



BEFORE THE ARIZONA CORPORATION

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KRISTIN K. MAYES
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Arizona Corporation Commission
DOCKETED
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IN THE MATTER OF UNS ELECTRIC
INC.'S APPLICATION FOR APPROVAL OF
ITS RESIDENTIAL ENERGY
ASSESSMENT PROGRAM

DOCKET NO. E-04204A-07-0365
DECISION NO. 72064
ORDER

Open Meeting
December 14 and 15, 2010
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. UNS Electric, Inc. ("UNS Electric" or "the Company") is certificated to provide electric service as a public service corporation in the State of Arizona.
2. On September 8, 2010, UNS Electric filed its Application for Approval of Proposed Residential Energy Assessment Program ("REAP" or the "Program"). The REAP is designed to work in conjunction with UNS Electric's Existing Homes Program (Docket No. E-04204A-07-0365). Staff considers this Program an element of UNS Electric's Existing Homes Program and has reviewed this Program as a modification of the Existing Homes Program.

PROGRAM DESCRIPTION

3. The REAP, consistent with the Existing Homes Program, is being offered to single family, residential customers residing in existing 1-4 family owner-occupied homes currently serviced by UNS Electric.
4. The major components of the REAP include a home energy assessment; a general appliance assessment; installation of up to ten compact fluorescent lamps ("CFLs") and one

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1 Advanced Power Strip per home; and education regarding behavioral changes, other UNS Electric
2 efficiency programs, rate options, and contact information to assist with questions after the
3 assessment.

4 5. A home energy assessment (also referred to as a home energy audit) is a
5 comprehensive home examination designed to assess how much energy the home is using and to
6 evaluate what measures can be taken to improve efficiency. The most common conditions found
7 are leaks in the heating, ventilation and air conditioning (HVAC) duct system; penetrations which
8 allow air exchange and connection between the attic and exterior of the home with the conditioned
9 space; insulation failures; and unsealed windows and doors.

10 6. Professional auditors use a variety of techniques and equipment to determine the
11 energy efficiency of a home. Thorough audits often use equipment such as blower doors, which
12 measure the extent of leaks in the building envelope, and Duct Blasters which test and document
13 the airtightness of forced air duct systems.

14 7. It is important to note that a home energy assessment, in and of itself, is not an
15 energy-saving measure. Additional measures must be implemented to correct existing conditions
16 within the home that are causing homeowners to waste energy and incur high electric bills.

17 8. According to UNS Electric, the current market rate for a home energy assessment is
18 approximately \$330 per home. Through the REAP, participating customers will only pay \$99 for
19 the assessment with UNS Electric paying the balance of the assessment cost.¹

20 9. Through the UNS Electric REAP, the energy assessment will be conducted and
21 explained by an implementation contractor that has experience and expertise in energy assessments
22 and energy efficiency measures. At the conclusion of the home assessment, the contractor will
23 provide a detailed report of recommended efficiency measures prioritized by cost effectiveness.
24 The report will also contain an estimate of the actual energy and dollar savings possible through
25 the recommended upgrade measures. At this time, the recommended measures will be limited to
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28 ¹ The assessment cost originally proposed in the application for this Program was \$450. Since the original application was filed, UNS Electric has narrowed its options for an implementation contractor for the Program and has provided Staff with more recent assessment costs.

1 measures offered through the Existing Homes Program which include duct sealing, air sealing,
2 ceiling insulation, shade screens, and HVAC equipment replacement.

3 10. In addition to providing and explaining the assessment report, the contractor will
4 install up to ten CFLs and one Advanced Power Strip per home. UNS Electric anticipates
5 providing Advanced Power Strips which use a Universal Serial Bus ("USB") interface and plugs
6 into a computer or television via a USB connection. When the computer is turned off, a signal
7 from the USB port shuts down the flow of power to peripherals (e.g. printers, scanners, modems,
8 speakers, and standby lights). This technology is applicable to commercial and home offices and
9 entertainment systems.

