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# ***Tucson Electric Power Company***

One South Church, Post Office Box 711  
Tucson, Arizona 85702

March 1, 2011

Mr. Steven Olea  
Director, Utilities Division  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

Re: Docket Nos. E-01933A-07-0402 and E-01933A-05-0650,  
Commission Decision No. 70628 (December 1, 2008)

Mr. Olea,

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AZ CORP COMMISSION  
DOCKET CONTROL

Pursuant to ACC Decision No. 70628 and Section 9.6 of the Tucson Electric Power Company Proposed Rate Settlement Agreement, dated May 29, 2008, Tucson Electric Power Company ("TEP") is required to submit semi-annual Demand-Side Management ("DSM") program progress reports on March 1<sup>st</sup> and September 1<sup>st</sup> of each year in accordance with Commission Staff's recommendations. Enclosed please find TEP's Semi-Annual DSM Program Progress Report for the reporting period of July 1, 2010 through December 31, 2010. The marketing materials for the reported DSM programs are being filed directly with Commission Staff on the attached CD. The measurement, evaluation, and research report is in the process of being finalized and will be submitted to Commission Staff when it is completed.

If you have any questions, please contact me at (520) 884-3680.

Sincerely,

Jessica Bryne  
Regulatory Services

Enclosures: Report and CD

cc: Docket Control, ACC  
Barbara Keene, ACC (with CD)  
Compliance, ACC  
Shannon Kanlan, ACC

Arizona Corporation Commission  
**DOCKETED**

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# **Tucson Electric Power Company**

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## **Semi-Annual Demand-Side Management Programs Progress Report**

**July through December 2010**

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:**

**July through December 2010**

This progress report includes the following information for all Tucson Electric Power Company ("TEP") Demand-Side Management ("DSM") programs in place from July through December 2010, including programs for residential, non-residential, and low-income customers:

- a brief description of the programs;
- program modifications;
- program goals, objectives, and savings targets;
- levels of participation;
- description of evaluation and monitoring activities and results;
- kW, kWh, and therm savings;
- problems encountered and proposed solutions;
- costs incurred during the reporting period disaggregated by type of cost, such as administrative costs, rebates, and monitoring;
- findings from all research projects;
- terminated programs; and
- other significant information.

A summary detailing DSM program expenses are provided in Tables 1 and 2; program energy savings are provided in Tables 3 and 4; societal benefits and the performance incentive calculation are provided in Table 5; lifetime environmental savings are provided in Table 6; and program savings and costs since inception for all programs are provided in Table 7.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

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# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

**Table 1**

### DSM PROGRAM EXPENSES: JULY - DECEMBER 2010

| DSM Program  | Rebates & Incentives | Training & Technical Assistance | Consumer Education | Program Implementation | Program Marketing | Planning & Admin  | Measurement, Evaluation & Research | Program Total Cost  |
|--|----------------------|---------------------------------|--------------------|------------------------|-------------------|-------------------|------------------------------------|---------------------|
| <b>Residential Programs</b>                                    |                      |                                 |                    |                        |                   |                   |                                    |                     |
| Low-Income Weatherization                                      | \$ 125,793           | \$ 11,207                       | \$ 601             | \$ 4,587               | \$ -              | \$ 5,671          | \$ 6,820                           | \$ 154,679          |
| Guarantee Home Program   | \$ 604,800           | \$ 8,890                        | \$ 2,770           | \$ 278,551             | \$ 409,187        | \$ 61,415         | \$ -                               | \$ 1,365,692        |
| Shade Tree Program   | \$ 52,535            | \$ 416                          | \$ -               | \$ 3,875               | \$ -              | \$ 2,240          | \$ 3,509                           | \$ 62,578           |
| ENERGY STAR® Lighting (CFL)                                    | \$ 707,767           | \$ 3,839                        | \$ -               | \$ 104,522             | \$ -              | \$ 31,869         | \$ 20,382                          | \$ 868,378          |
| Efficient Home Cooling   | \$ 781,966           | \$ 3,345                        | \$ -               | \$ 85,592              | \$ 122,501        | \$ 42,892         | \$ 69,934                          | \$ 1,108,229        |
| Res. & Small Bus. Direct Load Control                          | \$ -                 | \$ 4,105                        | \$ -               | \$ 821,204             | \$ 25,103         | \$ 65,215         | \$ -                               | \$ 915,626          |
| <b>Total for Residential Programs</b>                          | <b>\$ 2,272,860</b>  | <b>\$ 31,802</b>                | <b>\$ 3,370</b>    | <b>\$ 1,298,331</b>    | <b>\$ 556,772</b> | <b>\$ 209,301</b> | <b>\$ 100,646</b>                  | <b>\$ 4,473,061</b> |
| <b>Support Programs</b>  |                      |                                 |                    |                        |                   |                   |                                    |                     |
| Education & Outreach Program                                   | \$ -                 | \$ 1,157                        | \$ 217,679         | \$ 56,252              | \$ -              | \$ 10,507         | \$ -                               | \$ 285,595          |
| <b>Total for Support Programs</b>                              | <b>\$ -</b>          | <b>\$ 1,157</b>                 | <b>\$ 217,679</b>  | <b>\$ 56,252</b>       | <b>\$ -</b>       | <b>\$ 10,507</b>  | <b>\$ -</b>                        | <b>\$ 285,595</b>   |
| <b>Commercial Programs</b>                                     |                      |                                 |                    |                        |                   |                   |                                    |                     |
| Non-Residential Existing Facilities                            | \$ 1,128,596         | \$ 4,798                        | \$ -               | \$ 319,810             | \$ -              | \$ 58,622         | \$ 37,098                          | \$ 1,548,924        |
| Small Business   | \$ 1,055,764         | \$ 4,853                        | \$ 26              | \$ 202,525             | \$ 41             | \$ 50,484         | \$ 32,676                          | \$ 1,346,369        |
| Efficient Commercial Building Design                           | \$ 18,522            | \$ 396                          | \$ -               | \$ 53,597              | \$ -              | \$ 5,789          | \$ 13,509                          | \$ 91,812           |
| C&I Demand Response - Direct Load Control                      | \$ -                 | \$ 3,737                        | \$ -               | \$ 2,006               | \$ -              | \$ 29,174         | \$ 338                             | \$ 35,254           |
| <b>Total for Commercial Programs</b>                           | <b>\$ 2,202,882</b>  | <b>\$ 13,784</b>                | <b>\$ 26</b>       | <b>\$ 577,938</b>      | <b>\$ 41</b>      | <b>\$ 144,068</b> | <b>\$ 83,620</b>                   | <b>\$ 3,022,359</b> |
| <b>Portfolio Totals</b>  | <b>\$ 4,475,741</b>  | <b>\$ 46,743</b>                | <b>\$ 221,075</b>  | <b>\$ 1,932,521</b>    | <b>\$ 556,812</b> | <b>\$ 363,877</b> | <b>\$ 184,266</b>                  | <b>\$ 7,781,036</b> |
| <b>Program Costs</b>   |                      |                                 |                    |                        |                   |                   |                                    | <b>\$ 7,781,036</b> |
| <b>Program Development, Analysis, &amp; Reporting Software</b> |                      |                                 |                    |                        |                   |                   |                                    | <b>\$ 276,787</b>   |
| <b>Baseline Study</b>  |                      |                                 |                    |                        |                   |                   |                                    | <b>\$ 188,353</b>   |
| <b>TOTAL</b>   |                      |                                 |                    |                        |                   |                   |                                    | <b>\$ 8,244,175</b> |

**Table 2**

### DSM PROGRAM EXPENSES: JANUARY - DECEMBER 2010

| DSM Program  | Rebates & Incentives | Training & Technical Assistance | Consumer Education | Program Implementation | Program Marketing | Planning & Admin  | Measurement, Evaluation & Research | Program Total Cost   |
|--|----------------------|---------------------------------|--------------------|------------------------|-------------------|-------------------|------------------------------------|----------------------|
| <b>Residential Programs</b>                                    |                      |                                 |                    |                        |                   |                   |                                    |                      |
| Low-Income Weatherization                                      | \$ 266,671           | \$ 13,780                       | \$ 601             | \$ 11,689              | \$ 3,750          | \$ 12,094         | \$ 6,820                           | \$ 315,405           |
| Guarantee Home Program   | \$ 781,450           | \$ 11,104                       | \$ 7,711           | \$ 626,763             | \$ 445,874        | \$ 92,450         | \$ -                               | \$ 1,965,352         |
| Shade Tree Program   | \$ 141,705           | \$ 416                          | \$ -               | \$ 9,088               | \$ -              | \$ 6,169          | \$ 3,509                           | \$ 160,887           |
| ENERGY STAR® Lighting (CFL)                                    | \$ 1,410,404         | \$ 3,975                        | \$ -               | \$ 235,161             | \$ 14,418         | \$ 67,201         | \$ 20,382                          | \$ 1,751,541         |
| Efficient Home Cooling   | \$ 1,100,915         | \$ 9,347                        | \$ -               | \$ 118,548             | \$ 224,908        | \$ 62,053         | \$ 69,934                          | \$ 1,585,705         |
| Res. & Small Bus. Direct Load Control                          | \$ -                 | \$ 4,105                        | \$ -               | \$ 821,204             | \$ 25,103         | \$ 65,215         | \$ -                               | \$ 915,626           |
| <b>Total for Residential Programs</b>                          | <b>\$ 3,701,146</b>  | <b>\$ 42,726</b>                | <b>\$ 8,312</b>    | <b>\$ 1,822,462</b>    | <b>\$ 714,063</b> | <b>\$ 306,182</b> | <b>\$ 100,646</b>                  | <b>\$ 6,594,516</b>  |
| <b>Support Programs</b>  |                      |                                 |                    |                        |                   |                   |                                    |                      |
| Education & Outreach Program                                   | \$ -                 | \$ 1,157                        | \$ 478,671         | \$ 58,291              | \$ -              | \$ 21,465         | \$ -                               | \$ 559,783           |
| <b>Total for Support Programs</b>                              | <b>\$ -</b>          | <b>\$ 1,157</b>                 | <b>\$ 478,671</b>  | <b>\$ 58,291</b>       | <b>\$ -</b>       | <b>\$ 21,465</b>  | <b>\$ -</b>                        | <b>\$ 559,783</b>    |
| <b>Commercial Programs</b>                                     |                      |                                 |                    |                        |                   |                   |                                    |                      |
| Non-Residential Existing Facilities                            | \$ 1,667,362         | \$ 4,798                        | \$ 242             | \$ 484,054             | \$ 390            | \$ 88,534         | \$ 37,098                          | \$ 2,282,488         |
| Small Business   | \$ 1,798,004         | \$ 4,853                        | \$ 2,798           | \$ 380,599             | \$ 414            | \$ 89,547         | \$ 32,676                          | \$ 2,308,890         |
| Efficient Commercial Building Design                           | \$ 40,589            | \$ 396                          | \$ -               | \$ 90,901              | \$ -              | \$ 8,260          | \$ 13,509                          | \$ 153,855           |
| C&I Demand Response - Direct Load Control                      | \$ -                 | \$ 3,737                        | \$ -               | \$ 2,006               | \$ -              | \$ 29,174         | \$ 338                             | \$ 35,254            |
| <b>Total for Commercial Programs</b>                           | <b>\$ 3,505,954</b>  | <b>\$ 13,784</b>                | <b>\$ 3,040</b>    | <b>\$ 957,560</b>      | <b>\$ 794</b>     | <b>\$ 215,514</b> | <b>\$ 83,620</b>                   | <b>\$ 4,780,266</b>  |
| <b>Portfolio Totals</b>  | <b>\$ 7,207,100</b>  | <b>\$ 57,667</b>                | <b>\$ 490,223</b>  | <b>\$ 2,838,302</b>    | <b>\$ 714,847</b> | <b>\$ 542,161</b> | <b>\$ 184,266</b>                  | <b>\$ 12,034,566</b> |
| <b>Program Costs</b>   |                      |                                 |                    |                        |                   |                   |                                    | <b>\$ 12,034,566</b> |
| <b>Program Development, Analysis, &amp; Reporting Software</b> |                      |                                 |                    |                        |                   |                   |                                    | <b>\$ 677,114</b>    |
| <b>Baseline Study</b>  |                      |                                 |                    |                        |                   |                   |                                    | <b>\$ 260,864</b>    |
| <b>TOTAL</b>   |                      |                                 |                    |                        |                   |                   |                                    | <b>\$ 12,972,544</b> |

#### **Definitions**

**Rebates & Incentives** – total amount spent on customer rebates, incentives, and payments made to agencies for installation of low-income weatherization measures.

