



North American Energy Standards Board

1301 Fannin, Suite 2350, Houston, Texas 77002
Phone: (713) 356-0060, Fax: (713) 356-0067, E-mail: naesb@naesb.org
Home Page: www.naesb.org

NAESB BOARD OF DIRECTORS MEETING ASSEMBLED MEETING MATERIALS
June 25, 2009



North American Energy Standards Board

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NAESB BOARD OF DIRECTORS MEETING ASSEMBLED MEETING MATERIALS
Marriott IAH Airport Hotel, Houston, Texas
June 25, 2009 -- 9 am to 1 pm C

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NAESB ANTITRUST GUIDELINES STATEMENT

ANTITRUST GUIDELINES

- The following guidelines will be reviewed by counsel at the meeting. The meeting will be monitored, transcribed, and minutes will be taken. The guidelines are as follows:

Antitrust guidelines direct meeting participants to avoid discussion of topics or behavior that would result in anticompetitive behavior including: restraint of trade and conspiracies to monopolize, unfair or deceptive business acts or practices, price discriminations, division of markets, allocation of production, imposition of boycotts, and exclusive dealing arrangements.

Any views, opinions or positions presented or discussed by meeting participants are the views of the individual meeting participants and their organizations. Any such views, opinions or positions are not the views, positions or opinions of NAESB, the NAESB Board of Directors, or any NAESB Committee or Subcommittee, unless specifically noted otherwise.

As it is not the purpose of the meeting to discuss any antitrust topics, if anyone believes we are straying into improper areas, please let us know and we will redirect the conversation.



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NORTH AMERICAN ENERGY STANDARDS BOARD 2009 BOARD TERMS – Wholesale Gas Quadrant

PRODUCERS SEGMENT		TERM END:
Richard D. Smith	Regulatory & Compliance Manager, Noble Energy Inc.	12-31-2010
Bill Hebenstreit	Marketing Manager, Goodrich Petroleum Company, LLC	12-31-2009
Keith Sappenfield	Regional Director – US Regulatory Affairs, EnCana Oil & Gas (USA), Inc.	12-31-2009
Marty Patterson	Executive Vice President of Operations & COO, Foothills Energy Ventures, LLC	12-31-2010
Pete Frost	Director - Regulatory Affairs, ConocoPhillips Gas and Power Marketing	12-31-2009
PIPELINE SEGMENT		
Cathie Legge	Manager – Customer Service, Alliance Pipeline, LP	12-31-2010
Bill Grygar	Vice President, Panhandle Eastern Pipe Line	12-31-2010
Susanna B. Barry	Vice President – Commercial Operations, Tennessee Gas Pipeline Company	12-31-2010
Anne Bomar	Vice President, Dominion	12-31-2009
Richard Kruse	Senior Vice President, Spectra Energy Transmission	12-31-2009
LOCAL DISTRIBUTION COMPANY (LDC) SEGMENT		
Craig Colombo	Energy Trader III, Dominion Resources	12-31-2010
Adrian Chapman	Vice President, Regulatory Affairs & Energy Acquisition, Washington Gas	12-31-2010
Carlos Thillet	Manager, Gas Supply & Transportation, PECO Energy Co.	12-31-2009
Mike Novak	Asst. General Manager, National Fuel Gas Distribution Corporation	12-31-2009
Lee Stewart	Senior Vice President, Gas Transmission, Southern California Gas Company	12-31-2009
END USERS SEGMENT		
Valerie Crockett	Senior Energy & Policy Specialist, Tennessee Valley Authority	12-31-2010
Timothy W. Gerrish	Director of Origination-Energy Marketing and Trading, Florida Power & Light	12-31-2010
Tina Burnett	Natural Gas Resources Administrator, The Boeing Company	12-31-2010
Lori-Lynn C. Pennock	Senior Fuel Supply Analyst, Salt River Project	12-31-2009
Jim Templeton	Principal, Comprehensive Energy Services	12-31-2009
SERVICES SEGMENT		
Steve Abbey	Manager of Regulatory Affairs, Marketing Department, Anadarko Energy Services Company	12-31-2010
Rusty Braziel	Managing Director, Bentek Energy, LLC	12-31-2010
Jim Buccigross	Vice President Energy Industry Practice, 8760 Inc.	12-31-2009
V A C A N C Y		12-31-2009
Lori Leeder	Relationship Manager/Business Development – Asset Optimization, Vega Energy Partners, Ltd	12-31-2010

OFFICERS: Michael Desselle is CEO and Chairman of the Board of Directors. Rae McQuade as President serves as Secretary and COO. J. Cade Burks is the REQ Vice Chairman. Ralph Cleveland is the RGQ Vice Chairman. Valerie Crockett is the WGQ Vice Chairman. Jim Templeton is Chair Emeritus.



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**NORTH AMERICAN ENERGY STANDARDS BOARD
2009 BOARD TERMS – Retail Electric Quadrant**

SUPPLIERS SEGMENT		TERM END:
Robert K. Koger	President, North Carolina Advanced Energy Corporation	12-31-2009
V A C A N C Y		12-31-2009
V A C A N C Y		12-31-2010
V A C A N C Y		12-31-2010
DISTRIBUTORS SEGMENT		
David Koogler	Director – State Regulation, Dominion Virginia Power	12-31-2009
Dennis Derricks	Director Regulatory Policy and Analysis, Wisconsin Public Service Corporation	12-31-2009
Ruth Kiselewich	Director, Demand Side Management Programs, Baltimore Gas & Electric Company	12-31-2010
Debbie McKeever	Market Advocate, Oncor	12-31-2010
END USERS SEGMENT		
Sonny Popowsky	Consumer Advocate, Pennsylvania Office of Consumer Advocate	12-31-2009
V A C A N C Y		12-31-2009
James P. Cargas	Senior Assistant City Attorney, City of Houston	12-31-2010
V A C A N C Y		12-31-2010
SERVICE PROVIDERS SEGMENT		
Jim Minneman	Controller, PPL Solutions LLC	12-31-2009
David Pickles	Vice President, ICF International	12-31-2009
J Cade Burks	President, EC Power	12-31-2010
V A C A N C Y		12-31-2010



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NORTH AMERICAN ENERGY STANDARDS BOARD 2009 BOARD TERMS – Wholesale Electric Quadrant

TRANSMISSION SEGMENT		TERM END:	SUBSEGMENT:
Dan Klempel	Director Transmission Regulatory Compliance, Basin Electric Power Cooperative	12-31-2009	Muni/Coop
Chuck Feagans	Senior Manager, Reliability Policy, Tennessee Valley Authority	12-31-2010	Fed/State/Prov.
John E. Lucas	Director - Transmission Policy and Services, Southern Company Transmission	12-31-2010	IOU
V A C A N C Y		12-31-2009	at large
Jill Horswell	Director Transmission, Southern California Edison	12-31-2010	at large
Edward J. Davis	Policy Consultant, Entergy Services, Inc.	12-31-2009	at large
Michelle Mizumori	Market Interface Manager, Western Electricity Coordinating Council (WECC)	12-31-2009	At-Large
GENERATION SEGMENT			
Curtis Winterfeld	Vice President of Power Marketing, Deseret Generation & Transmission Cooperative	12-31-2009	Muni/Coop
Belinda Thornton	General Manager - Energy Origination, Tennessee Valley Authority	12-31-2010	Fed/State/Prov.
Lou Oberski	Director – Electric Market Policy, Dominion Resources Services, Inc.	12-31-2010	IOU
Charles W. Severance	Manager – Supply & Wholesale Services, Wisconsin Public Service Corporation	12-31-2009	IOU
V A C A N C Y		12-31-2009	Merchant
Gloria Godson	Vice President Energy Policy, Conectiv Energy Supply, Inc.	12-31-2010	Merchant
Shah Hossain	Senior Regulatory Specialist, Westar Energy, Inc.	12-31-2009	at large
MARKETERS/BROKERS SEGMENT			
Roy True	Manager of Regulatory and Markets Development, ACES Power Marketing	12-31-2010	Muni/Coop
Jeff Ackerman	Manager, Colorado River Storage Project Energy Management and Marketing Office, Western Area Power Administration	12-31-2009	Fed/State/Prov.
V A C A N C Y		12-31-2010	at large
Jack Cashin	Senior Manager of Policy, Electric Power Supply Association (EPSA)	12-31-2009	at large
Sam Forrest	Vice President, Energy Marketing and Trading, Florida Power & Light	12-31-2010	IOU
R. Scott Brown	Vice President and Director, Exelon Generation Power Team	12-31-2009	IOU
Rick Smead	Director, Navigant Consulting, Inc.	12-31-2009	At-Large



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DISTRIBUTION/LOAD SERVING ENTITIES (LSE) SEGMENT		TERM END:	SUBSEGMENT:
Arthur G. Fusco	Vice President and General Counsel, Central Electric Power Cooperative Inc.	12-31-2010	Muni/Coop
Paul McCurley	Manager – Power Supply, National Rural Electric Cooperative Association	12-31-2009	Muni/Coop
V A C A N C Y		12-31-2010	at large
Frank Johnson	Senior Vice President Electric Transmission and Distribution, Consumers Energy	12-31-2009	IOU
Thomas Burgess	Director – FERC Compliance, FirstEnergy Service Company	12-31-2009	at large
Joe Hartsoe	Managing Director – Federal Policy, American Electric Power Service Corp.	12-31-2010	at large
Bruce Ellsworth	New York State Reliability Council	12-31-2009	At-Large
END USERS SEGMENT			
V A C A N C Y		12-31-2009	at large
Aaron Breidenbaugh	Senior Manager - Regulatory Affairs and Public Policy - New York, EnerNOC, Inc.	12-31-2010	at large
Thomas G. Dvorsky	Director of the Office of Electricity, Gas, and Water at the New York State Department of Public Service, rep. National Association of Regulatory Utility Commissioners	12-31-2010	Regulator
V A C A N C Y		12-31-2009	at large
Rick Lentz	Fellow with SunGard	12-31-2010	at large
V A C A N C Y		12-31-2009	at large
Michehl Gent	Open Access Technology International, Inc.	12-31-2009	At-Large
INDEPENDENT GRID OPERATORS/PLANNERS			
Michael Desselle	Vice President Process Integrity, Southwest Power Pool	12-31-2010	
Kent Saathoff	Vice President of System Operations, ERCOT	12-31-2010	
Kevin Kirby	Vice President Market Operations, ISO New England, Inc.	12-31-2010	
Rana Mukerji	Vice President Market Structures, New York Independent System Operator, Inc. (NYISO)	12-31-2010	
Andy Ott	Senior Vice President Marketing, PJM Interconnection, LLC	12-31-2009	
Bill Phillips	Vice President Standards Compliance & Strategy, Midwest ISO (MISO)	12-31-2009	
Don Tench	Director Planning & Assessments, Independent Electricity System Operator (IESO)	12-31-2009	

The subsegments noted in the above roster are:

At-Large -- Regional reliability organizations, regional transmission organizations, consultants, service companies, information services and software companies, law firms, and other such organizations that are not specifically encompassed in the other subsegments for a given segment.

Competitive Retailer (not available to MUNI/COOP, IOU or IOU affiliates)

End Use (also in another segment)



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Federal/State/Provincial

IOU – Investor Owned Utility or IOU Affiliated

ITC – Independent Transmission Company

Large Industrials (not in other segments)

Merchant

Muni/Coop – Municipals, Cooperatives

Not IOU Affiliated

OTHER -- (not available to MUNI/COOP, IOU or IOU affiliates)

Regulator

Residential/Commercial

End Use (Self Generation)

The number of seats within each segment that are allotted to sub-segments are controlled through the WEQ Procedures.



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**NORTH AMERICAN ENERGY STANDARDS BOARD
2009 BOARD TERMS – Retail Gas Quadrant**

SUPPLIERS SEGMENT		TERM END:
VACANCY		12-31-2010
VACANCY		12-31-2010
VACANCY		12-31-2010
VACANCY		12-31-2009
VACANCY		12-31-2009
VACANCY		12-31-2009
DISTRIBUTORS SEGMENT		
Alonzo Weaver	Vice President of Engineering and Operations, Memphis Light, Gas & Water Division (APGA)	12-31-2009
VACANCY		12-31-2009
VACANCY		12-31-2010
Ralph Cleveland	Senior Vice President – Engineering and Operations, AGL Resources, Inc.	12-31-2009
VACANCY		12-31-2009
VACANCY		12-31-2010
END USERS SEGMENT		
VACANCY		12-31-2010
VACANCY		12-31-2010
VACANCY		12-31-2010
VACANCY		12-31-2009
VACANCY		12-31-2009
VACANCY		12-31-2009
SERVICE PROVIDERS SEGMENT		
Leigh Spangler	President, Latitude Technologies Inc.	12-31-2010
VACANCY		12-31-2010
Dave Darnell	President & CEO, Systrends USA	12-31-2009
Greg Lander	President, Capacity Center	12-31-2009
VACANCY		12-31-2009
VACANCY		12-31-2010



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Via email and posting
June 10, 2009

TO: NAESB Board of Directors, Executive Committee (EC) Members, EC Alternates, and Invited Guests
FROM: Rae McQuade, NAESB President and COO
RE: Agenda: NAESB Board Meeting and related NAESB Meetings – June 25, 2009

Dear Board members, EC members, EC alternates and invited guests,

As noted in other communications, we are pleased to announce the upcoming Board meeting on June 25 in Houston, Texas at the Marriott IAH Airport Hotel. I hope you are able to travel to Houston for our upcoming Board meeting, related committee meetings and out Board dinner.

For our Board meeting, we will review progress made against our 2009 plans, discuss membership and financial reports, review publication plans for upcoming versions, and have updates on a number of key development efforts including DSM-EE, Smart Grid, Order Nos. 698, 712 and 890. In addition, the night before, we have a wonderful and topical speaker slated for the June 24 dinner at the Petroleum Club, Ms. Bernadette Budde for BIPAC. Ms. Budde serves as a Senior Vice President for Business Industry Political Action Committee (BIPAC), and is regarded by many as the dean of congressional campaign watchers. For more than 30 years, her sometimes unpopular – but historically accurate – advice and command of campaigns, candidate numbers and nuance have earned Ms. Budde the role of trusted 'source' and frequent counsel. Ms. Budde was instrumental in the development of the Prosperity Project ® and the Prosperity Fund, two key initiatives run through BIPAC which foster greater political awareness in the business community at the local, state and federal levels.

The specifics of the meetings are:

Events:	Board of Directors Meeting and related NAESB meetings
Where:	Marriott IAH Airport, 18700 John F. Kennedy Blvd, Houston, TX 77032, phone (281) 443-5235 (excepting Board Reception and Dinner)
When:	June 24 Wholesale Electric Quadrant Leadership Meeting from 1:00 pm to 3:00 pm C, (a working lunch will be served at this meeting at Noon) (Brazos AB)
	June 24 Retail Quadrants Leadership Meeting from 3:00 pm to 5:00 pm C (Lubbock AB)
	June 24 Board Reception and Dinner - 6:00 pm reception and 7:00 pm dinner seating (held at the Petroleum Club with bus transportation provided to/from the Marriott IAH Airport Hotel)
	June 25 Resources Committee Meeting from 8:00 am to 9:00 am C (Brazos AB)
	June 25 Board Meeting from 9:00 am to 1:00 pm C, (a buffet lunch will be served during the meeting) (Ballroom A)

As with all our meetings, these events are open to any interested party. For the meetings, conference calling will be available should you be unable to attend in person. To participate by phone, please call 866-740-1260, with the access code of 356-0060, and security code of 6515. For the web casts, please go to the following link: <http://www.readytalk.com>, and use the same access code and security code. Please contact Veronica Thomason (vthomason@naesb.org, 713-356-0060) for additional information on the meeting and conference calling information. Board materials should be posted shortly.

We hope you will be able to make the leadership meetings and the dinner on June 24, followed by the Resources Committee meeting and the Board meeting on June 25. If you haven't already RSVPed your intention to attend the Board dinner or Board of Directors meeting or any of the related meetings, or your intention to bring a guest or colleague to the dinner, please do so at your earliest convenience (vthomason@naesb.org, naesb@naesb.org, 713-356-0060). We look forward to seeing you at the dinner on June 24 and our meeting on June 25 and at any of the related meetings noted above.

Best Regards,

Rae McQuade

Rae McQuade
NAESB President and COO



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NAESB BOARD OF DIRECTORS MEETING
Marriott IAH Airport Hotel, Houston, Texas
Thursday, June 25– 9:00 a.m. to 1:00 pm Central

DRAFT AGENDA WITH LINKS

- 8:00 a.m. Resources Committee Meeting**
- 8:30 a.m. Continental Breakfast**
- 9:00 a.m.**
- 1. Administration and Welcome**
 - a) Antitrust Guidelines: http://www.naesb.org/misc/antitrust_guidance.doc (Guidance)
 - b) Introduction of Board Members and Guests: http://www.naesb.org/pdf4/bod_terms.pdf (Board Roster)
 - 2. Adoption of the Agenda and Minutes**
 - a) Agenda Adoption: <http://www.naesb.org/pdf4/bd032609a.doc> (Agenda)
 - b) Adoption of Draft Minutes – March 26, 2009:
<http://www.naesb.org/pdf4/bd032609dm.doc> (Draft Minutes)
 - 3. Membership and Financial Report**
 - a) Membership Report: http://www.naesb.org/misc/membership_report_062509.pdf (Report and Graph)
 - b) Financial Report for 2009 YTD: http://www.naesb.org/misc/financial_report_062509.pdf (Financial Report)
 - 4. Reports from board committees**
 - a) Resources: http://www.naesb.org/pdf4/board_resource062509w1.pdf (Resources Report)
 - b) Retail Restructuring Considerations: Proposed
http://www.naesb.org/misc/req_draft_quadrant_procedures_061909.doc (Proposed Retail Electric Quadrant Procedures),
http://www.naesb.org/misc/rgq_draft_quadrant_procedures_061909.doc (Proposed Retail Gas Quadrant Procedures)
 - 5. Updates on specific efforts:**
 - a) Publications – Retail Version 1.1 (<http://www.naesb.org/pdf4/update052709w11.doc>), WGQ Version 1.9 (<http://www.naesb.org/pdf4/update052709w10.doc>) and WEQ Version 2.2
 - b) Smart Grid Update: : http://www.naesb.org/pdf4/smart_grid041509a1.doc (NOI Analysis), http://www.naesb.org/misc/nist_standards_proposal.doc (Identification of NIST Proposed Standards), <http://www.naesb.org/misc/interimsmartgridroadmapnistrestructure.pdf> (NIST Interim Roadmap)
 - c) Completion of standards for Order 698 and Order 712:
<http://www.naesb.org/pdf4/update052709w7.pdf> (Presentation)
 - d) Update on Order 890 efforts: <http://www.naesb.org/pdf4/update052709w1.doc>
 - e) Update on Demand Response and Demand Side Management:
http://www.naesb.org/pdf4/dsmee_group2_062609w1.doc (Retail Draft Working Document for Proposed Standards), http://www.naesb.org/misc/dsm_matrix_061909.xls (Excel Version of the Wholesale DR Matrix)



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NAESB BOARD OF DIRECTORS MEETING
Marriott IAH Airport Hotel, Houston, Texas
Thursday, June 25– 9:00 a.m. to 1:00 pm Central

DRAFT AGENDA WITH LINKS

6. Executive Committee Reports

- a) Review of 2009 WGQ Annual Plan and vote to adopt with any revisions made during the meeting: http://www.naesb.org/pdf4/wgq_ec051409a2.doc (2009 Plan)
- b) Review of 2009 Retail Annual Plan and vote to adopt with any revisions made during the meeting: http://www.naesb.org/pdf4/retail_ec051309a2.doc (2009 Plan)
- c) Review of 2009 WEQ Annual Plan and vote to adopt with any revisions made during the meeting: http://www.naesb.org/misc/weq_ec051209_ap_redlined_rev.doc (2009 Plan)

7. Plan for September 2009 Board Meeting including the meeting of the members and the strategic session

8. Old and New Business

- a) Liaisons: FERC, NARUC, NERC, Other Groups
- b) Board Meeting Schedule for 2009: :
http://www.naesb.org/misc/2009_brd_ec_schedule.doc (Schedule of 2009 Meetings)

1:00 p.m.

9. Adjourn

Attire – Business Casual -- Working buffet lunch will be provided.



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March 26, 2009

TO: NAESB Board of Directors, Executive Committee (EC) Members, EC Alternates, and Invited Guests
FROM: Cory Galik Cummings, Staff Attorney
RE: Draft Minutes of the NAESB Board Meeting – March 26, 2009

NAESB BOARD OF DIRECTORS MEETING
Marriott IAH Airport Hotel, Houston, Texas
Thursday, March 26 – 9:00 a.m. to 1:00 pm Central
DRAFT MINUTES

1. Administration and Welcome

Mr. Desselle welcomed the Board members and guests in the room and on the phone. Mr. Boswell read the antitrust guidelines. Ms. Cummings called the roll and quorum was established.

The Board members reviewed the draft agenda. Mr. Ellsworth moved to adopt the agenda and the motion was seconded by Mr. Fusco. The agenda was adopted as written. The Board members reviewed the draft minutes from the December 18, 2008 meeting. Mr. Gent moved to adopt the draft minutes and the motion was seconded by Mr. Templeton. The motion passed without objection.

2. Membership and Financial Report

Membership Report: Ms. McQuade reviewed the [membership report](#). The [membership profile](#) reflects a 10 member loss since December, 2008. The majority of the resignations were due to companies with multiple memberships reducing their number of memberships. None of the resignations were due to the increase in dues. Ms. McQuade asked members to review the contact list for accuracy.

Financial Report for 2008 Year End: Ms. Wishart provided an account of the [financial report](#) and [financial chart](#). While NAESB had planned for a profit of \$390,000 there was a loss of \$118,000 due to loss of members and increased expenses. Ms. Wishart was confident that the NAESB office will meet its estimated budget at the end of 2009 due to the increase of membership fees. Mr. Gent noted that the amount of negative retained earnings is decreasing. Ms. McQuade noted that NAESB maintained the projected financials reported in June, 2008 as they remained consistent in September and December, 2008. She anticipated a decrease in the negative retained earnings at the end of 2009 and a positive retained earning by the end of 2010.

3. Update from the 2-14-09 Advisory Council Meeting

Review of Advisory Council Meeting: Mr. Ellsworth provided an update on the [Advisory Council meeting](#). At this year's meeting, Ms. McQuade presented a primer of NAESB history, activities and goals. He encouraged members to review this slideshow. A highlight of the meeting was a discussion on NAESB's roles and opportunities in regards to the new stimulus package.

Review of Communications with the U.S. Department of Energy: Mr. Desselle and Ms. McQuade worked with a small group of Board and Advisory Council members to discuss the options available to NAESB regarding the stimulus bill. A position paper was developed to send to the Department of Energy and letters were sent to the [Department of Energy](#) and the [Federal Energy Regulatory Commission](#). Ms. McQuade noted that NAESB would be required to review the Wholesale Electric Quadrant (WEQ) body of standards to ensure consistency with any smart grid technology endorsed by the government. A question arose regarding the requirements NAESB would have to fulfill related to accepting grants. Any decision to accept grants should they be offered would be put to the full Board for review and decision. NAESB has accepted services from the DoE through the Sandia National Labs surety assessments of the technical standards and through the DoE development of white papers. Mr. Brown stated that the stimulus package offered a unique opportunity for the industry to obtain experts in the gas and electric markets to deliver products quickly to the market.



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4. Reports from Board Committees

Board Resources: Mr. Brown presented the [Board Resources report](#). He noted a significant discrepancy between the number of new membership and the increase in resignations as companies find ways to cut costs. The loss of membership is not due to the increase in membership dues but rather companies reducing expenses. He also noted several new areas for potential membership including wind producers, solar producers and geothermal producers. He asked for Board volunteers to reach out to Smart Grid companies as that will be particularly important given FERC's policy statement on the Smart Grid and there appears to be a number of opportunities for NAESB standards development. Other areas for new membership opportunities include the recent NOPR from the FERC on Order No. 890 accepting a number of WEQ standards. Once the FERC approves those standards a press release will be released to inform the industry of NAESB's work. FERC's Smart Grid policy statement may also be used to attract new members. NAESB will also contact the participants from the DSM-EE work in an attempt to convert those active in the subcommittee into members.

Retail Restructuring Considerations: Mr. Minneman presented the [Retail Restructuring report](#). The Retail Structure Review Committee (RSR) has met several times since the December Board meeting to address the questions that were raised at that Board meeting. The retail quadrants were formed to address retail and gas in competitive markets. The quadrants have completed the majority of the work envisioned. The competitive markets did not develop as anticipated when the quadrants were formed. In looking at the direction the quadrants are currently taking, it was agreed that the current structure was not optimal to encourage membership. The RSR proposed the following changes; 1) revise the segment structure to better accommodate new areas of interest, such as energy efficiency and aggregation programs that are of interest to large retailers; 2) reduce the number of segments in each quadrant to three: Supplier/Service Providers, Utilities and End Users/Public Agencies Segment and; 3) reduce the required minimum number of members from forty to twenty. The first two changes can be made by the Retail Quadrants; the third change requires Board approval. The third quadrant (Utilities and End Users) was created in such a way as to encourage involvement of state public agencies as the role of those agencies and the retail industry is different than at the wholesale level. Ms. McQuade noted that the NAESB office has reached out to state commissions to join with NARUC support. Several states are considering it and supportive of state involvement. Mr. Ellsworth stated that with a topic of national interest, such as DSM-EE, there is an increase in interest in ensuring that the work is done correctly. He suggested that now may not be the best time to change the membership requirements but rather wait and see how this national influence impacts the quadrants. Mr. Boswell noted that the Board could extend the status quo of under-populated quadrants. This would require a Board resolution. Ms. McQuade said that if the Board agrees to a resolution to extend the retail quadrants without the minimum member requirement she would recommend that the RSR not disband but report back to the Board every quarter on their progress. Mr. Kruse expressed concern with a resolution that waived the membership requirement for two years. He noted that over the next six months to a year there should be enough interest in retail to increase membership. Mr. Kruse moved to allow a waiver of the minimum membership requirements for the Retail Quadrants for twelve months with quarterly reports from the SRS. Mr. Ellsworth seconded the motion. The motion unanimously passed a simple majority vote.

Managing Committee: Mr. Desselle provided the report of the Managing Committee. They met on January 23 to review NAESB salaries. At that meeting the committee also discussed NERC coordination. They met again this morning to review today's agenda. The Managing Committee discussed an item that was raised during yesterday's WEQ leadership meeting with respect to segment blocks. NAESB's current practice is to notify the FERC with respect to segment blocks. With the change made to the bylaws to prevent segment blocks by un-fully populated segments, NAESB will continue to notify FERC of those segment's actions as well so that if the segment would have blocked but for the lack of seated EC members, the FERC will still be notified of that segment's activities.

5. Updates on Specific Efforts

Wholesale Electric Quadrant: Ms. York provided the update for the WEQ. The NAESB office filed the WEQ Version 2.1 standards with the FERC on February 19, 2009. The filing covered standards that were developed or modified between last August and February of this year and included standards to support FERC Order Nos. 890, 890-A and 890-B, including standards for Capacity Benefit Margin and part one of a two-part modification to the



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NAESB standards regarding the grant of transmission rollover rights to requests for redirect on a firm basis. Part two of this standard is currently under development. The filing also included modifications to the Commercial Timing Table for Appendix D of the Coordinate Interchange standard, modifications to the TLR standards and appendices to provide more clarity and alignment with the NERC reliability standard. The filing also includes three minor corrections for the WEQ standards. The report on standards development covered only one failed standard related to Order 890 that addressed a request to formulate an ATC information list. This standard did not garner super-majority support of the WEQ Executive Committee. The remainder of the standards to address FERC Order No. 890 will be filed separately once the language for those standards is complete and will be submitted as WEQ Standards Version 2.2. That filing is expected in the first quarter of 2010.

The standards left to be addressed are related to Group 3 on Network Service on OASIS, Group 4 related to Pre-emption and Rollover Rights, Group 5 related to Rebid of Partial Service, and Group 6 related to re-dispatch cost posting and other miscellaneous items. The subcommittee is working to get all of this work completed by end of year to support a first quarter 2010 filing.

Last week, FERC issued a NOPR on the NAESB 2.1 standards. They also released a NOPR on the NERC standards. These standards were all completed through the joint NERC/NAESB process. NERC had made a filing related to our Version 2.1 standards indicating that there may be one potential issue with the CBM standard. FERC indicated in the NOPR that they did not see an issue.

The subcommittee is also working on a variety of OASIS-related standards, in particular the transfer of the E-Tagging Specifications and the Transmission Service Information Network (TSIN) from NERC to NAESB. For E-Tagging, the subcommittee is working with NERC to coordinate the transfer and perform testing. The next version of E-Tagging will be identified as NAESB's document and titled the NAESB Electronic Tagging Functional Specification. Work is underway to determine and develop the appropriate business practice standards to support the transfer of TSIN. There is a draft confidentiality agreement currently posted for informal comment. The transition of the TSIN Registry will be known as the NAESB Electric Industry Registry (EIR). Currently, NERC and NAESB are working on a Request for Proposal (RFP) for a third party to manage and host the registry.

The Business Practice Subcommittee is continuing to work on a number of items, including changes to the standards related to Standards of Conduct, working in coordination with the NERC team on TLR issues as well as time error correction and inadvertent interchange payback, modifications to the gas/electric communication standards, among other items.

The Standards Review Subcommittee is continuing to work to review the release of NERC SARS to help NAESB stay coordinated with needed business practice standards to complement any reliability standards.

The WEQ is continuing to work diligently along with the Retail Quadrant on Demand-Side Management and Energy Efficiency Standards. This effort will continue to grow in importance as there is an increase in legislation and regulation focus in this area.

Wholesale Gas Quadrant: Mr. Buccigross provided the update for the WGQ. The FERC Order Nos. 698 and 717 implementation documents have been completed in the subcommittee and will be voted out at the May WGQ EC meeting. The fully staffed recommendations will go out for formal comment before the EC votes on them at the May EC meeting. They will be included in the Version 1.9 publication to be published in the 3rd quarter of 2009. In reference to Version 1.8, the pipelines are currently preparing for the tariff changes. The deadline for the tariff filings is July 1 with an actual implementation date of August 1, 2009.

WEQ and Retail DSM-EE efforts: Mr. True provided the update for the DSM-EE efforts. On February 10 the WEQ EC approved the [Demand Response \(DR\) standards](#) and on March 16 WEQ membership ratified the standards unanimously. The NAESB office will file these standards with the FERC shortly. Phase two of the standards development process for DR will add specificity and granularity to the approved standards. Mr. True suggested the creation of a separate subcommittee, not dependent on the completion of the efforts developing DR measurement and verification standards, to begin work on the Energy Efficiency standards, of which the Board was supportive.



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Mr. Desselle noted that with the filing of these standards with FERC, a press release will be sent out to inform the industry of NAESB's progress on these efforts.

Mr. Newcomb provided a review of the Retail DSM-EE efforts. The retail work group has been meeting every other Thursday to complete a [draft recommendation](#) for the measurement and verification of DR standards. The work group used the wholesale standards as a template and converted it into a workable retail recommendation. The group has reviewed the draft recommendation with dispatchable programs and once that work is complete they will review it with non-dispatchable programs. The goal is to determine the areas where greater granularity can be added. Definitions are being identified and more specific efforts to review the glossary terms will be made with the Retail Glossary subcommittee.

Mr. Kirby asked if the wholesale and retail work was being coordinated to ensure consistency. Mr. Newcomb said that the work groups are coordinated and share several members. The retail recommendation will state that if there is a retail DR product offered in the wholesale market, the WEQ standards will take precedence. Ms. McQuade also noted that in support of coordination, the retail recommendation will be voted on by the entire DSM-EE subcommittee which includes both wholesale and retail participants.

Retail Quadrants: Mr. Precht provided the update for the Retail Quadrants. The Business Practice Subcommittee (BPS) is mostly maintaining the retail standards but there is still one part of the competitive environment work that is still being addressed, customer inquiries. They have developed Model Business Practices for customer inquiries and hope to vote them out of the subcommittee in April. They are also working on the creation of flow diagrams for billing and payments in a competitive environment. The glossary subcommittee has been working in conjunction with the BPS.

6. Executive Committee Reports

The [2009 WGQ Annual Plan](#) was reviewed. The following items changed; the status of item 3(a)(i) was changed to complete; 3(b) was changed to underway; and 4(a) and 4(b) were both changed to complete. The [2009 Retail Annual Plan](#) was reviewed. Mr. Precht noted a [supplemental work paper](#) that was submitted in relation to AP item 6. There is concern on the part of gas distribution companies that the retail gas industry is not ready to address demand response and demand side management standards as they are not as fully developed as the electric industry. Mr. Desselle said it was noted that the DR standards would apply to the REQ only. The [2009 WEQ Annual Plan](#) was reviewed. The following items changed; the expected completion date of 2(a)(ii)(3) changed to 2nd Quarter, 2009; the status of item 3(d) was changed to complete; Item 4(a) noted that examples were to be provided. 4(a) was left as a reference point and the notation for examples was moved to item 4(b). Under provisional items, the Board added development of NAESB business practices as needed to complement NERC reliability standards for FAC-012 and FAC-013. It was also noted that for Annual Plan item 4, a separate subcommittee would be created to address the EE standards.

Mr. Smead moved to adopt the changes to the Annual Plans and Mr. Kirby seconded the motion. The motion passed unanimously.

7. Plan for June 2009 Board Meeting

The next [NAESB Board of Directors meeting](#) will be held on Thursday, June 25, 2009 at the Marriott Houston Intercontinental Hotel from 9:00 am to 1:00 pm Central.

8. Old and New Business

Ms. McQuade noted that NAESB would be hosting a workshop on consensus building in Las Vegas, Nevada at the MGM Grand Hotel. Mr. Miles, from the FERC, would be presenting. Mr. Boswell and Mr. Buccigross would conduct a presentation on roles and responsibilities of NAESB EC and Board members.

An e-Tariff vendor fair will be held on Tuesday, April 28 from 1:00 pm to 5:00 pm Eastern at the Renaissance Hotel in Washington, DC. The vendor fair was being held in coordination with a FERC technology conference.



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9. Adjourn

Ms. Burnett moved to adjourn the meeting. The meeting adjourned at 11:30 pm Central.

10. Board Attendance and Voting Record (Vacancies Omitted)

		ATTENDANCE
WGQ PRODUCERS SEGMENT		
Richard D. Smith	Regulatory & Compliance Manager, Noble Energy Inc.	In Person
Bill Hebenstreit	Marketing Manager, Goodrich Petroleum Company LLC	In Person
Keith Sappenfield	Regional Director – US Regulatory Affairs, EnCana Oil & Gas (USA) Inc.	Phone
Marty Patterson	Vice President – Commercial Operations, Foothills Energy Ventures LLC	In Person
Pete Frost	Director - Regulatory Affairs, ConocoPhillips Gas and Power Marketing	Phone
WGQ PIPELINE SEGMENT		
Cathie Legge	Manager – Customer Service, Alliance Pipeline LP	In Person
Bill Grygar	Vice President, Panhandle Eastern Pipe Line	In Person
Susanna B. Barry	Vice President – Commercial Operations, Tennessee Gas Pipeline Company	
Anne Bomar	Vice President, Dominion	
Richard Kruse	Senior Vice President, Spectra Energy Transmission	In Person
WGQ LOCAL DISTRIBUTION COMPANY (LDC) SEGMENT		
Adrian Chapman	Vice President, Regulatory Affairs & Energy Acquisition, Washington Gas	
Carlos Thillet	Manager, Gas Supply & Transportation, PECO Energy Co.	In Person
Mike Novak	Asst. General Manager, National Fuel Gas Distribution Corporation	
Lee Stewart	Senior Vice President, Gas Transmission, Southern California Gas Company	Phone
WGQ END USERS SEGMENT		
Valerie Crockett	Senior Energy & Policy Specialist, Tennessee Valley Authority	In Person
Timothy W. Gerrish	Director of Origination-Energy Marketing and Trading, Florida Power & Light	
Tina Burnett	Natural Gas Resources Administrator, The Boeing Co.	In Person
Lori-Lynn C. Pennock	Senior Fuel Supply Analyst, Salt River Project	In Person
Jim Templeton	Principal, Comprehensive Energy Services	In Person
WGQ SERVICES SEGMENT		
Steve Abbey	Manager of Regulatory Affairs, Marketing Department, Anadarko	
Rusty Braziel	Managing Director, Bentek Energy, LLC	In Person
Jim Buccigross	Vice President Energy Industry Practice, 8760 Inc.	Phone
Lori Leeder	Relationship Manager/Business Development – Asset Optimization, Vega Energy Partners	In Person
REQ SUPPLIERS SEGMENT		
Robert K. Koger	President, North Carolina Advanced Energy Corporation	In Person
REQ DISTRIBUTORS SEGMENT		
David Koogler	Director – State Regulation, Dominion Virginia Power	In Person
Dennis Derricks	Director Regulatory Policy and Analysis, Wisconsin Public Service Corporation	Phone
Ruth Kiselewich	Director, Conservation Programs, Baltimore Gas & Electric Company	
Debbie McKeever	Market Advocate, Oncor	
REQ END USERS SEGMENT		
Sonny Popowsky	Consumer Advocate, Pennsylvania Office of Consumer Advocate	
REQ SERVICE PROVIDERS SEGMENT		
Jim Minneman	Controller, PPL Solutions LLC	Phone
David Pickles	Vice President, ICF International	
J Cade Burks	President, EC Power	In Person
WEQ TRANSMISSION SEGMENT		SUB SEG:
Dan Klempel	Director Transmission Regulatory Compliance, Basin Electric Power	Muni/Coop



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			ATTENDANCE
	Cooperative		
Chuck Feagans	Senior Manager, Reliability Policy, Tennessee Valley Authority	Fed/State/Prov.	Phone
John E. Lucas	Director - Transmission Policy and Services, Southern Company Transmission	IOU	Phone
Jill Horswell	Director Transmission, Southern California Edison	at large	In Person
Edward J. Davis	Policy Consultant, Entergy Services, Inc.	at large	In Person
Michelle Mizumori	Market Interface Manager, Western Electricity Coordinating Council (WECC)	At-Large	In Person
WEQ GENERATION SEGMENT			
Curtis Winterfeld	Vice President of Power Marketing, Deseret Generation & Transmission Cooperative	Muni/Coop	Phone
Belinda Thornton	General Manager - Energy Origination, Tennessee Valley Authority	Fed/State/Prov.	
Lou Oberski	Director – Electric Market Policy, Dominion Resources Services, Inc.	IOU	In Person
Charles W. Severance	Manager – Supply & Wholesale Services, Wisconsin Public Service Corporation	IOU	
Ron Mucci	Consultant, Representing Entegra Power Group LLC	Merchant	Phone
Gloria Godson	Vice President Energy Policy, Conectiv Energy Supply, Inc.	Merchant	
Shah Hossain	Senior Regulatory Specialist, Westar Energy, Inc.	at large	In Person
WEQ MARKETERS/BROKERS SEGMENT			
Roy True	Manager of Regulatory and Markets Development, ACES Power Marketing	Muni/Coop	In Person
Jeff Ackerman	Manager, Colorado River Storage Project Energy Management and Marketing Office, Western Area Power Administration	Fed/State/Prov.	
Jack Cashin	Senior Manager of Policy, Electric Power Supply Association (EPSA)	at large	
Sam Forrest	Vice President, Energy Marketing and Trading, Florida Power & Light	IOU	
R. Scott Brown	Vice President and Director, Exelon Generation Power Team	IOU	In Person
Rick Smead	Director, Navigant Consulting, Inc.	At-Large	In Person
WEQ DISTRIBUTION/LOAD SERVING ENTITIES (LSE) SEGMENT			
Arthur G. Fusco	Vice President and General Counsel, Central Electric Power Cooperative Inc.	Muni/Coop	In Person
Paul McCurley	Manager – Power Supply, National Rural Electric Cooperative Association	Muni/Coop	In Person
Frank Johnson	Senior Vice President Electric Transmission and Distribution, Consumers Energy	IOU	
Thomas Burgess	Director – FERC Compliance, FirstEnergy Service Company	at large	Phone
Joe Hartsoe	Managing Director – Federal Policy, American Electric Power Service Corp.	at large	
Bruce Ellsworth	New York State Reliability Council	At-Large	In Person
WEQ END USERS SEGMENT			
Aaron Breidenbaugh	Senior Manager – Regulatory Affairs and Public Policy – New York, EnerNOC, Inc.		
Thomas G. Dvorsky	Director of the Office of Electricity, Gas, and Water at the New York State Department of Public Service	Regulator	
Michehl Gent	Open Access Technology International, Inc.	At-Large	In Person
WEQ INDEPENDENT GRID OPERATORS/PLANNERS			
Michael Desselle	Vice President Process Integrity, Southwest Power Pool		In Person
Kent Saathoff	Vice President of System Operations, ERCOT		In Person
Kevin Kirby	Vice President Market Operations, ISO New England, Inc.		In Person
Rana Mukerji	Vice President Market Structures, New York Independent System Operator, Inc. (NYISO)		
Andy Ott	Senior Vice President Marketing, PJM Interconnection		
Bill Phillips	Vice President Standards Compliance & Strategy, Midwest ISO (MISO)		In Person



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		ATTENDANCE
Don Tench	Director Planning & Assessments, Independent Electricity System Operator (IESO)	Phone

RGQ DISTRIBUTORS SEGMENT

Alonzo Weaver	Vice President of Engineering and Operations, Memphis Light, Gas & Water Division (APGA)	
Ralph Cleveland	Senior Vice President – Engineering and Operations, AGL Resources, Inc.	In Person

SERVICE PROVIDERS SEGMENT

Leigh Spangler	President, Latitude Technologies Inc.	In Person
Dave Darnell	President & CEO, Systrends USA	
Greg Lander	President, Capacity Center	

The subsegments noted in the above roster are:

At-Large -- Regional reliability organizations, regional transmission organizations, consultants, service companies, information services and software companies, law firms, and other such organizations that are not specifically encompassed in the other subsegments for a given segment.

Competitive Retailer (not available to MUNI/COOP, IOU or IOU affiliates)

End Use (also in another segment)

Federal/State/Provincial

IOU – Investor Owned Utility or IOU Affiliated

ITC – Independent Transmission Company

Large Industrials (not in other segments)

Merchant

Muni/Coop – Municipals, Cooperatives

Not IOU Affiliated

OTHER -- (not available to MUNI/COOP, IOU or IOU affiliates)

Regulator

Residential/Commercial

End Use (Self Generation)

The numbers of seats within each segment that are allotted to sub-segments are controlled through the WEQ Procedures.



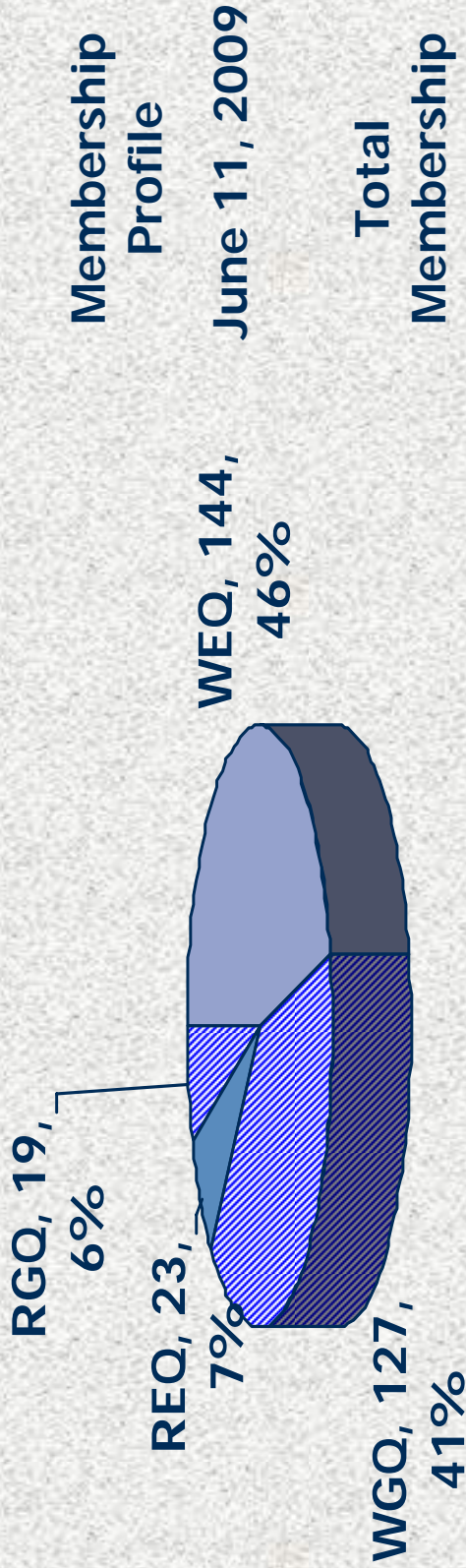
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11. Other Attendance

Name	Organization	Attendance
Steve Abbey	Anadarko Energy Services Company	In person
Jonathan Booe	NAESB	In Person
Bill Boswell	NAESB	In Person
Jim Buccigross	8760 Inc.	Phone
Kathryn Burch	Spectra Energy Transmission	In Person
Christopher Burden	Williams Gas Pipeline	In Person
Ralph Cleveland	AGL Resources	In Person
Cory Cummings	NAESB	In Person
Deonne Cunningham	NAESB	In Person
Dale Davis	Williams Gas Pipeline	In Person
Michelle Foss	Bureau of Economic Geology, University of Texas	In Person
Mark Gracey	Tennessee Gas Pipeline	In Person
Bill Griffith	El Paso Natural Gas	In Person
Ryan Irwin	FERC	Phone
Iris King	Dominion	In Person
Bill Lohrman	FERC	Phone
Marcy McCain	Spectra Energy Transmission	In Person
Rae McQuade	NAESB	In Person
Joel Mickey	ERCOT	In Person
Susan Munson	ERCOT	In Person
Ripley Newcomb	Dominion	Phone
Phil Precht	BGE	Phone
Denise Rager	NAESB	In Person
Ed Skiba	Midwest ISO	In Person
Micki Schmitz	Northern Natural Gas	In Person
Julia Souder	NERC	In Person
Mack Thompson	American Municipal Power	In Person
Veronica Thomason	NAESB	In Person
Kim Van Pelt	Panhandle Eastern Pipeline	In Person
Jill Web	Preferred Legal Services	In Person
Darla Wishart	NAESB	In Person
Charles Yeung	SPP	In Person
Kathy York	Tennessee Valley Authority	In Person
Randy Young	Boardwalk Pipelines	Phone

North American Energy Standards Board Organizational Profile



Quadrant Statistics	WEO	WGO	REQ	RGQ	Total
Membership YE 2008	150	135	23	19	327
Reclassification	-1	0	+1	0	0
Net Change	-5	-8	-1	0	-14
Membership YTD	144	127	23	19	313

North American Energy Standards Board Membership List
As of June 11, 2009

NAESB Membership Statistics – Changes by Quadrant for 2009 as of June 11, 2009

NAESB Membership Report - Quadrant/Segment Membership Analysis		Number of Members
WGQ Segments	TOTAL	127
	End Users	18
	Distributors	20
	Pipelines	42
	Producers	17
	Services	30
REQ Segments	TOTAL	23
	End Users	4
	Distributors	8
	Services	7
	Suppliers	4
RGQ Segments	TOTAL	19
	End Users	1
	Distributors	7
	Services	5
	Suppliers	6
WEQ Segments	TOTAL	144
	End Users	8
	Distributors	24
	Transmission	45
	Generation	28
	Marketers	28
	None Specified	1
	Independent Grid Operators/Planners	10

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WEQ	New Members:	+ 4
	<i>Los Angeles Department of Water and Power (Transmission, Muni/Coop), Los Angeles Department of Water and Power (Marketers/Brokers, Muni/Coop); SunGard Consulting Services, LLC, Alabama Municipal Electric Authority</i>	
	Member Resignations:	- 9
	<i>Imperial Irrigation District (Marketers/Brokers, Muni/Coop), PSEG Energy Resources and Trading LLC (Marketers/Brokers, IOU), PSEG Power, LLC (Generation, Merc), North Carolina Electric Municipal Power Agency #1 (Marketers/Brokers, Muni/Coop), Electricities of North Carolina (Generation, Muni/Coop), SUEZ Energy Marketing NA, Inc. (Marketers/Brokers, Not IOU), Exelon Corporation – PECO Energy (Distribution, IOU), Otter Tail Power Company (Transmission, IOU), Public Power Council (Distribution, Muni/Coop)</i>	
	Membership Reclassification:	
	<i>SunGard Consulting Services, LLC (from WEQ, End User, at large to REQ, Services)</i>	
WGQ	New Members:	+ 1
	<i>Golden Pass Pipeline, LLC (Pipeline)</i>	
	Member Resignations:	- 9
	<i>Cascade Natural Gas Corporation (LDC), UBS Energy LLC (Services), Westfield Gas & Electric Light Dept. (LDC), Hess Corporation (Services), Lehman Brothers Commodity Services, Inc. (Services), Chandeleur Pipe Line Company (Pipeline), Virginia Power Energy Marketing, Inc. (Services), Cheniere LNG Marketing, Inc. (Services), NiSource, Inc. (LDC)</i>	
REQ	New Members:	+ 1
	<i>City of Houston (End Users)</i>	
	Member Resignations:	- 2
	<i>Public Service Electric & Gas Co. (Distribution), MidAmerican Energy (Distribution)</i>	
	Membership Reclassification:	
	<i>SunGard Consulting Services, LLC (from WEQ, End User, at large to REQ, Services)</i>	
RGQ	New Members:	+ 1
	<i>Asgard Energy, LLC (Supplier)</i>	
	Member Resignations:	- 1
	<i>Xcel Energy (Distribution)</i>	
TOTAL	New Members	7
	Member Resignations:	21

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	Organization	Seg₁	Contact	Sub-Seg₂
Retail Electric Quadrant Members:				
1	Advantage IQ, Inc.	e	Suzanne Figy, Jami Boom	
2	Alabama Power	d	Judy W. Ray	
3	Ameren Services Company	d	Patrick Eynon	
4	Baltimore Gas & Electric Co.	d	Ruth Kiselewich, Phil Precht	
5	City of Houston	e	James P. Cargas	
6	Consolidated Edison Company of NY	d	Adrienne Austin	
7	Constellation NewEnergy, Inc.	d	Jansen Pollock	
8	Direct Energy Business Services	su	David Booty	
9	Dominion Retail	su	William Barkas, Richard Zelenko	
10	Dominion Virginia Power	d	David F. Koogler, Mary Edwards	
11	EC Power International	s	Judy Bailey, J. Cade Burks, Jennifer Teel	
12	Electric Reliability Council of Texas (ERCOT)	s	Susan Munson, Kent Saathoff	
13	Exelon Energy Delivery	d	Toni Garza	
14	ICF International	s	David Pickles	
15	North Carolina Advanced Energy Corporation	su	Robert K. Koger	
16	Office of Public Advocate, State of Maine	e	Agnes Gormley	
17	Oncor	d	Larry Williford, Debbie McKeever	
18	Pennsylvania Office Of Consumer Advocate	e	Tanya J. McCloskey, Sonny A. Popowsky	
19	PPL Solutions, LLC	s	James M. Minneman, Kim Wall	
20	Southern Company Services	s	Barbara Hingst	
21	SunGard Consulting Services, LLC	s	Austin Morris	
22	Structure Group	s	Anthony Hill	
23	Wisconsin Public Service Corporation	d	Dennis Derricks, Les Nishida, Ken Thiry	

Wholesale Gas Quadrant Members:

1	8760, Inc.	s	Jim Buccigross	
2	Alliance Pipeline LP	pl	Jim Goldmann, Cathie Legge, Brian Troicuk	
3	Ameren Corporation	l	Scott Glaeser, Ken Dothage, Jim Massmann	
4	Anadarko Energy Services Company	s	John Bretz, Steven Abbey	
5	ANR Pipeline Company	s	Sandy Meyers, Joseph E. Polland, Rene Staeb, Debbie Forth, Carol Wehlmann	
6	Apache Corporation	pr	Kelley Powell	
7	Arizona Public Service Company	e	Tom Carlson, Kelly Daly	

¹ The segment abbreviations are: **REQ**: d – distributors, e – end users, s – service providers, su – suppliers. **RGQ**: d – distributors, e – end users, s – service providers, su – suppliers. **WEQ**: m – marketer/broker, d – distribution, i – independent grid operators/planners, t – transmission owner, e – end user, g – generator. **WGO**: s – services, pl – pipeline, l – LDC, pr – producer, e – end user.