10 11. The contractor will also educate the homeowner about applicable UNS Electric
11 rebates and simple behavioral modifications to increase efficiency. Such behavior modifications
12 can include, for example, reducing phantom loads, adjusting thermostat settings, resetting timers
13 on pool equipment, doing laundry in cold water, and using the air-dry option on the dishwasher.
14 Educational materials will be provided to the homeowner, including information about available
15 rate plans that promote conservation.

16 12. Although the REAP is designed to be utilized with UNS Electric's Existing Homes
17 Program, participation in one program does not require participation in the other. As part of the
18 energy assessment, customers will be provided with rebate information and a list of Building
19 Performance Institute ("BPI") contractors available to complete the recommended measures
20 associated with the Existing Homes Program. Once a customer contacts an approved BPI-certified
21 contractor, a firm cost for recommended improvements will be given to the customer. The
22 contractor will then be able to access a secure website containing the details of the customer's
23 energy assessment. Upon completion of all work, the actual savings provided by each measure
24 will be known.

25 **DELIVERY STRATEGY AND ADMINISTRATION**

26 13. UNS Electric will serve as the program administrator for the REAP, providing
27 marketing, planning, technical support, and evaluation. UNS Electric will use an implementation
28 contractor to conduct the energy assessments, to deliver and explain the resulting reports to the

1 homeowner, and to complete all remaining customer education and assistance, including
2 scheduling customer assessments, screening applicants, referring certified contractors, installation
3 of direct-install components, data storage, and reporting.

4 14. UNS Electric issued a request for proposals ("RFP") on August 5, 2010, to select an
5 implementation contractor capable of supplying trained energy auditors to conduct the on-site
6 energy assessments. UNS Electric expects the contractor will use the Real Home Analyzer or
7 second version E-net Green software to conduct the audits.

8 15. Inquiring consumers will receive Program and contact information to schedule an
9 energy assessment. The implementation contractor will be responsible for determining eligibility.
10 After the assessment is conducted, the auditor will refer the customer to a UNS Electric approved
11 and BPI-certified contractor. The BPI contractor will be responsible for conducting combustion
12 safety testing, installation of recommended measures, and blower-door/duct testing at the
13 completion of the efficiency upgrades. They will also be responsible for updating the energy
14 assessment records with final test results and reporting.

15 MARKETING

16 16. The marketing and communications strategy for the REAP is consistent with the
17 broader Existing Homes Program which includes:

- 18 ● promotions on UNS Electric's website;
- 19 ● advertising in major newspapers and other print media in the service region;
- 20 ● brochures and other collateral pieces such as bill inserts;
- 21 ● high bill inquiries;
- 22 ● trade ally marketing efforts; and
- 23 ● contractor enrollment and training.

24 PROGRAM INCENTIVES

25 17. The incentive for this Program includes installation of up to ten CFLs and one
26 Advanced Power Strip. UNS Electric estimates that the cost of an energy assessment is
27 approximately \$330. UNS Electric intends for consumers to pay \$99 of the assessment cost and
28 for the Company to pay the remaining amount of approximately \$230, with both payments made
directly to the implementation contractor. While UNS Electric originally proposed this \$230 ~~us m~~
incentive, Staff considers the cost of the energy assessment to be part of Program Delivery rather

1 than an actual incentive to the customer or contractor because the assessment facilitates not only
 2 the benefits of the Advanced Power Strip, CFL installation and energy efficiency education but
 3 also the potential benefits associated with the UNS Electric Existing Homes Program. UNS
 4 Electric anticipates monthly invoicing on behalf of the contractor, and will provide payment within
 5 30 days of completion of the home assessment. Payment to the contractor is contingent upon the
 6 contractor providing UNS Electric with all project documentation.