**Training and Technical Assistance** – total amount spent on energy efficiency training and technical assistance. Training may be for utility employees or contractors.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:**

**July through December 2010**

**Consumer Education** – total dollars that are used to support general consumer education about energy efficiency improvements.

**Program Implementation** – program delivery costs associated with implementing programs, including implementation contractor labor and overhead costs, as well as other direct program delivery costs.

**Program Marketing** – includes all expenses related to marketing programs and increasing DSM consumer awareness (direct program marketing costs as opposed to general consumer education).

**Planning and Administration** – costs to plan, develop, and administer programs including management of program budgets, oversight of the request for proposal (“RFP”) process, oversight of implementation contractors, program development, program coordination, and general overhead expenses.

**Measurement, Evaluation, and Research (“MER”)** – identification of current baseline efficiency levels and the market potential of DSM measures; process evaluations; verification of installed energy efficient measures; tracking of savings; and identification of additional energy efficiency research.

**Program Development, Analysis, and Reporting Software** – costs to research and develop new DSM program opportunities, provide analysis of new programs and measures, and develop a database to track participation, savings, and benefits. These costs are essential to comply with reporting and rules requirements.

**Performance Incentive** – share (%) of DSM net economic benefits, capped at either 10% of net benefits or 10% of expenditures, whichever is less. The Performance Incentive was approved in ACC Decision No. 70628 (December 1, 2008).

**Baseline Study** – expenditures for a separate TEP Baseline Study approved in Arizona Corporation Commission (“Commission”) Decision No. 71109 (June 5, 2009).

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

**Table 3**

### DSM ENERGY SAVINGS: JULY – DECEMBER 2010

| DSM Program                          | Capacity Savings MW | Annual MWh Savings | Annual Therm Savings | Lifetime MWh Savings | Lifetime Therm Savings |
|--------------------------------------|---------------------|--------------------|----------------------|----------------------|------------------------|
|                                      | 0.00                | 403                | 4,832                | 7,048                | 84,560                 |
| Guarantee Home                       | 1.05                | 1,289              | 10,824               | 38,662               | 10,824                 |
| Shade Tree Program                   | 0.08                | 248                | 0                    | 7,434                | 0                      |
| ENERGY STAR® Lighting (CFL)          | 2.37                | 25,139             | 0                    | 237,312              | 0                      |
| Efficient Home Cooling               | 0.58                | 1,168              | 0                    | 17,517               | 0                      |
| Non-Residential Existing Facilities  | 2.95                | 18,360             | 0                    | 262,656              | 0                      |
| Small Business                       | 1.45                | 5,072              | 0                    | 86,517               | 0                      |
| Efficient Commercial Building Design | 0.30                | 138                | 0                    | 2,243                | 0                      |
| <b>Portfolio Totals</b>              | <b>8.77</b>         | <b>51,815</b>      | <b>15,656</b>        | <b>659,389</b>       | <b>95,384</b>          |

**Table 4**

### DSM ENERGY SAVINGS: JANUARY – DECEMBER 2010

| DSM Program                          | Capacity Savings MW | Annual MWh Savings | Annual Therm Savings | Lifetime MWh Savings | Lifetime Therm Savings |
|--------------------------------------|---------------------|--------------------|----------------------|----------------------|------------------------|
| Low-Income Weatherization            | 0.00                | 648                | 7,776                | 11,341               | 136,080                |
| Guarantee Home                       | 2.09                | 2,511              | 23,493               | 75,323               | 23,493                 |
| Shade Tree Program                   | 0.24                | 698                | 0                    | 13,955               | 0                      |
| ENERGY STAR® Lighting (CFL)          | 5.26                | 57,893             | 0                    | 546,506              | 0                      |
| Efficient Home Cooling               | 0.96                | 1,953              | 0                    | 29,291               | 0                      |
| Non-Residential Existing Facilities  | 4.78                | 27,314             | 0                    | 399,516              | 0                      |
| Small Business                       | 3.70                | 13,447             | 0                    | 224,926              | 0                      |
| Efficient Commercial Building Design | 0.32                | 260                | 0                    | 4,246                | 0                      |
| <b>Portfolio Totals</b>              | <b>17.35</b>        | <b>104,724</b>     | <b>31,269</b>        | <b>1,305,104</b>     | <b>159,573</b>         |

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

**Table 5**

### DSM SOCIETAL BENEFITS & PERFORMANCE INCENTIVE: JANUARY – DECEMBER 2010

| DSM Program  | Program Cost         | Societal Benefits    | Societal Costs       | Net Benefits         |
|--|----------------------|----------------------|----------------------|----------------------|
| <b>Residential</b>                                 |                      |                      |                      |                      |
| Low-Income Weatherization <sup>1</sup>             | \$ 315,405           | \$ 397,094           | \$ 397,094           | \$ -                 |
| Guarantee Home Program                             | \$ 1,965,352         | \$ 8,477,941         | \$ 2,793,768         | \$ 5,684,173         |
| Shade Tree Program                                 | \$ 160,887           | \$ 1,328,084         | \$ 210,832           | \$ 1,117,252         |
| ENERGY STAR® Lighting (CFL)                        | \$ 1,751,541         | \$ 27,758,010        | \$ 2,383,602         | \$ 25,374,408        |
| Efficient Home Cooling                             | \$ 1,585,705         | \$ 2,482,347         | \$ 5,341,594         | \$ (2,859,247)       |
| <b>Total for Residential</b>                       | <b>\$ 5,778,890</b>  | <b>\$ 40,443,477</b> | <b>\$ 11,126,890</b> | <b>\$ 29,316,587</b> |
| <b>Non-Residential</b>                             |                      |                      |                      |                      |
| Non-Residential Existing Facilities                | \$ 2,282,468         | \$ 23,029,336        | \$ 5,036,507         | \$ 17,992,829        |
| Small Business                                     | \$ 2,308,890         | \$ 15,378,948        | \$ 4,028,403         | \$ 11,350,546        |
| Efficient Commercial Building Design               | \$ 153,655           | \$ 510,518           | \$ 171,369           | \$ 339,149           |
| <b>Total for Non-Residential</b>                   | <b>\$ 4,745,012</b>  | <b>\$ 38,918,802</b> | <b>\$ 9,236,278</b>  | <b>\$ 29,682,524</b> |
| <b>Portfolio Totals</b>                            | <b>\$ 10,523,902</b> | <b>\$ 79,362,279</b> | <b>\$ 20,363,168</b> | <b>\$ 58,999,110</b> |
| Program Development, Analysis & Reporting Software | \$ 677,114           | \$ -                 | \$ 677,114           | \$ (677,114)         |
| Baseline Study                                     | \$ 260,864           | \$ -                 | \$ 260,864           | \$ (260,864)         |
| <b>TOTAL</b>                                       | <b>\$ 11,461,881</b> | <b>\$ 79,362,279</b> | <b>\$ 21,301,147</b> | <b>\$ 58,061,132</b> |
| <b>Performance Incentive Calculation:</b>          |                      |                      |                      |                      |
| Total Spending <sup>2</sup> / Total Net Benefits   | \$ 11,146,476        |                      |                      | \$ 58,061,132        |
| 10% of Spending / Net Benefits                     | \$ 1,114,648         |                      |                      | \$ 5,806,113         |
| <b>Performance Incentive for 2010</b>              | <b>\$ 1,114,648</b>  |                      |                      |                      |

1. Consistent with Commission Staff's analysis in Commission Decision No. 70456 (August 6, 2008), the societal benefits for low-income weatherization are equal to or greater than the societal costs when taking the environmental benefits into account.

2. Total spending does not include Low-Income Weatherization per Commission Decision No. 70628 (December 1, 2008), which approved the TEP Performance incentive calculation. The Performance Incentive allowed is capped at 10% of Net Benefits or 10% of total spending, whichever is less.

**Table 6**

### DSM LIFETIME ENVIRONMENTAL SAVINGS: JANUARY – DECEMBER 2010

| DSM Program                          | Lifetime SO <sub>x</sub> Reduction (lbs) | Lifetime NO <sub>x</sub> Reduction (lbs) | Lifetime CO <sub>2</sub> Reduction (lbs) | Lifetime Water Reduction (gallons) |
|--------------------------------------|--|--|--|------------------------------------|
| Low-Income Weatherization            | 24,420                                   | 29,465                                   | 23,322,404                               | 5,217,052                          |
| Guarantee Home                       | 162,186                                  | 195,690                                  | 145,118,353                              | 34,648,654                         |
| Shade Tree Program                   | 30,047                                   | 36,254                                   | 26,720,561                               | 6,419,153                          |
| ENERGY STAR® Lighting (CFL)          | 1,176,738                                | 1,419,824                                | 1,046,455,934                            | 251,392,947                        |
| Efficient Home Cooling               | 63,069                                   | 76,098                                   | 56,086,437                               | 13,473,797                         |
| Non-Residential Existing Facilities  | 860,237                                  | 1,037,942                                | 764,996,729                              | 183,777,239                        |
| Small Business                       | 484,311                                  | 584,358                                  | 430,690,648                              | 103,465,982                        |
| Efficient Commercial Building Design | 9,143                                    | 11,031                                   | 8,130,346                                | 1,953,175                          |
| <b>Portfolio Totals</b>              | <b>2,810,151</b>                         | <b>3,390,661</b>                         | <b>2,501,521,411</b>                     | <b>600,347,999</b>                 |



# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRAM PROGRESS REPORT FOR THE PERIOD: July through December 2010

