



BEFORE THE ARIZONA CORPORATION COMMISSION

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Commissioner

Arizona Corporation Commission

DOCKETED

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IN THE MATTER OF THE APPLICATION
OF TUCSON ELECTRIC POWER
COMPANY'S REQUEST FOR APPROVAL
OF ITS DEMAND-SIDE MANAGEMENT
SMALL BUSINESS PROGRAM

DOCKET NO. E-01933A-07-0401

DECISION NO. 70457

ORDER

Open Meeting
July 29 and 30, 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 Small Business Program, one of the ten, is being reviewed herein.

Program Description

4. The TEP Small Business program ("Program") would minimize some of the barriers to implementation of energy efficiency improvements in this market, such as lack of capital, information search costs, transaction costs, performance uncertainty, and the so-called

1 “hassle factor”. Small firms generally concentrate on their core business, and do not have the
2 wherewithal to analyze energy use and improve the efficiency.

3 5. The Program would be an upstream market program providing incentives directly
4 to contractors for the installation of selected high efficiency lighting, HVAC, and refrigeration
5 measures. The incentives would be set at a higher level for this market in order to encourage
6 contractors to market and deliver the program thus offsetting the need for TEP marketing and
7 overhead expenses. In order to further reduce overhead expenses, the program would employ
8 internet-based measure analysis and customer proposal processing which would make the process
9 easier for both contractors and customers.

10 6. Goals. The primary objective of the Program would be to improve the efficiency of
11 energy use by TEP’s Small Business customers by installing certain energy efficiency measures.

12 7. Eligibility. The Program would be generally available to TEP customers eligible
13 for service on the Company’s Rate 10 (typically customers with an aggregate demand of 200 kW
14 or less). TEP has indicated that schools of any size would also be eligible for the program. To be
15 eligible, TEP Small Business customers must replace existing equipment with equipment that is
16 more energy-efficient.

17 8. Incentives. Incentives would be paid directly to contractors and are detailed in
18 Table 1.

19 **Products and Services Provided**

20 9. The Small Business Program would facilitate the installation of energy efficiency
21 measures in existing, eligible non-residential facilities. The Program would provide incentives
22 directly to contractors for the marketing and installation of specific high efficiency lighting,
23 HVAC, and refrigeration measures.

24 Installation Contractors

25 10. The Program would utilize contractors to provide turnkey installation services to
26 customers. Installation contractors would be pre-qualified for providing program services.
27 Qualification requirements would include meeting minimum business performance standards as
28 defined by the Arizona Registrar of Contractors and completing a TEP-sponsored orientation and

1 training program. The installation contractors would promote the Program directly to Small
 2 Business customers and perform the installation of energy efficiency measures upon agreement
 3 with the customer.

4 11. TEP proposes that incentives would be paid directly to contractors and be designed
 5 to offset up to 100 percent of project installation costs. However, Staff recommends that
 6 incentives should not exceed 90 percent of the cost. Staff also recommends that, in calculating the
 7 90 percent cap, any applicable energy efficiency rebates and incentives, including federal, state,
 8 and local tax credits that are being offered for energy efficiency improvements should be taken
 9 into account. The amounts of these rebates, incentives, and credits should be subtracted from the
 10 cost of the energy efficiency improvements.¹

11 **Specific Energy-Efficiency Measures to be included in the Program**

12 12. Lighting Measures

- 13 ▪ T8 lighting retrofits - Replacement of T12 fluorescent lighting with T8
 14 lighting.
- 15 ▪ CFL lighting retrofits - Replacement of incandescent lamps with screw-in
 16 fluorescent lamps.
- 17 ▪ Exit sign retrofits - Replacement of incandescent and CFL exit signs with LED
 18 or electroluminescent exit sign lighting.
- 19 ▪ Occupancy sensors - installation of occupancy sensor controls on lighting
 20 systems.
- 21 ▪ De-lamping – Removal of unneeded fluorescent lighting fixtures.

22 13. HVAC Measures

- 23 ▪ High-efficiency AC and HP - Installation of high-efficiency packaged air
 24 conditioners and heat pumps.
- 25 ▪ Programmable thermostats - Replacement of standard thermostats.

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 28 ¹ As an example, if an energy-efficient retrofit costs \$1,000 and there is \$300 in other credits available, the other credits would be subtracted from the \$1,000 cost, leaving a \$700 cost. Based on the \$700 cost, the TEP incentive could be no more than \$630 (i.e., 90%).

