Utility Program Budget	\$228,550	\$218,375	\$224,926
Decrease in Program Budget	\$217,028	\$240,570	\$247,788
Estimated Decrease in Adjustor	\$0.0018/therm	\$0.0020/therm	\$0.0020/therm

**PROGRAM PARTICIPATION**

24. UNS Gas anticipates a participation level of 15 percent of projected new home permits. As in the original 2007 Energy Smart Home Program filing, UNS Gas assumed that the

1 number of new homes was equivalent to the number of new accounts in the non-Kingman service  
2 territory. This was necessary due to the lack of market data for this area. Additionally, to reflect  
3 the stalled housing-market, UNS Gas assumed a reduction in this market forecast. This reduction  
4 was based on the projections that Bright Futures Consulting made for other Arizona markets. As a  
5 result, UNS Gas expects 228 participants in 2011, 232 participants in 2012 and 235 participants in  
6 2013 (these values were provided by the Company in September 2010 and differ from those  
7 originally filed in the application).

8 25. Although UNS Electric's ESH Program had relatively low participation, with 16  
9 homes built between July and December 2009, due to slow new home construction, APS paid  
10 homebuilder incentives for 730 Energy Star homes that were completed during its last reporting  
11 period (July through December 2009). Because UNS Gas will be operating this program in  
12 conjunction with both electric utilities, the estimated level of participation in UNS Gas' program  
13 for 2011 and 2012 seems reasonable to Staff.

#### 14 MONITORING AND EVALUATION

15 26. UNS Gas has already adopted a strategy for integrated data collection that is  
16 designed to provide a quality data resource for program tracking, management and evaluation.  
17 This approach will entail the following primary activities:

- 18 • Database management - As part of program operation, UNS Gas collects  
19 necessary data elements to populate the tracking database and provide periodic  
20 reporting.
- 21 • Integrated implementation data collection - UNS Gas works with the  
22 implementation contractor to collect the data needed to support effective  
23 program management and evaluation.
- 24 • Field verification - UNS Gas conducts field verification on the installation of a  
25 sample of measures throughout the implementation of the program.
- 26 • Tracking of savings using REM/Rate - Residential Energy Analysis and Rating  
27 Software v12.7. - UNS Gas and the CSG utilize actual REM/Rate files for each  
28 home and produce a report showing the actual savings for heating and water  
heating that has resulted from program standards for each individual home.  
REM/Rate is a residential energy analysis, code compliance, and rating  
software developed specifically for the needs of HERS providers.

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1           27.     According to UNS Gas, this approach provides the Company with ongoing  
2 feedback on program progress and enables program management to adjust or correct the program  
3 so as to be more effective, provide a higher level of service, and be more cost beneficial.  
4 Integrated data collection also provides a high quality data resource for evaluation activities. In  
5 this joint utility partnership, APS will collect all information on the home and UNS Gas will  
6 update the data collection to include higher efficiency gas equipment required as part of the UNS  
7 Gas program. Conservation Services Group, the implementation contractor for UNS Gas, will use  
8 actual REM/Rate files for homes to calculate the actual savings for heating, cooling, and water  
9 heating. UNS Gas will claim the gas savings and APS will claim the electric savings.

#### 10 **WATER HEATER MINIMUM EFFICIENCY**

11           28.     The purpose of these ESH programs is to encourage long-term, cost-effective  
12 energy savings. UNS Gas' proposed increase in minimum water heater efficiency to 0.62 EF is  
13 below the current Energy Star standard, which increased in September of this year to 0.67 EF.  
14 Staff recommends that the incentive only be available to builders that install water heaters that  
15 have a minimum 0.67 EF.

#### 16 **ESTIMATED ENERGY SAVINGS AND ENVIRONMENTAL BENEFITS**

17           29.     Due to the whole-house nature of the Joint Utility Program, in addition to the  
18 natural gas savings associated with high efficiency equipment, there will also be natural gas  
19 savings from the improved thermal envelope that is a component of the Joint Utility Program. An  
20 improved thermal envelope reduces uncontrolled air infiltration and requires the installation of a  
21 mechanical ventilation system to provide for appropriate, controlled air exchange. At the time of  
22 this filing APS recommended installation of ventilation systems but did not make it a requirement  
23 with installation with electric water and space heating. However, ventilation is a health and safety  
24 requirement for UNS Gas to ensure against pressure induced back-drafting of combustion  
25 appliances. As such, the envelope measure is required as part of the overall Joint Utility Program  
26 with UNS Electric and APS. Staff estimates that with the recommended changes, utilizing a 0.67

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1 EF water heater, the program would save approximately 580 therms per unit per year. This value  
 2 includes natural gas savings associated with envelope upgrades which help to reduce heating and  
 3 cooling costs and to improve indoor air quality.

