SESSION 9B

COOL IDEAS ABOUT HOT TOPICS: MEASUREMENT LESSONS FROM HVAC

Moderator: Shahana Samiullah, Southern California Edison

PAPERS:

An M&V Protocol to Evaluate Savings from Rooftop Units – At Last!
Kathryn Hile, The Cadmus Group Inc.
Jack Callahan, Bonneville Power Administration
Howard Reichmuth, New Buildings Institute

Evaluation of a Large-Scale Ductless Heat Pump Program
Bob Davis, Ecotope, Inc., Portland, OR
Ned Harris, Research Into Action, Inc., Portland, OR
Anu Teja, Northwest Energy Efficiency Alliance, Portland, OR

A Tale of Two Programs: An Analysis of Residential Early Retirement HVAC Programs
Steve Cofer, The Cadmus Group, Portland, OR
Jeff Livingston, Conservation Services Group, Dayton, OH

SESSION SUMMARY:

This session will focus on empirical measurement and evaluation approaches to three unique issues related to some specific HVAC programs and the technologies. The first paper provides a field measurement approach to evaluating programs that offer refrigeration system performance assessment and correction for commercial packaged rooftop units (RTU). The paper provides field measurement protocols for developing reliable estimates of annual RTU cooling and fan energy through a methodological approach for sample size determination, data-logging time frame, date ranges, and points to meter. Continuing on the same theme of field measurement approaches, the second paper in this session will provide lessons learned from sub-metering, including automated error checking for multiple data streams, and use of a variable base heating degree-day billing analysis in assessing the conservation impacts for ductless minisplit heat pumps on a home's elective resistance heating. The paper also provides evaluation results on customer and installers' perspective on the technology. The final paper in this session presents the results of an early replacement program and how the results differ based on different operational definitions of the early replacement programs. two utilites by Research has shown that a systematic approach is needed to fully assess the current state of any HVAC system in the field.