IEEE Power & Energy Society Executive Committee Meeting
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NEMA Smart Grid Update
by John Caskey

"The IEEE Standards Association (IEEE-SA) is launching a groundbreaking smart grid initiative for the power engineering, communications and information technology industries with the creation of The IEEE Standard 2030 Guide for Smart Grid Interoperability of Energy Technology and Information Technology Operation with the Electric Power System (EPS) and End-Use applications and Loads."

How does this relate to the National effort being coordinated by NIST?

AGENDA

- NEMA Overview
- NEMA Smart Grid Objectives
- NEMA Smart Grid Advisory Panel
- Joint Meeting with EPRI IntelliGrid
- Joint Meeting with NRECA, APPA, EEI and FERC
- Joint meeting with Intel, IBM, Microsoft and CMU

NEMA - Overview

- 400+ Member Companies
- 8 Product Division
- 50 Electrical Product Sections
- 6 NEMA Departments
- 4 Regional U.S. Field Offices

NEMA – Overview Continued
Product Divisions

- Industrial Automation
- Lighting Systems
- Electronics
- Building Equipment
- Insulating Materials
- Wire and Cable
- Power Equipment
- Medical Imaging Equipment

NEMA – Overview Continued Departments

- Technical Services
- Government Relations
- Business Information Services
- Industry Operations
- Legal – Anti-Counterfeiting
- Communications and Marketing

NEMA's Smart Grid Definition

Smart Grid incorporates monitoring, analysis, control and communication capabilities into the national electric grid in order to improve reliability, optimize asset utilization, improve cyber security, increase energy efficiency and allow diverse generation and storage options. Smart Grid will also allow homeowners and businesses to utilize electricity as efficiently and economically as possible.

NEMA's Smart Grid Objectives

- Promote the adoption of the Smart Grid.
- Support the development of Smart Grid interoperability standards.
- Promote a positive financial environment for utilities to implement Smart Grid.

NEMA Meeting with EPRI IntelliGrid Program – July 2008

- Key findings from Standards breakout session:
  - Standards make life easier for utilities to purchase and maintain equipment.
  - Interim standards need to be identified to allow utilities to proceed with Smart Grid now.
  - Utilities and manufacturers need to work together to develop standards.
  - Standards work needs to be prioritized so that SDO's can focus on highest priorities.

NEMA Meeting with EPRI IntelliGrid Program – July 2008

- Key findings from Financing breakout session:
  - State commissions need to provide financial incentives for utilities to demonstrate and implement Smart Grid.
  - Utility rates need to be de-coupled from conventional rate design.
  - Utilities need cost recovery of stranded assets.
  - Smart Grid needs to be integrated into climate change legislation.
  - Smart Grid should be communicated to state commissions in terms of benefits to consumers.

NEMA Meeting with NRECA, APPA, EEI and FERC – Sept. 2008

- Key findings from Standards breakout session:
  - Utilities can't replace all legacy equipment at once. Smart Grid standards need to provide for migration from old to new equipment.
  - IT companies and integrators need to be involved in developing Smart Grid.
  - Increased communications among utilities will be needed to improve interoperability.
  - Standards take a long time to develop.
  - Participation at standards meetings have declined over the years as companies cut back.

NEMA Meeting with NRECA, APPA, EEI and FERC – Sept. 2008

- Key findings from Financing breakout session:
  - Utilities need credit to renewable portfolio for energy conservation.
  - Utilities need incentives for greater use of variable and intermittent resources.
  - Storage technologies can increase off-peak usage and increase asset utilization.
  - Smart Grid efforts need to include consumer advocacy groups.
  - NEMA's Level of Intelligence work can help communicate the value of Smart Grid to state commissions and other stakeholders.

NEMA Meeting with Intel, IBM, Microsoft and CMU – March 2009

- Key findings from meeting with IT organizations:
  - Need to identify and communicate Smart Grid value to both consumers and utilities.
  - Smart Grid cuts across several utility functions and many utilities are still silo-ed.
  - Distribution asset utilization is relatively low (30%) – how do we increase utilization?
  - How do commissions ensure that “smart grid” components are activated (used effectively)?
  - When does the ratepayer start receiving benefits from Smart Grid investments?
  - Smart Grid will generate a huge amount of data – we need to identify what data needs to be maintained.

In Summary, we need to:

- Identify interim standards that utilities can “safely” use today to support Smart Grid purchases.
- Find a standards development process that takes less time!
- Communicate the value of Smart Grid to consumers and utilities!
- Include consumer advocacy groups in our Smart Grid planning!

- Contact Information
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- Presentation Materials
  - www.nema.org (Click on Smart Grid)
  - http://www.nema.org/gov/energy/smartgrid/index.cfm