#### 4 **COST-EFFECTIVENESS**

5 30. The Commission's 1991 Resource Planning Decision established the Societal Cost  
 6 Test ("SCT") as the methodology to be used for determining the cost-effectiveness of a DSM  
 7 program. Under the SCT, in order to be cost-effective, the ratio of benefits to costs must be  
 8 greater than one. The societal costs for a DSM program include the cost of the measure and the  
 9 cost of implementing the program, excluding rebates. The societal benefits of a DSM program  
 10 include the avoided demand and energy costs as well as avoided environmental impacts, which are  
 11 quantified, but do not have to be monetized. Staff has determined that this program, with Staff's  
 12 recommended changes, has an SCT benefit to cost ratio of 2.31.

13 **Table 3. Estimated Cost per Therm Saved**

14 Year	2011	2012	2013
15 Units	228	232	235
16 Therm Savings	132,924	135,256	137,005
17 Total Program Costs	\$218,375	\$224,241	\$230,273
18 Cost per Therm Saved	\$1.64	\$1.66	\$1.68

#### 19 **RECOMMENDATIONS**

20 31. Staff has recommended approval of the Joint Utility – Residential New  
 21 Construction Program, as discussed herein, and is encouraged that the electric and gas utilities  
 22 would be working jointly to offer more robust options for residential new construction,  
 23 implementing whole-house energy efficiency programs which reduce both electric and natural gas  
 24 consumption. Staff recommends that the UNS Gas incentive only be available to home builders  
 25 that incorporate both a water heater and a furnace that meet or exceed current Energy Star criteria.  
 26 Staff supports UNS Gas's proposed increase for furnace efficiency to a minimum 95 AFUE, which  
 27 is above the current minimum Energy Star standard.

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1 **REPORTING REQUIREMENTS**

2           32. Staff has recommended that the UNS Gas DSM reports should include, at a  
3 minimum, for both the Existing and Joint Utility certifications (i) the number of Energy Star-  
4 certified homes built; (ii) copies of marketing materials; (iii) estimated cost savings to participants;  
5 (iv) gas and electric savings as determined by the monitoring and evaluation process; (v) estimated  
6 environmental savings; (vi) the total amount of the program budget spent during the previous six  
7 months, the previous year, and since inception of the program; (vii) any significant impacts on  
8 program cost-effectiveness; and (viii) descriptions of any problems and proposed solutions  
9 including movements of funding from one program to another.

10 **CONCLUSIONS OF LAW**

11           1. UNS Gas is an Arizona public service corporation within the meaning of Article  
12 XV, Section 2, of the Arizona Constitution.

13           2. The Commission has jurisdiction over UNS Gas and over the subject matter of the  
14 Application.

15           3. The Commission, having reviewed the application and Staff's Memorandum dated  
16 November 9, 2010, concludes that it is in the public interest to approve the UNS Gas Joint Utility –  
17 Residential New Construction Program, as discussed herein.

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ORDER

IT IS THEREFORE ORDERED that the UNS Gas, Inc. Joint Utility – Residential New Construction Program be and hereby is approved, as discussed herein.

IT IS FURTHER ORDERED that the UNS Gas, Inc. DSM reports shall include, at a minimum, for both the Existing and Joint Utility certifications:

- the number of Energy Star-certified homes built;
- copies of marketing materials;
- estimated cost savings to participants;
- gas and electric savings as determined by the monitoring and evaluation process;
- estimated environmental savings;
- the total amount of the program budget spent during the previous six months, the previous year, and since inception of the program;

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- any significant impacts on program cost-effectiveness; and
- descriptions of any problems and proposed solutions including movements of funding from one program to another.

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

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

CHAIRMAN

COMMISSIONER

COMMISSIONER

COMMISSIONER

COMMISSIONER

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

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ERNEST G. JOHNSON  
EXECUTIVE DIRECTOR

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

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

SMO:LAF:lh\RM

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