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BEFORE THE ARIZONA CORPORATION COMMISSION

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Commissioner
JEFF HATCH-MILLER
Commissioner
KRISTIN K. MAYES
Commissioner
GARY PIERCE
Commissioner

Arizona Corporation Commission
DOCKETED
JUL - 3 2008

DOCKETED BY 

IN THE MATTER OF THE APPLICATION)
OF TUCSON ELECTRIC POWER)
COMPANY'S REQUEST FOR APPROVAL)
OF ITS DEMAND-SIDE MANAGEMENT)
NON-RESIDENTIAL EXISTING)
FACILITIES PROGRAM)

DOCKET NO. E-01933A-07-0401
DECISION NO. 70403
ORDER

Open Meeting
July 1 and 2, 2008
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Tucson Electric Power Company ("TEP") is certificated to provide electric service as a public service corporation in the State of Arizona.

2. On July 2, 2007, TEP filed an application for approval of its proposed Demand-Side Management ("DSM") Program Portfolio. On November 14, 2007, TEP filed a revised Portfolio Plan, modifying the delivery mechanism and the measurement/evaluation plans for some programs.

3. The TEP DSM Portfolio consists of ten proposed programs. The TEP Non-Residential Existing Facilities being reviewed herein is summarized below.

Program Description

4. The TEP Non-Residential Existing Facilities Program ("Program") is a multi-faceted DSM program that would provide incentives to TEP's Non-Residential customers for the installation of energy-efficiency measures including lighting equipment and controls, air

1 conditioning and heat pump equipment ("HVAC"), motors and motor drives, compressed air, and
 2 refrigeration. Incentives are offered for measures in each of these categories. The Program also
 3 provides customers with the opportunity to propose innovative energy efficiency solutions through
 4 custom energy efficiency measures.

5 5. Goals. The primary objective of the Program is to improve the efficiency of energy
 6 use by TEP's non-residential customers.

7 6. Eligibility. The Program is available to TEP customers who qualify for TEP's Rates
 8 13 and 14 (typically customers with an aggregate demand exceeding 200 kW and Rate 40). To be
 9 eligible, TEP non-residential customers must replace existing facilities with equipment that is
 10 more energy efficient.

11 7. Incentives. Incentives would be paid to customers under the Program as listed in the
 12 table below.

13 **Table 1**
 14 **Tucson Electric Power Company**
 15 **Non-Residential Existing Facilities Program**
 16 **Annual Program Incremental Costs and Proposed Incentives.**

17	<u>Measure Description</u>	<u>Incremental Cost</u>	<u>Incentive per Unit</u>	<u>Incentive Pct. of Incremental Cost</u>
18	Variable-Speed Lubricant-Injected Rotary Screw Compressors	\$262.44	\$50.00	19%
19	Energy-Efficient Water Cooled Chiller	\$118.92	\$40.00	34%
20	Energy-Efficient Air Cooled Chillers	\$95.00	\$25.00	26%
21	Energy-Efficient Packaged and Split Air Cond. - SEER Rated	??	*	*
22	Energy-Efficient Packaged and Split Heat Pumps - SEER Rated	??	*	*
23	Energy-Efficient Packaged Air Conditioners - EER Rated	??	*	*
24	Energy-Efficient Heat Pumps - EER Rated	??	*	*
25	Programmable Thermostats (Heating Setback / Cooling Setup)	\$193.56	\$50.00	26%
26	Retrofit T12 Systems with T8 Systems and Electronic Ballasts	\$35.85	\$10.00	28%
27	Delamping - Remove unneeded lighting	\$59.92	\$15.00	25%
28	Retrofit HID Systems with Linear Fluorescent T8 and T5 Systems	\$231.06	\$125.00	54%
	Retrofit Incandescent to Integral Compact Fluorescent Lighting	\$7.94	\$2.00	25%
	Cold Cathode CFL retrofit	\$12.43	\$3.00	24%
	Energy-Efficient Exit Signs	\$73.47	\$25.00	34%
	Occupancy Sensors on Lighting	\$80.00	\$30.00	38%
	Daylighting Controls	\$592.77	\$120.00	20%
	Energy-Efficient Outdoor CFL Lighting	\$9.08	\$2.00	22%
	Energy-Efficient Open Drip-Proof Motors	\$8.82	\$3.00	34%
	Energy Efficient Totally Enclosed Fan-Cooled Motors	\$17.00	\$3.00	18%
	Variable Speed Drives	\$269.73	\$50.00	19%
	Anti-Sweat Heater Controls	\$692.12	\$200.00	29%