Table 7

### DSM SAVINGS & EXPENSES SINCE PROGRAM INCEPTION: JANUARY 1992 – DECEMBER 2010<sup>1</sup>

| PROGRAM   | Start Date | Program Participants/Units |                           | Program Expenses |                           | MW Savings |                | MWh Savings |                | Therm Savings |                |
|---|------------|----------------------------|---------------------------|------------------|---------------------------|------------|----------------|-------------|----------------|---------------|----------------|
|   |            | Jan - Dec                  | Program Inception to Date | Jan - Dec        | Program Inception to Date | Jan - Dec  | Total Annual * | Jan - Dec   | Total Annual * | Jan - Dec     | Total Annual * |
|   |            |                            |                           |                  |                           |            |                |             |                |               |                |
| Commercial  |            |                            |                           |                  |                           |            |                |             |                |               |                |
| Lighting  | 1992       | 0                          | 1,118                     | \$ -             | \$ 5,619,523              | 0.00       | 3.76           | 0           | 16,461         | 1,128,145     | N/A            |
| Motors  | 1993       | 0                          | 228                       | \$ -             | \$ 168,275                | 0.00       | 0.02           | 0           | 210            | 12,462        | N/A            |
| HVAC  | 1994       | 0                          | 625                       | \$ -             | \$ 917,246                | 0.00       | 0.52           | 0           | 873            | 34,077        | N/A            |
| Energy Services                                     | 1995       | 0                          | 11                        | \$ -             | \$ 854,603                | 0.00       | 1.35           | 0           | 4,455          | 75,984        | N/A            |
| Non-Residential Existing Facilities                 | 2008       | 96                         | 153                       | \$ 2,282,468     | \$ 3,468,949              | 4.78       | 7.81           | 27,314      | 38,918         | 50,618        | N/A            |
| Small Business                                      | 2008       | 333                        | 475                       | \$ 2,308,880     | \$ 3,855,979              | 3.70       | 5.78           | 13,447      | 22,302         | 31,156        | N/A            |
| Efficient Commercial Building Design                | 2008       | 10                         | 12                        | \$ 153,655       | \$ 341,117                | 0.32       | 0.34           | 280         | 302            | 343           | N/A            |
| C&I Demand Response - Direct Load Control           | 2010       | 4                          | 4                         | \$ 35,254        | \$ 35,254                 | N/A        | N/A            | N/A         | N/A            | N/A           | N/A            |
| Residential   |            |                            |                           |                  |                           |            |                |             |                |               |                |
| Good Cents  | 1994       | 0                          | 1,462                     | \$ -             | \$ 2,511,042              | 0.00       | 1.57           | 0           | 2,287          | 29,038        | N/A            |
| Eff. Allowance                                      | 1993       | 0                          | 2,917                     | \$ -             | \$ 3,825,566              | 0.00       | 1.94           | 0           | 2,119          | 68,998        | N/A            |
| Guarantee Home Program                              | 1999       | 1,740                      | 12,159                    | \$ 1,965,352     | \$ 18,839,267             | 2.09       | 24.52          | 2,511       | 28,441         | 182,593       | 23,493         |
| Shade Tree Program*                                 | 1992       | 3,942                      | 69,582                    | \$ 160,887       | \$ 2,248,082              | 0.24       | 0.24           | 698         | 7,714          | 36,542        | N/A            |
| ENERGY STAR® Lighting (CFL)                         | 2008       | 1,262,668                  | 2,467,129                 | \$ 1,751,541     | \$ 3,242,949              | 5.26       | 15.52          | 57,883      | 118,571        | 199,521       | N/A            |
| Efficient Home Cooling                              | 2008       | 4,617                      | 7,338                     | \$ 1,585,705     | \$ 2,419,607              | 0.96       | 2.16           | 1,953       | 4,959          | 8,147         | N/A            |
| Res & Small Bus. Direct Load Control                | 2010       | 0                          | 0                         | \$ 915,626       | \$ 915,626                | N/A        | N/A            | N/A         | N/A            | N/A           | N/A            |
| *No energy savings reported prior to 2005           |            |                            |                           |                  |                           |            |                |             |                |               |                |
| Support Programs                                    |            |                            |                           |                  |                           |            |                |             |                |               |                |
| Education & Outreach                                | 1993       | 52,552                     | 483,721                   | \$ 559,783       | \$ 8,879,117              | N/A        | N/A            | N/A         | N/A            | N/A           | N/A            |
| Low-Income Weatherization**                         | 1993       | 243                        | 2,175                     | \$ 315,405       | \$ 3,389,757              | N/A        | N/A            | 648         | 694            | 794           | 28,993         |
| **No energy savings reported prior to 2007          |            |                            |                           |                  |                           |            |                |             |                |               |                |
| Program Development, Analysis, & Reporting Software | NA         | NA                         | NA                        | \$ 677,114       | \$ 1,681,749              | NA         | NA             | NA          | NA             | NA            | NA             |
| Baseline Study                                      | 2009       | NA                         | NA                        | \$ 260,864       | \$ 280,861                | NA         | NA             | NA          | NA             | NA            | NA             |
| TOTAL   |            | 1,326,205                  | 3,049,109                 | \$12,972,544     | \$ 63,494,549             | 17         | 66             | 104,724     | 248,306        | 1,878,418     | 31,269         |
|   |            |                            |                           |                  |                           |            |                |             |                |               | 896,048        |
|   |            |                            |                           |                  |                           |            |                |             |                |               | 5,121,200      |

a. Accumulated savings for one year for all energy efficiency measures installed since program inception.

b. Accumulated savings for all years for all energy efficiency measures installed since program inception.

<sup>1</sup> Historical DSM Program annual savings will decrease as the measure lifetimes expire. Programs with fully expired lifetimes will no longer be reported. Historical programs include Lighting, Motors, HVAC, and Energy Services for commercial participants, and Good Cents and Eff. Allowance for residential participants.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP LOW-INCOME WEATHERIZATION PROGRAM**

#### **Description**

The Tucson Electric Power Company ("TEP") Low-Income Weatherization ("LIW") Program is designed to improve the energy efficiency of homes for customers whose income falls within the defined federal poverty guidelines. Steps taken in the LIW Program will reduce gas and electric bills for eligible customers and improve comfort and quality of life. Energy savings realized from the LIW Program will allow low-income customers to better utilize the limited income they receive for other necessary items such as rent, food, or medical expenses.

#### **Program Modifications**

There have been no program modifications since TEP's last reporting period.

#### **Program Goals, Objectives, and Savings Targets**

The objectives of the program are to:

- Increase the number of homes weatherized each year;
- Reduce average household utility bills by utilizing energy conservation measures in the Weatherization Assistance Program rules; and
- Improve the quality of life for the customers by providing them with a safe and healthy home.

#### **Levels of Participation**

A total of 151 households received weatherization assistance during this reporting period. A total of 243 households received weatherization assistance for calendar year 2010. The number of homes weatherized in 2010 increased 196% compared to 2009. Both agencies increased the number of homes weatherized and utilized their entire annual funding allocation.

#### **Evaluation and Monitoring Activities and Results**

The Arizona Energy Office ("AEO"), with billing data from TEP and other Arizona gas and electric utilities, is analyzing and tracking energy use in weatherized homes statewide. As their database grows, a more accurate analysis of the impact of weatherization activities will emerge. TEP will report energy savings from weatherization activities based upon the most recent AEO report. The AEO does not report any kW demand savings. The report is attached as Appendix 3.

The January 2011 AEO report is summarized below:

#### **Utility Bill Analysis**

- To date, an analysis of 235 homes has been completed on homes utilizing Arizona Public Service Company ("APS"), TEP, UNS Gas, Inc., UNS Electric, Inc., and Southwest Gas Corporation utility data. This analysis is ongoing, and new data will be updated to these values on a quarterly basis.
- Savings to Investment Ratios ("SIR") are provided for total investment from all funding spent (diagnostics, energy measures, health and safety measures) and for energy related measures only (diagnostics and energy measures).
- Present value is based on 17.5 years measure life, discount rate of 3% and a utility cost escalation rate of 3%.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

- The combined SIR of all jobs reviewed to date for funds spent on diagnostics, energy measures and health and safety measures was 1.19. Health and safety represented 13% of expenditures.
- The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics was 1.35.
- The average saving per home reviewed was 2667 kWh and 32 therms of natural gas (gas therms average includes all electric homes).

### kW, kWh, and Therm Savings

The savings for this reporting period are listed below:

| No. of Homes | kW savings | kWh savings | Therm savings |
|--------------|------------|-------------|---------------|
| 151          | 0.0        | 402,717     | 4,832         |

### Problems Encountered and Proposed Solutions

There were no significant problems encountered during this reporting period.

### Costs Incurred

Costs incurred for the LIW Program during the reporting period are listed below:

| DSM Program               | Rebates & Incentives * | Training & Technical Assistance | Consumer Education | Program Implementation | Program Marketing | Planning & Admin | Measurement, Evaluation & Research | Program Total Cost |
|---------------------------|------------------------|---------------------------------|--------------------|------------------------|-------------------|------------------|------------------------------------|--------------------|
| Low-Income Weatherization | \$ 125,793             | \$ 11,207                       | \$ 601             | \$ 4,587               | \$ -              | \$ 5,671         | \$ 6,820                           | \$ 154,679         |

a. Includes \$28,047 for health and safety related repairs and \$21,673 for Weatherization Agencies administrative expenses.

To avoid the misunderstanding that occurred in 2009 on allowable spending for health and safety related repairs compared to the overall expenditures, TEP closely monitored the 25% allocation for health & safety expenditures for both agencies. For 2010, health & safety funding percentages for both agencies remained within the acceptable allocations. TEP continues to receive approval from the AEO on all health and safety spending measures.

### Findings from All Research Projects

No research projects were performed during this reporting period.

### Other Significant Information

TEP increased funding by 3% for all agencies in 2010. Both agencies increased the number of homes weatherized and utilized their entire funding allocations in 2010. The agencies are still exploring multi-family opportunities and if an appropriate project comes along both TEP and the AEO strongly support weatherizing these homes.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP GUARANTEE HOME PROGRAM**

#### **Description**

The Residential New Construction Program for TEP is marketed under the Guarantee Home Program name. It is a utility sponsored, energy efficient new home construction program based on a foundation of integrated building science. The Guarantee Home Program emphasizes the whole-house approach to improving health, safety, comfort, durability, and energy efficiency. The Program includes on-site inspections and field testing of homes to verify that homes actually perform the way they were designed. Program standards are designed to focus solely on best case practice. Components of the Guarantee Home Program include development of energy efficient construction standards, branding, builder training curriculum, and marketing collateral.

#### **Program Modifications**

Commission Decision No. 71638 (April 14, 2010) approved TEP's Pilot Zero-Net Energy Homes Program. This Program is an enhancement of the existing Guarantee Home Program. The tiered incentive structure will help promote increased levels of efficiency in new home construction.

To increase cost efficiency of program delivery, inspections of Program homes will be conducted by the independent RESNET® home energy rater network beginning in 2011.

#### **Program Goals, Objectives, and Savings Targets**

The objectives of the program are to:

- Reduce peak demand and overall energy consumption in new homes;
- Increase new home energy efficiency standards to Guarantee Home Program standards in a minimum of 50% of new homes constructed in the TEP service territory;
- Retain existing builder participation and encourage the participation of new builders;
- Stimulate construction of new homes that are inspected and tested to assure energy performance;
- Assist builder sales agents with promoting and selling energy efficient homes;
- Train builder construction staff and subcontractors in advanced building science concepts to increase energy efficiency through improved design and installation practices; and
- Increase homebuyer awareness and understanding of energy efficient building practices and the benefits of purchasing an energy efficient home.

#### **Levels of Participation**

A total of 873 homes were completed to Guarantee Home Program standards during this reporting period. A total of 1,740 homes were completed for calendar year 2010. No new contracts were signed during this reporting period. The total number of new homes contracted for calendar year 2010 was 742.

Meritage Homes became the first builder to participate in the Zero-Net Energy Homes pilot by contracting for five communities with a total of 400 homes. Five of these homes have been completed and certified by TEP. Tucson builder Pepper-Viner also signed a contract for 40 homes to be built to Zero-Net Energy specifications. Pulte Homes has also expressed interest in making all their models qualify for TEP's Zero-Net Energy Homes Pilot.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

### Evaluation and Monitoring Activities and Results

Guarantee Home Program homes are inspected and tested to ensure standards are met. Billing data is monitored at each home's anniversary of completion. Customers are contacted when necessary to ensure their homes are performing as designed. TEP does plan to have third-party monitoring and evaluation of the Program starting in 2011.

### kW, kWh, and Therm Savings

| No. of Homes | kW savings | kWh savings | Therm savings |
|--------------|------------|-------------|---------------|
| 873          | 1,048      | 1,288,746   | 10,824        |

### Problems Encountered and Proposed Solutions

Pima County new home sales in the last quarter of 2010 were below 1980 levels indicating a very slow new home market. The Program numbers were excellent for 2010, but fourth quarter Tucson home sales indicate that 2011 could be very slow. The proposed solution is to have every new home built be energy efficient and assist in guiding the new home market to higher levels of efficiency.

Builders have consolidated purchasing and decision making to regional offices in Phoenix. This cost savings strategy makes influencing builder decisions more difficult. TEP program staff has traveled to Phoenix to build relationships with builder decision makers.

### Costs Incurred

Costs incurred for the Guarantee Home Program during the reporting period are listed below:

| DSM Program    | Rebates & Incentives | Training & Technical Assistance | Consumer Education | Program Implementation | Program Marketing | Planning & Admin | Measurement, Evaluation & Research | Program Total Cost |
|----------------|----------------------|---------------------------------|--------------------|------------------------|-------------------|------------------|------------------------------------|--------------------|
| Guarantee Home | \$ 604,800           | \$ 8,890                        | \$ 2,770           | \$ 278,551             | \$ 409,167        | \$ 61,415        | \$ -                               | \$ 1,365,592       |

### Findings from All Research Projects

No research projects were undertaken during this reporting period.

### Other Significant Information

EPA's Energy Star<sup>®</sup> versions 2.5 and 3.0 will be in effect in 2011. Home Energy Raters will be required to undergo Version 3.0 training, in order to maintain their rater certifications. TEP will help the marketplace to provide training or similar offerings to the raters who contributed to production in 2010.