² The sub-segment apply only to the WEQ and the abbreviations are – muni – municipal/cooperative, iou – investor owned utility, itc – independent transmission company, fed – federal/state/provincial facility/agency, lind – large industrial, sgen – self generation, end use – end user that may be represented in other segments, merc – merchant, N – no designation, reg – regulatory agency, niou – not investor owned utility. To get a full description of the subsegment, please reference the WEQ Procedures: http://www.naesb.org/pdf/weq_quadrant_procedures.doc

North American Energy Standards Board Membership List
As of June 11, 2009

	Organization	Seg 1	Contact	Sub- Seg²
8	Atmos Energy	pl	Steve Easley	
9	Ballard Natural Gas, LLC	s	Susan Thibodeaux	
10	Baltimore Gas & Electric Co.	l	Phil Precht, Ron Jennings	
11	Barclays Bank PLC	s	Guy Kern-Martin	
12	Bentek Energy, LLC	s	E. Russell Braziel	
13	BG Energy Merchants, LLC	s	Martha Braddy, Denise Almoina, Susan Bailey, Melody Fontenot	
14	Boardwalk Pipelines, LP	pl	Randy Young, Mitch Whitehead	
15	Boeing Co., The	e	Tina Burnett	
16	BP Energy	pr	Bill Benham, Rhonda Denton	
17	Calpine Energy Services, LP	e	Shonnie Daniel, Jay Dibble	
18	Cargill Incorporated	s	Lester Welch	
19	Carolina Gas Transmission Corporation	pl	Rae Davis, Dana B. Randall	
20	CenterPoint Energy Gas Services, Inc.	s	James G. Beste, Larry Kunkle	
21	CenterPoint Energy Gas Transmission Company	pl	Larry Thomas	
22	CenterPoint Energy Mississippi River Transmission Corporation	pl	Robert Trost	
23	Cheniere Pipeline Company	pl	Whit Scott	
24	Chevron Natural Gas	pr	Charles (Chuck) Cook	
25	Chevron Pipe Line Company	pl	Mary Anne Collins, Deborah Plattsmier, Jeff Kirk	
26	Cimarex Energy Co.	pr	Charlotte Baker	
27	Citigroup Energy Inc.	s	Carrie Southard, Angela Davis	
28	Colorado Springs Utilities	l	Joe M. Holmes	
29	Columbia Gas Transmission	pl	Claire Burum	
30	Comprehensive Energy Services	e	Jim Templeton	
31	ConocoPhillips Gas and Power	pr	Peter Frost	
32	Consolidated Edison Company of NY	l	Scott Butler, Paul Olmsted	
33	Constellation Energy Commodities Group Inc.	s	Lisa Simpkins, Joseph Kirwan, Andrea Kullman, Jennifer Scott	
34	Dauphin Island Gathering Partners	pl	Katie Rice	
35	DB Energy Trading	s	William Donnelly, Travis McCullough	
36	Defense Energy Support Center	e	Veronica Jones, Kevin Ahern	
37	Department of Energy	e	Christopher Freitas	
38	Devon Energy Corporation	pr	Bill Green	
39	Dominion Resources	l	Craig Columbo	
40	Dominion Transmission, Inc.	pl	Gary Sypolt, Iris King	
41	DTE Energy Trading, Inc.	s	Gregory V. Staton, James Buck, Dena Crawford, Marcia L. Hissong, Ann Marie Jambor, Cynthia Klots, Shelley Greene	
42	El Paso Natural Gas	pl	William Griffith	
43	El Paso Exploration & Production Company	pr	David A. Webster, Stephanie Karm	
44	Enbridge Energy Company, Inc.	pl	Terry McGill	

North American Energy Standards Board Membership List
As of June 11, 2009

	Organization	Seg¹	Contact	Sub-Seg²
45	EnCana Marketing (USA) Inc.	s	Keith Sappenfield	
46	EnCana Corporation	pr	Keith Sappenfield	
47	Energy East Management Corporation	l	Mark Marini	
48	Entergy Services, Inc.	e	Laura Berryman, Terry Shields	
49	Enterprise Products Partners L.P.	pl	Richard W. Porter, Jeff Molinaro	
50	Equitrans, LP	pl	Joseph M. Dawley	
51	ExxonMobil Gas & Power Marketing Company a division of Exxon Mobil Corporation	pr	John W. Poe, Greg Belyakov	
52	Florida Power & Light Company	e	Dona Gussow, Art Morris	
53	Foothills Energy Ventures, LLC	pr	Marty Patterson	
54	FPL Energy Power Marketing, LLC	e	Marty Jo Rogers	
55	Gas Transmission Northwest Corp.	pl	Jay Story	
56	Golden Pass Pipeline, LLC	pl	Susan Braden	
57	Goodrich Petroleum Company, L.L.C.	pr	Bill Hebenstreit	
58	Great Lakes Gas Transmission	pl	Gene Fava	
59	High Mount Exploration and Production, Inc.	pr	David Ogden, Gary Weaver, Sheri Heslington	
60	Houston Pipe Line Company LP	pl	Josie Castrejana, Melissa Graves, Robert Walker	
61	Husky Energy Marketing, Inc.	pr	Jan Bindon	
62	Husky Gas Marketing, Inc.	pr	Jan Bindon	
63	Husky Marketing and Supply Company	e	Jan Bindon	
64	Imperial Irrigation District	e	William Rapp	
65	Integrays Energy Group, Inc.	l	David E. Wear	
66	Iroquois Gas Transmission System	pl	Tom Gwilliam	
67	JP Morgan Ventures Energy Corp	S	Paul Tramonte	
68	Kern River Gas Transmission Co	pl	Brenda Horton	
69	Laclede Gas Co.	l	Kenneth Neises	
70	Latitude Technologies	s	Leigh Spangler	
71	Louis Dreyfus Energy Services	s	Mary Ellen Bell, Ruby H. Melton	
72	Lower Colorado River Authority	e	Mickey Bell	
73	Macquarie Cook Energy, LLC	s	Angela Jones	
74	Marathon Oil Company	pr	Robin Perrine	
75	Mewbourne Oil Company	pr	Michael F. Shepard	
76	Mirant Energy Trading, LLC	e	Laura Trautman, John F. Hogan	
77	National Fuel Gas Distribution	l	Michael Novak	
78	National Fuel Gas Supply Corp.	pl	Joseph Kardas	
79	National Grid Gas Distribution Companies	l	Dolores Chezar	
80	Natural Gas Pipeline Co of America	pl	Paul Love, Stan Thomas, Mike Schisler, Paul Haas	
81	New Jersey Natural Gas Company	l	Douglas C. Rudd	
82	Nexen Marketing	s	Shelley Leavitt	
83	Noble Energy, Inc.	pr	Richard Smith, Tammy M. Stevens	
84	Northern Border Pipeline Company	pl	Scott Coburn	

North American Energy Standards Board Membership List
As of June 11, 2009

	Organization	Seg 1	Contact	Sub- Seg²
85	Northern Natural Gas	pl	Mary Darveaux	
86	Northwest Natural Gas Company	l	Randolph Friedman	
87	NOVA Gas Transmission Ltd.	pl	Doug Miller	
88	OGE Energy Resources, Inc.	s	Cary Metz	
89	ONEOK	l	Richard Tangeman	
90	ONEOK Partners GP, LLC	pl	Teri Tingler	
91	Ozark Gas Transmission, LLC	pl	David A. Harrell	
92	Pacific Gas & Electric	l	John Breen, Don Petersen	
93	Panhandle Eastern Pipe Line	pl	William Grygar, Kim Van Pelt	
94	PECO Energy Co.	l	Reed R. Horting	
95	Pemex Gas Y Petroquimica Basica	s	Juan Enrique Gonzalez Azuara	
96	Peoples Gas System (A division of Tampa Electric Co)	l	Wraye Grimard	
97	Platts	s	Bill Murphy	
98	Portland Natural Gas Transmission System	pl	David Haag	
99	PPL EnergyPlus, LLC	e	Anne Lovett	
100	Public Service Electric & Gas	l	David Wohlfarth	
101	Questar Pipeline Co.	pl	Scott Hansen	
102	Quorum Business Solutions Inc.	s	Anne Golenternek, Michael Lewis	
103	Reliance Gas Transportation Infrastructure Limited	pl	Jagjit S. Yadav	
104	Salt River Project Agricultural Improvement & Power District	e	Lori-Lynn C. Pennock	
105	Sempra Energy - Southern California Gas Co.	l	Lee Stewart, Rodger Schwecke	
106	Sequent Energy Management, L.P.	s	Pat Metteauer	
107	Shell Energy North America (US), L.P.	s	Eric Gillaspie	
108	SolArc, Inc.	s	Mark Davis	
109	Southern California Edison Company	e	Roman Bakke, Curt Roney	
110	Southern Company Services, Inc.	e	Alan Kilpatrick, Bryan Mitchell	
111	Southern Natural Gas Co.	pl	Renee Hyde, Tracey Nicholson, Ludean Wyatt	
112	Southern Star Central Gas Pipeline	pl	Philip Rullman, Dale Sanders	
113	Southwest Gas Corporation	l	Larry Black	
114	Spectra Energy Transmission	pl	Richard Kruse	
115	SUEZ Energy Marketing NA, Inc.	s	Shirley Tidor	
116	SunGard	s	Lucia Nail	
117	Tennessee Gas Pipeline Company	pl	Sue Barry, Mark Gracey	
118	Tennessee Valley Authority	e	Valerie Crockett	
119	Tiger Natural Gas	s	Tracy Phillips	
120	TransCanada Pipelines	pl	Doug Miller	
121	Transwestern Pipeline Company, LLC	pl	Blair V. Lichtenwalter, Mary Draemer, David Mendoza	
122	Vector Pipeline L.P.	pl	Amy Bruhn	
123	Vega Energy Partners, Ltd	s	Julie Pincus, Lori Leeder	

North American Energy Standards Board Membership List
As of June 11, 2009

	Organization	Seg ¹	Contact	Sub-Seg ²
124	Washington Gas Light Co.	l	Adrian Chapman, Mark Lowe, Paul Buckley	
125	Williams Gas Marketing, Inc.	s	Rich Ficken	
126	Williams Gas Pipeline	pl	Dale Davis, Christopher Burden	
127	Williston Basin Interstate Pipeline	pl	Keith Tiggelaar, Gwen Schoepp, Kelly Brooks, Lori Myerchin	

Wholesale Electric Quadrant Members:

1	ACES Power Marketing LLC	m	Roy J. True, Amadou Fall	muni
2	Alabama Municipal Electric Authority	d	Ray Phillips	muni
3	Alberta Electric System Operator	i	Diana Pommen, Henry Ren	
4	Ameren Services	m	Shawn Schukar	iou
5	American Electric Power Service Corp.	d	Barbara Radous, Joseph Hartsoe, Phil Cox	iou
6	American Municipal Power - Ohio, Inc.	m	Mack Thompson, Chris Norton	muni
7	American Public Power Association	d	Allen Mosher	muni
8	American Wind Energy Association	g	Robert Gramlich	merc
9	APS Marketing and Trading	m	Steve Norris	iou
10	Arizona Public Service Company	t	Mark W. Hackney	iou
11	Basin Electric Power Cooperative	t	Dan Klempel	muni
12	Basin Electric Power Cooperative	m	David Raatz	muni
13	Basin Electric Power Cooperative	g	Jason Doerr	muni
14	Black Hills Corporation	t	Larry D. Williamson	iou
15	Bonneville Power Administration	d	Sydney D. Berwager	other
16	Bonneville Power Administration	g	Francis Halpin, Robin Chung	fed
17	Bonneville Power Administration	m	Brenda Anderson	fed
18	Bonneville Power Administration	t	Barbara Rehman, Tom Davis	fed
19	BP America Inc.	e	Jeanne Zaiantz	lind
20	British Columbia Transmission Corporation	t	Rohan Soulsby	fed
21	California Department of Water Resources	g	William (Bill) Forsythe, Chi Doan	fed
22	California ISO	i	Yakout Mansour	
23	Central Electric Power Cooperative	d	Arthur Fusco	muni
24	Cleco Power, LLC	t	Cindy Guillot	iou
25	Comprehensive Energy Services	e	Jim Templeton	enduse
26	Conectiv Energy Supply, Inc.	g	Gloria Godson	merc
27	Consolidated Edison Company of New York, Inc.	t	Scott Butler	iou
28	Consumers Energy Company	d	Andrew C. Dotterweich, Frank Johnson	iou
29	Dairyland Power Cooperative	t	Chuck Callies	muni
30	Deseret Power Electric Co-op	g	Curt Winterfeld	muni
31	Dominion Energy Marketing, Inc.	g	Lou Oberski, Jalal Babik	iou
32	Duke Energy Americas, LLC (DEA)	g	Walt Yeager	iou
33	Duke Energy Corp.	d	Alan Pritchard	iou
34	Dynegy Power Marketing, Inc.	g	Barry Huddleston	merc

North American Energy Standards Board Membership List
As of June 11, 2009

	Organization	Seg¹	Contact	Sub-Seg²
35	Edison Electric Institute	n	David Owens, Dave Dworzak, James P. Fama	N
36	Edison Mission Marketing & Trading, Inc.	g	William Roberts	merc
37	Electric Power Supply Association	m	Jack Cashin, Barry Green	at large
38	Electric Reliability Council of Texas (ERCOT)	i	Bill Blevins, Paul Wattles, Joel Mickey	
39	Empire District Electric Company, The	t	Bary K. Warren	iou
40	Energy East Management Corporation	t	Mark Marini	iou
41	EnerNOC, Inc.	e	Aaron Breidenbaugh	end use
42	Entegra Power Group, LLC	g	Rebecca Turner	merc
43	Entergy Services, Inc.	t	Edward J. Davis, Narinder Saini	iou
44	Exelon Generation - Power Team	m	Jack Crowley	iou
45	ExxonMobil Gas Marketing	e	Kerrie Anne Lanigan, Carol A. Nichols	sgen
46	First Energy Service Company	d	Robert M. Martinko, Thomas C. Burgess	iou
47	FirstEnergy Solutions Corp.	m	Mark Travaglianti	iou
48	Florida Municipal Power Agency	g	Frank Gaffney	muni
49	Florida Municipal Power Agency	d	Frank Gaffney	muni
50	Florida Power & Light Company	m	Gerry Yupp, Tim Gerrish	iou
51	Florida Power & Light Company	t	Marty Mennes, Bob Birch	iou
52	Georgia Transmission Corporation	t	Patrick McGovern	muni
53	Hydro One Networks	t	Mark Graham	itc
54	Hydro – Quebec Transenergie	t	Michel Pevost	fed
55	Idaho Power Company	t	Tessia Park	iou
56	Independent Electricity System Operator (IESO)	i	Cristian Dragnea, Biju Gopi	
57	Indiana Municipal Power Agency	g	Scott Berry	muni
58	ISO New England, Inc.	i	Matthew F. Goldberg	
59	Lincoln Electric System	g	Douglas Bantam	muni
60	Los Angeles Department of Water and Power	t	Mohammed Johar Beshir	muni
61	Los Angeles Department of Water and Power	m	Bradford L. Packer	muni
62	Michigan Public Power Agency	d	James R. Nickel, Daniel E. Cooper	muni
63	MidAmerican Energy Company	m	Dennis Kimm	iou
64	Midwest Independent Transmission System Operator	i	William (Bill) Phillips, Ed Skiba	
65	Midwest Reliability Organization	t	Dan Schoenecker	at large
66	Missouri River Energy Services	d	Brian Zavesky	muni
67	Modesto Irrigation District	t	Roger Van Hoy	muni
68	National Association of Regulatory Utility Commissioners	e	Lou Ann Westerfield	reg
69	National Grid	t	Edward M. Kremzier	iou
70	National Rural Electric Cooperative Assoc.	d	Barry Lawson, Paul McCurley	muni/coop
71	Navigant Consulting, Inc.	m	Richard G. Smead, Laurie J. Oppel, Kenneth C. Lotterhos	at large
72	New York Independent System Operator (NYISO)	i	Rana Mukerji	

North American Energy Standards Board Membership List
As of June 11, 2009

	Organization	Seg¹	Contact	Sub-Seg²
73	New York State Reliability Council	d	P. Donald Raymond	at large
74	North American Electric Reliability Corporation	d	Gerry Adamski, Andy Rodriquez	at large
75	North Carolina Electric Membership Corporation	d	David Beam	muni
76	NCMPA1	d	Martin Summe	muni
77	Northeast Utilities Service Company	t	David Boguslawski, Calvin A. Bowie	iou
78	Northwestern Corporation	t	Mike Cashell	iou
79	NRG Energy, Inc.	g	Alan Johnson, Jennifer J. Vosburg	merc
80	NV Energy	m	Sheryl Torrey	iou
81	NV Energy, Inc.	t	Patricia Englin	iou
82	Ontario Power Generation	g	Colin Anderson, David Barr	merc
83	Open Access Technology International, Inc.	e	Michehl Gent	at large
84	Open Access Technology International, Inc.	t	Paul R. Sorenson	at large
85	PacifiCorp	m	John Apperson	iou
86	PacifiCorp	g	Greg Maxfield	iou
87	PacifiCorp	t	Shay Labray	iou
88	PHI Power Delivery	t	Ken Gates	iou
89	PJM Interconnection	i	Patrick Brown, Cathy Wesley	
90	Portland General Electric	m	John Jamieson	iou
91	Portland General Electric	t	Frank Afranji, John Walker	iou
92	Powerex Corp	m	Michael L McWilliams, Sharole Tylor	fed
93	PowerSouth Energy Cooperative	d	William Ronald Graham	muni
94	PPL Electric Utilities Corporation	t	Ray Mammarella	iou
95	Progress Energy (Regulated)	m	James Eckelkamp	iou
96	Progress Energy	t	Phillip W. Lewis, Michael Anthony, Leslie Williams, Lee Schuster	iou
97	Public Service Company of New Mexico	m	Steven Maestas, Darren Wilkins, Patricia Merville	iou
98	Public Service Electric and Gas Company	d	Jeffrey C. Mueller	iou
99	Public Service Electric and Gas Company	t	Kenneth D. Brown	iou
100	Puget Sound Energy, Inc.	t	George Marshall, Bob Harshbarger	iou
101	Qualedi, Inc.	g	Stephen A. Morocco	at large
102	RRI Energy Services, Inc.	g	Trent Carlson	merc
103	Sacramento Municipal Utility District	d	Steve Sorey	muni
104	Salt River Project Agricultural Improvement and Power District	t	Wendy Weathers, Michael J. Pfeister	fed
105	Salt River Project Agricultural improvement and Power District	m	Richard Lehman	fed
106	San Diego Gas & Electric Company	t	Patricia vanMidde	iou
107	Santee Cooper	t	Tom Abrams	fed
108	Seattle City Light	d	Marilynn Semro, Thomas P. Rowan, Doug Rough	muni
109	Seminole Electric Cooperative, Inc.	m	Steve Wallace	muni
110	Shell Energy America (US), L.P.	m	Robert Reilley, Paul Kerr	niou

North American Energy Standards Board Membership List
As of June 11, 2009

	Organization	Seg ¹	Contact	Sub-Seg ²
111	South Carolina Electric & Gas Company	t	S. Porcher Stoney	iou
112	South Carolina Electric & Gas Company	m	Kevin Spitzform	iou
113	Southeastern Power Administration	g	Bob Goss	fed
114	Southern California Edison	t	Weston Williams	iou
115	Southern California Edison Co.	g	Tracy Bibb	iou
116	Southern Company Services, Inc.	d	Gary Rozier, Greg Butrus	iou
117	Southern Company Services, Inc.	g	John Ciza	iou
118	Southern Company Services, Inc.	m	Joel Dison	iou
119	Southern Company Services, Inc.	t	R.D. (Dean) Ulch, John Lucas, JT Wood, James Y. Busbin, Daryl McGee	iou
120	Southwest Power Pool	i	Carl Monroe, Michael Desselle, Charles Yeung	
121	Southwest Transmission Cooperative, Inc.	t	Larry D. Huff	muni
122	Southwestern Power Administration	t	Tracey Stewart	fed
123	SunGard	e	Andrew Tritch	at large
124	Tampa Electric Company	m	Gail M. McKaig	iou
125	Tenaska, Inc.	g	Scott Helyer	merc
126	Tennessee Valley Authority	d	Emily Oxford, Dianne H. Nunez	other
127	Tennessee Valley Authority	g	Kathy York	fed
128	Tennessee Valley Authority	m	Belinda Thornton, Valerie Crockett	fed
129	Tennessee Valley Authority	t	Chuck Feagans	fed
130	TranServ International, Inc.	i	Kevin Burns	
131	Tri-State Generation and Transmission Association, Inc.	t	Keith V. Carman	muni
132	Tri-State G&T Association, Inc.	g	Janelle Marriott	muni
133	Tucson Electric Power Company	t	Raquel Aguilar, Judy Fregoso, Ed Beck	iou
134	United Illuminating Company, The	t	Rose Pysh	iou
135	Vermont Public Power Supply Authority	g	William J. Gallagher	muni
136	Westar Energy, Inc.	g	Shah Hossain, Grant Wilkerson	iou
137	Western Area Power Administration	t	JB Hite	fed
138	Western Area Power Administration	m	Jeffrey Ackerman	fed
139	Western Electricity Coordinating Council	t	Michelle Mizumori, Louise McCarren	at large
140	We Energies (Wisconsin Electric)	d	Linda Horn	iou
141	We Energies (Wisconsin Electric)	g	James R. Keller	iou
142	WPPI Energy	d	Mike Stuart	muni
143	Wisconsin Public Service Corporation	g	Christopher Plante, Charles W. Severance, Neal Balu	iou
144	Xcel Energy Inc.	m	David Lemmons	iou

Retail Gas Quadrant Members:

1	AGL Resources Inc.	d	Gregory Becker	
2	Allegro Development	s	Kimberly Page	
3	American Public Gas Association (APGA)	d	Alonzo Weaver, Joe Stengel	

North American Energy Standards Board Membership List
As of June 11, 2009

	Organization	Seg 1	Contact	Sub- Seg²
4	Asgard Energy, LLC	su	Rhett C. Shumway	
5	Baltimore Gas & Electric Company	d	Phil Precht	
6	Capacity Center	s	Greg Lander	
7	Dominion Retail, Inc.	su	Richard A. Zollars	
8	Duke Energy Corp	d	Dan Jones	
9	Exelon Energy	su	Sheree M. Petrone	
10	International LNG Alliance	s	David Sweet	
11	Interstate Gas Supply	su	Ginger Fletcher	
12	Latitude Technologies	s	Leigh Spangler	
13	National Fuel Gas Distribution Corporation	d	Mike Novak	
14	Pennsylvania Office of Consumer Advocate	e	Tanya J. McCloskey	
15	Sprague Energy Corp.	su	Paul Scoff	
16	Systrends USA	s	Dave Darnell	
17	UGI Utilities, Inc.	d	Paul Szykman	
18	Vectren Retail, LLC	su	Tami Wilson	
19	Wisconsin Public Service Corporation	d	Dennis Derricks, Ken Thiry, Les Nishida	



North American Energy Standards Board

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MEMBERSHIP STATISTICS

- **December 31, 2008:** Membership in December is 327. Membership by quadrant is: 135 (WGQ), 23 (REQ), 19 (RGQ), 150 (WEQ). Year to date, we have had 25 new memberships (8 – WEQ, 3 – REQ, 1 – RGQ, 13 – WGQ) and 34 member resignations (7 – WGQ, 6 – REQ, 8 – RGQ, 13 – WEQ). We began the year with 336 members (127 (WGQ), 26 (REQ), 26 (RGQ), 157 (WEQ)).
- **January 31, 2009:** Membership in January is 322. Membership by quadrant is: 134 (WGQ), 23 (REQ), 18 (RGQ), 147 (WEQ). Year to date, we have had three new memberships (2 – WEQ, 0 – REQ, 0 – RGQ, 1 – WGQ) and nine member resignation (3 – WGQ, 0 – REQ, 1 – RGQ, 5- WEQ). We began the year with 327 members (135 (WGQ), 23 (REQ), 19 (RGQ), 150 (WEQ)). In March we had three new members join Golden Pass Pipeline, LLC (WGQ, Pipeline), Los Angeles Department of Water and Power (WEQ, Transmission, Muni/Coop), and Los Angeles Department of Water and Power (WEQ, Marketers/Brokers, Muni/Coop). We had eight member resignations Cascade Natural Gas Corporation (WGQ, LDC), UBS Energy LLC (WGQ, Services), Xcel Energy (RGQ, Distribution), Imperial Irrigation District (WEQ, Marketers/Brokers, Muni/Coop), PSEG Energy Resources and Trading LLC (WEQ, Marketers/Brokers, IOU), PSEG Power, LLC (WEQ, Generation, Merc), North Carolina Electric Municipal Power Agency #1 (WEQ, Marketers/Brokers, Muni/Coop), and Electricities of North Carolina (WEQ, Generation, Muni/Coop).
- **February 28, 2009:** Membership in February is 320. Membership by quadrant is: 133 (WGQ), 23 (REQ), 18 (RGQ), 146 (WEQ). Year to date, we have had three new memberships (2 – WEQ, 0 – REQ, 0 – RGQ, 1 – WGQ) and 10 member resignation (4 – WGQ, 0 – REQ, 1 – RGQ, 6- WEQ). We began the year with 327 members (135 (WGQ), 23 (REQ), 19 (RGQ), 150 (WEQ)). In February we had no new members join. We had two member resignations SUEZ Energy Marketing NA, Inc. (WEQ, Marketers/Brokers, Not IOU) and Westfield Gas & Electric Light Dept. (WGQ, LDC).
- **April 30, 2009:** Membership in April is 316. Membership by quadrant is: 130 (WGQ), 22 (REQ), 18 (RGQ), 146 (WEQ). Year to date, we have had five new memberships (4 – WEQ, 0 – REQ, 0 – RGQ, 1 – WGQ) and 16 member resignation (6 – WGQ, 1 – REQ, 1 – RGQ, 8- WEQ). We began the year with 327 members (135 (WGQ), 23 (REQ), 19 (RGQ), 150 (WEQ)). In April, we had two new members join, Alabama Municipal Electric Authority (WEQ, Distribution, Muni/Coop) and SunGard Consulting Services, LLC (WEQ, End User, at large). We had two member resignations Otter Tail Power Company (WEQ, Transmission, IOU) and Public Service Electric & Gas Company (REQ, Distribution).
- **May 31, 2009:** Membership in May is 311. Membership by quadrant is: 127 (WGQ), 21 (REQ), 18 (RGQ), 145 (WEQ). Year to date, we have had five new memberships (4 – WEQ, 0 – REQ, 0 – RGQ, 1 – WGQ) and 21 member resignation (9 – WGQ, 2 – REQ, 1 – RGQ, 9- WEQ). We began the year with 327 members (135 (WGQ), 23 (REQ), 19 (RGQ), 150 (WEQ)). In May, we had no new members join. We had five member resignations, Virginia Power Energy Marketing (WGQ, Services), Cheniere LNG Marketing (WGQ, Services), MidAmerican Energy Company (REQ, Distribution), Public Power Council (WEQ, Distribution, Muni/Coop) and NiSource, Inc. (WGQ, LDC).
- **June 11, 2009:** Membership as of June 11, 2009 is 313. Membership by quadrant is: 127 (WGQ), 23 (REQ), 19 (RGQ), 144 (WEQ). Year to date, we have had seven new memberships (4 – WEQ, 1 – REQ, 1 – RGQ, 1 – WGQ) and 21 member resignation (9 – WGQ, 2 – REQ, 1 – RGQ, 9- WEQ) and *one reclassification of membership for Sungard Consulting Services, LLC membership from WEQ, end user, at large to REQ, services on June 11, 2009.* We began the year with 327 members (135 (WGQ), 23 (REQ), 19 (RGQ), 150 (WEQ)). As of June 3, two new members have joined for the month of June, Asgard Energy, LLC (RGQ, Supplier) and City of Houston (REQ, End Users). To date we have no resignations for June 2009.



North American Energy Standards Board

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MEETING STATISTICS

Month	Event	WEQ	WGQ	Retail	Joint	Board
January	Meetings/Hours	7/32	3/12.5	0	1/5	0
	Conf. Calls/Hours	8/22	4/7	5/11	5/9	0
February	Meeting/Hours	4/18	4/19	2/7	0	0
	Conf. Calls/Hours	5/16.5	0	0	1/2	1/2
March	Meeting/Hours	8/41	6/29.5	0	0	2/5
	Conf. Calls/Hours	6/21	2/5	5/13	2/4	0
April	Meeting/Hours	4/24	5/28	0	1/4	0
	Conf. Calls/Hours	6/21.5	6/14	2/7	4/8	0
May	Meeting/Hours	9/51	3/17	1/5	0	0
	Conf. Calls/Hours	4/14	3/6.5	2/3.5	4/8.5	1/2
Total	Meetings/Hours	32/166	21/106	3/12	2/9	2/5
	Conf. Calls/Hours	29/95	15/32.5	14/34.5	16/31.5	2/4



North American Energy Standards Board

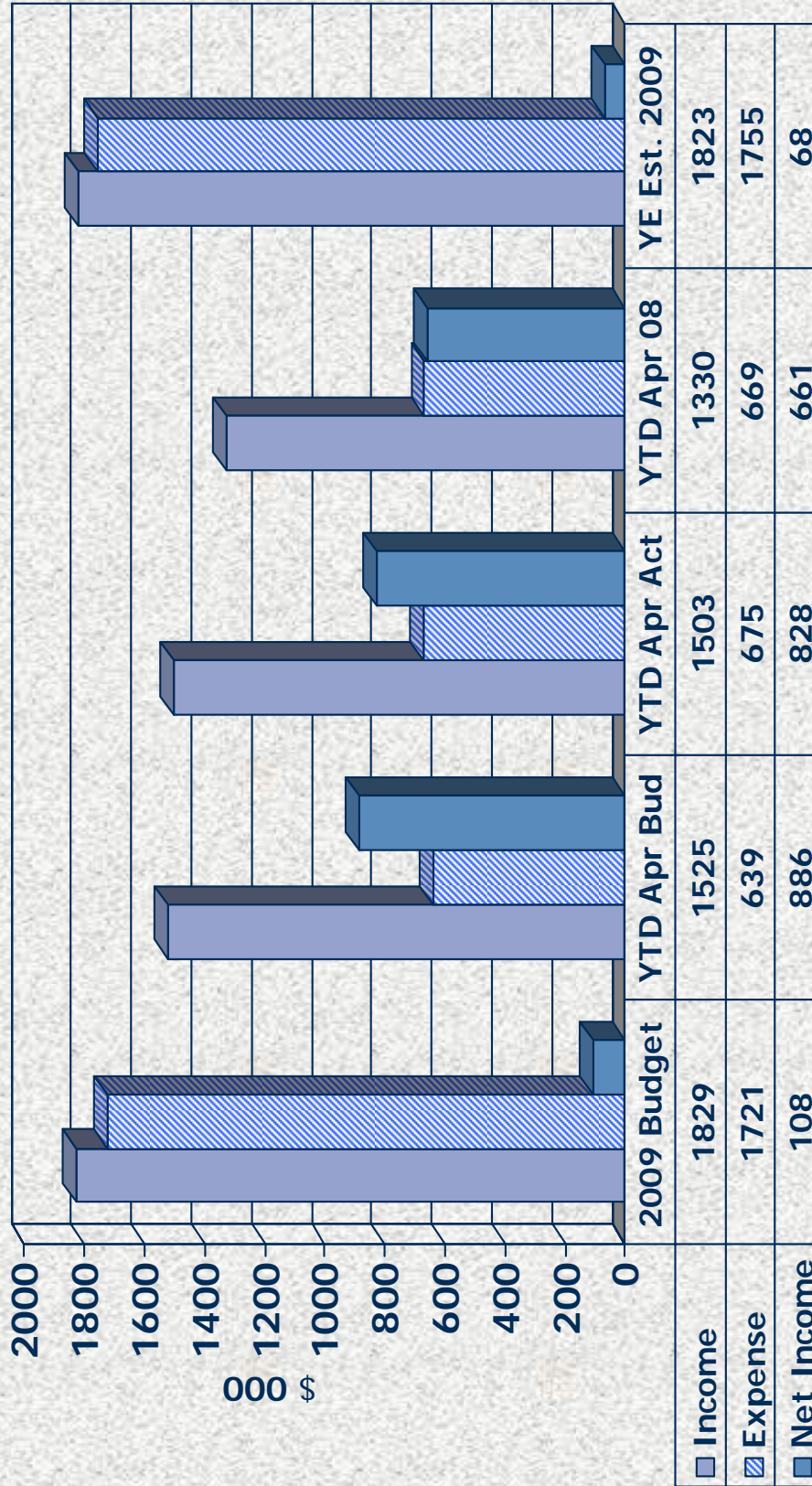
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Home Page: www.naesb.org

FINANCIAL REPORT

- **YE December 31, 2008:** Total assets and total liabilities and equity for the yearend 2008 were \$853,280.24. Accounts Receivables related to outstanding membership dues were \$312,500, of which \$282,500 were related to 2009 dues. \$25,000 is 90 days or more in arrears, and \$5,000 is 30 days or less in arrears. Our net income year end is a negative \$118,025.20 (Expenses \$1,794,011.95 and net revenue of \$1,675,986.75). On a cash basis, we have an ending balance as of December 31 of \$463,306.
- **2009 Budget:** On December 18, 2008, the Board approved the budget for 2009 at \$1,829,143.48 (http://www.naesb.org/misc/budget_121808.pdf). The dues increases approved by the Board at the September 2008 meeting begin to take effect in 2009, (\$5000 annual membership dues were increased to \$6500). The full effect of the dues increase will not be seen until 2010, as dues for 2009 at \$5000 extend into 2010 on a calendar basis for a significant portion of the members.
- **January 31, 2009:** Total assets and total liabilities and equity for YTD January 31 were \$783,062.40. Accounts Receivables related to outstanding membership dues were \$353,500, of which \$20,000 is 90 days or more in arrears, and \$15,000 is 60 days in arrears, and \$318,500 is 30 days of less in arrears. Our net income is \$1,108,341.87 (Expenses \$227,395.95 and net revenue of \$1,335,737.82). On a cash basis, we have an ending balance as of January 31 of \$361,269.
- **February 28, 2009:** Total assets and total liabilities and equity for the YTD February 28 were \$651,770.09. Accounts Receivables related to outstanding membership dues were \$168,000, of which \$153,000 were related to 2009 dues. \$15,000 is more than 60 days in arrears, \$245,000 is 60 days in arrears, and \$101,000 is 30 days or less in arrears. Our net income is \$968,859.10 (Expenses \$358,462.48 and net revenue of \$1,327,321.58). On a cash basis, we have an ending balance as of February 27 of \$418,141.
- **March 31, 2009:** Total assets and total liabilities and equity for the YTD March 31 were \$753,845.69. Accounts Receivables related to outstanding membership dues were \$310,000, all of which is related to 2009 dues. \$26,000 is more than 60 days in arrears, \$42,500 is 60 days in arrears, and \$241,500 is 30 days or less in arrears. Our net income is \$964,576.54 (Expenses \$515,981.91 and net revenue of \$1,480,558.45). On a cash basis, we have an ending balance as of March 31 of \$376,692.
- **April 30, 2009:** Total assets and total liabilities and equity for the YTD April 30 were \$578,210.83. Accounts Receivables related to outstanding membership dues were \$160,000, of which \$13,000 is more than 60 days in arrears, \$29,500 is 60 days in arrears, and \$117,500 is 30 days or less in arrears. Our net income is \$827,743.42 (Expenses \$675,005.03 and net revenue of \$1,502,748.45). On a cash basis, we have an ending balance as of April 30 of \$353,625.

North American Energy Standards Board Board of Directors Meeting – 6-25-09

As of April 2009 Accrual Based Income and Expenses





North American Energy Standards Board

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FINANCIAL REPORT YEAR-TO-DATE 2009 – ACCRUAL BASED, AS OF APRIL 30, 2009

BALANCE SHEET

Assets	
Current Assets	\$364,985.98
Accounts Receivable	\$160,000.00
Fixed Assets	\$42,946.91
Other Assets	\$10,277.94
Total Assets	\$578,210.83
Liability & Equity	
Deferred Revenue	\$100,541.66
Accounts Payable	\$24,111.66
Retained Earnings	(\$374,185.91)
Net Income	\$827,743.42
Total Liability and Equity	\$578,210.83

INCOME AND EXPENSE

Income	\$1,502,748.43
Expense	\$675,005.03
Net Income	\$827,743.40

INCOME AND EXPENSES TO BUDGET - YTD

2009 YTD Budget for Income	\$1,529,329.68
Income Variance (under budget)	(\$26,581.25)
2009 YTD Budget for Expenses	\$638,999.35
Expenses Variance (over budget)	(\$36,005.68)

YEAR END ANALYSIS

2009 Budget	\$1,829,143.48
Revenue YTD Actual	\$1,502,748.43
Remaining Revenue Estimated through YE	\$320,000.00
Estimated YE Revenue	\$1,822,748.43
Expenses YTD Actual	\$675,005.03
Remaining Expenses Estimated through YE	\$1,080,000.00
Estimated YE Expenses	\$1,755,005.03
Difference – YE Revenue – YE Expenses	\$67,743.40

CASH BASIS ANALYSIS

Beginning Balance 1-1-09	\$463,306
Total Cash Income	\$575,125
Total Costs	\$684,807
Ending Balance	\$353,624

ACCOUNTS RECEIVABLE ANALYSIS

Accounts Receivable	\$160,000
Items more than 60 Days Outstanding	\$13,000
Items 60 Days Outstanding	\$29,500
Items 30 Days or less Outstanding	\$117,500



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June 10, 2009

TO: NAESB Resources committee
FROM: Rae McQuade, NAESB President and COO
RE: Membership Analysis, Vacancies on the Board and EC, Membership Prospects – June 10, 2009

via email

Dear NAESB Resources Committee:

This report has several parts, all of which should provide information to support the committee as it determines actions to take to solicit participation and membership in NAESB. We truly appreciate your efforts in helping grow our organization --

Best Regards,
Rae

Enclosures:

- (1) Resources Committee Roster
- (2) Membership Prospects: (a) short-term, (b) wind generators, (c) groups, (d) long-term, (e) smart grid – technology companies
- (3) New Members in 2008 and 2009
- (4) Member Resignations in 2008 and 2009
- (5) Vacancies on the Board and Executive Committee
- (6) Membership Roster Sorted by Company



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Attachment 1

North American Energy Standards Board Board Resources Committee Roster

Quadrant	Contact and Company	Phone	Email
WEQ	Jeff Ackerman, Western Area Power Administration	970-240-6209	ackerman@wapa.gov
WEQ	Scott Brown, Exelon Corporation	202-347-8096	scott.brown@exeloncorp.com
WGQ	Adrian Chapman, Washington Gas	703-750-7677	achapman@washgas.com
WEQ	Michael Desselle, Southwest Power Pool	501-614-3206	mdesselle@spp.org
WEQ	Bruce Ellsworth, New York State Reliability Council	603-746-3447	ellsworth@conket.com
WGQ	Bill Hebenstreit, Goodrich Petroleum Company, LLC	832-399-3180	bill_heben@hotmail.com
REQ	Ruth Kiselewich, Baltimore Gas & Electric	410-470-1361	ruth.c.kiselewich@bge.com
REQ	David Koogler, Dominion Virginia Power	804-771-3429	david.koogler@dom.com
RGQ	Greg Lander, Commerce Energy Group	978-535-7500	glander@skippingstone.com
WGQ	Mike Novak, National Fuel Gas Distribution	716-857-7884	novakm@natfuel.com
WGQ	Jim Templeton, Comprehensive Energy Services	713-759-6999	jrtemplton@aol.com
WEQ	Roy True, Aces Power Marketing	317-344-7203	royt@acespower.com



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Attachment 2a

NAESB Membership Prospects – Short Term, Individual Companies and Organizations

Membership Prospects	Source	Contact/Notes	Assignment
AARP			S. Brown, J. Ackerman
Accenture	R. McQuade	John Bartley – sent membership packet 6/26/2008, sent letter 12/17/2008, follow-up 5/28/2009 not joining at this time	D. Rager
✓ Asgard Energy, LLC	Office	Rhett C. Shumway – received application 5/21/2009, Has Joined	D. Rager
Center Point Energy	R. McQuade	Richard J. Snyder – sent membership information 4/3/2009, D. Rager follow-up 4/13/2009, reply 4/13/2009 favorably disposed but not ready to commit at this time	D. Rager
✓ City of Houston	R. McQuade	Jim Cargas – contacted our office 5/5/2009, Has Joined	D. Rager
Clarity Systems	eTariff	Kenneth Fritz – phone 03/03/2009, sent membership information 03/05/2009, follow-up not ready to join at this time	D. Rager
Comverge	S. Brown/R. True	S. Brown will provide contact information and R. True will follow-up	S. Brown, R. True
Decision Strategies	R. McQuade	David Skinner – sent membership information 4/15/2009, reply 4/15/2009 will look over information and get back with the office if he has questions	D. Rager/R. McQuade
EPRI	R. McQuade	Bernard Neenan and Omar Siddiqui – conference call 4/20/2009, not joining at this time because their stakeholders have determined membership in NAESB is inappropriate and that with funding, they can better support NAESB as non-members	D. Rager/R. McQuade
GreenSmith Energy Management Systems		Dr. Chen-Young – sent information on 12/3/08 as requested by R. McQuade	R. McQuade
Gridwise Alliance	R. McQuade	Karen Hamilton – Rae meeting on 04/02/2009	R. McQuade



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Attachment 2a

NAESB Membership Prospects – Short Term, Individual Companies and Organizations

Membership Prospects	Source	Contact/Notes	Assignment
Iberdrola Renewables	Office	Susan Cooley – sent information 1/27/2009, follow-up 3/11/2009 LVM	D. Rager
InterGen Mexico	Office	Lillian Gonzalez – sent information on 6/04/2009, reply will discuss options with management	D. Rager
International Transmission Company (ITC)	S. Brown	Terry Harvill – Scott to provide outreach	S. Brown
Ivara Corporation	S. Brown	Kathy Steel – 4/27/2009 reply to (smart grid letters) interested in the standards, but not membership at this time.	D. Rager
National Institute of Standards and Technology (NIST)	R. McQuade/J. Booe	Dr. David A. Wollman – sent membership information 4/15/2009, D. Rager follow-up by phone 5/25/2009 and by email 5/26/2009, reply on 5/26/2009 will run by his lawyers and get back with Denise with any questions	D. Rager/J. Booe
OPSI	G. Ogenyi	Raj Barua, Executive Director – sent packet 4/1/08	D. Rager, S. Brown
Paloma Business Solutions	R. McQuade	John McNevin - sent membership information 4/3/2009, D. Rager follow-up 4/13/2009	D. Rager
Pennsylvania Public Utility Commission	R. McQuade	Annunciata Marino and Robert F. Wilson – sent membership information 4/3/2009 – Joining - fees not received to date	D. Rager
SOURCEfire Marketing	S. Brown	D. Rager - sent information 4/23/2009, reply (smart grid letters) 5/27/2009 - not interested at this time	D. Rager
Targa Resources, Inc.	D. Rager	Maureen Tinc – sent membership information 5/7/2009	D. Rager



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Attachment 2b

NAESB Membership Prospects – Wind Generators

Membership Prospects	Source	Contact/Notes	Assignment
Acciona	Resource Committee		S. Brown, R. McQuade, M. Desselle
American Wind Energy Assoc.		<i>Has Joined</i>	R. McQuade, M. Desselle
Horizon	Resource Committee		S. Brown, R. McQuade, M. Desselle
Iberdola	Resource Committee		S. Brown, R. McQuade, M. Desselle
John Deere Wind	Resource Committee	John Harvey	R. True
Gamesa	Resource Committee		S. Brown



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Attachment 2c

NAESB Membership Prospects – Groups

Membership Prospects	Source	Contact/Notes	Assignment
End Users	Resources Committee	Should hold meetings with John Anderson for ideas after we begin the sessions for ISOs and RTOs.	S Brown/M Desselle
ISOs and RTOs (ISO-NE, NYISO, AESO, IESO, CAISO, PJM)	Board action	Letter sent in April asking for membership and participation. They responded in June with interest. We have set up a meeting to discuss participation and membership on August 24 in Washington, D.C.	S Brown/M Desselle
California ISO (CASIO) – Contact: Yakout Mansour		<i>Has Joined</i>	
Independent Electricity System Operator (IESO) – Contacts: Ron Falsetti and David Short		<i>Has Joined</i>	
New York Independent System Operator, Inc. (NYISO) – Contacts: Michael Calimano and Mark S. Lynch		<i>Has Joined</i>	
TranServ International, Inc. – Contact: Kevin Burns		<i>Has Joined</i>	
PJM Interconnection – Contact: Alicia Daugherty		<i>Has Joined</i>	
Alberta Electric System Operator – Contact: Diana Pommen		<i>Has Joined</i>	
ISO New England, Inc. – Contact: Matthew F. Goldberg		<i>Has Joined</i>	
Munis and Coops	Resources Committee	R. True will approach APPA and NRECA about opportunities to speak about NAESB to raise awareness and increase interest in membership. Mr. True followed up with APPA but will provide the NAESB office with a more up to date calendar prior of APPA events prior to the next meeting.	R. True
Western Groups - WECC	Resources Committee	WECC has been a member since May 2005. Conference call held with J Ackerman, B Schwermann, M Wells and L Westerfield. Meeting held on October 27 to speak to them about NAESB.	S Brown/M Desselle/R. McQuade
ABBA Energy Limited ?	Resource Committee		
Solar Trade Association	Resource Committee	Mack Thompson	
Solar Alliance, The	Resource Committee	CarrieCullen Hitt	



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Attachment 2c

NAESB Membership Prospects – Groups

Membership Prospects	Source	Contact/Notes	Assignment
Solar Electric Power Association (SEPA)	Resource Committee	Julia Hamm, Executive Director	



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Attachment 2d

NAESB Membership Prospects – Long Term

Membership Prospects	Source	Contact/Notes	Assignment
AES Corporation - Indianapolis Power & Light Company	EEI - EPSA		
Alaska Energy and Resources Company	EEI		
ALLETE - Minnesota Power - Superior Water, Light and Power	EEI		
Alliant Energy Corporation - Interstate Power and Light Co - Wisconsin Power and Light Co	EEI		
Arizona Corporation Commission	NERC		
Avista Utilities	EEI		
Big Rivers Electric Corp.	NERC		
Black Hills Corporation - Black Hills Power	EEI	<i>Has Joined</i>	
British Columbia Transmission Corporation	NERC	<i>Has Joined</i>	
Central Vermont Public Service Corporation	EEI		
CH Energy Group, Inc. - Central Hudson Gas & Electric Corp	EEI		
Clarksdale Public Utilities Commission	NERC		
DPL Inc. - The Dayton Power and Light Company	EEI		
Duquesne Light Holdings - Duquesne Light Company	EEI		S. Brown
East Kentucky Power Coop.	NERC		
El Paso Electric Company	EEI		M. Desselle
Electric Energy, Inc.	EEI		
Electric Power Research Institute	NERC		
Electric Power Supply Association	NERC	<i>Has Joined</i>	
Farmington Electric Utility System	NERC		
Goldman Sachs & Co.	EPSA		S. Brown
Great Plains Energy, Inc. - Kansas City Power & Light Company	EEI		M. Desselle
Great River Energy	NERC		
GridAmerica LLC	NERC		
Hawaiian Electric Industries, Inc. - Hawaii Electric Light Co., Inc. - Maui Electric Co., Ltd.	EEI		
Huntsville Utilities	NERC		
InterGen	EPSA		
Kansas City Board of Public Utilities	NERC		
Manitoba Hydro	NERC		
MDU Resources Group, Inc. - Montana-Dakota Utilities Co.	EEI		



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Attachment 2d

NAESB Membership Prospects – Long Term

Membership Prospects	Source	Contact/Notes	Assignment
MGE Energy, Inc. - Madison Gas and Electric Co.	EEI		
Missouri Office of Public Counsel	NERC		
Mt. Carmel Public Utility Company	EEI		
National Energy & Gas Transmission Inc.	EPSA		
National Energy Board	NERC		
Nebraska Public Power District	NERC		
Northeast Power Coordinating Council			M Desselle
Northern Star Generation Co. -- NSTAR	EPSA-EEI		
NorthWestern Corporation - NorthWestern Energy	EEI		
Nuclear Management Company, LLC	EEI		
OGE Energy Corporation - OG&E Electric Services	EEI - NERC	<i>Has Joined</i>	M. Desselle
Ohio Public Utilities Commission	NERC		
Ohio Valley Electric Corporation	EEI		
Omaha Public Power District	NERC		
Ontario Energy Board	NERC		
Pennsylvania Public Utility Commission	NERC		
Pepco Holdings, Inc. - Pepco	EEI		
Pinnacle West Capital Corporation -- (APS)	EEI		
PNM Resources, Inc. - Public Service Co of New Mexico	EEI		
Praxair, Inc.	NERC		
Quebec Energy Board	NERC		
Shell Trading	EPSA		S. Brown
Sierra Pacific Resources - Nevada Power Company - Sierra Pacific Power Company	EEI		
Sithe Energies Inc.	EPSA		
Snohomish County PUD No.1	NERC		
Strategic Energy LLC	EPSA		
TECO Energy, Inc. - Tampa Electric Company	EEI		S. Brown
TNP Enterprises, Inc. - Texas-New Mexico Power Company	EEI		
TransAlta	NERC		
Trans-link			M Desselle
UIL Holdings Corporation - The United Illuminating Company	EEI		
UniSource Energy Corporation - Tucson Electric Power Company	EEI		



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NAESB Membership Prospects – Long Term

Membership Prospects	Source	Contact/Notes	Assignment
Utah Public Service Commission	NERC		
Vermont Electric Power Company, Inc.	EEI		
Westar Energy Inc.	EEI	<i>Has Joined</i>	M. Desselle
Wheelabrator Technologies Inc.	EPSA		
Wolf Creek Nuclear Operating Corporation	EEI		



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Attachment 2e

NAESB Membership Prospects – Smart Grid (Technology Companies)

Membership Prospects	Source	Contact/Notes	Assignment
Abidance Consulting (DLC International)	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Aegix Consutling	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
AESI-US, Inc.	S. Brown	Loreto D. Sarrachini - D. Rager - sent letter with membership information 4/23/2009	D. Rager
Agiliance, Inc.	S. Brown	Mark Lockareff - D. Rager - sent letter with membership information 4/23/2009	D. Rager
Akonix Sytems, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Allen Systems Group, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
AssurX, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
AUS, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Axentis	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Barbeion Software Corporation	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
BOW Networks	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Bullzi Security, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
CA, Inc.	S. Brown	Bill Warren - D. Rager - sent letter with membership information 4/23/2009	D. Rager
Ceelox, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
CipherOptics	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Compliance Spectrum	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
ControlPath	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Cooper Power Systems, Inc. (Cybectec)	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager



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NAESB Membership Prospects – Smart Grid (Technology Companies)

Membership Prospects	Source	Contact/Notes	Assignment
CoreTrace Corporation	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Corpedia, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Critical Watch	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Corporate Risk Solutions, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Deloitte & Touche, LLP	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Dyonyx	S. Brown	Fred Pratt - D. Rager - sent letter with membership information 4/23/2009	D. Rager
Ember	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
EnerVision, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
ENOSERV	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Eviance	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Erado Message Control Solutions	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
ERLPhase Power Technologies, Ltd.	S. Brown	Michael Weiblen - D. Rager - sent letter with membership information 4/23/2009	D. Rager
EthicsPoint, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Eureka Software	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
FishNet Security, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Gilliam Wesley International	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Global DataGuard, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Grier Consulting Group, LLC	S. Brown	Chris Grier - D. Rager - sent letter with membership information 4/23/2009	D. Rager
HP Atalla Security Products	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager



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NAESB Membership Prospects – Smart Grid (Technology Companies)

Membership Prospects	Source	Contact/Notes	Assignment
Industrial Defender	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Industry Compliance Institute	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Intellibind	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Ivara Corporation	S. Brown	Kathy Steel - D. Rager - sent letter with membership information 4/23/2009	D. Rager
Jefferson Wells	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
KEMA	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Kestrel Power Engineering, LLC	S. Brown	Mike Fogarty - D. Rager - sent letter with membership information 4/23/2009	D. Rager
KPMG LLP	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
LogRhythm, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Loma Consulting	S. Brown	Earl S. Hill - D. Rager - sent letter with membership information 4/23/2009	D. Rager
The MathWorks	S. Brown	Jack Little - D. Rager - sent letter with membership information 4/23/2009	D. Rager
Matrikon	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
McCoy Power Consultants	S. Brown	Steven W. McCoy - D. Rager - sent letter with membership information 4/23/2009	D. Rager
Methodware	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
MetricStream, Inc.	S. Brown	Gunjan Sinha - D. Rager - sent letter with membership information 4/23/2009	D. Rager
MLJ Energy Group	S. Brown	Michael T. Brown - D. Rager - sent letter with membership information 4/23/2009	D. Rager
NCircle Network Security	S. Brown	Abe Kleinfeld - D. Rager - sent letter with membership information 4/23/2009	D. Rager



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Attachment 2e

NAESB Membership Prospects – Smart Grid (Technology Companies)

Membership Prospects	Source	Contact/Notes	Assignment
N-Dimension Solutions Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
NetVision	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Network & Security Technologies, Inc.	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Nexant, Inc.	S. Brown	Basem Sarandah - D. Rager - sent letter with membership information 4/23/2009	D. Rager
North American Energy Services	S. Brown	D. Rager - sent letter with membership information 4/23/2009	D. Rager
Oxford Consulting	S. Brown	Michelle Abreu - D. Rager - sent letter with membership information 4/23/2009	D. Rager
Policy Technologies International, Inc.	S. Brown	D. Rager - sent letter with membership information 4/24/2009	D. Rager
Power Decisions Consulting	S. Brown	D. Rager - sent letter with membership information 4/24/2009	D. Rager
POWER Testing and Energization, Inc.	S. Brown	D. Rager - sent letter with membership information 4/24/2009	D. Rager
Powersmiths International, Inc.	S. Brown	D. Rager - sent letter with membership information 4/24/2009	D. Rager
PricewaterhouseCoopers LLP	S. Brown	D. Rager - sent letter with membership information 4/24/2009	D. Rager
Quality Plus Engineering, LLC	S. Brown	Greg Hutchins - D. Rager - sent letter with membership information 4/24/2009	D. Rager
Quanta Technology	S. Brown	James (Jim) M. Blackman - D. Rager - sent letter with membership information 4/24/2009	D. Rager
Quizzicle	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
RavenEye	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Resolver, Inc.	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Rocky Mountain Power Services, Inc.	S. Brown	Matthew Fulk - D. Rager - sent letter with membership information 4/29/2009	D. Rager
RW Beck	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager



North American Energy Standards Board

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Attachment 2e

NAESB Membership Prospects – Smart Grid (Technology Companies)

Membership Prospects	Source	Contact/Notes	Assignment
Securicon, LLC	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
SecuSolutions Ltd.	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
SenSage, Inc.	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Sirius Solutions, LLP	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Slalom Consulting	S. Brown	Brian Jacobsen - D. Rager - sent letter with membership information 4/29/2009	D. Rager
Softential, Inc.	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
SOURCEfire	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Southwest Microwave, Inc.	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Sph3r3, LLC	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Structure Consulting Group, LLC	S. Brown	Mike Peterson - D. Rager - sent letter with membership information 4/29/2009	D. Rager
Surf Technologies, Inc.	S. Brown	Jacques Davignon - D. Rager - sent letter with membership information 4/29/2009	D. Rager
Symantec	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
System Operations Success, Int'l. (SOS Int'l)	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Telkonet, Inc.	S. Brown	Jason L. Tienor - D. Rager - sent letter with membership information 4/29/2009	D. Rager
Teltone	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Towerline Software	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
TriGeo Network Security	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Tripwire	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager



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NAESB Membership Prospects – Smart Grid (Technology Companies)

Membership Prospects	Source	Contact/Notes	Assignment
Utility Decision Support (UDS) Group	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Universal Safety Response, Inc.	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Utility Services LLC	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Utility System Efficiencies, Inc.	S. Brown	Daniel H. Wood - D. Rager - sent letter with membership information 4/29/2009	D. Rager
Vidient	S. Brown	Frank Pao - D. Rager - sent letter with membership information 4/29/2009	D. Rager
Vigilant Power Solutions, Inc.	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Verisign	S. Brown	D. Rager - sent letter with membership information 4/29/2009	D. Rager
Z Global Engineering & Energy Solutions	S. Brown	Ziad Alaywan - D. Rager - sent letter with membership information 4/29/2009	D. Rager



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Attachment 3

North American Energy Standards Board New Members since January 2008

Quadrant	Segment	Contact and Company	Reason Joined	Month Joined
RGQ	End Users	Advantage IQ, Inc. Contact: Suzanne Figy	Participation	September
WEQ	Generation	American Wind Energy Association Contact: Robert Gramlich	Participation	October
WEQ	Transmission	Black Hills Corporation Contact: Larry D. Williamson	Participation	August
WEQ	Transmission	British Columbia Transmission Corporation Contact: Janet Fraser	Participation	January
WGQ	Pipeline	Cheniere Pipeline Company Contact: Whit Scott	Participation	December
WGQ	Producer	Devon Energy Corporation Contact: Bill Green	Participation	October
WEQ	Generation	Entegra Power Group, LLC Contact: Rebecca Turner	Participation	January
WGQ	Services	EnergySouth Midstream, Inc. Contact: Russell Murrell	Participation	January
WEQ	End Users	EnerNOC, Inc. Contact: Aaron Breidenbaugh	Participation	December
WGQ	Pipeline	Equitrans, LP Contact: Joseph M. Dawley	Participation	December
WGQ	Producer	Foothills Energy Ventures, LLC Contact: Marty Patterson	Participation	January
WGQ	Services	Goodrich Petroleum Company, LLC Contact: Bill Hebenstreit	Participation	July
WGQ	Producer	Husky Energy Marketing, Inc. Contact: Jan Bindon	Participation	August
WGQ	End Users	Husky Marketing and Supply Company Contact: Jan Bindon	Participation	August
WGQ	Producer	Husky Gas Marketing, Inc. Contact: Jan Bindon	Participation	August
REQ	Services	ICF International Contact: David Pickles	Participation	June
WGQ	Services	JP Morgan Ventures Energy Corp Contact: Paul Tramonte	Participation	October
WGQ	Producer	Noble Energy, Inc. Contact: Richard D. Smith	Participation	July
REQ	Supplier	North Carolina Advanced Energy Corporation Contact: Robert K. Koger	Participation	July



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WGQ	Services	OGE Energy Resources, Inc. Contact: Cary Metz	Participation	February
WEQ	Distribution	Public Power Council Contact: Nancy Baker	Participation	February
WEQ	Transmission	San Diego Gas & Electric Company Contact: Patricia vanMidde	Participation	January
WEQ	Transmission	Santee Cooper Contact: Tom Abrams	Participation	February
WEQ	Transmission	United Illuminating Company, The Contact: Rose Pysh	Participation	December
RGQ	Supplier	Vectren Retail, LOC Contact: Tami Wilson	Participation	January
WGQ	Services	Vega Energy Partners, Ltd. (<i>rejoined</i>) Contact: Lori Leeder	Participation	May
WEQ	Generation	Westar Energy, Inc. Contact: Shah Hossain	Participation	June

** Membership dues not yet received.



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Quadrant	Segment	Contact and Company	Reason Joined	Month Joined
WEQ	Distribution	Alabama Municipal Electric Authority Contact: Ray Phillips	Participation	April
RGQ	Supplier	Asgard Energy, LLC Contact: Rhett C. Shumway	Participation	June
REQ	End Users	City of Houston Contact: James P. Cargas	Participation	June
WGQ	Pipeline	Golden Pass Pipeline, LLC Contact: Susan Braden	Participation	January
WEQ	Marketer	Los Angeles Department of Water and Power Contact: Michael S. Webster	Participation	January
WEQ	Transmission	Los Angeles Department of Water and Power Contact: Mohammed Johar Beshir	Participation	January
WEQ	End User	SunGard Consulting Services, LLC Contact: Austin Morris	Participation	April



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Attachment 4

North American Energy Standards Board Member Resignations in 2008

Quadrant	Segment	Contact and Company	Reason Resigned	Month Resigned
WEQ	Transmission	Allegheny Energy, Inc.	Company decision to not renew	October
WEQ	Transmission	American Transmission Company LLC	Company decision to not renew due to resources	October
RGQ	Supplier	Center Point Energy Minnegasco	Contact (Andrea Newman) left company – new contact Tracy Bridge did not want to renew	February
WEQ	End User	ChevronTexaco Energy Research	No reason given for non renewal	March
WEQ	Marketer/Broker	Conective Energy Supply, Inc.	Company decision to only keep “one” active membership	February
WEQ	Generation	Constellation Energy	Company decision to not renew	June
RGQ	Services	Energy Services Group, Inc.	Company decision to not renew due to resources	February
WGQ	Services	EnergySouth Midstream, Inc.	Company acquired by Sempra Energy	October
WGQ	LDC	Equitable Gas Company	Company decision to not renew due to resources	July
WEQ	Transmission	Florida Reliability Coordinating Council	No reason given for non renewal	January
WGQ	End User	Florida Reliability Coordinating Council	No reason given for non renewal	April
REQ	Distribution	Gulf Power Company	Company decision to not renew due to resources	June
WGQ	Pipeline	H S Resources, Inc.	No reason given for non renewal	February
WEQ	Transmission	Imperial Irrigation District	Already participating in other segment	April
RGQ	End User	Indiana Office of Utility Consumers	Company decision to not renew due to resources	April
REQ	Services	ista North America	Company decision to not renew due to resources	September
WGQ	Services	J.P. Morgan Ventures Energy	No reason given for non renewal	April
WEQ	Marketers/Brokers	Luminant	No reason given for non renewal	December
WEQ	End User	Maryland People’s Counsel	No reason given for non renewal	June
WEQ	Transmission	Michigan Electric Transmission Company	No reason given for non renewal	April
REQ	Distribution	Mississippi Power Company	Company decision to not renew due to resources	June
WGQ	LDC	National Grid USA	Company decision to not renew due to resources	September



