

ORIGINAL

OPEN MEETING



RECEIVED D U M

TO: THE COMMISSION 2007 AUG -7 P 4: 44
FROM: Utilities Division AZ CORP COMMISSION
DOCKET CONTROL
DATE: August 7, 2007

Arizona Corporation Commission
DOCKETED
AUG 07 2007

DOCKETED BY

RE: SOUTHWEST GAS CORPORATION – APPLICATION FOR APPROVAL OF ITS
COMMERCIAL EQUIPMENT PROGRAM (A DEMAND SIDE MANAGEMENT
PROGRAM) (DOCKET NO. G-01551A-04-0876)

On June 26, 2006, Southwest Gas Corporation (“Southwest”) filed an application for approval of its Commercial Equipment (“Commercial Equipment”) program, as required by Decision No. 68487. Decision No. 68487 requires that the Company file detailed descriptions of its DSM programs within 120 days of the Commission’s February 23, 2006 Order approving rate changes effective March 1, 2006.

The proposed program would be newly implemented, but includes the High-Efficiency Pre-Rinse Spray Valve component already approved by the Commission on June 27, 2007. The Commercial Equipment program is one of seven demand-side management (“DSM”) programs included in Southwest’s 2006 Arizona Demand Side Management Program Plan (“Plan”).

Program Description

As proposed in the Plan, the Commercial Equipment program would be available to new and existing Southwest customers with commercial kitchen facilities. Southwest representatives would provide assistance to commercial customers in purchasing and installing energy-efficient kitchen equipment. Rebates equal to the incremental cost of each measure would be provided to customers who install such measures.

Staff recommends that the size of the incentives be reviewed if participation in the program is at or above the anticipated levels.

Objective, Rationale and Market Segment

The objective of the Commercial Equipment program is to promote the use of energy-efficient equipment at commercial cooking facilities, including restaurants, schools, and hospitals; the proposed measures include griddles, steamers and fryers, along with the pre-rinse spray valves previously approved by the Commission. Adoption of high-efficiency commercial equipment will conserve both energy and water, and reduce pollution. In addition to facilitating individual installations, the Commercial Equipment program is intended to achieve market transformation of the restaurant industry and increase general demand for high-efficiency kitchen equipment.

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Staff recommends that rebates be paid only to participants who are purchasing high-efficiency natural gas commercial equipment for installation in areas serviced by Southwest. With respect to replacing existing equipment, Staff also recommends that the primary focus of the program be replacement of less-efficient natural gas-powered equipment, rather than replacement of less-efficient electric equipment. (Please see the Staff Analysis section for further discussion of this issue.)

Marketing

According to the Plan, during its first year the Commercial Equipment program will be advertised in restaurant trade publications, on the radio, on the Southwest website, through postcard distributions, and through participation at culinary events and at trade shows. Additional measures may include direct mail, brochures, telephone calls, email and in-person visits. There will also be seminars and workshops designed to train chain and franchise owners on high-efficiency equipment and maintenance.

The above marketing will continue in the second and third years, with the addition of educational events at the Southwest Tempe Food Service Center. Marketing will include the spray valve distribution program in the first year. The Commission has previously ordered that Southwest continue to promote high-efficiency pre-rinse water spray valves as part of its marketing, if Southwest's participation in the program is extended beyond 2007.

Delivery Strategy

Southwest representatives will encourage the Company's commercial customers to install high-efficiency equipment in their commercial kitchen facilities. Southwest or its designee will verify installation of the equipment, assist in the rebate application process, and process rebates.

With respect to the spray valve distribution only, Southwest will contribute additional funding and Arizona Department of Water Resources ("ADWR") will supervise the delivery and installation. ADWR has also hired a contractor to conduct a survey to evaluate the distribution funded through Southwest and Salt River Project ("SRP").

Estimated Levels of Participation

Southwest's estimates for the potential market and per-year levels of participation for each measure are listed in the table below, along with the proposed individual and annual incentive amounts:

SOUTHWEST'S PROPOSED INCENTIVES AND ESTIMATED PARTICIPATION LEVELS

Commercial Equipment	Market Potential	Estimated Participation (Year 1)	Estimated Participation (Years 2 and 3)	Proposed Incentive	Totals: Year 1	Totals: Years 2 and 3
Water heater	18,000	111	140	Up to \$1,700	\$188,700	\$238,700
Griddle	18,000	65	79	Up to \$2,102	\$136,630	\$166,557
Steamer	1,800	20	39	Up to \$532	\$10,640	\$20,640
Fryer	30,000	101	121	Up to \$2,583	\$260,883	\$310,883
Spray valve	18,000	5,000		n/a	\$124,925	n/a
Total					\$721,778	\$736,780

The changes from Year 1 to Years 2 and 3 reflect the initial assumption that the spray rinse distribution would end after Year 1. If continuing the distribution program proves cost-effective, either through ADWR or as part of Southwest's direct program, then a portion of the incentive dollars in Years 2 and 3 should continue to be allocated to spray valves. Staff recommends that Southwest track participation with respect to each type of commercial equipment and, if appropriate, shift expenditures between measures to maximize participation and program cost-effectiveness.

