

SESSION 4B

INDUSTRIAL EFFICIENCY: BASELINES, BIDS AND STRATEGIC MANAGEMENT

Moderator: Jeff Ihnen, P.E., Vice President, Michaels Energy

PAPERS:

Keeping Pace with Innovative Industrial Program: Assessing Complex Program Deliveries and Strategic Energy Management Programs

Adam Gardels, Research Into Action, Portland OR

Marjorie McRae, PhD, Research Into Action, Portland OR

Lauren Miller Gage, Bonneville Power Administration, Portland OR

Capturing Savings Down the Production Line: Measuring the Impacts of Energy Management Programs

Heidi Ochsner, Cadmus, San Diego, CA

Jim Stewart, Cadmus, Portland, OR

Lauren Gage, Bonneville Power Administration, Portland, OR

Pre-Retrofit Evaluation of Industrial Projects

Jonathan B. Maxwell, PE, ERS, College Station, TX

Betsy Ricker, PE, ERS, North Andover, MA

Carley Murray, NYSERDA, Albany, NY

SESSION SUMMARY:

Two papers in this session discuss the challenges of Bonneville Power Administration's Energy Smart Industrial (ESI) program. This program involves comprehensive, ongoing industrial energy efficiency elements of Strategic Energy Management (SEM), Operations and Maintenance, on-site energy managers, and behavioral program elements that generate savings over time. The program is delivered to 74 BPA utility customers of varying size, resources and levels of industrial efficiency expertise.

The ESI program focuses on addressing general utility weaknesses with more sophisticated industrial processes, equipment, and general objectives; Resource constraints both in terms of staff and capital; Risk of adversely impacting end-user industrial processes; And lack of staff and market confusion with the previous industrial program for BPA end users.

Mr. Gardels' paper focuses on challenges of process evaluation for BPA's ESI program and, in particular, effects of relationships between utilities and end-users and building on and sustaining impacts over time. The evaluation framework includes two broad but distinct areas of program delivery: program administration by BPA staff, and program implementation by outsourced contractors.

Ms. Ochsner's paper discusses approaches to impact evaluation for BPA's ESI program and the challenges associated with substantial behavioral elements integrated with holistic energy planning in addition to conventional capital-intensive measures.

Specific program elements evaluated include energy manager co-funding, track and tune, and high performance energy management. Energy manager co-funding involves provisions to devote an energy manager to specific customer sites for substantial periods of time. Track and tune generally includes operations and maintenance / behavioral elements and tracks progress over time. High

Performance Energy Management includes production-to-management engagement in the energy management process for integration into normal business practice.

The paper discusses methods and findings for the impact evaluation of 17 program participants from the programs' pilot phase. Objectives included review energy savings estimation methodologies and results and independently estimate savings for each participant facility. Analysis primarily consisted of interval metering regression analysis with extraction of capital-intensive measure impacts to isolate behavioral and O&M types of measures. The paper describes the effects that interval frequency has on the uncertainty of measured results using regression, as the frequency available among participants in the evaluation varied from daily to monthly. Evaluated projects with greater frequency of interval data produced results with greater confidence.

The third paper by Mr. Maxwell examines the benefits of collaborative pre-retrofit review and baseline establishment for NYSERDA's Industrial Process Efficiency (IPE) Program. This program provides technical assistance and installation incentives for industrial, agricultural, and data center customers.

Benefits of this approach mitigate uncertainties surrounding the operating state of pre-implementation scenarios and collaboratively establish appropriate baselines for assessing impacts. This methodology includes three objectives. First, it reviews the program's pre and post implementation data gathering plans and requests modifications to these plans when appropriate. Secondly, it provides opportunity baseline review and concurrence and lastly, it includes energy analysis review with feedback prior to project implementation.

The paper discusses the challenges with this approach including sampling, timeliness and flexibility so as to not negatively affect participant experience, resolving disagreements, long timelines from inception through completion, and baseline and free ridership issues. The paper ends with lessons learned and policy ramifications from this approach.