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Attachment 4

North American Energy Standards Board
Member Resignations in 2008

WEQ	End Users	New York State Department of Public Service	No reason given for non renewal	December
RGQ	Distribution	Niagara Mohawk	Company decision to not renew due to resources	April
RGQ	Distribution	Northern Indiana Public Service Company (NiSource, Inc.)	No reason given for non renewal	December
RGQ	End User	Ohio Consumers Council	Company decision to not renew due to resources	April
WEQ	End User	Ohio Consumers Council	Company decision to not renew due to resources	February
REQ	End User	Ohio Consumers Council	Company decision to not renew due to resources	April
WEQ	Transmission	Oncor	Company decision to not renew due to resources	May
RGQ	Distributor	Public Service Electric & Gas	No reason given for non renewal	February
WEQ	Generation	Sacramento Municipal Utility District	Company decision to only have "1" membership in NAESB	July
WEQ	Distribution	Salt River Project Agricultural	Company decision to only have "2" memberships in NAESB	September
REQ	Supplier	TXU Energy Retail	Non renewal	September
RGQ	Supplier	UBS Energy LLC	No reason given for non renewal	April
REQ	End User	Wal-Mart Stores, Inc.	No reason given for non renewal	April



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Attachment 4

North American Energy Standards Board Member Resignations in 2009

Quadrant	Segment	Contact and Company	Reason Resigned	Month Resigned
WGQ	LDC	Cascade Natural Gas Corporation	Company decision to not renew due to resources (<i>May reconsider later in year</i>)	January
WGQ	Pipeline	Chandeleur Pipe Line Co	No reason given for non renewa	March
WGQ	Services	Cheniere LNG Marketing	May reconsider in June 2009	May
WEQ	Generation	ElectriCities of North Carolina (North Carolina Eastern Municipal Power Agency)	Company decision to not renew – only keeping one membership	January
WEQ	Distribution	Exelon Corporation – PECO Energy	No reason given for non renewal	March
WGQ	Services	Hess Corporation	No reason given for non renewal	March
WEQ	Marketers/Brokers	Imperial Irrigation District	Company decision to not renew – only keeping one membership	January
WGQ	Services	Lehman Brothers Commodity Services, Inc.	No reason given for non renewal	March
REQ	Distribution	MidAmerican Energy Company	Company decision to not renew – only keeping one membership	May
WGQ	LDC	NiSource, Inc.	No reason given for non renewal (<i>as of June 10 working on renewal</i>)	May
WEQ	Marketers/Brokers	North Carolina Electric Municipal Power Agency #1	Company decision to not renew – only keeping one membership	January
WEQ	Transmission	Otter Tail Power Company	No reason given for non renewa	April
WEQ	Marketers/Brokers	PSEG Energy Resources and Trade LLC	No reason given for non renewal	January
WEQ	Generation	PSEG Power LLC	No reason given for non renewal	January
WEQ	Distribution	Public Power Council	No reason given for non renewal	May
REQ	Distribution	Public Service Electric & Gas Company	No reason given for non renewa	April
WEQ	Marketers/Brokers	SUEZ Energy Marketing NA, Inc.	No reason given for non renewal	February
WGQ	Services	UBS Energy LLC	No reason given for non renewal	January
WGQ	Services	Virginia Power Energy Marketing	No reason given for non renewal	May
WGQ	LDC	Westfield Gas & Electric Light Dept.	No reason given for non renewal	February
RGQ	Distribution	Xcel Energy	Company decision to not renew due to resources (<i>May reconsider later in 2010</i>)	January



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Attachment 5

North American Energy Standards Board and Executive Committee Vacancies as of June 10, 2009

Vacant Seats	Quadrant	Seat	Segment	Subsegment
15	Retail Electric	Board (7)	Supplier (3) End User (3) Service Providers (1)	
		Executive Committee (8)	End User (4) Services (1) Supplier (3)	
38	Retail Gas	Board (19)	Distribution (4) End User (6) Service Providers (3) Suppliers (6)	
		Executive Committee (19)	Distribution (2) End User (6) Service Providers (6) Suppliers (5)	
14	Wholesale Electric	Board (7)	Distribution/Load Serving Entities (LSE) (1)	IOU (at large) (1)
			Transmission (1)	IOU (at large) (1)
			Generation (1)	Merchant (1)
			Marketers/Brokers (1)	Not IOU Affiliated (at large) (1)
			End User (3)	End Use-Also in another segment (at large) (1) Commercial/Residential (at large) (1) Large Industrial (at large) (1)
		Executive Committee (7)	End User (4)	Large Industrial (at large) (1) Commercial/Residential (at large) (1) End Use (In other segments) (at large) (1) Large Industrial (at large) (1)
			Generation (1)	Merchant (1)
			Distribution/LSE (1)	Muni/Coop (at large) (1)
			Marketers/Brokers (1)	Not IOU Affiliated (at large) (1)
		2	Wholesale Gas	Board (1)
Executive Committee (1)	LDC (1)			



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Attachment 6

Membership Roster Sorted by Company

Quadrant	Segment	Sub-Segment	Member Company	Contact	State / Province
WGQ	s		8760, Inc.	Jim Buccigross	AL
WEQ	m	muni	ACES Power Marketing LLC	Roy J. True, Amadou Fall	IN
REQ	e		Advantage IQ, Inc.	Suzanne Figy, Jami Boom	WA
RGQ	d		AGL Resources Inc.	Gregory Becker	GA
REQ	d		Alabama Power	Judy W. Ray	AL
WEQ	d	muni	Alabama Municipal Electric Authority	Ray Phillips	AL
WEQ	i		Alberta Electric System Operator	Diana Pommen, Henry Ren	ALB
RGQ	s		Allegro Development	Kimberly Page	TX
WGQ	pl		Alliance Pipeline LP	Jim Goldmann, Cathie Legge, Brian Troicuk	ONT
WGQ	l		Ameren Corporation	Scott Glaeser, Ken Dothage, Jim Massmann	MO
WEQ	m	iou	Ameren Services	Shawn Schukar	MO
REQ	d		Ameren Services Company	Patrick Eynon	MO
WEQ	d	iou	American Electric Power Service Corp.	Barbara Radous, Joseph Hartsoe, Phil Cox	OH
WEQ	m	muni	American Municipal Power - Ohio, Inc.	Mack Thompson, Chris Norton	OH
RGQ	d		American Public Gas Association (APGA)	Alonzo Weaver, Joe Stengel	PA
WEQ	d	muni	American Public Power Association	Allen Mosher	DC
WEQ	g	merc	American Wind Energy Association	Robert Gramlich	DC
WGQ	s		Anadarko Energy Services Company	John Bretz, Steven Abbey	TX
WGQ	pl		ANR Pipeline Company	Sandy Meyers, Joseph E. Polland, Rene Staeb, Debbie Forth, Carol Wehlmann	ALB
WGQ	pr		Apache Corporation	Kelley Powell	TX
WEQ	m	iou	APS Marketing and Trading	Steve Norris	AZ
WEQ	t	iou	Arizona Public Service Company	Mark W. Hackney	AZ
WGQ	e		Arizona Public Service Company	Tom Carlson, Kelly Daly	AZ
RGQ	su		Asgard Energy, LLC	Rhett C. Shumway	CO
WGQ	pl		Atmos Energy	Steve Easley	TX
WGQ	s		Ballard Natural Gas, LLC	Susan Thibodeaux	TX
REQ	d		Baltimore Gas & Electric Co.	Ruth Kiselewich, Phil Precht	MD
WGQ	l		Baltimore Gas & Electric Co.	Phil Precht, Ron Jennings	MD
RGQ	d		Baltimore Gas & Electric Company	Phil Precht	MD
WGQ	s		Barclays Bank PLC	Guy Kern-Martin	NY
WEQ	g	muni	Basin Electric Power Cooperative	Jason Doerr	ND
WEQ	m	nd	Basin Electric Power Cooperative	David Raatz	ND
WEQ	t	muni	Basin Electric Power Cooperative	Dan Klempel	ND
WGQ	s		Bentek Energy, LLC	E. Russell Braziel	CO
WGQ	s		BG Energy Merchants, LLC	Martha Braddy, Denise Almoina, Susan Bailey, Melody Fontenot	TX
WEQ	t	iou	Black Hills Corporation	Larry D. Williamson	SD
WGQ	pl		Boardwalk Pipelines, LP	Randy Young, Mitch Whitehead	TX
WGQ	e		Boeing Company	Tina Burnett	WA
WEQ	d	other	Bonneville Power Administration	Sydney D. Berwager	OR
WEQ	g	fed	Bonneville Power Administration	Francis Halpin, Robin Chung	OR



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Attachment 6

Membership Roster Sorted by Company

Quadrant	Segment	Sub-Segment	Member Company	Contact	State / Province
WEQ	m	fed	Bonneville Power Administration	Brenda Anderson	OR
WEQ	t	fed	Bonneville Power Administration	Barbara Rehman, Tom Davis	OR
WEQ	e	lind	BP America, Inc.	Jeanne Zaiontz	TX
WGQ	pr		BP Energy	Mark Stultz, Rhonda Denton	TX
WEQ	t	fed	British Columbia Transmission Corporation	Rohan Soulsby	BC
WEQ	g	fed	California Department of Water Resources	William (Bill) Forsythe, Chi Doan	CA
WEQ	i		California ISO	Yakout Mansour	CA
WGQ	e		Calpine Energy Services, LP	Shonnie Daniel, Jay Dibble	TX
RGQ	s		Capacity Center	Greg Lander	MA
WGQ	s		Cargill Incorporated	Kathy Gerken	MN
WGQ	pl		Carolina Gas Transmission Corporation	Rae Davis, Dana B. Randall	SC
WGQ	s		CenterPoint Energy Gas Services, Inc.	James G. Beste, Larry Kunkle	TX
WGQ	pl		CenterPoint Energy Gas Transmission Company	Larry Thomas	TX
WGQ	pl		CenterPoint Energy Mississippi River Transmission Corp.	Robert Trost	TX
WEQ	d	muni	Central Electric Power Cooperative	Arthur Fusco	SC
WGQ	pl		Cheniere Pipeline Company	Whit Scott	TX
WGQ	pr		Chevron Natural Gas	Charles (Chuck) Cook	TX
WGQ	pl		Chevron Pipe Line Company	Mary Ann Collins, Deborah Plattsmier, Jeff Kirk	TX
WGQ	pr		Cimarex Energy Co	Charlotte Baker	OK
WGQ	s		Citigroup Energy Inc.	Carrie Southard, Angela Davis	TX
REQ	e		City of Houston	James P. Cargas	TX
WEQ	t	iou	Cleco Power, LLC	Cindy Guillot	LA
WGQ	l		Colorado Springs Utilities	Joe M. Holmes	CO
WGQ	pl		Columbia Gas Transmission	Claire Burum	VA
WEQ	e	enduse	Comprehensive Energy Services	Jim Templeton	TX
WGQ	e		Comprehensive Energy Services	Jim Templeton	TX
WEQ	g	merc	Conectiv Energy Supply, Inc.	Gloria Godson	DE
WGQ	pr		ConocoPhillips Gas and Power	Peter Frost	TX
REQ	d		Consolidated Edison Company of NY	Adrienne Austin	NY
WGQ	l		Consolidated Edison Company of NY	Scott Butler, Paul Olmsted	NY
WEQ	t	iou	Consolidated Edison Company of NY, Inc.	Scott Butler	NY
WGQ	s		Constellation Energy Commodities Group, Inc.	Lisa Simpkins, Joseph Kirwan, Andrea Kullman, Jennifer Scott	MD
REQ	su		Constellation NewEnergy, Inc.	Janson Pollock	MD
WEQ	d	iou	Consumers Energy Company	Andrew C. Dotterweich, Frank Johnson	MI
WEQ	t	muni	Dairyland Power Cooperative	Chuck Callies	WI
WGQ	pl		Dauphin Island Gathering Partners	Katie Rice	CO
WGQ	s		DB Energy Trading	William Donnelly, Travis McCullough	NY
WGQ	e		Defense Energy Support Center	Veronica Jones, Kevin Ahern	VA
WGQ	e		Department of Energy	Christopher Freitas	DC
WEQ	g	muni	Deseret Generation & Transmission Co-operative	Curtis Winterfeld	UT
WGQ	pr		Devon Energy Corporation	Bill Green	OK
REQ	su		Direct Energy Business Services	David Booty	TX
WEQ	g	iou	Dominion Energy Marketing, Inc.	Lou Oberski, Jalal Babik	VA



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Attachment 6

Membership Roster Sorted by Company

Quadrant	Segment	Sub-Segment	Member Company	Contact	State / Province
WGQ	l		Dominion Resources (Previously CNG)	Craig Columbo	VA
REQ	su		Dominion Retail	William Barkas, Richard Zelenko	VA
RGQ	su		Dominion Retail, Inc.	Richard A. Zollars	VA
WGQ	pl		Dominion Transmission, Inc.	Gary Sypolt, Iris King	VA
REQ	d		Dominion Virginia Power	David F. Koogler, Mary Edwards	VA
WGQ	s		DTE Energy Trading, Inc.	Gregory V. Staton, James Buck, Dena Crawford, Marcia L. Hissong, Ann Marie Jambor, Cynthia Klots, Shelley Greene	MI
WEQ	g	iou	Duke Energy Americas, LLC (DEA)	Walt Yeager	OH
RGQ	d		Duke Energy Corp.	Dan Jones	OH
WEQ	d	iou	Duke Energy Corp.	Alan Pritchard	NC
WEQ	g	merc	Dynegy Power Marketing, Inc.	Barry Huddleston	TX
REQ	s		EC Power International	Judy Bailey, J. Cade Burks, Jennifer Teel	TX
WEQ	n	n	Edison Electric Institute	David Owens, Dave Dworzak, James P. Fama	DC
WEQ	g	merc	Edison Mission Marketing & Trade, Inc.	William Roberts	MA
WGQ	pr		El Paso Exploration & Production Company	David A. Webster, Stephanie Karm	TX
WGQ	pl		El Paso Natural Gas	William Griffith	TX
WEQ	m		Electric Power Supply Association	Jack Cashin, Barry Green	DC
REQ	s		Electric Reliability Council of Texas (ERCOT)	Susan Munson, Kent Saathoff	TX
WEQ	i		Electric Reliability Council of Texas (ERCOT)	Bill Blevins, Paul Wattles, Joel Mickey	TX
WEQ	t	iou	Empire District Electric Company, The	Bary K. Warren	MO
WGQ	pl		Enbridge Energy Company Inc	Terry McGill	TX
WGQ	pr		EnCana Corporation	Keith Sappenfield	ALB
WGQ	s		EnCana Marketing (USA) Inc.	Keith Sappenfield	CO
WEQ	t	iou	Energy East Management Corporation	Mark Marini	NY
WGQ	l		Energy East Management Corporation	Mark Marini	NY
WEQ	e	enduse	EnerNOC, Inc.	Aaron Breidenbaugh	MA
WEQ	g	merc	Entegra Power Group, LLC	Rebecca Turner	FL
WEQ	t	iou	Entergy Services, Inc.	Edward J. Davis, Narinder Saini	LA
WGQ	e		Entergy Services, Inc.	Laura Berryman, Terry Shields	LA
WGQ	pl		Enterprise Products Partners, LP	Richard W. Porter, Jeff Molinaro	TX
WGQ	pl		Equitrans, L.P.	Joseph M. Dawley	PA
RGQ	su		Exelon Energy	Sheree M. Petrone	PA
REQ	d		Exelon Energy Delivery	Toni Garza	IL
WEQ	m	iou	Exelon Generation - Power Team	Jack Crowley	IL
WGQ	pr		ExxonMobil Gas & Power Marketing Company a division of Exxon Mobil Corporation	John W. Poe, Greg Belyakov	TX
WEQ	e	sgen	ExxonMobil Gas Marketing	Kerrie Anne Lanigan, Carol A. Nichols	TX
WEQ	d	iou	First Energy Service Company	Robert M. Martinko, Thomas C. Burgess	OH
WEQ	m	iou	FirstEnergy Solutions Corp.	Mark Travaglianti	OH
WEQ	d	muni	Florida Municipal Power Agency	Frank Gaffney	FL
WEQ	g	muni	Florida Municipal Power Agency	Frank Gaffney	FL
WEQ	m	iou	Florida Power & Light Company	Gerry Yupp, Tim Gerrish	FL



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Attachment 6

Membership Roster Sorted by Company

Quadrant	Segment	Sub-Segment	Member Company	Contact	State / Province
WEQ	t	iou	Florida Power & Light Company	Marty Mennes, Bob Birch	FL
WGQ	e		Florida Power & Light Company	Dona Gussow, Art Morris	FL
WGQ	pr		Foothills Energy Ventures, LOC	Marty Patterson	TX
WGQ	e		FPL Energy Power Marketing, LLC	Marty Jo Rogers	FL
WGQ	pl		Gas Transmission Northwest Corporation	Jay Story	OR
WEQ	t	muni	Georgia Transmission Corporation	Patrick McGovern	GA
WGQ	pl		Golden Pass Pipeline, LLC	Susan Braden	TX
WGQ	pr		Goodrich Petroleum Company, LLC	Bill Hebenstreit	TX
WGQ	pl		Great Lakes Gas Transmission	Gene Fava	MI
WGQ	pr		High Mount Exploration and Production, LLC	David Ogden, Sheri Heslington, Gary Weaver	VA
WGQ	pl		Houston Pipe Line Company LP	Josie Castrejana, Melissa Graves, Robert Walker	TX
WGQ	pr		Husky Energy Marketing, Inc.	Jan Bindon	ALB
WGQ	pr		Husky Gas Marketing, Inc.	Jan Bindon	ALB
WGQ	e		Husky Marketing and Supply Company	Jan Bindon	ALB
WEQ	t	fed	Hydro - Quebec Transenergie	Michel Prevost	QUE
WEQ	t	itc	Hydro One Networks	Mark Graham	ONT
REQ	s		ICF International	David Pickles	DC
WEQ	t	iou	Idaho Power Company	Tessia Park	ID
WGQ	e		Imperial Irrigation District	Susie Carrillo	CA
WEQ	i		Independent Electricity System Operator (IESO)	Cristian Dragnea, Biju Gopi	ONT
WEQ	g	muni	Indiana Municipal Power Agency	Scott Berry	IN
WGQ	l		Integrus Energy Group, Inc.	David E. Wear	WI
RGQ	s		International LNG Alliance	David Sweet	DC
RGQ	su		Interstate Gas Supply	Ginger Fletcher	OH
WGQ	pl		Iroquois Gas Transmission System	Tom Gwilliam	CT
WEQ	i		ISO New England, Inc.	Matthew F. Goldberg	MA
WGQ	s		JP Morgan Ventures Energy Corp	Paul Tramonte	TX
WGQ	pl		Kern River Gas Transmission Company	Brenda Horton	UT
WGQ	l		Laclede Gas Co.	Kenneth Neises	MO
RGQ	s		Latitude Technologies	Leigh Spangler	TX
WGQ	s		Latitude Technologies	Leigh Spangler	TX
WEQ	g	muni	Lincoln Electric System	Douglas Bantam	NE
WEQ	t	muni	Los Angeles Department of Water and Power	Mohammed Johar Beshir	CA
WEQ	m	muni	Los Angeles Department of Water and Power	Bradford Packer	CA
WGQ	s		Louis Dreyfus Energy Services L.P.	Mary Ellen Bell, Ruby Melton	CT
WGQ	e		Lower Colorado River Authority	Mickey Bell	TX
WGQ	s		Macquarie Cook Energy, LLC	Angela Jones	CA
WGQ	pr		Marathon Oil Company	Robin Perrine	TX
WGQ	pr		Mewbourne Oil Company	Michael F. Shepard	TX
WEQ	d	muni	Michigan Public Power Agency	James R. Nickel, Daniel E. Cooper	MI
WEQ	m	iou	MidAmerican Energy Company	Dennis Kimm	IA
WEQ	i		Midwest Independent Transmission System Operator	Bill Phillips, Ed Skiba	IN
WEQ	t	at large	Midwest Reliability Organization	Dan Schoenecker	MN
WGQ	e		Mirant Energy Trading, LOC	Laura Trautman, John F. Hogan	GA



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WEQ	d	muni	Missouri River Energy Services	Brian Zavesky	MO
WEQ	t	muni	Modesto Irrigation District	Roger Van Hoy	CA
WEQ	e	reg	National Association of Regulatory Utility Commissioners	Lou Ann Westerfield	DC
WGQ	l		National Fuel Gas Distribution	Michael Novak	NY
RGQ	d		National Fuel Gas Distribution Corporation	Mike Novak	NY
WGQ	pl		National Fuel Gas Supply Corp.	Joseph Kardas	NY
WEQ	t	iou	National Grid	Edward M. Kremzier	MA
WGQ	l		National Grid Gas Distribution Companies	Dolores Chezar	NY
WEQ	d	muni	National Rural Electric Cooperative Assoc.	Barry Lawson, Paul McCurley	VA
WGQ	pl		Natural Gas Pipeline Co of America	Paul Love, Stan Thomas, Mike Schisler, Paul Haas	TX
WEQ	m	at large	Navigant Consulting, Inc.	Richard G. Smead, Laurie J. Oppel, Kenneth C. Lotterhos	TX
WEQ	d	muni	NCMPA1	Martin Summe	NC
WGQ	l		New Jersey Natural Gas Company	Douglas C. Rudd	NJ
WEQ	i		New York Independent System Operator	Rana Mukerji	NY
WEQ	d	at large	New York State Reliability Council	P. Donald Raymond	NY
WGQ	s		Nexen Marketing	Shelley Leavitt	ALB
WGQ	pr		Noble Energy, Inc.	Richard D. Smith, Tammy M. Stevens	TX
WEQ	d	at large	North American Electric Reliability Corporation (NERC)	Gerry Adamski, Andy Rodriquez	NJ
REQ	su		North Carolina Advanced Energy Corporation	Robert K. Koger	NC
WEQ	d	muni	North Carolina Electric Membership Corporation	David Beam	NC
WEQ	t	iou	Northeast Utilities Service Company	David Boguslawski, Calvin A. Bowie	CT
WGQ	pl		Northern Border Pipeline Company	Scott Coburn	NE
WGQ	pl		Northern Natural Gas	Mary Darveaux	NE
WGQ	l		Northwest Natural Gas Company	Randolph Friedman	OR
WEQ	t	iou	Northwestern Corporation	Mike Cashell	MT
WGQ	pl		NOVA Gas Transmission Ltd.	Doug Miller	ALB
WEQ	g	merc	NRG Energy, Inc.	Alan Johnson, Jennifer J. Vosburg	NJ
WEQ	m	iou	NV Energy	Sheryl Torrey	NV
WEQ	t	iou	NV Energy, Inc.	Patricia Englin	NV
REQ	e		Office of Public Advocate, State of Maine	Agnes Gormley	ME
WGQ	s		OGE Energy Resources, Inc.	Cary Metz	OK
REQ	d		Oncor	Larry Williford, Debbie McKeever	TX
WGQ	l		ONEOK	Richard Tangeman	OK
WGQ	pl		ONEOK Partners GP, LLC	Teri Tingler	NE
WEQ	g	merc	Ontario Power Generation	Colin Anderson, David Barr	ONT
WEQ	e	at large	Open Access Technology International, Inc.	Michehl Gent	MN
WEQ	t	at large	Open Access Technology International, Inc.	Paul R. Sorenson	MN
WGQ	pl		Ozark Gas Transmission, LLC	David A. Harrell	OK
WGQ	l		Pacific Gas & Electric	John Breen, Don Petersen	CA
WEQ	g	iou	PacifiCorp	Greg Maxfield	OR
WEQ	m	iou	PacifiCorp	John Apperson	OR
WEQ	t	iou	PacifiCorp	Shay Labray	OR
WGQ	pl		Panhandle Eastern Pipe Line Co.	William Grygar, Kim Van Pelt	TX
WGQ	l		PECO Energy Co.	Reed R. Horting	TX



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WGQ	s		Pemex Gas Y Petroquimica Basica	Juan Enrique Gonzalez Azuara	MEXICO
REQ	e		Pennsylvania Office Of Consumer Advocate	Tanya J. McCloskey, Sonny A. Popowsky	PA
RGQ	e		Pennsylvania Office of Consumer Advocate	Tanya J. McCloskey	PA
WGQ	l		Peoples Gas System (A division of Tampa Electric Co)	Wraye Grimard	FL
WEQ	t	iou	PHI Power Delivery	Ken Gates	DE
WEQ	i		PJM Interconnection	Patrick Brown, Cathy Wesley	PA
WGQ	s		Platts	Bill Murphy	CO
WEQ	m	iou	Portland General Electric	John Jamieson	OR
WEQ	t	iou	Portland General Electric	Frank Afranji, John Walker	OR
WGQ	pl		Portland Natural Gas Transmission System	David Haag	OR
WEQ	m	fed	Powerex Corp.	Michael L. McWilliams, Sharole Tylor	BC
WEQ	d	muni	PowerSouth Energy Cooperative	William Ronald Graham	AL
WEQ	t	iou	PPL Electric Utilities Corporation	Ray Mammarella	PA
WGQ	e		PPL EnergyPlus, LLC	Anne Lovett	PA
REQ	s		PPL Solutions, LLC	James M. Minneman, Kim Wall	PA
WEQ	t	iou	Progress Energy	Phillip W. Lewis	NC
WEQ	m	iou	Progress Energy (regulated)	James Eckelkamp	NC
WEQ	m	iou	Public Service Company of New Mexico	Steven Maestas, Darren Wilkins, Patricia Merville	NM
WGQ	l		Public Service Electric & Gas	David Wohlfarth	NJ
WEQ	d	nd	Public Service Electric and Gas Company	Jeffrey C. Mueller	NJ
WEQ	t	nd	Public Service Electric and Gas Company	Kenneth D. Brown	NJ
WEQ	t	iou	Puget Sound Energy, Inc.	George Marshall, Bob Harshbarger	WA
WEQ	g	at large	Qualedi, Inc	Stephen A. Morocco	CT
WGQ	pl		Questar Pipeline Co.	Scott Hansen	UT
WGQ	s		Quorum Business Solutions Inc.	Anne Golenternek, Michael Lewis	TX
WGQ	pl		Reliance Gas Transportation Infrastructure Limited	Jagjit S. Yadav	India
WEQ	g	merc	RRI Energy Services, Inc.	Trent Carlson	TX
WEQ	d	muni	Sacramento Municipal Utility District	Steve Sorey	CA
WGQ	e		Salt River Project Agricultural Improvement & Power District	Lori-Lynn C. Pennock	AZ
WEQ	m	fed	Salt River Project Agricultural Improvement and Power District	Richard Lehman	AZ
WEQ	t	fed	Salt River Project Agricultural Improvement and Power District	Wendy Weathers, Michael J. Pfeister	AZ
WEQ	t	iou	San Diego Gas & Electric Company	Patricia vanMidde	CA
WEQ	t	fed	Santee Cooper	Tom Abrams	SC
WEQ	d	muni	Seattle City Light	Marilynn Semro, Thomas P. Rowan, Doug Rough	WA
WEQ	m	muni	Seminole Electric Cooperative, Inc.	Steve Wallace	FL
WGQ	l		Sempra Energy - Southern California Gas Co.	Lee Stewart, Rodger Schwecke	CA
WGQ	s		Sequent Energy Management, L.P.	Pat Metteauer	TX
WEQ	m	niou	Shell Energy North American (US), L.P.	Robert Reilley, Paul Kerr	TX
WGQ	s		Shell Energy North American (US), L.P.	Eric Gillaspie	TX
WGQ	s		SolArc, Inc.	Mark Davis	TX
WEQ	m	iou	South Carolina Electric & Gas Company	Kevin Spitzform	SC



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WEQ	t	iou	South Carolina Electric & Gas Company	S. Porcher Stoney	SC
WEQ	g	fed	Southeastern Power Administration	Bob Goss	GA
WEQ	t	iou	Southern California Edison	Weston Williams	CA
WEQ	g	iou	Southern California Edison Company	Tracy Bibb	CA
WGQ	e		Southern California Edison Company	Roman Bakke, Curt Roney	CA
REQ	s		Southern Company Services	Barbara Hingst	GA
WEQ	d	iou	Southern Company Services, Inc.	Gary Rozier, Greg Butrus	GA
WEQ	g	iou	Southern Company Services, Inc.	John Ciza	GA
WEQ	m	iou	Southern Company Services, Inc.	Joel Dison	GA
WEQ	t	iou	Southern Company Services, Inc.	R.D. (Dean) Ulch, John Lucas, JT Wood, James Y. Busbin, Daryl McGee	GA
WGQ	e		Southern Company Services, Inc.	Alan Kilpatrick, Bryan Mitchell	GA
WGQ	pl		Southern Natural Gas Co.	Renee Hyde, Tracey Nicholson, Ludean Wyatt	AL
WGQ	pl		Southern Star Central Gas Pipeline	Philip Rullman, Dale Sanders	KY
WGQ	l		Southwest Gas Corporation	Larry Black	NV
WEQ	i		Southwest Power Pool	Carl Monroe, Michael Desselle, Charles Yeung	AR
WEQ	t	muni	Southwest Transmission Cooperative, Inc.	Larry D. Huff	AR
WEQ	t	fed	Southwestern Power Administration	Tracey Stewart	OK
WGQ	pl		Spectra Energy Transmission	Richard Kruse	NC
RGQ	su		Sprague Energy Corp.	Paul Scoff	NH
REQ	s		Structure Group	Anthony Hill	TX
WGQ	s		SUEZ Energy Marketing NA, Inc.	Shirley Tidor	TX
WEQ	e	at large	Sungard	Andrew Tritch	TX
WGQ	s		SunGard	Lucia Nail	TX
REQ	s		SunGard Consulting Services, LLC	Austin Morris	TX
RGQ	s		Systrends	Dave Darnell	AZ
WEQ	m	iou	Tampa Electric Company	Gail M. McKaig	FL
WEQ	g	merc	Tenaska, Inc.	Scott Helyer	NE
WGQ	pl		Tennessee Gas Pipeline Company	Sue Barry, Mark Gracey	TX
WEQ	d	other	Tennessee Valley Authority	Emily Oxford, Dianne H. Nunez	TN
WEQ	g	fed	Tennessee Valley Authority	Kathy York	TN
WEQ	m	fed	Tennessee Valley Authority	Belinda Thornton, Valerie Crockett	TN
WEQ	t	fed	Tennessee Valley Authority	Chuck Feagans	TN
WGQ	e		Tennessee Valley Authority	Valerie Crockett	TN
WGQ	s		Tiger Natural Gas	Tracy Phillips	OK
WGQ	pl		TransCanada Pipelines	Doug Miller	ALB
WEQ	i		TransServ International, Inc.	Kevin Burns	MN
WGQ	pl		Transwestern Pipeline Company, LOC	B lair V. Lichtenwalter, Mary Dramer, David Mendoza	TX
WEQ	g	muni	Tri-State G&T Association, Inc.	Janelle Marriott	CO
WEQ	t	muni	Tri-State Generation and Transmission Association, Inc.	Keith V. Carman	CO
WEQ	t	iou	Tucson Electric Power Company	Raquel Aguilar, Judy Fregoso, Ed Beck	AZ
RGQ	d		UGI Utilities, Inc.	Paul Szykman	PA
WEQ	t	iou	United Illuminating Company, The	Rose Pysh	CT



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WGQ	pl		Vector Pipeline L.P.	Amy Bruhn	MI
RGQ	su		Vectren Retail, LLC	Tami Wilson	IN
WGQ	s		Vega Energy Partners, Ltd.	Julie Pincus, Lori Leeder	TX
WEQ	g	muni	Vermont Public Power Supply Authority	William J. Gallagher	VT
WGQ	l		Washington Gas Light Co.	Adrian Chapman, Mark Lowe, Paul Buckley	DC
WEQ	d	iou	We Energies	Linda Horn	WI
WEQ	g	iou	We Energies	James R. Keller	WI
WEQ	g	iou	Westar Energy, Inc.	Shah Hossain, Grant Wilkerson	KS
WEQ	m	fed	Western Area Power Administration	Jeffrey Ackerman	CO
WEQ	t	fed	Western Area Power Administration	JB Hite	CO
WEQ	t	at large	Western Electricity Coordinating Council	Michelle Mizumori, Louise McCarren	UT
WGQ	s		Williams Gas Marketing, Inc.	Rich Ficken	OK
WGQ	pl		Williams Gas Pipeline	Dale Davis, Christopher Burden	TX
WGQ	pl		Williston Basin Interstate Pipeline	Keith Tiggelaar, Gwen Schoepp, Kelly Brooks, Lori Myerchin	ND
REQ	d		Wisconsin Public Service Corporation	Dennis Derricks, Les Nishida, Ken Thiry	WI
RGQ	d		Wisconsin Public Service Corporation	Dennis Derricks, Ken Thiry, Les Nishida	WI
WEQ	g	iou	Wisconsin Public Service Corporation	Christopher Plante, Charles W. Severance, Neal Balu	WI
WEQ	d	muni	WPPI Energy	Mike Stuart	WI
WEQ	m	iou	Xcel Energy Inc.	David Lemmons	CO

North American Energy Standards Board

Bylaws Addendum

Exhibit 4

Retail Electric Quadrant Procedures

1 **Section 1 – DEFINITIONS**

2 **Section 1.1 Definitions Included in the NAESB Bylaws**

3 All capitalized terms, if not defined in Section 1.2, shall have the same definitions as
4 specified in the [NAESB Bylaws](#) ~~or~~ [Certificate of Incorporation of NAESB](#).

5 **Section 1.2 Definitions for the Purposes of this Exhibit**

6 ~~A. "EC Member" means a Member's representative serving on the EC.~~

7 ~~B.~~A. "NAESB Office" means the administrative office of the Secretary of NAESB.

8 ~~C.~~B. "REQ" means the Retail Electric Quadrant.

9 ~~D.~~C. "REQ Designated Alternates" is defined as a person named by a Segment of the
10 Retail Electric Quadrant, submitted to the NAESB office, to serve in place of a
11 REQ EC Member who is unable to attend an EC meeting~~mean the group of~~
12 ~~individuals selected by each REQ Segment Membership to serve in the stead of~~
13 ~~REQ EC representatives who are unable to attend EC meetings.~~

14 ~~E.~~D. "REQ EC" means the Executive Committee of the REQ.

15 ~~F.~~E. "REQ Membership" means the Voting Members of the Retail Electric Quadrant,
16 collectively of NAESB that satisfy the requirements of membership set forth in
17 Section 5.1.

18 ~~G.~~F. "REQ Segment" means one of the three co-equal ~~membership~~ Segments of the
19 ~~NAESB~~ Retail Electric Quadrant of NAESB~~representing the following four (4)~~
20 ~~segments of the retail electric industry: Distributors, End Users, Services, and~~
21 ~~Suppliers.~~

22 ~~H. "Segment Membership" means the Segment Members collectively.~~

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23 | ~~I. "Segment Procedures" means the procedures attached to this document as exhibits for~~
24 | ~~each of the Segments, as amended.~~

26 | **Section 2 PURPOSES, SCOPE, ACTIVITIES, AND POLICIES**

27 | **Section 2.1 Purpose , Scope & Activities**

28 | A. Purpose

29 | The purpose of the REQ of ~~the North American Energy Standards Board~~ (NAESB) is to
30 | propose, ~~evaluate-develop~~ and adopt voluntary ~~standards and~~ model business practices or
31 | standards to promote more competitive, efficient and reliable service in the retail electric
32 | industry.

33 | B. Scope & Activities

34 | The REQ is concerned with and tasked to handle electric related ~~address~~ issues and
35 | practices that are within the scope of NAESB and typically addressed at the retail electric
36 | distribution level. ~~appropriate to electric usage at the individual consumer level; that is,~~
37 | ~~usage by an individual, partnership, corporation, or other entity consuming electricity at~~
38 | ~~one or more facilities served by an electric distributor.~~ The REQ shall work closely with
39 | other NAESB Quadrants to mitigate inconsistencies ~~strive for consistency~~ where
40 | proposed Sstandards and Model Business Ppractices affect those other Quadrants.

41 | **Section 2.2 Policies**

42 | The Retail Electric Quadrant shall comply with the policies and procedures laid out in the
43 | NAESB Bylaws and the Certificate of Incorporation ~~of NAESB~~.

44 **Section 2.3 Segment Organization & Membership Requirements**

45 Each prospective Member shall declare the Segment with which they are to be identified.

46 What follows is a description of the REQ organizational structure, including a listing of
47 REQ Segments.

48 A. Service Providers/Suppliers

49 Persons engaged in the competitive sale of electricity and/or capacity to end users
50 including marketers, aggregators and producers or that provide services to
51 participants in the retail electric industry, including equipment manufacturers,
52 equipment and service vendors, software providers, energy consultants, and other
53 companies or individuals not otherwise eligible for membership in another
54 Segment.

55 B. Utilities

56 Persons engaged in the local distribution of electricity.

57 C. End Users/Public Agencies

58 Persons that consume electricity, represent consumers of electricity or are
59 employed by a public agency associated with the retail electric industry.

60 ~~1. Distributors – Persons engaged in the local distribution of electricity.~~

61 ~~2. End Users – Persons that consume electricity, or who represent consumers of~~
62 ~~electricity.~~

63 ~~3. Services – Persons that provide services to participants in the retail electric~~
64 ~~industry, including equipment manufacturers, equipment vendors, software~~
65 ~~providers, consultants, and other companies or individuals not otherwise eligible~~
66 ~~for membership in another Segment.~~

67 | ~~4. Suppliers – Persons engaged in the competitive sale of electricity to end users.~~

68 | **Section 3 – RESERVED**

69 |

70 | **Section 4 – RESERVED**

71 |

72 | **Section 5 – MEMBERS**

73 | **Section 5.1 Voting Members**

74 | Membership and voting rights in the REQ of NAESB shall be open to any person that
75 | meets the following requirements:

76 | A. The person has a significant business interest¹ in the retail electric market (or is a
77 | representative or Agent of such person), as determined by a simple majority of the
78 | Segment Membership, if challenged.

79 | B. Representatives designated by any person in any Segment should have the
80 | authority to represent the interests of the person seeking to be a Segment Member.

81 | C. Memberships in multiple Segments of the REQ are permissible for any person
82 | provided each membership is filed and declared with NAESB, and the person
83 | meets the membership requirements of each Segment joined, ~~and membership~~
84 | ~~dues are paid for each Segment.~~

85 | D. Only one membership per Segment is permissible for any person.

86 | ~~Multiple companies under common control within a corporate organization that desire to become~~
87 | ~~Members must join individually. Members cannot extend their membership to their parent~~
88 | ~~company, affiliates, or subsidiaries.~~

¹ As used in this section, "significant business interest" specifically includes the interests of statutorily appointed consumer advocates.

89 E. The person may be a trade association or an advocacy group representing a group
90 of prospective members, ~~provided that the trade association or advocacy group~~
91 ~~meets the requirements defined by its declared Segment in Segment Procedures.~~

92 **Section 5.52 Removal of Members**

93 Segment Members who do not have a significant business interest pertaining to the
94 descriptions contained in Section 2.3 may be removed from Segment Membership by a
95 simple majority vote of their declared Segment Membership.

96

97 **Section 6 RESERVED Meetings of the Members**

98 ~~All meetings held in association with the NAESB organization or the REQ are open to~~
99 ~~any interested person. From time to time, there may be joint meetings of the REQ with~~
100 ~~other Quadrants within NAESB, and Segments may meet jointly to transact Quadrant~~
101 ~~business.~~

102

103 **Section 7 BOARD**

104 **Section 7.1 Board Representation**

105 The REQ shall elect Directors to the Board from each Segment in accordance with
106 ~~Segment Procedures~~ Section 7.3.

107 **Section 7.2 Qualifications of Directors**

108 A. Eligibility

109 To be eligible to serve as a representative on the NAESB Board of Directors, the
110 Member's representative must:

111 1. be willing to commit the time and resources necessary;

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- 112 | 2. have the authority to fulfill the obligations as a REQ Director, ~~and;~~
- 113 | 3. be willing to meet the minimum threshold of participation and attendance
- 114 | established in the NAESB Bylaws, Section 9.7(f), and any other applicable
- 115 | provisions, as set forth in the NAESB Bylaws; ~~;~~
- 116 | 4. have broad understanding of the electric industry and have sufficient authority to
- 117 | make decisions on behalf of the organization represented; for example, a
- 118 | representative of a corporate entity should ideally be an executive of that
- 119 | corporation;
- 120 | 5. have a working knowledge of the NAESB process; and
- 121 | 6. disclose their interest, or their employer's interest, in the electric industry and the
- 122 | relationship with other entities with which the employer may be affiliated.

123 | ~~B. One Member, One Seat Per Quadrant~~

124 | ~~No two Directors elected by the REQ may be employees of the same Member holding~~

125 | ~~membership in multiple Segments within the Quadrant. This restriction does not prohibit~~

126 | ~~election of two Directors from two affiliated companies within a holding company having~~

127 | ~~individual Member status, or from two companies with a parent subsidiary relationship,~~

128 | ~~provided that the two Directors from companies with such a relationship represent~~

129 | ~~Members of differing Segments.~~

130 | ~~C. One Office Per Member Representative~~

131 | ~~Directors elected from the REQ may not hold both a Board seat and a seat on the REQ~~

132 | ~~EC at any point in time. If an REQ EC Member is elected as a Director from the REQ,~~

133 | ~~the REQ EC seat is vacated when the Board seats the EC Member as a Director.~~

134 **Section 7.3 Number and Election of Directors**

135 A. Number of Directors

136 The REQ shall elect ~~sixteen~~ twelve (12+6) NAESB Directors, ~~subject to the provisions of~~
137 ~~Section 19 of these Procedures. E and~~ each Segment of the Quadrant will elect four (4)
138 Directors, ~~subject to the provisions of Section 19 of these Procedures.~~

139 B. Election of Directors

140 Nominations for and election of all Directors will be ~~in accordance with Segment~~
141 ~~Procedures,~~ as follows:

142 ~~In preparation for any election of NAESB Directors (other than initial Directors, as~~
143 ~~provided for in Section 19),~~

144 1. ~~When Directors' terms approach expiration the NAESB office will ask those~~
145 ~~Board members if they will consider an additional term~~ A nominating committee
146 ~~of five EC Members of the REQ consisting of one Member from each Segment~~
147 ~~plus the REQ EC Vice Chair, shall identify a slate of potential candidates from~~
148 ~~the Segment Membership.~~

149 2. The NAESB office will send out a request for candidates letter to all members of
150 the segment for the open seats or seats with term limits. In that communication, if
151 the existing Board member is interested in holding the seat or if other segment
152 members have noted their willingness to be considered as a candidate, they are so
153 noted as candidates ~~Other nominations may be made at or prior to the close of the~~
154 ~~REQ nomination period by any Segment Member eligible to serve on the Board~~
155 ~~of Directors by submitting the candidate names to the NAESB Office in a form as~~
156 ~~specified in NAESB Operating Procedures, if such requirements exist.~~

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- 157 3. The nomination period is a minimum of two weeks but can extend to one month.
158 Interested members of the segment for the seat in question can self-nominate or
159 nominate others through communication to the NAESB office.~~All nominations~~
160 ~~must be made and conveyed in writing to the NAESB Office no less than 31 days~~
161 ~~prior to the election date.~~
- 162 4. If there are contested seats, an election is held for a period of two weeks.
163 Members of the segment are eligible to vote and receive a ballot via email.
- 164 5. The ballot can be forwarded to the office in email or fax communication. The
165 tally takes place at the conclusion of the balloting period, and the candidate
166 receiving the most votes wins.
- 167 6. In case of a tie, the candidates are approached to resolve the matter.
- 168 7. For vacancies, the same steps noted above are followed with the exception that
169 the existing Board member is not approached to determine if he is interested in
170 serving additional terms.

171 **Section 7.4 Term of Office**

172 A. Terms

173 Directors shall be elected for two-year terms, with half of the terms expiring in
174 alternating years.

- 175 1. Two Directors will be elected from each Segment each year to fill expiring terms.
176 2. Group A Director terms will expire in odd numbered years.
177 3. Group B Director terms will expire in even numbered years.

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178 4. Term expiration will be in conjunction with the end of the operating year of
179 NAESB or as otherwise defined by the Board, Certificate of Incorporation or
180 Bylaws, as amended.

181 B. Limit on Number of Terms of Office

182 Directors elected from the REQ may run for re-election without restriction on the number
183 of terms held.

184 C. Change of Affiliation

185 In the event that the Director

186 1. changes affiliation to another Member within the same industry Segment, the
187 Director's term will continue until its natural expiration, provided that there is no
188 other Director already representing the Director's new affiliation, in which case
189 the Director changing affiliation will vacate the seat for election of a new
190 Director;

191 2. is no longer affiliated with the electing industry Segment, the Director will vacate
192 the seat for election of a new Director.

193 **Section 7.5** ~~RESERVED~~~~Vacancies~~

194 ~~In the event that a Director resigns or otherwise vacates the Board seat, and more than~~
195 ~~120 days remain in the term of office, the Segment will hold an election within 60 days to~~
196 ~~fill the vacant seat.~~

197 **Section 7.6** **Removal of Directors**

198 In addition to being subject to removal from office by the NAESB Board of Directors,
199 Directors may also be removed from office for cause. The REQ Segment shall give the
200 Director at least a 30-day notice of the proposed action and an opportunity to respond. A

201 67% majority of the applicable REQ Segment Membership shall be required to remove a
202 Director. ~~The vacant seat is to be refilled in accordance with the requirements of Section~~
203 ~~7.5.~~

204
205 **Section 8 – RESERVED**

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207 **Section 9 – RESERVED**

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209 **Section 10 EXECUTIVE COMMITTEE**

210 **Section 10.1 EC Representation**

211 The REQ shall elect representatives to the EC from each Segment in accordance with
212 ~~Segment Procedures~~ Section 10.3.

213 **Section 10.2 Qualifications of EC Members**

214 A. Eligibility

215 To be eligible to serve as ~~an EC Member~~ a representative on the REQ EC, the ~~Member's~~
216 representative must:

- 217 1. be willing to commit the time and resources necessary;
- 218 2. have the authority to fulfill the obligations as ~~an REQ EC Member;~~ EC
219 representative, and
- 220 3. be willing to meet the minimum threshold of participation and attendance
221 established in the NAESB Bylaws, Section ~~10.49.7(jf)~~, and any other applicable
222 provisions, as set forth in the NAESB Bylaws.;

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223 4. have broad understanding of the electric industry and have sufficient authority to
224 make decisions on behalf of the organization represented; for example, a
225 representative of a corporate entity should ideally be an executive of that
226 corporation;

227 5. have a working knowledge of the NAESB process; and

228 6. disclose their interest, or their employer's interest, in the electric industry and the
229 relationship with other entities with which the employer may be affiliated.

230 ~~B. One Member, One Seat Per Quadrant~~

231 ~~No two EC Members elected by the REQ may be employees of the same Member~~
232 ~~holding membership in multiple Segments within the Quadrant. This restriction does not~~
233 ~~prohibit election of two EC Members from two affiliated companies within a holding~~
234 ~~company having individual Member status, or from two companies with a parent-~~
235 ~~subsidiary relationship, provided that the two EC Members from companies with such a~~
236 ~~relationship represent Members of differing Segments.~~

237 ~~C. One Office Per Member Representative~~

238 ~~Directors elected from the REQ may not hold both a Board seat and a seat on the REQ~~
239 ~~EC at any point in time. If an REQ EC Member is elected as a Director from the REQ,~~
240 ~~the REQ EC seat is vacated when the Board seats the EC Member as a Director.~~

241 **Section 10.3 Number and Election of EC Members**

242 A. Number of Executive Committee Members

243 The REQ shall elect sixteentwelve (162) EC Members, ~~subject to the provisions of~~
244 ~~Section 19 of these Procedures.~~ and Eeach Segment of the Quadrant will elect four (4)
245 EC MembersRepresentatives, ~~subject to the provisions of Section 19 of these Procedures.~~

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B. Election of EC Members

Nominations for and election of all EC Members will be ~~in accordance with Segment Procedures,~~ as follows:

~~In preparation for any election of EC Members, other than initial EC Members as provided for in Section 19),~~

1. When Representatives' terms approach expiration the NAESB office will ask those EC members if they will consider an additional term~~A nominating committee of five EC Members of the REQ consisting of one Member from each Segment plus the EC Vice Chair, shall identify a slate of potential candidates from the Segment Membership.~~
2. The NAESB office will send out a request for candidates letter to all members of the segment for the open seats or seats with term limits. In that communication, if the existing EC member is interested in holding the seat or if other segment members have noted their willingness to be considered as a candidate, they are so noted as candidates~~Other nominations may be made at or prior to the close of the REQ nomination period by any Segment Member eligible to serve on the EC by submitting the candidate names to the NAESB Office in a form as specified in NAESB Operating Procedures, if such requirements exist.~~
3. The nomination period is a minimum of two weeks but can extend to one month. Interested members of the segment for the seat in question can self-nominate or nominate others through communication to the NAESB office~~All nominations~~

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268 ~~must be made and conveyed in writing to the NAESB Office no less than 31 days~~
269 ~~prior to the election date.~~

270 4. If there are contested seats, an election is held for a period of two weeks.
271 Members of the segment are eligible to vote and receive a ballot via email.

272 5. The ballot can be forwarded to the office in email or fax communication. The
273 tally takes place at the conclusion of the balloting period, and the candidate
274 receiving the most votes wins.

275 6. In case of a tie, the candidates are approached to resolve the matter.

276 7. For vacancies, the same steps noted above are followed with the exception that
277 the existing EC member is not approached to determine if he is interested in
278 serving additional terms.

279 ~~C. Timing of Elections~~

280 ~~Subject to the provisions of Section 19, election of EC Members shall occur in the same~~
281 ~~month for all Segments of the REQ, and shall be coordinated by the NAESB Office.~~

282 ~~D. Chair Rotation~~

283 ~~The REQ EC shall elevate the prior year Vice Chair of the REQ EC to Chair of the REQ~~
284 ~~EC at its first meeting in the new operating year and elect a new Vice Chair. If the Vice~~
285 ~~Chair is vacant at the time of the first meeting of a new operating year, both a Chair and~~
286 ~~Vice Chair will be elected.~~

287 ~~E. Meeting Minutes~~

288 ~~In the event that an individual from the NAESB Office is unavailable to take minutes, the~~
289 ~~Chair of any REQ EC meeting will designate an individual to take minutes and forward~~
290 ~~them to the NAESB Office.~~

291 **Section 10.4 Term of Office**

292 A. Terms

293 EC Members shall be elected for ~~two~~^{three}-year staggered terms, ~~with half of the terms~~
294 ~~expiring in alternating years.~~

295 ~~1. Subject to the provisions of Section 19, two EC Members will be elected from~~
296 ~~each Segment each year to fill expiring terms.~~

297 ~~2. Group A EC Member terms will expire in odd numbered years.~~

298 ~~3. Group B EC Member terms will expire in even number years.~~

299 ~~4. Terms~~ of office and will end in conjunction with end of the operating year of
300 NAESB or as otherwise defined by the Board of Directors, Certificate of Incorporation or
301 Bylaws, as amended.

302 B. Limit on Number of Terms of Office

303 EC Members from the REQ may run for re-election without restriction on the number of
304 terms held.

305 C. Change of Affiliation

306 In the event that the EC Member

307 1. changes affiliation to another Member within the same industry Segment, the EC
308 Member's term will continue until its natural expiration, provided that there is no
309 other EC Member already representing the EC Member's new affiliation, in which
310 case the EC Member changing affiliation will vacate the seat for election of a new
311 EC Member.

312 2. is no longer affiliated with the electing industry Segment, the EC Member will
313 vacate the seat for election of a new EC Member.

314 **Section 10.5 Vacancies**

315 In the event that an EC Member resigns or otherwise vacates the seat, and more than 120
316 days remain in the term of office, the Segment will hold an election within 60 days to fill
317 the vacant seat, and a Designated Alternate will serve until a new EC Member is elected.

318 **Section 10.6 - Removal of EC Members**

319 In addition to being subject to removal from office by the NAESB Board of Directors,
320 EC Members may also be removed from office for cause. The REQ Segment shall give
321 the EC Member at least a 30-day notice of the proposed action and an opportunity to
322 respond. A 67% majority of the applicable REQ Segment Membership shall be required
323 to remove an EC Member. The vacant seat is to be refilled in accordance with the
324 requirements of Section 10.5.

325 **Section 10.7 Designated Alternates**

326 A. Authority

327 Any person presenting themselves at an EC meeting as a Designated Alternate will be
328 accepted as a participant provided that:

- 329 1. An EC Member from that Segment either indicates to the NAESB Office, EC
330 Chair or Vice-Chair that they will be absent, or is in fact absent and remains
331 absent, and
- 332 2. The name of the Designated Alternate is on a list of approved Designated
333 Alternates selected by the appropriate Segment Membership ~~according to~~
334 ~~Segment Procedures~~, and on file with the NAESB Office.

335 B. Election of Designated Alternates

336 | Each Segment will annually select Designated Alternates ~~according to Segment~~
337 | ~~Procedures.~~

338 | **Section 10.8 EC Meetings**

339 | A. REQ EC Meetings

340 | REQ EC meetings shall be held at times and locations determined by the Chair or Vice-
341 | Chair of the REQ EC. EC Members may participate and vote by means of tele-
342 | conference or other electronic means unless in-person attendance is required of all EC
343 | Members by both the Chair and Vice-Chair of the EC, and subject to the attendance
344 | requirements of Article 10, Section 10.4(j) of the Bylaws.

345 | B. Joint EC Meetings

346 | In the event that the EC of the REQ meets jointly with an EC of another NAESB
347 | Quadrant, the choice of Quadrant EC Chair presiding over the joint meeting will be
348 | determined by the precedence established in the order of rotation of EC Vice-Chairs as
349 | specified in the NAESB Bylaws.

350 | **Section 10.9 EC Subcommittees**

351 | A. Establishing Subcommittees & Task Forces

352 | The EC of the REQ shall set up its own subcommittees and task forces to deal with REQ-
353 | specific issues. The EC may establish voluntary standing subcommittees or special
354 | purpose task forces to perform various functions required of the organization.

355 | 1. The Executive Committee will prepare a written statement of the purpose of the
356 | subcommittee or task force and the tasks to be performed, name the subcommittee
357 | or task force, and appoint a temporary chair.

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358 2. The Temporary Chair will be a Member of the EC willing to perform the required
359 startup tasks and to continue chairing the subcommittee / task force if elected by
360 the Members after its first meeting.

361 3. The Temporary Chair shall

362 a) set up the first meeting of the subcommittee or task force.

363 b) prepare a meeting notice that:

364 (i) states the name and purpose of the subcommittee / task force,

365 (ii) solicits participation in the subcommittee / task force, and

366 (iii) announces the agenda for the first meeting.

367 c) post the meeting notice to all Members and non-members via the NAESB
368 website.

369 d) post the notice at least two weeks prior to the meeting date. Shorter time
370 periods for notices of subsequent meetings will be permitted by a 75%
371 vote of the participants attending a duly scheduled meeting.

372 4. All meeting notices shall be posted on the NAESB website and transmitted in
373 writing, facsimile, or other electronic means to parties who have indicated an
374 interest in the duly scheduled meeting.

375 B. Meeting Minutes

376 In the event that an individual from the NAESB Office is unavailable to take minutes, the
377 Chair of any subcommittee / task force meeting will designate an individual to take
378 minutes and forward them to the NAESB Office.

379 C. Reporting

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380 Each EC subcommittee or task force will report to the EC at no less than quarterly
381 intervals, on a schedule to be defined by the EC for as long as the subcommittee or task
382 force continues to exist.

383 **11 – RESERVED**

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385 **12 – RESERVED**

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387 **13 – RESERVED**

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389 **14 – RESERVED**

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391 **15 – RESERVED**

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393 **16 – RESERVED**

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395 **17 – RESERVED**

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397 **Section 18 AMENDMENTS**

398

399 **Section 18.1 Amendments**

400 In order for these REQ Procedures to be amended, upon petition of at least five (5) REQ
401 Members, the Vice Chair of the EC for the REQ shall announce an REQ meeting. Such
402 announcement shall provide for at least a 30-day notice. In order to transact business at

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403 the REQ meeting, there shall be a quorum consisting of at least 33% of the REQ
404 Membership. Following such meeting, the proposed resolution adopted at the meeting
405 shall be sent out for comment, and the comments shall be distributed to all REQ
406 Members in advance of a notational vote. Any REQ Member not choosing to vote shall
407 be considered to have voted in favor of the proposed resolution. In order for a proposed
408 resolution to take effect, it must be approved by at least 67% majority of REQ Members
409 and 40% of each REQ Segment's Membership.