14. Refrigeration Measures

- Integrated refrigerated controls and motor retrofits -- Retrofitting refrigerated cases in small commercial facilities with control and other measures that reduce case energy use. An integrated package includes efficient fans and anti-sweat heater controls.
- Refrigerated case evaporator fan controls - Installation of evaporator fan controls.
- Anti-sweat heater controls - Installation of Anti-sweat controls.
- Refrigerated case fan motor retrofit - Retrofit with high-efficiency motors.

15. Incentives

- Incentives paid for each of the above measures would be as shown in Table 1.

Table 1
Small Business Program Proposed Incentives

LIGHTING MEASURES	INCENTIVE
Replace T12/Magnetic Ballasts with T8/Electronic Ballast	\$35 per Fixture
Energy-Efficient integral CFLs	\$7 per Lamp
Energy-Efficient Exit Signs	\$60 per Fixture
De-Lamping and Replace 4-lamp T12 with T8	\$45 per Fixture
Occupancy Sensors Installed on Lighting	\$65 per Connected kW
HVAC MEASURES	INCENTIVE
Programmable Thermostats	\$150 per Unit
High-Efficiency AC & Heat Pumps (<65,000 Btu/h)	\$125 - \$675 per Unit
REFRIGERATION MEASURES	INCENTIVE
Integrated Case Control and Motor Retrofit	Varies*
Evaporator Fan Controls	Varies*
Anti-sweat Heater Controls	Varies*
Evaporator Fan Motor Retrofit	Varies*

* Incentives for Refrigeration measures would depend on the scope of the retrofits and the blend of measures installed.

Program Marketing, Delivery, and Communications

16. TEP would assign an in-house manager to oversee the program, provide guidance on program activities consistent with TEP's goals and customer service requirements, and provide a contact point for customers who are interested in or have concerns about the program. The program manager would be responsible for program administration, application and incentive

1 processing, monitoring the activities of the installation contractors, participation tracking and
2 reporting, and overall quality control and management of the delivery process. As part of the
3 implementation plan, TEP would conduct outreach to contractors, marketing and promotion to
4 target customer groups, and education and training on the benefits and functioning of the program.

5 17. The installation contractors would promote the program directly to customers,
6 provide installation services, and have access to an internet processing system to prepare proposals
7 for customers.

8 18. The marketing and communications strategy would be designed to inform
9 customers of the availability and benefits of the program and how they can participate in the
10 program. The strategy would include outreach to installation contractors and other parties of
11 interest in the market. An important part of the marketing plan would be content and functionality
12 on the TEP website, which would direct customers to information about the program.

13 19. TEP would design and develop the content, messaging, branding, and
14 communication of all of the marketing and collateral materials used to promote the program.

15 20. An implementation contractor ("IC")² would be responsible for assisting with
16 program promotion including customer contact, attendance at public presentations and events, and
17 would be the primary contact point as would be indicated on the website and promotional
18 materials.

19 21. More specifically, the marketing and communications plan would include:

- 20 • Educational seminars targeted at the small business market to provide details about
21 the Program and how to participate. The seminars would be tailored to the needs of
22 small business owners, building managers, vendors, and electrical, mechanical and
refrigeration contractors.
- 23 • A combination of strategies including major media advertising, outreach, and
24 presentations at professional and community forums and through direct outreach to
Small Business customers. Marketing activities may include:
 - 25 - Brochures that describe the benefits and features of the program, distributed
26 through the call center and TEP.com, and available for various public awareness
27 events, or mailed upon demand;

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² different from the installation contractor

- 1 - Targeted mailing to educate customers on the benefits of the program and explain
2 how they can participate through the pre-qualified installation contractors;
- 3 - Customer and trade partner outreach and presentations informing interested
4 parties about the benefits of the program and how to participate;
- 5 - Print advertisements to promote the program placed in selected local media
6 including the Tucson-area newspapers and trade publications;
- 7 - Website content at TEP.com providing program information resources, contact
8 information, and links to other relevant service and information resources;
- 9 - Access to the program implementation website for pre-qualified installation
10 contractors where they could analyze projects and prepare proposals for
11 customers;
- 12 - TEP customer care representatives trained to answer any questions regarding the
13 program;
- 14 - Presence at conferences and public events to increase general awareness of the
15 program and distribute program promotional materials; and
- 16 - Presentations by the program manager to contractors and customer groups to
17 actively solicit their participation in the program.

16 **Measurement and Verification**

17 22. The Measurement and Verification ("M&V") of program measures would be done
18 by a third party contractor. The M&V contractor would both confirm energy savings and perform
19 on-site inspections, in addition to those performed by the IC.