A list of marketing materials for this Program is shown in Appendix 2 and available on the attached CD.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP EDUCATION AND OUTREACH PROGRAMS**

TEP currently offers educational programs targeting both commercial and residential customers. TEP also offers an Academic Education Program for use in scholastic settings.

#### **RESIDENTIAL AND COMMERCIAL EDUCATION**

##### **Description**

TEP's residential and commercial education is designed to educate customers on energy use and assist them with energy savings suggestions. TEP's primary tool for energy savings suggestions is the online Energy Advisor which provides the customer with more than 140 energy savings recommendations or measures and can be personalized for weather and utility rates based on the customer's zip code. TEP promotes the Energy Advisor online audit through a variety of advertising promotions such as bill inserts, web advertising, and radio advertising. Also included is educational information on TEP's PowerShift™ Time-of-Use ("TOU") rates.

##### **Program Modifications**

There have been no Program modifications during this reporting period. TEP continues to market existing customer and academic education programs, including the Energy Advisor and TOU awareness using the venues listed below:

- Bill inserts and messages;
- Brochures;
- Paid web advertising;
- In-house advertising on tep.com;
- Media Q&A, newspaper and radio ads;
- Tradeshow/Community events and premium giveaways; and
- Call Center training.

##### **Program Goals, Objectives, and Savings Targets**

The Program is designed to educate commercial and residential customers on ways to save energy through conservation measures or utilizing TOU rates.

##### **Levels of Participation**

###### **Energy Advisor**

For this reporting period 3,541 residential customers and 249 commercial customers accessed the online Energy Advisor, with 803 residential customers and 30 commercial customers completing an online energy audit. For calendar year 2010 8,084 residential customers and 630 commercial customers accessed the online Energy Advisor, with 4,748 residential customers and 65 commercial customers completing an online energy audit. TEP continues to advertise the Energy Advisor along with other Programs within the Bright Solutions Family Campaign.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

### PowerShift™ TOU Customer Participation

170 on Rate 70NB  
588 on Rate 70NC  
398 on Rate 70ND  
69 on Rate 201BN  
13 on Rate 201CN

### Other Residential TOU Customer Participation

2545 on Rate 21 (frozen)  
4644 on Rate 70 (frozen)  
542 on Rate 201B (frozen)  
185 on Rate 201C (frozen)

### **Problems Encountered and Proposed Solutions**

No problems were encountered during this reporting period.

### ACADEMIC EDUCATION

#### **Description**

TEP offers school education programs that cover a variety of topics related to energy, natural resource conservation, and environmental awareness. These programs are offered to classes ranging from kindergarten through 8<sup>th</sup> grade. TEP provides age-appropriate curriculum with accompanying teachers' guides about electricity, energy efficiency, conservation and renewable energy. TEP's Academic Education Program features four programs in particular, including: the Insulation Station (for use in 4<sup>th</sup> grade); Energy Patrol (for use in any elementary school); Energy Conservation Bike/Solar Generation Presentations (for use in middle school); and the Electri-City Exhibit (for use in kindergarten through 3<sup>rd</sup> grade).

The *Insulation Station* (a program for 4<sup>th</sup> graders) was approved by the Commission in March 1993. The Insulation Station is a hands-on learning kit containing ready-to-assemble model houses and the necessary supplies to conduct science and math activities on insulation and home energy efficiency. Materials provided are model home kits and student workbooks containing charts, graphs, activities, and a home energy audit. TEP requires 4<sup>th</sup> grade teachers to attend a training session prior to receiving materials.

The *Energy Patrol* is an AEO-sponsored program for elementary school teachers and students approved by the Commission in March 1993. Students monitor classrooms to ensure that lights, computers, and water faucets are turned off when rooms are vacant. The program is designed to help schools reduce energy costs and to teach students and their families how to conserve energy.

The *Electri-City Exhibit* at the Tucson Children's Museum is designed to teach very young children (K-3) about saving energy, as well as electrical safety. TEP also underwrites tours for schools in low-income areas, provides age-appropriate materials to students, and trains docents to augment the presentation, which includes hands-on activities illustrating the energy saving lessons.

The *Energy Conservation Bike/Solar Generation Presentations*: During TEP's Energy Conservation Bike and Solar Generation Presentations, students use the Energy Bike to generate enough electricity to light a light bulb, run a fan or heat up a hair dryer. They compare the amount of energy needed to light incandescent, CFL, and LED light bulbs, and learn about solar energy. Students explore ways they can help conserve energy at home and at school.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:

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These classroom presentations about Energy Conservation are 50-60 minutes in length and include a pre-visit lesson and post-visit activity; all are aligned with the Arizona Department of Education middle school science standards. Pledge cards stating the students' intentions to save energy at home are collected for potential use to estimate savings.

### Program Modifications

The Electri-City school tour and the Energy Conservation Bike presentation have been expanded to include information about renewable energy, specifically solar energy. Solar panels have been installed on the playhouse on the Tucson Children's Museum grounds, and a panel to operate small appliances has been added to the curriculum presented to children by the Museum docents, and to the teacher's guide provided to each teacher prior to the tour. The Energy Bike presentation now includes a demonstration solar panel, showing students how electricity is created from the sun with various hands-on illustrations of its use.

### Program Goals, Objectives, and Savings Targets

These programs are all designed to educate students and their families on ways to save energy and to provide hands-on experiences, putting to test the options for saving energy.

### Levels of Participation

The table below includes participation for calendar year 2010. TEP offers teacher trainings and distributes classroom materials.

| <i>Program</i>   | <i>Number of Schools</i>           | <i>Number of Students</i> |
|--|------------------------------------|---------------------------|
| Insulation Station*  | 14 schools/<br>39 teachers trained | 1334                      |
| Energy Patrol  | 7 new schools                      | 2540 est.                 |
| Energy Conservation/ Environmental classroom materials         | 227 schools/<br>562 teachers       | 33,806                    |
| Energy Efficiency Exhibit (TEP's Electri-City at the Museum)** | 36 schools<br>418 Adults           | 2,323                     |
| Energy Conservation Bike / Solar Generation                    | 31 schools<br>64 Teachers          | 3,520                     |
| <b>TOTAL</b>   | <b>315</b>                         | <b>43,523</b>             |

\*Numbers refer to teachers trained and kits ordered for students.

\*\*Student numbers are those from "low-income" schools for whom TEP paid the entrance fee and bus transportation costs for guided tours of the *Electri-City Exhibit*. They do not reflect total Museum visitors to the site.

The Energy Conservation classroom presentation for middle schools that features the Energy Bike continued to grow in popularity, and the addition of the renewable energy component allowed additional funding and therefore, more presentations. In 2010, Environmental Education Exchange presented a total of 131 TEP Energy Bike presentations to 64 teachers at 31 schools to reach 3520 students. These included 2565 6<sup>th</sup> graders; 240 7<sup>th</sup> graders; and 221 8<sup>th</sup> graders; as well as 488 "others" (classes of mixed grades). At the end of each session, students filled out pledge cards indicating at least three items they commit to do at home to help save energy, and each student was given a refrigerator magnet listing *10 Ways to Save Energy* to share with his/her family.



# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

Over the year, the Energy Bike team also made 13 community presentations:

- The Festival of Books at the University of Arizona campus (2 days);
- Solar Rock;
- City of Tucson's Earth Day;
- Biosphere 2 Earth Day;
- Pima Community College (Northwest Campus location) Earth Day;
- Tucson Children's Museum Earth Day;
- The Mayors' Future Innovators Night (an evening event during the Southern Arizona Regional Science and Engineering Fair week);
- The Boy Scout-a-Rama
- The Tucson Botanical Gardens Greenfest
- The Tucson Children's Museum's FREE Solar Day (sponsored by TEP)
- B'Nai Tzedek Tzedakah Event at the Jewish Community Center
- Raytheon's Math, Science the Technology Funfest (3 days); and
- University of Arizona Earth Day Event.

### **ALL EDUCATION & OUTREACH PROGRAMS**

#### **Evaluation and Monitoring Activities and Results**

No evaluation or monitoring is available as TEP does not claim energy savings for its current Education and Outreach Program. TEP is exploring the option of greatly expanding its Education and Outreach Programs to include more significant neighborhood outreach, direct education and install of energy saving items, and programs that affect consumer behavior. These expanded Programs may allow for measurement and evaluation of energy savings.

#### **kW, kWh, and Therm Savings**

There are no kW or kWh savings associated with these Programs.

#### **Costs Incurred**

Costs incurred for the Education and Outreach Program during the reporting period are listed below:

| DSM Program          | Academic Education | Consumer Education | Time of Use Education | Program Implementation | Program Marketing | Planning & Admin | Measurement, Evaluation & Research | Program Total Cost |
|----------------------|--------------------|--------------------|-----------------------|------------------------|-------------------|------------------|------------------------------------|--------------------|
| Education & Outreach | \$ -               | \$ 1,157           | \$ 217,879            | \$ 56,252              | \$ -              | \$ 10,507        | \$ -                               | \$ 285,595         |

#### **Findings from All Research Projects**

No research projects were performed during this reporting period.

#### **Other Significant Information**

A list of marketing materials for this Program is shown in Appendix 2 and available on the attached CD.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP SHADE TREE PROGRAM**

#### **Description**

The TEP Shade Tree Program has been in place since December 1992. Desert-adapted trees are provided to individual residences, residential neighborhoods, and low-income families, as well as to community areas and schools through TEP's partnership with Tucson Clean and Beautiful ("TCB"). Residents are allowed two, 5-gallon trees per year (four for homes built before 1980), which must be planted on the south, west, or east side of the home. Residents complete an application provided by TCB either online or by mail which includes the type of tree requested and the location where it will be planted. The resident pays a nominal fee of \$8.00 per tree, and the tree will be delivered to their home by TCB.

#### **Program Modifications**

No modifications were made during this reporting period.

#### **Program Goals, Objectives, and Savings Targets**

The goal of the Program is to promote energy conservation and the environmental benefits associated with planting low water use trees. Along with the energy savings trees provide to the homes, trees also provide habitat for wildlife, absorb air and water pollutants, and control storm water runoff and soil erosion, in addition to the aesthetic beauty they provide to neighborhoods and the community.

#### **Levels of Participation**

For this reporting period, TCB delivered a total of 1457 trees as follows:

- 1,317 five-gallon trees were distributed to approximately 753 residential customers;
- 22 fifteen-gallon trees and 6 five-gallon trees to eight schools; and
- 104 five-gallon trees and 8 fifteen gallon trees were delivered to seven community projects.

For calendar year 2010 TCB delivered a total of 3,999 trees.

#### **Evaluation and Monitoring Activities and Results**

Navigant Consulting completed an evaluation of this Program for the 2008-2009 program years. As a result new demand savings values and incremental costs have been incorporated into this report. Energy savings were verified. The Program evaluation showed a B/C ratio of 3.1. Highlights of the MER report include:

- Increase measure life from 20 to 30 years
- Add 0.6 kW demand savings per tree
- Add maintenance cost of \$7.50 per year, including water, to incremental costs for the first three years

The MER report is in the process of being finalized and will be submitted to Commission Staff when it is completed.

#### **kW, kWh, and Therm Savings**

| <b>No. of Trees</b> | <b>kW savings</b> | <b>kWh savings</b> | <b>Therm savings</b> |
|---------------------|-------------------|--------------------|----------------------|
| 1,400               | 84                | 247,800            | 0                    |

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:**

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### **Problems Encountered and Proposed Solutions**

Both TCB and TEP continue to refine their tracking and invoicing process. TCB no longer provides copies of customer applications but has transitioned to providing the customer and invoice information to TEP on an Excel Spreadsheet. Using a common data collection format provides TEP with a quicker review and verification process. TEP's database currently does not have validation capabilities to confirm previous customer participation or payments.

### **Costs Incurred**

Costs incurred for the Shade Tree Program during the reporting period are listed below:

| DSM Program | Rebates & Incentives | Training & Technical Assistance | Consumer Education | Program Implementation | Program Marketing | Planning & Admin | Measurement, Evaluation & Research | Program Total Cost |
|-------------|----------------------|---------------------------------|--------------------|------------------------|-------------------|------------------|------------------------------------|--------------------|
| Shade Tree  | \$ 52,535            | \$ 416                          | \$ -               | \$ 3,875               | \$ -              | \$ 2,240         | \$ 3,509                           | \$ 62,576          |

### **Findings from All Research Projects**

No research projects were conducted during this reporting period.