As discussed below, Staff analysis indicates that gas fryers are not, currently, a cost-effective DSM measure. Staff recommends that gas fryers be eliminated from the program unless and until they can be included on a cost-effective basis. Staff also recommends that expenditures originally allocated to the fryer measure be reallocated to other, more cost-effective, program measures.

Program Budget

While marketing costs represent a large proportion of the budget, the program is new and extensive marketing may aid in effecting the transformation of an industry with a high potential for energy savings, but also significant barriers to adoption of energy-efficient equipment. Smaller restaurants are often undercapitalized and extremely sensitive to the incremental costs of high-efficiency equipment, while chains or franchises often make equipment purchasing decisions outside the local market, making it difficult to market to buyers in advance. Staff recommends that Southwest monitor marketing for the program, and make adjustments, if necessary, to maximize the benefits of spending in this area.

Southwest's Proposed Budget

Description	First Year	Subsequent Years
Communication	\$91,420	\$86,420
Outreach	\$45,000	\$35,000
Training/Education	\$126,800	\$126,800
Administrative Costs	\$15,000	\$15,000
Incentives	\$721,778	\$736,780
Total	\$999,998	\$1,000,000

Monitoring and Evaluation

With respect to the program as a whole, Southwest will track participation, energy savings and demand reductions, along with inquiries, website hits and attendance at food industry energy conservation events. Participants will also be surveyed regarding the effectiveness of the program.

With respect to the spray valve component only, ADWR has hired a consultant to track the spray valve installations funded through Southwest (as well as those funded by SRP). The consultant will track water usage for each participant for a year and confirm that the spray valves installed under the program remain in place.

Staff Analysis

Where replacement of existing equipment is concerned, Staff recommends that the primary purpose of Southwest's Commercial Equipment DSM program be to replace less efficient natural gas equipment with the most efficient natural gas equipment currently available. It is Staff's position that DSM dollars should not be used to promote fuel switching. Although electric savings may result from gas DSM measures, and may be included in calculating a program's cost-effectiveness, the primary goal of a natural gas DSM program is to conserve natural gas in a cost-effective manner.

Cost-Benefit Analysis

Staff's analysis of the program indicates a cost-effectiveness ratio of 2.46, with the fryers eliminated. Staff's analysis indicates that commercial fryers would not be a cost-effective measure, given the large incremental cost and low level of gas savings provided by current higher-efficiency models. (Staff's analysis of the gas fryer measure indicates a cost-effectiveness ratio of 0.64.) Staff's analysis also indicates that while including fryers in the program would lower overall cost-effectiveness to 1.87, shifting expenditures from fryers to other program measures would increase overall cost-effectiveness. In the future, if the incremental cost of including gas fryers in the program decreases, or fryers become available that offer greater therm savings, then gas fryers should be considered for inclusion in the program.

Staff has modified Southwest's estimate of environmental savings to reflect the elimination of fryers as a measure, and to reflect the therm savings for each measure indicated by Staff's research. The environmental savings may be higher if the spray valve program is continued, or if incentive dollars intended for fryers are shifted to other measures.

ESTIMATED ENVIRONMENTAL BENEFITS

Annual Savings	CO ₂ (lbs)	NO _x (lbs)	SO _x (lbs)	H ₂ O (gallons)
2007	3,194,732	687	17	252,824,968
2008	1,556,732	687	7	1,086,461
2009	1,556,732	267	7	1,086,461
Lifetime Savings	54,891,954	10,842	271	1,794,059,919

Reporting Requirements

Staff recommends that Southwest include the following information concerning the Commercial Equipment program in its semi-annual DSM reports: (i) the number of participants, (ii) the level of participation for each measure included in the program; (iii) the amount of funding spent during the time period being covered, (iv) samples of its marketing materials, (v) the types of facilities where high-efficiency equipment is being installed, and (vi) the data and survey information gathered by Southwest with respect to the program as a whole, along with any follow-up studies or other information provided by ADWR with respect to the spray valve distribution.

Summary of Staff Recommendations

- Staff recommends that the size of the incentives be reviewed if participation in the program is at or above the anticipated levels.
- Staff recommends that rebates be paid only to participants who are purchasing high-efficiency natural gas commercial equipment for installation in areas serviced by Southwest.
- Staff recommends that, with respect to replacements, the primary focus of the program be replacement of less-efficient natural gas-powered equipment, rather than replacement of less-efficient electric equipment.
- Staff recommends that Southwest track participation with respect to each type of commercial equipment and, if appropriate, shift expenditures between measures to maximize participation and program cost-effectiveness.
- Staff recommends that gas fryers be eliminated from the program unless and until they can be included on a cost-effective basis.

