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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

Arizona Corporation Commission
DOCKETED
AUG - 6 2008

DOCKETED BY *MM*

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

DOCKET NO. E-01933A-07-0401
DECISION NO. 70456
ORDER

Open Meeting
July 29 and 30, 2008
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Tucson Electric Power Company ("TEP" or "the Company") is engaged in providing electric power within portions of Arizona, pursuant to authority granted by the Arizona Corporation Commission ("ACC" or "Commission").

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, including the Low-Income Weatherization ("LIW") Program summarized below.

Program Description

4. Summary. The existing Low-Income Weatherization ("LIW") program was designed to conserve energy and lower utility bills for TEP households with limited incomes. TEP

1 proposes to enhance the LIW program and move it into the Company's DSM Portfolio. Proposed
 2 changes include an increase in the annual budget allocation from \$198,000 to \$381,000. The
 3 proposed increase would allow more homes to be weatherized¹ and compensate for higher costs. It
 4 would also allow the TEP LIW program to raise the per-house spending limit from \$2,000 to
 5 \$3,000, enhancing the extent of repair possible at each home.² Other proposed changes include an
 6 expanded set of efficiency measures, and tracking to establish and verify energy savings realized
 7 by the program.

8 5. Goals. The primary goal of the LIW Program is to fund weatherization of low-
 9 income homes, and reduce energy costs and improve comfort and safety for low-income
 10 customers. The LIW Program also conserves energy, and reduces both electric and gas
 11 consumption.

12 6. Eligibility. The LIW program is the only TEP DSM program with income
 13 requirements. The LIW Program is available to TEP residential customers with household incomes
 14 less than or equal to 150 percent of the federal poverty guidelines. (For 2008, 150 percent of the
 15 federal poverty guidelines would be \$15,600 for a one-person household and \$33,800 for a four-
 16 person household).

17 7. In the TEP territory, homes eligible for the LIW program consist primarily of
 18 concrete block, adobe, or slump-block; slab-on-grade; territorial style homes with single-pane
 19 glass, hollow-core doors, minimal ceiling insulation and no wall insulation; or old style, poorly
 20 insulated mobile homes. Homes are prioritized based on factors that include the following:

- 21 • No heat in the winter, or no cooling in the summer;
- 22 • Elderly or minors in the household;
- 23 • Physical handicaps or illness; and
- 24 • Number of people in the household.³

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 27 ¹ There is currently a waiting list for the TEP LIW program.

² This would match Southwest Gas per-home weatherization spending in the TEP service area.

28 ³ WAP rules indicate that "high energy consuming housing" is a priority, and energy consumption rises as the number of residents in a home increases.

1 8. Health and Safety Measures. TEP regards customers' health and safety as a priority
2 over energy savings. Community action agencies are allowed to use up to 25 percent of the TEP
3 funding for health and safety measures. Health and safety measures are not considered
4 weatherization, but may be required in order to allow effective weatherization and to protect
5 customers. Examples of these measures include work required to address rotting wood, mold or
6 unsanitary conditions, lack of ventilation or potential fire hazards.

7 9. Staff acknowledges the importance of health and safety measures, but has
8 recommended that DSM funding be utilized whenever possible for weatherization activities that
9 conserve energy. In cases where alternate funding sources are available, those funds should be
10 utilized for any non-weatherization activities before DSM funding is tapped. DSM funding used
11 for any health and safety measure should be counted against the 25 percent cap and reported in the
12 TEP semi-annual DSM filings.

13 10. Weatherization Measures. Under the LIW Program, weatherization would be done
14 in accordance with the Weatherization Assistance Program ("WAP"). WAP is funded by the U.S.
15 Department of Energy and administered by the Arizona Department of Commerce Energy Office
16 ("AEO"). The major weatherization measures would generally fall into four categories:

- 17 • Duct repair;
- 18 • Pressure management/infiltration control;
- 19 • Attic insulation; and
- 20 • Repair or replacement of non-functional or hazardous appliances.

21 11. With respect to the last item, neither installation of new equipment nor repair of
22 non-functioning equipment would be DSM measures, because either would result in more energy
23 use, not less. In cases where non-functioning equipment is replaced, only the incremental cost of
24 installing high-efficiency equipment (rather than standard equipment) can be considered DSM
25 spending. Staff has recommended that other costs of repair and replacement be counted against
26 the 25 percent cap on health and safety spending.

27 12. The actual measures installed in a specific home would be based on an on-site audit
28 and would be required to meet WAP cost-effectiveness tests.