### **Other Significant Information**

TEP has conducted random inspections on approximately 10% of the homes receiving trees. These inspections verified the existence and viability of the delivered trees.

No new marketing materials were developed during this reporting period.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP EFFICIENT HOME COOLING PROGRAM**

#### **Description**

The TEP Efficient Home Cooling Program promotes the installation of high-efficiency air conditioning and heat pump systems in existing homes in the TEP service territory by providing rebates to customers who purchase high Seasonal Energy Efficiency Ratio ("SEER") air conditioners or heat pumps. Air conditioners and heat pumps are eligible for rebates if they have a SEER rating of 14 or greater. Heating, Ventilating, and Air-Conditioning ("HVAC") contractors must also perform a proper sizing calculation for a customer's home to ensure the new air conditioner or heat pump is correctly sized for their needs.

#### **Program Modifications**

Commission Decision No. 72028 (On December 10, 2010) approved TEP's request to modify and expand the current Efficient Home Cooling Program. The expanded Program proposes to provide incentives for high-efficiency heating, ventilation and air conditioning ("HVAC") equipment and for home performance services such as sealing leaky duct work, installing insulation, air sealing and other thermal envelope improvements in existing homes. This Program provides direct incentives to the contractors. Along with the direct incentives TEP will provide training and mentoring to the contractors to help them meet the Program requirements.

#### **Program Goals, Objectives, and Savings Targets**

This Program is designed to encourage customers in existing homes to purchase higher SEER rated air conditioners or heat pumps when replacing their existing HVAC system.

#### **Levels of Participation**

For this reporting period, TEP paid rebates on 2,694 HVAC units as follows:

| <b>Quantity</b> | <b>Equipment Type</b> | <b>SEER</b> | <b>Incremental Cost</b> |
|-----------------|-----------------------|-------------|-------------------------|
| 582             | Air Conditioner       | 14          | \$429.25                |
| 163             | Heat Pump             | 14          | \$420.28                |
| 230             | Air Conditioner       | 15          | \$857.18                |
| 159             | Heat Pump             | 15          | \$854.71                |
| 1,039           | Air Conditioner       | 16          | \$1,318.92              |
| 85              | Heat Pump             | 16          | \$1,274.78              |
| 195             | Air Conditioner       | 17          | \$1,719.00              |
| 19              | Heat Pump             | 17          | \$1,717.60              |
| 204             | Air Conditioner       | 18          | \$2,051.01              |
| 18              | Heat Pump             | 18          | \$1,862.69              |
| <b>2,694</b>    |                       |             |                         |

In addition 4,780 \$25 rebates were paid to contractors during this reporting period. TEP currently has 138 participating contractors signed to the program.

TEP paid rebates on 4,617 HVAC units for calendar year 2010.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

### Evaluation and Monitoring Activities and Results

Navigant Consulting completed an evaluation of this Program for the 2008-2009 program years. As a result new savings values and incremental costs have been incorporated into this report. Savings were reduced due to a new, more accurate methodology in estimating per unit measure savings from installed equipment. The Program evaluation showed a B/C ratio of 1.0. The MER report is in the process of being finalized and will be submitted to Commission Staff when it is completed.

### kW, kWh, and Therm Savings

| No. of Units Installed | kW savings | kWh savings | Therm savings |
|------------------------|------------|-------------|---------------|
| 2,694                  | 576        | 1,167,804   | 0             |

### Problems Encountered and Proposed Solutions

Due to overwhelming customer response, TEP experienced a very high volume of applications during this reporting period. This resulted in a budget overrun and the need to temporarily stop accepting applications. Funding to cover the Program overages was transferred from the Guarantee Home Program which was under budget. TEP notified all participating contractors that applications received through October 31, 2010, would be accepted and processed in 2010. Applications received after that date would be put on a reservations list for processing and funding in 2011.

TEP will continue accepting applications for this current Program into 2011 up to the launch of the Existing Home Program.

### Costs Incurred

Costs incurred for this Program during the reporting period are listed below:

| DSM Program            | Rebates & Incentives | Training & Technical Assistance | Consumer Education | Program Implementation <sup>a</sup> | Program Marketing <sup>b</sup> | Planning & Admin | Measurement, Evaluation & Research | Program Total Cost |
|------------------------|----------------------|---------------------------------|--------------------|-------------------------------------|--------------------------------|------------------|------------------------------------|--------------------|
| Efficient Home Cooling | \$ 781,965           | \$ 3,345                        | \$ -               | \$ 85,592                           | \$ 122,501                     | \$ 42,892        | \$ 69,934                          | \$ 1,106,229       |

a. Includes \$64,660 paid to KEMA, the Implementation Contractor, for processing rebates.

b. Includes \$119,500 in contractor rebates.

### Findings from All Research Projects

No research projects were conducted during this reporting period.

### Other Significant Information

TEP in partnership with the Electric League of Arizona held a Manual J Class for Participating Contractors in November 2010. No new marketing materials were developed during this reporting period.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP ENERGY STAR® LIGHTING PROGRAM**

#### **Description**

The TEP ENERGY STAR® Compact Fluorescent Lamp ("CFL") Buy-down Program promotes the installation of energy efficient ENERGY STAR® approved lighting products by residential and small commercial customers in the TEP service territory. TEP provides funds to manufacturers of ENERGY STAR® approved CFL products to reduce the cost of CFLs. TEP then partners with local retailers to pass on these savings to the consumer.

#### **Program Modifications**

There have no Program modifications this reporting period.

#### **Program Goals, Objectives, and Savings Targets**

The program objectives are to:

- Reduce peak demand and overall energy consumption in homes and small businesses;
- Increase the purchase of CFLs;
- Increase the availability of energy efficient lighting products in the marketplace; and
- Increase the awareness and knowledge of retailers and TEP customers on the benefits of energy efficient lighting products.

2010 sales, demand, and energy savings goals:

| Year                     | 2011       | 2012       |
|--------------------------|------------|------------|
| Projected Lamp sales     | 1,139,320  | 1,173,500  |
| Peak Demand Savings (kW) | 5,814      | 5,988      |
| Energy Savings (kWh)     | 64,067,811 | 65,989,845 |

#### **Levels of Participation**

A total of 569,866 CFLs were sold during this reporting period. CFL sales by retailer and number sold by wattage are listed in Appendix 1. For calendar year 2010 a total of 1,262,668 CFLs were sold.

#### **Evaluation and Monitoring Activities and Results**

Navigant Consulting completed an evaluation of this Program for the 2008-2009 program years. As a result new savings values and incremental costs have been incorporated into this report. Values for demand and energy savings have been reduced.

- Demand Savings reduced 42%
- Energy savings reduced 26% due to leakage, reduced operating hours, and reduced useful life
- B/C ratio is 8.2

The MER report is in the process of being finalized and will be submitted to Commission Staff when it is completed.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

### kW, kWh, and Therm Savings

| No. of CFLs Sold | kW savings | kWh savings | Therm savings |
|------------------|------------|-------------|---------------|
| 569,866          | 2,365      | 25,138,959  | 0             |

### Problems Encountered and Proposed Solutions

As the program matures, more people have had CFL bulbs in use for a period of time. Program representatives are beginning to hear some complaints on the longevity of the bulbs versus manufacturers stated expectations. There is still demand for better quality three way CFL bulbs and dimmable CFL bulbs. TEP continues to receive repeated requests for information on LED bulbs; however, ENERGY STAR®-rated LED products for residential use are not yet available.

### Costs Incurred

Costs incurred for this Program during the reporting period are listed below:

| DSM Program                 | Rebates & Incentives | Training & Technical Assistance | Consumer Education | Program Implementation * | Program Marketing | Planning & Admin | Measurement, Evaluation & Research | Program Total Cost |
|-----------------------------|----------------------|---------------------------------|--------------------|--------------------------|-------------------|------------------|------------------------------------|--------------------|
| ENERGY STAR® Lighting (CFL) | \$ 707,787           | \$ 3,839                        | \$ -               | \$ 104,522               | \$ -              | \$ 31,869        | \$ 20,382                          | \$ 868,378         |

a. Includes \$96,302 paid to ECOS, the Implementation Contractor.

### Findings from All Research Projects

No research projects were conducted during this reporting period.

### Other Significant Information

TEP has found that retailer visits are playing a critical role toward the success of the program. Visits focus on proper program information and signage; ensuring product is displayed prominently; checking product inventory; and training staff on the benefits of program participation. TEP performed 354 store visits during this reporting period. In addition, TEP held 103 aisle training events for retail employees.

TEP performed 22 week-end outreach events at various retailers during this reporting period. Outreach events consist of one or more TEP representatives promoting various CFL products and using a CFL lighting display to help educate customers. Outreach events typically last four hours. Retailers are very appreciative of this type of outreach to their customers and always encourage repeat events at their store. Unfortunately retail store traffic has continued to be slow during this reporting period based on the opinion of the retail store management.

Marketing efforts for this reporting period include:

- The program continues promotion to over 1,200 employees and their family and friends;
- TEP attended two HOA meetings at residential developments. A CFL presentation was delivered and one free CFL bulb was given to each household represented;
- The CFL Program was promoted at over 35 speaking events during this reporting period;
- TEP has a bulb display showing incandescent vs. CFL bulbs. Customers can see the difference in energy used, brightness and colorization. A dimmable fixture was added to the display. This display is used at in-store outreach events, schools, and other events where TEP is exhibiting;

## **Tucson Electric Power Company**

### **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:**

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- The bulb application guide was displayed at all participating retail stores to help customers select the correct bulb for the correct application. The guide was modeled after the ENERGY STAR® guide;
- A bill insert that was sent to over 320,000 TEP customers in their June/July bill;
- Thirty five calls were made to the 800 number during this reporting period. Callers most often ask where they can purchase CFL bulbs; and
- There were 1,492 hits on the web site for this program. This is a 60% increase from the last reporting period. The website includes a calendar of events and a retailer locator page.

No new marketing materials for this Program were developed during this reporting period.



# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP RESIDENTIAL AND SMALL COMMERCIAL DIRECT LOAD CONTROL PILOT PROGRAM**

#### **Description**

The TEP Residential and Small commercial Direct Load Control ("DLC") Pilot Program is designed to determine if TEP can better manage peak demand and mitigate system emergencies through direct load control of residential and small commercial central air-conditioners ("AC"). The pilot program will test the use of two-way communication that sends load control signals to equipment at the home or business and also provides interval consumption data back to TEP for all participants. Participants will receive either: 1) a free thermostat that can be programmed manually or remotely via the internet; or 2) a load control device placed on their outdoor air conditioning unit. In exchange, customers will permit TEP to cycle AC units or raise thermostat temperature settings for a limited number of hours or events per year. TEP plans to operate the pilot over two full summer seasons to better assess the technology and the impact on peak load reduction.

#### **Program Modifications**

There have no Program modifications this reporting period.

#### **Program Goals, Objectives, and Savings Targets**

The primary objective of this Program is to confirm the feasibility and effectiveness of the direct load control of residential and small commercial air conditioners. Load impact results and customer feedback gained through the pilot program will enable a better assessment of cost-effectiveness of DLC and inform program enhancements for a broader rollout.

Specific objectives for the pilot include the following:

- Refine estimates of load impacts through DLC;
- Test the effectiveness of the new generation of load control technology; and
- Assess the customer experience with load control events and different technologies

The goal is to recruit 600 residential and 200 small commercial customers to participate in the pilot.

#### **Levels of Participation**

No participants were recruited in 2010. Recruitment will start in the first quarter of 2011.

#### **Evaluation and Monitoring Activities and Results**

No evaluation or monitoring is available for this reporting period. Navigant Consulting has been selected as the MER contractor for the TEP DSM Programs (excluding LIW) and is in the process of developing a MER plan for this Program.

#### **kW, kWh, and Therm Savings**

There are no savings for this reporting period.

