WILL THE REAL BASELINE PLEASE STAND UP!

Moderator: Robert Kasman, Pacific Gas and Electric Company

PAPERS *(in order of appearance)*:

Ew, Gross! Cleaning Up Gross Baselines
Michael W. Rufo, Itron Inc.

Baseline or Bust: Calculating Savings for a Residential Heating Equipment Program
Kathryn Parlin, West Hill Energy and Computing, Inc.
Nathaniel Brooks, West Hill Energy and Computing, Inc.
Tami Buhr, Opinion Dynamics, Inc.
Antje Flanders, Opinion Dynamics, Inc.
Steven Mysholowky, Consolidated Edison, Inc.
Rosanna Jiminez, Consolidated Edison, Inc.

M&V Shootout: Setting the Stage for Testing the Performance of New Energy Baseline Models
Jessica Granderson, Lawrence Berkeley National Laboratory
Samir Touzani, Lawrence Berkeley National Laboratory
Claudine Custodio, Lawrence Berkeley National Laboratory
Michael Sohn, Lawrence Berkeley National Laboratory
Samuel Fernandes, Lawrence Berkeley National Laboratory
David Jump, Quantum Energy Services and Technologies
Cody Taylor, Department of Energy Building Technologies Office

SESSION SUMMARY:

When it comes to estimating savings, baselines are half the story. This session will focus on considerations and methods for setting appropriate baselines to enable more accurate impact assessments.

The first paper, Ew, Gross! Cleaning Up Gross Baselines, provides a high level summary of baseline concepts and provides: 1) a brief framing of the different approaches to setting gross baselines; 2) an explanation of the dual baseline approach; 3) an analysis of some of the issues associated with using standard or common practice baselines; 4) results from a simulation model developed by the author to inform considerations for setting common practice baselines to be internally consistent with net impact estimation; and 5) conclusions and recommendations for selecting and applying gross baselines in combination with a NTGR.

The second paper, Baseline or Bust: Calculating Savings for a Residential Heating Equipment Program, shares the results of a recent study in New York which employed a novel approach to estimating baseline energy usage. The evaluators developed a hybrid approach that uses accepted engineering methods, while incorporating actual residential heating consumption to construct an accurate baseline. This approach has two major advantages: savings reflect actual residential energy consumption patterns and they are correctly based on post-only operating conditions. For comparison purposes and robustness, the study also included a pre/post billing analysis using a fixed effects regression model to estimate retrofit savings.

The third paper, M&V Shootout: Setting the Stage for Testing the Performance of New Energy Baseline Models, expands recent analyses of public-domain, whole-building M&V methods, focusing on more novel baseline modeling approaches that leverage interval meter data. It details a testing procedure and metrics to assess the performance of these new approaches using a large test dataset. It also provides

conclusions regarding the accuracy, cost, and time trade-offs between more traditional M&V and these emerging streamlined methods. Finally, it discusses the potential evolution of M&V to better support the energy efficiency industry through low-cost approaches, and the long-term agenda for validation of building energy analytics.