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1 13. Additional Weatherization Measures. In addition to the above major weatherization
2 efforts, additional measures may include the following lower-cost items: (i) compact fluorescent
3 lamps (“CFLs”) would be installed, if not already in place; (ii) water heater blankets would be
4 installed, if appropriate under health and safety rules; (iii) low-flow shower heads and (iv) faucet
5 aerators. (The last two items would be installed, if cost-effective and if funding is available.)⁴ The
6 average cost for installing all four measures is estimated at approximately \$40 per home, or \$20
7 for materials and \$20 for additional labor.

8 14. Emergency Home Repair. Agencies perform emergency repairs with funding from
9 the Low Income Home Energy Assistance Program (“LIHEAP”), the Department of Energy
10 (“DOE”) and the Utility Repair, Replace and Deposit Program (“URRD”). Emergency repairs
11 include roofing repairs or replacement, flood-related repairs, and repair or replacement of non-
12 functioning heating and cooling systems. The TEP LIW program would not fund these emergency
13 repairs, but would provide additional, alternative, funding for installation of the lower-cost energy
14 efficiency measures listed in (i) through (iv), under “Additional Weatherization Measures.”

15 15. If not already on the LIW waiting list, customers in homes visited for emergency
16 repairs are encouraged to apply for the weatherization program. Most of these customers go on to
17 apply and are placed on the LIW waiting list. As a result, nearly all homes receiving emergency
18 repairs and installation of the lower-cost measures are eventually weatherized as part of the main
19 LIW program.

20 16. Staff has recommended that every home where CFLs are installed under the TEP
21 LIW DSM program be provided with information regarding the proper disposal of burned out or
22 broken CFLs.

23 17. Incentives. The TEP LIW program would provide funding of up to \$3,000 per
24 house for installation of weatherization and health/safety measures. (Agencies may request a
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27 ⁴ With respect to the benefits of the four measures: (i) CFLs use approximately 75% less energy than standard bulbs,
28 also producing less heat, which can cut cooling costs; (ii) if a water heater’s insulation has an R-value of less than R-
24, a water heater blanket can reduce water heating costs by 4-9%; (iii) efficient showerheads can reduce the hot water
consumed during showers by 30%; (iv) faucet aerators provide energy and water savings, and limit wastewater.

1 waiver of this cap on a case-by-case basis from TEP.⁵) While the program portfolio refers to these
2 payments as “incentives,” these payments represent reimbursements to community action agencies
3 for completed weatherization work and are not considered incentives by Staff.

4 Delivery Strategy

5 18. TEP would provide funding to the participating community action agencies, the
6 Tucson Urban League (“TUL”) and Pima County Community Services (“PCCS”). Funding would
7 be based on completed and documented weatherization work.

8 19. TUL and PCCS would:

- 9 • promote the LIW program;
- 10 • determine participant eligibility and priority;
- 11 • complete all weatherization work, or oversee completion by their contractors⁶; and
- 12 • provide program administration, planning coordination, labor, materials, equipment
13 and database updates.

14 20. The AEO would provide an on-line process for data collection and input, while the
15 agencies would complete the process and input the required data. TEP would work with AEO to
16 provide the information needed to meet Commission reporting requirements.

17 Marketing

18 21. TEP has not included a cost for marketing in its proposed budget for the LIW
19 program. The TEP LIW program has been in existence since 1993 and there is enough demand for
20 the program’s services to make a marketing allocation from DSM dollars unnecessary.

21 22. Even without a marketing allocation, TEP continues to promote the LIW program
22 in the following ways: (i) through speaking engagements and outreach presentations; (ii) through
23 the TEP call center; and (iii) through a page on the TEP Web site that directs interested parties to
24 call TUL or PCCS.

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27 ⁵ An example of the type of situation where a waiver may be requested is when the HVAC system needs to be replaced
and the home also requires major weatherization.

28 ⁶ TUL performs weatherization work on both an in-house and a contracted basis; PCCS uses contractors for all its
weatherization work.

23. Other program promotion occurs through TUL and PCCS. The two participating action agencies promote the LIW program through presentations to community organizations, promotional materials distributed to neighborhood community and recreation centers, and through their responses to calls directed from TEP.

Program Budget

24. The budget for the proposed low-income weatherization program is provided below. Of the proposed \$381,000, TEP would retain approximately \$24,765 (6.5%) for in-house administrative costs⁷, while an estimated \$16,235 (4.3%)⁸ would go to AEO for blower door and duct leak training, and for its services related to reporting, monitoring and evaluation. The remaining funding, approximately \$340,000 (or 89.2%) would be divided proportionately between TUL and PCCS based on the number of TEP customers in the areas overseen by each agency.

