

LIGHTING MEASUREMENT

Moderator: Jenna Canseco, DNV GL

PAPERS:

All the Lights We Cannot See: Estimating the Distribution of Upstream Lighting Program Bulbs

Russell M. Meyer, NMR Group, Inc.

Chris Russell, NMR Group, Inc.

Jerrad Powell, NMR Group, Inc.

Scott Dimetrosky, Apex Analytics

Tracy Dyke-Redmond, Eversource Energy

Lynn Hoefgen, NMR Group, Inc.

Plugging the Holes in Leakage: Methods for Calculating the Leakage out of and into Upstream Residential Lighting Programs

Robert Saul, Opinion Dynamics

Tami Buhr, Opinion Dynamics

Amy Buege, Itron Inc.

Some Don't Like It Hot: the Effect of Temperature and Switching Patterns on Screw-based LED Lamps

Mike Ting, Itron, Inc.

Erik Page, Erik Page & Associates, Inc.

George Tagnipes, California Public Utilities Commission

Shedding Light on Winter Lighting

Knud Hermansen, Navigant

Vergil Weatherford, Navigant

Justin Elszasz, Navigant

Justin Spencer, Navigant

Scott Robinson, Navigant

SESSION SUMMARY:

This session focuses on four different aspects of lighting measurement in evaluation research—household adoption rates, leakage, useful lifetime of LED lamps, and peak demand coincidence factors.

Incentives for energy-efficient lamps have long been a component of residential energy efficiency programs. Many of these programs rely on upstream incentives to lower the retail price consumers pay for these efficient lamps. The first paper relies on the results of in-home lighting surveys and analyses of retail store locations to assess whether the proximity of households to stores that sell program-discounted lamps affects household adoption rates for efficient lighting. As savings diminish from upstream programs, administrators may be increasingly concerned with maximizing remaining savings. Limiting the sales of program-discounted lamps to customers of other program administrators may be one way of doing so, and our second paper examines the methods for estimating this phenomenon—known as leakage—based on Technical Reference Manuals from 11 jurisdictions. The paper also reviews two methods used to estimate leakage.

Many program administrators have shifted their lighting incentive programs toward LED lamps versus CFLs. Our third paper examines LED lamp life via a large-scale laboratory test of more than 600 individual LED lamps. This is important information to consider in assigning expected lifetimes to LED lamps in program savings assessments. Finally, our fourth paper examines whether summer data on C&I lighting usage can be used to calculate winter coincidence factors based on installation of more than 600 lighting loggers at 79 facilities. A statistically significant relationship between summer and winter metered hours would enable evaluators to leverage vast stores of metering data gathered during the summer to estimate winter coincidence factors.