20 23. 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
24 contractor would collect the necessary data elements to populate a tracking
25 database and provide periodic reporting.

26 Integrated implementation data collection - TEP would work with the
27 implementation contractor to establish systems to collect data needed to support
28 effective program management and evaluation through the implementation and
customer application processes. The database tracking system would be
integrated with implementation data collection processes.

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

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

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

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

17 **Proposed Program Budget**

18 26. The proposed budget for the TEP Small Business Facilities program is \$1,300,000
19 per year. \$731,640 of this budget would be paid in incentives. TEP proposes annual budget
20 increases of three percent. The proposed budget is shown in Table 2.

21 **Table 2**
22 **Tucson Electric Power Company**
23 **Small Business DSM Program 2008 Budget**

Total Administrative Cost	\$234,000	18%
Managerial & Clerical	\$187,200	
Travel & Direct Expenses	\$28,080	
Overhead	\$18,720	
Total Marketing	\$130,000	10%
Internal Marketing Expense	\$65,000	
Subcontracted Marketing Expense	\$65,000	
Total Direct Implementation	\$871,000	67%

Financial Incentives	\$731,640	
Support Activity Labor	\$34,840	
Hardware & Materials	\$17,420	
Rebate Processing & Inspection	\$87,100	
Total EM&V Cost	\$65,000	5%
EM&V Activity	\$61,750	
EM&V Overhead	\$3,250	
Total Program Cost	\$1,300,000	100%

27. If TEP's M&V activities identify portions of the Program that are not meeting expected cost effectiveness, Staff recommends that budget amounts be redirected toward other non-residential DSM programs.

28. Staff recommends that TEP be allowed to shift up to 25 percent of funding between non-residential DSM programs.

29. Staff also recommends that TEP ensure that its in-house labor costs are recovered either through base rates or through the DSM adjustor, if a DSM adjustor is approved, but not from both.

Benefit/Cost Analysis

30. Table 3 gives the Benefit to Cost ("B/C") ratio for each measure in the Program. Although Staff's analysis shows two of the HVAC-related measures with B/C ratios slightly less than one, the results are very close to one, and considering the non-monetized environmental benefits (Table 5), they would likely exceed one. Staff's analysis indicates a B/C ratio of 1.87 for the Program as a whole; consequently, Staff recommends approval of the Program.

Table 3
Small Business DSM Program
B/C Ratio Estimated by Measure

MEASURE	B/C RATIO
Retrofit T12 Systems with T8 Systems and Electronic Ballasts	1.53
Retrofit Incandescent to Integral Compact Fluorescent Lighting (CFL)	1.04
Energy-Efficient Exit Signs	1.42
Delamping	2.13

Occupancy Sensors on Lighting	4.30
Add On/Off Controls on Evaporative Fan Motor	2.76
Anti-Sweat Heater Controls	1.46
Integrated Controls and Motor Retrofit on Case Coolers and Freezers	1.60
High Efficiency Evaporator Fan Motors	3.62
Energy-Efficient Packaged and Split Air Conditioners	0.97
Energy-Efficient Packaged and Split Heat Pumps	0.96
Programmable Thermostats (Heating Setback / Cooling Setup)	3.52
Total Program	1.87

Demand And Energy Savings

31. TEP estimates that annual demand and energy reductions for years 2008 – 2012 due to the Program would be as indicated in Table 4. Each year shows incremental savings; the data are not cumulative.

Table 4
Small Business Existing Facilities
Demand and Energy Savings

ANNUAL INCREMENTAL REDUCTIONS	2008	2009	2010	2011	2012
Peak Demand (kW)	1,170	1,396	1,458	1,502	1,525
Energy (MWh)	6,459	6,950	7,261	7,479	7,595

32. Other benefits of the Program would include reduced water consumption and emissions although these impacts are not monetized. TEP has projected environmental benefits over the five-year Program life (2008 – 2012) as shown in Table 5.

Table 5
Five-Year Projected
Environmental Benefits

Water	17.9 million	gal.
SO_x	84,433	lbs.
NO_x	141,912	lbs.
CO₂	74.6 million	lbs.

- 1 ▪ Energy savings as determined by the monitoring and evaluation process;
- 2 ▪ The total amount of the program budget spent during the previous six
- 3 months, the previous 12 months, and since the inception of the program;
- 4 ▪ Any significant impacts on program cost-effectiveness;
- 5 ▪ Environmental savings; and
- 6 ▪ Descriptions of any problems with proposed solutions including movements
- 7 of funding from one program to another.