1	High Efficiency Evaporator Fan Motors	\$163.68	\$35.00	21%
	High Efficiency Reach-in Refrigerators and Freezers	\$275.25	\$170.00	62%
2	High Efficiency Ice Makers	\$115.50	\$50.00	43%
	Strip Curtains and Night Covers	\$27.63	\$7.00	25%
3	Occupancy Sensor Vending Machine and Reach-in Cooler Controls	\$166.98	\$75.00	45%
4	Variable-Speed Lubricant-Injected Rotary Screw Compressors	\$262.44	\$50.00	19%

*Incentive for HVAC is \$100/ton for less than 11.25 ton, and \$75/ton for greater than or equal to 11.25 tons.

8. TEP will allow custom programs designed in cooperation with customers. Incentives for custom programs are proposed to be 10¢ per annual kWh saved.

9. As is seen from Table 1, several measures entail air conditioning and heat pump facilities. Proper installation of new HVAC equipment is important to obtain the energy savings from the more efficient equipment. An air conditioner or heat pump that is not sized and installed correctly can have its efficiency reduced by as much as 30%. Staff has recommended that rebate requirements include documentation verifying that a proper sizing calculation has been done and that this documentation includes the actual calculations.

10. Staff also recommends that for all measures, incentives should not exceed 75% percent of the incremental cost. Staff also recommends that, in calculating the 75% cap, any applicable energy efficiency rebates and incentives, including federal, state, and local tax credits that are being offered for energy efficiency improvements should be taken into account. The amounts of any rebates, incentives, and credits should be subtracted from the incremental cost of the equipment.

Delivery Strategy

11. The Company would work with an Implementation Contractor ("IC") on systems for collecting the data needed for program management and evaluation. The IC would also be responsible for the following duties:

- reviewing applications from customers to ensure that program criteria are met;
- issuing approvals, or letters indicating that an application has been declined, or that corrective action is required;
- conducting installation inspections;
- updating the tracking system; and

- 1 • issuing payment once installations are determined to be acceptable.

2
3 12. As part of the delivery process, Staff has recommended that either TEP or its IC
4 track the availability of federal tax credits or incentives from other entities such as state or local
5 governments for energy efficiency measures, and that the program provide assistance to
6 participants to make them aware of other incentives and to assist them with the process of applying
7 for them.

8 Marketing

9 13. The advertising campaign would stress that high-efficiency equipment would
10 reduce customer energy bills and benefit the environment. The program would be marketed
11 through various methods, including the following:

- 12 • educational seminars;
13 • targeted mailing;
14 • trade partner outreach;
15 • advertising in selected local media;
 • TEP website content; and
 • TEP customer care representatives.

16 Measurement and Evaluation

17 14. The evaluation, monitoring and verification (“EM&V”) of program measures would
18 be done by a third party contractor. The EM&V contractor would both confirm energy savings
19 and perform on-site inspections, in addition to those performed by the IC.

20 15. TEP would adopt a strategy that calls for integrated data collection designed to
21 provide a quality data resource for program tracking, management, and evaluation. This approach
22 would entail the following primary activities:

23 **Database management** - As part of program operation, TEP or an approved contractor
24 would collect the necessary data elements to populate a tracking database and provide
25 periodic reporting.

26 **Integrated implementation data collection** -TEP would work with the implementation
27 contractor to establish systems to collect data needed to support effective program
28 management and evaluation through the implementation and customer application

1 processes. The database tracking system would be integrated with implementation data
2 collection processes.

3 **Field verification** -TEP or an approved contractor would conduct field verification of the
4 installation of a sample of measures throughout the implementation of the program.

5 **Tracking of savings using deemed savings values** -TEP would develop deemed savings
6 values for each measure and technology promoted by the program and periodically review
7 and revise the savings values to be consistent with program participation and accurately
8 estimate the savings being achieved by the program.

9 16. The third party EM&V contractor would use the database to evaluate energy
10 savings arising from installed measures. The EM&V contractor's review of program design
11 assumptions would begin soon after rollout and continue throughout the life of the program. This
12 approach would provide TEP with ongoing feedback on progress and enable management to adjust
13 or correct the program to be more effective and more cost beneficial.

