“National EM&V Protocols - Connecting the Dots on Emerging Fronts”


December 12, 2012
NAESB Profile
North American Energy Standards Board
Demand Response and Energy Efficiency Standards

Organization by Quadrant and Segment

Wholesale Gas - 5 Segments
1. End Users
2. Local Distribution
3. Pipelines
4. Producers
5. Services

Wholesale Electric - 7 Segments
1. End Users
2. Distribution/LSE
3. Transmission
4. Generation
5. Marketers/Brokers
6. Independent Grid Operators/Planners
7. Technology and Services

Retail Gas - 3 Segments
1. End Users/Public Agencies
2. Utilities
3. Service Providers/Suppliers

Retail Electric - 3 Segments
1. End Users/Public Agencies
2. Distributors
3. Service Providers/Suppliers
Voluntary Standards

- From the organization’s perspective, all standards are voluntary and may be provided to regulatory agencies as status reports as they are published.
- The standards and model business practices may incorporate regional or operational differences.
- Regulatory agencies may choose to adopt standards or model business practices, but NAESB will not advocate such action.
- The organization will not monitor for compliance, provide performance measures for compliance, nor will it define sanctions for non-compliance.
- The organization will not advocate before any regulatory body.
Relationship of NAESB Standards and Model Business Practices to Policy

- NAESB does not set policy.
- We defer to state and federal agencies in determining policy.
- Our work products are intended to focus on the implementation of policy decisions by providing a road map for the interactions between the various parties.
- Our standards and model business practices recommend practices for alternative regulatory models but leave the decision as to the appropriate policy or model to the regulators.
Characteristics of NAESB Standards Development Process:

- Transparency
- Inclusion
- Balance of Interests
- Documented and Accessible Process
- Support of the Regulatory Process
- Accountability
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NAESB Wholesale & Retail Electric Market DR Measurement and Verification Standards
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Driving Factors:

- Standards development is not typically cited as one of a set of driving factors for why a market embraces a direction.
- Standards can though bring the industry together in how regulatory policy is implemented.
- They can also bring efficiencies and cost savings to a market which would make a direction such as expansion of DR and EE more attractive to the administrators and participants.
- M&V Standards for DR and EE can simplify how the programs are planned, implemented and evaluated by having more uniform metrics.

Purpose:

- Transparency: accessible and understandable M&V protocols for DR programs and services.
- Accountability: Criteria that will enable program administrators to accurately measure the performance of demand resources.
- Consistency: Business Practice Standards applicable across all the wholesale markets.
Wholesale Electric Demand Response Services:
- Energy Service
- Capacity Service
- Reserve Service
- Regulation Service

The five performance evaluation methodologies:
- Maximum Base Load
- Meter Before / Meter After
- Baseline Type-I
- Baseline Type-II
- Metering Generator Output
What do the wholesale DR M&V standards cover:

- Categorizing demand response products and services
- Providing support for the measurement and verification of these products and services
- Meter data reporting deadlines
- Advanced notification
- Telemetry intervals
- Meter accuracy for after the fact metering
- Meter data reporting intervals
- Adjustment windows

- There are 141 WEQ DR standards (WEQ-015 set of standards)
What don’t they cover:

- Duplicating processes undertaken in the ISO-RTO stakeholder community

- Where there were difficulties achieving uniformity because of differences in the programs offered by the ISOs and RTOs, transparency was provided instead of introducing more specificity or granularity

- Wholesale programs administered by groups other than ISOs and RTOs
What do the retail DR standards cover:

- Establish the criteria for the use of equipment, technology and procedures to quantify the Demand Reduction Value


- Telemetry: Telemetry Requirements, Accuracy, Intervals, Measurements, Communication Protocols, Governor Control Equivalents, On Site Generation Requirements

- After the Fact Metering: Requirements, Accuracy, Equipment Details, Reporting Deadlines, Reporting Intervals, lock Accuracy, VEE Methods, On Site Generation Requirements
What do the retail DR standards cover:

- **Performance Evaluation:** acceptable baselines and alternative performance measurements for each type of DR product
- **For baseline information:** baseline window, calculation types, sampling precision, exclusion rules, baseline adjustments, adjustment windows
- **For Event Information:** use of real-time telemetry, use of after the fact telemetry, performance window, measurement type
- **For Special Processing:** highly variable load logic, on site generation requirements

114 Retail DR Standards (REQ-013)
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NAESB Wholesale & Retail Electric Market EE Measurement and Verification Standards
What do the wholesale EE standards cover (WEQ-021):

- Designed to create a standard method for quantifying the energy reductions from energy efficiency measures
- Based on services and products administered by PJM and ISO-NE, several state protocols, federal energy management program M&V standards and the International Performance Measurement and Verification Protocol
- 69 standards and definitions including energy efficiency baseline and demand reduction value.
- Criteria for the use of energy efficiency products in organized wholesale electricity markets, general measurement and verification plan requirements, and detailed criteria of acceptable measurement and verification methodologies
What do the Retail EE Standards Cover (REQ-019):

- Designed to create an standard method for quantifying the energy reductions from energy efficiency measures
- Applicable to the M&V of electrical energy (kWh) and demand (kW) impacts referred to as reductions or savings of EE programs offered to retail customers
- Several different M&V methodologies defined including calibrated simulation, partially measured retrofits, retrofits, regression analysis, deemed savings and large scale billing analysis
- Verification components for projects that verify EE baseline conditions
- EE baselines, statistical significance, savings calculations, demand reduction calculations, monitoring parameters, data validation,
- 51 standards and definitions
Relationship with Government Agencies
NAESB Access to Standards by State Commissions

- All retail electric and retail gas standards that are state jurisdictional are provided to the National Association of Regulatory Utility Commissioners for distribution to interested state commission staff.

- The NAESB record of minutes, work papers, voting, comments related to the standards are available for review, including all minority positions noted in comments.

- Related transcripts from EC, Board and other subcommittee or task force meetings are also made upon request to any state commission and can be purchased by any other interested party.

- Any state commission can join NAESB with membership fees paid by NARUC.
NAESB Filing of Standards with FERC

- All wholesale electric and wholesale gas standards that are federally jurisdictional are filed with the FERC.
- The NAESB record of minutes, work papers, voting, comments related to the standards are forwarded, including all minority positions noted in comments.
- Related transcripts from EC, Board and other subcommittee or task force meetings are made available to FERC and can be purchased by any other interested party.
- Any regulatory agency can request access to or copies of NAESB standards.
FERC Actions Related to NAESB DR and EE Standards:

- April 2010 -- FERC adopted wholesale electric quadrant DR M&V standards in Order No. 676-F and suggested additional specificity would be helpful

- May 2011 -- NAESB submitted report with additional granularity in the DR M&V standards in May 2011

- April 2012 -- FERC issued a NOPR on the NAESB Phase 2 DR and EE M&V standards on April 2012

- July 2012 -- Comments were due to the FERC on the NOPR