THE COMMISSION

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- Staff also recommends that expenditures originally allocated to the fryer measure be reallocated to other, more cost-effective, program measures.
- Staff recommends that Southwest monitor marketing for the program, and make adjustments, if necessary, to maximize the benefits of spending in this area.
- Staff recommends that the following information concerning the Commercial Equipment program be included in the semi-annual DSM reports: (i) the number of participants, (ii) the level of participation for each measure included in the program; (iii) the amount of funding spent during the time period being covered, (iv) samples of its marketing materials, (v) the types of facilities where high-efficiency equipment is being installed, and (vi) the data and survey information gathered by Southwest with respect to the program as a whole, along with any follow-up studies or other information provided by ADWR with respect to the spray valve distribution.



for Ernest G. Johnson
Director
Utilities Division

EGJ:JMK:lm\JFW

ORIGINATOR: Julie McNeely-Kirwan

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BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE APPLICATION)
OF SOUTHWEST GAS CORPORATION –)
FILING FOR APPROVAL OF ITS)
COMMERCIAL EQUIPMENT PROGRAM)

DOCKET NO. G-01551A-04-0876
DECISION NO. _____
ORDER

Open Meeting
August 21 and 22, 2007
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Southwest Gas Corporation (“Southwest”) is engaged in providing natural gas within portions of Arizona, pursuant to authority granted by the Arizona Corporation Commission.
2. On June 26, 2006, Southwest filed an application for approval of its Commercial Equipment (“Commercial Equipment”) program, as required by Decision No. 68487. Decision No. 68487 requires that the Company file detailed descriptions of its demand-side management (“DSM”) programs within 120 days of the Commission’s February 23, 2006 Order approving rate changes effective March 1, 2006.
3. The proposed program would be newly implemented, but includes the High-Efficiency Pre-Rinse Spray Valve component already approved by the Commission on June 27, 2007. The Commercial Equipment program is one of seven demand-side management (“DSM”) programs included in Southwest’s 2006 Arizona Demand Side Management Program Plan (“Plan”).

...

1 4. As proposed in the Plan, the Commercial Equipment program would be available to
2 new and existing Southwest customers with commercial kitchen facilities. Southwest
3 representatives would provide assistance to commercial customers in purchasing and installing
4 energy-efficient kitchen equipment. Rebates equal to the incremental cost of each measure would
5 be provided to customers who install such measures.

6 5. Staff has recommended that the size of the incentives be reviewed if participation in
7 the program is at or above the anticipated levels.

8 6. The objective of the Commercial Equipment program is to promote the use of
9 energy-efficient equipment at commercial cooking facilities, including restaurants, schools, and
10 hospitals; the proposed measures include griddles, steamers and fryers, along with the pre-rinse
11 spray valves previously approved by the Commission. Adoption of high-efficiency commercial
12 equipment will conserve both energy and water, and reduce pollution. In addition to facilitating
13 individual installations, the Commercial Equipment program is intended to achieve market
14 transformation of the restaurant industry and increase general demand for high-efficiency kitchen
15 equipment.

16 7. Staff has recommended that rebates be paid only to participants who are purchasing
17 high-efficiency natural gas commercial equipment for installation in areas serviced by Southwest.
18 With respect to replacing existing equipment, Staff has recommended that the primary focus of the
19 program be replacement of less-efficient natural gas-powered equipment, rather than replacement
20 of less-efficient electric equipment.

21 8. According to the Plan, during its first year the Commercial Equipment program will
22 be advertised in restaurant trade publications, on the radio, on the Southwest website, through
23 postcard distributions, and through participation at culinary events and at trade shows. Additional
24 measures may include direct mail, brochures, telephone calls, email and in-person visits. There
25 will also be seminars and workshops designed to train chain and franchise owners on high-
26 efficiency equipment and maintenance.

27 9. The above marketing will continue in the second and third years, with the addition
28 of educational events at the Southwest Tempe Food Service Center. Marketing will include the

1 spray valve distribution program in the first year. The Commission has previously ordered that
 2 Southwest continue to promote high-efficiency pre-rinse water spray valves as part of its
 3 marketing, if Southwest's participation in the program is extended beyond 2007.

4 10. Southwest representatives will encourage the Company's commercial customers to
 5 install high-efficiency equipment in their commercial kitchen facilities. Southwest or its designee
 6 will verify installation of the equipment, assist in the rebate application process, and process
 7 rebates.

8 11. With respect to the spray valve distribution only, Southwest will contribute
 9 additional funding and Arizona Department of Water Resources ("ADWR") will supervise the
 10 delivery and installation. ADWR has also hired a contractor to conduct a survey to evaluate the
 11 distribution funded through Southwest and Salt River Project ("SRP").

12 12. Southwest's estimates for the potential market and per-year levels of participation
 13 for each measure are listed in the table below, along with the proposed individual and annual
 14 incentive amounts.

15 SOUTHWEST'S PROPOSED INCENTIVES AND ESTIMATED PARTICIPATION LEVELS

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 23 13. The changes from Year 1 to Years 2 and 3 reflect the initial assumption that the
 24 spray rinse distribution would end after Year 1. If continuing the distribution program proves cost-
 25 effective, either through ADWR or as part of Southwest's direct program, then a portion of the
 26 incentive dollars in Years 2 and 3 should continue to be allocated to spray valves. Staff has
 27 recommended that Southwest track participation with respect to each type of commercial
 28 ...

1 equipment and, if appropriate, shift expenditures between measures to maximize participation and
2 program cost-effectiveness.

3 14. Staff analysis indicates that gas fryers are not, currently, a cost-effective DSM
4 measure. Staff has recommended that gas fryers be eliminated from the program unless and until
5 they can be included on a cost-effective basis. Staff has recommended that expenditures originally
6 allocated to the fryer measure be reallocated to other, more cost-effective, program measures.