410

411 ~~Section 19 — TRANSITION PROCEDURES~~

412 ~~During the initial startup of the REQ, the Quadrant and Segments may operate with~~
413 ~~vacant Board and EC seats in a transitional period in accordance with the following provisions.~~

414 ~~Section 19.1 — Initial Election of Directors~~

415 ~~The founding membership of the REQ will elect no less than three (3) Directors per~~
416 ~~Segment by means that are consistent, to the extent practical, with NAESB Bylaws and the~~
417 ~~requirements of Section 7 of these Procedures. Selection of candidates and their election will be~~
418 ~~by procedures agreed to by consensus or voting methods adopted by the founding group. Such~~
419 ~~elected representatives will be presented to the NAESB Board for acceptance as Directors of the~~
420 ~~REQ. Acceptance by the Board will place all the requirements and restrictions of the Bylaws,~~
421 ~~including these Procedures, upon those individuals. Elections will be held as needed by any~~
422 ~~Segment to fill any vacant seats until all four Segment seats are filled for the first time.~~

423 ~~Section 19.2 — Initial Election of Executive Committee~~

424 ~~The founding membership of the REQ will elect no less than three (3) EC Members per~~
425 ~~Segment by means that are consistent with NAESB Bylaws and the requirements of Section 10~~

426 ~~of these Procedures to the extent practical. Selection of candidates and their election will be by~~
427 ~~procedures agreed to by consensus or voting methods adopted by the founding group. Such~~
428 ~~elected representatives will be presented to the NAESB Board for acceptance as representatives~~
429 ~~of the REQ. Acceptance by the Board will place all the requirements and restrictions of these~~
430 ~~Procedures upon those individuals. Elections will be held as needed by any Segment to fill any~~
431 ~~vacant seats until all four Segment seats are filled for the first time.~~

432 **Section 19.3 – Balanced Voting During the Transition Period**

433 ~~—— A. —— Transitional Voting Multiplier~~

434 ~~—— Recognizing that the REQ Segments might fill their allotted Board and EC seats at~~
435 ~~varying rates, a Transitional Voting Multiplier mechanism will be used to ensure balanced voting~~
436 ~~between Segments until all Board and EC seats are filled.~~

437 ~~—— 1. —— During the period when a Segment is initially operating with three seats filled~~
438 ~~rather than four, each Director or EC Member from the Segment shall be allocated 1.33 votes, so~~
439 ~~that the weighted votes total four and are equal to the votes of all other REQ Segments.~~

440 ~~—— 2. —— Once all four of a Segment's seats on the Board or the EC have been populated at~~
441 ~~least once, the Transitional Voting Multiplier will no longer be needed or used for either the~~
442 ~~Board or EC (whichever applies). Subsequent vacancies on the Board or the EC will not re-~~
443 ~~institute use of the Transitional Voting Multiplier mechanism.~~

444 ~~B. —— Application~~

445 ~~—— When non-procedural votes are tallied at NAESB Board or EC meetings, each of the~~
446 ~~voters present will have their votes weighted by the Transitional Voting Multiplier applicable to~~
447 ~~that voter's REQ Segment. Where applicable, NAESB balanced voting rules will be applied~~

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448 | ~~after votes have been weighted. Thus in the example given in Section 19.3(A), if all three~~
449 | ~~representatives from the smaller REQ Segment vote, the tally of their votes would be 4.~~

North American Energy Standards Board

Bylaws Addendum

Exhibit 3

Retail Gas Quadrant Procedures

1 **Section 1 - DEFINITIONS**

2 **Section 1.1 Definitions Included in the NAESB Bylaws**

3 All capitalized terms, if not defined in Section 1.2, shall have the same definitions as
4 specified in the NAESB Bylaws and Certificate of Incorporation.

5 **Section 1.2 Definitions for the Purposes of this Exhibit**

6 ~~The following terms have not been defined in Section 1.1 of the NAESB Bylaws and~~
7 ~~when used in this Exhibit, shall have the meanings set forth below:~~

8 A. “NAESB Office” means the administrative office of the Secretary of NAESB.

9 B. “RGQ” means the Retail Gas Quadrant ~~of NAESB.~~

10 C. “RGQ Designated Alternate” is defined as a person named by a Segment of the
11 Retail Gas Quadrant Segment, submitted to the NAESB office, to serve in place
12 of a RGQ EC Member who is unable to attend an EC meeting.

13 D. “RGQ EC” means the Executive Committee of the ~~Retail Gas Quadrant of~~
14 ~~NAESB.~~

15 ~~E. “RGQ EC Subcommittee” means a subcommittee established by the Executive~~
16 ~~Committee of the Retail Gas Quadrant of NAESB.~~

17 ~~FE.~~ “RGQ Members” means Voting Members of the Retail Gas Quadrant of NAESB
18 that satisfy the requirements of membership set forth in Section 5.1 ~~and, if~~
19 ~~applicable, in the respective Segment Procedures in this Exhibit.~~

20 ~~GF.~~ “RGQ Segment” means one of the ~~four~~ three co-equal Segments of the Retail Gas
21 Quadrant of NAESB.

22 ~~H. “Segment Procedures” means the procedures attached to this document as~~
23 ~~exhibits for each of the Segments, as amended.~~

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Section 2 – PURPOSES, SCOPE, ACTIVITIES, AND POLICIES

Section 2.1 Purposes, Scope and Activities

A. Purpose

The purpose of the RGQ of NAESB is to propose, develop and adopt voluntary model business practices or standards to promote more competitive, efficient and reliable service in the retail natural gas industry.

B. Scope & Activities

The RGQ is concerned with and tasked to handle natural gas related issues and practices that are within the scope of NAESB and typically addressed at the retail natural gas distribution level. The RGQ shall work closely with other NAESB Quadrants to mitigate inconsistencies where proposed standards and model business practices affect those other Quadrants.

Section 2.2 Policies

The RGQ shall comply with the policies and procedures laid out in the NAESB bBylaws and the eCertificate of incorporation of NAESB. ~~Further, the RGQ intends to operate in conformance with the principles of the umbrella organization, as established in Section 2.2 (b) of the NAESB Bylaws and in compliance with ANSI guidelines. As such, the RGQ encourages a widely based membership and has identified Segments, which reflect this principle of inclusiveness. Also consistent with this approach, the RGQ shall ensure that all meetings, including those of its Members, Executive Committee (EC), and Subcommittees and Task Forces, shall be open to all persons and that all minutes thereof shall be available to the public.~~

46 **Section 2.3 RGQ Segment Organization**

47 ~~What follows is a description of the RGQ organizational structure, including a listing of~~
48 ~~RGQ Segments.~~

~~Suppliers: Persons engaged in competitive retail sales of natural gas and/or capacity, including marketers, aggregators, producers, asset managers and pipelines.~~

~~Distributors: Persons engaged in the local distribution of natural gas.~~

~~End Users: Persons that consume natural gas or represent consumers of natural gas.~~

~~Service Providers: Persons that provide services to the participants in the retail natural gas industry, including equipment manufacturers, equipment and service vendors, software providers, energy consultants, and other companies not otherwise declared in any other Segment.~~

49 ~~Each RGQ Segment shall have the flexibility to determine its own Segment rules and~~
50 ~~procedures and to elect or select its own representatives to the NAESB Board and to the RGQ~~
51 ~~EC, as long as those rules and procedures conform with NAESB Bylaws and the RGQ~~
52 ~~procedures in this Exhibit.~~

53 ~~Each prospective Member shall declare the Segment with which they are to be identified.~~

54 ~~What follows is a description of the RGQ organizational structure, including a listing of~~
55 ~~RGQ Segments.~~

56 A. Service Providers/Suppliers

57 Persons engaged in the competitive sale of natural gas and/or capacity to end
58 users, including marketers, aggregators, producers, asset managers and pipelines
59 or that provide services to the participants in the retail natural gas industry,
60 including equipment manufacturers, equipment and service vendors, software
61 providers, energy consultants, and other companies or individuals not otherwise
62 eligible for membership in any other Segment.

63 B. Distributors

64 Persons engaged in the local distribution of natural gas.

65 C. End Users/Public Agencies

66 Persons that consume natural gas, represent consumers of natural gas or are
67 employed by a public agency associated with the retail electric industry.

68
69 **Section 3 - RESERVED**

70
71 **Section 4 - RESERVED**

72
73 **Section 5 – RGQ MEMBERS**

74 **Section 5.1 RGQ Voting Members**

75 ~~The definition of Membership applies to all RGQ Segments. RGQ Members are persons~~
76 ~~with legitimate business interest⁺ in the retail natural gas market and which meet the~~
77 ~~definitions of one of the four RGQ Segments. Upon applying for Voting Membership (as~~

78 ~~described in NAESB Bylaws Sections 1.1 and 5.1), each prospective RGQ Member shall~~
79 ~~declare the RGQ Segment with which they are to be identified. Voting Membership and~~
80 ~~voting rights~~ in the RGQ of NAESB shall be open to all any persons that meets all of the
81 following requirements:

- 82 A. The person has a legitimate significant business interest² in the retail natural gas
83 market (or is a representative or Agent of such person), as determined by a simple
84 majority of the Quadrant Membership, if challenged;
- 85 B. ~~The person meets the description of one of the co-equal industry Segments~~
86 ~~identified by the RGQ of NAESB, as determined by a simple majority of the~~
87 ~~Segment Membership, if challenged~~Representatives designated by any person in
88 any Segment should have the authority to represent the interests of the person
89 seeking to be a Segment Member.;
- 90 C. ~~The person has designated a representative who has the authority and willingness~~
91 ~~to represent its interests; and~~Memberships in multiple Segments of the RGQ are
92 permissible for any person provided each membership is filed and declared with
93 NAESB and the person meets the membership requirements of each Segment
94 joined.
- 95 D. ~~The person has declared its affiliation to one, and only one, of the RGQ~~
96 ~~Segments.~~Only one membership per Segment is permissible for any person.
- 97 E. The person may be a trade association or an advocacy group representing a group
98 of prospective members.

² As used in this section, “significant business interest” specifically includes the interests of statutorily appointed consumer advocates.

99 ~~The RGQ Member may be a trade association or an advocacy group representing a group~~
100 ~~of prospective members, provided that the trade association or advocacy group meets the~~
101 ~~requirements defined by the Segment Procedures of its declared Segment. Only RGQ EC~~
102 ~~Members shall have the right to vote to adopt model business practices or standards~~
103 ~~affecting only the RGQ.~~

104 **Section 5.2 Removal of Members**

105 Segment Members who do not have a significant business interest pertaining to the
106 descriptions contained in Section 2.3 may be removed from Segment Membership by a
107 simple majority vote of their declared Segment Membership.

108
109 **Section 6 – RESERVED**

110
111 **Section 7 – BOARD**

112 **Section 7.1 Board Representation**

113 ~~The RGQ shall elect Directors to the Board from each Segment in accordance with~~
114 ~~Section 7.3 have representatives on the NAESB Board of Directors, with each RGQ~~
115 ~~Segment electing or selecting an equal number of these representatives, pursuant to the~~
116 ~~procedures specified by the respective RGQ Segment in this Exhibit.~~

117 **Section 7.2 Qualifications of ~~RGQ~~ Directors**

118 A. Eligibility

119 To be eligible to serve as representative on the NAESB Board of Directors, the
120 Member's representative must:

- 121 1. ~~The person must be a Member of the RGQ~~ be willing to commit the time and

122 resources necessary;

123 2. have the authority to fulfill the obligations as a RGQ Director

124 3. be willing to meet the minimum threshold of participation and attendance
125 established in the NAESB Bylaws, Section 9.7(f), and any other applicable
126 provisions, as set forth in the NAESB Bylaws

127 24. The person should have broad understanding of the natural gas industry and have
128 sufficient authority to make decisions on behalf of the organization represented;
129 for example, a representative of a corporate entity should ideally be an executive
130 of that corporation;

131 35. The person must have a working knowledge of the NAESB process; and

132 4. The person must be willing to commit the time and resources necessary to fulfill
133 their obligations as a NAESB Director and to meet the minimum threshold of
134 participation and attendance established in the NAESB Bylaws [Section 9.7 (f)];
135 and

136 56. The person should disclose their interest, or their employer's interest, in the
137 natural gas industry and the relationship with other entities with which the
138 employer may be affiliated.

139 B. One Member, One Seat Per Quadrant

140 Once elected to serve as Director on the NAESB Board, the individual may hold not
141 more than one directorship, representing only one Segment within the RGQ.

142 **Section 7.3 Number and Election of Directors**

143 A. Number of Directors

144 The RGQ shall elect twelve (12) NAESB Directors and each Segment of the Quadrant
145 will elect four (4) Directors.

146 ~~The RGQ of NAESB shall be represented on the NAESB Board of Directors by twenty-~~
147 ~~four (24) persons who shall be elected, from time to time, as required by Article 7 of the NAESB~~
148 ~~Bylaws and in this Exhibit to those Bylaws. The NAESB office shall coordinate the election~~
149 ~~process for the RGQ representatives to the NAESB Board during the second week of November~~
150 ~~of each year.~~

151 B. Election of Directors

152 ~~The elections of RGQ representatives to the NAESB Board shall be subject to the~~
153 ~~following provisions.~~ Nominations for and election of all Directors will be as follows:

- 154 1. ~~Any RGQ Member who is current in the payment of its dues is eligible to vote;~~
155 ~~and~~ When Directors' terms approach expiration the NAESB office will ask those
156 Board members if they will consider an additional term.
- 157 2. ~~The candidates receiving the greatest numbers of votes shall be elected. The~~
158 NAESB office will send out a request for candidates letter to all members of the
159 segment for the open seats or seats with term limits. In that communication, if the
160 existing Board member is interested in holding the seat or if other segment
161 members have noted their willingness to be considered as a candidate, they are so
162 noted as candidates.
- 163 3. The nomination period is a minimum of two weeks but can extend to one month.
164 Interested members of the segment for the seat in question can self-nominate or
165 nominate others through communication to the NAESB office.

166 4. If there are contested seats, an election is held for a period of two weeks.

167 Members of the segment are eligible to vote and receive a ballot via email.

168 5. The ballot can be forwarded to the office in email or fax communication. The

169 tally takes place at the conclusion of the balloting period, and the candidate

170 receiving the most votes wins.

171 6. In case of a tie, the candidates are approached to resolve the matter.

172 7. For vacancies, the same steps noted above are followed with the exception that

173 the existing Board member is not approached to determine if he is interested in

174 serving additional terms.

175 **Section 7.4 Term of Office**

176 ~~The initial RGQ Directors on the NAESB Board shall be divided into three groups within~~

177 ~~each RGQ Segment whose terms shall expire as follows: Group A, consisting of two~~

178 ~~Board seats, on December 31, 2004; group B, consisting of three Board seats, on~~

179 ~~December 31, 2003; and group C, consisting of one Board seat, on December 31, 2002.~~

180 ~~Upon the completion of those initial terms, all succeeding Directors shall thereafter be~~

181 ~~elected for a two-year term, consistent with the NAESB Bylaws.~~

182 **Section 7.4 Term of Office**

183 A. Terms

184 Directors shall be elected for two-year terms, with half of the terms expiring in

185 alternating years.

186 1. Two Directors will be elected from each Segment each year to fill expiring terms.

187 2. Group A Director terms will expire in odd numbered years.

188 3. Group B Director terms will expire in even numbered years.

189 4. Term expiration will be in conjunction with the end of the operating year of
190 NAESB or as otherwise defined by the Board, Certificate of Incorporation or
191 Bylaws, as amended.

192 B. Limit on Number of Terms of Office

193 Directors elected from the RGQ may run for re-election without restriction on the number
194 of terms held.

195 C. Change of Affiliation

196 In the event that the Director

197 1. changes affiliation to another Member within the same industry Segment, the
198 Director's term will continue until its natural expiration, provided that there is no
199 other Director already representing the Director's new affiliation, in which case
200 the Director changing affiliation will vacate the seat for election of a new
201 Director;

202 2. is no longer affiliated with the electing industry Segment, the Director will vacate
203 the seat for election of a new Director.

204 **Section 7.5 RESERVED**

205 **Section 7.6 Removal of Directors**

206 ~~Each RGQ Segment shall have the authority to remove a Director for cause. Prior to~~
207 ~~voting on such resolution to remove a Director for cause, the RGQ Segment shall give~~
208 ~~the Director at least 30-day notice of the proposed action and an opportunity to respond.~~

209 ~~A simple majority of the RGQ Segment Membership shall be required to remove a~~
210 ~~Director. In addition to being subject to removal from office by the NAESB Board of~~
211 ~~Directors, Directors may also be removed from office for cause. The RGQ Segment shall~~

212 give the Director at least a 30-day notice of the proposed action and an opportunity to
213 respond. A 67% majority of the applicable RGQ Segment Membership shall be required
214 to remove a Director.

216 **Section 8 – RESERVED**

218 **Section 9 – RESERVED**

220 **10 - EXECUTIVE COMMITTEE**

221 **Section 10.1 EC Representation**

222 The RGQ shall elect representatives to the EC from each Segment in accordance with
223 Section 10.3~~have an Executive Committee (EC), which shall also participate in the larger~~
224 ~~NAESB EC body, consisting of representatives from each RGQ Segment, with each RGQ~~
225 ~~Segment electing an equal number of these RGQ EC Members, pursuant to procedures specified~~
226 ~~by the respective Segment in this Exhibit. Only Voting Members of the RGQ have the right to~~
227 ~~ratify model business practices and standards that were adopted by the RGQ EC and that affect~~
228 ~~only the RGQ.~~

229 **Section 10.2 Qualifications of RGQ EC Members**

230 A. Eligibility

231 To be eligible to serve as a representative on the RGQ EC, ~~Member~~ the representative
232 must:

- 233 1. ~~The person should have broad understanding and practical experience within the~~
234 natural gas industry be willing to commit the time and resources necessary;

235 2. ~~have the authority to fulfill the obligations as a RGQ EC Member. The person~~
236 ~~should typically be a manager or be at a level of responsibility within the~~
237 ~~organization represented to act on its behalf;~~

238 3. ~~be willing to meet the minimum threshold of participation and attendance~~
239 ~~established in the NAESB Bylaws, Section 9.7(f), and any other applicable~~
240 ~~provisions, as set forth in the NAESB Bylaws;~~

241 43. ~~have broad understanding of the natural gas industry and have sufficient authority~~
242 ~~to make decisions on behalf of the organization represented; for example, a~~
243 ~~representative of a corporate entity should ideally be an executive of that~~
244 ~~corporation;~~

245 5. ~~The person should~~ have a working knowledge of the NAESB process; and
246 ~~The person must be willing to commit the time and resources necessary to fulfill~~
247 ~~their obligations as a RGQ EC Member and to meet the minimum threshold of~~
248 ~~participation and attendance established in the NAESB Bylaws [Section 9.7 (f)];~~
249 ~~and~~

250 46. ~~The person should~~ disclose their interest, or their employer's interest, in the
251 natural gas industry and the relationship with other entities with which the
252 employer may be affiliated.

253 ~~B. One Member, One Seat Per Quadrant~~

254 ~~Once elected to serve as RGQ EC Member, the individual may hold not more than one~~
255 ~~EC seat, representing only one Segment within the RGQ.~~

256 **Section 10.3 Number and Election of RGQ EC Members**

257 A. Number of EC Members

258 The RGQ ~~of NAESB~~ shall elect twelve (12) EC Members and each Segment of the
259 Quadrant will elect four (4) Representatives~~be represented on the RGQ EC by twenty-~~
260 four (24) persons who shall be elected, from time to time, as required by Article 10 of the
261 NAESB Bylaws and in this Exhibit to those Bylaws.

262 B. Election of EC Members

263 ~~The Nominations for and~~ elections of all RGQ EC Members will be as follows~~shall be~~
264 subject to the following provisions:

- 265 1. When Representatives' terms approach expiration the NAESB office will ask
266 those EC members if they will consider an additional term~~Any RGQ Member~~
267 who is current in the payment of its dues is eligible to vote; and
- 268 2. The NAESB office will send out a request for candidates letter to all members of
269 the segment for the open seats or seats with term limits. In that communication, if
270 the existing EC member is interested in holding the seat or if other segment
271 members have noted their willingness to be considered as a candidate, they are so
272 noted as candidates~~The candidates receiving the greatest numbers of votes shall~~
273 be elected.
- 274 3. The nomination period is a minimum of two weeks but can extend to one month.
275 Interested members of the segment for the seat in question can self-nominate or
276 nominate others through communication to the NAESB office.
- 277 4. If there are contested seats, an election is held for a period of two weeks.
278 Members of the segment are eligible to vote and receive a ballot via email.

279 5. The ballot can be forwarded to the office in email or fax communication. The
280 tally takes place at the conclusion of the balloting period, and the candidate
281 receiving the most votes wins.

282 6. In case of a tie, the candidates are approached to resolve the matter.

283 7. For vacancies, the same steps noted above are followed with the exception that
284 the existing EC member is not approached to determine if he is interested in
285 serving additional terms.

286 C. ~~Timing of Elections~~

287 The NAESB office shall coordinate the election process for RGQ EC Members during
288 the second week of November of each year.

289 **Section 10.4 Term of Office**

290 The initial RGQ EC Members shall be divided into three groups within each RGQ
291 Segment whose terms shall expire as follows: Group A, consisting of two EC seats, on
292 December 31, 2004; Group B, consisting of three EC seats, on December 31, 2003; and
293 Group C, consisting of one EC seat, on December 31, 2002. Upon the completion of
294 those initial terms, all succeeding EC Members shall thereafter be elected for a two-year
295 term, consistent with the NAESB Bylaws.

296 A. ~~Terms~~

297 EC Members shall be elected for three-year staggered terms of office and will end in
298 conjunction with end of the operating year of NAESB or as otherwise defined by the
299 Board of Directors, Certificate of Incorporation or Bylaws, as amended.

300 B. ~~Limit on Number of Terms of Office~~

301 EC Members from the RGQ may run for re-election without restriction on the number of
302 terms held.

303 C. Change of Affiliation

304 In the event that the EC Member

305 1. changes affiliation to another Member within the same industry Segment, the EC
306 Member's term will continue until its natural expiration, provided that there is no
307 other EC Member already representing the EC Member's new affiliation, in which
308 case the EC Member changing affiliation will vacate the seat for election of a new
309 EC Member.

310 2. is no longer affiliated with the electing industry Segment, the EC Member will
311 vacate the seat for election of a new EC Member.

312 **Section 10.5 Vacancies**

313 In the event that an EC Member resigns or otherwise vacates the seat, and more than 120
314 days remain in the term of office, the Segment will hold an election within 60 days to fill
315 the vacant seat, and a Designated Alternate will serve until a new EC Member is elected.

316 **Section 10.56 Removal of RGQ EC Members**

317 In addition to being subject to removal from office by the NAESB Board of Directors,
318 EC Members may also be removed from office for cause. The RGQ Segment shall give
319 the EC Member at least a 30-day notice of the proposed action and an opportunity to
320 respond. A 67% majority of the applicable RGQ Segment Membership shall be required
321 to remove an EC Member. The vacant seat is to be refilled in accordance with the
322 requirements of Section 10.5.

323 ~~Each RGQ Segment shall have the authority to remove an RGQ EC Member for cause.~~

324 ~~Prior to voting on such resolution to remove an RGQ EC Member for cause, the RGQ~~
325 ~~Segment shall give the RGQ EC Member at least 30-day notice of the proposed action~~
326 ~~and the opportunity to respond. A simple majority of the RGQ Segment Membership~~
327 ~~shall be required to remove an RGQ EC Member.~~

328 **Section 10.7 Designated Alternates**

329 A. Authority

330 Any person presenting themselves at an EC meeting as a Designated Alternate will be
331 accepted as a participant provided that:

- 332 1. An EC Member from that Segment either indicates to the NAESB Office, EC
333 Chair or Vice-Chair that they will be absent, or is in fact absent and remains
334 absent, and
- 335 2. The name of the Designated Alternate is on a list of approved Designated
336 Alternates selected by the appropriate Segment Membership, and on file with the
337 NAESB Office.

338 B. Election of Designated Alternates

339 Each Segment will annually select Designated Alternates.

340 **Section 10.8 EC Meetings**

341 A. RGQ EC Meetings

342 RGQ EC meetings shall be held at times and locations determined by the Chair or Vice-
343 Chair of the RGQ EC. EC Members may participate and vote by means of tele-
344 conference or other electronic means unless in-person attendance is required of all EC
345 Members by both the Chair and Vice-Chair of the EC, and subject to the attendance
346 requirements of Article 10, Section 10.4(j) of the Bylaws.

347 B. Joint EC Meetings

348 In the event that the EC of the RGQ meets jointly with an EC of another NAESB
349 Quadrant, the choice of Quadrant EC Chair presiding over the joint meeting will be
350 determined by the precedence established in the order of rotation of EC Vice-Chairs as
351 specified in the NAESB Bylaws.

352 **Section 10.96 RGQ EC Subcommittees**

353 ~~While there may be Subcommittees and Task Forces established by the NAESB EC, to~~
354 ~~be comprised of NAESB Members and other interested parties, the RGQ shall set up its own~~
355 ~~Subcommittees and Task Forces to deal with RGQ specific issues. Each RGQ EC~~
356 ~~Subcommittee shall report to the RGQ EC and each shall:~~

- 357 ~~1. Elect a chair who shall be an RGQ EC Member and who shall serve until he or she~~
358 ~~resigns or is removed by the RGQ Subcommittee's membership;~~
- 359 ~~2. Carry out its work in accordance with procedures adopted by the NAESB EC for EC~~
360 ~~Subcommittees;~~
- 361 ~~3. Provide notice of meetings and agendas;~~
- 362 ~~4. Practice balanced voting and record voting results; and~~
- 363 ~~5. Keep regular minutes of its proceedings and provide copies of these minutes promptly~~
364 ~~to the NAESB office.~~

365 ~~Any task force established by RGQ EC Subcommittees shall be open to all NAESB~~
366 ~~Members and other interested parties. At NAESB joint Subcommittee or joint Task Force~~
367 ~~meetings, the same individual may represent different Segments from different NAESB~~
368 ~~Quadrants, as long as that individual declares prior to the joint meeting the NAESB Quadrant~~
369 ~~and Segment for which he or she is casting a vote. At RGQ Subcommittee or Task Force~~

370 ~~meetings, the same individual may represent different RGQ Segments, as long as that individual~~
371 ~~declares prior to the meeting the RGQ Segment for which he or she is casting a vote.~~

372 A. Establishing Subcommittees & Task Forces

373 The EC of the RGQ shall set up its own subcommittees and task forces to deal with
374 RGQ-specific issues. The EC may establish voluntary standing subcommittees or special
375 purpose task forces to perform various functions required of the organization.

376 1. The Executive Committee will prepare a written statement of the purpose of the
377 subcommittee or task force and the tasks to be performed, name the subcommittee
378 or task force, and appoint a temporary chair.

379 2. The Temporary Chair will be a Member of the EC willing to perform the required
380 startup tasks and to continue chairing the subcommittee / task force if elected by
381 the Members after its first meeting.

382 3. The Temporary Chair shall

383 a) set up the first meeting of the subcommittee or task force.

384 b) prepare a meeting notice that:

385 (i) states the name and purpose of the subcommittee / task force,

386 (ii) solicits participation in the subcommittee / task force, and

387 (iii) announces the agenda for the first meeting.

388 c) post the meeting notice to all Members and non-members via the NAESB
389 website.

390 d) post the notice at least two weeks prior to the meeting date. Shorter time
391 periods for notices of subsequent meetings will be permitted by a 75%
392 vote of the participants attending a duly scheduled meeting.

393 4. All meeting notices shall be posted on the NAESB website and transmitted in
394 writing, facsimile, or other electronic means to parties who have indicated an
395 interest in the duly scheduled meeting.

396 B. Meeting Minutes

397 In the event that an individual from the NAESB Office is unavailable to take minutes, the
398 Chair of any subcommittee / task force meeting will designate an individual to take
399 minutes and forward them to the NAESB Office.

400 C. Reporting

401 Each EC subcommittee or task force will report to the EC at no less than quarterly
402 intervals, on a schedule to be defined by the EC for as long as the subcommittee or task
403 force continues to exist.

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405 **11 – RESERVED**

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407 **12 – RESERVED**

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409 **13 – RESERVED**

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17 – RESERVED

18 - AMENDMENTS

Section 18.1 Amendments

In order for RGQ Procedures to be amended, upon petition of at least five (5) RGQ Members, the Vice Chair of the EC for the RGQ shall announce an RGQ meeting. Such announcement shall provide for at least a 30-day notice. In order to transact business at the RGQ meeting, there shall be a quorum consisting of at least 34/3% of the RGQ Membership. Following such meeting, the proposed resolution adopted at the meeting shall be sent out for comment, and the comments shall be distributed to all RGQ Members in advance of a notational vote. Any RGQ Member not choosing to vote shall be considered to have voted in favor of the proposed change. In order for a proposed change-resolution to take effect, it must be approved by at least 67%2/3 majority of RGQ Members and 40% of each RGQ Segment’s Membership.

~~19 – TRANSITION PROCEDURES~~

~~During the initial startup of the RGQ, the Quadrant and Segments may operate with vacant Board and EC seats in a transitional period in accordance with the following provisions. This transitional voting period will be sunset on June 30, 2003, unless the RGQ EC decides to extend the period prior to its expiration. In the event one or more Segments does not populate the maximum number of NAESB Board seats or RGQ EC~~

438 ~~seats, the number of seats per Segment will be reduced from six to five on January 1,~~
 439 ~~2003, unless the RGQ EC decides otherwise during its December 2002 meeting.~~

440 **Section 19.1 – Initial Election of RGQ Directors**

441 ~~The founding membership of the RGQ will elect no less than three (3) Directors of their~~
 442 ~~choosing per Segment by means that are consistent with NAESB Bylaws and the~~
 443 ~~requirements of Section 7 of these Procedures. Selection of candidates and their election~~
 444 ~~will be by procedures agreed to by consensus or voting methods adopted by the founding~~
 445 ~~group. Such elected representatives will be presented to the NAESB Board for~~
 446 ~~acceptance as Directors of the RGQ, and acceptance by the Board will place all the~~
 447 ~~requirements and restrictions of the Bylaws, including these Procedures, upon those~~
 448 ~~individuals. Subsequent elections to fill vacant seats, as necessary, will be held each~~
 449 ~~month until all seats are filled.~~

450 **Section 19.2 – Initial Election of RGQ Executive Committee**

451 ~~The founding membership of the RGQ will elect no less than three (3) EC representatives~~
 452 ~~of their choosing per Segment by means that are consistent with NAESB Bylaws and the~~
 453 ~~requirements of Section 10 of these Procedures. Selection of candidates and their~~
 454 ~~election will be by procedures agreed to by consensus or voting methods adopted by the~~
 455 ~~founding group. Such elected representatives will be presented to the NAESB Board for~~
 456 ~~acceptance as representatives of the RGQ, and acceptance by the Board will place all the~~
 457 ~~requirements and restrictions of these Procedures upon those individuals. Subsequent~~
 458 ~~elections to fill vacant seats, as necessary, will be held each month until all seats are~~
 459 ~~filled.~~

460 **Section 19.3 – Balanced Voting During the Transition Period**

461 A. ~~Transitional Voting Multiplier~~

462 ~~Recognizing that the RGQ Segments might fill their allotted Board and EC seats at~~
463 ~~varying rates, a Transitional Voting Multiplier mechanism will be used to ensure~~
464 ~~balanced voting between Segments until all Board and EC seats are filled.~~

465 ~~1. The Transitional Voting Multiplier shall be calculated for each RGQ Segment by~~
466 ~~dividing the number of populated seats in the largest REQ Segment by the greater~~
467 ~~of the number of seats populated in each of the other RGQ Segments.~~

468 ~~The following example is used to illustrate this: A given RGQ Segment populates~~
469 ~~three seats, while the largest RGQ Segment in this case populates six. To~~
470 ~~determine the Transitional Voting Multiplier for the smaller RGQ Segment in this~~
471 ~~example, the number of seats in the largest RGQ Segment (which in this case is 6)~~
472 ~~would be divided by the number of seats populated in the smaller Segment (which~~
473 ~~is 3 in this case) to arrive at 2.00 as the Transitional Voting Multiplier for the~~
474 ~~smaller REG Segment in this case.~~

475 ~~2. The Transitional Voting Multiplier for each Segment will be recalculated as each~~
476 ~~additional vacant seat is filled by the Quadrant on the Board or the EC.~~

477 ~~3. Once each of a Segment's seats on the Board or the EC has been populated at least~~
478 ~~once, the Transitional Voting Multiplier will no longer be needed or used for~~
479 ~~either the Board or EC (whichever applies). Subsequent vacancies on the Board~~
480 ~~or the EC will not re-institute use of the Transitional Voting Multiplier~~
481 ~~mechanism.~~

482 B. ~~Application~~

483 ~~When non-procedural votes are tallied at NAESB Board or EC meetings, each of the~~
484 ~~voters present will have their votes weighted by the Transitional Voting Multiplier~~
485 ~~applicable to that voter's RGQ Segment. Where applicable, NAESB balanced voting~~
486 ~~rules will be applied after votes have been weighted. Thus in the example given in~~
487 ~~Section 19.3(A), if all three representatives from the smaller RGQ Segment vote, the tally~~
488 ~~of their votes would be 6.~~

489 ~~C. — Limitation on Transitional Voting Multiplier~~

490 ~~To the extent that the number of individuals identifying with a RGQ Segment at a sub-~~
491 ~~committee or task force meeting is less than or equal to the number of RGQ EC seats~~
492 ~~populated by the Segment, the Transitional Voting Multiplier may be used to weight~~
493 ~~votes prior to the application of balanced voting rules.~~



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NAESB UPDATE: VERSION 1.1 -- RETAIL
MARCH 20, 2009

THE FINAL ACTIONS TO BE APPLIED TO RETAIL VERSION 1 TO CREATE RETAIL VERSION 1.1:

Version 1 was published on September 27, 2005.

2005:

- **Recommendation R04030:** Add a new data element to the Internet Electronic Transport (Internet ET) “refnum-orig”: http://www.naesb.org/member_login_form.asp?doc=fa_req_rgq_r04030.doc - (Ratified 9/26/05).
- **Retail Gas Quadrant Annual Plan Item 6 and Retail Electric Quadrant Annual Plan Item 6:** Establish the Quadrant specific EDM (QEDM) standards for REQ and RGQ:
http://www.naesb.org/member_login_form.asp?doc=fa_2005_req_rgq_ap6_r2qedm.doc - (Ratified 9/26/05).

2006:

- **Recommendation R05013:** Develop a model electric retail contract:
http://www.naesb.org/member_login_form.asp?doc=fa_retail_r05013.pdf - (Ratified 01/07/07).
Attachment 1: http://www.naesb.org/member_login_form.asp?doc=fa_retail_r05013a1.doc
Attachment 2: http://www.naesb.org/member_login_form.asp?doc=fa_retail_r05013a2.doc
- **Retail 2006 Annual Plan Item 4(i):** Customer Enrollment model business practices:
http://www.naesb.org/member_login_form.asp?doc=fa_2006_retail_ap4i.doc - (Ratified 01/07/07).

2007:

- **2005 Annual Plan Item 3:** “Customer Information:
http://www.naesb.org/member_login_form.asp?doc=fa_2005_retail_ap3.doc - (Ratified August 20, 2007).
- **Recommendation for Retail 2007 Annual Plan Item 3a(ii)** - Customer Drop:
http://www.naesb.org/member_login_form.asp?doc=fa_2007_retail_ap3a_ii.doc - (Ratified August 20, 2007)
- **Recommendation for Retail 2007 Annual Plan Item 1(a)** – Additional Billing and Payment MBPs:
http://www.naesb.org/member_login_form.asp?doc=fa_2007_retail_ap1a.doc – (Ratified August 20, 2007)
Attachment to Recommendation:
http://www.naesb.org/member_login_form.asp?doc=fa_2007_retail_ap1a_attachment.doc
- **Recommendation R05016** - Standards or model business practices for electronic retail billing transactions and bill payment transactions between customers, suppliers, and utilities:
http://www.naesb.org/member_login_form.asp?doc=fa_r05016.doc - (Ratified August 20, 2007)

2008:

- **Recommendation for 2007 Retail Annual Plan Item 3a(iii)** - Account Information Change:
http://www.naesb.org/doc_view2.asp?doc=retail_rat010808_2007_retail_ap3a_iii_rec.doc – (Ratified February 8, 2008)
- **Recommendation for 2007 Retail Annual Plan Item 5** - Customer Information:
http://www.naesb.org/doc_view2.asp?doc=retail_rat010808_2007_retail_ap5_rec.doc – (Ratified February 8, 2008)



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NAESB UPDATE: VERSION 1.1 -- RETAIL
MARCH 20, 2009

- **Recommendation for 2007 Retail Annual Plan Item 5** - Customer Information (Information Requirements and Technical Electronic Implementation Model Business Practices):
http://www.naesb.org/doc_view2.asp?doc=retail_rat010808_2007_retail_ap5_ir_teis_rec.doc – (Ratified February 8, 2008)
- **R05016A Final Action** - Standards or model business practices for electronic retail billing transactions and bill payment transactions between customers, suppliers, and utilities:
http://www.naesb.org/member_login_form.asp?doc=fa_r05016a.doc – (Ratified June 22, 2008)
- **2008 Retail Annual Plan Item 3(i), (ii), (iii) Final Action** - Customer Enrollment, Drop and Account Information Change Using a Registration Agent:
http://www.naesb.org/member_login_form.asp?doc=fa_2008_retail_api_3_i_ii_iii.doc – (Ratified June 22, 2008)

Attachment to Recommendation:
http://www.naesb.org/member_login_form.asp?doc=fa_2008_retail_api_3_i_ii_iii_attach.ppt
- **2007 WGQ Annual Plan Item 3/2007 Retail Annual Plan Item 9 Final Action** - Develop or amend WGQ technical standards, as appropriate, to address the DOE Sandia National Laboratories 2006 surety assessment findings and recommendations (WGQ)/Address issues raised in the Department of Energy's Sandia National Laboratories on NAESB technical standards and respond to the surety assessment finding and recommendations (REQ/RGQ): http://www.naesb.org/member_login_check.asp?doc=fa_2007_wgq_ap_3_2007_retail_ap_9.doc – (Ratified July 11, 2008)
- **2008 Retail Annual Plan Item 2a, Part 1** - Customer Enrollment, Drop and Account Information Change including Using a Registration Agent (Technical X12 Implementation Guidelines):
http://www.naesb.org/member_login_form.asp?doc=retail_rat021009_retail_2008_api2a_part1_rec.doc – (Ratified March 13, 2009)
- **2008 Retail Annual Plan Item 2a, Part 2** - Customer Enrollment, Drop and Account Information Change including Using a Registration Agent (Data Dictionaries):
http://www.naesb.org/member_login_form.asp?doc=retail_rat021009_retail_2008_api2a_part2_rec.doc – (Ratified March 13, 2009)
- **2008 Retail Annual Plan Item 3(iv) and (v), Part 1** - ESI ID Set-up, ESI ID Information Change, and Ad Hoc Historical Usage Using a Registration Agent (Model Business Practices) and Attachment:
http://www.naesb.org/member_login_form.asp?doc=retail_rat021009_retail_2008_api3iv_v_part1_rec_clean.doc – (Ratified March 13, 2009)

Attachment to Recommendation:
http://www.naesb.org/member_login_form.asp?doc=retail_rat021009_retail_2008_api3iv_v_part1_rec_attach.ppt
- **2008 Retail Annual Plan Item 3(iv) and (v), Part 2** - ESI ID Set-up, ESI ID Information Change, and Ad Hoc Historical Usage Using a Registration Agent (Technical X12 Implementation Guidelines and Data Dictionaries):
http://www.naesb.org/member_login_form.asp?doc=retail_rat021009_retail_2008_api3iv_v_part2_rec.doc - (Ratified March 13, 2009)
- **Recommendation 2009 Retail Annual Plan Item 1 / R05016** – Develop Technical Electronic Implementation Standards and Data Dictionaries (Book 9: Customer Billing and Payment Notification via Uniform Electronic Transactions): http://www.naesb.org/pdf4/retail_2009_api1_r05016_rec.doc - (Out for Formal Comments – Due April 1, 2009)



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NAESB UPDATE: VERSION 1.1 -- RETAIL
MARCH 20, 2009

- **R08015/2009 WGQ Annual Plan Item 2.b/2009 Retail Annual Plan Item 5** – Revise the Trading Partner Agreement TPA by removing the Exhibits from the agreement and relegate such information as contained in the Exhibits to operational worksheet(s): http://www.naesb.org/pdf4/r08015_rec.doc
 - Exhibit “A”: http://www.naesb.org/pdf4/r08015_rec_attach1.doc (clean)
http://www.naesb.org/pdf4/r08015_rec_attach2.doc (redline)
 - Exhibit “B”: http://www.naesb.org/pdf4/r08015_rec_attach3.doc
 - Exhibit “C”: http://www.naesb.org/pdf4/r08015_rec_attach4.doc
 - Exhibit “D”: http://www.naesb.org/pdf4/r08015_rec_attach5.doc (clean)
http://www.naesb.org/pdf4/r08015_rec_attach6.doc (redline)
 - Exhibit “E”: http://www.naesb.org/pdf4/r08015_rec_attach7.doc (clean)
http://www.naesb.org/pdf4/r08015_rec_attach8.doc (redline)
 - Exhibit “F”: http://www.naesb.org/pdf4/r08015_rec_attach9.doc (clean)
http://www.naesb.org/pdf4/r08015_rec_attach10.doc (redline)

(Out for Formal Comments – Due April 13, 2009)

MINOR CORRECTIONS:

- **Request for Comment** on the following two minor corrections adopted by the REQ and RGQ EC on May 10, 2006:
[Minor Correction to NAESB Internet Electronic Transport Implementation Manual](#)
[Minor Correction to Trading Partner Agreement](#)
- **Request for Comment** on the following minor correction adopted by the WGQ, REQ and RGQ EC's on January 4, 2008:
[Minor Correction to NAESB WGQ / REQ / RGQ Internet Electronic Transport \(Standard No. 10.3.7\)](#)
- **Request for Comment** on the following minor correction adopted by the REQ and RGQ EC's on November 5, 2008:
[Minor Corrections to be incorporated in NAESB Retail Gas Quadrant and Retail Electric Quadrant, Version 1, Model Business Practices](#)
[Comments Due December 1, 2008](#)
- **Request for Comment** on the following minor correction adopted by the REQ and RGQ EC's on February 4, 2009:
[Minor Corrections to be incorporated in NAESB Retail Gas Quadrant and Retail Electric Quadrant, Version 1, Model Business Practices](#)
[Comments Due March 11, 2009](#)
[Attachment to Minor Corrections - Models \(Redline\)](#)
[Attachment to Minor Corrections - Models \(Clean\)](#)

TIMELINE:

- Version 1.1 publication date was originally scheduled for yearend 2007, but has now been scheduled for 2nd quarter 2009 (refer to [November Retail EC Minutes](#)) to permit the registration model.



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**NAESB UPDATE: VERSION 1.1 -- RETAIL
MARCH 20, 2009**

- To back into this date – all standards should be ratified by date of publication, and EC actions should be taken one month prior, to publication, all subcommittee actions should be taken three months prior to publication.

Month - 4	Subcommittee Recommendations Completed and sent out for comment
Month - 3	EC Actions taken
Month - 2	Ratifications sent out and completes, minor corrections applied
Month - 1	Review of draft publication
Month - 0	Date of Publication.



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**NAESB UPDATE: VERSION 1.9 – WHOLESALE GAS QUADRANT (WGQ)
JUNE 23, 2009**

THE FINAL ACTIONS TO BE APPLIED TO WGQ VERSION 1.8 TO CREATE WGQ VERSION 1.9:

Version 1.8 was published on September 30, 2006.

2006:

R02008 Final Action - Add new transaction types in the Nomination (1.4.1) and Scheduled Quantity (1.4.5) data sets. - Ratified December 28, 2006.

R03005 Final Action - Add code values for the Service Code data element in the Transportation/Sales Invoice (3.4.1). - Ratified December 28, 2006.

R03009 Final Action - Add a Transactional category to the Informational Posting under NAESB WGQ Standard 4.3.21 and the following subcategories to NAESB WGQ Standard 4.3.23: Transactional Firm, Interruptible, Capacity Release. - Ratified December 28, 2006.

2007:

WGQ 2007 Annual Plan Item 6 Final Action - Update the NAESB WGQ Canadian Addendum related to the UPDATE of the NAESB WGQ Base Contract for Sale and Purchase of Natural Gas (NAESB WGQ Standard 6.3.1) dated September 5, 2006 and other industry comments proposed during the discussions - Ratified August 2, 2007

R06008 Final Action - Modify WGQ Business Practice Standard 4.3.90 to clarify that all available data at representative points should be made available by Transmission Service Providers - Ratified August 2, 2007.

R06014 - Add code values for the Rate Identification Code data element in the Transactional Reporting datasets. - Ratified February 17, 2008.

2007 WGQ Annual Plan Item 5 Final Action - Develop Frequently Asked Questions (FAQs) related to the UPDATE of the NAESB WGQ Base Contract for Sale and Purchase of Natural Gas (NAESB WGQ Standard 6.3.1) dated September 5, 2006. - Ratified August 18, 2007.

2008:

R04001 Final Action – Add new data element “Contact Person (E-mail Address)” to data set: NAESB WGQ Standard No. 2.4.4 Shipper Imbalance. - Ratified December 17, 2008.

R04002 Final Action – Add new data elements “Billable Party (Payer) Contact” at the same level as the Billable Party (Payer Data) and add new data element “Invoice Status Code” to the header level and two corresponding code values in data sets: NAESB WGQ Standard No. 3.4.1 Transportation Sales/Invoice and NAESB WGQ Standard No. 3.4.4 Service Requester Level Charge/Allowance Invoice. - Ratified December 17, 2008.

R04004 Final Action – Add new data element “Voluntary GRI Paid” at the detail level (billable party level) in data set: NAESB WGQ Standard No. 4.3.2 Payment Remittance. - Ratified December 17, 2008.

R04012 Final Action – Add new data element “Location Data” (SO) and delete data element “PI Data Ref. Number” (SO) in data set: NAESB WGQ Standard No. 2.4.6 Measured Volume Audit Statement. - Ratified December 17, 2008.



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NAESB UPDATE: VERSION 1.9 – WHOLESALE GAS QUADRANT (WGO) JUNE 23, 2009

R04033/R05011/R05023/R05025/R05029 Final Action – Add three code values for data element “Adjustment Type” in data set: NAESB WGO Standard No. 2.4.3 Allocation and add six code values for data element “Adjustment Type” in data set: NAESB WGO Standard No. 2.4.4 Shipper Imbalance. - Ratified December 17, 2008.

R04041 Final Action – Add three code values for data element “Allocation Method” in data set: NAESB WGO Standard No. 2.4.1 Pre-determined Allocation. - Ratified December 17, 2008.

R06019 Final Action – Add three warning validation code values in data set: NAESB WGO Standard No. 2.4.2 Pre-determined Allocation Quick Response. - Ratified December 17, 2008.

R07012 Final Action – Add four code values for data element “Meter Type” to data set: NAESB WGO Standard No. 2.4.6 Measured Volume Audit Statement. - Ratified December 17, 2008.

R96121-a23/R07011 Final Action – Add code value definitions for various code values associated with 49 different data elements in one or more of the following 22 data sets: NAESB WGO Standard No. 2.4.4 Shipper Imbalance, NAESB WGO Standard No. 2.4.6 Measured Volume Audit Statement, NAESB WGO Standard No. 2.4.8 Response to Request for Information, NAESB WGO Standard No. 3.4.1 Transportation / Sales Invoice, NAESB WGO Standard No. 5.4.1 Offer Download, NAESB WGO Standard No. 5.4.2 Bid Download, NAESB WGO Standard No. 5.4.3 Award Download, NAESB WGO Standard No. 5.4.4 Replacement Capacity, NAESB WGO Standard No. 5.4.5 Withdrawal Capacity, NAESB WGO Standard No. 5.4.6 Withdrawal Upload, NAESB WGO Standard No. 5.4.7 Offer Upload, NAESB WGO Standard No. 5.4.8 Offer Upload Quick Response, NAESB WGO Standard No. 5.4.9 Offer Upload Notification, NAESB WGO Standard No. 5.4.10 Offer Upload Bidder Confirmation, NAESB WGO Standard No. 5.4.11 Offer Upload Bidder Confirmation Quick Response, NAESB WGO Standard No. 5.4.12 Offer Upload Final Disposition, NAESB WGO Standard No. 5.4.13 Operationally Available and Unsubscribed Capacity, NAESB WGO Standard No. 5.4.14 Upload of Request for Download of Posted Datasets, NAESB WGO Standard No. 5.4.15 Response to Upload of Request for Download of Posted Datasets, NAESB WGO Standard No. 5.4.16 System Wide Notices, NAESB WGO Standard No. 5.4.17 Note/Special Instruction and NAESB WGO Standard No. 5.4.18 Bid Upload. - Ratified December 17, 2008.

R05028 Final Action – Add three new codes in the “Allocation Transaction Type Matrix” Code Values Dictionary for data set: NAESB WGO Standard No. 2.4.3 Allocation and add three new code values for data element “Allocation Transaction Type” in dataset: NAESB WGO Standard 2.4.7 Request for Information. - Ratified December 17, 2008.

R04024/R04039/R05024 Final Action – Add eight and modify three code values, modify one code value description, and one code value definition for data element “Charge Type” in data element: NAESB WGO Standard No. 3.4.1 Transportation / Sales Invoice. - Ratified December 17, 2008.

R05003 Final Action – Add code value “Special Fuel Surcharge” to data element “Charge Type” in data set: NAESB WGO Standard No. 3.4.1 Transportation / Sales Invoice. - Ratified December 17, 2008.

R06013 Final Action – Add 13 code values for the data element “Charge Type” in data set: NAESB WGO Standard No. 3.4.1 Transportation / Sales Invoice. - Ratified December 17, 2008.

R06017 Final Action – Add three warning and two error validation code values in data set: NAESB WGO Standard No. 1.4.2 Nomination Quick Response. - Ratified December 17, 2008.

R06018 Final Action – Add two error validation code values in data set: NAESB WGO Standard No. 1.4.7 Confirmation Response Quick Response. - Ratified December 17, 2008.

R06020 Final Action – Add one warning validation code value to data set: NAESB WGO Standard No. 2.4.2 Pre-determined Allocation Quick Response. - Ratified December 17, 2008.



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NAESB UPDATE: VERSION 1.9 – WHOLESALE GAS QUADRANT (WGO) JUNE 23, 2009

R06021 Final Action – Add new code values for the data element “Transaction Type” in data sets: NAESB WGO Standard No. 1.4.1 Nominations, NAESB WGO Standard No. 1.4.5 Scheduled Quantity, NAESB WGO Standard No. 2.4.4 Shipper Imbalance, and NAESB WGO Standard No. 2.4.4 Transportation / Sales Invoice. - Ratified December 17, 2008.

R07006 Final Action – Add two code values for the data element “Reduction Reason” in data set: NAESB WGO Standard No. 1.4.6 Scheduled Quantity for Operator. - Ratified December 17, 2008.

R07016 Final Action – Add two code values for the data element “Reduction Reason” in data sets: NAESB WGO Standard No. 1.4.4 Confirmation Response, NAESB WGO Standard No. 1.4.5 Scheduled Quantity, and NAESB WGO Standard No. 1.4.6 Scheduled Quantity for Operator. - Ratified December 17, 2008.

R07017 Final Action – Add two warning validation code values in data set: NAESB WGO Standard No. 1.4.2 Nomination Quick Response. - Ratified December 17, 2008.

R06023 Final Action – Add 19 code values for data element “Reduction Reason” in data sets: NAESB WGO Standard No. 1.4.5 Scheduled Quantity and NAESB WGO Standard 1.4.6 Scheduled Quantity for Operator. - Ratified December 17, 2008.

2007 WGO Annual Plan Item 7a/2008 WGO Annual Plan Item 4a Final Action - Develop standards to provide for index-based pricing for capacity release. (FERC Order No. 698 issued 6-25-07, Docket Nos. RM05-5-001 and RM96-1-027). - Ratified August 25, 2008.

2007 WGO Annual Plan Item 7b/2008 WGO Annual Plan item 4b Final Action - Develop standards for providing increased receipt and delivery point flexibility through the use of redirects of scheduled quantities. (FERC Order No. 698 issued 6-25-07, Docket Nos. RM05-5-001 and RM96-1-027). - Ratified August 25, 2008.

2007 WGO Annual Plan Item 3/2007 Retail Annual Plan Item 9 Final Action - Develop or amend WGO technical standards, as appropriate, to address the DOE Sandia National Laboratories 2006 surety assessment findings and recommendations (WGO)/Address issues raised in the Department of Energy’s Sandia National Laboratories on NAESB technical standards and respond to the surety assessment finding and recommendations (REQ/RGO) - Ratified July 11, 2008.

C07003 Final Action - Interpretation of NAESB WGO Standard 6.3.1 – Base Contract for Sale and Purchase of Natural Gas – Dated April 19, 2002. - Ratified June 21, 2008.

C07002 Final Action - Interpretation of NAESB WGO Standard 4.3.16. - Ratified June 21, 2008.

R05005 Final Action - Add six code values for the data element Transaction Type in data sets: NAESB WGO Standard No. 1.4.1 - Nomination, NAESB WGO Standard No. 1.4.5 - Scheduled Quantity, NAESB WGO Standard No. 3.4.1 - Transportation/ Sales Invoice. - Ratified June 21, 2008.

R07015 Final Action - Adds a new internet browser plug-in, Adobe Flash Player, to the NAESB Wholesale Gas Quadrant Electronic Delivery Mechanism - Ratified May 2, 2008.

2007 WEQ Annual Plan Item 5 and 2007 WGO Annual Plan Item 8 Final Action: Develop business practices as needed to support the e-Tariff program including submittal of tariffs and metadata. - Ratified April 4, 2008. 2007 WEQ Annual Plan Item 5 and 2007 WGO Annual Plan Item 8 Final Action - Attachment

2007 WGO Annual Plan Item 4 and Retail 2007 Annual Plan Item 6 Final Action - Prepare a joint analysis for AS2 and AS3 protocols as compared to the NAESB IET. - Ratified February 17, 2008.

R01003 Final Action - Add a System Management Service Quantity data element to various capacity release datasets. - Ratified February 17, 2008.



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NAESB UPDATE: VERSION 1.9 – WHOLESALE GAS QUADRANT (WGO) JUNE 23, 2009

R02007 Final Action - Add new data element 'Notes Codes' and two related codes for the Invoicing data sets (3.4.1).
- Ratified February 17, 2008.

R02011 Final Action - Add code values for NAESB WGO Standard 2.4.3 - Allocation, NAESB WGO Standard 2.4.4 - Shipper Imbalance. - Ratified February 17, 2008.

R03001 Final Action - Request two new data elements be added to the Request for Confirmation, Confirmation Response and Scheduled Quantity for Operator. The new data elements would be used at the same level as the Location Data and would be used to define a limit on the total amount of capacity that could be confirmed as delivery or receipt. - Ratified February 17, 2008.

R03010 Final Action - Modifications to the NAESB WGO Transactional Reporting - Capacity Release Standard 5.4.20 to enhance the display of capacity release data sets at the Sender's Option, including modifications to existing data elements and new data elements. - Ratified February 17, 2008.

R03011 Final Action - Modifications to NAESB WGO Transactional Reporting - Firm Transportation Standard 5.4.21 to enhance the display of firm data at the Sender's Option, including the addition of new data elements, changes to existing data elements, and the addition of new code values. - Ratified February 17, 2008.

R03012 Final Action - Modifications to NAESB WGO Transactional Reporting - Interruptible Transportation Standard 5.4.22 to enhance the display of interruptible data at the Sender's Option, including the additional of new data elements, changes to existing data elements, and the addition of new code values. - Ratified February 17, 2008.

R03016 Final Action - Add a new code value - Corrected / Updated - for Contract Status to provide the ability to identify when the contract data as reported on the transactional reports has been corrected or updated. - Ratified February 17, 2008.

R03020 Final Action - Develop a new defined term/definition for Applicable Regulatory Authority and review NAESB WGO Standards to make corresponding changes. - Ratified February 17, 2008.

R03021 Final Action - Create a new Standard that indicates that unless otherwise denoted, all times contained with the NAESB WGO Standards are Central Clock Time. - Ratified February 17, 2008.

R03025 Final Action - Add a new notice type - Rates and Charges - to NAESB WGO Standard 4.3.2. - Ratified February 17, 2008.

R03028 Final Action - Add a reduction reason code to Scheduled Quantity, Operator Scheduled Quantity and Confirmation Response. - Ratified February 17, 2008.

R03029 Final Action - Add a new Notice Type to System-Wide Notices Standard 5.4.16 to support firm capacity including subscribed ROFR Capacity. - Ratified February 17, 2008.

R03032 Final Action - Change existing data elements of NAESB WGO Transactional Reporting - Firm Transportation Standard 5.4.21. - Ratified February 17, 2008.

R04022 Final Action - Amend WGO Standards 1.4.5 and 1.4.6 to allow new reduction reason codes. - Ratified February 17, 2008.

R04023 Final Action - Amend WGO Standards to add new reduction reason code data element. - Ratified February 17, 2008.

R04026 Final Action - Amend WGO Standard 1.4.1 to add new storage limitation code value. - Ratified February 17, 2008.

R05006 Final Action - Add code value to Validation Code and Message elements in Nomination Quick Response dataset. - Ratified February 17, 2008.