#### **Problems Encountered and Proposed Solutions**

There have been unforeseen obstacles in Information Technology integration that have created delays in implementation and extra costs. Despite these obstacles TEP is confident it can have the pilot in place for summer of 2011.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:

July through December 2010

### Costs Incurred

Costs incurred during this reporting period are listed below:

| DSM Program                           | Rebates & Incentives | Training & Technical Assistance | Program Implementation <sup>a</sup> | Program Marketing | Planning & Admin | Measurement & Evaluation | Program Total Cost |
|---------------------------------------|----------------------|---------------------------------|-------------------------------------|-------------------|------------------|--------------------------|--------------------|
| Res. & Small Bus. Direct Load Control | \$ -                 | \$ 4,105                        | \$ 821,204                          | \$ 25,103         | \$ 65,215        | \$ -                     | \$ 915,626         |

a. Includes \$763,897 paid to Tendril, the Implementation Contractor - \$218,397 for services and \$545,500 for equipment.

### Findings from All Research Projects

No research projects were undertaken during this reporting period.

### Other Significant Information

The Program received approval in Commission Decision No. 71846 (August 25, 2010). TEP has contracted with Tendril Networks to implement the pilot. TEP, in partnership with Tendril, has developed strategies for customer recruitment and marketing materials. TEP has purchased the equipment necessary to conduct the pilot and is just awaiting full IT integration and risk assessment to be complete before recruiting participants.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP NON-RESIDENTIAL EXISTING FACILITIES PROGRAM**

#### **Description**

The TEP Non-Residential Existing Facilities Program is a multi-faceted program that will provide incentives to TEP's large commercial customers for the installation of energy-efficiency measures including lighting equipment and controls, HVAC equipment, motors and motor drives, compressed air, and refrigeration. Incentives are offered for measures in each of these categories. The Program also provides customers with the opportunity to propose innovative energy efficiency solutions through customer energy efficiency measures.

#### **Program Modifications**

The Commission approved a budget increase of \$1,374,105, for a new budget total of \$2,116,735 (Commission Decision No. 71836 (August 10, 2010)).

#### **Program Goals, Objectives, and Savings Targets**

The primary goal of the Program is to encourage TEP's large commercial customers to install energy efficiency measures in existing facilities. More specifically, the Program is designed to:

- Provide incentives to facility operators for the installation of high-efficiency lighting equipment and controls, HVAC equipment, premium efficiency motors and motor controls, energy efficient compressed air and leak-repair measures, and energy-efficient refrigeration system retrofits;
- Overcome market barriers including:
  - Lack of awareness and knowledge about the benefits and cost of energy efficiency improvements;
  - Performance uncertainty associated with energy efficiency projects; and
  - High first costs for energy efficiency measures.
- Assure that the participation process is clear, easy to understand and simple; and
- Increase the awareness and knowledge of facility operators, managers and decision-makers on the benefits of high-efficiency equipment and systems.

#### **Levels of Participation**

There were 56 pre-applications and 73 final applications during this reporting period for prescriptive measures. In addition, there were 71 pre-applications and 68 final applications for custom measures. 61 participants were paid a total of \$1,128,596 in rebates. Cancellation rates on final applications were 15% for the last half of 2010.

For calendar year 2010 a total of 96 businesses participated in the Program.

#### **Evaluation and Monitoring Activities and Results**

Navigant Consulting completed an evaluation of this Program for the 2008-2009 program years. As a result new savings values and incremental costs have been incorporated into this report. Verified energy savings were 17% greater than reported; however verified demand savings were only 31% of reported savings. The Program evaluation showed a B/C of 5.4. The MER report is in the process of being finalized and will be submitted to Commission Staff when it is completed.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:

July through December 2010

### kW, kWh, and Therm Savings

| Measure       | No. Installed | kW savings   | kWh savings       | Incremental Cost |
|---------------|---------------|--------------|-------------------|------------------|
| Chillers      | 3             | 110          | 179,576           | N/A              |
| AC-HP*        | 151           | 105          | 423,677           | \$186.41         |
| Refrigeration | 1,454         | 26           | 1,180,607         | \$10.94          |
| Motors        | 72            | 807          | 7,206,963         | \$47.14          |
| Lighting      | 39,235        | 1,257        | 5,424,746         | \$10.79          |
| Custom        | 76            | 647          | 3,944,294         | \$0.00           |
| <b>Totals</b> | <b>40,991</b> | <b>2,952</b> | <b>18,359,862</b> | <b>N/A</b>       |

\*AC and HP measures installed consists of 62 programmable thermostats and 89 AC or HP units

### Problems Encountered and Proposed Solutions

TEP has seen a significant increase in interest and participation in the Program during 2010. The budgeted funds increased to \$2,116,735 via the Commission Decision No. 71836 (August 10, 2010). Additional funds were transferred from the TEP Efficient Commercial Building Design Program to this Program in accordance with Commission Decision No. 70459 (August 6, 2008). All additional funds were allocated to projects as of August 2010. Thus, new applications for Program participation were placed on a wait list until either 2011 funding became available, or projects with reserved funds were cancelled.

### Costs Incurred

Costs incurred during this reporting period are listed below:

| DSM Program                         | Rebates & Incentives | Training & Technical Assistance | Consumer Education | Program Implementation * | Program Marketing | Planning & Admin | Measurement, Evaluation & Research | Program Total Cost |
|-------------------------------------|----------------------|---------------------------------|--------------------|--------------------------|-------------------|------------------|------------------------------------|--------------------|
| Non-Residential Existing Facilities | \$ 1,128,596         | \$ 4,798                        | \$ -               | \$ 319,810               | \$ -              | \$ 58,622        | \$ 37,098                          | \$ 1,548,924       |

a. Includes \$310,808 paid to KEMA the Implementation Contractor.

### Findings from All Research Projects

No research projects were undertaken during this reporting period.

### Other Significant Information

Marketing efforts for this reporting period include:

- 20 presentations to:
  - various business associations and individual businesses;
  - municipal governments within TEP service territory;
  - school systems within TEP service territory; and
  - Davis-Monthan and Ft. Huachuca Military Base representatives.

A Trade Ally meeting was held in November. 2010 year end results were presented and goals for 2011 were outlined. There were 2,646 web site hits for this Program.

During this reporting period, TEP continued to help the City of Tucson develop a "Green Build Certification Program". The TEP Commercial DSM Programs are a key part of the certification program.

## **Tucson Electric Power Company**

### **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

Businesses participate to stretch their investment dollars. Program presentations are given each time a certification seminar is held.

Due to the increased volume of participation, KEMA, TEP's Implementation Contractor for the Commercial DSM Programs, is planning on adding an Outreach Representative to their team. This person will help customers determine which program is best suited for their participation. They will also be heavily involved in marketing the program through presentations and outreach events.

No new marketing materials were developed during this reporting period.

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP SMALL BUSINESS PROGRAM**

#### **Description**

The TEP Small Business Program is designed to minimize some of the barriers to implementation of energy efficiency improvements in the small business market, such as lack of capital, information search costs, transaction costs, performance uncertainty, and the so-called "hassle factor". Small firms generally concentrate on their core businesses, and do not have the wherewithal to analyze energy use and improve efficiency.

The Program is an upstream market program providing incentives directly to contractors for the installation of selected high efficiency lighting, motors, HVAC, and refrigeration measures. The incentives are set at a higher level for this market in order to encourage contractors to market and deliver the Program, thus offsetting the need for TEP marketing and overhead expenses. In order to further reduce overhead expenses, the Program has employed internet-based measure analysis and customer proposal processing which has made the process easier for both contractors and customers.

The Program includes customer and trade ally education to help them with understanding the technologies being promoted, what incentives are offered, and how the Program functions.

#### **Program Modifications**

The Commission Decision No. 71820, (August 10, 2010) approved a budget increase of \$737,565, for a new budget total of \$2,116,735.

#### **Program Goals, Objectives, and Savings Targets**

The primary objective of the Program is to encourage TEP's small business customers to install energy efficiency measures in existing facilities. More specifically, the Program is designed to:

- Encourage small business customers to install high-efficiency lighting equipment and controls, HVAC equipment, and energy-efficient refrigeration system retrofits in their facilities;
- Encourage contractors to promote the Program and provide turn-key installation services to small business customers;
- Overcome the unique market barriers of the small business market including:
  - first costs and lack of access to capital for energy efficiency improvements;
  - lack of awareness and knowledge about the benefits and cost of energy efficiency improvements;
  - hassle and transactions costs; and
  - performance uncertainty associated with energy efficiency projects.
- Assure that the participation process is clear, easy to understand and simple; and
- Increase the awareness and knowledge of business owners, building owners and managers, and other decision-makers on the benefits of high-efficiency equipment and systems.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

Savings targets are as follows:

| Year                 | 2011       | 2012       |
|----------------------|------------|------------|
| Energy Savings (kWh) | 10,912,359 | 11,239,730 |

### Levels of Participation

43 applications were received during this reporting period. There were 126 applications completed during this reporting period. The rate of cancellation of received applications was 9%. A total of \$1,055,764 in rebates was paid to 126 contractors and 87 small businesses participated during this reporting period. For calendar year 2010, 333 small businesses participated in the Program.

### Evaluation and Monitoring Activities and Results

Navigant Consulting completed an evaluation of this Program for the 2008-2009 program years. As a result new savings values and incremental costs have been incorporated into this report. Verified energy savings were 98% of reported savings, and verified demand savings were 121% of reported savings. The Program evaluation showed a B/C of 4.4. The MER report is in the process of being finalized and will be submitted to Commission Staff when it is completed.

### kW, kWh, and Therm Savings

| Measure       | No. Installed | kW savings   | kWh savings      | Incremental Cost |
|---------------|---------------|--------------|------------------|------------------|
| Lighting      | 18,261        | 1,430        | 4,759,507        | \$62.35          |
| Refrigeration | 1             | 0            | 981              | \$153.42         |
| AC and HP*    | 162           | 15           | 311,255          | \$857.70         |
| <b>Totals</b> | <b>18,424</b> | <b>1,445</b> | <b>5,071,743</b> | <b>N/A</b>       |

*\*AC and HP measures installed consists of 98 programmable thermostats and 64 AC/HP units*

### Problems Encountered and Proposed Solutions

TEP has seen a significant increase in interest and participation in the Program during 2010. The budgeted funds increased to \$2,116,735 via the Commission Decision No. 71820 (August 10, 2010). Additional funds were transferred from the TEP Efficient Commercial Building Design Program to this Program in accordance with Decision No. 70459 (August 6, 2008). All additional funds were allocated to projects as of September 2010. Thus, new applications for Program participation were placed on a wait list until either 2011 funding became available, or projects with reserved funds were cancelled.

Lighting retrofit measures had the most participation. As a result, savings per dollar spent is below the established goal. More emphasis continues to be placed on other measures to increase the savings per dollar spent on the Program.

Of the applications received during this reporting period, 116 were for lighting and 21 were for HVAC. TEP is increasing the promotion of other measures to obtain better Program balance.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

### Costs Incurred

Costs incurred for this Program during the reporting period are listed below:

| DSM Program    | Rebates & Incentives | Training & Technical Assistance | Consumer Education | Program Implementation * | Program Marketing | Planning & Admin | Measurement, Evaluation & Research | Program Total Cost |
|----------------|----------------------|---------------------------------|--------------------|--------------------------|-------------------|------------------|------------------------------------|--------------------|
| Small Business | \$ 1,055,764         | \$ 4,853                        | \$ 26              | \$ 202,525               | \$ 41             | \$ 50,484        | \$ 32,676                          | \$ 1,346,369       |

a. Includes \$192,355 paid to KEMA, the Implementation Contractor.

### Findings from All Research Projects

No research projects were conducted during this reporting period.

### Other Significant Information

Marketing efforts for this reporting period include:

- 20 presentations to:
  - various Business associations and individual businesses;
  - municipal governments within TEP service territory;
  - school systems within TEP service territory; and
  - Davis-Monthan and Ft. Huachuca Military Base representatives.
- A Trade Ally meeting held in November 2010. Year end results were presented and goals for 2011 were outlined. Five contractors, with focus on refrigeration and HVAC, were added to the certified list during this reporting period. Using certified contractors to help promote the Program has proven to be very successful; and
- There were 2,322 hits on the web site for this Program. This is an 18% reduction over the last reporting period. The web has proven to be a successful marketing tool for the Program.