7 **PROGRAM BUDGET**

8 18. UNS Electric intends to include the REAP costs in its upcoming annual Demand
 9 Side Management ("DSM") charge adjustment. Based on updated budget information provided by
 10 UNS Electric subsequent to the filing of the application for approval of this Program, Staff
 11 estimates that the REAP will result in a \$0.000097 per kWh increase to the DSM charge, which
 12 would be an increase in the average residential bill of \$1.00 per year.

13 19. However, we believe the Budget should be as shown in Table 1.

14 **Table 1. 2011 REAP Budget**

	Measure Cost	2011 Units	Total Budget
Advanced Power Strip - Direct Install (1 unit)	\$20	400	\$8,000
Screw in CFL - Direct Install (up to 10 units)	\$12.50	400	\$5,000
Energy Assessment	\$230	400	\$92,000
Total Financial Incentives			\$105,000
Program Delivery			\$38,919
Total Program Delivery			\$38,919
Program Marketing			\$19,192
Program Administration			\$6,500
Measurement, Evaluation, and Research			\$4,352
Total Program Costs - Incentive			\$105,000
Total Program Costs - Non-Incentive			\$68,963
Total Program Costs			\$173,963

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PROGRAM PARTICIPATION

20. UNS Electric anticipates completing 400 energy assessments by the end of 2011. UNS Electric also has a goal of having 40% of customers that take advantage of the energy assessment program follow up with measures from the Existing Homes Program.

21. As stated earlier, customers that take advantage of the REAP are not required to utilize any measures within the Existing Homes Program and customers may take advantage of Existing Homes Program incentives without taking part in the REAP. Staff, however, recommends that UNS Electric detail how many participants in the REAP subsequently utilize incentives offered through the Existing Homes Program to ensure that the REAP is a valuable addition to the Existing Homes Program.

REAP ESTIMATED ENERGY SAVINGS AND ENVIRONMENTAL BENEFITS

22. Estimated savings and environmental benefits detailed in Tables 2 and 3 for the REAP are additional to the savings and benefits discussed for the Existing Homes Program.

Table 2. 2011 Estimated Energy Savings per Home

Measure	Annual kW Savings	Annual kWh Savings
Screw in CFL (up to 10)	0.049	384
Advanced Power Strip	0.011	82
Behavioral Changes	0	207

Table 3. Estimated Environmental Benefits

Gas	Annual Metric Tons Reduced	Lifetime Metric Tons Reduced
CO ₂	110	569
NO _x	.0152	.0789
SO _x	.0005	0.0027

COST-EFFECTIVENESS

23. 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

1 greater than one. The societal costs for a DSM program include the cost of the measure and the
2 cost of implementing the program, excluding rebates. The societal benefits of a DSM program
3 include the avoided demand and energy costs as well as avoided environmental impacts, which are
4 quantified, but do not have to be monetized.

5 24. Staff does not view the REAP as an energy-efficiency program, in and of itself but,
6 rather, regards this Program as more of a delivery mechanism for the comprehensive, whole-house
7 efficiency measures offered through the UNS Electric Existing Homes Program. Although the
8 CFL and Advanced Power Strips installed through the REAP, along with suggested behavioral
9 modifications, will result in energy savings, the purpose of the home energy audit is to identify
10 areas for energy savings and recommend cost-effective efficiency upgrades, for which additional
11 rebates are offered. Staff believes that the REAP is a critical element to the Existing Homes
12 Program. Staff has evaluated the REAP as an addition to the Existing Homes Program. Staff has
13 concluded that UNS Electric's Existing Homes Program, modified to include the REAP, would be
14 cost-effective with an SCT benefit-cost ratio of 1.10.²

15 25. In its application, UNS Electric included potential costs of complying with carbon
16 dioxide (CO₂) regulation in its benefit-cost calculations. UNS Electric has estimated low, medium,
17 and high carbon values of approximately \$14, \$25, and \$43 per ton, respectively. Staff conducted
18 its benefit-cost analysis including and excluding the CO₂ values provided by UNS Electric. With
19 the inclusion of a low CO₂ value, the Existing Homes Program with the inclusion of the REAP
20 would be cost-effective with an SCT benefit-cost ratio of 1.35.