7 15. While marketing costs represent a large proportion of the budget, the program is
8 new and extensive marketing may aid in effecting the transformation of an industry with a high
9 potential for energy savings, but also significant barriers to adoption of energy-efficient
10 equipment. Smaller restaurants are often undercapitalized and extremely sensitive to the
11 incremental costs of high-efficiency equipment, while chains or franchises often make equipment
12 purchasing decisions outside the local market, making it difficult to market to buyers in advance.
13 Staff has recommended that Southwest monitor marketing for the program, and make adjustments,
14 if necessary, to maximize the benefits of spending in this area.

15 16. Southwest's proposed budget is provided in the following table:

Description	First Year	Subsequent Years
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Outreach	\$45,000	\$35,000
Training/Education	\$126,800	\$126,800
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25 savings and demand reductions, along with inquiries, website hits and attendance at food industry
26 energy conservation events. Participants will also be surveyed regarding the effectiveness of the
27 program.
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1 18. With respect to the spray valve component only, ADWR has hired a consultant to
2 track the spray valve installations funded through Southwest (as well as those funded by SRP).
3 The consultant will track water usage for each participant for a year and confirm that the spray
4 valves installed under the program remain in place.

5 19. Where replacement of existing equipment is concerned, Staff has recommended
6 that the primary purpose of Southwest's Commercial Equipment DSM program be to replace less
7 efficient natural gas equipment with the most efficient natural gas equipment currently available.
8 It is Staff's position that DSM dollars should not be used to promote fuel switching. Although
9 electric savings may result from gas DSM measures, and may be included in calculating a
10 program's cost-effectiveness, the primary goal of a natural gas DSM program is to conserve
11 natural gas in a cost-effective manner.

12 20. Staff's analysis of the program indicates a cost-effectiveness ratio of 2.46, with the
13 fryers eliminated. Staff's analysis indicates that commercial fryers would not be a cost-effective
14 measure, given the large incremental cost and low level of gas savings provided by current higher-
15 efficiency models. (Staff's analysis of the gas fryer measure indicates a cost-effectiveness ratio of
16 0.64.) Staff's analysis also indicates that while including fryers in the program would lower
17 overall cost-effectiveness to 1.87, shifting expenditures from fryers to other program measures
18 would increase overall cost-effectiveness. In the future, if the incremental cost of including gas
19 fryers in the program decreases, or fryers become available that offer greater therm savings, then
20 gas fryers should be considered for inclusion in the program.

21 21. Staff has modified Southwest's estimate of environmental savings to reflect the
22 elimination of fryers as a measure, and to reflect the therm savings for each measure indicated by
23 Staff's research. The environmental savings may be higher if the spray valve program is
24 continued, or if incentive dollars intended for fryers are shifted to other measures. These estimates
25 are set forth in the following table:

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ESTIMATED ENVIRONMENTAL BENEFITS

Annual Savings	CO ₂ (lbs)	NO _x (lbs)	SO _x (lbs)	H ₂ O (gallons)
2007	3,194,732	687	17	252,824,968
2008	1,556,732	687	7	1,086,461
2009	1,556,732	267	7	1,086,461
Lifetime Savings	54,891,954	10,842	271	1,794,059,919

22. Staff has recommended that Southwest include the following information concerning the Commercial Equipment program in its semi-annual DSM reports: (i) the number of participants, (ii) the level of participation for each measure included in the program; (iii) the amount of funding spent during the time period being covered, (iv) samples of its marketing materials, (v) the types of facilities where high-efficiency equipment is being installed, and (vi) the data and survey information gathered by Southwest with respect to the program as a whole, along with any follow-up studies or other information provided by ADWR with respect to the spray valve distribution.

23. Staff has recommended that the size of the incentives be reviewed if participation in the program is at or above the anticipated levels.

24. Staff has recommended that rebates be paid only to participants who are purchasing high-efficiency natural gas commercial equipment for installation in areas serviced by Southwest.

25. Staff has recommended that, with respect to replacements, the primary focus of the program be replacement of less-efficient natural gas-powered equipment, rather than replacement of less-efficient electric equipment.

26. Staff has recommended that Southwest track participation with respect to each type of commercial equipment and, if appropriate, shift expenditures between measures to maximize participation and program cost-effectiveness.

27. Staff has recommended that gas fryers be eliminated from the program unless and until they can be included on a cost-effective basis.

1 IT IS FURTHER ORDERED that, with respect to replacements, the primary focus of the
2 program be replacement of less-efficient natural gas-powered equipment, rather than replacement
3 of less-efficient electric equipment.

4 IT IS FURTHER ORDERED that Southwest track participation with respect to each type
5 of commercial equipment and, if appropriate, shift expenditures between measures to maximize
6 participation and program cost-effectiveness.

7 IT IS FURTHER ORDERED that gas fryers be eliminated from the program unless and
8 until they can be included on a cost-effective basis.

9 IT IS FURTHER ORDERED that expenditures originally allocated to the fryer measure be
10 reallocated to other, more cost-effective, program measures.

11 IT IS FURTHER ORDERED that Southwest monitor marketing for the program, and make
12 adjustments, if necessary, to maximize the benefits of spending in this area.