25. TEP should take action to ensure that its in-house costs are recovered from base rates, or from the DSM adjustor (if an adjustor is approved) but not from both.

Proposed Low-income Weatherization 2008 Budget

Managerial and Clerical	\$19,812
Overhead	\$4,953
Total Administrative Cost	\$24,765
Support Activity Labor (AEO)	\$10,000
Financial Incentives ⁹	\$340,000
Total Direct Installation	\$350,000
EM&V ¹⁰ /Research Activity	\$5,611
EM&V Overhead	\$624
Total EM&V	\$6,235
Total Program Budget	\$381,000

2008-2012 Program Budgets

Year	2008	2009	2010	2011	2012
Total Budget	\$381,000	\$388,620	\$396,392	\$404,320	\$412,407

⁷ Administrative and O&M costs for the TEP LIW program include program oversight and management, collecting and preparing data, oversight of community action agencies (including verifying and paying invoices), answering customer questions and ongoing program design.

⁸ This amount includes \$10,000 for Support Activity Labor and \$6,235 for EM&V. (See the table entitled "Proposed Low-income Weatherization 2008 Budget.")

⁹ This refers to the amount paid to community action agencies for weatherization and health and safety activities. Staff does not consider these payments to be incentives.

¹⁰ Evaluation, Measurement and Verification.

1 26. The year-by-year budget shown in the table above includes a 3 percent annual
2 increase, to compensate for inflation.

3 **Participation**

4 27. Eighty-four homes were weatherized under the existing TEP program in 2007, at a
5 total actual cost of \$164,986, for an average of \$1,964 per home (this includes administrative
6 costs). TEP projects that approximately 184 low-income homes would be weatherized per year at
7 the proposed \$381,000 budget, making the average cost per home \$2,071 (also including
8 administrative costs).

9 **Monitoring and Evaluation**

10 28. As part of the monitoring process, TEP would require participating agencies to
11 provide data concerning each measure installed, so that energy savings can be tracked. Working
12 with AEO, TEP would track, manage and evaluate the program, adopting a strategy of integrated
13 data collection that would include the following activities:

- 14 • **Database management** – participating agencies would collect data and AEO
15 would provide period reporting.
- 16 • **Implementation of integrated data collection** – TEP and AEO would
17 establish a system of data collection to support program management and
18 evaluation;
- 19 • **Field verification** – the AEO or its contractor would verify the installation of a
20 sample of measures; and
- 21 • **Tracking of savings using deemed savings values** – AEO would establish the
22 savings for each measure and technology and would periodically review and
23 revise the savings based on bill analysis.

24 29. This approach would provide TEP with ongoing feedback on program progress and
25 enable management to adjust or correct programs to be more effective and more cost beneficial.

26 **Reporting Requirements**

27 30. TEP files semi-annual reports concerning its DSM programs and has voluntarily
28 included the LIW program in these reports, even though it was not part of its DSM portfolio. If
the LIW program is approved by the Commission as a DSM program, Staff has recommended that
TEP continue to include the LIW program in its semi-annual reports. The information should

1 include, at a minimum (i) the number of homes weatherized; (ii) the percentage of the overall LIW
 2 budget spent on health and safety spending; (iii) the amount of LIW funding retained by TEP for
 3 administration, planning, development, or any other purpose; (iv) copies of new or revised
 4 marketing materials; (v) estimated cost savings to participants; (vi) gas, electric, and
 5 environmental savings as determined by the monitoring and evaluation process; (vii) the total
 6 amount of the program budget spent during the previous six months, the previous year and since
 7 the inception of the program; (viii) any significant impacts on program cost-effectiveness; and (ix)
 8 descriptions of any problems and proposed solutions, including movements of funding from one
 9 program to another.

10 **Benefit-Cost Analysis**

11 31. Although Staff calculated the benefit-cost ratio of the LIW program at 0.97, slightly
 12 below the cost-effectiveness threshold of 1.0, the program can be considered cost-effective once
 13 the projected environmental savings (which are not monetized, but which are greater than zero) are
 14 also taken into account. The 0.97 benefit-cost ratio includes both kWh and therm savings.¹¹ The
 15 projected cost of health and safety measures, estimated at 15 percent of the total LIW budget, are
 16 excluded from the cost-effectiveness calculation.

