SESSION 2A

GETTING EVEN SMARTER ABOUT THE SMART GRID

Moderator: Jeremy Newberger, National Grid

PAPERS:

Commercial Air-Conditioner Load Control Results From Multiple Programs
Dr. Michael Perry, FSC Group, San Francisco, CA

Demand Response and AMI Assessment Report: What's New Since 2008?
Valerie Richardson KEMA Inc., Oakland, CA
Will Gifford, KEMA Inc., Fairfax, VA

SESSION SUMMARY:

Among other attributes, a smart grid employs innovative products and services together with intelligent monitoring, control, and communication technologies in order to allow consumers to play a part in optimizing the operation of the system.

This session will zero in on key dimensions that will advance demand response using Smart Grid technology: developments in commercial air conditioning control impacts and strategies and the latest in Advanced Metering Infrastructure (AMI) saturation.

To date, more experience has been gained in implementing and evaluating residential air conditioning control programs. Commercial air conditioning control programs offer a larger potential demand reduction but are also less homogeneous and, currently, provide less reliable estimates of demand reduction. In his paper, Perry presents the review of four commercial AC control programs and addresses several complexities associated with implementation and evaluation: customer recruitment; sampling for reliable savings estimates; and targeting customers likely to produce large load impacts.

Another key element of advancing a smart grid is the deployment of AMI technology. It is a costly undertaking to convert metering technology across a distribution system. However, many utilities and regulatory agencies have identified the functionality for managing electric loads for reliability and economic dispatch (in addition to operation and maintenance improvements) as a key aspect of their business cases to justify their adoption of AMI technology. This has provided a foundation for increased saturation of AMI technology, which paves the way for their greater use in demand response contexts as well. Richardson and her co-author describe the results of a survey performed for FERC on penetration and saturation of AMI resources along with estimates of demand response resources on a state-by-state and regional basis.

Also, in this session, Brad Rogers of Navigant Consulting will be invited to speak briefly about his poster "An Econometric Approach for Evaluating the Impact of Smart Meters on Recorded Electricity Consumption." This may have some useful applications to demand response or energy efficiency program evaluations.

Together, these two papers and the poster will give the audience a better foundation on these elements related to smart grid and demand response that may inform successful deployment strategies in their own regions.