EnergyTrust

Evaluation Committee Report

February 23, 2007

Evaluation Committee Notes

The Evaluation Committee met on February 23, 2007, with Debbie Kitchin, chair; Alan Meyer, board member; Margie Harris, Executive Director; Fred Gordon, Director of Planning and Evaluation; Philipp Degens, Evaluation Manager; Phillip Kelsven, Evaluation Analyst; Steve Lacey, Director of Energy Efficiency; Jill Steiner, Manager of Planning and Economic Analysis, Ken Keating, Bonneville Power Administration; Don Dohrmann, ADM Associates; Mugi Lukito, ADM Associates; Steven Scott, Strategic Energy Group; Brian Crumrine, Strategic Energy Group. The meeting began at 10:00 AM with an overview of the meeting's agenda.

Philipp Degens presented the results of the draft report of the 2005 Building Efficiency Impact Evaluation. The evaluation documents the program's gross and net energy savings, as well as a survey of decision makers. The evaluation's highlights are:

- Total program electric savings are 58,967,894 kWh, and 18.2 MW.
- Total program therm savings are 334,028 therms.
- The electric savings are 104% of expected kWh savings, and 75% of expected therm savings.
- For lighting projects, the monitored hours and the expected hours varied less than 30%.
- For HVAC, custom building, and VFD measures, most discrepancies were found where engineering calculations were used to estimate the savings in lieu of modeling.
- Program appears to have greater difficulty estimating gas savings.
- Freeridership rates are 13% for electric and 4% for gas.
- 21% of the participants purchased additional energy efficient equipment as a result of the program.
- Overall satisfaction rate with the program is 85%.
- Equipment vendors or contractors are primary source by which participants learned about the program.
- 84% of participants state that incentive payments are very important in their decision making.

The Evaluation recommended the following:

- Building simulation should be used to calculate savings estimate rather than engineering estimates whenever possible.
- Next evaluation should rely on a smaller sample of electric sites, and focus on estimating gas savings more precisely.

Discussion about the evaluation included:

- The upcoming billing analysis should verify and improve upon the savings impacts in this report.

- The evaluation findings should be communicated with the PMC's and ATAC's to improve the program. Staff assured committee that this is happening and will continue to happen.
- VFD savings may be underestimated.
- kW demand reductions are important to quantify and should be included in impact evaluations.
- The low realization rates for custom gas measures are a concern.
- The same freerider methodology should be used for BE and PE evaluations.
- Dr. Keating pointed out that the freerider weighting and scoring scheme appeared to be biased toward decreasing freeridership, and that the weighting approach was not well argued. He specifically pointed out: "When someone says that they were planning on doing the measure before they participated in the program; that they had the resources to do it; and that your incentive did not have an influence on their decision, and you still treat them as 40% net participant, you have a clear bias in the algorithm." This comment was in reference to one of the two free rider weighting schemes presented in the meeting. The Board members agreed with staff recommendations to move discussion of freeridership measurement to another meeting when it could be discussed in terms applicable to multiple programs and in greater detail. Meanwhile, the contractor and staff are reexamining the approach taken in these draft evaluations.
- Evaluation committee will take up the freerider methodology discussion in more detail at a meeting in May.

Philipp Degens presented the findings of the 2003-2005Production Efficiency Impact Evaluation. The evaluation documents the program's gross and net energy savings, as well as a survey of decision makers. The study's highlights are:

- The program achieved 259,891,701 kWh savings, and an estimated 41,600 kW demand reduction.
- The achieved savings are 93.2% of expected kWh savings. This is an average of 114% in 2004 and 83% in 2005. There were only 2 sites in 2003.
- Large variation in savings are due to a variety of factors such as changes in use, measure performance, lack of baseline or documentation, or the use of engineering calculations.
- Most projects are correctly installed and operating.
- Freeridership estimates resulted in a 5.1% reduction in program kWh savings.
- Satisfaction is high with 93% of participants stating they are satisfied or very satisfied.
- 80% participants had received an Energy Trust or BETC incentive previous to current project studied.
- 12% of participants have energy management plans, and 57% have a staff person in charge of energy efficiency projects and policies.
- 41% of participants heard of program through vendors.
- 36% of the participants purchased additional energy efficient equipment as a result of the program.
- Audit-only participants were interviewed:
    - Primary reasons for not participating are: project did not meet firms' payback criteria and the timing of the incentive.
    - Audits appear to be a good lead into energy efficiency projects with 25% completed project without incentive.

The Evaluation recommended the following:

- A greater use of sub-metering should be used to determine baseline conditions.
- Engineering calculations should be reviewed.
- Energy Trust should follow up with larger customers to review how equipment is working.
- Megaprojects should be monitored from the beginning.
- Follow up with projects where evaluation identified issues.
- Program changes should be consistently communicated to customers, vendors, and ATAC's.
- Evaluation expectations should be communicated to customer early in the project.

Discussion about the evaluation included:

- Wastewater, irrigation, and freshwater projects are a concern due to a low realization rate. These sites may not be operating as expected.
- Negative savings, particularly for wastewater, irrigation, and freshwater projects were not considered because they cannot be attributed to the project.
- Need to use efficiency savings for estimating impacts where appropriate and be consistent.
- Issues with freeriders are the same as that pointed out above and Dr. Keating's point on bias also pertains to this program estimate.
- Weaknesses of the program need to be identified and shared with contractors. Why are firms not participating?

Next month's evaluation committee meeting will include:

- Discussion of Energy Trust coordination with NEEA
- The Solar PV evaluation
- NBE 2004 Impact evaluation
- Nexus Evaluation
- Energy Trust's Program Contracting and Delivery Model evaluation