During this reporting period, TEP continued to help the City of Tucson develop a "Green Build Certification Program". The TEP Commercial DSM Programs are a key part of the certification program. Businesses participate to stretch their investment dollars. Program presentations are given each time a certification seminar is held.

Due to the increased volume of participation, KEMA, TEP's Implementation Contractor for the Commercial DSM Programs, is planning on adding an Outreach Representative to their team. This person will help customers determine which program is best suited for their participation. They will also be heavily involved in marketing the program through presentations and outreach events.

No new marketing materials were developed during this reporting period.



# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:**

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### **TEP EFFICIENT COMMERCIAL BUILDING DESIGN PROGRAM**

#### **Description**

The Efficient Commercial Building Design Program is geared toward the building owner/developer and is designed to encourage improved building energy efficiency in new commercial construction compared to standard building practices.

The Program is a performance-based program that includes design assistance for the design team, performance-based incentives for the building owner and developer, and energy design information resources. Design assistance involves efforts to integrate energy efficiency into a customer's design process as early as possible. The Program provides incentives to offset the additional design cost of alternative, energy-efficient designs.

In addition to the design incentives and performance-based incentives for the building owner/developer, this Program provides technical support services to the design community. The Program provides consumer education and promotional pieces designed to assist building owners/developers in understanding various energy efficiency options and encourage them to explore energy efficiency options.

#### **Program Modifications**

No modifications were made during this past reporting period.

#### **Program Goals, Objectives, and Savings Targets**

The primary goal of the Program is to encourage energy-efficient new building design for new, non-residential projects in TEP's service area. More specifically, the Program is designed to:

- Provide incentives to building owners/developers to design and build more energy-efficient buildings;
- Provide assistance to design teams to offset the additional cost and time of investigating more energy-efficient design;
- Overcome certain market barriers;
- Assure that the participation process is clear and easy to understand and does not unduly burden the design and construction time schedule or budget process;
- Increase the awareness and knowledge of building owners/developers, architects, engineers, and decision-makers on the benefits of high efficiency buildings design; and
- Encourage building owners/developers and the design community to consider energy efficiency options as early in the design process as possible.

Savings targets are as follows:

| Year                 | 2012  | 2013  |
|----------------------|-------|-------|
| Number of Facilities | 14    | 15    |
| Energy Savings (MWh) | 3,310 | 3,410 |

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

### Levels of Participation

There was one application for design assistance and four applications for building performance during this reporting period.

Four payments totaling \$10,254 for installed performance measures were made during this reporting period. One payment of \$8,268 was made for design assistance. \$40,375 has been reserved for design assistance applications submitted but the work is not completed yet and \$67,043 has been reserved for performance assistance but the work is not completed yet.

For calendar year 2010 TEP paid a total of \$18,267 for design assistance to 2 participants and \$22,321 for installed performance measures to 8 participants. Of these, no customer was paid for both design assistance and installed performance measures.

As a result of the slower than expected participation, 25% of the budget was transferred to the small business program and 25% of the budget was transferred to the large business program in 2010. However, participation has substantially increased from 2009, and TEP expects further increases in participation.

### Evaluation and Monitoring Activities and Results

Navigant Consulting completed an evaluation of this Program for the 2008-2009 program years. As a result new savings values and incremental costs have been incorporated into this report. Verified energy savings were 100% of reported savings, and verified demand savings were 105% of reported savings. The Program evaluation showed a B/C of 0.36 due to low initial participation. The MER report is in the process of being finalized and will be submitted to Commission Staff when it is completed.

### kW, kWh, and Therm Savings

| No. of Participants | No. of Buildings | kW savings | kWh savings | Therm savings |
|---------------------|------------------|------------|-------------|---------------|
| 5                   | 5                | 288        | 137,608     | 0             |

### Problems Encountered and Proposed Solutions

The slow economy is creating declining interest for project development and design assistance. Longer lead times for active projects are preventing timely completion of new commercial developments.

### Costs Incurred

Costs incurred for this Program during the reporting period are listed below:

| DSM Program                          | Rebates & Incentives | Training & Technical Assistance | Consumer Education | Program Implementation <sup>a</sup> | Program Marketing | Planning & Admin | Measurement, Evaluation & Research | Program Total Cost |
|--------------------------------------|----------------------|---------------------------------|--------------------|-------------------------------------|-------------------|------------------|------------------------------------|--------------------|
| Efficient Commercial Building Design | \$ 18,522            | \$ 396                          | \$ -               | \$ 53,597                           | \$ -              | \$ 5,789         | \$ 13,509                          | \$ 91,812          |

a. Includes \$46,828 paid to KEMA, the Implementation Contractor.

### Findings from All Research Projects

No research projects were conducted during this reporting period.

## **Tucson Electric Power Company**

### **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

#### **Other Significant Information**

Marketing efforts for this reporting period include:

- 20 presentations to:
  - various Business associations and individual businesses;
  - municipal governments within TEP service territory;
  - school systems within TEP service territory; and
  - Davis-Monthan Air Force Base and Ft. Hauchuca military representatives.

One education seminar was held covering refrigeration, day lighting, HVAC and automated chiller cleaning. Contractors and facilities managers from the service area were invited. There were 1,918 hits on the website for this Program during this reporting period.

New commercial construction requires a long lead time. From conception to completion construction can be 20 months or more. This and the current economic recession made 2010 a challenge. However, participation is increasing and TEP is committed to making the Efficient Commercial Building Design Program a success.

No new marketing materials were developed during this reporting period.

#### **KEMA Expenses**

Commission Decision Nos. 71820 (August 10, 2010) and 71836 (August 10, 2010) require TEP to report how much is paid to the IC (KEMA), by program and in total. KEMA Expenses for year 2010 are listed below:

| <b>KEMA Expenses for 2010</b>        |                   |                                    |
|--------------------------------------|-------------------|------------------------------------|
| <b>Program</b>                       | <b>Expenses</b>   | <b>% of Total Program Expenses</b> |
| Non-Residential Existing Facilities  | \$ 465,137        | 20%                                |
| Small Business                       | \$ 360,223        | 16%                                |
| Efficient Commercial Building Design | \$ 75,431         | 49%                                |
| <b>Total</b>                         | <b>\$ 900,791</b> | <b>19%</b>                         |

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **TEP COMMERCIAL AND INDUSTRIAL DIRECT LOAD CONTROL PROGRAM**

#### **Description**

The TEP Commercial and Industrial ("C&I") Direct Load Control ("DLC") Program is designed to manage peak demand and mitigate system emergencies through a commercial and industrial load curtailment program. The Program is delivered on a turn-key basis by a third-party implementation contractor, who negotiates load reduction agreements with multiple customers and "aggregates" those customers to provide TEP a confirmed and guaranteed load reduction capacity available upon request. The goal of the Program will be to enroll enough customers to provide up to 40 MW of summer peak demand reduction, available for up to 80 hours per year, with a typical load control event lasting 3-4 hours.

#### **Program Modifications**

There have no Program modifications this reporting period.

#### **Program Goals, Objectives, and Savings Targets**

The primary goal of the Program is to provide up to 40 MW of summer peak demand reduction, available for up to 80 hours per year, in order to mitigate system emergencies.

#### **Levels of Participation**

Four customers were enrolled in December representing a total commitment of 7,125 kW of load reduction. No load control events were initiated during this reporting period.

#### **Evaluation and Monitoring Activities and Results**

No evaluation or monitoring is available for this reporting period. Navigant Consulting has been selected as the MER contractor for the TEP DSM Programs (excluding LIW) and is in the process of developing a MER plan for this Program.

#### **kW, kWh, and Therm Savings**

There are no savings for this reporting period.

#### **Problems Encountered and Proposed Solutions**

There were no problems encountered during this reporting period.

#### **Costs Incurred**

Costs incurred during this reporting period are listed below:

| <b>DSM Program</b>                   | <b>Training &amp; Technical Assistance</b> | <b>Program Implementation</b> | <b>Planning &amp; Admin</b> | <b>Measurement &amp; Evaluation</b> | <b>Program Total Cost</b> |
|--------------------------------------|--|-------------------------------|-----------------------------|-------------------------------------|---------------------------|
| <b>DLC - C&amp;I Demand Response</b> | \$ 3,737                                   | \$ 2,006                      | \$ 29,173                   | \$ 338                              | \$ 35,253                 |

No money was paid to EnerNOC, the Implementation Contractor, during this reporting period.

#### **Findings from All Research Projects**

No research projects were undertaken during this reporting period.

## **Tucson Electric Power Company**

### **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

#### **Other Significant Information**

The Program was approved in Commission Decision No. 71787 (July 12, 2010).

Commission Decision No. 71787 (July 12, 2010) requires TEP to include in its DSM reports information concerning DSM personnel including:

- number of DSM employees at the beginning of the reporting period;
- number of DSM employees added during the reporting period; and
- number of DSM employees at the end of the reporting period.

TEP's Demand Side Resources Group, which has responsibility for TEP's DSM Programs, had 11 Full-time employees at the beginning of this reporting period. One Full-time Program Manager was added, and another employee retired, so there are still 11 full-time employees at the end of this reporting period.

# Tucson Electric Power Company

## SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010

### APPENDIX 1 – CFL SALES AND WATTAGE INFORMATION

#### CFL Sales by Retailer

| Retailer          | Jan     | Feb     | Mar     | Apr     | May    | Jun    | Jul    | Aug    | Sep    | Oct     | Nov    | Dec     | Total     |
|-------------------|---------|---------|---------|---------|--------|--------|--------|--------|--------|---------|--------|---------|-----------|
| 99 Cents          | 4,864   | 4,293   | 5,100   | 5,315   | 6,072  |        | 4,356  |        |        | 9,260   | 11,089 | 9,594   | 59,943    |
| Ace Hardware      | 2,964   | 3,612   | 4,881   | 8,083   | 6,084  | 5,101  | 5,489  | 5,253  | 4,965  | 7,130   | 4,469  | 5,158   | 63,189    |
| Bed Bath & Beyond |         |         |         |         |        |        |        | 714    | 145    | 147     | 122    | 53      | 1,181     |
| Best Buy          |         |         |         |         | 17     | 68     | 77     | 97     | 53     | 47      | 39     | 38      | 436       |
| Costco            | 49,059  | 100,934 | 95,377  | 39,110  | 33,615 | 22,198 | 17,114 | 31,441 | 16,525 | 34,116  | 26,860 | 37,119  | 503,468   |
| Dollar Tree       |         |         |         | 440     | 922    |        | 3,823  | 1,201  | 614    |         |        |         | 7,000     |
| Family Dollar     |         | 1,344   | 1,881   | 1,012   | 810    | 713    | 1,017  | 1,113  | 1,091  | 561     | 2,134  | 702     | 12,378    |
| Fry's Foods       |         |         |         | 4,220   | 5,264  | 5,488  | 388    |        |        | 4,956   | 3,992  | 4,752   | 29,060    |
| Goodwill          |         |         |         | 21,600  |        |        |        |        |        |         |        |         | 21,600    |
| Home Depot        | 31,950  | 26,707  | 25,838  | 23,408  | 29,157 | 20,101 | 21,644 | 31,772 | 22,766 | 28,235  | 23,634 | 23,113  | 308,325   |
| Low e's           |         |         |         |         |        |        | 13,990 | 6,761  | 12,068 | 15,112  | 13,917 | 14,125  | 75,973    |
| Sam's Club        | 9,150   | 9,549   | 7,416   | 5,946   | 4,043  | 7,231  | 3,042  | 3,927  | 3,759  | 3,442   | 3,521  | 3,707   | 64,733    |
| Walmart           | 9,336   | 9,167   | 8,233   | 6,472   | 9,018  | 9,639  | 10,706 | 9,078  | 8,607  | 14,772  | 8,093  | 12,261  | 115,382   |
| Utility Total     | 107,323 | 155,606 | 148,726 | 115,606 | 95,002 | 70,539 | 81,646 | 91,357 | 70,593 | 117,778 | 97,870 | 110,622 | 1,262,668 |