14 17. Staff has recommended that actual energy savings be obtained for all measures. Staff
15 has recommended that TEP modify those measures which do not provide sufficient energy savings
16 to make them cost-effective, and eliminate those measures that cannot be modified in a manner that
17 would produce cost-effective energy savings.

18 Program Budget

19 18. The proposed budget for the TEP Non- Residential Existing Facilities program is
20 \$700,000 per year. \$382,200 of this budget is expected to be paid in incentives. TEP proposes
21 annual budget increases of three percent. The proposed budget is shown in Table 2.

22 **Table 2**
23 **Tucson Electric Power Company**
24 **Non-Residential Existing Facilities 2008 Budget**

25	Total Administrative Cost	\$126,000	18%
26	Managerial & Clerical	\$100,800	
27	Travel & Direct Expenses	\$15,120	
28	Overhead	\$10,080	
	Total Marketing	\$84,000	12%
	Internal Marketing Expense	\$42,000	
	Subcontracted Marketing Expense	\$42,000	

Total Direct Implementation	\$455,000	65%
Financial Incentives	\$382,200	
Support Activity Labor	\$18,200	
Hardware & Materials	\$9,100	
Rebate Processing & Inspection	\$45,500	
Total EM&V Cost	\$35,000	5%
EM&V Activity	\$33,250	
EM&V Overhead	\$1,750	
Total Program Cost	\$700,000	100%

Cost-Benefit Analysis

19. Table 3 below gives the present value of costs and benefits for each measure in the Program, and the Benefit to Cost ("B/C") ratio as well.

Table 3
Tucson Electric Power
Demand-Side Management Programs
Non-Residential Existing Facilities Analysis
B/C Ratio Estimated by Measure

<u>Measure Description</u>	<u>B/C Ratio</u>
Variable-Speed Lubricant-Injected Rotary Screw Compressors	1.59
Energy-Efficient Water Cooled Chiller	1.62
Energy-Efficient Air Cooled Chillers	1.17
Energy-Efficient Packaged and Split Air Cond. - SEER Rated	??
Energy-Efficient Packaged and Split Heat Pumps - SEER Rated	??
Energy-Efficient Packaged Air Conditioners - EER Rated	??
Energy-Efficient Heat Pumps - EER Rated	??
Programmable Thermostats (Heating Setback / Cooling Setup)	9.84
Retrofit T12 Systems with T8 Systems and Electronic Ballasts	1.77
Delamping - Remove unneeded lighting	2.85
Retrofit HID Systems with Linear Fluorescent T8 and T5 Systems	1.77
Retrofit Incandescent to Integral Compact Fluorescent Lighting	3.71
Cold Cathode CFL retrofit	1.37
Energy-Efficient Exit Signs	1.82
Occupancy Sensors on Lighting	4.26
Daylighting Controls	1.58
Energy-Efficient Outdoor CFL Lighting	4.11
Energy-Efficient Open Drip-Proof Motors	1.33
Energy Efficient Totally Enclosed Fan-Cooled Motors	0.98
Variable Speed Drives	2.78
Anti-Sweat Heater Controls	2.80
High Efficiency Evaporator Fan Motors	5.55

1 Summary of Staff Recommendations

- 2 • Staff has recommended that the TEP Non-Residential Existing Facilities Program
3 be approved.
4 • Staff has recommended that rebate requirements include documentation verifying
5 that a proper sizing calculation has been done and that this documentation includes
6 the actual calculations.
7 • Staff also recommends that TEP's incentives should be capped at 75 percent of the
8 incremental cost of each measure.
9 • Staff also recommends that, in calculating the 75 percent cap, any applicable energy
10 efficiency rebates and incentives, including federal, state, and local tax credits that
11 are being offered for energy efficiency improvements should be taken into account.
12 The amounts of any rebates, incentives, and credits should be subtracted from the
13 incremental cost of the equipment.
14 • Staff also recommends that actual energy savings be obtained for all measures.
15 Staff has recommended that TEP modify those measures which do not provide
16 sufficient energy savings to make them cost-effective, and eliminate those measures
17 that cannot be modified in a manner that would produce cost-effective energy
18 savings.
19 • Staff has recommended that TEP pursue the HVAC portion of the Program on a
20 pilot basis. TEP should provide up-to-date local price, size, and efficiency
21 information by September 30, 2009, and Staff will complete its review by
22 November 30, 2009.
23 • Staff has recommended that the Non-Residential Existing Facilities program be
24 included in Tucson Electric Power Company's semi-annual DSM reports filed with
25 the Commission.
26 • Staff has recommended that, at a minimum, reporting for the Program should
27 include:
28 (i) number of participants for each measure,
(ii) number and type of measures installed,
(iii) average cost of installed measures,
(iv) descriptions of program marketing,
(v) copies of new or revised marketing materials,
(vi) estimated cost savings to participants,
(vii) energy savings as determined by the monitoring and evaluation process,