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1 IT IS FURTHER ORDERED that Southwest include the following information concerning
 2 the Commercial Equipment program in its semi-annual DSM reports: (i) the number of
 3 participants, (ii) the level of participation for each measure included in the program; (iii) the
 4 amount of funding spent during the time period being covered, (iv) samples of its marketing
 5 materials, (v) the types of facilities where high-efficiency equipment is being installed, and (vi) the
 6 data and survey information gathered by Southwest with respect to the program as a whole, along
 7 with any follow-up studies or other information provided by ADWR with respect to the spray
 8 valve distribution.

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

10
 11 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

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 14 CHAIRMAN

COMMISSIONER

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 16 COMMISSIONER

COMMISSIONER

COMMISSIONER

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 18 IN WITNESS WHEREOF, I BRIAN C. McNEIL, Executive
 19 Director of the Arizona Corporation Commission, have
 20 hereunto, set my hand and caused the official seal of this
 21 Commission to be affixed at the Capitol, in the City of
 22 Phoenix, this _____ day of _____, 2007.

23 _____
 24 BRIAN C. McNEIL
 Executive Director

25 DISSENT: _____

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 27 DISSENT: _____

28 EGJ:JMK:lhm\JFW

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SERVICE LIST FOR: Southwest Gas Corporation
DOCKET NO. G-01551A-04-0876

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Mr. Christopher C. Kempley
Chief Counsel, Legal Division
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1200 West Washington
Phoenix, Arizona 85007

ORIGINAL

OPEN MEETING

MEMORANDUM
RECEIVED

2007 AUG -7 P 4: 44

Arizona Corporation Commission

DOCKETED

TO: THE COMMISSION

FROM: Utilities Division

AZ CORP COMMISSION
DOCKET CONTROL

AUG 07 2007

DATE: August 7, 2007

DOCKETED BY 

RE: NET METERING IN THE GENERIC INVESTIGATION OF DISTRIBUTED
GENERATION (DOCKET NO. E-00000A-99-0431)

Introduction

Commission Decision No. 67744 directed Staff to schedule workshops to consider outstanding issues concerning distributed generation ("DG"). The second issue to be addressed by the workshops, after DG interconnection, was net metering. A workshop on net metering was held on September 7, 2006. Participants in the workshop included representatives from utilities, government agencies, environmental advocacy groups, consumers, advocates for renewable resources, advocates for distributed generation, renewable resource providers, and others.

Staff requested written comments from interested parties on issues related to net metering. Comments were received from a.k.a. Green, American Solar Electric, Arizona Cooperatives,¹ Arizona Public Service Company ("APS"), Arizona Solar Energy Association, Sally R. Day, Distributed Energy Association of Arizona, Solar Advocates,² Jim Stack, and UniSource Energy.³

In addition, the Energy Policy Act of 2005 requires each state regulatory authority to consider certain PURPA⁴ standards, including one on net metering. The Commission may decline to implement the standard or adopt a modified standard. The Commission was required to begin its consideration by August 8, 2007, and must complete its consideration by August 8, 2008. On January 23, 2006, Staff filed a memo in Docket Control that Net Metering was being addressed in Docket No. E-00000A-99-0431.

¹ The Grand Canyon State Electric Cooperative Association filed comments on behalf of its Arizona cooperative members ("Arizona Cooperatives") which are: Duncan Valley Electric Cooperative, Inc.; Graham County Electric Cooperative, Inc.; Mohave Electric Cooperative, Inc.; Navopache Electric Cooperative, Inc.; Sulphur Springs Valley Electric Cooperative, Inc.; and Trico Electric Cooperative, Inc.

² Solar Advocates include American Solar Electric Inc., the Greater Tucson Coalition for Solar Energy; the Annan Group; Code Electric; SunEdison; and the Vote Solar Initiative.

³ UniSource Energy includes Tucson Electric Power Company and UNS Electric, Inc.

⁴ Public Utility Regulatory Policies Act of 1978.

Consideration of the PURPA Standard on Net Metering

The Energy Policy Act of 2005 requires each state regulatory authority to consider a PURPA standard on net metering. The standard would apply to utilities with greater than 500,000 MWh in annual retail sales. The Commission may decline to implement the standard or adopt a modified standard. The standard is as follows:

Each electric utility shall make available upon request net metering service to any electric consumer that the electric utility serves. For purposes of this paragraph, the term 'net metering service' means service to an electric consumer under which electric energy generated by that electric consumer from an eligible on-site generating facility and delivered to the local distribution facilities may be used to offset electric energy provided by the electric utility to the electric consumer during the applicable billing period.

The Commission is required to consider the three purposes of PURPA in its determination of whether to adopt the net metering standard. The three purposes of PURPA are as follows:

- conservation of energy supplied by electric utilities,
- optimal efficiency of electric utility facilities and resources, and
- equitable rates for electric consumers

Having net metering may facilitate the installation of DG and thus reduce the amount of energy to be supplied by electric utilities. The presence of DG may improve the efficiency of electric utility facilities and thus reduce costs for electric consumers.

Benefits and Costs of Net Metering

The U. S. Department of Energy ("DOE")⁵ has identified the following potential benefits of DG:

- reduced peak loads,
- provision of ancillary services such as reactive power and voltage support,
- improved power quality,
- decreased vulnerability of the electrical system,
- increased resiliency of other critical infrastructure sectors, and
- reduced land use effects.

