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OPEN MEETING

ORIGINAL

MEMORANDUM RECEIVED

Arizona Corporation Commission 2003 OCT -2 A 10: 59

DOCKETED

TO: THE COMMISSION

FROM: Utilities Division

OCT 02 2003

AZ CORP COMMISSION
DOCUMENT CONTROL

DATE: October 2, 2003

DOCKETED BY

RE: ARIZONA PUBLIC SERVICE COMPANY - REQUEST FOR A PARTIAL VARIANCE TO A.A.C. R14-2-1618 TO ALLOW RENEWABLE SOLAR THERMAL ENERGY THAT REPLACES NATURAL GAS USAGE TO BE RECOGNIZED FOR THE ENVIRONMENTAL PORTFOLIO STANDARD (DOCKET NO. E-01345A-03-0660)

On September 9, 2003, Arizona Public Service Company ("APS") filed a request for a partial variance of Arizona Administrative Code ("A.A.C.") R14-2-1618 to allow solar thermal energy that replaces natural gas to be recognized for the Environmental Portfolio Standard ("EPS"). A.A.C. R14-2-1618 requires utilities to derive a portion of their total retail energy sold from new solar resources or environmentally friendly renewable electricity technologies. A.A.C. R14-2-1618(K) allows up to 20 percent of the portfolio requirement to be met with solar water heating or solar air conditioning systems. However, the rule requires the solar water heaters to replace or supplement the use of electric water heaters. The proposed request would allow APS to use EPS funding to pursue solar water heating projects that would replace or supplement natural gas water heaters in addition to those that would replace or supplement electric water heaters.

Solar thermal energy is the use of sunlight to heat a fluid. For the purposes of the EPS and APS' request, the solar thermal energy is used to heat water in a "solar water heating system." Such systems typically consist of a series of solar collectors, pipes, tanks, pumps, and controls. Most often, the solar collectors are "flat-plate collectors" which are metal boxes containing a dark absorber plate and pipes. There can also be concentrating collectors with mirrors or reflectors to concentrate the sun's heat on a pipe.

Solar water heating systems range in size from very small residential systems that only heat a portion of a family's daily hot water needs up to huge fields of collectors that heat enough water to meet the needs of hotels, hospitals, schools, or large industrial facilities.

Although solar water heaters do not produce solar electricity, when they replace electric water heaters, they replace the need for utilities to generate electricity from conventional fuels that would be more environmental damaging than solar energy systems. By allowing solar water heaters to replace natural gas water heaters, it can free up natural gas for use in residential, commercial, and industrial applications as well as the production of electricity.

THE COMMISSION

October 2, 2003

Page 2

Natural gas is now the fuel of choice for the developers of new electric generating plants. This is happening at the same time when Arizona is facing a dilemma in natural gas delivery due to a shortage of pipeline capacity available for use by Arizona customers. Added to this situation is the continuing reduction in natural gas supply as old gas fields are being depleted and new discoveries are lagging behind the increase in gas demand. Using solar water heaters to replace natural gas water heaters will free up gas for other important uses.

Staff recommends that APS be granted a partial variance of R14-2-1618 to allow solar thermal energy that replaces natural gas to be recognized for the EPS.



Ernest G. Johnson
Director
Utilities Division

EGJ:BEK:RTW:rdp/LAV

ORIGINATORS: Barbara Keene and Ray Williamson

1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

2 MARC SPITZER
Chairman
3 WILLIAM A. MUNDELL
Commissioner
4 JEFF HATCH-MILLER
Commissioner
5 MIKE GLEASON
Commissioner
6

7 IN THE MATTER OF ARIZONA PUBLIC
SERVICE COMPANY - REQUEST FOR A
8 PARTIAL VARIANCE TO A.A.C. R14-2-
9 1618 TO ALLOW RENEWABLE SOLAR
THERMAL ENERGY THAT REPLACES
10 NATURAL GAS USAGE TO BE
RECOGNIZED FOR THE
11 ENVIRONMENTAL PORTFOLIO
STANDARD
12

DOCKET NO. E-01345A-03-0660

DECISION NO. _____

ORDER

13 Open Meeting
October 21 and 22, 2003
14 Phoenix, Arizona
15

16 BY THE COMMISSION:

17 FINDING OF FACT

18 1. Arizona Public Service Company ("APS") is certificated to provide electric service
19 as a public service corporation in the State of Arizona.

20 2. On September 9, 2003, APS filed a request for a partial variance of Arizona
21 Administrative Code ("A.A.C.") R14-2-1618 to allow solar thermal energy that replaces natural
22 gas to be recognized for the Environmental Portfolio Standard ("EPS"). A.A.C. R14-2-1618
23 requires utilities to derive a portion of their total retail energy sold from new solar resources or
24 environmentally friendly renewable electricity technologies. A.A.C. R14-2-1618(K) allows up to
25 20 percent of the portfolio requirement to be met with solar water heating or solar air conditioning
26 systems. However, the rule requires the solar water heaters to replace or supplement the use of
27 electric water heaters. The proposed request would allow APS to use EPS funding to pursue solar
28 ...

1 water heating projects that would replace or supplement natural gas water heaters in addition to
2 those that would replace or supplement electric water heaters.

3 3. Solar thermal energy is the use of sunlight to heat a fluid. For the purposes of the
4 EPS and APS' request, the solar thermal energy is used to heat water in a "solar water heating
5 system." Such systems typically consist of a series of solar collectors, pipes, tanks, pumps, and
6 controls. Most often, the solar collectors are "flat-plate collectors" which are metal boxes
7 containing a dark absorber plate and pipes. There can also be concentrating collectors with mirrors
8 or reflectors to concentrate the sun's heat on a pipe.

9 4. Solar water heating systems range in size from very small residential systems that
10 only heat a portion of a family's daily hot water needs up to huge fields of collectors that heat
11 enough water to meet the needs of hotels, hospitals, schools, or large industrial facilities.

12 5. Although solar water heaters do not produce solar electricity, when they replace
13 electric water heaters, they replace the need for utilities to generate electricity from conventional
14 fuels that would be more environmental damaging than solar energy systems. By allowing solar
15 water heaters to replace natural gas water heaters, it can free up natural gas for use in residential,
16 commercial, and industrial applications as well as the production of electricity.

17 6. Natural gas is now the fuel of choice for the developers of new electric generating
18 plants. This is happening at the same time when Arizona is facing a dilemma in natural gas
19 delivery due to a shortage of pipeline capacity available for use by Arizona customers. Added to
20 this situation is the continuing reduction in natural gas supply as old gas fields are being depleted
21 and new discoveries are lagging behind the increase in gas demand. Using solar water heaters to
22 replace natural gas water heaters will free up gas for other important uses.

23 7. Staff has recommended that APS be granted a partial variance of R14-2-1618 to
24 allow solar thermal energy that replaces natural gas to be recognized for the EPS.

25 CONCLUSIONS OF LAW

26 1. APS is an Arizona public service corporation within the meaning of Article XV,
27 Section 2, of the Arizona Constitution.

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2 DOCKET NO. E-01345A-03-0660

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