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NAESB UPDATE: VERSION 1.9 – WHOLESALE GAS QUADRANT (WGQ) JUNE 23, 2009

R05010 Final Action - Add code values to Validation Code and Message elements in Nomination Quick Response dataset. - Ratified February 17, 2008.

R05012 - Add Reduction Reason code to Scheduled Quantity, Operator Scheduled Quantity and Confirmation Response. - Ratified February 17, 2008.

R05017 - Delete or change the usage of the data element Rate Form/Type Code from datasets 5.4.20, 5.4.21 and 5.4.22. - Ratified February 17, 2008.

R06001 - Add two Nomination Transaction Type codes to support the nomination and tracking of the shipping entity or producing entity on the interconnecting facility where title tracking is employed by the TSP. - Ratified February 17, 2008.

R06007 - Add Reduction Reason code to Scheduled Quantity, Operator Scheduled Quantity and Confirmation Response. - Ratified February 17, 2008.

RR06011 - Add 3 detail (contract) level and 1 sub detail (nomination) level code values to Validation Code and Message elements in Nomination Quick Response dataset. - Ratified February 17, 2008.

R06012 - Add two (2) new code values for the data element "Transaction Type" into Scheduled Quantity and Invoice Datasets. - Ratified February 17, 2008.

R06014 - Add code values for the Rate Identification Code data element in the Transactional Reporting datasets. - Ratified February 17, 2008.

WGQ 2008 Annual Plan Item 10 / R08026 Final Action - Standards of Conduct.

http://www.naesb.org/member_login_form.asp?doc=fa_wgq_2008_api10_r08026.doc – Ratified February 6, 2009.

Recommendation R06016 - "Modify NAESB WGQ Standard No: 4.3.69 to expand the 'Submit' function to include sending records to the TSP for processing from the Matrix to now include the Form as well.":

http://www.naesb.org/member_login_form.asp?doc=wgq_rat021009_wgq_r06016_rec.doc - Ratified March 13, 2009.

Recommendation R08007- "Modify NAESB WGQ Standard No: 4.3.16 to refer to Appendix C for valid display and download formats." http://www.naesb.org/member_login_form.asp?doc=wgq_rat021009_wgq_r08007_rec.doc - Ratified March 13, 2009.

R08015/2009 WGQ Annual Plan Item 2.b/2009 Retail Annual Plan Item 5 – Revise the Trading Partner Agreement TPA by removing the Exhibits from the agreement and relegate such information as contained in the Exhibits to operational worksheet(s): http://www.naesb.org/pdf4/r08015_rec.doc -Ratified June 15, 2009.

Exhibit "A": http://www.naesb.org/pdf4/r08015_rec_attach1.doc (clean)
http://www.naesb.org/pdf4/r08015_rec_attach2.doc (redline)

Exhibit "B": http://www.naesb.org/pdf4/r08015_rec_attach3.doc

Exhibit "C": http://www.naesb.org/pdf4/r08015_rec_attach4.doc

Exhibit "D": http://www.naesb.org/pdf4/r08015_rec_attach5.doc (clean)
http://www.naesb.org/pdf4/r08015_rec_attach6.doc (redline)

Exhibit "E": http://www.naesb.org/pdf4/r08015_rec_attach7.doc (clean)
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http://www.naesb.org/pdf4/r08015_rec_attach10.doc (redline)

Recommendation 2007 WGQ Annual Plan Item 7.a, 2008 WGQ Annual Plan Item 4.a.ii, 2009 WGQ Annual Plan Item 3.a.i, 2008 WGQ Annual Plan Item 9, 2009 WGQ Annual Plan Item 4, R07018, R08019 and R08024 - Modify the capacity release data sets as approved by the WGQ Executive Committee on May 14, 2009. http://naesb.org/member_login_check.asp?doc=wgq_rat051509_wgq_2007ap7a_2008ap4a_2009ap4_2008ap9_2009ap3a_r07018_r08019_r08024_rec.doc – Ratified June 15, 2009.

Attachment 1

http://naesb.org/member_login_check.asp?doc=wgq_rat051509_wgq_2007ap7a_2008ap4a_2009ap4_2008ap9_2009ap3a_r07018_r08019_r08024_rec_attach1.doc

Attachment 2

http://naesb.org/member_login_check.asp?doc=wgq_rat051509_wgq_2007ap7a_2008ap4a_2009ap4_2008ap9_2009ap3a_r07018_r08019_r08024_rec_attach2.doc

Attachment 3

http://naesb.org/member_login_check.asp?doc=wgq_rat051509_wgq_2007ap7a_2008ap4a_2009ap4_2008ap9_2009ap3a_r07018_r08019_r08024_rec_attach3.doc

Recommendation R07014 - Modify the Confirmation Response Quick Response (NAESB WGQ Std. 1.4.7) to be the newly re-named Confirmation Quick Response such that it can be used as a quick response for both the Request for Confirmation (NAESB WGQ Std. 1.4.3) and the Confirmation Response (NAESB WGQ Std. 1.4.4) as approved by the WGQ EC on May 14, 2009. http://naesb.org/member_login_check.asp?doc=wgq_rat051509_r07014_rec.doc – Ratified June 15, 2009.

Recommendation 2009 WGQ Annual Plan Item 9 - Review minimum technical characteristics in Appendices B, C, and D of the WGQ QEDM Manual, and make changes as appropriate as approved by the WGQ EC on May 14, 2009. http://naesb.org/member_login_check.asp?doc=wgq_rat051509_2009_wgq_api9_rec.doc – Ratified June 15, 2009.

THE MINOR CORRECTIONS TO BE APPLIED TO WGQ VERSION 1.9:

Minor correction MC09018 (May 27, 2009) http://naesb.org/pdf4/wgq_mc09018.doc

Minor correction MC09017 (May 27, 2009) http://naesb.org/pdf4/wgq_mc09017.doc

Minor correction MC09016 (May 27, 2009) http://naesb.org/pdf4/wgq_mc09016.doc

Minor correction MC09015 (May 27, 2009) http://naesb.org/pdf4/wgq_mc09015.doc

Minor Corrections – Code Value Changes – Effective May 29, 2009

Minor correction MC04027, MC06003, MC06015 and MC06022 as submitted by Williams Gas Pipeline and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc04027_mc06003_mc06015_mc06022_rec_051409.doc

Minor correction MC08009 as submitted by Williams Gas Pipeline and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc08009_rec_051409.doc

Minor correction MC08012 as submitted by Northern Natural Gas and revised and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc08012_rec_051409.doc



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Minor correction MC08013/MC08014 as submitted by Kinder Morgan Energy Partners and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc08013_mc08014_rec_051409.doc

Minor correction MC08016 as submitted by Northern Natural Gas and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc08016_rec_051409.doc

Minor correction MC08017 as submitted by Boardwalk Pipeline Partners and Texas Gas Transmission and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc08017_rec_051409.doc

Minor correction MC08022 as submitted by Northern Natural Gas and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc08022_rec_051409.doc

Minor correction MC08023 as submitted by Enbridge Energy Partners and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc08023_rec_051409.doc

Minor correction MC09001 as submitted by Northern Natural Gas and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09001_rec_051409.doc

Minor correction MC09003(A) as submitted by Williams Gas Pipeline and Spectra Energy Transmission and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09003a_rec_051409.doc

Minor correction MC09005 as submitted by ANR Pipeline and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09005_rec_051409.doc

Minor Corrections Applicable to WGQ Version 1.8 - Effective May 29, 2009

Minor correction MC09002 as submitted by Williams Gas Pipeline and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09002_rec_051409.doc

Minor correction MC09007 as submitted by NAESB WGQ Technical Subcommittee and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09007_rec_051409.doc

Minor correction MC09008 as submitted by El Paso Natural Gas and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09008_rec_051409.doc

Minor correction MC09010 as submitted by El Paso Natural Gas and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09010_rec_051409.doc

Minor correction MC09011 as submitted by El Paso Natural Gas and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09011_rec_051409.doc

Minor correction MC09012 as submitted by Williams Gas Pipeline and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09012_rec_051409.doc

Minor correction MC09014 as submitted by El Paso Natural Gas and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09014_rec_051409.doc

Minor Corrections Applicable to Final Actions for WGQ Version 1.9 - Effective May 29, 2009

Minor correction MC09004 as submitted by Williams Gas Pipeline and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09004_rec_051409.doc

Minor correction MC09006 as submitted by Williams Gas Pipeline and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09006_rec_051409.doc

Minor correction MC09009 as submitted by Williams Gas Pipeline and approved by the WGQ EC on May 14, 2009 - http://www.naesb.org/pdf4/wgq_mc09009_rec_051409.doc



North American Energy Standards Board

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NAESB UPDATE: VERSION 1.9 – WHOLESALE GAS QUADRANT (WGQ) JUNE 23, 2009

Minor correction MC09013 as submitted by Williams Gas Pipeline and approved by the WGQ EC on May 14, 2009
- http://www.naesb.org/pdf4/wgq_mc09013_rec_051409.doc.

[Request for Comment](#) on the following 2 Recommendations for Interpretations. Comments due June 17, 2009.
[Recommendation for Interpretation for NAESB WGQ 2007 Annual Plan Item 7a / NAESB WGQ 2008 Annual Plan Item 4a / NAESB WGQ 2009 Annual Plan Item 4 \(Order Nos. 698/698A\) Recommendation Part 2 - Technical Implementation And NAESB WGQ 2008 Annual Plan Item 9 / 2009 Annual Plan Item 3a \(Order Nos. 712/712A\) and R07018 and R08019 and R08024](#)
[Recommendation for Interpretation for NAESB WGQ 2009 Annual Plan Item 1](#)

[Request for Comment](#) on the following minor correction to NAESB WGQ Versions 1.7 and 1.8 Interpretation 7.3.16 adopted by the WGQ EC on May 15, 2008: [Minor Correction to NAESB WGQ Interpretations 7.3.16](#)

[Request for Comments](#) for a Recommendation for Interpretation for Request for Clarification C07003. Comments are due March 8, 2008. [Recommendation for Interpretation for Request for Clarification C07003, Comments Submitted by D. Gussow, FPL, Comments Submitted by D. Davis, Williams Gas Pipeline](#)

[Request for Comments](#) for a Recommendation for Interpretation for Request for Clarification C07002. Comments are due March 8, 2008. [Recommendation for Interpretation for Request for Clarification C07002, Comments Submitted by D. Davis, Williams Gas Pipeline](#)

[Request for Comment](#) on the following minor correction adopted by the WGQ, REQ and RGQ EC's on January 4, 2008: [Minor Correction to NAESB WGQ / REQ / RGQ Internet Electronic Transport \(Standard No. 10.3.7\)](#)

[Request for Comment](#) on the following three minor corrections to the NAESB WGQ Version 1.8 Standards. Comments are due December 13, 2006. [Minor Correction - Duplicate NAESB WGQ Standard 4.3.89s in Booklet 1 of 1 \(Version 1.8\), Minor Correction - re WGQ Standard 5.4.10 - Offer Upload Bidder Confirmation – Data Element Bidder Contact Name - Invoice \(Version 1.8\), Minor Correction - re NAESB WGQ Standard 5.4.21 – Transactional Reporting – Firm Transportation – Data Element Abbreviation \(Version 1.7 and Version 1.8\)](#)

[Request for Comment](#) on the following minor correction to the NAESB WGQ Standard No. 4.3.16 adopted by the WGQ EC on September 13, 2006. Comments are due September 28, 2006. [Minor Correction for WGQ Standard No. 4.3.16](#)

[Request for Comment](#) on the following minor correction to the NAESB Version 1.7 WGQ Standards adopted by the WGQ EC on August 17, 2006. Comments are due September 13, 2006. [Minor Correction for WGQ Version 1.7 Recall Notification Period Indicators](#)

PENDING ITEMS FOR VERSION 1.9 TO BE COMPLETED BY 2ND QUARTER 2009:

- Order 698
- Order 712
- Order 720
- Gas Quality
- Revised Trading Partner Agreement (TPA)

TIMELINE:



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NAESB UPDATE: VERSION 1.9 – WHOLESALE GAS QUADRANT (WQ) JUNE 23, 2009

- Version 1.9 publication date was originally intended to follow the 24-month schedule outlined in the NAESB Operating Practices (September 2008), but has now been scheduled for 3rd Quarter 2009 (*including Order 698, Order 712, Gas Quality and TPA items pending and completion of member ratification for those pending items*) (refer to [November WQ EC Minutes](#)).

- To back into this date – all standards should be ratified by date of publication, and EC actions should be taken one month prior, to publication, all subcommittee actions should be taken three months prior to publication.

Month - 4	Subcommittee Recommendations Completed and sent out for comment
Month - 3	EC Actions taken
Month - 2	Ratifications sent out and completes, minor corrections applied
Month - 1	Review of draft publication
Month - 0	Date of Publication.



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Via email and posting

TO: Michael Desselle, Jim Templeton, Valerie Crockett, Cade Burks, Bruce Ellsworth, Rick Smead, William Boswell, Ralph Cleveland, Michehl Gent, Joe Hartsoe, Joelle Ogg, Vicky Bailey, Bob Gee, Christopher Freitas, Scott Brown
RE: Review of Proposed Statement and Action Plan for Smart Grid Policy, Docket No. PL09-4-000, Issued March 19, 2009
DATE: April 26, 2009

Attached please find a paragraph by paragraph review of the FERC proposed statement and action plan for smart grid policy.¹ The reviewers noted where FERC has asked for comments, where the remarks may impact existing standards and where the remarks could impact future development. Comments are due to the Commission on May 11.

As a summary, the following points can be made:

Generally:

- The infrastructure should be in place early in the process to ensure efficient and effective standards development and to avoid costly industry retro-fitting. Using existing organizations to develop standards would avoid time spent on organizational framework and procedure debates, charter developments and recruitment of members. Several Standards Development Organizations (SDOs) have balanced and accredited procedures for reaching consensus and developing standards which are already in place and could be leveraged to help expedite development.
- Prioritization is crucial to ensuring that specific timelines are met and that the foundational standards are developed first. Equally important to prompt standards development is the clear unambiguous policy that would create the standards, and the recognition of industry executives of the urgency of the task as hand which will require the support and leadership of them as champions for the standards development
- Industry coordination is key and may require both wholesale and retail entities to jointly develop necessary inter-system standards

Specific to NAESB organization:

- NAESB is in a unique position, with a structure that can accommodate all industry participants in an established process for reaching consensus across multiple market interests.
- NAESB has a well established and industry accepted process for reaching consensus, and is accredited through ANSI as an SDO. Our procedures to determine sufficient consensus includes full transparency, inclusive participation, voting that supports permitting non-members to vote in subcommittee, voting balanced across market segment to ensure equal voice, documentation of all minority positions through the commenting procedures, posting of all working documents that led to standards development and transcript availability for all meetings where standards or policy are considered for vote.
- NAESB is an accredited SDO with a significant body of work that not only represents the wholesale and retail electric markets but permits joint standards development where markets would benefit from such. NAESB also has a defined approach for joint standards development with NERC to ensure that the commercial or market based NAESB standards are complementary to the NERC reliability standards.
- NAESB's organization encouraged broad participation both in the development of standards and in the strategic decision making. NAESB has long standing public private partnerships that have guided its standards development efforts – with FERC, DoE, the NAESB Advisory Council, state commissions, and NARUC. NAESB has a defined process with NERC for development of inter-related standards serving both reliability and business practices functions. The guidance received from the public-private partnerships and negotiations needed to achieve industry consensus on NAESB work products has served it well – resulting in hundreds of industry accepted standards over the years.
- NAESB has built the infrastructure, and its members and the industry have a vested interest in maintaining the significant body of standards to support current market needs.
- Timetables for standards development are dependent on several factors: (1) understandable and unambiguous policy upon which the standard is based, (2) executive champions within the industry, (3) agreement or mandate for urgency, and (4) clear and industry supported process for industry decisions. If all four are present, the development proceeds efficiently. NAESB has developed standards in as little as 4 months and forwarded them to the FERC for consideration. Typically, when all four are present, a body of standards can take a year to develop.

¹ The plan can be accessed from the following link: http://www.naesb.org/pdf4/ferc031909_smart_grid_noi.pdf



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Specific to NAESB existing standards:

- Broad transformational market changes that could occur as smart grid technologies are employed would require an appropriate level of review of the existing base of NAESB standards to ensure that the standard continue to meet market needs at both a wholesale and retail level. There are more than 600 OASIS² standards and more than 900 in total, including 40 definitions and 31 business practices specific to demand response products and services.

Demand Response:

- NAESB has business practices that address measurement and verification aspects of demand response products (for the wholesale market and nearing completion for the retail market) and has action plan items for renewable portfolio programs and national energy efficiency systems. NAESB, in developing standards for demand response products and services for both the wholesale and retail markets has provided an organizational infrastructure in which both federal and state interests can interact and reach joint consensus, while still respecting the market differences. In addition, NAESB and NERC are working together to ensure that our demand response work products are consistent and complementary. Any smart grid efforts directed towards demand response products and services should factor in review of both NERC and NAESB demand response work products. In the reliance on renewables, NAESB standards have been developed that support Conditional Firm Service. In congestion management, NAESB and NERC develop complementary business practices and reliability standards.

Interoperability:

- Interoperability standards that support intersystem communications clearly include data information standards in addition to the more traditionally considered telecommunication standards. The data information standards present in NAESB standards represented by WEQ002 and WEQ003, (OASIS S & CP and OASIS Data Dictionary) form a significant base of data information standards. These standards are in place to support the operation of the bulk power system, enabling electronic communication of electric market transactions. Moreover, the Registry, a data repository tool used by both NERC and NAESB, to enable electronic transactions is key to intersystem communications for the wholesale electric power grid. At one point, NAESB considered redeveloping the OASIS suite of standards (OASIS 2) to support more real-time transactions and developed use cases in its preliminary consideration. The effort was put aside to address the business practice requirements of FERC Order No. 890.

Cybersecurity:

- Regarding standards for cyber-security, NAESB employs PKI standards, which will be applied to the OASIS standards (WEQ001, WEQ002, WEQ003 and WEQ013), once the Registry has transferred from NERC to NAESB. The PKI standards currently apply to the eTag standards. Sandia National Laboratories has performed surety assessments on the NAESB technical standards, functioning much like an independent third party auditor ensuring that our standards interact efficiently and appropriately

Congestion Management/Curtailment:

- If reliability standards are modified to address potential over-generation that may come about as a result of implementation of smart grid technologies, then the complementary NAESB business practices would require review to determine necessary changes. The NAESB organization has subcommittees in place to monitor for such changes and the joint development process in place with NERC provides for efficient means for developing the set of standards required.
- Methods to make curtailment information more transparent and increase data sharing may impact NAESB business practices in place today.
- As reliability standards related to congestion management are modified the corresponding complementary business practices should be reviewed to ensure consistency.

² An unfortunate coincidence, the OASIS suite of standards developed by NAESB to support FERC policies (Open Access Same Time Information System) is totally separate from and has no connection whatsoever to the Organization for the Advancement of Structured Information Systems. In the comments noted throughout this document, OASIS will refer only to the standards developed by NAESB to support market based electronic transactions (WEQ001, WEQ002, WEQ003, WEQ013).



The highlighted yellow sections show specifically where FERC has asked for comments. The non-yellow highlighted sections are specific to the comments made by the reviewers. Please note that if there are no comments to a given paragraph, the group discussed the paragraph and determined that the paragraph did not reference existing standards and could not be conceived to impact future development.

NAESB REVIEW OF PROPOSED POLICY STATEMENT AND ACTION PLAN FOR SMART GRID POLICY, DOCKET NO. PL 09-4-000, ISSUED MARCH 19, 2009		COMMENTS/DISCUSSION
¶	NOI TEXT	
1	<p>The Commission is issuing this proposed policy statement to articulate its policies and near-term priorities to help achieve the modernization of the Nation's electric transmission system, one aspect of which is "Smart Grid" development. Smart Grid advancements will apply digital technologies to the grid, and enable real-time coordination of information from generation supply resources, demand resources, and distributed energy resources (DER). This will bring new efficiencies to the electric system through improved communication and coordination between utilities and with the grid, which will translate into savings in the provision of electric service. Ultimately the smart grid will facilitate consumer transactions and allow consumers to better manage their electric energy costs. These technologies will also enhance the ability to ensure the reliability of the bulk-power system. The Commission's interest and responsibilities in this area derive from its authority over the rates, terms and conditions of transmission and wholesale sales in interstate commerce, its responsibility for approving and enforcing mandatory reliability standards for the bulk-power system in the United States, and a recently enacted law requiring the Commission to adopt interoperability standards and protocols necessary to ensure smart-grid functionality and interoperability in the interstate transmission of electric power and in regional and wholesale electricity markets. The development and implementation of these interoperability standards is a challenging task, which requires the efforts of industry, the states and other federal agencies, in addition to the Commission. The Commission intends to use its authority, in coordination and cooperation with other governmental entities, to help achieve interoperability in a timely manner. Achievement of interoperability will not only increase the efficiency of the bulk-power system, with the goal of achieving long-term consumer savings, but will also enable demand response and other consumer transactions and activities that give consumers the tools to better control their electric energy costs. Reaching this goal will also help promote the integration of significant new renewable power into the transmission system and help state and federal initiatives to promote greater reliance on renewable power and meet future demand growth to satisfy the Nation's energy needs.</p>	<p>1 As the smart grid technologies are implemented and they interact with the bulk power market, the NAESB existing standards that address the bulk power market should be reviewed for consistency. There are more than 600 OASIS standards and more than 900 in total, including 40 definitions and 31 business practices specific to demand response products and services.</p> <p>2 NAESB, in developing standards for demand response products and services for both the wholesale and retail markets has provided an organizational infrastructure in which both federal and state interests can interact and reach joint consensus, while still respecting the market differences. The NAESB process is designed to support separate standards development for retail and wholesale markets, but it also has processes by which standards can be developed jointly across the retail and wholesale markets. The joint development was pursued for measurement and verification aspects of demand response products and services.</p> <p>3 The interoperability standards that are developed to support smart grid applications enabling demand response may require a review of the demand response standards recently adopted by NAESB and those that are currently in development.</p>
2	<p>The purpose of the policy statement the Commission ultimately adopts will be to prioritize the development of key interoperability standards, provide guidance to the electric industry regarding the need for full cybersecurity for Smart Grid projects, and provide an interim rate policy under which jurisdictional public utilities may seek to recover the costs of Smart Grid deployments before relevant standards are adopted through a Commission rulemaking. Specifically, development of interoperability standards for inter-system communication, system security, wide-area situational</p>	<p>4 Interoperability standards that support intersystem communications clearly include data information standards, such as those present in WEQ002 and WEQ003, (OASIS S & CP and OASIS Data Dictionary). These standards are in place to support the operation of the bulk power system, enabling electronic communication of electric market transactions.</p>



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NAESB REVIEW OF PROPOSED POLICY STATEMENT AND ACTION PLAN FOR SMART GRID POLICY, DOCKET NO. PL09-4-000, ISSUED MARCH 19, 2009	
NOI TEXT	COMMENTS/DISCUSSION
<p>3 awareness, demand response, electric storage, and electric transportation should be prioritized and accelerated. The work done on certain standards will provide a foundation for development of many other standards.</p>	<p>5 Prioritization is crucial to ensuring that specific timelines are met and that the foundational standards are developed first. Equally important to prompt standards development is the clear unambiguous policy that would create the standards and the support and leadership of the industry executives as champions for the standards development.</p>
<p>3 In addition, as further explained below, for the near term we propose certain rate treatments to encourage investment in Smart Grid technologies that advance efficiency, security, reliability and interoperability in order to address potential challenges to the bulk-power system. We recognize that a key consideration of public utilities in deciding whether to invest in Smart Grid technologies may involve the potential for stranded costs associated with legacy systems that are replaced by Smart Grid equipment. Additionally, as the electric system may require several of the new capabilities of the Smart Grid before interoperability standards have been developed, we recognize the need for guidance for jurisdictional entities. Thus, to offer some rate certainty and guidance regarding cost recovery issues, the Commission is proposing a rate policy for the interim period until final interoperability standards are adopted. The Commission also proposes that smart grid investments that demonstrate system security and compliance with Commission-approved Reliability Standards, the ability to be upgraded, and other specified criteria will be eligible for timely rate recovery and other rate treatments. For now, we propose as an interim rate policy to accept single-issue rate filings submitted under FPA section 205 by public utilities to recover the costs of Smart Grid deployments involving jurisdictional facilities provided that certain showings are made. In other words, we propose to consider Smart Grid devices and equipment, including those used in a Smart Grid pilot program or demonstration project, to be used and useful for purposes of cost recovery if an applicant makes the certain showings, as described below.</p>	<p>6 NAESB employs PKI standards for cybersecurity, which will be applied to the OASIS standards (WEQ001, WEQ002, WEQ003 and WEQ013), once the Registry has transferred from NERC to NAESB. The PKI standards currently apply to the eTag standards. Sandia National Laboratories has performed surety assessments on the NAESB technical standards, functioning much like an independent third party auditor ensuring that our standards interact efficiently and appropriately</p> <p>NAESB has no comments on rate treatments, rate policy or stranded costs. The only possible comment that might be made is for reporting standards akin to the EQR efforts currently underway. However, in discussions, it was determined that no NAESB comments were needed.</p>



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4	<p>We seek comments from the industry on these and other steps the Commission can take to encourage and expedite the development of interoperability standards and implementation of Smart Grid projects. In the near future, we may convene a technical conference for further public input on these issues.</p>	<p>7 See comment #6. Also using existing organizations to develop standards would avoid time spent on organizational framework and procedure debates, charter developments and recruitment of members. Several Standards Development Organizations (SDOs) have balanced and accredited procedures for reaching consensus and developing standards which are already in place and could be leveraged to help expedite development.</p>
I. BACKGROUND		
5	<p>Under the Federal Power Act (FPA), the Commission has jurisdiction over the transmission of electric energy in interstate commerce by public utilities, and over the reliable operation of the bulk-power system in most of the Nation. The Commission also was given a new responsibility under the EISA, discussed further below, to issue a rulemaking to adopt standards and protocols to ensure Smart Grid functionality and interoperability in interstate transmission of electric power and in regional and wholesale electric markets.</p>	<p>No comments noted.</p>
6	<p>Section 1301 of the EISA states that it is the policy of the United States to support the modernization of the Nation's electricity transmission and distribution system to maintain a reliable and secure electricity infrastructure that can meet future demand growth and to achieve each of several goals and characteristics, which together characterize a Smart Grid. These goals and characteristics are:</p> <p>(1) Increased use of digital information and controls technology to improve reliability, security, and efficiency of the electric grid. (2) Dynamic optimization of grid operations and resources, with full cyber-security. (3) Deployment and integration of distributed resources and generation, including renewable resources. (4) Development and incorporation of demand response, demand-side resources, and energy efficiency resources. (5) Deployment of "smart" technologies (real-time, automated, interactive technologies that optimize the physical operation of appliances and consumer devices) for metering, communications concerning grid operations and status, and distribution automation. (6) Integration of "smart" appliances and consumer devices. (7) Deployment and integration of advanced electricity storage and peak-shaving technologies, including plug-in electric and hybrid electric vehicles, and thermal storage air conditioning. (8) Provision to consumers of timely information and control options. (9) Development of standards for communication and interoperability of appliances and equipment connected to the electric grid, including the infrastructure serving the grid. (10) Identification and lowering of unreasonable or unnecessary barriers to adoption of smart grid technologies, practices, and services. []</p>	<p>8 Many of the goals and characteristics directly or indirectly impact existing NAESB standards or planned actions included in the 2009 annual plans.</p>



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7	<p>Section 1305(a) of EISA directs the National Institute of Standards and Technology (the Institute) “... to coordinate the development of a framework that includes protocols and model standards for information management to achieve interoperability of smart grid devices and systems.” A helpful description of interoperability is “the ability of a system or a product to work with other systems or products without special effort on the part of the customer.” In order to achieve the Smart Grid characteristics and functions listed in EISA section 1301, interoperability of Smart Grid equipment will be essential.</p>	9	<p>The interoperability afforded by the NAESB standards (included in standards WEQ002, WEQ003, WEQ013 and in the Registry), permit intersystem communications supportive of the bulk power market transactions.</p>
8	<p>Finally, pursuant to the EISA, once the Commission is satisfied that the Institute’s work has led to “sufficient consensus” on interoperability standards, we are directed to “institute a rulemaking proceeding to adopt such standards and protocols as may be necessary to insure smart-grid functionality and interoperability in interstate transmission of electric power, and regional and wholesale electricity markets.”</p>	10	<p>NAESB has a well established and industry accepted process for reaching consensus, and is accredited through ANSI as an SDO. Our procedures to determine sufficient consensus includes full transparency, inclusive participation, voting that supports permitting non-members to vote in subcommittee, voting balanced across market segment to ensure equal voice, documentation of all minority positions through the commenting procedures, posting of all working documents that led to standards development and transcript availability for all meetings where standards or policy are considered for vote.</p>
9	<p>The Commission appreciates the Institute’s work to assess current Smart Grid standards and infrastructure to identify gaps, and is aware of its plans to create a knowledge base to enable effective communication among stakeholders and a roadmap to lay out a recommended course toward a highly interoperable grid. In general, we expect that the Institute will recommend standards to the Commission that have resulted from the Institute’s coordination with standards development organizations and technical experts. The Commission will initiate rulemakings as individual or suites of standards achieve sufficient consensus. The Commission will consider the most effective and efficient ways to interact with the Institute and standards development organizations between the issuance of a notice of proposed rulemaking on submitted standards and a final rule adopting standards. We invite comment on this proposed approach.</p>	11	<p>NAESB is an accredited SDO with a significant body of work that not only represents the wholesale and retail electric markets but permits joint standards development where markets would benefit from such. NAESB also has a defined approach for joint standards development with NERC to ensure that the commercial or market based NAESB standards are complementary to the NERC reliability standards.</p>
10	<p>The Commission will continue to take an active role in helping to ensure that the participants in the Institute’s process effectively prioritize and sequence future standards development efforts. We invite comments on what factors the Commission should consider in determining when the Institute’s work has led to “sufficient consensus” on interoperability standards to warrant instituting a rulemaking proceeding. We also seek comment and ideas on how to identify and stage the adoption of successive waves of interoperability standards. Finally, we seek comment as to whether there should be some formal process for parties to seek Commission guidance if negotiations on certain interoperability standards reach an impasse.</p>		



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NOI TEXT		
<p>II. DISCUSSION</p> <p>A. Urgency of Achieving Certain Smart Grid Functionalities</p>		
11	<p>As noted above, rather than directing the Institute to develop interoperability standards of its own, Congress charged the Institute with coordinating such development. The EISA specifically requires the Institute to solicit input from, among others, a range of existing standards development organizations that rely on extensive negotiation in order to achieve broad industry consensus on proposed standards.</p>	<p>12 NAESB's organization encouraged broad participation both in the development of standards and in the strategic decision making. NAESB has long standing public private partnerships that have guided its standards development efforts – with FERC, DoE, the NAESB Advisory Council, state commissions, and NARUC. NAESB has a defined process with NERC for development of inter-related standards serving both reliability and business practices functions. The guidance received from the public-private partnerships and negotiations needed to achieve industry consensus on NAESB work products has served it well – resulting in hundreds of industry accepted standards over the years.</p>
12	<p>The EISA contains no specific deadline for the creation of interoperability standards; instead, it provides for a consensus-based process. However, there is a sense of urgency within industry and government for the development of standards for and deployment of smart grid technologies generally. The Commission is particularly interested in the development of Smart Grid functions and characteristics that can help address challenges to the Commission-jurisdictional bulk-power system. These include the cross cutting issues of cybersecurity and the further development of common information models to allow useful exchange of electric system information (e.g., standard definitions). Broad policy goals also need to be addressed such as optimizing the transmission system to reduce congestion and improve reliability, security and efficiency; encouraging increased reliance on demand response; state and possibly national climate change initiatives such as Renewable Portfolio Standards and other efforts that result in increased reliance on variable renewable resources; and the potential for increased and variable electricity loads from the</p>	<p>13 NAESB has built the infrastructure and its members and the industry have a vested interest in maintaining the significant body of standards to support current market needs.</p> <p>14 Timetables for standards development are dependent on several factors: (1) understandable and unambiguous policy upon which the standard is based, (2) executive champions within the industry, (3) agreement or mandate for urgency, and (4) clear and industry supported process for industry decisions. If all four are present, the development proceeds efficiently. NAESB has developed standards in as little as 4 months and forwarded them to the FERC for consideration. Typically, when all four are present, a body of standards can take a year to develop.</p> <p>15 NAESB has PKI standards for cybersecurity for eTagging and once the Registry is transitioned to NAESB, the effort to apply the PKI standards to the OASIS suite of standards will begin.</p>



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<p>transportation sector. We discuss in turn the importance of each of these in driving the need for Smart Grid capabilities and the standards to achieve interoperability of smart grid devices with the electric grid and its associated users and infrastructure.</p>	<p>16 NAESB uses the Registry, the OASIS S&CP (WEQ002) and the OASIS data dictionary (WEQ003) to support the OASIS business practices (WEQ001). WEQ002 and WEQ003 in conjunction with the Registry form a common information model supportive of intersystem communication of market based wholesale electric transactions.</p> <p>At one point, NAESB considered redeveloping the OASIS suite of standards (OASIS 2) to support more real-time transactions and developed use cases in its preliminary consideration. The effort was put aside to address the business practice requirements of FERC Order No. 890.</p>
<p>Cybersecurity and reliability</p>	<p>17 NAESB has business practices that address measurement and verification aspects of demand response products (for the wholesale market and nearing completion for the retail market) and has action plan items for renewable portfolio programs and national energy efficiency systems.</p>
<p>13 Absent any consideration of the Smart Grid concept, other activities and events currently taking place in various regions raise physical and cybersecurity concerns for the electric industry. For example, utilities have already taken advantage of the existing communications infrastructure and capabilities of the Internet to aid their marketing operations. While typically not connecting their more sensitive control center systems directly to the Internet, many entities have nevertheless upgraded those systems to use Internet-based protocols and technologies. This, coupled with the fact that the non-Internet-connected control center operations may be connected to the same corporate network as the Internet-connected marketing systems, means that there may be an indirect Internet vulnerability to those sensitive control systems. Accordingly, without adequate protections, these preexisting utility efforts potentially increase the exposure of the bulk-power system to cybersecurity threats. Cybersecurity and physical security have been ongoing concerns for the Commission and the electric industry with the advent of the mandatory and enforceable federal bulk-power system reliability regime in place in most of the United States under the oversight of the Commission pursuant to FPA section 215. Pursuant to this section 215 authority, the Commission recently approved eight cyber and physical protection related reliability standards.</p>	<p>18 For the market based transactions standardized for NAESB, the plan is to extend the PKI standards to OASIS once the Registry has transitioned from NERC to NAESB. PKI standards are currently used to support eTagging.</p>



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¶	NOI TEXT	COMMENTS/DISCUSSION
14	<p>The fact that a smarter grid would permit two-way communication between the electric system and a much larger number of devices located outside of controlled utility environments commands that even more attention be given to the development of cybersecurity standards. Therefore, the Commission proposes to advise the Institute to undertake the necessary steps to assure that each standard and protocol that is developed as part of the Institute's interoperability framework is consistent with the overarching cybersecurity and reliability mandates of the EISA as well as existing reliability standards approved by the Commission pursuant to section 215 of the FPA. The Commission proposes to make consistency with cybersecurity and reliability standards a precondition to its adoption of Smart Grid standards. We seek comment on these proposals.</p>	<p>19 The two way communications and standards to support such could require the interaction of the retail market and the wholesale market. As an example, in the development of demand response standards it was critical that both the wholesale and retail market interests work together as the standards were inter-dependent. As more technical standards are developed, it is expected that this reliance will increase.</p>
15	<p>In order to fully incorporate measures to protect against cyber and physical security threats, we also propose to advise the Institute to take the necessary steps to assure that its process for the development of any interoperability standards and protocols leaves no gaps in cyber or physical security unfilled. We are concerned that this could be a particular problem where separate groups of interested industry members independently develop and advocate select standards or protocols for the Institute's consideration. We seek comment on this proposal.</p>	
Inter-system communication and coordination		
16	<p>There is an urgent need to further develop a common semantic framework (i.e., agreement as to meaning) and software models for enabling effective communication and coordination across inter-system interfaces. Such standards could play an important role in the movement to a smarter grid that is capable of addressing challenges to the operation of the bulk-power system. The bulk-power system can be thought of as a system of systems. In order to enable a smarter grid, particularly one capable of addressing the bulk-power system challenges discussed below, effective interfaces must be developed between and among all of these systems (i.e., inter-system interfaces) and common information model standards appear to be powerful tools to enable such inter-system interfaces. The Commission proposes to identify standards for common information models for inter-system interfaces as a high priority for accelerated development. We seek comment on this proposal.</p>	<p>20 The OASIS suite of standards already functions as a common information model, enabling wholesale market based electronic transactions. The Registry and its data provide a uniform basis for the key identifiers in a transaction – permitting the multiple entities to a transaction to enter into and complete the transaction electronically.</p>



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Integrating renewable resources into the electric grid	
<p>17</p> <p>Several groups of states have been working on aggressive regional carbon control measures, and one regional effort has already begun operation in the form of the Regional Greenhouse Gas Initiative. Federal legislation addressing carbon control and other environmental and climate related matters may follow. These initiatives point toward a shift in the mix of fuels that will be used to generate electricity, and an associated shift in where new generation resources are located. Additional transmission capacity to ensure deliverability of those new generating resources will be needed in the form of new transmission lines and more efficient use of existing infrastructure. Also, additional demand resources, generation resources, and DER will be needed to reliably integrate variable generation into the electric grid. Efforts to address these challenges could benefit from the enhanced capabilities associated with certain aspects of the Smart Grid; among them, the ability to maximize the capability and use of existing and new transmission capacity, and foster the deployment and integration of demand resources, generation resources and DER.</p>	<p>21</p> <p>The NAESB annual plan includes several of the initiatives noted. In the reliance on renewables, NAESB standards have been developed that support Conditional Firm Service. In congestion management, NAESB and NERC develop complementary business practices and reliability standards.</p>
<p>18</p> <p>As of December 2008, the Nation had 25,170 MW of wind generation based on nameplate capacity. According to the 2008 Long-Term Reliability Assessment by the North American Electric Reliability Corporation (NERC), an additional 145,000 MW of wind power projects are planned or proposed over the next ten years. Accordingly, it is evident that in a relatively short period of time, some parts of the bulk-power system may face the need to effectively integrate unprecedented amounts of variable generation resources. This is significant because operators of variable generation have less control over when the resource is available to produce electricity, in contrast with more conventional fossil and nuclear generation.</p>	
<p>19</p> <p>Large amounts of variable generation raise several important operational and planning issues, including: (1) resource adequacy (potential loss and unavailability of variable resources at peak periods and other critical times such as loss of other generators or transmission lines); (2) resource management (potential for over-generation by variable resources during off-peak periods when there is insufficient load to accommodate such generation); and (3) reduced system inertia (potential loss of system stability due to the high penetration of variable resources with low inertia properties). Given sufficient time and resources, a variety of solutions to these concerns may be feasible. For example, investment in large amounts of electricity storage could ultimately address both the resource adequacy and resource management concerns, although technical and economic issues remain to be addressed before such investment is likely to become significant. In the meantime, Smart Grid-enabled demand response capabilities could add important new tools to deal with both resource adequacy and resource management concerns. Demand response reductions in load can help address the resource adequacy concerns surrounding unexpected loss of variable generation, and EISA envisions, among other things, the development of large new pools of demand response resources.</p>	<p>22</p> <p>The interdependency of the NAESB standards has necessitated changes to clarify that demand resources are considered part of ancillary services and as such the standards applicable to ancillary services may be applicable to demand resources. As the profile of generation changes, the related business practices should be reviewed to determine if adjustments are needed to support large amounts of variable generation.</p>



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<p>20</p> <p>With respect to the resource management concerns surrounding potential over-generation, this situation tends to arise during off-peak periods when load is at its lowest and system operators have already turned off all traditional generation except their large conventional units that, for primarily operational reasons, must be operated in a nearly steady state around the clock. If large amounts of variable generation begin producing power during such periods, then the supply of electricity would exceed the demand for electricity and risk unbalancing the bulk-power system. In order to bring the system back into balance in a situation where easily dispatchable generation or demand resources are not available, system operators may have to require variable generation to reduce output. However, at such times this variable generation may be producing the lowest priced energy on the system, so reducing or eliminating its output would not be economically efficient. If a system existed whereby entities could receive a timely signal to temporarily shift their demand from peak to off-peak, and if such load shifts could be controlled by the system operator, then such “dispatchable” demand response could alleviate to some degree the resource management concerns associated with over-generation from the other side of the supply/demand equation. Again, the urgency to develop and implement those aspects of a smarter grid that can enable such demand response capability is clear.</p>	<p>23</p> <p>If reliability standards are modified to address potential over-generation, then the complementary NAESB business practices would require review to determine necessary changes. The NAESB organization has subcommittees in place to monitor for such changes and the joint development process in place with NERC provides for efficient means for developing the set of standards required.</p>
<p>21</p> <p>The future potential for a large and variable new class of electric load, specifically electricity-powered vehicles, also presents challenges that may deserve special attention and priority in the consensus-based interoperability process being coordinated by the Institute. In addition to the plans of major automobile manufacturers to roll out plug-in hybrid vehicles starting in 2010, it is possible that large numbers of pure electric vehicles, sometimes known as neighborhood electric vehicles, could be purchased as second cars for short-haul daily commuting or for other purposes. Judging by the observed intensity of electric utility and state government interest in this area, the potential for a significant shift in personal transportation technology to electric power in the near future cannot be discounted.</p>	<p>24</p> <p>Similar to other DSM projects that feed to the bulk power system, the load would be considered as ancillary services. Dynamic communications and more uniform communications may be required and would cause interaction between the retail and wholesale electric markets.</p>
<p>22</p> <p>The timing of vehicle charging activities is an illustration of the effect electric vehicles can have on the operation of the electric grid. If charging takes place during peak periods it could require a large investment in new generation, demand response resources and/or transmission capacity to meet the resulting higher peak loads. However, charging off-peak could actually improve the operation of the electric system, for example by improving existing generation asset utilization or by providing an electricity storage solution to address the potential for over-generation by variable resources in off-peak periods. Ultimately, large numbers of plug-in electric vehicles have the potential to provide some ancillary services like distributed energy storage or, when aggregated, regulation service. In all cases, however, the enhanced information processing and high-speed communications and control capabilities of the Smart Grid would be extremely helpful, perhaps necessary, in dealing with the challenges and opportunities associated with large numbers of new electric vehicles on the bulk-power system.</p>	



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23	<p>Additionally, these and other changing patterns of electricity generation and use are increasing the frequency with which congestion on transmission facilities becomes binding and raises costs for consumers. The Smart Grid concept includes the deployment of advanced sensors and controls throughout the electric system that should maximize the capability and use of existing and new transmission capacity.</p>	
24	<p>For all of the reasons discussed above, which may represent direct challenges to the reliable operation of the bulk-power system and wholesale power markets, the fact that many utilities are already beginning to deploy Smart Grid related systems, and the substantial funding for Smart Grid in the American Recovery and Reinvestment Act, the Commission herein proposes a targeted acceleration of certain aspects of the interoperability standards process as described further below.</p>	
<p>B. Development of Key Interoperability Standards</p>		
25	<p>As discussed above, several important trends indicate a strong national interest in expediting the development and deployment of the types of technologies and capabilities associated with a smarter grid. To achieve these types of capabilities, Smart Grid technologies must be interoperable. The Commission understands that a consensus-based interoperability standards development process typically requires time to reach consensus, but also recognizes that recent efforts by the Institute and several industry groups, including the OpenSG Subcommittee of the Utility Communication Architecture International User Group (OpenSG Subcommittee) and the GridWise Architecture Council, have developed concepts to prioritize the large set of potential standards, and have suggested principles for expediting development of a set of transmission and distribution systems standards that will facilitate many other important standards development activities. The Commission is committed to identifying these key transmission and distribution standards and working with the Institute to expedite their adoption. The Commission believes that focusing on the priorities identified below will help to remove uncertainty for developers of standards applicable to all levels of the grid.</p>	<p>25</p> <p>The NAESB process has been used to facilitate the development of hundreds of standards across wholesale and retail markets, the process works effectively with NERC's process to develop complementary business practices and reliability standards.</p>
26	<p>The Institute has issued for comment a "Smart Grid Issues Summary" that will act as an interim roadmap, starting with high priority standards that are largely based on existing broadly accepted standards. Leveraging existing standards to the greatest extent practical should shorten the time required to finalize needed interoperability standards.</p>	<p>26</p> <p>NAESB has more than 600 OASIS standards and more than 900 wholesale electric standards overall. The third version of standards has been published. NAESB has more than 200 retail standards and should in the second quarter 2009 publish the second version of retail standards. These standards have been accepted by the industry due to the broad and open participation and decision making afforded by the NAESB process.</p>



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27	The Commission proposes to prioritize the development of standards for two cross-cutting issues and four grid functionalities involving interfaces between utilities (e.g., regional transmission organizations (RTO) to utilities outside the RTO), utilities and customers, and utilities and other systems (e.g., energy management systems). These cross-cutting issues and key functionalities are proposed as the first level of work to be accomplished in the interoperability standards-setting process. Swift progress on adopting standards for these cross-cutting issues and key functionalities is necessary for the transmission operator/RTO to address the bulk-power system challenges identified above.	27 The NAESB structure and process has provided for the development of standards to address several cross cutting issues – such as demand response, eTariff, and gas-electric coordination. The process was designed to permit and encourage such types of development.
28	The two cross cutting issues are first, cybersecurity (and physical security to protect equipment that can give access to Smart Grid operations) and second, a common semantic framework and software models for enabling effective communication and coordination at the boundaries of utility systems where these interface with customer and other systems (and hence provide “inter-system” functionality). The four key grid functionalities are wide-area situational awareness, demand response, electric storage, and electric transportation.	28 Industry coordination is key and may require both wholesale and retail entities to jointly develop necessary inter-system standards.
System Security		
29	We propose two initial overarching principles regarding security that Smart Grid applications must address in order to comply with the need for full cybersecurity and with the Commission’s bulk-power system concerns, consistent with our authority under section 215 of the FPA. First, we believe that a responsible entity subject to Commission-approved reliability standards, such as the Critical Infrastructure Protection Reliability Standards, must ensure that it maintains compliance with those standards during and after the installation of Smart Grid technologies. Indeed, many Smart Grid installations will need to be included on a responsible entity’s list of critical assets to be protected under the Commission-approved NERC Critical Infrastructure Protection Reliability Standards.	29 See comments on PKI and the joint development process developed between NERC and NAESB.
30	Second, to the extent that they could affect the reliability of the bulk-power system, Smart Grid technologies must address, the following considerations: (1) the integrity of data communicated (whether the data is correct); (2) the authentication of the communications (whether the communication is between the intended Smart Grid device and an authorized device or person); (3) the prevention of unauthorized modifications to Smart Grid devices and the logging of all modifications made; (4) the physical protection of Smart Grid devices; and (5) the potential impact of unauthorized use of these Smart Grid devices on the bulk-power system	



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<p>31</p> <p>To the extent that any of the new Smart Grid standards or extensions to relevant existing standards require adaptation or extension in order to address these security-related concerns, such considerations should be given the highest priority. The Institute has suggested that beyond the NERC Critical Infrastructure Protection Reliability Standards, additional security standards to be investigated include ISA99/IEC 62443, NIST Special Publication (SP) 800-53, and the work of AMI-SEC. The Institute also suggests examining harmonization of several of these standards in order to provide additional protection to the bulk-power system. Commission staff will monitor Institute activities with respect to Smart Grid cybersecurity and physical security in order to fully coordinate the Commission's regulatory objectives and responsibilities in this arena. The Commission seeks comments on this proposed approach to maintaining bulk-power system reliability and security as smart grid technologies are deployed and integrated</p>	<p></p>
Communication	
<p>32</p> <p>The second cross-cutting issue is the need for a common semantic framework (i.e., agreement as to meaning) and software models for enabling effective communication and coordination across inter-system interfaces. An interface is a point where two systems need to exchange data with each other; effective communication and coordination occurs when each of the systems understands and can respond to the data provided by the other system, even if the internal workings of each system are quite different. A core group of standards initiated by the Electric Power Research Institute provide the basis for addressing this issue - these standards are IEC 61970 and IEC 61968 (together often referred to as the "Common Information Model" standards) and IEC 61850. These standards have been cited by both the Utility Perspective Paper, as well as the Institute's recent Smart Grid Issues Summary. This group of standards was designed to allow different systems to talk to one another as well as to provide software development tools for more efficient system integration. This suite of standards is already in use by a number of utilities for enterprise system integration (enabling integration across "intra-system" interfaces). Indeed, while additional work on these standards will also help intra-system communication and coordination, we agree with the OpensG Subcommittee and the Institute that inter-system interfaces should be a priority.</p>	<p style="text-align: center;">30</p> <p>NAESB is in a unique position, with a structure that can accommodate all industry participants in an established process for reaching consensus across multiple market interests.</p>



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<p>33 The Commission is not mandating that these particular standards be further developed. Rather, we identify them here to establish priorities for further development by the Institute and industry. The group of standards initiated by the Electric Power Research Institute serves as a foundation for developing a complete set of communications standards. These standards require some level of harmonization with one another and other standards, and extensions to these standards will be required for additional interoperability and functionality. Efforts to coordinate and/or harmonize these standards with others intended to promote interoperability should be encouraged. For example, ongoing efforts to coordinate IEC 61968 with “MultiSpeak” developed by the National Rural Electrical Cooperative Association should be continued. But these standards represent the best work to date and will be an essential building block in realizing the most significant early benefits for the bulk-power system. These standards are also key to the attainment of renewable power and climate policy goals and can help enable customers to manage their energy usage and cost. The Commission seeks comments on this proposed approach.</p>	<p>31 See comment 30, 20 and 16.</p>
Four Priority Functionalities	
<p>34 In addition to the cross-cutting issues discussed above, the Commission seeks comments on the four Smart Grid functionalities that the Commission’s preliminary analysis indicates will be most helpful in addressing the bulk-power system challenges and should be given priority in the standards development process.</p>	
Wide-area situational awareness	
<p>35 Wide-area situational awareness is the visual display of interconnection-wide system conditions in near real time at the reliability coordinator level and above. The wide-area situational awareness efforts, with appropriate cybersecurity protections, can rely on the NASPInet work undertaken by the North American SynchroPhasor Initiative (NASPI) and will require substantial communications and coordination across the RTO and utility interfaces. We encourage the RTOs to take a leadership role in coordinating the NASPI work with the member transmission operators.</p>	<p>32 Methods to make curtailment information more transparent and increase data sharing may impact NAESB business practices in place today.</p>
<p>36 Regarding the potential Smart Grid role in addressing transmission congestion and optimization of the system, increased deployment of advanced sensors like Phasor Measurement Units will give bulk-power system operators access to large volumes of high-quality information about the actual state of the electric system that should enable a more efficient use of the electric grid, for example through a switch from static to dynamic line ratings. However, such large volumes of data present challenges in the form of information processing and management. Advanced software and systems will be needed to manage, process, and render this data into a form suitable for human operators and automated control systems. The Institute’s process should strive to identify the core requirements for such software and systems that would be most useful to system operators in addressing transmission congestion and reliability.</p>	<p>33 As reliability standards related to congestion management are modified the corresponding complementary business practices should be reviewed to ensure consistency.</p>



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Demand Response	
<p>37 Smart Grid-enabled demand response is a priority because of its potential to help address several of the bulk-power system challenges identified above. Further development of key standards would enhance interoperability and communications between system operators, demand response resources, and the systems that support them. In order to achieve an appropriate level of standardizations, a series of demand response "use cases" should be developed using readily available tools. In this regard, we encourage a particular focus on use cases for the key demand response activities discussed earlier: dispatchable demand response load reductions to address loss or unavailability of variable resources and the potential for dispatchable demand response to increase power consumption during over-generation situations.</p>	<p>34 As demand response products and services from the retail market feed into the products and services administered by the ISOs and RTOs at the wholesale level, the business practices existing for the products and service should be reviewed and modified accordingly.</p>
<p>38 It also appears that achieving such demand response capabilities will require additional standardization of the interfaces between systems on the customer premises and utility systems, including addressing data confidentiality issues. The Institute notes that considerable work has been done to develop demand response standards. One standard, Open Automated Demand Response (OpenADR) (developed for the interface between the utility and large commercial customers) has already been referred to the Organization for the Advancement of Structured Information Systems (OASIS). OpenADR has been developed by the Lawrence Berkeley National Laboratory, and is now going through a formal standards development process being coordinated between OASIS and the Utility Communication Architecture International User Group. Accordingly, we would encourage a focus in this area as well.</p>	<p>35 NAESB subcommittees have drafted a confidentiality agreement/ non-disclosure statement for data in the Registry that should be completed shortly.</p>
<p>39 Specifications for customer meters are within the jurisdiction of the States, but it is clear that communication and coordination across the interfaces between the utility and its customers can have a significant impact on the bulk-power system, particularly as new renewable power and climate policy initiatives introduce the need for more flexibility in the electricity grid, which creates the need for increased reliance on demand response and electricity storage. A large portion of electricity storage may ultimately be located on customer premises. As noted in the Institute's Smart Grid Issues Summary, an appropriate starting point for further standards development would be the harmonization of IEC Standard 61850 and several meter standards, namely ANSI C12.19 and C12.22, and we encourage the Institute and industry to work together on this suggestion. The Commission seeks comment from States and other parties on the optimal approach to develop standards in this area, and we will pursue direct communications with the States on this topic through the NARUC-FERC Smart Grid Collaborative and other NARUC Committees.</p>	<p>36 An unfortunate coincidence, the OASIS suite of standards developed by NAESB to support FERC policies (Open Access Same Time Information System) is totally separate from and has no connection whatsoever to the Organization for the Advancement of Structured Information Systems. In the comments noted throughout this document, OASIS will refer only to the standards developed by NAESB to support market based electronic transactions (WEQ001, WEQ002, WEQ003, WEQ013)</p> <p>37 NAESB is in the process of defining retail demand response business practices that may address programs using automated metering. NAESB has filed the first set of wholesale demand response standards for measurement and verification. Both the wholesale and the retail standards development has been coordinated and has also been coordinated with NERC.</p>



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<p>Electric Storage</p> <p>40 The third key grid functionality is electric storage. If electricity storage technologies could be more widely deployed, they would present another important means of addressing some of the difficult issues facing the electric industry. To date, the only significant bulk electricity storage technology has been pumped storage hydroelectric technology. However, we are aware that new types of storage technologies are under development and in some cases are being deployed, and could also potentially provide substantial value to the electric grid. While further research and development appears necessary before any widespread deployment of such newer technologies can take place, it may nevertheless be appropriate to encourage the identification and standardization of all possible electricity storage use cases at an early stage. There are existing standards that can be the starting point for interoperability standards development for DER. IEC 61850 addresses communications for DER, and IEEE 1547 has been designated as a federal standard for interconnection.</p>	<p>38 Should the need arise, the applicable NAESB standards should be reviewed for consistency.</p>
<p>Electric transportation</p> <p>41 The fourth key grid functionality is electric transportation. As indicated above, to the extent that new electric transportation options become widely adopted in the near future, maintaining the reliable operation of the bulk-power system will require some level of control over when and how electric cars draw electricity off of the system. At the most basic level, this could be accomplished by providing an ability for distribution utilities to facilitate vehicle charging during off-peak periods so that this new electric load would not increase peak loads and require the development of new peak generation, demand response and/or more transmission to urban load centers that are being targeted for these vehicles. A more advanced implementation could offer vehicle owners the option to voluntarily limit their charging to times when variable renewable generation is producing power or to permit utilities the limited use of the aggregated capabilities of these vehicles for various grid-related purposes such as bulk power storage or ancillary services.</p>	<p>39 NAESB business practices do exist to address ancillary services. Should the need arise, these standards should be reviewed to ensure they support changing market needs.</p> <p>40 This grid functionality may require the input and coordination across multiple segments of the market including end users, vendors, consumer advocates and others, all of which have decision making roles within NAESB.</p>



