Association for Demand Response and Smart Grid

NIST, NERC, NAESB and EIA – Why DR and SG Professionals Need to Know Them

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NAESB’s scope is cited in the NAESB Certificate (Article 2, section 1):

“The objects and purposes of NAESB are to propose and adopt voluntary standards and model business practices designed to promote more competitive and efficient natural gas and electric service, as such standards apply to electronic data interchange ("EDI") record formats and communications protocols and related business practices that streamline the transactional processes of the natural gas and electric industries.”
ANSI Principles of Standards Development

- **Open.** Any materially affected and interested party has the ability to participate.

- **Balance and Lack of Dominance.** The consensus body shall be balanced and shall not be dominated by any single interest category or organization.

- **Due Process.** All objections shall have an attempt made towards their resolution. Interests who believe they have been treated unfairly shall have a right to appeal.

- **Consensus.** More than a majority but not necessarily unanimity.

- **Voluntary.** Standards are not binding unless adopted by a governmental entity as part of a code or set of regulations.
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.
NAESB Standards

- **Transparency.** Transparency in decision-making is a key factor in garnering support for standards. Transparency includes both the identification of the decision-makers and how decisions were made.

- **Inclusion.** Stakeholders should be given the opportunity to take part in the decision-making and standards development. Reaching out to trade associations and industry organizations to encourage their stakeholders to participate has proven essential in assuring that diverse groups are made aware of the planned standards development activities. Regulatory staff, both State and federal, are also encouraged to participate to ensure that the standard development supports their policies.

- **Balance.** Decision-making, particularly for standards that have broad applicability, should not only include the stakeholders who will be responsible for modifying their business processes to implement the standards, but also the service providers. The market interests should be balanced.

- **Documented and Accessible Process.** Interested participants should have access to the process by which the standards are developed and also to the process by which related decisions are reached.

- **Tie into the regulatory process.** The above four characteristics for standards setting are particularly important when the standards may be the subject of regulatory action either at the State or federal level. Ensuring the broadest level of inclusion, a balancing of interests, transparency in all aspects, and easily accessible documentation on the process strengthen the standards work products and assist in developing industry consensus, which is crucial when the work products are intended to be forwarded to regulators for their consideration.

- **Accountability.** In order to have adequate accountability, a full record should be developed. This record should include how decisions were made, who made them, who was invited to the table during strategic or tactical planning, who participated in the drafting of the standards, how full discussion and participation was encouraged, how minority positions were addressed, and how participants can request changes or make appeal requests.
The NAESB Measurement & Verification (M&V) standards provide a common framework for the following:

- **Transparency**: accessible and understandable M&V requirements for Demand Response products;
- **Accountability**: criteria that will enable the System Operator to accurately measure performance of Demand Response resources;
- **Consistency**: standards applicable across all wholesale electricity markets.
NAESB Demand Response Standards

Wholesale Electric Demand Response Services

• Energy Service
  – A type of Demand Response service in which Demand Resources delivers a quantity of electricity measured in MWh.

• Capacity Service
  – A type of Demand Response service in which Demand Resources are obligated as a means of controlling Demand over a defined period of time measured in MW.

• Reserve Service
  – A type of Demand Response service in which Demand Resources are obligated to be available to provide Demand reduction upon deployment by the System Operator, based on reserve capacity requirements established to meet applicable reliability standards.

• Regulation Service
  – A type of Demand Response service in which a Demand Resource increases and decreases Load in response to real-time signals from the System Operator. Demand Resources providing Regulation Service are subject to dispatch continuously during a commitment period. Provision of Regulation Service does not correlate to the time periods, deadlines and transitions in the Demand Response Event definition.
The five performance evaluation methodologies:

- **Maximum Base Load**: A performance evaluation methodology based solely on the ability of a Demand Resource to maintain its electricity usage at or below a specified level during a Demand Response Event.

- **Meter Before / Meter After**: A performance evaluation methodology in which electricity Demand over a prescribed period of time prior to resource Deployment is compared to similar readings during the Sustained Response Period.

- **Baseline Type-I**: A Baseline performance evaluation methodology based on historical interval meter data for a Demand Resource that may also include other parameters such as weather and calendar data.

- **Baseline Type-II**: A Baseline performance evaluation methodology that uses statistical sampling to estimate the electricity usage of an Aggregated Demand Resource where interval metering is not available on the entire population.

- **Metering Generator Output**: A performance evaluation methodology in which the Demand Reduction Value is based on the output of a generator located behind the revenue meter for the Demand Resource.
Involvement in Smart Grid Efforts

• In February 2009, the NAESB Advisory Council gave guidance to the NAESB Board of Directors that the Organization should participate in smart grid activities.

• NAESB participation in the National Institute of Standards and Technology NIST and the Smart Grid Interoperability Panel workshops and meetings in 2009 and 2010

Smart Grid Interoperability Panel Requested Standards Development

• Assignments given to NAESB through “Priority Action Plans”
  – Develop Use Cases and Data Requirements:
    • Priority Action Plan 3 – Common Price Communication Model
    • Priority Action Plan 4 – Common Scheduling Mechanism
    • Priority Action Plan 9 – Standardized DR and DER Signals
  – Develop a Common Information Model:
    • Priority Action Plan 10 – Standard Energy Usage Information
      – Included in NIST/SGIP Catalog of Standards
NAESB Smart Grid Standards

Industry Requested Standards Development

• Energy Services Provider Interface Standard
  – A Retail Electric Quadrant standard specification that describes and defines the communications between utilities, customers and 3rd party service providers
  – Extension of Priority Action Plan 10 and the Energy Usage Information Model
  – Currently under evaluation by major California utilities

• Data Privacy Standard (Third Party Access to Smart Meter-Based Information)
  – A Retail Electric Quadrant standard that defines Model Business Practices for the release and maintenance of consumer information to third parties and the privacy policies and practices those third parties should employ
  – During the July 2011 NARUC meeting several of the Committees adopted a Smart Grid Principles resolution that identified the NAESB Data Privacy Standard as a good reference point for commissions considering rules related to data access by consumers