⁵ U.S. Department of Energy, *The Potential Benefits of Distributed Generation and Rate-Related Issues That May Impede Their Expansion: A Study Pursuant to Section 1817 of the Energy Policy Act of 2005*, February 2007.

DG might also provide reduced transmission and distribution losses, avoided generation fuel cost, fuel diversification, avoided water use, reduced environmental impacts, and potential deferral or reduction in distribution investment.

Net metering provides a financial incentive to encourage the installation of DG, especially renewable resources. DOE describes net metering as a policy option available to states to promote environmentally preferred customer-located DG, and its absence can be viewed as a barrier to deployment. The *Regulator's Handbook on Renewable Energy Programs & Tariffs*⁶ lists the following purposes of net metering:

- promoting small-scale renewables;
- enhancing the market for renewables;
- facilitating installation and interconnection of on-site generation;
- reducing customers' electricity bills;
- empowering customers to manage their electricity usage, essentially storing excess power on the grid for use at a later time; and
- lowering the utility system peak demand.

According to American Solar Electric, photovoltaic systems are often larger in service territories that offer net metering because it reduces the systems' payback times. Net metering also makes savings predictable. In their written comments, the Solar Advocates point out that net metering makes solar systems effectively cheaper for system owners, and it helps increase solar's peak shaving impact and transmission and distribution effects to benefit all ratepayers. They state that net metering is a critical enabling policy for renewable resources that are intermittent and non-dispatchable.

APS and the Arizona Cooperatives, in their written comments, state that customers taking service under net metering rates do not pay the full cost of the transmission and distribution system. Net metering rates do not yield sufficient revenue to cover cost. Therefore, those net metering customers are subsidized by other customers. The Solar Advocates respond that the impact of net metering is equivalent to the impact of a customer who reduces load through conservation. UniSource Energy states that the utility's cost of implementing net metering is all fixed investment and operating expenses incurred above the incremental cost of avoided energy

⁶ Jan Hamrin, Ph.D; Dan Lieberman; and Meredith Wingate, *Regulator's Handbook on Renewable Energy Programs & Tariffs*, March 2006.

purchased or generated. In the view of UniSource Energy, net metering is a super-subsidy for a class of generation that needs an extra incentive to move renewable technologies to market transformation. A different view is that the subsidy, if there is one at all, is exceeded by the overall benefits provided to the system by the on-site generation.

Staff Analysis

Staff believes that net metering should be available in all utility areas because DG can provide benefits, and net metering may facilitate the installation of DG. Several other states have considered and rejected the PURPA standard on net metering, not because of the merits of the standard, but because they already have net metering rules in place. States that have rejected the standard and already have net metering rules in place include California, Colorado, Connecticut, Idaho, Indiana, Iowa, Louisiana, Minnesota, Nevada, Utah, Vermont, Virginia, Wisconsin, and Wyoming. Ohio adopted the standard and has rules in place. According to the Database of State Incentives for Renewable Energy ("DSIRE"), 36 states have net metering rules.⁷

Some concerns have been raised that net metering would result in revenue losses for utilities; although there is some disagreement on the issue. The Arizona Cooperatives, in their written comments, recommend that only utilities with greater than 500,000 MWh in retail sales should be subject to the net metering standard adopted by the Commission because small cooperatives would be impacted to the greatest degree by the loss of revenue and margins associated with net metering.

Staff believes that, if revenue losses occur as a result of net metering, the losses would impact utilities of all sizes. The impact of revenue loss on all utilities could be controlled through provisions in rules, such as by a limit on total participation.

The electric distribution companies that are regulated by the Commission are listed in the following table.

Electric Distribution Companies in Arizona
(Under Commission Jurisdiction)

With Greater than 500,000 MWh of Arizona Retail Sales in 2005
Arizona Public Service Company
Mohave Electric Cooperative
Morenci Water and Electric Company
Sulphur Springs Valley Electric Cooperative
Trico Electric Cooperative
Tucson Electric Power Company
UNS Electric

⁷ www.dsireusa.org

With Less than 500,000 MWh of Arizona Retail Sales in 2005
Ajo Improvement Company
Columbus Electric Cooperative
Dixie-Escalante Rural Electric Cooperative
Duncan Valley Electric Cooperative
Garkane Energy Cooperative
Graham County Electric Cooperative
Navopache Electric Cooperative

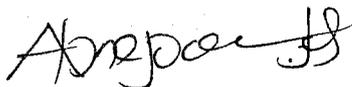
Staff Recommendations

Staff recommends that the Commission adopt the PURPA standard on net metering.

Staff also recommends that the standard be applied to all electric distribution companies in Arizona that are regulated by the Commission.

Staff further recommends that the Commission direct Staff to begin a rulemaking process to draft rules on net metering. The draft rules should address, at a minimum, the following issues:

- customer sector participation,
- types of generation resources,
- project size,
- total participation,
- metering
- treatment of net excess generation
- responsibility for costs



for Ernest G. Johnson
Director
Utilities Division

EGJ:BEK:lm\KL

ORIGINATOR: Barbara Keene

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BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF NET METERING IN)
THE GENERIC INVESTIGATION OF)
DISTRIBUTED GENERATION)

DOCKET NO.E-00000A-99-0431
DECISION NO. _____
ORDER

Open Meeting
August 21 and 22, 2007
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

Introduction

1. Commission Decision No. 67744 directed Staff to schedule workshops to consider outstanding issues concerning distributed generation ("DG"). The second issue to be addressed by the workshops, after DG interconnection, was net metering. A workshop on net metering was held on September 7, 2006. Participants in the workshop included representatives from utilities, government agencies, environmental advocacy groups, consumers, advocates for renewable resources, advocates for distributed generation, renewable resource providers, and others.