17 32. To date, energy savings arising from the LIW program have not been tracked,
 18 although formal tracking would be instituted under the proposed enhanced program. (See the
 19 section entitled "Monitoring and Evaluation.") Current projected energy savings used to calculate
 20 cost-effectiveness are based on an AEO study of 150 Phoenix area homes and so projected therm
 21 savings may be conservative for the cooler Tucson area. If therm savings prove to be higher than
 22 projected, cost-effectiveness and environmental savings (below) would also be higher.

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26 ¹¹ The prevalence of evaporative coolers (rather than air conditioners) and gas furnaces (instead of electric heat pumps)
 27 in the TEP service territory result primarily in therm savings, although limited kWh savings are projected. There is no
 28 fuel switching issue, since there is no increase in electric use and because the program measures are designed to
 achieve whatever energy savings are available in a specific household, rather than to promote one fuel source at the
 expense of another.

1 **kWh, Therm and Environment Savings**

2 33. At the anticipated participation levels, the LIW program would save an estimated
3 1,886,422 therms and 2,021 MWh over the lifetime of the measures installed through the program.

4 Environmental benefits based on these projected savings are provided in the table below.

5 **LIW Projected Lifetime Environmental Benefits, 2008 – 2012 (Electric only)**

	TEP Environmental Factors	Environmental savings (lbs.)
6 SOx	2.39 lbs./MWh	4,830
7 NOx	3.97 lbs./MWh	8,023
8 CO ₂	2,088 lbs./MWh	4,219,838

9 34. In addition to the above electric savings, avoided CO₂ emissions resulting from
10 therm savings are estimated at 22,259,780 lbs. Total program CO₂ savings, both gas and electric,
11 are projected at 26,479,618 lbs.¹²

12 **Summary of Staff Recommendations**

13 35. Staff has recommended that the LIW program be approved, with the modifications
14 included herein.

15 36. Staff has recommended that DSM funding be utilized whenever possible for
16 weatherization activities that conserve energy. In cases where alternate funding sources are
17 available, those funds should be utilized for any non-weatherization activities before DSM funding
18 is tapped.

19 37. Staff has recommended that costs of repair and replacement be counted against the
20 25 percent cap on health and safety spending, with the exception of the incremental cost of
21 installing high-efficiency (rather than standard) replacement equipment.

22 38. Staff has recommended that TEP be allowed to shift unused funding from other
23 Residential TEP DSM programs into the LIW program, if TEP determines this would facilitate
24 DSM program objectives.

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28 ¹² 4,219,838 lbs. from kWh savings + 22,259,780 from therm savings.

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ORDER

IT IS THEREFORE ORDERED that the TEP LIW Program be approved, with the modifications included herein.

IT IS FURTHER ORDERED that DSM funding be utilized whenever possible for weatherization activities that conserve energy. In cases where alternate funding sources are available, those funds should be utilized for any non-weatherization activities before DSM funding is tapped.

IT IS FURTHER ORDERED that costs of repair and replacement be counted against the 25 percent cap on health and safety spending, with the exception of the incremental cost of installing high-efficiency (rather than standard) replacement equipment.

IT IS FURTHER ORDERED that TEP be allowed to shift unused funding from other Residential TEP DSM programs into the LIW program, if TEP determines this would facilitate DSM program objectives.

IT IS FURTHER ORDERED that every home where CFLs are installed under the TEP LIW DSM program be provided with information regarding the proper disposal of burned out or broken CFLs.

IT IS FURTHER ORDERED that no funding be shifted out of the LIW program without prior Commission approval.

IT IS FURTHER ORDERED that TEP continue to include the LIW program in its semi-annual reports. The information shall include, at a minimum: (i) the number of homes weatherized; (ii) the percentage of the overall LIW budget spent on health and safety spending; (iii) the amount of LIW funding retained by TEP for administration, planning, development, or any other purpose; (iv) copies of new or revised marketing materials; (v) estimated cost savings to participants; (vi) gas, electric, and environmental savings as determined by the monitoring and

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1 evaluation process; (vii) the total amount of the program budget spent during the previous six
2 months, the previous year and since the inception of the program; (viii) any significant impacts on
3 program cost-effectiveness; and (ix) descriptions of any problems and proposed solutions,
4 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 *Lance J. Gleason*

CHAIRMAN

COMMISSIONER

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11 *Jeffrey Hatcher*
12 COMMISSIONER

[Signature]
COMMISSIONER

[Signature]
COMMISSIONER

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

20 *[Signature]*
21 BRIAN C. McNEIL
22 EXECUTIVE DIRECTOR

23 DISSENT: _____

24 DISSENT: _____

25 EGJ:JKM:lhmvJMA

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