21 **MONITORING AND EVALUATION**

22 26. UNS Electric's Measurement, Evaluation, and Research contractor, Navigant
23 Consulting, will be conducting Program measurement, verification, and quality assurance. UNS
24 Electric also anticipates mailing homeowner surveys to all Program participants who receive an
25 energy assessment.

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28 ² This benefit-cost ratio includes total whole house benefits which incorporate both estimate electric and natural gas savings as discussed for the Existing Homes Program. If only electric savings from the Existing Homes Program were included, the Existing Homes Program, modified to include the REAP, would have an SCT benefit-cost ratio of 0.98.

1 **RECOMMENDATIONS**

2 27. Staff has recommended that UNS Electric's REAP be approved as an element of
3 UNS Electric's Existing Homes Program, as discussed herein.

4 28. Staff has recommended that UNS Electric include, at a minimum, the following in
5 its DSM report: (i) the number of participants in this program; (ii) copies of marketing materials;
6 (iii) estimated cost savings to participants; (iv) gas and electric savings as determined by the
7 monitoring and evaluation process; (v) estimated environmental savings; (vi) the total amount of
8 the program budget spent during the previous year and since inception of the program; (vii) any
9 significant impacts on program cost-effectiveness; (viii) how many REAP participants
10 subsequently receive rebates from the Existing Homes Program; and (ix) descriptions of any
11 problems and proposed solutions including movements of funding from one program to another.

12 **CONCLUSIONS OF LAW**

13 1. UNS Electric, Inc. is an Arizona public service corporation within the meaning of
14 Article XV, Section 2, of the Arizona Constitution.

15 2. The Commission has jurisdiction over UNS Electric and over the subject matter of
16 the Application.

17 3. The Commission, having reviewed the application and Staff's Memorandum dated
18 December 2, 2010, concludes that it is in the public interest to approve the UNS Electric REAP as
19 an element of the Existing Homes Program, as discussed herein.

20 **ORDER**

21 IT IS THEREFORE ORDERED that UNS Electric, Inc.'s Existing Homes Program be and
22 hereby is approved, as discussed herein.

23 IT IS FURTHER ORDERED that UNS Electric, Inc. shall make all reasonable efforts to
24 provide residential energy assessments to at least 400 customers within 12 months of initial
25 program implementation.

26 IT IS FURTHER ORDERED that UNS Electric, Inc.'s DSM reports shall include, at a
27 minimum:

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- the number of participants in this program;

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- 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 year and since inception of the program;
- any significant impacts on program cost-effectiveness;

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- how many REAP participants subsequently receive rebates from the Existing Homes Program; and
- descriptions of any problems and proposed solutions including movements of funding from one program to another.

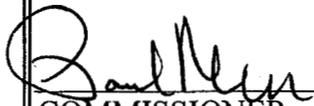
IT IS FURTHER ORDERED that this Order shall become effective immediately.

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION



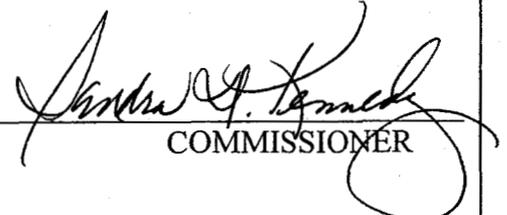
CHAIRMAN

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 6th day of JANUARY, ~~2010~~
2011

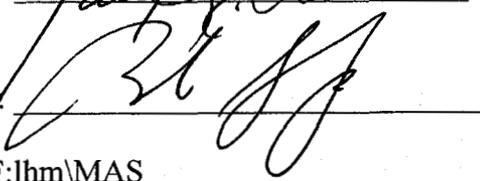


ERNEST G. JOHNSON
EXECUTIVE DIRECTOR

DISSENT:



DISSENT:



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