2. Staff requested written comments from interested parties on issues related to net metering. Comments were received from a.k.a. Green, American Solar Electric, Arizona

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1 3. Cooperatives,¹ Arizona Public Service Company ("APS"), Arizona Solar Energy
2 Association, Sally R. Day, Distributed Energy Association of Arizona, Solar Advocates,² Jim
3 Stack, and UniSource Energy.³

4 4. In addition, the Energy Policy Act of 2005 requires each state regulatory authority
5 to consider certain PURPA⁴ standards, including one on net metering. The Commission may
6 decline to implement the standard or adopt a modified standard. The Commission was required to
7 begin its consideration by August 8, 2007, and must complete its consideration by August 8, 2008.
8 On January 23, 2006, Staff filed a memo in Docket Control that Net Metering was being addressed
9 in Docket No. E-00000A-99-0431.

10 **Consideration of the PURPA Standard on Net Metering.**

11 5. The Energy Policy Act of 2005 requires each state regulatory authority to consider
12 a PURPA standard on net metering. The standard would apply to utilities with greater than
13 500,000 MWh in annual retail sales. The Commission may decline to implement the standard or
14 adopt a modified standard. The standard is as follows:

15 *Each electric utility shall make available upon request net metering service to any*
16 *electric consumer that the electric utility serves. For purposes of this paragraph,*
17 *the term 'net metering service' means service to an electric consumer under which*
18 *electric energy generated by that electric consumer from an eligible on-site*
19 *generating facility and delivered to the local distribution facilities may be used to*
20 *offset electric energy provided by the electric utility to the electric consumer during*
21 *the applicable billing period.*

22 6. The Commission is required to consider the three purposes of PURPA in its
23 determination of whether to adopt the net metering standard. The three purposes of PURPA are as
24 follows:

25 ¹ The Grand Canyon State Electric Cooperative Association filed comments on behalf of its Arizona cooperative
26 members ("Arizona Cooperatives") which are: Duncan Valley Electric Cooperative, Inc.; Graham County Electric
27 Cooperative, Inc.; Mohave Electric Cooperative, Inc.; Navopache Electric Cooperative, Inc.; Sulphur Springs Valley
28 Electric Cooperative, Inc.; and Trico Electric Cooperative, Inc.

² Solar Advocates include American Solar Electric Inc., the Greater Tucson Coalition for Solar Energy; the Annan
Group; Code Electric; SunEdison; and the Vote Solar Initiative.

³ UniSource Energy includes Tucson Electric Power Company and UNS Electric, Inc.

⁴ Public Utility Regulatory Policies Act of 1978.

- 1 ● conservation of energy supplied by electric utilities,
- 2 ● optimal efficiency of electric utility facilities and resources, and
- 3 ● equitable rates for electric consumers.

4 7. Having net metering may facilitate the installation of DG and thus reduce the
5 amount of energy to be supplied by electric utilities. The presence of DG may improve the
6 efficiency of electric utility facilities and thus reduce costs for electric consumers.

7 Benefits and Costs of Net Metering

8 8. The U. S. Department of Energy ("DOE")⁵ has identified the following potential
9 benefits of DG:

- 10 ● reduced peak loads,
- 11 ● provision of ancillary services such as reactive power and voltage support,
- 12 ● improved power quality,
- 13 ● decreased vulnerability of the electrical system,
- 14 ● increased resiliency of other critical infrastructure sectors, and
- 15 ● reduced land use effects.

16 9. DG might also provide reduced transmission and distribution losses, avoided
17 generation fuel cost, fuel diversification, avoided water use, reduced environmental impacts, and
18 potential deferral or reduction in distribution investment.

19 10. Net metering provides a financial incentive to encourage the installation of DG,
20 especially renewable resources. DOE describes net metering as a policy option available to states
21 to promote environmentally preferred customer-located DG, and its absence can be viewed as a
22 barrier to deployment. The *Regulator's Handbook on Renewable Energy Programs & Tariffs*⁶ lists
23 the following purposes of net metering:

- 24 ● promoting small-scale renewables;
- 25 ● enhancing the market for renewables;
- 26 ● facilitating installation and interconnection of on-site generation;
- 27 ● reducing customers' electricity bills;
- 28 ● empowering customers to manage their electricity usage, essentially storing excess
power on the grid for use at a later time; and
- 29 ● lowering the utility system peak demand.

30 ⁵ U.S. Department of Energy, *The Potential Benefits of Distributed Generation and Rate-Related Issues That May
Impede Their Expansion: A Study Pursuant to Section 1817 of the Energy Policy Act of 2005*, February 2007.

31 ⁶ Jan Hamrin, Ph.D; Dan Lieberman; and Meredith Wingate, *Regulator's Handbook on Renewable Energy Programs
& Tariffs*, March 2006.