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<p>42</p> <p>Ultimately we would hope for a smarter grid to accommodate a wide array of advanced options for electric vehicle interaction with the grid, including full vehicle-to-grid capabilities. However, assuming full vehicle-to-grid capabilities cannot be achieved immediately, we would encourage the Institute's process to focus on the development of appropriate standards, or extensions to relevant existing standards, to provide at least the minimum communications and interoperability requirements that are necessary to permit some ability for distribution utilities to facilitate vehicle charging during off-peak load periods. The Institute's Smart Grid Issues Summary notes that the Society of Automotive Engineers (SAE) has developed two draft standards, SAE J2836 and SAE J2847, which address communications and price signals/demand response respectively. These standards are on the SAE 2009 Ballot. Looking forward to the potential provision of ancillary services to the grid by electric vehicles, electrical interconnection issues must be dealt with along with potential expansion of communications ability. To this end, we urge the SAE and the automobile industry to plan data communications systems between electric vehicles and the grid that are able to be upgraded. We also urge the Institute to include electric vehicles in its DER standards development.</p>	<p>41</p> <p>Broad transformational market changes would require an appropriate level of review of the existing base of standards to ensure that the standard continue to meet market needs at both a wholesale and retail level.</p>
<p>43</p> <p>Several of the preceding paragraphs discuss the development of use cases or other standards that appear similar to business practice standards development in order to help shape and identify the functional needs that the Institute's technical interoperability standards development process will address. Since the North American Energy Standards Board (NAESB) has a great deal of experience in helping the electric and natural gas industries successfully negotiate business practice standards, it may be helpful to the Institute to engage NAESB resources in the development of these use cases and other business practice-like standards. We seek comment as to whether the Institute would be helped by the incorporation of resources from other organizations such as NAESB into the development of these various business practice-like standards.</p>	<p>42</p> <p>When NAESB was considering development of OASIS 2 (see comments 16 and 20), use cases were developed and the structure is in place should NAESB need to do so again. NAESB forwarded a letter to Chairman Wellenghoff regarding this paragraph.</p>
<p>44</p> <p>The Commission seeks comment on whether the priorities and reliability principles articulated above are appropriate, and whether there are other priorities or reliability principles that should be included in order to address potential challenges to the operation of the bulk-power system.</p>	<p>43</p> <p>The infrastructure should be in place early in the process to ensure efficient and effective standards development and to avoid costly industry retro-fitting</p>



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C. Interim Rate Policy: Guidance for Smart Grid-Related Filings by Jurisdictional Entities	
45	<p>Given the trends discussed above, Smart Grid policies should encourage utilities to deploy systems in the near term that advance efficiency, security, and interoperability in order to address potential challenges to the bulk-power system. A key consideration for utilities when determining whether to adopt such systems will be whether they are able to recover the costs of these deployments in regulated rates. Another key consideration may involve the potential for stranded costs associated with legacy systems that are replaced by Smart Grid equipment. Additionally, as the electric system may require several of the new capabilities of the Smart Grid before interoperability standards have been developed, we recognize the need for guidance for jurisdictional entities. Thus, to offer some rate certainty and guidance regarding cost recovery issues, the Commission is proposing a rate policy for the interim period until final interoperability standards are adopted.</p> <p>FPA section 205 requires that all rates for the transmission or sale of electric energy subject to the Commission's jurisdiction be just and reasonable. In evaluating expenses for which cost recovery is appropriate, one of the criteria the Commission relies on is whether the facilities are "used and useful." Once interoperability standards are completed, the Commission will consider making compliance with those standards a mandatory condition for rate recovery of jurisdictional Smart Grid investments. For now, we propose as an interim rate policy to accept rate filings, including single issue rate filings, submitted under FPA section 205 by public utilities to recover the costs of Smart Grid deployments involving jurisdictional facilities provided that certain showings are made. In other words, we propose to consider Smart Grid devices and equipment, including those used in a Smart Grid pilot program or demonstration project, to be used and useful for purposes of cost recovery if an applicant makes the following showings.</p>
46	<p>We propose that an applicant must show that the reliability and security of the bulk-power system will not be adversely affected by the deployment at issue. Second, the filing must show that the applicant has minimized the possibility of stranded investment in Smart Grid equipment by designing for the ability to be upgraded, in light of the fact that such filings will predate adoption of interoperability standards. Finally because it will be important for early Smart Grid deployments, particularly pilot and demonstration projects, to provide feedback useful to the interoperability standards development process, we propose to direct the applicant to share information with the Department of Energy Smart Grid Clearinghouse, provided for in the ARRA.</p>
47	<p>Interim rate policy is not the subject of NAESB standards.</p>



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NOI TEXT	COMMENTS/DISCUSSION
<p>48</p> <p>In order to satisfy our first concern about reliability and security, we propose that applicants will be required to address the security concerns discussed in the previous section on the development of key standards. Accordingly, an applicant must show how its proposed deployment of smart grid equipment will maintain compliance with Commission-approved reliability standards, such as the Critical Infrastructure Protection Reliability Standards, during and after the installation and activation of Smart Grid technologies so the reliability and security of the bulk-power system will not be jeopardized. An applicant must also address: (1) the integrity of data communicated (whether the data is correct); (2) the authentication of the communications (whether the communication is between the intended Smart Grid device and an authorized device or person); (3) the prevention of unauthorized modifications to Smart Grid devices and the logging of all modifications made; (4) the physical protection of Smart Grid devices; and (5) the potential impact of unauthorized use of these Smart Grid devices on the bulk-power system. 49.Regarding the second c Gridwise Architecture Council Decision-Maker's Interoperability Checklist. In practice, we will place the most weight on an applicant's adherence to the following principles: (1) reliance to the greatest extent practical on existing, widely adopted and open interoperability standards; and (2) where feasible, reliance on systems and firmware that can be securely upgraded readily and quickly. Adherence to these two key principles should minimize the possibility of stranded smart grid investment by making it less likely that equipment replacement will be required once final standards are approved.</p>	
<p>50</p> <p>Regarding the information sharing concern, the following information should be shared with the Department of Energy Smart Grid Clearinghouse: (1) any internal or third party evaluations, ratings, and/or reviews including all primary source material used in the evaluation; (2) detailed data and documentation explaining any improvement in the accurate measurement of demand response resources; (3) detailed data and documentation explaining the expansion of the quantity of demand response resources that resulted from the project and the resulting economic effects; (4) detailed data and documentation for any improvements in the ability to integrate variable renewable generation resources; (5) detailed data and documentation that shows any achievement of greater system efficiency through a reduction of transmission congestion and loop flow; (6) detailed data and documentation showing how the information infrastructure supports DER such as plug-in electric vehicles; and (7) detailed data and documentation that shows how the project resulted in enhanced utilization of energy storage. To the extent that the Department of Energy specifies additional criteria for making grants under the ARRA for Smart Grid demonstration and pilot projects, the Applicant should agree to share information relevant to those criteria as well.</p>	



NAESB REVIEW OF PROPOSED POLICY STATEMENT AND ACTION PLAN FOR SMART GRID POLICY, DOCKET NO. PL09-4-000, ISSUED MARCH 19, 2009		
¶	NOI TEXT	COMMENTS/DISCUSSION
51	<p>Finally, consistent with the policy of supporting the modernization of the Nation's electric system announced in EISA section 1301, the Commission also proposes to permit applicants to file for recovery of the otherwise stranded costs of legacy systems that are to be replaced by smart grid equipment. However, an appropriate plan for the staged deployment of smart grid equipment, which could include appropriate upgrades to legacy systems where technically feasible and cost-effective, could help minimize the stranding of unamortized costs of legacy systems. Accordingly, we propose that any filing for the recovery of stranded legacy system costs must demonstrate that such a migration plan has been developed.</p>	
52	<p>The Commission will also entertain requests for rate treatments such as accelerated depreciation and abandonment authority (whereby an applicant is assured of recovery of abandoned plant costs if the project is abandoned for reasons outside the control of the public utility) specifically tied to Smart Grid deployments under our FPA section 205 authority. Any requests for such rate treatments for Smart Grid deployments will need to address all of the concerns discussed above for rate recovery and make the same showings described in that section. We would also consider applying these rate treatments to the portion of a smart grid pilot or demonstration project's cost that is not already paid for by Department of Energy funds, such as those authorized by EISA sections 1304 and 1306. To the extent that such showings are made, we propose to consider permitting abandonment authority to apply to any Smart Grid investments that, despite reasonable efforts, could not be made upgradeable and must ultimately be replaced if found to conflict with the final standards to be approved under the Institute's standards development process</p>	
53	<p>The Commission invites comments on all aspects of this proposed interim rate policy.</p>	
<p>III. Comment Procedures</p>		
54	<p>The Commission invites comments on this proposed policy statement [Insert Date 45 days after publication in the FEDERAL REGISTER].</p>	<p>FERC comment procedures are not the subject of NAESB standards.</p>
<p>IV. Document Availability</p>		
55	<p>In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the Internet through FERC's Home Page (http://www.ferc.gov) and in FERC's Public Reference Room during normal business hours (8:30 a.m. to 5:00 p.m. Eastern time) at 888 First Street, N.E., Room 2A, Washington D.C. 20426.</p>	<p>FERC document availability is not the subject of NAESB standards.</p>
56	<p>From FERC's Home Page on the Internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number excluding the last three digits of this document in the docket number field.</p>	



	NOI TEXT	COMMENTS/DISCUSSION
57	<p>User assistance is available for eLibrary and the FERC's website during normal business hours from FERC Online Support at 202-502-6652 (toll free at 1-866-208-3676) or email at ferconlinesupport@ferc.gov, or the Public Reference Room at (202) 502-8371, TTY (202)502-8659. E-mail the Public Reference Room at public.reference.room@ferc.gov.</p> <p>Appendix A. System of systems</p>	<p>System of Systems</p> <p>The diagram illustrates the 'System of Systems' architecture. At the top is the 'RTO/ISO' block. Below it are two main 'Utility System' components: a large central box and a smaller 'DR Aggregator' box. The large 'Utility System' box is divided into four sub-sections: 'GMS' (left), 'EMS' (top), 'DMS & OMS' (middle), and 'CIS' (bottom). A 'Smart Meter' is shown connected to the 'CIS' section. Below the 'Utility System' are '3rd Party Svcs' and 'Customer' blocks. Bidirectional blue arrows indicate 'Inter-system Interfaces' between RTO/ISO and the Utility System, between the Utility System and 3rd Party Svcs, and between the Utility System and Customer. Bidirectional red arrows indicate 'Intra-system Interfaces' within the Utility System, specifically between DMS & OMS and CIS, and between CIS and Smart Meter.</p>
<p>Source: Smart Grid Standards Adoption: Utility Industry Perspective, OpenSG Subcommittee of the Utility Communication Architecture International User Group, and Smart Grid Executive Working Group.</p>		



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Below is a review/guide of the NIST Recognized Standards for Inclusion in the Smart Grid Interoperability Standards Framework, Release 1.0. Please note that the descriptions of the standards included in the table were taken directly from the websites of the organizations providing the standards and are in no way summations or representations of NAESB. Also, please note that the costs that are associated with each standard are estimated and, when possible, were based upon the cost of purchasing only the standard (not including supplemental materials such as glossaries or user guides). The costs provided are based upon the information contained in the corresponding links. We are in the process of identifying current implementations of these standards and how they may impact existing work products or planned efforts at NAESB.

REVIEW OF NIST STANDARDS IDENTIFIED FOR PROPOSED INCLUSION IN THE SMART GRID INTEROPERABILITY STANDARDS FRAMEWORK, RELEASE 1.0¹			
STANDARD	ORGANIZATION	APPLICATION / DESCRIPTION	COST / HYPERLINK
AMI-SEC System Security Requirements	Open SG Users Group	<p><u>Application:</u> Advanced metering infrastructure (AMI) and Smart Grid end-to-end security requirements for Advanced Metering Infrastructure (AMI). These requirements are intended to be used in the procurement process, and represent a superset of requirements gathered from current cross-industry accepted security standards and best practice guidance documents.</p> <p>This document provides substantial supporting information for the use of these requirements including scope, context, constraints, objectives, user characteristics, assumptions, and dependencies. This document also introduces the concept of requirements for security states and modes, with requirements delineated for security states.</p> <p>These requirements are categorized into three areas: 1) Primary Security Services, 2) Supporting Security Services and 3) Assurance Services. The requirements will change over time corresponding with current security threats and countermeasures they represent. The AMI-SEC Task Force presents the current set as a benchmark, and the authors expect utilities and vendors to tailor the set to individual environments and deployments.</p> <p>While these requirements are capable of standing on their own, this document is intended to be used in conjunction with other 2008 deliverables from the AMI-SEC Task Force, specifically the Risk Assessment, the Architectural Description, the Component Catalog (in development as of this writing), and the Implementation Guide (to be developed late 2008). This document also discusses the overall process for usage of this suite.</p>	<p>Cost: Available at no cost on the Open SG web site</p> <p>Link: http://osgg.ncaatug.org/utilisec/amisec/Shared%20Documents/1%20System%20Security%20Requirements/AMI%20System%20Security%20Requirements%20-%20v1_01%20-%20Final.doc</p>
ANSI C12.19 – 2008	American National Standards Institute (formal standards body)	<p><u>Application:</u> Revenue metering information model</p> <p><u>Description:</u> This Standard defines a Table structure for utility application data to be passed between an End Device and any other device</p>	<p>Cost: \$228</p> <p>Link: http://webstore.ansi.org/RecordDetail.aspx?sku=ANSI-C12.19-2008</p>

¹ The proposal is currently out for comment, with industry comments due July 9, with the cite to the Federal Register found at <http://edocket.access.gpo.gov/2009/E9-13514.htm>. The list of proposed standards can be found on the NIST web site at <http://www.nist.gov/smartgrid/standards.html>. The NIST plan for smart grid interoperability can be found at http://www.nist.gov/public_affairs/smartgrid_041309.html.



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STANDARD	ORGANIZATION	APPLICATION / DESCRIPTION	COST / HYPERLINK
BACnet ANSI ASHRAE 135-2008	American Society of Heating, Refrigerating and Air-Conditioning Engineers (formal standards body)	<p><u>Application:</u> Building automation</p> <p><u>Description:</u> The purpose of this standard is to define data communication services and protocols for computer equipment used for monitoring and control of HVAC&R and other building systems and to define, in addition, an abstract, object-oriented representation of information communicated between such equipment, thereby facilitating the application and use of digital control technology in buildings.</p>	<p><u>Cost:</u> \$119</p> <p><u>Link:</u> http://resourcecenter.ashrae.org/store/ashrae/newstore.cgi?itemid=30853&view=item&page=1&loginid=39839941&priority=1one&words=135-2008&method=and&</p>
DNP3	Distributed Network Protocol	<p><u>Application:</u> Substation and feeder device automation</p> <p><u>Description:</u> The development of DNP3 was a comprehensive effort to achieve open, standards-based Interoperability between substation computers, RTUs, IEDs (Intelligent Electronic Devices) and master stations (except inter-master station communications) for the electric utility industry. Also important was the time frame; the need for a solution to meet today's requirements. As ambitious an undertaking as this was, we reached this objective. And since the inception of DNP, the protocol has also become widely utilized in adjacent industries such as water / waste water, transportation and the oil and gas industry.</p> <p>DNP3 is based on the standards of the International Electrotechnical Commission (IEC) Technical Committee 57, Working Group 03 who have been working on an OSI 3 layer "Enhanced Performance Architecture" (EPA) protocol standard for telecontrol applications. DNP3 has been designed to be as close to compliant as possible to the standards as they existed at time of development with the addition of functionality not identified in Europe but needed for current and future North American applications (e.g. limited transport layer functions to support 2K block transfers for IEDs, RF and fiber support). DNP3 has been selected as a Recommended Practice by the IEEE C.2 Task Force; RTU to IED Communications Protocol.</p> <p>DNP3 was developed by Harris, Distributed Automation Products. In November 1993, responsibility for defining further DNP3 specifications and ownership of the DNP3 specifications was turned over to the DNP3 Users Group, a group composed of utilities and vendors who are utilizing the protocol.</p> <p>DNP3 is an open and public protocol. In order to ensure interoperability, longevity and upgradeability of, protocol the DNP3 Users Group has taken ownership of the protocol and assumes responsibility for its evolution. The DNP3 Users Group Technical Committee evaluates suggested modifications or additions to the protocol and then amends the protocol description as directed by the Users Group members.</p> <p>Complete documentation of the protocol is available to the public. The four core documents that define DNP3 are: Data Link Layer Protocol Description, Transport Functions, Application Layer</p>	<p><u>Cost:</u> \$300 Membership</p> <p><u>Link:</u> http://www.dnp.org/About/Default.aspx</p>



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REVIEW OF NIST STANDARDS IDENTIFIED FOR PROPOSED INCLUSION IN THE SMART GRID INTEROPERABILITY STANDARDS FRAMEWORK, RELEASE 1.0¹

STANDARD	ORGANIZATION	APPLICATION / DESCRIPTION	COST / HYPERLINK
IEC 60870-6 / TASE.2	International Electrotechnical Commission (formal standards body)	<p>Protocol Description and Data Object Library (referred to as the "Basic 4 Document"). The Users Group also has available to members the document "DNP3 Subset Definitions" which will help implementers to identify protocol elements that should be implemented.</p> <p><u>Application:</u> Inter-control center communications (ICCP) <u>Description:</u> Specifies a method of exchanging time-critical control centre data through wide-area and local-area networks using a full ISO compliant protocol stack. Both centralized and distributed architectures are supported. Includes the exchange of real-time data indications, control operations, time-series data, scheduling and accounting information, remote program control and event notification.</p>	<p><u>Cost:</u> \$327 <u>Link:</u> http://webstore.iec.ch/webstore/webstore.nsf/artnum/034806</p>
IEC 61850	International Electrotechnical Commission (formal standards body)	<p><u>Application:</u> Substation automation and protection <u>Description:</u> Communication networks and systems in substations is a technical report applicable to substation automation systems. Defines the communication between intelligent electronic devices in the substation and the related system requirements.</p>	<p><u>Cost:</u> \$3290 (all parts) <u>Link:</u> http://webstore.iec.ch/webstore/webstore.nsf/artnum/033549lop <u>endocument</u></p>
IEC 61968	International Electrotechnical Commission (formal standards body)	<p><u>Application:</u> Application level energy management system interfaces <u>Description:</u> Application integration at electric utilities – System interfaces for distribution management is a series of standards that define interfaces for the major elements of an interface architecture for Distribution Management Systems. Identifies and establishes requirements for standard interfaces based on an Interface Reference Model. This set of standards is limited to the definition of interfaces and is implementation independent; it provides for interoperability among different computer systems, platforms, and languages.</p>	<p><u>Cost:</u> \$250 <u>Link:</u> http://webstore.iec.ch/webstore/webstore.nsf/artnum/031109lop <u>endocument</u></p>
IEC 61970	International Electrotechnical Commission (formal standards body)	<p><u>Application:</u> Application level energy management system interfaces <u>Description:</u> Energy management system application program interface is a set of guidelines and general infrastructure capabilities required for the application of the EMS-API interface standards. Describes typical integration scenarios where these standards are to be applied and the types of applications to be integrated. Defines a reference model and provides a framework for the application of the other parts of these EMS-API standards.</p>	<p><u>Cost:</u> \$190 <u>Link:</u> http://webstore.iec.ch/webstore/webstore.nsf/artnum/035316lop <u>endocument</u></p>
IEC 62351 Parts 1-8	International Electrotechnical Commission (formal standards body)	<p><u>Application:</u> Information security for power system control operations <u>Description:</u> The scope of the IEC 62351 series is information security for power system control operations. Its primary objective is to undertake the development of standards for security of the communication protocols defined by IEC TC 57, specifically the IEC 60870-5 series, the IEC 60870-6 series, the IEC 61850 series, the IEC 61970 series, and the IEC 61968 series.</p>	<p><u>Cost:</u> Vary per part from \$55 to \$220 <u>Link:</u> (to section 1) http://webstore.iec.ch/webstore/webstore.nsf/artnum/037996lop <u>endocument</u></p>



REVIEW OF NIST STANDARDS IDENTIFIED FOR PROPOSED INCLUSION IN THE SMART GRID INTEROPERABILITY STANDARDS FRAMEWORK, RELEASE 1.0 ¹			
STANDARD	ORGANIZATION	APPLICATION / DESCRIPTION	COST / HYPERLINK
IEEE C37.118	IEEE (formal standards body)	<p><u>Application:</u> Phasor measurement unit (PMU) communications</p> <p><u>Description:</u> This standard defines synchronized phasor measurements used in power system applications. It provides a method to quantify the measurement, tests to be sure the measurement conforms to the definition, and error limits for the test. It also defines a data communication protocol including message formats for communicating this data in a real-time system. Explanation, examples, and supporting information are also provided.</p>	<p><u>Cost:</u> \$77</p> <p><u>Link:</u> https://sbwswsweb.ieee.org/ecusto_mereme_enu/start.swe?SWECm d=GotoView&SWEView=Catalog+View+(eSales)-Standards_I_EEE&mem_type=Customer&S WEHo=sbwswsweb.ieee.org&SW ETS=1192713657</p>
IEEE 1547	IEEE (formal standards body)	<p><u>Application:</u> Physical and electrical interconnections between utility and distributed generation (DG)</p> <p><u>Description:</u> This standard is the first in the 1547 series of interconnection standards and is a benchmark milestone demonstrating the open consensus process for standards development. Traditionally, utility electric power systems (EPS--grid or utility grid) were not designed to accommodate active generation and storage at the distribution level. As a result, there are major issues and obstacles to an orderly transition to using and integrating distributed power resources with the grid. The lack of uniform national interconnection standards and tests for interconnection operation and certification, as well as the lack of uniform national building, electrical, and safety codes, are understood. IEEE Std 1547 and its development demonstrate a model for ongoing success in establishing additional interconnection agreements, rules, and standards, on a national, regional, and state level. IEEE Std 1547 has the potential to be used in federal legislation and rule making and state public utilities commission (PUC) deliberations, and by over 3000 utilities in formulating technical requirements for interconnection agreements for distributed generators powering the electric grid. This standard focuses on the technical specifications for, and testing of, the interconnection itself. It provides requirements relevant to the performance, operation, testing, safety considerations, and maintenance of the interconnection. It includes general requirements, response to abnormal conditions, power quality, islanding, and test specifications and requirements for design, production, installation evaluation, commissioning, and periodic tests. The stated requirements are universally needed for interconnection of distributed resources (DR), including synchronous machines, induction machines, or power inverters/converters and will be sufficient for most installations. The criteria and requirements are applicable to all DR technologies.</p>	<p><u>Cost:</u> \$77</p> <p><u>Link:</u> https://sbwswsweb.ieee.org/ecusto_mereme_enu/start.swe?SWECm d=GotoView&SWEView=Catalog+View+(eSales)-Standards_I_EEE&mem_type=Customer&S WEHo=sbwswsweb.ieee.org&SW ETS=1192713657</p>
IEEE 1686-2007	IEEE (formal standards body)	<p><u>Application:</u> Security for intelligent electronic devices (IED)</p> <p><u>Description:</u> The functions and features to be provided in substation intelligent electronic devices (IEDs) to accommodate critical infrastructure protection programs are defined in this standard. Security regarding the access, operation, configuration, firmware revision, and data retrieval from</p>	<p><u>Cost:</u> \$77</p> <p><u>Link:</u> https://sbwswsweb.ieee.org/ecusto_mereme_enu/start.swe?SWECm</p>



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STANDARD	ORGANIZATION	APPLICATION / DESCRIPTION	COST / HYPERLINK
NERC CIP 002-009	North American Electric Reliability Corporation (formal standards body)	<p>Application: Cyber security standards for the bulk power system</p> <p>Description: NERC Standards CIP-002 through CIP-009 provides a cyber security framework for the identification and protection of Critical Cyber Assets to support reliable operation of the Bulk Electric System.</p> <p>These standards recognize the differing roles of each entity in the operation of the Bulk Electric System, the criticality and vulnerability of the assets needed to manage Bulk Electric System reliability, and the risks to which they are exposed. Responsible Entities should interpret and apply Standards CIP-002 through CIP-009 using reasonable business judgment.</p> <p>Business and operational demands for managing and maintaining a reliable Bulk Electric System increasingly rely on Cyber Assets supporting critical reliability functions and processes to communicate with each other, across functions and organizations, for services and data. This results in increased risks to these Cyber Assets.</p>	<p>Cost: Available at no cost on the NERC website.</p> <p>Link: http://www.nerc.com/page.php?cid=2120</p>
NIST SP 800-53	National Institute of Standards and Technology	<p>Application: Cyber security standards and guidelines for federal information systems, including those for the bulk power system</p> <p>Description: The purpose of this publication is to provide guidelines for selecting and specifying security controls for information systems supporting the executive agencies of the federal government. The guidelines apply to all components of an information system that process, store, or transmit federal information.</p>	<p>Cost: Available at no cost on the NIST website.</p> <p>Link: http://esrc.nist.gov/publications/nistpubs/800-53-Rev1/800-53-rev1-final-clean-sz.pdf</p>
NIST SP 800-82	National Institute of Standards and Technology	<p>Application: Cyber security standards and guidelines for federal information systems, including those for the bulk power system</p> <p>Description: The purpose of this document is to provide guidance for securing industrial control systems (ICS), including supervisory control and data acquisition (SCADA) systems, distributed control systems (DCS), and other systems performing control functions. The document provides an overview of ICS and typical system topologies, identifies typical threats and vulnerabilities to these systems, and provides recommended security countermeasures to mitigate the associated risks. Because there are many different types of ICS with varying levels of potential risk and impact, the document provides a list of many different methods and techniques for securing ICS. The document should not be used purely as a checklist to secure a specific system. Readers are encouraged to perform a risk-based assessment on their systems and to tailor the recommended guidelines and solutions to meet their specific security, business and operational requirements.</p>	<p>Cost: Available at no cost on the NIST website.</p> <p>Link: http://esrc.nist.gov/publications/drafts/800-82/draft_sp800-82-fpd.pdf</p>



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REVIEW OF NIST STANDARDS IDENTIFIED FOR PROPOSED INCLUSION IN THE SMART GRID INTEROPERABILITY STANDARDS FRAMEWORK, RELEASE 1.0¹

STANDARD	ORGANIZATION	APPLICATION / DESCRIPTION	COST / HYPERLINK
Open Automated Demand Response (Open ADR)	Lawrence Berkeley National Laboratory / Organization for the Advancement of Structured Information Standards (OASIS) / UCA International Users Group (UCAIug)	<p>The scope of this document includes ICS that are typically used in the electric, water and wastewater, oil and natural gas, chemical, pharmaceutical, pulp and paper, food and beverage, and discrete manufacturing (automotive, aerospace, and durable goods) industries.</p> <p><u>Application:</u> Price responsive and direct load control</p> <p><u>Description:</u> The Open Automated Demand Response Communications Specification defines the interface to the functions and features of a Demand Response Automation Server (DRAS) that is used to facilitate the automation of customer response to various Demand Response programs and dynamic pricing through a communicating client. This specification, referred to as OpenADR, also addresses how third parties such as utilities, ISOs, energy and facility managers, aggregators, and hardware and software manufacturers will interface to and utilize the functions of the DRAS in order to automate various aspects of demand response (DR) programs and dynamic pricing.</p>	<p><u>Cost:</u> Available at no cost on the Lawrence Berkeley Laboratory / Open ADR website.</p> <p><u>Link:</u> http://openadr.lbl.gov/pdf/cec-500-2009-063.pdf</p>
OpenHAN	Open SG Users Group	<p><u>Application:</u> Home Area Network device communication, measurement, and control</p> <p><u>Description:</u> The utility members of the UtilityAMI OpenHAN Task Force jointly drafted this system requirements specification. It represents the collaboration of more than nine investor-owned North American utilities serving more than 28 million electric and gas customers in 17 states and provinces.</p> <p>Although this document is a system requirements specification, it follows the IEEE 830-1998 Recommended Practice for Software Requirements Specification given the focus on Home Area Network (HAN) applications for utilities and consumers.</p>	<p><u>Cost:</u> Available at no cost on the Open SG web site</p> <p><u>Link:</u> http://osgug.ucaug.org/utilitvami/openhan/HAN%20Requirements/Forms/AllItems.aspx</p>
ZigBee/HomePlug Smart Energy Profile	Zigbee Alliance	<p><u>Application:</u> Home Area Network (HAN) Device Communication and Information Model</p> <p><u>Description:</u> The ZigBee Smart Energy public application profile provides standard interfaces and device definitions to allow easy interoperability among ZigBee Smart Energy devices produced by various manufacturers.</p>	<p><u>Cost:</u> Available at no cost on the Zigbee Alliance web site for non-commercial purposes</p> <p><u>Link:</u> http://www.zigbee.org/Products/TechnicalDocumentsDownload/tabid/237/Default.aspx</p>

Please Read: About This Document—Report to NIST on the Smart Grid Interoperability Standards Roadmap ¹

Under the Energy Independence and Security Act (EISA) of 2007, the National Institute of Standards and Technology (NIST) has “primary responsibility to coordinate development of a framework that includes protocols and model standards for information management to achieve interoperability of smart grid devices and systems...” [EISA Title XIII, Section 1305]

In early 2009, responding to President Obama’s energy-related national priorities, NIST acted to accelerate progress and promote stakeholder consensus on Smart Grid interoperability standards. On April 13, NIST announced a three-phase plan to expedite development of key standards.

This document is input into the first phase: engaging utilities, equipment suppliers, consumers, standards developers and other stakeholders in a participatory public process to identify applicable Smart Grid interoperability standards, gaps in currently available standards and priorities for new standardization activities.

NIST awarded the Electric Power Research Institute (EPRI) a contract to engage Smart Grid stakeholders and develop a draft interim standards roadmap; NIST will use this document as a starting point in developing a NIST interim “roadmap” for Smart Grid interoperability standards. EPRI technical experts compiled and distilled stakeholder inputs, including technical contributions made at two EPRI-facilitated, two-day, public workshops. Other inputs include the accomplishments of six domain expert working groups established by NIST in 2008, and the cybersecurity coordination task group established in 2009. To date, hundreds of people have participated in the roadmapping process.

This document contains material gathered and refined by the contractor using its technical expertise. This deliverable is not a formally reviewed and approved NIST publication. Rather, it is one of many inputs into the ongoing NIST-coordinated roadmapping process.

NIST is now reviewing EPRI’s synthesis of stakeholder inputs received through the end of May 2009, as presented in this document. In addition, NIST is inviting public comment on the EPRI deliverable. A request for comments will be issued in the *Federal Register*. Comments can be submitted electronically to smartgridcomments@nist.gov or

¹ Deliverable (7) to the National Institute of Standards and Technology under the terms of Contract No. SB1341-09-CN-0031

by mail to: George Arnold, 100 Bureau Drive, Stop 8100, National Institute of Standards and Technology, Gaithersburg, MD 20899-8100.

Along with this EPRI deliverable, NIST will review the comments received. By early fall, NIST intends to issue its Smart Grid Interoperability Standards Roadmap, which will set priorities for interoperability and cybersecurity requirements, identify an initial set of standards to support early implementation, and list plans to meet remaining standards needs.

For more information, go to: <http://www.nist.gov/smartgrid/>

Report to NIST on the Smart Grid Interoperability Standards Roadmap

(Contract No. SB1341-09-CN-0031—Deliverable 7)

This document contains material gathered and refined by the Electric Power Research Institute using its technical expertise. It has been submitted as a deliverable to the National Institute of Standards and Technology under the terms of Contract No. SB1341-09-CN-0031.

June 17, 2009

Prepared by the Electric Power Research Institute
(EPRI)

EPRI Project Manager
Don Von Dollen

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EXECUTIVE SUMMARY

President Obama has made a smart electrical grid a key element of his plan to lower energy costs for consumers, achieve energy independence and reduce greenhouse gas emissions. A smart grid would employ real-time, two-way communication technologies to allow users to connect directly with power suppliers. The development of the grid will create jobs and spur the development of innovative products that can be exported.

The electricity grid can only get so smart without a framework for interoperability. This framework will identify a suite of standards that enable the integration of diverse technologies. The Energy Independence and Security Act (EISA) of 2007 gave the U. S. Department of Commerce, National Institute of Standards and Technology (NIST) the “primary responsibility to coordinate development of a framework that includes protocols and model standards for information management to achieve interoperability of smart grid devices and systems...”

This report provides an Interim Roadmap for the development of the Interoperability Framework. It describes the current status, issues, and priorities for interoperability standards development and harmonization. The report also describes the high-level architecture for the smart grid including a conceptual model, architectural principles and methods and cyber security strategies.

A broad range of stakeholders were engaged in the development of this Interim Roadmap. Over 1000 stakeholders participated in two workshops to achieve consensus on the critical standards and standards development activities needed for the Smart grid.

In section 1, this report provides a general overview of this project.

In section 2, this report summarizes the efforts to date to define the smart grid and describes the ongoing governance process that will be required to develop the smart grid.

Section 3 defines a conceptual model for thinking about the smart grid and its implementation. It discusses the architectural principles that will enable the smart grid to support new technologies and support new business models.

One can best understand interactions between the domains through looking closely at key cross-cutting applications. Section 4 of this report introduces the applications Automated Metering Infrastructure (AMI), Demand Response (DR), Plug-In Electric Vehicles (PEV), Cyber Security, Wide Area Situation Awareness (WASA), Market Communications, and Distributed Generation and Energy Storage (DG).

Section 5 discusses the security requirements of the smart grid. As the smart grid relies on business interactions as much as it does upon the physical processes of delivering electricity, security for the smart grid must consider interference or disruption of business communications as much as it does disruption of the delivery of electricity. Matters of identity and authorization are paramount, as are privacy and appropriate access concerns for handling personal information of customers.

Section 6 presents the near-term actions that NIST can take in advancing the Interoperability Framework. The highest priority actions include:

- Developing a common semantic model - NIST should work with the appropriate standards development organizations to form a common representation of information models for the smart grid
- Developing a common pricing model standard - NIST should work with the relevant standards development organizations to develop an approach for developing a common pricing model to traverse the entire value chain.
- Developing a common semantic model for advanced metering, demand response and electric transportation – NIST should coordinate the various industry activities to accelerate the development and adoption of a unified semantic model for these high-priority applications.
- Conducting an analysis to select Internet Protocol Suite profiles for smart grid applications - NIST should commission a group to perform a comprehensive mapping of smart grid application requirements to the capabilities of protocols and technologies in the Internet Protocol Suite to identify Internet protocol Suite subsets as important for various applications in the various smart grid domains.
- Investigating Communications Interference in Unlicensed Radio Spectrums - NIST should commission a group of experts to study the issue of communications interference in unlicensed radio spectrums for smart grid applications.
- Developing common time synchronization and management - NIST should work with the appropriate standards development organizations to develop or adopt application or role based time synchronization guidelines
- Coordinating efforts across Standards Development Organizations – NIST should coordinate cross-SDO efforts for harmonizing and extending their standards and addressing new standards requirements.

The Appendices to this report present a detailed guide to existing standards developed from the workshops and from expert opinion. It is not a cookbook; rather it outlines the issues, overlaps and gaps that exist in the current standards.

In undertaking these key actions and the many subsidiary actions that are identified in this report, NIST will help provide the Interoperability Framework needed to build the smart grid and meet President Obama's energy and environmental goals.

North American Energy Standards Board Capacity Release Modifications

Summary of Recommendation for Proposed Capacity Release Modifications

Technical Implementation and Standards/Definitions

WGQ Executive Committee

Prepared by D. Davis and C. Burden - Williams Gas Pipeline

May 14, 2009

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North American Energy Standards Board Capacity Release Modifications

- ❖ **Background:**
- ❖ Modifications to the capacity release business standards corresponding to Order No. 698 were adopted by the WGQ Executive Committee (EC) on June 25, 2008 and subsequently ratified by the membership on August 25, 2008.
- ❖ Additional modifications corresponding to FERC Order No. 712/712A were adopted by the Business Practices Subcommittee on July 10, 2008.
- ❖ The proposed recommendation provides the full staffing of the business standards to ensure standardized implementation across the industry.
- ❖ As a result of developing the technical implementation, additional changes to the standards adopted by the EC were identified and adopted by the WGQ Business Practices Subcommittee on March 16, 2009.

Prepared by D. Davis and C. Burden - Williams Gas Pipeline

May 14, 2009

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North American Energy Standards Board Capacity Release Modifications

What does the proposed recommendation cover?

- ❖ 2009 Annual Plan Item 3a - FERC Order Nos. 698/698-A - Index-Based Pricing
- ❖ 2009 Annual Plan Item 4b - FERC Order Nos. 712/712-A
 - ❖ i. Lifting of price cap for transactions for term one year or less
 - ❖ ii. Asset Management Arrangements
 - ❖ iii. Retail Choice Programs
 - ❖ iv. Tying of inventory related requirements associated with a storage release
- ❖ Accommodation of market-based rates
- ❖ Related Miscellaneous NAESB Requests - R07018, R08019 and R08024 (data element usage change and new code values)

Note:

For purposes of this implementation, the Offer Upload and Bid Upload are not available to be communicated via NAESB WGQ EDI/EDM.

North American Energy Standards Board Capacity Release Modifications

Accommodation of Market-Based Rates

- ❖ Added a data element, *Market-Based Rate Indicator*, to identify if the base contract of the capacity release transaction utilizes a FERC approved market-based rate.
- ❖ Recognition that market-based rate transactions do not have associated minimum/maximum tariff rates.

North American Energy Standards Board Capacity Release Modifications

FERC Order Nos. 712/712-A

- ❖ Added four new data elements:
 1. **Replacement Shipper Role Code** - identifies whether the transaction:
 - a. involves an Asset Management Arrangement (AMA)
 - b. is associated with a Retail Choice Program (RCP)
 - c. or neither (Other)
 2. **Storage Inventory-Conditioned Release Indicator** - identifies storage release transactions with inventory condition(s)
 3. **Special Terms and Miscellaneous Notes - AMA** - location of AMA obligation(s)
 4. **Special Terms and Miscellaneous Notes - Storage Inventory Conditions** - location of related inventory requirements

North American Energy Standards Board Capacity Release Modifications

Index-Based Releases (IBR)

- ❖ Identifies whether the transaction being released utilizes Index-Based Pricing and if so, how is it priced:
 - a. Basic Formula - process within the one hour time line
 - b. Unique Formula - may have to processed outside of the one hour time line

North American Energy Standards Board Capacity Release Modifications

Index-Based Release - Basic Formula:

The structure of an IBR Basic Formula is:

(IBR Index Reference 1 Multiplier * Index 1) +/- (IBR Index Reference 2 Multiplier * Index 2) +/- (IBR Formula Variable)

North American Energy Standards Board Capacity Release Modifications

Example 1 - Utilizing a Basic Formula - simple formula:

- ❖ The releaser offers a formula that simply equates to the difference between two indices:
- ❖ For example, the formula is 110 percent of one index reference minus another index reference. This is accomplished through the use of appropriate mathematical values. In this situation, the formula would be

Basic Formula:

- ❖ (IBR Index Reference 1 Multiplier * Index 1) +/- (IBR Index Reference 2 Multiplier * Index 2) +/- (IBR Formula Variable)

IBR Index Reference 1 Multiplier	= 1.10
IBR Index Reference 1	= Index A
IBR Index Mathematical Operator	= minus (-)
IBR Index Reference 2 Multiplier	= 1.00
IBR Index Reference 2	= Index B
IBR Variable Mathematical Operator	= plus (+)
IBR Formula Variable	= 0

- ❖ The resulting formula would effectively become:
(1.10 * Index Ref A) - (1.00 * Index Ref B) + 0

North American Energy Standards Board Capacity Release Modifications

Example 2 - Utilizing a Basic Formula - more complicated formula

- ❖ The Releasing Shipper offers a formula that equates to 90 percent of one index reference minus 85 percent of another index reference, plus 10 cents. This is accomplished through the use of appropriate mathematical values:

Basic Formula:

- ❖ (IBR Index Reference 1 Multiplier * Index 1) +/- (IBR Index Reference 2 Multiplier * Index 2) +/- (IBR Formula Variable)

Data Element Values

IBR Index Reference 1 Multiplier	= .90
IBR Index Reference 1	= Index A, Point 45, daily mid-point
IBR Index Mathematical Operator	= minus (-)
IBR Index Reference 2 Multiplier	= 85%
IBR Index Reference 2	= Index B, XYZ Hub, daily mid-point
IBR Variable Mathematical Operator	= plus (+)
IBR Formula Variable	= \$0.10

- ❖ The resulting formula would effectively become:

$$(0.90 * \text{Index Publisher A, Point 45, daily mid-point}) - (0.85 * \text{Index Publisher B, XYZ Hub, daily mid-point}) + \$0.10.$$

North American Energy Standards Board Capacity Release Modifications

Example 2 (Continued)

- ❖ Given the above formula, and the Releasing Shipper's indication that bids should be based on a percentage of the formula, the following shows the invoicing results of this index-based release example keeping in mind that the bid value was 40% of the IBR Basic Formula:

- ❖ Assume the following values:

Index Publisher A, Point 45, daily mid-point = \$5.00

Index Publisher B, XYZ Hub, daily mid-point) = \$4.00

- ❖ The resulting reservation rate for a one day release would be:

$$(0.90 * \text{Index Publisher A, Point 45, daily mid-point}) - (0.85 * \text{Index Publisher B, XYZ Hub, daily mid-point}) + \$0.10.$$

$$.40 * [((0.90 * \$5.00) - (0.85 * \$4.00)) + \$0.10] =$$

$$.40 * [(\$4.50 - \$3.40) + \$0.10] =$$

$$\$0.48 \text{ per dekatherm.}$$

North American Energy Standards Board Capacity Release Modifications

IBR Release - Unique Formula

- ❖ The releaser offers a formula that does not fit into the Basic Formula.
- ❖ In these situations, a complete description of the formula, the indices, all identifying information, rate components and other factors necessary to calculate a rate must be included in the IBR Unique Formula Special Terms.

North American Energy Standards Board Capacity Release Modifications

Example 3 - IBR Unique Formula - most complicated formula

- ❖ The Releasing Shipper indicates that the unique formula is effectively:
(Index Publisher A, Point 45, bid week) - (the greater of Index Publisher B, XYZ Hub, bid week or Index Publisher C, XYZ Hub, bid week) + \$0.15.
- ❖ All of the above information is communicated in the data field - IBR Unique Formula Special Terms.
- ❖ The Releasing Shipper indicates that bids should be provided as a differential from the formula.
- ❖ Given the above formula, and the bid differential from the formula as -\$0.20, the following shows the invoicing results of this index-based release example:
- ❖ Assume the following values:

Index Publisher A, Point 45, bid week	= \$5.00
Index Publisher B, XYZ Hub bid week	= \$2.00
Index Publisher C, XYZ Hub bid week	= \$3.00
- ❖ The resulting reservation rate for a one day release would be:
 $[\$5.00 - \$3.00 \text{ (AKA the greater of } \$2.00 \text{ or } \$3.00) + \$0.15] - \$0.20 =$
\$1.95 per dekatherm

North American Energy Standards Board Capacity Release Modifications

- ❖ **Transactional Reporting - Capacity Release, Firm Transportation and Interruptible Transportation:**

- ❖ In addition to other data elements previously adopted by NAESB for inclusion in Version 1.9, a number of new data elements were added to the 3 transactional reporting data sets to more clearly disclose the terms of the transaction(s).

North American Energy Standards Board Capacity Release Modifications

Transactional Reporting - Capacity Release:

- i. Allowable Re-release Indicator
- ii. Business Day Indicator
- iii. IBR Index-Based Capacity Release Indicator
- iv. Market-Based Rate Indicator
- v. Permanent Release Indicator
- vi. Prearranged Deal Indicator
- vii. Previously Released
- viii. Recall Notification Period Indicators (one for each cycle)
- ix. Recall/Reput Terms
- x. Replacement Shipper Role Indicator
- xi. Right to Amend Primary Points Indicator
- xii. Right to Amend Primary Points Terms
- xiii. Special Terms and Miscellaneous Notes - AMA Obligations
- xiv. Special Terms and Miscellaneous Notes - Storage Inventory Conditions
- xv. Storage Inventory-Conditioned Release Indicator

North American Energy Standards Board Capacity Release Modifications

Transactional Reporting - Firm Transportation and
Transactional Reporting - Interruptible Transportation:

i. Market-Based Rate Indicator

North American Energy Standards Board Capacity Release Modifications

Other Items Added for Improved Understanding

- ❖ Expanded detail was included in the Technical Implementation of Business Practices (TIBP) to provide guidance on how these data concepts work - including, but not limited to:
 - a. expanded narrative explanation
 - b. sections devoted solely to Index-Based Release transactions
 - c. instructions on how to accommodate a bidder's desire to bid 100% of the maximum reservation rate (modified NAESB WGQ Standard No. 5.3.26)
 - d. multiple Sample Papers

North American Energy Standards Board Capacity Release Modifications

- ❖ **Data Element Quick Guides:**
 - ❖ An additional tool was added to the TIBPs - Data Element Quick Guides
 - ❖ These guides identify the data elements and intended EBB usages for capacity release transactions depending on whether the release is Index-Based and/or prearranged.
 - ❖ The usage columns in the Quick Guide Tables may not display the actual usage for the data element listed in the corresponding NAESB standards manual data dictionary. What is shown is the intended outcome of the usage (i.e., some 'C' usage data elements are really 'M' based on other conditions in the "Condition" column)

North American Energy Standards Board Capacity Release Modifications

- ❖ **Example of Data Element Quick Guides:**
Offer Upload - NAESB WGQ Standard No. 5.4.7

Business Name	Non-Index-Based Capacity Release		Index-Based Capacity Release	
	Prearranged	Non-Prearranged	Prearranged	Non-Prearranged
Bid Quantity – Contract	M	Not Used	M	Not Used
Bid Quantity – Location	BC	Not Used	BC	Not Used
Bid Tie-breaking Method	C	C	C	C
Biddable Deal Indicator Data	M	M	M	M
IBR Bid Value – Differential	Not used	Not used	C	Not used
IBR Bid Value – Differential Rate Floor	Not Used	Not Used	C	Not Used
IBR Bid Value – Percent	Not Used	Not Used	C	Not Used
IBR Formula Identifier	Not Used	Not used	M	M
IBR Formula Variable	Not Used	Not Used	C	C

North American Energy Standards Board Capacity Release Modifications

Data Element Quick Guides were created for the following data sets:

- ❖ Offer Upload NAESB WGQ Standard No. 5.4.7
- ❖ Offer Download NAESB WGQ Standard No. 5.4.1
- ❖ Bid Upload NAESB WGQ Standard No. 5.4.18
- ❖ Bid Download NAESB WGQ Standard No. 5.4.2:
- ❖ Award Download NAESB WGQ Standard No. 5.4.3:
- ❖ Offer Upload Notification NAESB WGQ Standard No. 5.4.9:
- ❖ Transactional Reporting - Capacity Release NAESB WGQ Standard No. 5.4.20

North American Energy Standards Board Capacity Release Modifications

❖ Proposed Definition / Standards Modifications:

- ❖ Modify NAESB WGQ Definition No. 5.2.4
- ❖ Modify NAESB WGQ Standard No. 5.3.23
- ❖ Modify NAESB WGQ Standard No. 5.3.2

North American Energy Standards Board Capacity Release Modifications

NAESB WGQ Definition No. 5.2.4

As modified by the NAESB WGQ EC June 25, 2008 and ratified August 25, 2008 with additional proposed modifications as noted below that were adopted by the NAESB WGQ BPS on March 16, 2009:

For index-based capacity release transactions, Rate Floor is the term used to describe the lowest rate specified in the capacity release offer in dollars and cents that is acceptable to the releasing shipper. The Rate Floor may not be less than the Transportation Service Provider's (TSP) minimum reservation rate or zero cents when there is no stated minimum reservation rate. ~~If a Rate Floor is not otherwise specified, the TSP's minimum reservation rate should serve as the default value for the Rate Floor.~~

North American Energy Standards Board Capacity Release Modifications

NAESB WGQ Standard No. 5.3.26

As modified by the NAESB WGQ EC June 25, 2008 and ratified August 25, 2008 with additional proposed modifications as noted that were adopted by the NAESB WGQ BPS on March 16, 2009:

The releasing shipper should specify which one of the following methods is acceptable for bidding on a given capacity release offer:

Non-Index-based release - dollars and cents,

Non-Index-based release - percentage of maximum tariff rate,
or

Index-based formula as detailed in the capacity release offer.

The bids for the given capacity release offer should adhere to the method specified by the releasing shipper. The bidder may bid the maximum reservation rate, in the Transportation Service Provider's tariff or general terms and conditions, ~~if applicable,~~ as an alternative to the method specified by the releasing shipper, except when the release is index-based for a term of one year or less or utilizes market-based rates.

North American Energy Standards Board Capacity Release Modifications

Modified WGQ Standard No. 5.3.2

For biddable releases (less than 1 year or less):

- offers should be tendered by 12:00 P.M. on a Business Day;
- open season ends no later than 1:00 P.M. on a Business Day (evaluation period begins at 1:00 P.M. during which contingency is eliminated, determination of best bid is made, and ties are broken);
- evaluation period ends and award posting if no match required at 2:00 P.M.;
- match or award is communicated by 2:00 P.M.;
- match response by 2:30 P.M.;
- where match required, award posting by 3:00 P.M.;
- contract issued within one hour of award posting (with a new contract number, when applicable);
- nomination possible beginning at the next available nomination cycle for the effective date of the contract. (Central Clock Time)

For biddable releases (more than 1 year or more):

- offers should be tendered by 12:00 P.M. four Business Days before award;
- open season ends no later than 1:00 P.M. on the Business Day before timely nominations are due (open season is three Business Days);
- evaluation period begins at 1:00 P.M. during which contingency is eliminated, determination of best bid is made, and ties are broken;
- evaluation period ends and award posting if no match required at 2:00 P.M.;
- match or award is communicated by 2:00 P.M.;
- match response by 2:30 P.M.;
- where match required, award posting by 3:00 P.M.;
- contract issued within one hour of award posting (with a new contract number, when applicable);
- nomination possible beginning at the next available nomination cycle for the effective date of the contract. (Central Clock Time)

*****REMAINDER OF STANDARD IS UNCHANGED*****

North American Energy Standards Board Capacity Release Modifications

- ❖ Last but not least:
- ❖ The Offer Upload and Bid Upload are not available to be communicated via NAESB WGQ EDI/EDM. However, implementation for NAESB WGQ EDI/EDM is provided for Offer Download, Bid Download and Award Download
- ❖ Added validation codes in the Offer Upload Quick Response and Bid Upload Quick Response in order to accommodate standardized error / warning messages on the EBBs.

North American Energy Standards Board Capacity Release Modifications

❖ The development of this proposed implementation took:

30+ meetings days over 12 months

= approximately 2,000+ man hours

North American Energy Standards Board Capacity Release Modifications

So, if you see a member of the
Joint IR/Technical Subcommittees
Team, don't be surprised if they
look like this.....

North American Energy Standards Board Capacity Release Modifications



Prepared by D. Davis and C. Burden - Williams Gas Pipeline

May 14, 2009

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North American Energy Standards Board Capacity Release Modifications

Q&A

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May 14, 2009

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North American Energy Standards Board

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Order 890 Work Plan				
Status ¹	Action Item/Work Plan	Action Item Home	Target Dates	Status
ATC GROUP ASSIGNMENTS (ESS/ITS and BPS)				
✓	<p>243, 244, 246</p> <p>Business Practice Standards complementary to NERC Reliability Standards for Existing Transmission Commitment (ETC) to create a “consistent approach for determining the amount of transfer capability a transmission provider may set aside for its native load and other committed uses”, including the elements of ETC for full implementation of the NERC MOD-001 reliability standard*</p> <p>Paragraphs 243, 244, and 246 will require coordination with the NERC Order 890 reliability standards development</p> <p>*Posting requirements for ETC assigned to ESS/ITS (see 2008 AP 2(a)(vi)(4) and Order 890 WP, Group 6)</p> <p>Order 890-A:</p> <p>63. The Commission also found that inclusion of all requests for transmission service in ETC would likely overstate usage of the system and understate ATC. The Commission therefore found that reservations that have the same point of receipt (POR (generator) but different point of delivery (POD) (load), for the same time frame, should not be modeled in the ETC calculation simultaneously if their combined reserved transmission capacity exceeds the generator’s nameplate capacity at the POR. The Commission directed public utilities, working through NERC, to develop requirements in MOD-001 that lay out clear instructions on how these reservations should be modeled. The Commission also concluded that some elements of ETC are candidates for business practices instead of reliability standards and directed public utilities, working through NAESB, to develop business practices necessary for full implementation of the MOD-001 reliability standard.</p> <p>151. We decline to impose additional posting requirements regarding ETC uses, as requested by EPSA and Powerex. In Order No. 890, the Commission required transmission providers to make available all data used to calculate ATC for constrained paths and any system planning studies or specific network impact studies performed for customers. This would include information regarding ETC uses, including grandfathered agreements, that affect ATC calculations or study results. EPSA and Powerex fail to demonstrate that it is necessary to require the posting of additional information regarding ETC uses to verify the accuracy of the transmission provider’s ATC calculations. We note in response to Powerex that, if any new service taken upon expiration of a pre-Order No. 888 contract, the terms and conditions of the transmission provider’s OATT would apply.</p>	WEQ 2008 Annual Plan Item 2(b)(ii)(1)	<p>These dates are dependent on NERC deliverables and may be changed if NERC timelines for Order 890 are changed:</p> <p>FORMAL COMMENT: 2nd Quarter, 2008</p> <p>WEQ EC VOTE: 3rd Quarter, 2008</p> <p>RATIFICATION: 3rd Quarter, 2008</p>	<p>The NAESB ESS/ITS and BPS are working to draft complementary business practices to the NERC MOD028, MOD029, and MOD030, which includes ETC. The NERC team has determined that there is not a need for explicit posting of ETC values; the ESS/ITS and BPS supports the decision. ESS/ITS/BPS will look at the NERC MODs to determine if additional business practices are needed for ETC components.</p> <p>Recommendation was voted out of subcommittee on June 17, 2008.</p> <p>Formal comment period closed on July 21, 2008.</p> <p>Approved by WEQ EC August 19, 2008.</p> <p>Ratified by the membership on 9/22/2008</p>

¹ Status is defined as: ✓ - Complete, C – formal commenting period, I – in progress of standards development underway in subcommittee, NS – development not started.