# Tucson Electric Power Company

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### kWh Savings by Wattage

| Units            | Watts | Watts<br>Replaced | Watts<br>Saved | Hours/Day | Meas Life | Unit kWh<br>Annual | kWh Annual        |
|------------------|-------|-------------------|----------------|-----------|-----------|--------------------|-------------------|
| 987              | 7     | 40                | 33             | 2.34      | 9.4       | 33.1               | 32,716            |
| 53,936           | 9     | 40                | 31             | 2.34      | 9.4       | 31.1               | 1,679,446         |
| 1,842            | 9     | 40                | 31             | 2.34      | 9.4       | 32.2               | 59,257            |
| 23,397           | 10    | 40                | 30             | 2.34      | 9.4       | 30.1               | 705,027           |
| 1,848            | 11    | 40                | 29             | 2.34      | 9.4       | 29.1               | 53,830            |
| 482              | 11    | 45                | 34             | 2.34      | 9.4       | 34.2               | 16,461            |
| 796              | 11    | 50                | 39             | 2.34      | 9.4       | 39.2               | 31,181            |
| 2,452            | 12    | 60                | 48             | 2.34      | 9.4       | 48.2               | 118,218           |
| 375,202          | 13    | 60                | 47             | 2.34      | 9.4       | 40.0               | 14,993,983        |
| 216,077          | 13    | 60                | 47             | 2.34      | 9.4       | 47.2               | 10,200,661        |
| 2,942            | 14    | 50                | 36             | 2.34      | 9.4       | 30.6               | 90,053            |
| 214,759          | 14    | 60                | 46             | 2.34      | 9.4       | 39.1               | 8,399,689         |
| 9,726            | 14    | 65                | 51             | 2.34      | 9.4       | 43.4               | 421,753           |
| 12,664           | 15    | 60                | 45             | 2.34      | 9.4       | 38.3               | 484,549           |
| 50,445           | 15    | 65                | 50             | 2.34      | 9.4       | 42.5               | 2,144,579         |
| 1,761            | 15    | 75                | 60             | 2.34      | 9.4       | 51.0               | 89,839            |
| 5,276            | 16    | 65                | 49             | 2.34      | 9.4       | 41.7               | 219,814           |
| 8,626            | 18    | 75                | 57             | 2.34      | 9.4       | 48.5               | 418,060           |
| 19,115           | 19    | 75                | 56             | 2.34      | 9.4       | 47.6               | 910,157           |
| 24,023           | 20    | 75                | 55             | 2.34      | 9.4       | 46.8               | 1,123,425         |
| 235              | 23    | 90                | 67             | 2.34      | 9.4       | 57.0               | 13,387            |
| 175,302          | 23    | 100               | 77             | 2.34      | 9.4       | 65.5               | 11,477,085        |
| 13,920           | 23    | 120               | 97             | 2.34      | 9.4       | 82.5               | 1,148,061         |
| 3,767            | 26    | 90                | 64             | 2.34      | 9.4       | 54.4               | 204,989           |
| 421              | 26    | 95                | 69             | 2.34      | 9.4       | 58.7               | 24,699            |
| 34,976           | 26    | 100               | 74             | 2.34      | 9.4       | 62.9               | 2,200,675         |
| 6,292            | 27    | 120               | 93             | 2.34      | 9.4       | 79.1               | 497,537           |
| 7                | 30    | 125               | 95             | 2.34      | 9.4       | 80.8               | 565               |
| 552              | 32    | 150               | 118            | 2.34      | 9.4       | 100.3              | 55,383            |
| 54               | 33    | 150               | 117            | 2.34      | 9.4       | 99.5               | 5,372             |
| 786              | 42    | 150               | 108            | 2.34      | 9.4       | 91.8               | 72,177            |
| <b>1,262,668</b> |       |                   |                |           |           |                    | <b>57,892,628</b> |

# **Tucson Electric Power Company**

## **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

### **APPENDIX 2 – MARKETING MATERIALS**

#### **Guarantee Home Program:**

- Metro:
  - TEP Guar Hm Metro Get More Pay Less Radio 10 (mp3)
  - TEP Guar Hm Metro Go Green Radio 10 (mp3)
  - TEP Guar Hm Metro Go Solar Radio 10 (mp3)
  - TEP Guar Hm Metro Less Is More Radio 15 (mp3)
  - TEP Guar Hm Metro Solar That Cools Radio 15 (mp3)
  - TEP Guar Hm Metro There's An App Radio 15 (mp3)
- Radio:
  - TEP Guar Home Inspections Radio 60 v2 (mp3)
  - TEP Guar Home Numbers Radio 60 v2 (mp3)
  - TEP Guar Home Popular Radio 60 v2 (mp3)

#### **Education and Outreach Programs:**

- Bright Family:
  - TV:
    - Bright Tweets 30 TEP REV 1 (WMV)
    - Full Load 15 TEP (WMV)
    - Hand Held 15 TEP (WMV)
    - Shut It Down 15 TEP (WMV)
    - Water Heater 15 TEP (WMV)
  - Web:
    - Marketing icon (GIF)
    - TEP Otto ebill banner (JPG)
- Mrs. Green:
  - 1-6 and Promo:
    - MrsGreen\_8-2\_01 (WMV)
    - MrsGreen\_8-2\_02 (WMV)
    - MrsGreen\_8-2\_03 (WMV)
    - MrsGreen\_8-2\_04 (WMV)
    - MrsGreen\_8-2\_05 (WMV)
    - MrsGreen\_8-2\_06 (WMV)
    - MrsGreenPromo\_8-5 (WMV)
  - 7-12:
    - MrsGreen\_Sept\_01 (WMV)
    - MrsGreen\_Sept\_02 (WMV)



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### **SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD: July through December 2010**

- MrsGreen\_Sept\_03 (WMV)
- MrsGreen\_Sept\_04 (WMV)
- MrsGreen\_Sept\_05 (WMV)
- MrsGreen\_Sept\_06 (WMV)
- 13-18:
  - MrsGreenOct\_01 (WMV)
  - MrsGreenOct\_02 (WMV)
  - MrsGreenOct\_03 (WMV)
  - MrsGreenOct\_04 (WMV)
  - MrsGreenOct\_05 (WMV)
  - MrsGreenOct\_06 (WMV)
- PowerShift™:
  - Bill Insert:
    - TEP PowerShift insert v1 (PDF)
  - Print:
    - TEP PowerShift ad v1 (PDF)
  - Radio:
    - TEP 10Powershift Radio 10 (mp3)
    - TEP 15Powershift Radio 15 (mp3)
  - Web:
    - TEP PowerShift ebill banner v1 (JPG)

## **Tucson Electric Power Company**

**SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:  
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### **APPENDIX 3 – MEASUREMENT, EVALUATION, AND RESEARCH REPORTS**

- Arizona Energy Office Training, monitoring, and Evaluation Report – January 2011

**ARIZONA ENERGY OFFICE  
TRAINING, MONITORING AND EVALUATION REPORT  
FISCAL YEAR 2010 ANNUAL REPORT  
January 2011  
Tucson Electric Power**

**Re: Arizona Department of Commerce Contract M030-08**

**Training and Monitoring for Weatherization**

***Southwest Building Science Training Center***

The Southwest Building Science Training Center (Training Center), operated by the Foundation for Senior Living Home Improvement (FSL) and funded through the AEO and local utilities, provides Arizona low-income weatherization technicians with the knowledge and skills needed to successfully perform diagnostics and repairs on Arizona's housing stock. The Energy Office has entered into agreement with FSL to fund a full time position to develop, coordinate and implement a comprehensive training program at the training center and an administrative assistant position.

The Training Center is currently seeking permit approval to expand the training center by developing a multistory training lab that will be used to provide real world hands on training to the new green workforce. Funding has been committed utilizing American Recovery and Reinvestment Act of 2009 (ARRA) funds for the construction of an expanded diagnostic lab. FSL has awarded the design contract to the architecture firm Moran Downes and it is expected that work on the new training lab will start upon competition of plan review by the City of Phoenix. .

**Training center courses**

<http://www.fsl.org/services/HomeEnergy/hecourses.html>

The Center, in partnership with the Building Performance Institute, Inc. (BPI), provides nationally recognized building science certifications to Arizona's weatherization agencies. All agencies have BPI Certified staff members or contractors that are BPI certified.

In 2010 the Training Center has provided 5,080 training hours (attendees times class hours) and 309 course attendees. To date 272 contractors have been certified through BPI.

**Details on BPI**

<http://www.bpi.org/>

The Training Center has implemented a WAP boot camp. The Boot Camp is a five day training that covers the basics of building science, pressure diagnostics, health and safety and residential energy auditing.

The Training Center has implemented the Weatherization (WAP) contractor mentorship program. The mentorship program is designed specifically to bridge the gap between classroom training and field experience by providing on the job training for new contractors. This training is provided by BPI

certified contractors with a minimum of three year experience in Home Performance Contracting who have been approved through a review process. AEO will fund 16 hours of mentoring per contractor.

Local agencies have the ability to expand the hours of mentorship per contractor utilizing their training funds.

The Training Center has implemented a Lead Renovator Repair and Painting certification class. On April 22<sup>nd</sup> 2010 the new EPA Regulations went into effect regarding lead safe work practices. All contractors working on houses Pre-1978 are now required to be registered with the EPA as a lead renovator firm. Any contractors performing work on houses must now have at least one person on their crew that is "Lead Renovator" certified. This certification requires an 8 hour training which involves both a Power Point slide presentation and a "Hands On" section to teach lead safe practices when working on a home with a potential for Lead based paint. Certification requires the participant to pass both a written and field skills test.

The Training Center was also awarded a grant from the Department of Energy to expand the curriculum and tailor it towards the Auditor, Inspector and Crew Members of the technicians in the field. This is a two year grant that will help deliver the skilled workers that will be needed to conduct energy retrofits on existing housing.

### ***Peer-to-Peer Fiscal and Technical Procedures***

The Arizona WAP has formed peer-to-peer working groups that allow the fiscal and technical staff from the agencies and the AEO to meet and discuss issues that arise in the program. Agencies are able to share solutions to common problems and other information. These peer-to-peer meetings occur every two months and have been a great arena to discuss any changes or improvement to the program.

### ***Agency Personnel Performance Reviews***

A review and monitoring process to evaluate the competency of agency personnel performing the various requirements of the weatherization program was developed for the statewide weatherization assistance program. Based on this process, additional one-on-one training and technical assistance is provided on an as-needed basis.

### ***Inspections***

The Arizona WAP has implemented a monitoring program that focuses on determining areas that need improvement and utilizes the monitoring process to implement needed changes. The areas covered include: auditing, diagnostics, testing and measures completed and program operations. This process begins with the review of 100% of the technical reports for auditing, diagnostics, testing and work completed each month. These reports can highlight instances where opportunities were missed or program requirements were not followed. When there are concerns with some element of the report, a site visit is conducted to address the concerns. At the job site, the diagnostic, testing and work are reviewed to determine if any improvements can be made. A minimum of 20% of the job sites will be

visited with visits taking place approximately twice a month. Based on the site visit results, follow-up training and technical assistance is provided to the local agency. For agencies where the technical reports do not show concerns, the site visit consists of monitoring a number of randomly selected homes and reviewing the diagnostics, testing and work completed. These efforts, combined with the training and competence programs, have a goal of ensuring that the program is providing the clients with a high return on Southwest's investment, while maintaining or improving the customers' health and safety.

With increased federal funding, a total of five Weatherization field monitors have been hired.

### **Utility Bill Analysis**

To date, an analysis of 235 homes has been completed on homes utilizing APS, TEP, Unisource Gas and Electric and Southwest Gas utility data. This analysis is ongoing, new data will be updated to these values on a quarterly basis.

Provided are Savings to Investment Ratios (SIR) for total investment from all funding spent (diagnostics, energy measures and health and safety measures) and for energy related measure only (diagnostics and energy measures).

### ***Assumptions***

Present value is based on 17.5 years measure life, discount rate of 3% and an utility cost escalation rate of 3%.

### ***Results Summary***

The combined SIR of all jobs reviewed to date for funds spent on diagnostics, energy measures and health and safety measures was 1.19. Health and saving represented 13% of expenditures.

The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics was 1.35

The average saving per home reviewed was 2667 kWh and 32 therms of natural gas (gas therms average includes all electric homes).