1 11. According to American Solar Electric, photovoltaic systems are often larger in
 2 service territories that offer net metering because it reduces the systems' payback times. Net
 3 metering also makes savings predictable. In their written comments, the Solar Advocates point out
 4 that net metering makes solar systems effectively cheaper for system owners, and it helps increase
 5 solar's peak shaving impact and transmission and distribution effects to benefit all ratepayers.
 6 They state that net metering is a critical enabling policy for renewable resources that are
 7 intermittent and non-dispatchable.

8 12. APS and the Arizona Cooperatives, in their written comments, state that customers
 9 taking service under net metering rates do not pay the full cost of the transmission and distribution
 10 system. Net metering rates do not yield sufficient revenue to cover cost. Therefore, those net
 11 metering customers are subsidized by other customers. The Solar Advocates respond that the
 12 impact of net metering is equivalent to the impact of a customer who reduces load through
 13 conservation. UniSource Energy states that the utility's cost of implementing net metering is all
 14 fixed investment and operating expenses incurred above the incremental cost of avoided energy
 15 purchased or generated. In the view of UniSource Energy, net metering is a super-subsidy for a
 16 class of generation that needs an extra incentive to move renewable technologies to market
 17 transformation. A different view is that the subsidy, if there is one at all, is exceeded by the
 18 overall benefits provided to the system by the on-site generation.

19 **Staff Analysis**

20 13. Staff believes that net metering should be available in all utility areas because DG
 21 can provide benefits, and net metering may facilitate the installation of DG. Several other states
 22 have considered and rejected the PURPA standard on net metering, not because of the merits of
 23 the standard, but because they already have net metering rules in place. States that have rejected
 24 the standard and already have net metering rules in place include California, Colorado,
 25 Connecticut, Idaho, Indiana, Iowa, Louisiana, Minnesota, Nevada, Utah, Vermont, Virginia,

26 ...
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1 Wisconsin, and Wyoming. Ohio adopted the standard and has rules in place. According to the
2 Database of State Incentives for Renewable Energy ("DSIRE"), 36 states have net metering rules.⁷

3 14. Some concerns have been raised that net metering would result in revenue losses
4 for utilities; although there is some disagreement on the issue. The Arizona Cooperatives, in their
5 written comments, recommend that only utilities with greater than 500,000 MWh in retail sales
6 should be subject to the net metering standard adopted by the Commission because small
7 cooperatives will be impacted to the greatest degree by the loss of revenue and margins associated
8 with net metering.

9 15. Staff believes that, if revenue losses occur as a result of net metering, the losses
10 would impact utilities of all sizes. The impact of revenue loss on all utilities could be controlled
11 through provisions in rules, such as by a limit on total participation.

12 16. The electric distribution companies that are regulated by the Commission are listed
13 in the following table.

14 Electric Distribution Companies in Arizona
15 (Under Commission Jurisdiction)

16 With Greater than 500,000 MWh of Arizona Retail Sales in 2005
17 Arizona Public Service Company
18 Mohave Electric Cooperative
19 Morenci Water and Electric Company
20 Sulphur Springs Valley Electric Cooperative
21 Trico Electric Cooperative
22 Tucson Electric Power Company
23 UNS Electric
24
25 With Less than 500,000 MWh of Arizona Retail Sales in 2005
26 Ajo Improvement Company
27 Columbus Electric Cooperative
28 Dixie-Escalante Rural Electric Cooperative
Duncan Valley Electric Cooperative
Garkane Energy Cooperative
Graham County Electric Cooperative
Navopache Electric Cooperative

28 ⁷ www.dsireusa.org

1 Staff Recommendations

2 17. Staff recommends that the Commission adopt the PURPA standard on net metering.

3 18. Staff also recommends that the standard be applied to all electric distribution
4 companies in Arizona that are regulated by the Commission.

5 19. Staff further recommends that the Commission direct Staff to begin a rulemaking
6 process to draft rules on net metering. The draft rules should address, at a minimum, the following
7 issues:

- 8 • customer sector participation,
- 9 • types of generation resources,
- 10 • project size,
- 11 • total participation,
- 12 • metering,
- 13 • treatment of net excess generation, and
- 14 • responsibility for costs.

13 CONCLUSIONS OF LAW

14 1. The Commission has jurisdiction the subject matter of the application.

15 2. The Commission, having reviewed the application and Staff's Memorandum dated
16 August 7, 2007, concludes that it is in the public interest to direct Staff to begin a rulemaking
17 process on net metering.

18 ORDER

19 IT IS THEREFORE ORDERED that the PURPA standard on net metering, as included in
20 Finding of Fact No. 4, that would apply to all electric distribution companies in Arizona that are
21 regulated by the Commission is adopted.

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IT IS FURTHER ORDERED that Staff is to begin a rulemaking process to draft rules on net metering. The draft rules should address, at a minimum, the issues listed in Finding of Fact No. 18.

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

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN

COMMISSIONER

COMMISSIONER

COMMISSIONER

COMMISSIONER

IN WITNESS WHEREOF, I BRIAN C. McNEIL, 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 _____, 2007.

BRIAN C. McNEIL
Executive Director

DISSENT: _____

DISSENT: _____

EGJ:BEK:lh\KL

1 SERVICE LIST FOR: GENERIC INVESTIGATION OF DISTRIBUTED GENERATION
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