North American Energy Standards Board

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Order 890 Work Plan					
Status	Cite	Action Item/Work Plan	Action Item Home	Target Dates	Status
✓	293	<ul style="list-style-type: none"> Business practice standards for accounting for counterflows. These standards will be included in the ATC business practice standards (Paragraph 293 will require coordination with the NERC Order 890 reliability standards development) 	WEQ 2008 Annual Plan Item 2(b)(ii)(2)	<p>These dates are dependent on NERC deliverables and may be changed if NERC timeliness for Order 890 are changed:</p> <p>FORMAL COMMENT: 2nd Quarter, 2008</p> <p>WEQ EC VOTE: 3rd Quarter, 2008</p> <p>RATIFICATION: 3rd Quarter 2008</p>	<p>The ESS/ITS and BPS have created a list of items that are considered post-backs to be used in the creation of post back requirements. NERC has requested that NAESB practices address post-back requirements. (8/16/07)</p> <p>On March 11-12, 2008, the ESS/ITS and BPS passed motions to define high level concepts for counterflows and post backs. Draft standards are being developed by sub-teams.</p> <p>Subcommittee voted recommendation for counterflows and Postbacks out of subcommittee on May 15, 2008.</p> <p>Formal comment period closed on June 23, 2008.</p> <p>Approved by WEQ EC August 19, 2008.</p> <p>Ratified by the membership on 9/22/2008.</p>
✓	257	<p>Capacity Benefit Margin (CBM) Business Practices</p> <ul style="list-style-type: none"> Business practice standards to set forth “how the CBM value shall be determined, allocated across transmission paths, and used” and how transmission providers will “reflect the set-aside of transfer capability as CBM in the development of the rate for point-to-point transmission service.” (Paragraph 257 will require coordination with the NERC Order 890 reliability standards development) <p>Order 890-A:</p> <p>68. The Commission directed public utilities, working through NERC and NAESB, to develop clear standards and business practices for how the CBM value is determined,</p>	WEQ 2008 Annual Plan Item 2(b)(iii)(1)	<p>These dates are dependent on NERC deliverables and may be changed if NERC timeliness for Order 890 are changed:</p> <p>FORMAL COMMENT: 3rd Quarter, 2008</p> <p>WEQ EC VOTE: 4th</p>	<p>The ESS/ITS and BPS have begun identifying complementary business practices to NERC MOD004.</p> <p>The ESS/ITS and BPS have identified the NAESB business practice standards that may be needed to address CBM, including</p>

Order 890 Work Plan					
Status ¹	Cite	Action Item/Work Plan	Action Item Home	Target Dates	Status
		<p>allocated across transmission paths and flowgates, and used. To ensure that CBM is used for its intended purpose, the Commission provided that CBM shall only be used to allow an LSE to meet its generation reliability criteria. The Commission rejected requests to allow CBM to be used to meet reserve-sharing needs, explaining that TRM is the appropriate category for that purpose. Public utilities were directed to work with NAESB to develop an OASIS mechanism that will allow for auditing of CBM usage.</p> <p>83. The Commission did not mandate a particular methodology for allocating CBM over transmission paths and flowgates in Order No. 890. We therefore reject Southern's argument that development of a consistent methodology for calculating CBM would be harmful to LSEs because reserve needs vary from area to area. While we expect the NERC and NAESB process to produce a consistent and transparent process for setting aside and allocating CBM based on LSE requests, we decline to prescribe a specific method for how CBM should be obtained or allocated or otherwise determine the amount of capacity that the transmission provider has to set aside in response to requests from multiple LSEs.</p>		<p>Quarter, 2008 RATIFICATION: 4th Quarter, 2008</p>	<p>where the CBM value shall be posted; how to allocate priority use of CBM; how to allocate the amount of CBM; the ability to audit CBM usage; a new request type on OASIS to distinguish a CBM reservation; and for the posting of CBM on the OASIS systemdata template.</p> <p>The joint subcommittee has determined no additional standards need to be developed for this work plan item.</p> <p>Recommendation voted out of subcommittee on July 30th.</p> <p>Formal Comment period closes September 5, 2008.</p> <p>Approved by WEQ EC November 7, 2008.</p> <p>Ratified by the membership on December 15, 2008.</p>
✓	262	<ul style="list-style-type: none"> Business practice standards that include an OASIS mechanism to "allow for auditing of CBM usage." (Paragraph 262 does not require coordination with the NERC Order 890 reliability standards development) <p>Order 890-A:</p> <p>68. The Commission directed public utilities, working through NERC and NAESB, to develop clear standards and business practices for how the CBM value is determined, allocated across transmission paths and flowgates, and used. To ensure that CBM is used for its intended purpose, the Commission provided that CBM shall only be used to allow an LSE to meet its generation reliability criteria. The Commission rejected requests to allow CBM to be used to meet reserve-sharing needs, explaining that TRM is the appropriate category for that purpose. Public utilities were directed to work with</p>	WEQ 2008 Annual Plan Item 2(b)(iii)(2)	<p>FORMAL COMMENT: 3rd Quarter, 2008 WEQ EC VOTE: 4th Quarter, 2008 RATIFICATION: 4th Quarter, 2008</p>	<p>The ESS/ITS and BPS are continuing to evaluate and review the templates and practices for CBM, including auditing of CBM usage. 8/16/07</p> <p>If we are using existing templates and the existing templates have corresponding "Audit Templates", additional</p>

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✓		<p>NAESB to develop an OASIS mechanism that will allow for auditing of CBM usage.</p> <ul style="list-style-type: none"> Any additional business practice standards needed to complement the NERC CBM reliability standards (MOD004) created as a result of this effort. (This item is a catchall section in case there are areas where business practices are needed as a result of the NERC CBM reliability standards. This item will require coordination with the NERC Order 890 reliability standards development). 	WEQ 2008 Annual Plan Item 2(b)(iii)(3)	<p>These dates are dependent on NERC deliverables and may be changed if NERC timelines for Order 890 are changed: FORMAL COMMENT: 3rd Quarter, 2008 WEQ EC VOTE: 4th Quarter, 2008 RATIFICATION: 4th Quarter, 2008</p>	<p>work may not be needed. The joint subcommittee is working with JISWG on this annual plan item. Changes are expected to be required for WEQ 001, 002, 003, 004, and 013. Recommendation voted out of subcommittee on July 30th. Formal Comment period closes September 5, 2008. Approved by WEQ EC November 7, 2008. Ratified by the membership on December 15, 2008.</p> <p>The ESS/ITS and BPS have begun identifying complementary business practices to NERC MOD004. The joint subcommittee has determined no additional standards need to be developed for this work plan item. Recommendation voted out of subcommittee on July 30th. Formal Comment period closes September 5, 2008. Approved by WEQ EC November 7, 2008. Ratified by the membership on December 15, 2008.</p>

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✓	272	<ul style="list-style-type: none"> Transmission Reliability Margin (TRM): Business Practice Standards to complement the NERC reliability standards for TRM (Paragraph 272 will require coordination with the NERC Order 890 reliability standards development) 	WEQ 2008 Annual Plan Item 2(b)(iv) (1)	<p>These dates are dependent on NERC deliverables and may be changed if NERC timelines for Order 890 are changed:</p> <p>FORMAL COMMENT: 2nd Quarter, 2008</p> <p>WEQ EC VOTE: 2nd Quarter, 2008</p> <p>RATIFICATION: N/A</p>	<p>The ESS/ITS and BPS have begun identifying complementary business practices to NERC MOD008.</p> <p>The ESS/ITS and BPS are continuing to evaluate and review the templates and practices for TRM, 8/16/07</p> <p>The ESS/ITS and BPS determined no additional standards needed to be developed for this item and voted for the co-chairs to develop recommendation and post formal comments 3/31/08.</p> <p>Recommendation posted for 30-day formal comment period on April 8th.</p> <p>The recommendation was voted out of the EC on May 13.</p>
✓	273	<ul style="list-style-type: none"> The TRM business practice standards will include specification of the appropriate uses of TRM and when transmission providers may set aside TRM (Paragraph 273 will require coordination with the NERC Order 890 reliability standards development) <p>Order 890-A:</p> <p>94. The Commission clarifies that NERC was not directed to identify an actual number or a particular methodology to include in the TRM standards, MOD-008-0 and MOD-009-0. The Commission's intent was to require NERC and NAESB to include consistent criteria and guidelines in the calculation and uses of TRM by transmission providers. Likewise, in response to Southern's concern regarding flexibility to use something other than the ratings reduction method discussed in Order No. 890, we clarify that the ratings reduction method is only an example of a simple method that could be used. Our intent is not to prohibit a transmission provider from using a more sophisticated method, so long as it is consistent with the reliability standards developed</p>	WEQ 2008 Annual Plan Item 2(b)(iv)(2)	<p>These dates are dependent on NERC deliverables and may be changed if NERC timelines for Order 890 are changed:</p> <p>FORMAL COMMENT: 2nd Quarter, 2008</p> <p>WEQ EC VOTE: 2nd Quarter, 2008</p> <p>RATIFICATION: N/A</p>	<p>The ESS/ITS and BPS have begun identifying complementary business practices to NERC MOD008.</p> <p>The ESS/ITS and BPS are continuing to evaluate and review the templates and practices for TRM, 8/16/07</p> <p>The ESS/ITS and BPS determined no additional standards needed to be developed for this item and voted for the co-chairs to</p>

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		by NERC.			develop recommendation and post formal comments 3/31/08. Recommendation posted for 30-day formal comment period on April 8 th . The recommendation was voted out of the EC on May 13.
✓		<ul style="list-style-type: none"> Any additional business practice standards needed to complement the NERC TRM reliability standards (MOD008) created as a result of this effort (This item is a catchall section in case there are areas where business practices are needed as a result of the NERC TRM reliability standards. This item will require coordination with the NERC Order 890 reliability standards development). 	WEQ 2008 Annual Plan Item 2(b)(iv)(3)	<p>These dates are dependent on NERC deliverables and may be changed if NERC timelines for Order 890 are changed:</p> <p>FORMAL COMMENT: 2nd Quarter, 2008 WEQ EC VOTE: 2nd Quarter, 2008 RATIFICATION: N/A</p>	<p>The ESS/ITS and BPS have begun identifying complementary business practices to NERC MOD008.</p> <p>The ESS/ITS and BPS are continuing to evaluate and review the templates and practices for TRM, 8/16/07</p> <p>The ESS/ITS and BPS determined no additional standards needed to be developed for this item and voted for the co-chairs to develop recommendation and post formal comments 3/31/08.</p> <p>Recommendation posted for 30-day formal comment period on April 8th.</p> <p>The recommendation was voted out of the EC on May 13.</p>
✓	301	Business Practice Standards for ATC and AFC Calculation Methodologies to complement the NERC reliability standards created for ATC and AFC Methodologies (NERC MOD001 (Available Transfer Capability); NERC MOD028 (Network Response Available Transfer Capability); NERC MOD029 (Rated System Path Available Transfer		<p>These dates are dependent on NERC deliverables and may be changed if NERC</p>	<p>The ESS/ITS and BPS has drafted several sets of language and is in the process of coordinating</p>

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		<p>Capability); and NERC MOD030 (Flowgate Network Response Available Transfer Capability):</p> <ul style="list-style-type: none"> Business practice standards to address the frequency and posting requirements for all ATC components that are complementary to the related NERC reliability standards (Paragraph 301 will require coordination with the NERC Order 890 reliability standards development) <p>Order 890-A:</p> <p>53. We clarify in response to NorthWestern that TRM may be used to accommodate the procurement of ancillary services used to provide service under the pro forma OATT. We deny as premature EPSA's and Williams' requests for clarification regarding the realtime determination and posting of ATC and AFC values, as well as posting of utilization of transmission provider's own system ETC. In Order No. 890, the Commission required an exchange of the data both for short and long-term ATC/AFC calculation that will increase the accuracy of ATC calculations.³³ The Commission also required that ATC be recalculated by all transmission providers on a consistent time interval, and in a manner that closely reflects the actual topology of the system, load forecast, interchange schedules, transmission reservations, facility ratings, and other necessary data, and that NERC/NAESB revise the related reliability standard and business practices accordingly.³⁴ EPSA and William should address their concerns through the NERC and NAESB processes implementing these requirements.</p> <p>60. Order No. 890 requires NERC and NAESB to develop a single set of ATC-related standards that will apply to all transmission providers, including RTOs and ISOs. We understand that the NERC ATC standard drafting team includes representatives from various industry sectors, including RTOs/ISOs, and we encourage NYISO to participate in the standard development process to provide NERC an opportunity to address its concerns. To the extent NYISO feels its concerns are not address in this process, it should bring the issue to the Commission's attention on review of the resulting reliability standards.</p> <p>101. The Commission directed public utilities, working through NERC and NAESB, to revise reliability standard MOD-001 to require ATC to be recalculated by all transmission providers on a consistent time interval and in a manner that closely reflects the actual topology of the system, e.g., generation and transmission outages, load forecast, interchange schedules, transmission reservations, facility ratings, and other necessary data. The Commission stated that this process must also consider whether ATC should be calculated more frequently for constrained facilities.</p> <p>104. The Commission agrees with Powerex that the standards adopted through the NERC and NAESB processes should serve as minimum or "no less frequent than" requirements to recalculate ATC. Transmission providers also must update their ATC calculation</p>	<p>WEQ 2008 Annual Plan Item 2(b)(v)(1)</p>	<p>timelines for Order 890 are changed: FORMAL COMMENT: 2nd Quarter, 2008 WEQ EC VOTE: 3rd Quarter, 2008 RATIFICATION: N/A</p>	<p>alignment with the NERC ATC Drafting Team. The ESS/ITS and BPS are drafting documents that will facilitate agreement on concepts/scope. The ESS/ITS and BPS determined no additional standards needed to be developed for this item and voted for the co-chairs to develop recommendation and post formal comments 4/16/08. Recommendation posted for 30-day formal comment period on April 23rd. Approved by WEQ EC August 19, 2008.</p>

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		<p>when they receive substantial and material changes in data, such as updated load forecasts, changes in topology and dispatch patterns, which may be more frequent than the NERC and NAESB standards would otherwise require. In the absence of substantial and material changes in data, transmission providers are not required to update ATC on a more frequent basis than the minimum frequency that the NERC and NAESB standards require, once implemented. The Commission will consider the adequacy of the time frame for ATC updates on review of these standards.</p> <p>148. In Order No. 890, the Commission required transmission providers to make available, upon request, all data used to calculate ATC, TTC, CBM and TRM for any constrained posted path. We believe that this adequately addresses Constellation's request for access to modeling data used by the transmission provider. Specifically, we expect transmission providers to make available, upon request and subject to appropriate confidentiality protections and CEII requirements, the following modeling data: (1) load flow base cases and generation dispatch methodology; (2) contingency, subsystem, monitoring, change files and accompanying auxiliary files; (3) transient and dynamic stability simulation data and reports on flowgates which are not thermally limited; (4) list of transactions used to update the base case for transmission service request study; (5) special protection systems and operating guides, and specific description as to how they are modeled; (6) model configuration settings; (7) dates and capacities of new and retiring generation; (8) new and retired generation included in the model for future years; (9) production cost models (including assumptions, settings, study results, input data, etc.), subject to reasonable and applicable generator confidentiality limitations; (10) searchable transmission maps, including PowerWorld or PSSE diagrams; (11) OASIS names to Common Names table and PTI bus numbers; and, (12) flowgate and interface limits including limit category (thermal, steady state or transient, voltage or angular). We decline, however, to require the transmission provider to post this information on OASIS, as Constellation suggests. We conclude that making this information available on request provides sufficient transparency for customers without unduly burdening the transmission provider.</p> <p>149. With regard to the modeling support information sought by Constellation, we believe much of this information should already be stated in each transmission provider's Attachment C. In Order No. 890, the Commission required each transmission provider to set forth in the Attachment C to its OATT the ATC calculation methodology used by the transmission provider. To the extent necessary, we clarify that the step-by-step modeling study methodology and criteria for adding or eliminating flowgates (permanent and temporary) is part of the ATC methodology that must be stated in the transmission provider's Attachment C. We direct any transmission provider that has failed to include this information in its Attachment C to include that information as part of the compliance filing directed in section II.C. If the transmission provider has already</p>	

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		<p>satisfied this obligation in a previous compliance filing, it should refer to that filing instead.</p> <p>150. We deny as premature Constellation’s request to require OASIS postings of additional model benchmarking and forecasting data/TSR study audit data. Such information would be utilized in the process of updating and benchmarking models to actual events, which is the subject of ongoing efforts to modify relevant reliability standards from the MOD and facilities design, connections and maintenance (FAC) groups.</p> <p>152. We deny TDU Systems’ request to require transmission providers to grant customers access to proprietary modeling software used to calculate ATC values. The Commission believes at this time that the requirements of Order No. 890 are sufficient to achieve the Commission’s transparency goals without further requiring the disclosure of proprietary software.</p>	<p>Target Dates</p> <p>Status</p>

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✓	310	<ul style="list-style-type: none"> Business practice standards for data exchange for ATC modeling complementary to the related NERC reliability standards including any OASIS posting requirements to achieve the data exchange (Paragraph 310 will require coordination with the NERC Order 890 reliability standards development) 	WEQ 2008 Annual Plan Item 2(b)(v)(2)	<p>These dates are dependent on NERC deliverables and may be changed if NERC timelines for Order 890 are changed:</p> <p>FORMAL COMMENT: 2nd Quarter, 2008</p> <p>WEQ EC VOTE: 2nd Quarter, 2008</p> <p>RATIFICATION: N/A</p>	<p>NERC will be addressing data exchange standards and will identify any new OASIS posting requirements or template query requirements which are needed in order to facilitate data exchange for ATC modeling</p> <p>On March 13, 2008 the ESS/ITS and BPS determined the work associated to this item has been completed by NERC and recommended no further action be taken by NAESB.</p> <p>Recommendation posted for 30-day formal comment period on March 17th.</p> <p>The recommendation was voted out of the EC on May 13.</p>
✓	369	<ul style="list-style-type: none"> Business practice standards that will set forth how transmission providers will post “explanations of the reason for a change in monthly and yearly ATC values on a constrained path.” The standards will include a requirement that the transmission provider post the reason for the change in a narrative form. The posted information will include “the (1) specific events which gave rise to the change and (2) new values for ATC on that path (as opposed to all points on the network).” (Paragraph 369 will not require coordination with the NERC Order 890 reliability standards development) <p>Although not specified in the WEQ 2008 AP, it is expected that this standard will also contain requirements associated with annotations when ATC remains at zero for six months or longer.</p> <p>Order 890-A: 124. We believe that E.ON U.S. overestimates the burden of complying with this requirement. Since TTC standardization is ongoing, it is impossible to identify with</p>	WEQ 2008 Annual Plan Item 2(b)(v)(3)	<p>FORMAL COMMENT: 1st Quarter, 2008</p> <p>WEQ EC VOTE: 2nd Quarter, 2008</p> <p>RATIFICATION: 2nd Quarter, 2008</p>	<p>Voted out of subcommittee for formal comment on February 13, 2008.</p> <p>Approved by the EC via notational ballot on April 14th.</p> <p>Membership ratification completed on May 16th.</p>

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✓	413	<p>precision the steps that will need to be taken to comply with the posting requirement. The appropriate forum to raise concerns regarding the burden of particular TTC calculation requirements is in the NAESB standards development process. In any event, we would expect that the posting of narratives for changes in monthly and yearly ATC values as a result of a 10 percent change in TTC will be triggered mainly by topology changes resulting from transmission lines and generator in-service status, as well as new facilities additions, that are reported on OASIS.</p> <p>125. We clarify in response to Southern that transmission providers do not need to list each and every circumstance or occurrence that impacts TTC values from the previous month or year and, instead, may list the primary events that give rise to the update. Again, we expect that TTC changes will generally result from topology changes and, therefore, the primary reasons for an update would be changes in schedules of transmission or generation additions, prolonged outages, or changes in maintenance schedules causing a TTC change of 10 percent. We agree with Southern that the transmission provider should post these narrative explanations on OASIS via a template and data element that is to be defined by NAESB. We direct transmission providers, working through NAESB, to develop the OASIS functionality necessary for such postings. Pending completion of this work by NAESB, we direct transmission providers to post these narrative explanations as comments on OASIS.</p> <ul style="list-style-type: none"> Business practice standards for posting on OASIS of the “underlying load forecast assumptions for all ATC calculations” (Paragraph 413 will not require coordination with the NERC Order 890 reliability standards development) <p>Order 890-B:</p> <p>35. We clarify, however, that the Commission intended for transmission providers to post the underlying factors used to make load forecasts that have a significant impact on calculations, such as temperature forecasts, not all economic and other data that underlies each and every daily load forecast. Transmission providers must post a description of their load forecast method including how economic and weather assumptions are used in load forecasting. The Commission’s intent is to increase transparency in the transmission provider’s process of forecasting, providing assurance to customers that loads are consistently being forecast using methodologies which are not subject to daily manipulation to favor affiliates.</p>	WEQ 2008 Annual Plan Item 2(b)(v)(4)	<p>These dates are dependent on NERC providing responses to NERC by the BPS/ESS/TTS.</p> <p>FORMAL COMMENT: 2nd Quarter, 2008 WEQ EC VOTE: 2nd Quarter, 2008 RATIFICATION: 2nd Quarter, 2008</p>	<p>Voted out of subcommittee for formal comment on March 10, 2008. Approved by the EC via notational ballot on April 23rd. Recommendation was posted for membership ratification on June 23rd. Membership ratification completed on July 23rd.</p>
✓	405	<ul style="list-style-type: none"> Business practice standards for posting on OASIS of the “actual daily peak load for the prior day.” (Paragraph 405 will not require coordination with the NERC Order 890 reliability standards development) 	WEQ 2008 Annual Plan Item 2(b)(v)(5)	<p>FORMAL COMMENT: 1st Quarter, 2008 WEQ EC VOTE: 2nd Quarter, 2008 RATIFICATION: 2nd Quarter, 2008</p>	<p>Voted out of subcommittee for formal comment on March 10, 2008. Approved by the EC via notational ballot on April</p>

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✓		<ul style="list-style-type: none"> Business practice standards to complement NERC reliability standards for Transfer Capability in response to new NERC Supplemental SAR: Revisions to Existing Standards MOD001-MOD009, FAC12-13 (This item was added as a result of the Supplemental SAR NERC created in case additional business practices are needed as a result of the work on this SAR by NERC. It does not have a cite in Order 890. This item will require coordination with the NERC Order 890 reliability standards development). 	WEQ 2008 Annual Plan Item 2 (b)(vi)	Quarter, 2008	<p>23rd. Recommendation posted for Membership Ratification on June 23rd. Membership ratification completed on July 23rd.</p> <p>The ESS/ITS and BPS is in the process of coordinating alignment with the NERC ATC Drafting Team. On May 1, 2008, the subcommittee determined no additional standards were required for this work plan item. Posted for formal comments on May 5, 2008. Approved by WEQ EC August 19, 2008.</p>
✓		<ul style="list-style-type: none"> Business practice standards to set forth the procedure for input on TTC and ATC methodologies and values. (During the Order 890 NERC and NAESB joint standards development effort, it was determined that the standards contained in MOD003 should be business practice standards instead of reliability standards. NERC has requested that NAESB adopt the standards as business practices via correspondence to Ms. McQuade, NAESB President.) This item will require coordination with the NERC Order 890 reliability standards development because the language to address this item is contained within a draft standard that addresses items that are dependent on NERC deliverables, i.e., the requirements to create an "ATC Information Link" on OASIS. There is no Order 890 cite for this item. 	WEQ 2008 Annual Plan Item 2 (b)(vii)	<p>These dates are dependent on NERC deliverables and may be changed if NERC timeliness for Order 890 are changed: FORMAL COMMENT: 2nd Quarter, 2008 WEQ EC VOTE: 3rd Quarter, 2008 RATIFICATION: N/A</p> <p>These dates are dependent on NERC deliverables and may be changed if NERC timeliness for Order 890 are changed: FORMAL COMMENT: 2nd Quarter, 2008 WEQ EC VOTE: 2nd Quarter, 2008 RATIFICATION: 2nd Quarter, 2008</p>	<p>Voted out of subcommittee for formal comment on March 13, 2008. Approved by the EC via notational ballot on May 2, 2008. Membership ratification period closes June 27, 2008. Recommendation was ratified by the membership on June 27, 2008.</p>
✓		<ul style="list-style-type: none"> Develop any additional business practice standards to support transparency reporting and related functions that may be required as a result of the final order. 	WEQ 2008 Annual Plan Item 2(c)	<p>FORMAL COMMENT: 3rd Quarter, 2008 WEQ EC VOTE: 4th Quarter, 2008</p>	<p>The ESS/ITS and BPS continue to review the need for additional business practice standards.</p>

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▼		Modify WEQ-001 to reflect in the definition of certain ancillary services that such ancillary services may be provided by non-generation resources such as demand resources. (http://www.naesb.org/pdf3/weq_ec051308w2.doc)	WEQ 2008 Annual Plan Item 6(d)	RATIFICATION: N/A FORMAL COMMENT: 3 rd Quarter, 2008 WEQ EC VOTE: 3 rd Quarter, 2008 RATIFICATION: 3 rd Quarter, 2008	The ATC information list was posted for informal comment on January 22, 2008. 05-13-2008 - The BPS/ESS/TTS was directed by the EC to suspend activity on this item. ATC Information List has been assigned to a task force of the EC. Voted out of EC task force for formal comment period ending September 17, 2008. No action recommendation approved by WEQ EC on October 6, 2008. Commissioner Wellinghoff letter Draft recommendation posted for informal comments on June 17, 2008 Recommendation was voted out of subcommittee on July 9 th . Formal Comment period closes on August 11 th . Approved by WEQ EC August 19, 2008. Ratified by the membership on 9/22/2008.

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ESS/ITS ASSIGNMENTS				
	GROUP 0: REALES			
✓ 815, FN 496	<p>The OASIS business practices developed to align the existing NAESB standards with Order 890 will include the requirement that “all sales or assignments of capacity be conducted or otherwise posted on the transmission provider’s OASIS on or before the date the reassigned service commences.”</p> <p>The OASIS business practices will also conform to Footnote 496 of Order 890. The business practices will include the requirement that the assignee “execute a service agreement directly with the transmission provider.” In addition, the business practices will include the requirement that the assignee pay “the transmission provider for service at the negotiated rate and the transmission provider will bill or credit the assignor with any the difference between the negotiated rate and the assignor’s original rate.</p> <p>Order 890-A:</p> <p>394. Reforms to the rules governing reassignments and associated reporting obligations also increase our regulatory oversight of the secondary market, allowing the Commission to effectively monitor that market for any attempts to exercise market power. All reassignments must now be conducted through or otherwise posted on OASIS and assignees must execute service agreements prior to the date on which service commences. Transmission providers must provide information regarding reassignments in their EQRs. As noted above, Commission staff will also closely monitor the quarterly reassignment-related data submitted by transmission providers and prepare a report on staff’s findings for the Commission’s consideration. The Commission takes seriously the possibility that resellers may attempt to exercise market power in the secondary market for transmission capacity. We continue to believe, however, that the regulatory protections in place and our increased oversight of this market will limit the potential for market power abuse during the period in which the price cap is lifted. There is no need for particularized market power studies regarding secondary transmission capacity, as suggested by TAPS.</p> <p>408. As noted above, the Commission required in Order No. 890 that all sales or assignments of capacity be conducted through or otherwise posted on the transmission provider’s OASIS on or before the date the reassignment commences. The Commission thus eliminated the ability of transmission customers to assign transmission rights to another party with subsequent notification to the transmission provider. The Commission also directed transmission providers, working through NAESB, to develop appropriate OASIS functionality to allow such postings. Transmission providers were not required to implement this new OASIS functionality or any related business</p>	WEQ 2007 Annual Plan Item 2(a)(i)	<p>FORMAL COMMENT: Posted for formal comment April 5, 2007 with comments due on May 4, 2007.</p> <p>WEQ EC VOTE: The WEQ Executive Committee adopted a revised recommendation during the May 8, 2007 WEQ EC meeting.</p> <p>RATIFICATION: The recommendation, as revised by the WEQ Executive Committee was posted for member ratification on June 22, 2007 with ballots due on July 23, 2007. The ratification results are posted on the NAESB website.</p>	<p>Completed.</p> <p>The final action is posted on the NAESB WEQ Final Actions page: 2007 WEQ Annual Plan Item 2 Final Action - Recommendation for Revision to Final Action R04006D to align the Resales Standards with Order 890</p> <p>The Subcommittee believes the final action conforms with Order 890-A.</p>

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	<p>practices until NAESB develops appropriate standards.</p> <p>422. The Commission affirms the decision in Order No. 890 to require assignees to execute a service agreement with the transmission provider governing reassignments of transmission capacity prior to scheduling use of that capacity. We provide clarification of this requirement, however, in response to the concerns raised by petitioners. In Order No. 890, the Commission required that all reassignments be accomplished by the assignee executing a service agreement with the transmission provider that will govern the provision of reassigned service. The Commission did not intend to impose contracting obligations that are more onerous than the acquisition of primary transmission capacity, which may be accomplished through execution of a service agreement followed by scheduling on OASIS. We clarify that it is equally sufficient for an assignee to execute a service agreement governing its reassignments of capacity generally and to complete a particular assignment through the OASIS. However, as with reservations of primary transmission capacity, there remains a threshold requirement to execute a service agreement with the transmission provider in order to commit the assignee to abide by the terms and conditions of the transmission provider's OATT governing the reassignment of transmission service.</p> <p>423. It would not be appropriate to relieve assignees of the obligation to execute a service agreement with the transmission provider since such agreements establish the necessary contractual relationship between the assignee and the transmission provider. As we explain above, sales of reassigned capacity now take place under the transmission provider's OATT and, thus, there must be a contractual relationship between these parties. This does not mean, however, that all of the terms and conditions of a particular assignment must be stated in the service agreement. Like short-term firm and non-firm reservations of primary capacity, the transmission provider and assignee may rely on OASIS to provide information regarding the reseller, quantity, and price associated with a particular reassignment of service. This information would then become part of the binding agreement between the transmission provider and assignee governing the assignment, just as confirmation of short-term firm and non-firm transactions on OASIS constitute binding contractual commitments. Because execution of a service agreement with the transmission provider governing reassignments of capacity is a threshold requirement for an assignee wishing to accomplish a particular reassignment on OASIS, Bonneville's concern regarding the failure of an assignee to return its service agreement is misplaced. The assignee in that instance would have no right to schedule a reassignment on OASIS since it has not first executed the appropriate service agreement with the transmission provider.</p> <p>424. Some of the confusion regarding these contracting requirements may have been caused by the Commission's reference in section 23.1 of the revised pro forma OATT to</p>			

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	<p>a service agreement "that will govern the provision of reassigned service," which could be interpreted to refer to transaction-by-transaction service agreements for reassignments. Inclusion of the words "Long-Term Firm" in both the title of the form of service agreement and the attached specifications in the new Attachment A-1 to the pro forma OATT adopted in Order No. 890 may have added to the confusion by potentially implying that use of the service agreement is limited to long-term firm point-to-point transactions instead of also applying to short-term firm point-to-point and non-firm point-to-point reassignments, as intended by the Commission. We revise section 23.1 of the pro forma OATT and the title of Attachment A-1 to make clear that use of the form of service agreement for reassigned capacity, and associated posting of schedules and transaction information on OASIS, should be similar to the use of such agreements for primary capacity.</p> <p>425. The execution of a service agreement by the assignee does not itself terminate the reseller's service agreement, as EEI argues. The reseller's service agreement remains in place, granting the reseller scheduling rights for the reserved capacity and obligating the reseller to pay for that reservation. During the term of the assignment, the reseller will continue to be billed under its agreement with the transmission provider. The assignment of service simply transfers to the assignee some or all of the reseller's scheduling rights for the period of the reassignment and, in return, obligates the assignee to pay the transmission provider the negotiated rate. In order to prevent over-recovery by the transmission provider, the transmission provider must therefore credit the reseller the reassignment rate, which leaves the reseller with the net difference between the resale rate and the reseller's original rate. If the assignee defaults and fails to pay for the reassigned capacity, the transmission provider should reverse the credit to the reseller to reflect the lack of payment by the assignee.</p> <p>426. We disagree that these billing requirements are unduly burdensome. While it is true that the transmission provider may be required to bill at different rates, that is already the case under the pro forma OATT. Transmission providers are permitted to offer discounts from the rates stated in their OATT, provided they offer such discounts to all eligible customers. Offering discounts thus creates different rates for different customers depending on when they negotiate service. The transmission provider therefore should already have mechanisms in place to bill customers based on rates other than those stated in its OATT. In any event, the need to bill assignees directly for reassignments is inextricably linked to the decision to require that all reassignment transactions take place pursuant to the rate on file in the transmission provider's OATT, rather than bilateral agreements between customers. We therefore do not intend for the discount rule or the price ceilings otherwise stated in the transmission provider's OATT to apply to reassignments of capacity. We have revised schedules 7 and 8 of the pro</p>			

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	<p>forma OATT accordingly.</p> <p>427. We clarify that, to the extent necessary, the costs incurred by the transmission provider to account and bill for reassignments of transmission capacity should be included in the transmission provider's cost of service, just like accounting and billing costs for any other service under the transmission provider's OATT. We decline MidAmerican's request to prohibit further assignments of reassigned capacity. Order No. 888 allowed for multiple reassignments under the pro forma OATT and MidAmerican does not justify departing from this practice. Just as the original transmission customer may find that it has excess capacity it can reassign, so may an assignee. Denying the assignee's right to further assign its scheduling rights would inhibit customers who value the capacity most from accessing it and thereby contradict the Commission goal of creating a competitive secondary market for transmission capacity.</p> <p>428. With regard to OASIS modifications necessary to allow for the reassignment of transmission capacity, the Commission in Order No. 890 already directed transmission providers working through NAESB to develop appropriate OASIS functionality to allow for reassignment-related postings. We understand that this work is on-going and expect any necessary modifications to NAESB's business practices that are necessary to reflect our rulings in this order will be adopted prior to the submission of those standards for Commission review. In the interim, transmission providers should identify in their business practices any procedures necessary to accomplish the reassignment of capacity by their customers.</p>			
	GROUP 1: ANNOTATIONS FOR ATC; LOAD FORECAST AND ACTUAL LOAD; RE-BID OF PARTIAL SERVICE; PRECONFIRMATION PRIORITY; and CONDITIONAL FIRM			
	Conditional Firm, Annotations For ATC; Load Forecast And Actual Load; Re-Bid Of Partial Service; And Preconfirmation Priority S&CP Requirements	WEQ 2008 Annual Plan Item 2(a)(i)(1)	<p>FORMAL COMMENT: Sent during the 3rd Quarter 2007.</p> <p>WEQ EC VOTE: EC notational ballot due January 16, 2008.</p> <p>RATIFICATION: The ratification of the Recommendation will be completed during 1st Quarter 2008.</p>	Split into individual items – see below
✓ 1078	Conditional Firm: In Paragraph 1078 of Order 890, the Commission directed transmission providers to "assign short-term firm service to conditional firm customers as the service becomes available." The Commission also directed transmission providers to work with NAESB to "develop the appropriate communications protocols to implement this attribute of conditional firm service." NAESB will develop OASIS	WEQ 2008 Annual Plan Item 2(a)(i)(2)	<p>FORMAL COMMENT: 3rd Quarter, 2008</p> <p>WEQ EC VOTE: 3rd Quarter, 2008</p> <p>RATIFICATION: 3rd Quarter, 2008</p>	Initial working paper of draft requirements to be posted in April 2008. On April 4, 2008, the

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	<p>business practices (to complement the OASIS S&CPs developed in 2008 AP item 2(a)(i)(1)) that will implement the ability to assign short-term firm service to conditional firm customers.</p> <p>Development of communication protocols for conditional firm including tracking mechanism and regional variation. Need to review the tagging rules related to the use of conditional firm.</p> <p>Order 890-A:</p> <p>566. During non-conditional periods, conditional firm service is subject to pro rata curtailment consistent with curtailment of any other long-term firm service. During the hours or specific system conditions when conditional firm service is conditional, conditional firm service share the same curtailment priority as secondary network service. In such circumstances, transmission providers will be allowed to curtail only for reliability reasons and conditional firm customers during conditional curtailment hours will be curtailed only after all point-to-point non-firm customers have been curtailed. If the customer selects the annual hourly cap option, the transmission provider will have the flexibility to conditionally curtail the customer for any reliability reason during those hours, including but not limited to, the system condition(s) identified in the system impact study.</p> <p>567. The Commission provided that short-term firm service reserved prior to the reservation of conditional firm service will maintain priority over conditional firm service in the periods when conditional firm service is conditional, i.e., when specified system conditions exist or conditional curtailment hours apply. Transmission providers were directed to work with NAESB to develop the appropriate communications protocol to allow for automatic assignment of short-term firm point-to-point service to conditional firm customers to the extent short-term service becomes available. Transmission providers need not implement this requirement until NAESB develops appropriate communications protocols.</p> <p>569. Finally, the Commission recognized that there may be some regional variation in the way transmission providers approach the provision of conditional firm service beyond the minimum attributes that established in Order No. 890. The Commission directed transmission providers located in the same region to coordinate among themselves to develop business practices for implementation of the conditional firm service. In order to allow time for this regional coordination, the Commission directed transmission providers to implement these mechanisms and business practices within 180 days after the publication of this Final Rule in the Federal Register, or October 11, 2007.</p> <p>585. We also agree with MidAmerican that a transmission provider's waiver of a</p>	<p>Home</p>		<p>ESS/ITS voted to send this recommendation out for informal comments due April 11, 2008.</p> <p>Voted out of subcommittee for formal comment on June 24, 2008.</p> <p>Recommendation posted for 30-day formal comment period on June 25th.</p> <p>Approved by WEQ EC on August 8, 2008</p> <p>Ratified by the membership on 9/25/2008.</p>

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		<p>reassessment for conditional firm or planning redispatch service does not constitute a waiver of all reassessments for the duration of the service, unless explicitly agreed to by the transmission provider. We reiterate, however, that only one reassessment may be performed in each two-year period of service. We also affirm that any waiver must be granted for similarly situated service, which would include conditional firm or planning redispatch service that is limited because of the same constraints or general system limitations. Such a waiver would be an act of discretion that must be posted on OASIS. Waiver of the reassessment presents an opportunity for discrimination among classes of customers on the part of the transmission provider and posting will provide eligible customers with an indicator of how often conditions or redispatch requirements have been reassessed. Transmission providers are directed to develop uniform OASIS posting standards, in coordination with NAESB, for transmission providers to post information regarding waivers of the biennial reassessment for planning redispatch and conditional firm service.</p>			
✓	369	<p>Annotations for ATC: OASIS Business Practice Standards (to complement the OASIS S&CPs developed in 2008 AP item 2(a)(i)(1)) that will “require that the transmission provider post a brief, but specific, narrative explanation of the reason for a change in monthly and yearly ATC values on a constrained path.” The posting requirements will include posting of “(1) specific events which gave rise to the change and (2) new values for ATC on that path (as opposed to all points on the network).”</p>	WEQ 2008 Annual Plan Item 2(a)(i)(3)	<p>FORMAL COMMENT: 1st Quarter, 2008 WEQ EC VOTE: 2nd Quarter, 2008 RATIFICATION: 2nd Quarter, 2008</p>	<p>Assigned to BPS/ESS/ITS (see above BPS/ESS/ITS item that reference WEQ 2008 AP Item 2(b)(v)(3)). Voted out of subcommittee for formal comment on February 13, 2008. Approved by the EC via notational ballot on April 14th. Membership ratification to be completed by May 16th. Ratified by the membership on 5/16/2008.</p>
✓	416	<p>Load Forecast and Actual Load: OASIS Business Practice Standards (to complement the OASIS S&CPs developed in 2008 AP item 2(a)(i)(1)) for the posting of “load forecasts and actual daily peak load for both system-wide load (including native load) and native load.”</p> <p>Order 890-B: 35. We clarify, however, that the Commission intended for transmission providers to post the underlying factors used to make load forecasts that have a significant impact on calculations, such as temperature forecasts, not all economic and other data that</p>	WEQ 2008 Annual Plan Item 2(a)(i)(4)	<p>FORMAL COMMENT: 2nd Quarter, 2008 WEQ EC VOTE: 2nd Quarter, 2008 RATIFICATION: 2nd Quarter, 2008</p>	<p>Assigned to BPS/ESS/ITS (see above BPS/ESS/ITS item that reference WEQ 2008 AP Items 2(b)(v)(4) and (5)). Voted out of subcommittee for formal comment on March 10, 2008.</p>

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✓	<p>underlies each and every daily load forecast. Transmission providers must post a description of their load forecast method including how economic and weather assumptions are used in load forecasting. The Commission's intent is to increase transparency in the transmission provider's process of forecasting, providing assurance to customers that loads are consistently being forecast using methodologies which are not subject to daily manipulation to favor affiliates.</p> <p>Re-bid of Partial Service: OASIS Business practice standards (to complement the OASIS S&CPs developed in 2008 AP item 2(a)(i)(1)) for re-bid of partial service across a single Transmission Provider's system.</p>	WEQ 2008 Annual Plan Item 2(a)(i)(5)	<p>FORMAL COMMENT: 1st Quarter, 2008 WEQ EC VOTE: 1st Quarter, 2008 RATIFICATION: 1st Quarter, 2008</p>	<p>Approved by the EC via notational ballot on April 23rd. Membership ratification completed on July 23rd.</p>
✓	<p>Pre-confirmation Priority: Development of OASIS business practice standards (to complement the OASIS S&CPs developed in 2008 AP item 2(a)(i)(1)) to prohibit "transmission customers from changing a request into a pre-confirmed request and requiring OASIS platforms to be accessible on non-Windows/Explorer computers." Pre-confirmation Priority: Development of OASIS Business Practice Standards and OASIS S&CPs so that "pre-confirmed non-firm point-to-point transmission service requests and short-term firm point-to-point transmission service requests" have priority though "longer duration requests for transmission service will continue to have priority over shorter duration requests for transmission service." The standards will be written such that pre-confirmation will serve as a "tie-breaker" when the requests are of equal duration.</p> <p>Appendix C – OASIS Exemptions</p>	WEQ 2008 Annual Plan Item 2(a)(i)(6)	<p>FORMAL COMMENT: 1st Quarter, 2008 WEQ EC VOTE: 1st Quarter, 2008 RATIFICATION: 1st Quarter, 2008</p>	<p>Voted out of subcommittee for formal comment on 2/12/2008. WEQ EC adopted the recommendation on May 13. Membership ratification to be completed by June 23rd. Recommendation was ratified by the membership on June 23rd.</p>
✓		WEQ 2008 Annual Plan Item 2(a)(i)(7)	<p>FORMAL COMMENT: Voted out of subcommittee 12/17/2007. Formal Comment period 12/19/2007 through 1/19/2008. WEQ EC VOTE: Approved February 4, 2008 RATIFICATION: Ratification</p>	<p>Ratified by the membership on 3/13/2008.</p>

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	GROUP 2: METRICS; REDISPATCH COST POSTING			
✓ 413	<p>Metrics: Business Practice standards s to “post on OASIS metrics related to the provision of transmission service under the OATT” including the posting of:</p> <ul style="list-style-type: none"> • “the number of affiliate versus non-affiliate requests for transmission service that have been rejected”; • “the number for affiliate versus non-affiliate requests for transmission service that have been made”; <p>These standards will also set forth in the above referenced posting requirements the length of the service request and the type of the service requested.</p>	WEQ 2008 Annual Plan Item 2(a)(ii)(1)	<p>FORMAL COMMENT: 1st Quarter, 2008</p> <p>WEQ EC VOTE: 1st Quarter, 2008</p> <p>RATIFICATION: 1st Quarter, 2008</p>	<p>Voted out of subcommittee for formal comment on 2/12/2008.</p> <p>WEQ EC adopted the recommendation on May 13.</p> <p>Membership ratification to be completed by June 23rd.</p> <p>Recommendation was ratified by the membership on June 23rd</p>
✓ 1318	<p>Metrics: OASIS business practice standards to implement the standard performance (planning study) metrics set forth in Order 890, Paragraphs 1308-1317.</p>	WEQ 2008 Annual Plan Item 2(a)(ii)(2)	<p>FORMAL COMMENT: 1st Quarter, 2008</p> <p>WEQ EC VOTE: 1st Quarter, 2008</p> <p>RATIFICATION: 1st Quarter, 2008</p>	<p>Voted out of subcommittee for formal comment on 2/12/2008.</p> <p>WEQ EC adopted the recommendation on May 13.</p> <p>Membership ratification to be completed by June 23rd.</p> <p>Recommendation was ratified by the membership on June 23rd</p>
✓ 1162	<p>Redispatch Cost Posting: Business practices for redispatch cost postings:</p> <ul style="list-style-type: none"> • The posting of redispatch information will also include the posting of each transmission provider’s “monthly average cost of redispatch for each internal congested transmission facility or interface over which it provides redispatch service using planning redispatch or reliability redispatch under the pro forma OATT.” • The business practice standards for redispatch cost postings will also include functionality for transmission providers to post “a high and low redispatch for the month” each internal congested transmission facility or interface over which it provides redispatch service. 	WEQ 2008 Annual Plan Item 2(a)(ii)(3)	<p>FORMAL COMMENT: 1st Quarter, 2008</p> <p>WEQ EC VOTE: 1st Quarter, 2008</p> <p>RATIFICATION: 1st Quarter, 2008</p>	<p>Voted out of subcommittee for formal comment on 2/12/2008.</p> <p>WEQ EC adopted the recommendation on May 13.</p> <p>Membership ratification to be completed by June 23rd.</p> <p>Recommendation was ratified by the membership on June 23rd</p>

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	<p>Order 890-A:</p> <p>621. Transmission providers must post internal constraint or interface data for the month if any planning redispatch or reliability redispatch is provided during the month, regardless of whether the transmission customer is required to reimburse the transmission provider for those exact costs. Thus, if the transmission customer pays for planning redispatch pursuant to a negotiated fixed rate, the transmission provider is required to post and calculate the monthly average redispatch costs and the high and low costs in the month even though the transmission provider will bill the customer the fixed rate. The same posting requirement applies if the customer is paying a monthly "higher of" rate. The Commission concluded that the relevant reliability redispatch costs for posting purposes are those costs the transmission provider invoices network customers based on a load ratio share pursuant to section 33.3 of the pro forma OATT. The transmission provider must post this data on OASIS as soon as practical after the end of each month, but no later than when it sends invoices to transmission customers for redispatch-related services. The Commission directed transmission providers to work in conjunction with NAESB to develop this new OASIS functionality and any necessary business practice standards.</p>			on June 23 rd
GROUP 3: NETWORK SERVICE ON OASIS				
I 385	<p>Development of OASIS business practice standards and OASIS S&CPs for "transmission providers and network customers to use OASIS to request designation of new network resources and to terminate designation of network resources." Shall be posted on OASIS for 90 days and available for audit for a 5 year period.</p>	<p>WEQ 2009 Annual Plan Item 2(a)(i)(1) See also WEQ 2009 Annual Plan items 2(b)(i)(1) and 3(a)(i)</p>	<p>FORMAL COMMENT: 4th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010</p>	<p>Concept Paper posted 11/7/2007. Concepts discussions continued 1st Quarter 2009.</p>
I 385	<p>The standards will include the ability to electronically query requests to designate and terminate network resources and will require development of OASIS templates and to allow for queries of all information provided with designation requests.</p> <p>Order 890-B:</p> <p>209. We also conclude that concerns regarding the ability to verify or monitor the buyer's decision to designate a purchase of system power as a network resource are overstated in light of the clarification that the buyer and seller must be on the same transmission system. In Order No. 890, the Commission directed transmission providers, working through NERC, to develop OASIS functionality for the designation of network resources and for queries of information provided with designation requests.</p>	<p>WEQ 2009 Annual Plan Item 2(a)(i)(2) See also WEQ 2009 Annual Plan items 2(b)(i)(1) and 3(a)(i)</p>	<p>FORMAL COMMENT: 4th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010</p>	<p>Concept Paper posted 11/7/2007. Concepts discussions continued 1st Quarter 2009.</p>

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		Parties to a sale of system power on the same transmission system will therefore have ready access to the treatment of the resource. Sellers also may rely on commitments made by the buyer to designate the purchase as a network resource.			
I	1477	The standards will include the ability to mask information "about operating restrictions and generating cost on OASIS"	WEQ 2009 Annual Plan Item 2(a)(i)(3) See also WEQ 2009 Annual Plan items 2(b)(i)(1) and 3(a)(i)	FORMAL COMMENT: 4 th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010	Concept Paper posted 11/7/2007. Concepts discussions continued 1 st Quarter 2009.
I	1477	Development of OASIS business practice standards and OASIS S&CPs that describe the procedural requirements for submitting designations over any new OASIS functionality. Order 890-A: 919. The Commission clarifies, in response to South Carolina E&G's request, that the language in paragraph 1521 of Order No. 890 is only meant to be a paraphrase of the more detailed attestation to be provided in the pro forma OATT itself. A network customer designating network resources should submit an attestation using the language set forth in sections 29.2(viii) and 30.2 of the pro forma OATT, as amended in Order No. 890, not the language of the preamble. A network customer is not permitted to merely reference the applicable section of the pro forma OATT when completing the attestation requirement. If the OASIS customer comment section does not currently allow enough space for a network customer to provide its attestation, transmission providers should modify, in coordination with NAESB, OASIS functionality to accommodate the full attestation. In the interim, the transmission provider should identify alternate means, such as by telefax or e-mail, for the network customer to provide the attestation.	WEQ 2009 Annual Plan Item 2(a)(i)(4) See also WEQ 2009 Annual Plan items 2(b)(i)(1) and 3(a)(i)	FORMAL COMMENT: 4 th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010	Concept Paper posted 11/7/2007. Concepts discussions continued 1 st Quarter 2009.
I	1504	Development of OASIS business practice standards and OASIS S&CPs to specify how designated network service informational postings are posted on OASIS . Develop details of how the view, download, and query requirements for information posted regarding network resource designations informational postings.	WEQ 2009 Annual Plan Item 2(a)(i)(5) See also WEQ 2009 Annual Plan items 2(b)(i)(1) and 3(a)(i)	FORMAL COMMENT: 4 th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010	Concept Paper posted 11/7/2007. Concepts discussions continued 1 st Quarter 2009.

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I 1532	<p>Development of OASIS business practice standards and OASIS S&CPs to set forth the "treatment of OASIS requests when the customer fails to provide the necessary attestation," when submitting a request to designate a new network resource.</p> <p>Attestation: Formatting of attestation information that will be provided on OASIS.</p> <p>Order 890-B:</p> <p>182. The Commission grants rehearing to more accurately state the requirement to provide an attestation supporting the designation of network resources pursuant to sections 29.2(viii) and 30.2 of the pro forma OATT. In order to designate a network resource, section 30.7 of the Order No. 888 pro forma OATT required each network customer to demonstrate that (i) it owns or has committed to purchase generation pursuant to an executed contract or (ii) execution of a contract is contingent upon the availability of transmission service in order to designate a generating resource. In Order No. 890, the Commission adopted the attestation requirement as the means by which the network customer can make this demonstration, revising sections 29.2 and 30.2 accordingly. We affirm this requirement, consistent with the network customer's obligations under section 30.7, and grant rehearing of the Commission's statements in this proceeding indicating that the attestation can instead be submitted at the time a resource designation is confirmed, rather than requested.</p> <p>183. We disagree with NRECA and TDU Systems that a customer submitting an attestation pursuant to section 29.2(viii) or 30.2 of the pro forma OATT must commit to purchase the resources for which designation is requested irrespective of the outcome of the network service request. Consistent with section 30.7, a network customer may attest that execution of a contract is contingent upon the availability of transmission service under Part III of the pro forma OATT. Network customers are therefore not required to commit to purchasing a resource prior to submitting a request to designate that resource.</p>	<p>WEQ 2009 Annual Plan Item 2(a)(i)(6)</p> <p>See also WEQ 2009 Annual Plan items 2(b)(i)(1) and 3(a)(i)</p>	<p>FORMAL COMMENT: 4th Quarter, 2009</p> <p>WEQ EC VOTE: 2010</p> <p>RATIFICATION: 2010</p>	<p>Concept Paper posted 11/7/2007.</p> <p>Concepts discussions continued 1st Quarter 2009.</p>
I 1541	<p>Development of OASIS business practice standards and OASIS S&CPs to describe "the procedural requirements for submitting both temporary and indefinite terminations of network resources, to allow network customers to provide all required information for such terminations." These business practice standards will include the functionality set forth in Order 890, Paragraph 1541.</p>	<p>WEQ 2009 Annual Plan Item 2(a)(i)(7)</p> <p>See also WEQ 2009 Annual Plan items 2(b)(i)(1) and 3(a)(i)</p>	<p>FORMAL COMMENT: 4th Quarter, 2009</p> <p>WEQ EC VOTE: 2010</p> <p>RATIFICATION: 2010</p>	<p>Concept Paper posted 11/7/2007.</p> <p>Concepts discussions continued 1st Quarter 2009.</p>
I 1541	<p>Development of OASIS business practice standards and OASIS S&CPs to describe "the procedures for submitting and processing requests for concomitant evaluations of</p>	<p>WEQ 2009 Annual Plan</p>	<p>FORMAL COMMENT: 4th Quarter, 2009</p>	<p>Concept Paper posted 11/7/2007.</p>

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	<p>transmission requests and temporary terminations.</p> <p>Order 890-B:</p> <p>188. In Order No. 890, the Commission directed transmission providers to evaluate as a single request a request for temporary undesignation and related requests for transmission service. Transmission providers were therefore directed to develop, working through NAESB, business practices allowing for electronic identification of related transmission service requests to be evaluated concomitantly with the request for temporary undesignation. This was appropriate in light of the Commission's decision to allow network customers to temporarily undesignate their network resources without forfeiting the right to use the resource at a specified point in the future, provided they pair the temporary undesignation with a request to redesignate the resource.</p> <p>189. We find that similar procedures for permanent undesignations of network resources are unnecessary given the transmission provider's obligation to consider clustering transmission service requests at the request of customers. If a network customer or the transmission provider's merchant function wishes for the transmission provider to take into consideration the effect of a request to terminate a network resource on a concomitant request to designate another network resource, it may request the transmission provider to cluster the requests. As Transerv acknowledges, this will not alter the priority of the network customer or the transmission provider's merchant function with regard to any ATC that may be made available by undesignating the network resource.</p>	<p>Item 2(a)(i)(8) See also WEQ 2009 Annual Plan items 2(b)(i)(1) and 3(a)(i)</p>	<p>WEQ EC VOTE: 2010 RATIFICATION: 2010</p>	<p>Concepts discussions continued 1st Quarter 2009.</p>
GROUP 4: PRE-EMPTION; REQUEST R05019; and REVISIONS TO STANDARD 9.7				
N S	<p>Pre-emption: Revise OASIS business practice standards and OASIS S&CPs so that "a new pre-confirmed request for transmission service would preempt a request of equal duration that has been accepted by the transmission provider but not yet confirmed by the transmission customer." It is the expectation that the business practice standards to address preemption will be developed in conjunction with NAESB Request No. R05019 to modify OASIS standards and OASIS S&CPs to clearly document the procedures used to implement the displacement/interruption terms of the Pro Forma tariff.</p> <p>This is consistent with NAESB Standard WEQ 001-4.25.</p> <p>Order 890-A:</p> <p>814. The Commission affirms the decision in Order No. 890 not to change the "first-come, first served" nature of the reservation process and the right of first refusal. These policies have worked well in the past and, as we explain in Order No. 890, benefit transmission providers and customers alike by facilitating the administration of the reservation process and removing confusion about how to comply.</p>	<p>WEQ 2009 Annual Plan Item 2(a)(ii)(1)</p>	<p>REQUEST FOR RECONSIDERATION PENDING AT FERC MAY IMPACT TARGET DATES. FORMAL COMMENT: 4th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010</p>	<p>Not Started</p>

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	<p>815. We disagree with Duke and TransServ that the right of first refusal policies should be revised based on complex hypotheticals involving the preemption of multiple short-term reservations. The complexities pointed to by these commenters do not by themselves warrant changing the right of first refusal rule. Even though we recognize the potential for complexities to arise under the right of first refusal rule, we believe them to be relatively limited. In the off-chance that multiple eligible customers with short-term reservations choose to exercise their right of first refusal for the same capacity simultaneously, the Commission believes that they should have a right to do so.</p> <p>816. We therefore decline to expand upon the language of the pro forma OATT to account for every factual scenario that could arise under sections 13.2 and 14.2 of the pro forma OATT. Sections 13.2 and 14.2 of the pro forma OATT set forth adequate guidance for transmission providers to fairly administer competing requests, including the priorities for determining which reservations or requests trump one another as well as the timeframes for eligible customers to respond to competing requests. As noted above, we recognize that certain unique cases can present difficult allocation issues, but conclude that these extreme cases arise infrequently in the normal course of business. In the vast majority of cases, we believe the right of first refusal rules are efficient and easy to administer without further amending the governing tariff language, as Bonneville and Southern suggest.</p> <p>817. To the extent necessary, the Commission clarifies that a "competing request" under sections 13.2 and 14.2 of the pro forma OATT may include a transmission service request that overlaps with only part of another existing transmission service reservation since both requests cannot be granted simultaneously. Accordingly, a "competing request" for purposes of sections 13.2 and 14.2 may also include a transmission service request for which transmission capacity cannot be accommodated without preempting one or more existing transmission reservations of parts thereof.</p> <p>818. In response to TransServ and Duke, we clarify that sections 13.2 and 14.2 allow an eligible customer to retain its original reservation by matching the competing service request's cost or duration terms exactly or by exceeding one or more of the terms of a competing transmission service request. Since any "match" by an eligible customer in response to a potentially preempting request, by definition, either exceeds the costs, duration or both of the eligible customer's original reservation, we do not believe eligible customers opting to match a competing request have a strong incentive, if any, to "match" a competing request with terms that exceed the competing request. Nevertheless, we do not see any harm resulting from a match that exceeds the exact terms of a competing request and therefore believe it would not be appropriate to preclude the ability of eligible customers to make such a request.</p> <p>819. With regard to reassignments of capacity in the secondary market, we clarify that</p>			

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	<p>the associated right of first refusal under sections 13.2 and 14.2 of the pro forma OATT to match a competing transmission service request applies to the primary transmission service, not the reassignment of scheduling rights. Using TransServ's example, the reassignment of one day of a customer's weekly service would not cause the assignor or the assignee to match a competing three day request for service since the initial one week reservation already exceeded the competing request. The fact that one day of service has been reassigned does not alter the assignor's entitlement to use service for the remaining week reserved.</p> <p>Order 890-B: 161. The Commission declines to address in this rulemaking proceeding how transmission providers should resolve complicated and fact-specific scenarios such as the cascading rights of first refusal described by Duke. Sections 13.2 and 14.2 of the <u>pro forma</u> OATT provide adequate guidance for transmission providers to fairly administer the vast majority of competing requests, including priorities for determining which reservations or requests trump one another as well as the timeframes for eligible customers to respond to competing requests. As the Commission explained in Order No. 890-A, we expect that more complex circumstances such as those suggested by Duke will be relatively limited and, therefore, are best addressed on a case-by-case basis. Transmission providers remain free, however, to develop through the NAESB process standard procedures for processing complicated request scenarios.</p>	WEQ 2009 Annual Plan Item 2(a)(ii)(2) See also WEQ 2009 Annual Plan Item 3(a)(iii)	<p>REQUEST FOR RECONSIDERATION PENDING AT FERC MAY IMPACT TARGET DATES. FORMAL COMMENT: 4th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010</p>	Not Started
N S	<p>NAESB Request No. R05019: During the work to address FERC Order 890, the ESS/ITS will also use the opportunity to modify OASIS standards and S&CP to clearly document the procedures used to implement the displacement/interruption terms of the Pro Forma tariff as requested in NAESB Request No. R05019</p>	WEQ 2009 Annual Plan Item 2(a)(ii)(3)	<p>FORMAL COMMENT: 1st Quarter, 2009 WEQ EC VOTE: 2nd Quarter, 2009 RATIFICATION: 2nd Quarter, 2009</p>	On February 11-12, 2008, the ESS/ITS voted to send this recommendation out for informal comments due March 25, 2008. November 4, 2008 WEQ EC Task Force created January 8, 2009 EC Task
C	<p>Revisions to Standard 001-9.7: NAESB will continue to work to revise NAESB WEQ business practice standard WEQ 001-9.7 (which addresses rollover rights for Redirected transmission service) to be consistent with the Commission's policies.</p> <p>Order 890-A: 697. Pursuant to Section 22 of the pro forma OATT, a transmission customer taking firm point-to-point service may modify its receipt and delivery points, i.e., redirect its service, on either a non-firm or firm basis. In Order No. 676, the Commission adopted the "Standards for Business Practices and Communication Protocols for Public Utilities"</p>			