8 Summary of Staff Recommendations

9 35. Staff has recommended that the TEP Small Business Program be approved, as
10 discussed herein.

11 36. Staff has recommended that TEP's incentives should be capped at 90 percent of the
12 project installation costs.

13 37. Staff also has recommended that, in calculating the 90 percent cap, any applicable
14 energy efficiency rebates and incentives, including federal, state, and local tax credits that are
15 being offered for energy efficiency improvements should be taken into account. The amounts of
16 any rebates, incentives, and credits should be subtracted from the cost of the energy efficiency
17 improvements.

18 38. Staff has recommended that budget amounts be redirected toward other non-
19 residential DSM programs if TEP's M&V activities identify portions of the Program that are not
20 meeting expected cost effectiveness.

21 39. Staff has recommended that TEP be allowed to shift up to 25 percent of funding
22 between non-residential DSM programs.

23 40. Staff has also recommended that TEP ensure that its in-house labor costs are
24 recovered either through base rates or through the DSM adjustor, if a DSM adjustor is approved,
25 but not from both.

26 41. Staff has recommended that verified, actual energy savings be obtained for all
27 measures.

28 ...

1 42. Staff has recommended that TEP modify those measures that do not provide
2 sufficient energy savings to make them cost-effective, and eliminate those measures that cannot be
3 modified in a manner that would produce cost-effective energy savings.

4 43. Staff has recommended that, if the Program is approved, it should be included in
5 TEP's semi-annual DSM reports filed with the Commission.

6 44. Staff has recommended that reporting for the Program should include, at a minimum:

- 7 ▪ Number of customers who chose not to accept the installation contractor's
8 proposal to install energy-saving measures;
- 9 ▪ Number of participants in the Program;
- 10 ▪ Number and type of measures installed;
- 11 ▪ Average cost of installed measures;
- 12 ▪ A complete energy analysis for each completed project including all
13 calculations of present and proposed energy use;
- 14 ▪ For each completed project, a listing of all energy efficiency measures with
15 complete costs and proposed savings from each measure;
- 16 ▪ Complete details of the calculation of each incentive payment;
- 17 ▪ For each completed project, the actual total cost to the participating
18 customer;
- 19 ▪ Actual measurement and verification of post-measure energy use reductions;
- 20 ▪ Descriptions of program marketing;
- 21 ▪ Copies of new or revised marketing materials;
- 22 ▪ Estimated cost savings to participants;
- 23 ▪ Energy savings as determined by the monitoring and evaluation process;
- 24 ▪ The total amount of the program budget spent during the previous six
25 months, the previous 12 months, and since the inception of the program;
- 26 ▪ Any significant impacts on program cost-effectiveness;
- 27 ▪ Environmental savings; and
- 28

1 IT IS FURTHER ORDERED that, at a minimum, reporting for the Tucson Electric Power
2 Company Small Business Program shall include:

- 3 a. Number of customers who chose not to accept the installation contractor's
4 proposal to install energy-saving measures;
- 5 b. Number of participants in the Program;
- 6 c. Number and type of measures installed;
- 7 d. Average cost of installed measures;
- 8 e. A complete energy analysis for each completed project including all calculations
9 of present and proposed energy use;
- 10 f. For each completed project, a listing of all energy efficiency measures with
11 complete costs and proposed savings from each measure;
- 12 g. Complete details of the calculation of each incentive payment;
- 13 h. For each completed project, the actual total cost to the participating customer;
- 14 i. Actual measurement and verification of post-measure energy use reductions;
- 15 j. Descriptions of program marketing;
- 16 k. Copies of new or revised marketing materials;
- 17 l. Estimated cost savings to participants;
- 18 m. Energy savings as determined by the monitoring and evaluation process;
- 19 n. The total amount of the program budget spent during the previous six months, the
20 previous 12 months, and since the inception of the program;
- 21 o. Any significant impacts on program cost-effectiveness;

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- p. Environmental savings; and
- q. Descriptions of any problems with proposed solutions including movements of funding from one program to another.

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

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN

COMMISSIONER

Jeffrey W. Hatch *Richard P. ...* *Gary D. ...*
 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 16th day of August, 2008.

Brian C. McNeil
 BRIAN C. McNEIL
 EXECUTIVE DIRECTOR

DISSENT: *Laurel ...*

DISSENT: _____

EGJ:JJP:lhmvJMA

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