- 1 (viii) the total amount of the program budget spent during the previous six months,
2 the previous 12 months, and since the inception of the program,
- 3 (ix) any significant impacts on program cost-effectiveness,
- 4 (x) environmental savings, and
- 5 (xi) descriptions of any problems and proposed solutions including movements of
6 funding from one program to another.

7 CONCLUSIONS OF LAW

8 1. TEP is an Arizona public service corporation within the meaning of Article XV,
9 Section 2, of the Arizona Constitution.

10 2. The Commission has jurisdiction over TEP and over the subject matter of the
11 application.

12 3. The Commission, having reviewed the application and Staff's Memorandum dated
13 June 17, 2008, concludes that it is in the public interest to approve the TEP Non-Residential
14 Existing Facilities program.

15 ORDER

16 IT IS THEREFORE ORDERED that the Tucson Electric Power Company Non-Residential
17 Existing Facilities program be approved.

18 IT IS FURTHER ORDERED that rebate requirements include documentation verifying
19 that a proper sizing calculation has been done and that this documentation includes the actual
20 calculations.

21 IT IS FURTHER ORDERED that incentives shall be capped at 75 percent of the
22 incremental cost of each measure.

23 IT IS FURTHER ORDERED that, in calculating the 75 percent cap, any applicable energy
24 efficiency rebates and incentives, including federal, state, and local tax credits that are being
25 offered for energy efficiency improvements should be taken into account. The amounts of any
26 rebates, incentives, and credits should be subtracted from the incremental cost of the equipment.

27 IT IS FURTHER ORDERED that actual energy savings be obtained for all measures.
28 Tucson Electric Power Company shall modify those measures which do not provide sufficient

1 energy savings to make than cost-effective, and eliminate those measures that cannot be modified
2 in a manner that would produce cost-effective energy savings.

3 IT IS FURTHER ORDERED that Tucson Electric Power Company pursue the HVAC
4 portion of the Program on a pilot basis and provide up-to-date local price, size, and efficiency
5 information by September 30, 2009. Staff will complete its review by November 30, 2009.

6 IT IS FURTHER ORDERED that, if approved, the Non-Residential Existing Facilities
7 program be included in Tucson Electric Power Company's semi-annual DSM reports filed with the
8 Commission.

9 IT IS FURTHER ORDERED that, at a minimum, reporting for the Tucson Electric Power
10 Company Non-Residential Existing Facilities program shall include (i) the number of participants;
11 (ii) the number and type of measures installed; (iii) the average cost of the installed measures; (iv)
12 descriptions of program marketing; (v) copies of new or revised marketing materials; (vi)
13 estimated cost savings to participants; (vii) energy savings as determined by the monitoring and

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1 evaluation process; (viii) the total amount of the program budget spent during the previous six
2 months, the previous year and since the inception of the program; (ix) any significant impacts on
3 program cost-effectiveness; (x) environmental savings, and (xi) descriptions of any problems and
4 proposed solutions, including movements of funding from one program to another.

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

6
7 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

8
9 *Lowell V. Benson*
CHAIRMAN

William M. Wood
COMMISSIONER

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11 *George Hatch-Paella*
COMMISSIONER

[Signature]
COMMISSIONER

[Signature]
COMMISSIONER

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14 IN WITNESS WHEREOF, I, BRIAN C. McNEIL, Executive
15 Director of the Arizona Corporation Commission, have
16 hereunto, set my hand and caused the official seal of this
17 Commission to be affixed at the Capitol, in the City of
18 Phoenix, this 3rd day of July, 2008.

19 *[Signature]*
BRIAN C. McNEIL
EXECUTIVE DIRECTOR

20
21 DISSENT: _____

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23 DISSENT: _____

24 EGJ:JJP:lhm\CH

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