

MAKING WHOLE BUILDING APPROACHES BE CREDIBLE TOOLS

Moderator: Mary Sutter, Grounded Research and Consulting, LLC

PAPERS:

Variance and Optimization in Nonresidential Building Simulation Receptacle Loads

Jeff Cropp, Cadmus

Katrina Leichter, Cadmus

M&V 2.0 and Commercial Whole Building Programs: The Army We Wish We Had

Paula Gruending – California Public Utilities Commission

Peter Jacobs – BuildingMetrics Inc

Amit Kanungo – DNV-GL

Alex Wortman – Pacific Gas and Electric

David Jump – KW Engineering

Evolution of EM&V: State Experience that Looks to the Future

Maggie Molina, American Council for an Energy-Efficient Economy

Seth Nowak, American Council for an Energy-Efficient Economy

Marty Kushler, American Council for an Energy-Efficient Economy

SESSION SUMMARY:

This session takes the audience on a journey of whole building approaches from the detailed to the expansive. The session covers the very detailed application of whole building simulations, provides a regulatory view of the questions our industry needs to answer before whole building approaches (using M&V 2.0) may be viable tools, and then broadens to how whole building approaches fit into the larger EM&V paradigm across the nation.

Cropp begins our journey with an overview of nonresidential building simulations in new construction and focuses on how receptacle loads vary between simulations for proposed buildings and those calibrated using billing data. He brings in data from over 30 buildings of different types and shows the differences in receptacle power densities for these buildings as proposed and once calibrated.

Gruending takes the audience up to a wider view of the regulator. She describes what the regulators want from the newly available whole building “big data” and what is currently available. Using lessons from a pilot effort, Gruending describes three main areas of regulatory concern for using M&V 2.0, the main takeaways from the pilot regarding these areas, and next steps that the industry needs to take to help make this whole building tool credible to regulators.

Lastly, Molina provides the audience with a broad, national view of EM&V and how M&V 2.0 is being explored across the nation. She shares the results of interviews with evaluation professionals and policymakers from around the nation on the challenges facing energy efficiency evaluation. They looked at trends for using whole building approaches such as M&V 2.0 and offer examples of forward looking evaluation leadership from several states (California, Massachusetts, Connecticut, Michigan and Illinois).