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	<p>developed by the NAESB's Wholesale Electric Quadrant (WEQ). The WEQ standards include standards addressing requirements for redirects on both a firm and non-firm basis, all of which were incorporated by reference into the Commission's regulations except for WEQ Standard 001-9.7, which addressed the impact of redirects on the rollover rights of a long-term transmission customer. Order No. 676 directed the WEQ to reconsider WEQ Standard 001-9.7 and develop a revised standard consistent with Commission policy.</p> <p>698. In Order No. 890, the Commission affirmed reliance on the NAESB process to develop business practices implementing the Commission's redirect policy. The Commission also determined that the reforms adopted in Order No. 676, in combination with the OATT-related reforms adopted in this proceeding, were adequate to ensure that transmission providers do not engage in undue discrimination when a customer seeks to modify its receipt and delivery points on a firm basis. With respect to the effect of redirects on rollover rights, the Commission affirmed its policy allowing a redirect of a firm, long-term service to retain rollover rights, even if the redirect is requested for a shorter period. The Commission concluded that a transmission customer should not have to choose between maintaining its rollover rights and redirecting on a firm basis. The Commission noted, however, that any change to a delivery point would be treated as a new request for service for purposes of determining availability of capacity. As a result, a redirect right does not grant the customer access to system capacity or queue position different from other customers submitting new requests for service. The Commission also provided guidance regarding the processing of, and pricing for, redirected service.</p> <p>700. If the Commission decides to maintain rollover rights for redirects, MISO proposes the following limitations and requests the Commission to direct NAESB to draft its business practices accordingly. First, MISO suggests that the primary path agreement should have a term of at least five years for any rollover rights to attach. Second, MISO requests that any redirect must be for firm service for one year or longer. If the redirect is for a shorter period, MISO contends that the rollover rights should remain with the original path. Third, MISO requests redirected service to terminate on the same date as the parent service so as to maintain the timing for execution of rollover rights. Finally, MISO suggests that in order to execute a rollover right the redirected service must be requested and granted prior to the one-year deadline for the customer to request rollovers along the original path.</p> <p>702. TransServ also requests clarification regarding the requirement for the rollover right to follow the redirect, regardless of the duration of the redirect. TransServ questions whether a redirect of a long-term firm service reservation for one day qualifies that customer for rollover rights on the redirected service points. TransServ suggests that the</p>	<p>Force conference call with FERC Staff February 3, 2009 WEQ EC remanded to ESS-ITS February 4, 2009 ESS-ITS began reconsidering.</p>		

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	<p>Commission instead restrict rollover rights on redirected service points to redirects of five years or longer and further require that the redirect be co-terminus with the original request being redirected. TransServ argues that more guidance regarding implementation of the rollover and redirect policies will facilitate the NAESB standards development process.</p> <p>704. The Commission denies petitioners' requests to amend the rights of rollover customers to redirect their service. Under section 22.2 of the pro forma OATT, a request for a firm redirect must be treated like a request for new transmission service. As a new request for service, each redirect request is subject to the availability of capacity and subject to the possibility that the transmission provider may not be able to provide rollover rights on the new redirected path. The transmission provider is required to offer rollover rights to a customer requesting a firm redirect only if rollover rights are available on the redirected path, i.e., to the extent not restricted based on reasonable forecasts of native load growth or preexisting contracts that commence in the future.</p> <p>705. As the Commission explained in Order No. 890, rollover rights follow the redirect regardless of the duration of the redirect. A transmission customer making a firm redirect request does not convert its original long-term firm transmission service agreement into two short-term service agreements, nor does it lose its rollover rights under its long-term firm transmission service agreement. At the same time, a customer can exercise its rollover right only at the end of the contract. Thus, if a customer with rollover rights chooses to redirect its capacity for less than the full remaining term of the contract, absent some further request to redirect, the original path will automatically be reinstated and rollover rights would remain on only the original path. By contrast, if the customer chooses to redirect its capacity until the end of its contract, the customer would have rollover rights along only the redirected path, and only to the extent not restricted based on native load growth or future contracts along the redirected path.</p> <p>706. We therefore reject requests to restrict rollover rights to longer-term redirects. A long-term transmission customer may request multiple, successive redirects for firm service. This discretion is limited by the fact that each successive request is treated as a new request for service in accordance with section 17 of the pro forma OATT. Each request is therefore subject to the availability of capacity and subject to the possibility that the transmission provider may not be able to provide rollover rights on the new, redirected path. If the customer has not been granted rollover rights for a redirect that extends to the end of its contract, the redirected service will terminate on the same date as the parent service.</p> <p>707. We also reiterate that a customer cannot exercise any rollover rights unless it first has provided the appropriate notice to the transmission provider. If a customer requests and is granted a rollover right prior to the relevant notice deadline (60 days for pre-Order</p>	Home		

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	<p>No. 890 agreements or one year for all others) and subsequently requests and is granted a redirect for firm service for the remainder of the contract term (i.e., within the notice period), the new reservation governs the rights at the new receipt and delivery points and the customer can obtain rollover rights with respect to the redirected capacity to the extent rollover rights are available for the redirected points. If, however, a customer fails to request a rollover right prior to the relevant notice deadline, the customer forfeits rollover rights along the current or any redirected path.</p> <p>708. We clarify, to the extent necessary, that transfer capability is not freed up for earlier queued service requests until a redirect has been granted. A redirect request must be evaluated in accordance with section 17 of the pro forma OATT using the same system assumptions and analysis applicable to any other new request for service, including whether sufficient ATC exists to accommodate the request. If there is insufficient ATC to offer service to customers in the queue, and an existing customer requests redirected service, any increase in ATC along the original path is contingent upon the acceptance and confirmation of the redirect. It cannot be assumed at the time of a redirect request that the transmission provider will grant the request.</p>			
GROUP 5: PARAGRAPH 1377				
N S	<p>NAESB will develop business practice standards to facilitate the coordination of requests across multiple transmission systems using the principles set forth in Paragraph 1377 of Order 890.</p> <p>Develop S&CPs related to coordination of request across multiple transmission systems.</p> <p>Order 890-A:</p> <p>762. The Commission also required transmission providers working through NAESB to develop business practice standards to better coordinate transmission requests across multiple transmission systems. In order to provide guidance to NAESB, the Commission articulated the principles that should govern processing across multiple systems. The Commission further required transmission providers working through NAESB to develop business practice standards to allow a transmission customer to rebid a counteroffer of partial service so the transmission customer can take the same quantity of service for linked transmission service requests across multiple systems. The Commission explained that the transmission customer should not be required to take the same quantity of service across consecutive transmission service requests and, instead, it should simply have the option to do so.</p> <p>766. The Commission affirms the decision in Order No. 890 to rely on the NAESB process to develop business practices to govern the processing of transmission requests across multiple transmission systems. We decline to dictate at this time, beyond those</p>	<p>WEQ 2009 Annual Plan Item 2(a)(iii)(1)</p>	<p>FORMAL COMMENT: 4th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010</p>	Not Started

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	principles outlined in Order No. 890, the particular practices that must be implemented. It is more appropriate to allow transmission providers working through NAESB, in the first instance, to consider how best to ensure coordination across multiple systems. It is also appropriate to give NAESB an open timeframe to develop these standards since they must be broad enough to account for the complexities of coordinating multi-system transmission service requests.			
N S 1378	Re-bid of Partial Service: OASIS Business practice standards for re-bid of partial service across multiple Transmission Providers' systems. NAESB will develop business practice standards to "allow a transmission customer to rebid a counteroffer of partial service so the transmission customer is allowed to take the same quantity of service across all linked transmission service requests.	WEQ 2008 Annual Plan Item 2(a)(iii)(2)	FORMAL COMMENT: 4 th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010	Not Started
GROUP 6: MISCELLANEOUS				
N S 1390	NAESB plans to review the existing business functions set forth in the NAESB WEQ standards to determine if changes should be made to address Paragraph 1390 of Order 890. FERC: OATT is sufficient to allow a Transmission Provider to manage situations where the Transmission Customer modifies its application for service to the point that the request is "meaningfully different" than initial request. ESS/ITS: need to review if this has any impact on business functions.	WEQ 2008 Annual Plan Item 2(a)(iv)(1)	FORMAL COMMENT: 4 th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010	Not Started
N S 1627	Development of OASIS business practice standards and OASIS S&CPs for "the posting of additional curtailment information on OASIS" via a "detailed template for the posting of additional information on OASIS regarding firm transmission curtailments." Posting of curtailment information on OASIS: develop a detailed template for the posting of additional information on OASIS regarding firm transmission curtailments. Order 890-A: 973. The Commission did not propose in the NOPR, or adopt in Order No. 890, any changes to the terms and conditions under which a transmission provider may curtail service to maintain reliable operation of the grid, as set forth in sections 13.6 and 14.7 for point-to-point service and section 33 for network service. The Commission did, however, conclude that the posting of additional curtailment information is necessary to provide transparency and allow customers to determine whether they have been treated in the same manner as other transmission system users, including customers of the transmission provider. Accordingly, the Commission required transmission providers, working through NAESB, to develop a detailed template for the posting of additional information on OASIS regarding firm transmission curtailments, including all	WEQ 2008 Annual Plan Item 2(a)(iv)(2)	FORMAL COMMENT: 4 th Quarter, 2009 WEQ EC VOTE: 2010 RATIFICATION: 2010	Not Started

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	<p>circumstances and events contributing to the need for a firm service curtailment, specific services and customers curtailed (including the transmission provider's own retail loads), and the duration of the curtailment.</p> <p>Redispatch Cost Posting: Business practices for redispatch cost postings:</p> <p>The business practice standards for redispatch cost postings will include OASIS business practices and any needed additions or revisions to the OASIS Standards & Communication Protocols (S&CPs) to allow for posting of third party offers of planning redispatch services. The business practice standards developed for redispatch cost postings may affect the existing NAESB business practice standards for Transmission Loading Relief. (moved from Group 2)</p> <p>Order 890-A:</p> <p>568. Transmission providers also were directed to work with customers to facilitate the use of third party generation, where available, in provision of planning redispatch. To facilitate provision of redispatch service by third parties, the Commission further directed transmission providers, working through NAESB, to modify their OASIS sites and develop any necessary business practices to allow for posting of third party offers to provide planning redispatch. Again, transmission providers were not required to implement the new OASIS functionality and any related business practices until NAESB develops appropriate standards.</p> <p>Order 890-B:</p> <p>131. In Order No. 890, the Commission directed transmission providers to modify their OASIS sites to allow for posting of third-party offers for planning redispatch and to work with NAESB to develop the OASIS functionality and any necessary business practice standards to allow for third-party planning redispatch. The Commission noted that provision of third party planning redispatch required coordination between the customer, transmission provider and reliability coordinator, but determined that the customer bears the burden to ensure that the necessary contractual and technical arrangements are in place to maintain reliability.</p>	WEQ 2008 Annual Plan Item 2(a)(iv)(3)	<p>FORMAL COMMENT: 4th Quarter, 2009</p> <p>WEQ EC VOTE: 2010</p> <p>RATIFICATION: 2010</p>	Not Started
✓ 243-244	<p>Posting of ETC: OASIS business practice standards and S&CPs necessary to implement the Business Practice Standards developed to complement NERC Reliability Standards for Existing Transmission Commitment (ETC) to create a "consistent approach for determining the amount of transfer capability a transmission provider may set aside for its native load and other committed uses", including the elements of ETC for full implementation of the NERC MOD-001 reliability standard. (moved from Group 1)*</p> <p>*Requirements for a "consistent approach for determining the amount of transfer</p>	WEQ 2008 Annual Plan Item 2(a)(vi)(4) and 2(a)(iv)(4)	<p>FORMAL COMMENT: 2nd Quarter, 2008</p> <p>WEQ EC VOTE: 3rd Quarter, 2008</p> <p>RATIFICATION: 3rd Quarter, 2008</p>	<p>Started May 15, 2008. Task has been reassigned to BPS/ESS/ITS.</p> <p>Recommendation was voted out of subcommittee on June 17, 2008.</p> <p>Formal comment period</p>

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	capability a transmission provider may set aside for its native load and other committed uses" is assigned to BPS/ESS/ITS (see above BPS/ESS/ITS item that references WEQ 2008 AP Items 2(b)(ii)(2)).			closes on July 21, 2008. Approved by WEQ EC August 19, 2008. Ratified by the membership on 9/22/2008.
	GROUP 7: Tagging for Conditional Firm Service, Submittal Windows			
✓	<p>Order 890-A, paragraph 592</p> <p>Tagging for CFS: Within 180 days of Order 890-A publication, develop tracking capabilities and business practices for tagging for implementation of conditional firm service.</p> <p>Order 890-A: 592. We agree with petitioners that the NAESB rules regarding tagging do not allow a transmission provider to change the tag of a transmission customer. That is why, in Order No. 890, the Commission directed transmission providers to coordinate with other transmission providers in their regions to develop their own business practices to implement the tagging and tracking of conditional firm service. Upon consideration of petitioners' concerns, we grant rehearing to require transmission providers, in coordination with NERC and NAESB, to develop within 180 days of publication of this order in the Federal Register a consistent set of tracking capabilities and business practices for tagging for implementation of conditional firm service. We agree with petitioners that a consistent set of practices followed by the industry will reduce transmission provider discretion and bring uniformity in implementing conditional firm service. In the interim, the existing business practices of each transmission provider for tracking and tagging conditional firm service shall remain in effect.</p>	WEQ 2008 Annual Plan Item 2(a)(vii)(1)	<p>FORMAL COMMENT: 3rd Quarter 2008</p> <p>WEQ EC VOTE: 3rd Quarter 2008</p> <p>RATIFICATION: 3rd Quarter 2008</p>	Assigned to the ESS/ITS. Order 890-A publications date: January 16, 2008. On April 4, 2008, the ESS/ITS voted to send this recommendation out for informal comments due April 11, 2008. Recommendation posted for 30-day formal comment period on June 25 th . Approved by WEQ EC on August 8, 2008. Ratified by the membership on 9/25/2008.
N S	<p>Order 890-A, paragraph 805</p> <p>Submittal Windows: Standardized practices for allocating capacity among requests received during a submittal window.</p> <p>Order 890-A: 805. The Commission recognizes that developing methods to allocate capacity among requests received during a submittal window may require detailed procedures, particularly when transmission requests received simultaneously exceed available capacity. As the Commission explained in Order No. 890, however, we believe that each transmission provider is in the best position to develop allocation procedures that are suitable for its system. This does not preclude transmission providers from working through NAESB to develop standardized practices, as suggested by Southern. For example, as we pointed out in Order No. 890, allocation methods such as that used by PJM to allocate monthly firm point-to-point transmission service could provide useful</p>	WEQ 2008 Annual Plan Provisional Item 7	<p>FORMAL COMMENT:</p> <p>WEQ EC VOTE:</p> <p>RATIFICATION:</p>	No date assigned for completion.

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	guidance in developing general allocation procedures.			



RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
For Quadrant: Retail Electric Quadrant (REQ)

Requesters: DSM-EE Subcommittee
Request No.: 2009 Retail Annual Plan Item No. 6.e
Request Title: M&V for Demand Response Programs

1. RECOMMENDED ACTION:

- Accept as requested
- Accept as modified below
- Decline

**EFFECT OF EC VOTE TO ACCEPT
RECOMMENDED ACTION:**

- Change to Existing Practice
- Status Quo

2. TYPE OF DEVELOPMENT/MAINTENANCE

Per Request:

- Initiation
- Modification
- Interpretation
- Withdrawal

- Principle
- Definition
- Business Practice Standard
- Document
- Data Element
- Code Value
- X12 Implementation Guide
- Business Process Documentation

Per Recommendation:

- Initiation
- Modification
- Interpretation
- Withdrawal

- Principle
- Definition
- Business Practice Standard
- Document
- Data Element
- Code Value
- X12 Implementation Guide
- Business Process Documentation

3. RECOMMENDATION

SUMMARY:

The DSM-EE Subcommittee submits this Recommendation for 2009 Retail Annual Plan Item No. 6.e to support retail development of matrix and Model Business Practices for Measurement & Verification (M&V) for Demand Response programs.



**RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
For Quadrant: Retail Electric Quadrant (REQ)**

Requesters: DSM-EE Subcommittee
Request No.: 2009 Retail Annual Plan Item No. 6.e
Request Title: M&V for Demand Response Programs

RECOMMENDED STANDARDS:

MEASUREMENT & VERIFICATION (M&V) OF DEMAND RESPONSE PROGRAMS

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**RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
For Quadrant: Retail Electric Quadrant (REQ)**

Requesters: DSM-EE Subcommittee
Request No.: 2009 Retail Annual Plan Item No. 6.e
Request Title: M&V for Demand Response Programs

Executive Summary

This section provides a common framework of the Model Business Practices for Measurement and Verification (M&V) of Demand Response programs in retail energy markets. The purpose of these Model Business Practices is to provide:

- **Transparency:** accessible and understandable M&V requirements for Demand Response programs
- **Accountability:** criteria that will enable the Program Administrator to accurately measure performance of Demand Response Resources; and
- **Consistency:** a process or protocol that will allow Program Administrators, Applicable Regulatory Authorities, or program participants to agree on the required steps to take to verify demand reductions resulting from Demand Response programs in retail energy markets.
- **Comprehensive:** strives to cover all forms of Demand Response

The purpose of this Standard is to ensure that regulatory commissions and participants in retail electric markets in which dispatchable Demand Response products are administered have access to uniform information that will enable them to report consistent values for Measurement and Verification of the programs.

These Model Business Practices were designed in concert with Wholesale Electric Quadrant Standards covering Demand Response programs operating in wholesale electric markets. In the event of a conflict between these business practices and business practices developed by the Wholesale Electric Quadrant for products that are bid into wholesale markets, the Wholesale Electric Quadrant Standard should have precedence. Additionally, all Entities supplying Demand Response Services should comply with applicable National Electric Reliability Council (NERC) reliability standards.



RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
For Quadrant: Retail Electric Quadrant (REQ)

Requesters: DSM-EE Subcommittee
Request No.: 2009 Retail Annual Plan Item No. 6.e
Request Title: M&V for Demand Response Programs

Introduction

The North American Energy Standards Board (NAESB) is a voluntary non-profit organization comprised of members from all aspects of the natural gas and electric industries. Within NAESB, the Retail Electric Quadrant (REQ) and the Retail Gas Quadrant (RGQ) focus on issues impacting the retail sale of energy to end-use customers. REQ / RGQ Model Business Practices are intended to provide guidance to Distribution Companies, Suppliers, and other Market Participants involved in providing energy service to end-use Customers. The focus of these Model Business Practices is performing M&V for Demand Response programs. These Model Business Practices are intended to be consistent with the Wholesale Electric Standards, but also acknowledge differences in product and program types between the two markets.

These Model Business Practices are voluntary and do not address policy issues that are the subject of state legislation or regulatory decisions. These Model Business Practices have been adopted with the realization that as the industry evolves, additional and amended Model Business Practices may be necessary. Any industry participant seeking additional or amended Model Business Practices (including principles, definitions, data elements, process descriptions, and technical implementation instructions) should submit a request to the NAESB office, detailing the change, so that the appropriate process may take place to amend the Model Business Practice.



RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
For Quadrant: Retail Electric Quadrant (REQ)

Requesters: DSM-EE Subcommittee
Request No.: 2009 Retail Annual Plan Item No. 6.e
Request Title: M&V for Demand Response Programs

Business Processes and Practices

MEASUREMENT & VERIFICATION (M&V) OF DEMAND RESPONSE PROGRAMS

REQ.13 Overview

These M&V Model Business Practices establish criteria for the use of equipment, technology, and procedures to quantify the Demand Reduction Value delivered. Model Business Practices developed may include commonalities among product types. The following outline of Model Business Practices is applicable to the Demand Response product categories.

General	Advance Notification
	Deployment Time
	Reduction Deadline
	Release/Recall
	Normal Operations
	Demand Resource Availability Measurement
	Aggregation
	Transparency of Requirements
Telemetry	Telemetry Requirement
	Telemetry Accuracy
	Telemetry Interval
	Other Telemetry Measurements
	Communication Protocol
	Governor Control Equivalent
	On-Site Generation Telemetry Requirement
After-The-Fact Metering	After-the-Fact Metering Requirement
	Meter Accuracy
	Details of Meter/Equipment Standards
	Meter Data Reporting Deadline
	Meter Data Reporting Interval
	Clock / Time Accuracy
	Validating, Editing & Estimating (VEE) Method
	On-Site Generation Meter Requirement
Performance Evaluation	Rules for Performance Evaluation



RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
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Performance Evaluation Methodology

For each Demand Response service, a performance evaluation methodology is used to determine the Demand Reduction Value provided by a Demand Resource. The Model Business Practices include descriptions of acceptable Baselines and alternative performance measurements that are appropriate for each type of Demand Response service. The table below provides an outline of the applicable criteria for performance evaluation methodologies.

Baseline Information	Baseline Window
	Calculation Type
	Sampling Precision and Accuracy
	Exclusion Rules
	Baseline Adjustments
	Adjustment Window
Event Information	Use of Real-Time Telemetry
	Use of After-The-Fact Metering
	Performance Window
	Measurement Type
Special Processing	Highly-Variable Load Logic
	On-Site Generation Requirements

These Model Business Practices do not specify detailed characteristics of performance evaluation methodologies, but rather provide a framework that may be used to develop performance evaluation methodologies for specific Demand Response services. This approach is believed to be most appropriate at this time as development of performance evaluation methodologies and baseline calculations continues to mature. The following methodology types are applicable to retail Demand Response Services:

- Maximum Base Load
- Meter Before / Meter After
- Baseline
- Metering Generator Output



**RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
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Request Title: M&V for Demand Response Programs

REQ.13.1 Principles

- REQ.13.1.1** The processes for M&V of Demand Response programs should be efficient to minimize the time and effort needed to accomplish these operational details.
- REQ.13.1.2** The processes for M&V of Demand Response programs should be consistent with the requirements set forth by the Applicable Regulatory Authority.
- REQ.13.1.3** The processes for M&V of Demand Response programs should minimize the occurrence of unauthorized activity in the marketplace.
- REQ.13.1.4** A contract or agreement between participants may establish different processes, timeframes, or operational requirements. Any conflict between these recommended processes and an applicable contract is resolved according to the provisions of the contract.
- REQ.13.1.5** These processes do not address contractual obligations between participants and their Customers.
- REQ.13.1.6** All Customer specific data must remain confidential.



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REQ.13.2 Definitions

REQ.13.2.A Business Definitions

- REQ.0.2.xx Adjustment Window:** The period of time prior to a Demand Response Event used for calculating a Baseline Adjustment.
- REQ.0.2.xx Advance Notification(s):** One or more communications to Demand Resources of an impending Demand Response Event in advance of the actual event.
- REQ.0.2.xx After-the-Fact Metering:** Interval meter data separate from Telemetry that is used to measure Demand Response. May not apply to Demand Resources under Baseline using statistical sampling.
- RXQ.0.2.1 Applicable Regulatory Authority:** The state regulatory agency or other local governing body that provides oversight, policy guidance, and direction to any parties involved in the process of providing energy to retail access Customers through regulation and orders.



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REQ.0.2.xx **Baseline:** A method of estimating the electricity that would have been consumed by a Customer or Demand Resource in the absence of a Demand Response Event. It may be calculated using interval metering and/or statistical sampling techniques. The figure below illustrates the concept of Baseline relative to a Demand Response Event.

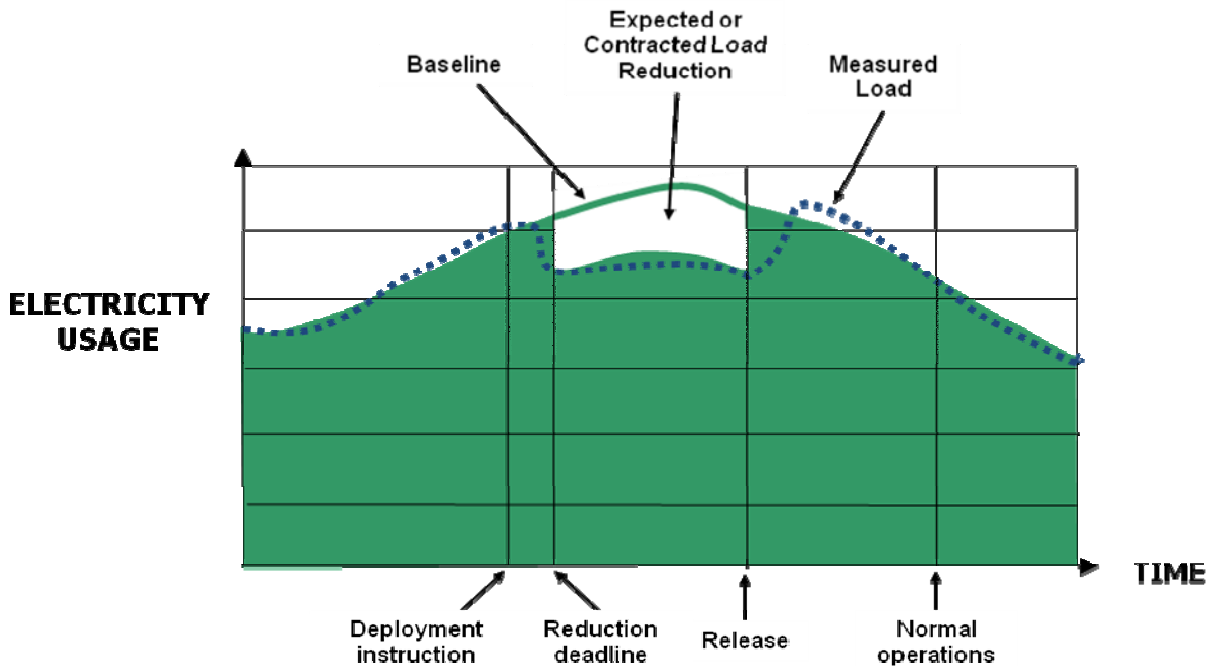


Figure. Illustration of Baseline Concept.

REQ.0.2.xx **Baseline Adjustment:** An adjustment that modifies the Baseline to reflect actual conditions immediately prior to or during a Demand Response Event to provide a better estimate of the energy the Demand Resource would have consumed but for the Demand Response Event. The adjustments may include but are not limited to weather conditions, near real time event facility Load, current Demand Resource operational information, or other parameters based on the Program Administrator's requirements.

REQ.0.2.xx **Baseline Window:** The window of time preceding and optionally following, a Demand Response Event over which the electricity consumption data is collected for the purpose of establishing a Baseline.

REQ.0.2.xx **Capacity Service:** A type of Demand Response service in which Demand Resources are obligated over a defined period of time to be available to provide Demand Response upon deployment by the Program Administrator.

REQ.0.2.xx **Critical Peak Pricing:** Rates which typically charge a much higher price during a few hours per day on critical peak days. The number of critical



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peak days is usually capped for a calendar year and is linked to conditions such as system reliability concerns or very high supply prices.

- RXQ.0.2.16 Customer:** Any Entity that takes gas and/or electric service for its own consumption.
- REQ.0.2.xx Demand:** The rate at which electric energy is delivered to or by a system or part of a system, generally expressed in kilowatts or megawatts, at a given instant or averaged over any designated interval of time; and the rate at which energy is being used by the customer.
- REQ.0.2.xx Demand Reduction Value:** Quantity of reduced electrical consumption by a Demand Resource, expressed in MW or MWh.
- REQ.0.2.xx Demand Resource:** A Load or aggregation of Loads capable of measurably and verifiably providing Demand Response.
- REQ.0.2.xx Demand Resource Availability Measurement:** The amount of Load available to be dispatched for a given Demand Response Event.
- REQ.0.2.xx Demand Response:** Changes in electric use by demand-side resources from their normal consumption patterns in response to changes in the price of electricity, or to incentive payments designed to induce lower electricity use at times of high wholesale market prices or when system reliability is jeopardized.

For purposes of these Model Business Practices, this definition does not include energy efficiency or permanent Load reduction.



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REQ.0.2.xx Demand Response Event: The time periods, deadlines and transitions during which Demand Resources perform. The Program Administrator should specify the duration and applicability of a Demand Response Event. All deadlines, time periods and transitions may not be applicable to all Demand Response products or services.

The figure below represents the terms for timing events and time durations applicable to the characteristics of a dispatchable Demand Response Event. The definitions of the ten elements in the figure are the basis for describing the Timing of a Demand Response Event.

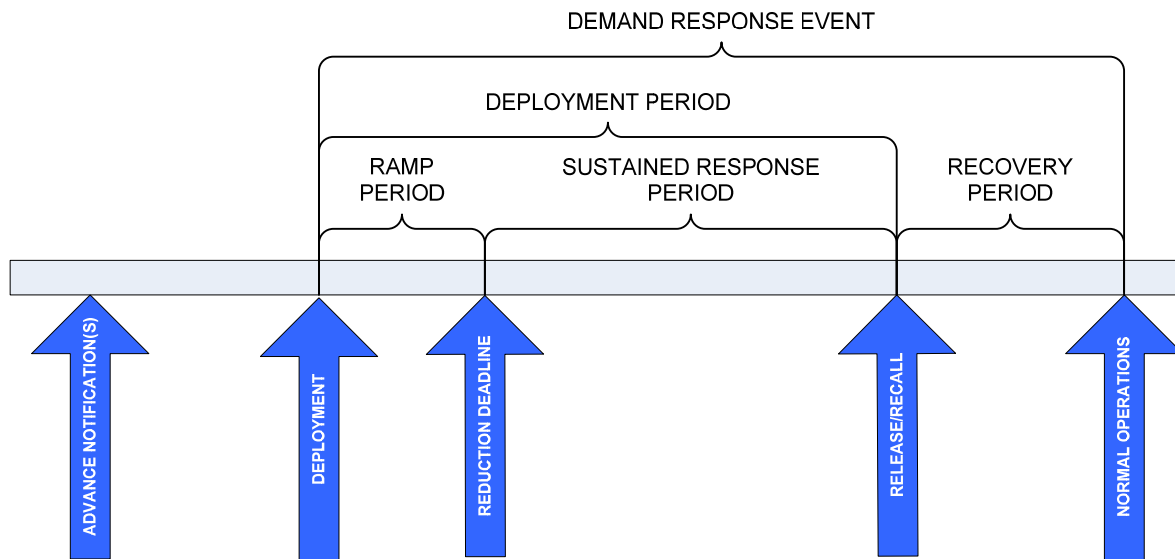


Figure. Timing of a Demand Response Event

REQ.0.2.xx Demand Response Provider: The Entity that is responsible for delivering Demand reductions from Demand Resources.

REQ.0.2.xx Deployment: The time at which a Demand Resource begins reducing Demand on the system in response to an instruction.

REQ.0.2.xx Deployment Period: The time in a Demand Response Event beginning with the Deployment and ending with the Release/Recall.

REQ.0.2.xx Direct Load Control: A Demand Response activity by which the program sponsor remotely shuts down or cycles a Customer's electrical equipment (e.g. air conditioner, water heater). Direct Load Control programs are primarily offered to residential or small commercial Customers.



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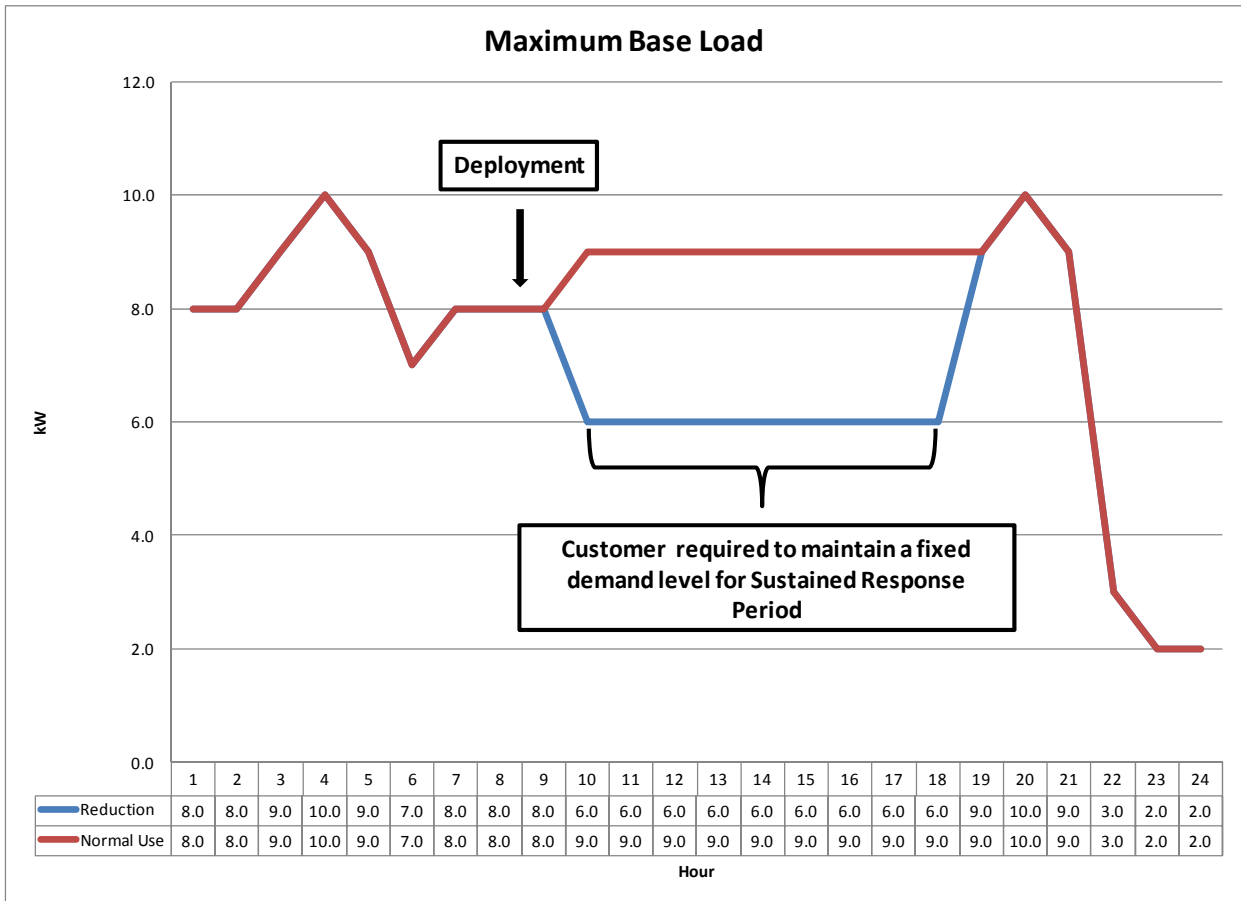
- REQ.0.2.xx Dispatchable Programs:** Programs that allow a Program Administrator to declare a Demand Response Event that has a specific start time and end time.
- RXQ.0.2.17 Distribution Company:** A regulated Entity which provides distribution services and may provide energy and/or transmission / transportation services in a given area.
- REQ.0.2.xx Energy Service:** A type of Demand Response service in which Demand Resources are compensated solely based on their performance during a Demand Response Event.
- RXQ.0.2.47 Entity:** A person or organization with sufficient legal standing to enter into a contract or arrangement with another such person or organization (as such legal standing may be determined by those parties) for the purpose of conducting and/or coordinating energy transactions.
- REQ.0.2.xx Firm Service Level:** Demand level that a Customer must not exceed during a Demand Response Event.
- RXQ.0.2.22 Governing Documents:** Documents that determine the interactions among parties, including but not limited to: regulatory documents (e.g., tariffs, rules, regulations), contractual agreements, and Distribution Company Operational Manuals.
- REQ.0.2.xx Guaranteed Load Drop:** Reduction of a specified amount of Load.
- REQ.0.2.xx Highly-Variable Load:** A Load with a fluctuating or unpredictable electricity consumption pattern.
- REQ.0.2.xx Load:** An end-use device or customer that receives power from the electric system.



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REQ.0.2.xx Maximum Base Load: A performance evaluation methodology based solely on a Demand Resource's ability to reduce to a Firm Service Level, regardless of its electricity consumption or Demand at Deployment.

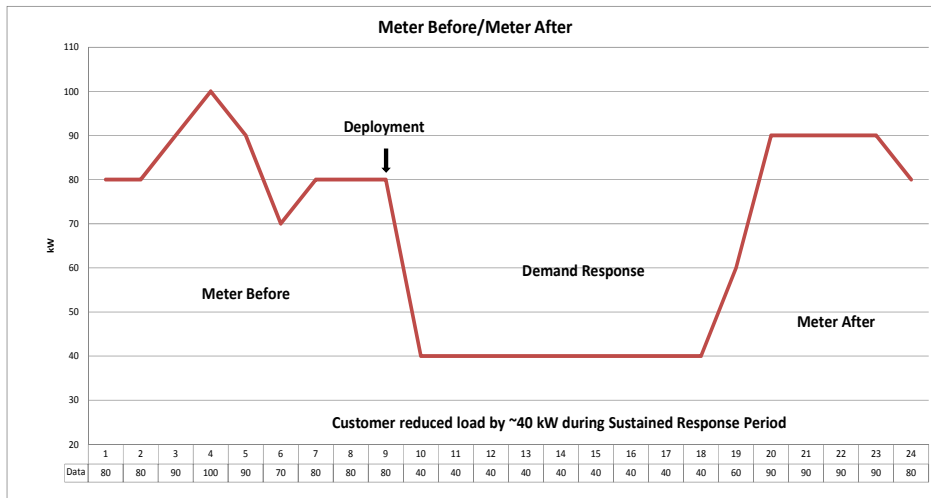




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REQ.0.2.xx Meter Before / Meter After: A performance evaluation methodology where electricity Demand over a prescribed period of time prior to Deployment is compared to similar readings during the Sustained Response Period.



REQ.0.2.xx Meter Data Recording Interval: The time between electricity meter consumption recordings.

REQ.0.2.xx Meter Data Reporting Deadline: The maximum allowed time from the end of a Demand Response Event (Normal Operations) to the time when meter data is required to be submitted for performance evaluation and settlement. The Meter Data Reporting Deadline may be either relative (a number of hours/days after Normal Operations) or fixed (a fixed calendar time, such as end-of-month).

REQ.0.2.xx Metering Generator Output: A performance evaluation methodology in which the Demand Reduction Value is based on the output of the generation asset, used when a generation asset is located behind the Demand Resource’s revenue meter.

REQ.0.2.xx Non-Dispatchable Programs: Programs in which Demand Resources curtail according to tariff structure, not in response to instructions from a Program Administrator.

REQ.0.2.xx Non-Spinning Reserve: Operating reserves that can be started, synchronized and loaded within a specified time period.



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- REQ.0.2.xx Normal Operations:** The time following Release/Recall at which a Program Administrator may require a Demand Resource to have returned its Load consumption to normal levels, and to be available again for Deployment.
- REQ.0.2.xx Operability Factor:** A net-to-gross percentage applied to the Demand Resource Availability Measurement, developed using a defined and documented testing protocol to verify both signal reception and device operation of the units in a retail Demand Response program, specific to a time period. **REQ.0.2.xx Performance Window:** The period of time in a Demand Response Event analyzed by the Program Administrator to measure and verify the Demand Reduction Value for a Demand Resource.
- REQ.0.2.xx Program Administrator:** An investor-owned, governmental or cooperative utility with the responsibility for developing and operating Demand Response programs.
- REQ.0.2.xx Ramp Period:** The time between Deployment and Reduction Deadline, representing the period of time over which a Demand Resource is expected to achieve its change in Demand.
- REQ.0.2.xx Ramp Rate:** The rate, expressed in megawatts per minute, that a generator changes its output. or a Demand Resource changes its Load.
- REQ.0.2.xx Real Time Pricing:** A retail rate in which the price for electricity fluctuates reflectin changes in the wholesale price of electricity.
- REQ.0.2.xx Recovery Period:** The time between Release/Recall and Normal Operations, representing the window over which Demand Resources are required to return to their normal Load.
- REQ.0.2.xx Reduction Deadline:** The time at the end of the Ramp Period when a Demand Resource is required to have met its Demand Reduction Value obligation.
- REQ.0.2.xx 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 Program Administrator. Demand Resources providing Regulation Service are subject to dispatch continuously during a commitment period. Provision of Regulation Service does not correlate to Demand Response Event timelines.
- REQ.0.2.xx Release/Recall:** The time when a Program Administrator notifies a Demand Resource that the Deployment Period has ended or will end.
- REQ.0.2.xx Sustained Response Period:** The time between Reduction Deadline and Release/Recall, representing the window over which a Demand Resource is required to maintain its reduced net consumption of electricity.



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- REQ.0.2.xx Spinning Reserve:** Operating reserves from resources that are synchronized to the grid and can respond to instructions from the Program Administrator.
- REQ.0.2.xx Telemetry:** Real-time continuous communication between a Demand Resource or Demand Response Provider and the Program Administrator.
- REQ.0.2.xx Telemetry Interval:** The time unit between communications between a Demand Resource or Demand Response Provider and a Program Administrator.
- REQ.0.2.xx Time-of-Use Rates:** Rates where usage unit prices vary by more than one time period within a 24-hour day to reflect the average cost of generating and delivering power during those time periods. Daily pricing blocks may include, but are not limited to, an on-peak, partial-peak, and an off-peak price for non-holiday weekdays, with the on-peak price as the highest price, and the off-peak price as the lowest price.
- REQ.0.2.xx Validation, Editing and Estimation:** The process of confirming the accuracy of raw meter data and, if necessary, replacing corrupt or missing data. VEE guidelines are published in the Edison Electric Institute's Uniform Business Practices for Unbundled Electricity Metering.



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REQ.13.3 Model Business Practices

REQ.13.3.1 General Characteristics of a Demand Response Event

- REQ.13.3.1.1** All actions taken in a Demand Response Event should be in accordance with the Governing Documents.
- REQ.13.3.1.2** Advance Notification: The Program Administrator should specify any requirements for the Advance Notification.
- REQ.13.3.1.3** The Program Administrator should initiate Deployment of the Demand Resource(s) depending on the specific circumstance(s) of the Demand Response Event .
- REQ.13.3.1.4** The Reduction Deadline will depend on the specific circumstance(s) of the Demand Response Event and should be specified by the Program Administrator.
- REQ.13.3.1.5** Any requirement(s) for a Ramp Period or a specified Ramp Rate will depend on the specific circumstance(s) of the Demand Response Event and should be specified by the Program Administrator.
- REQ.13.3.1.6** The Release / Recall will depend on the specific circumstance(s) of the Demand Response Event and should be specified by the Program Administrator.
- REQ.13.3.1.7** Any requirement for a return to Normal Operations will depend on the specific circumstance(s) of the Demand Response Event and the Recovery Period should be specified by the Program Administrator.

REQ.13.3.2 Measurement of Load

- REQ.13.3.2.1** Demand Response performance may be measured via Telemetry or After-the-Fact metering or both.
- REQ.13.3.2.2** After-the-Fact Measurement is required and may be either by metering each individual site or by statistical sampling.
- REQ.13.3.2.3** Meter accuracy should meet or exceed industry standards or as specified by the Applicable Regulatory Authority.
- REQ.13.3.2.4** Meters and other equipment should meet or exceed industry standards equivalent to ANSI C12 or as specified by the Applicable Regulatory Authority.
- REQ.13.3.2.5** The Meter Data Reporting Deadline should be specified in the Governing Documents.
- REQ.13.3.2.6** The Meter Data Reporting Interval should be specified in the Governing Documents.



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REQ.13.3.2.7 The meter clock / time accuracy should meet or exceed industry standards equivalent to ANSI C12 or as specified by the Applicable Regulatory Authority.

REQ.13.3.2.8 The method of Validating, Editing and Estimation should conform to an accepted methodology (such as the guidelines published in the current edition of the Edison Electric Institute's Uniform Business Practices for Unbundled Electricity Metering), and should be specified in the Governing Documents.

REQ.13.3.3 Statistical Sampling

REQ.13.3.3.1 Design the sample to meet program objectives.

REQ.13.3.3.2 Define the population

REQ.13.3.3.3 Specify the Frame (the listing of units available to be sampled is the sampling frame).

REQ.13.3.3.4 The sample should achieve an accuracy of 90% confidence with 20% error, but be designed to achieve a minimum accuracy of 90% confidence with 10% error.

REQ.13.3.3.5 Identify design (auxiliary) variables

REQ.13.3.3.6 Choose sampling technique

REQ.13.3.3.6.1 Choose stratification variable(s)

REQ.13.3.3.6.2 Select allocation procedure

REQ.13.3.3.6.3 Estimate means and variances of loads

REQ.13.3.3.6.4 Examine sample size requirements

REQ.13.3.3.6.5 Select sampling techniques and design

REQ.13.3.3.7 Determine sample size

REQ.13.3.3.8 Select the sample (identify those Customers to be in the sample)

REQ.13.3.3.8.1 Determine alternate selection criteria (identify the criteria for selecting those Customers to be substituted for sample Customers who decline)

REQ.13.3.3.8.2 Select sample and alternates

REQ.13.3.3.8.3 Validate sample

REQ.13.3.3.9 Implement the sample (contacting and enrolling the Customers to be in the sample, and installing the metering devices)

REQ.13.3.4 Performance Evaluation



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THE DEMAND RESOURCE AVAILABILITY MEASUREMENT IS A MEGAWATT VALUE AND IS CALCULATED AS THE NUMBER OF DIRECT LOAD CONTROL UNITS INSTALLED TIMES THE OPERABILITY FACTOR TIMES THE PER UNIT REDUCTION IMPACT.

REQ.13.3.4.1 Evaluation Methods

REQ.13.3.4.1.1 Performance is evaluated through the use of one of the following methods unless otherwise specified by the Program Administrator:

- Maximum Base Load
- Meter Before / Meter After
- Baseline
- Metering Generator Output

REQ.13.3.4.2 Maximum Base Load Evaluation

REQ.13.3.4.2.1 Any requirement for real-time Telemetry data to be used to measure performance should be specified by the Program Administrator.

REQ.13.3.4.2.2 Any requirement for After-the-fact metering should be specified by the Program Administrator.

REQ.13.3.4.2.3 The Performance Window is the Sustained Response Period (Reduction Deadline through Release/Recall) unless otherwise specified by the Program Administrator.

REQ.13.3.4.2.4 During the Performance Window, the Demand Resource must maintain its electricity consumption at or below the Maximum Base Load. The criteria used to evaluate performance is one of the following unless otherwise specified by the Program Administrator:

- Peak Demand
- Average Demand

REQ.13.3.4.3 Meter Before / Meter After Evaluation

REQ.13.3.4.3.1 The Program Administrator should specify the Baseline Window.

REQ.13.3.4.3.2 During the Baseline Window, the Demand of the Demand Resource is evaluated using one of the following measurements as specified by the Program Administrator:

- Instantaneous Demand
- Maximum Demand
- Average Demand



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- REQ.13.3.4.3.3** Statistical sampling is not used for this performance evaluation type, unless otherwise specified by the Program Administrator.
- REQ.13.3.4.3.4** The Program Administrator should specify any time periods to be excluded from Baseline Window.
- REQ.13.3.4.3.5** The Program Administrator should specify any Baseline Adjustments.
- REQ.13.3.4.3.6** No Adjustment Window is used for this model unless otherwise specified by the Program Administrator.
- REQ.13.3.4.3.7** The Program Administrator should specify if real-time Telemetry data is to be used to measure performance.
- REQ.13.3.4.3.8** After-the-fact metering should be used to measure performance, unless otherwise specified by the Program Administrator.
- REQ.13.3.4.3.9** The Performance Window is the Sustained Response Period (Reduction Deadline through Release/Recall) unless otherwise specified by the Program Administrator.
- REQ.13.3.4.3.10** During the Performance Window, the Demand Resource is evaluated using one of the following measurements unless otherwise specified by the Program Administrator:
- Instantaneous
 - Maximum
 - Average
- REQ.13.3.4.3.11** The Program Administrator should specify any performance evaluation requirements for Highly-Variable Loads.
- REQ.13.3.4.3.12** The Program Administrator should specify any performance evaluation requirements for on-site generation.
- REQ.13.3.4.4 Baseline Evaluation**
- REQ.13.3.4.4.1** The Program Administrator should specify the Baseline Window.
- REQ.13.3.4.4.2** The Program Administrator should specify the method of developing the Baseline value using, but not limited to, the following calculation types:
- Maximum
 - Average
 - Regression
- REQ.13.3.4.4.3** Statistical sampling is not permitted for this Performance Evaluation type, unless otherwise specified by the Program Administrator.



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- REQ.13.3.4.4.4** The Program Administrator should specify any rules for excluding data from the Baseline Window. Exclusion rules may be based on, but are not limited to the following:
- Historical Demand Response Events
 - Testing/Audit Periods
 - Calendar data
 - Outages
 - Weather emergencies or force majeure events
 - Usage threshold
 - Known, discrete load additions or reductions that have occurred during the Baseline Window
- REQ.13.3.4.4.5** The Program Administrator should specify any rules for Baseline Adjustments. Adjustment rules may be based on, but are not limited to the following:
- Temperature
 - Humidity
 - Calendar data
 - Sunrise/Sunset time
 - Event day operating conditions
- REQ.13.3.4.4.6** The Program Administrator should specify the Adjustment Window.
- REQ.13.3.4.4.7** The Program Administrator should specify if real-time Telemetry data is to be used to measure performance.
- REQ.13.3.4.4.8** After-the-fact metering is used to measure performance, unless otherwise specified by the Program Administrator.
- REQ.13.3.4.4.9** The Program Administrator should specify the Performance Window.
- REQ.13.3.4.4.10** During the Performance Window, the Demand Resource is evaluated using one of the following measurements unless otherwise specified by the Program Administrator:
- Maximum
 - Average
 - Regression
- REQ.13.3.4.4.11** The Program Administrator may specify performance evaluation requirements for Highly-Variable Loads.



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REQ.13.3.4.4.12 The Program Administrator may specify performance evaluation requirements for on-site generation.

REQ.13.3.4.5 Metering Generator Output

REQ.13.3.4.5.1 The Program Administrator should specify Baseline calculations for Metering Generator Output.

REQ.13.3.4.5.2 The Program Administrator should specify if real-time Telemetry data is to be used to measure performance.

REQ.13.3.4.5.3 After-the-fact metering on the generator and optionally on the associated Load is used to measure performance unless otherwise specified by the Program Administrator.

REQ.13.3.4.5.4 The Program Administrator should specify the Performance Window.

REQ.13.3.4.5.5 During the Performance Window, the Demand Resource is evaluated using the total measured generation output unless otherwise specified by the Program Administrator.

REQ.13.3.4.5.6 The Program Administrator should specify any special processing rules.

4. SUPPORTING DOCUMENTATION

a. Description of Request:

b. Description of Recommendation:

c. Business Purpose:

d. Commentary/Rationale of Subcommittee(s)/Task Force(s):



**North American Wholesale Electricity
Demand Response Program Comparison**

This document contains summary information for wholesale electricity demand response programs, products and services administered by the ISOs and RTOs in North America, and provides a high-level overview of more in-depth rules and procedures. In no case should this information be used in place of the official documentation. Additionally, Demand Response markets – as well as market rules, tariffs, manuals and protocols – are continually evolving and subject to change. Therefore readers should be aware that the information contained in this document may be out of date.

ISO/RTO Product / Service		Product / Service Features													
Region	Acronym	Name	Service Type	Minimum Size	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Deployment "Oversize" Restriction	"Peak" Hours Only	Deployment Instruction Source	Deployment Instruction Destination	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
AESO	DOS	Demand Opportunity Service	Energy	None	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	Bidable Daily Participation	No	System Operator	Market Participant	Telemetry	http://www.aeso.ca/aeso/links/links/OPP_Content.cfm
	FLSS	Frequency Load Shed Service	Regulation	None	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	Distribution company rotates the load and frequency blocks after each use	No	None	None	Telemetry	http://www.aeso.ca/aeso/links/links/OPP_Content.cfm
	SUP	Supplemental Operating Reserves	Reserve	5 MW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	Bidable Daily Participation	No	System Operator	Market Participant	Telemetry	http://www.aeso.ca/aeso/links/links/OPP_Content.cfm
	VLCP	Voluntary Load Curtailment Program	Energy	None	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	Bidable Daily Participation	No	System Operator	Market Participant	Telemetry	http://www.aeso.ca/aeso/links/links/OPP_Content.cfm
	CAISO														
CAISO	PLP	Participating Load Program	Energy	100 kW	Yes	Voluntary	Mandatory	Economic	Energy Price > Offer Price	Bidable Participation + Max Number of Startups	No	System Operator	Scheduling Coordinator	Not Monitored	http://www.caiso.com/docs/2005/10/05/2005102020242315.html
CAISO	PLP	Participating Load Program	Reserve	100 kW	Yes	Voluntary	Mandatory	Economic	Capacity Bid and separate Energy Bid > Offer Price	Bidable Participation + Max Number of Startups	No	System Operator	Scheduling Coordinator	Telemetry	http://www.caiso.com/docs/2005/10/05/2005102020242315.html
ERCOT															
ERCOT	ELS	Emergency Interruptible Load Service	Capacity	1 MW [Bid Size]	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	2x Deployments or 8 Hours per Contract Period (4-Months)	No	System Operator	Qualified Scheduling Entity (QSE)	Calculated after the Commitment Period	http://www.ercot.com/services/insurances.html
ERCOT	LauK / RRS / UFR	Loads Acting as a Resource providing Responsive Reserve Service - Under Frequency Relay Type	Reserve	1 MW [Bid Size]	Portfolio-Based Bidding	Voluntary	Mandatory	Reliability	Operational Procedure	Bidable Daily Participation	No	System Operator	Qualified Scheduling Entity (QSE)	Telemetry	http://www.ercot.com/services/insurances.html
ERCOT	LauK / RRS / CLR	Loads Acting as a Resource providing Responsive Reserve Service - Controllable Load Resource Type	Reserve	1 MW [Bid Size]	Portfolio-Based Bidding	Voluntary	Mandatory	Reliability	Operational Procedure	Bidable Daily Participation	No	System Operator	Qualified Scheduling Entity (QSE)	Telemetry	http://www.ercot.com/services/insurances.html
ERCOT	LauK / NSRS	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	1 MW [Bid Size]	Portfolio-Based Bidding	Voluntary	Mandatory	Reliability	Operational Procedure	Bidable Daily Participation	No	System Operator	Qualified Scheduling Entity (QSE)	Telemetry	http://www.ercot.com/services/insurances.html
ERCOT	CLR	Controllable Load Resources providing Regulation Service	Regulation	1 MW [Bid Size]	Portfolio-Based Bidding	Voluntary	Mandatory	Reliability	Operational Procedure	Bidable Daily Participation	No	System Operator	Qualified Scheduling Entity (QSE)	Telemetry	http://www.ercot.com/services/insurances.html

ISO-RTD Product / Service		Product / Service Features													
Region	Acronym	Name	Service Type	Minimum Size	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Deployment "Oversize" / Restriction Hours Only	"Peak" Hours Only	Deployment Instruction Source	Deployment Instruction Destination	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO RTD Web Link)
ISO															
ISO	ELRP	Emergency Load Reduction Program	Energy	1 MW	Yes	Voluntary	Voluntary	Reliability	Operational Procedure	None	No	System Operator	Market Participant	Calculated after the Commitment Period	http://www.iso.com/markets/wholesale/Programs/ELRP.html
ISO	EDRP	Emergency Demand Response Program	Energy	1 MW	No	Voluntary	Voluntary	Reliability	Operational Procedure	None	No	System Operator	Market Participant	Telemetry	http://www.iso.com/markets/wholesale/Programs/EDRP.html
ISO	DL	Dispatchable Load	Energy	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Bid Price	None	No	System Operator	Market Participant	Telemetry	http://www.iso.com/markets/wholesale/Programs/DispatchableLoad.html
ISO	DL	Dispatchable Load (30 minute reserve)	Reserve	1 MW	No	Voluntary	Mandatory	Reliability	Energy Price > Offer Price	None	No	System Operator	Market Participant	Telemetry	http://www.iso.com/markets/wholesale/Programs/DispatchableLoad30min.html
ISO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	1 MW	No	Voluntary	Mandatory	Reliability	Energy Price > Offer Price	None	No	System Operator	Market Participant	Telemetry	http://www.iso.com/markets/wholesale/Programs/DispatchableLoad10Spinning10NonSpinning.html
ISO-NE															
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	None	No	System Operator	Demand Designated Entities	Telemetry	http://www.iso.com/markets/wholesale/Programs/RTDRP.html
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	None	No	System Operator	Demand Designated Entities	Not Monitored	http://www.iso.com/markets/wholesale/Programs/RTDRP.html
ISO-NE	DALRP-RTDRP	Day-Ahead Load Response Program for RTDRP	Energy	100 kW	Yes	Voluntary	Mandatory	Economic	Day-Ahead LMP > or > Offer Price	None	Yes	System Operator	Demand Designated Entities	Not Monitored	http://www.iso.com/markets/wholesale/Programs/DALRP-RTDRP.html
ISO-NE	DALRP-RTDRP	Day-Ahead Load Response Program for RTRP	Energy	100 kW	Yes	Voluntary	Mandatory	Economic	Day-Ahead LMP > or > Offer Price	None	Yes	System Operator	Demand Designated Entities	Not Monitored	http://www.iso.com/markets/wholesale/Programs/DALRP-RTDRP.html
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	100 kW	Yes	Voluntary	Mandatory	Reliability	Resources in the DRR Pilot are activated to simulate Reserve Activation Events at a frequency similar to the activation of traditional operating resources providing 30-minute Operating Reserves and 10-minute non-synchronized reserves.	None	No	System Operator	Demand Designated Entities	Telemetry	http://www.iso.com/markets/wholesale/Programs/DRR.html
ISO-NE	RTPR	Real Time Price Response Program	Energy	100 kW	Yes	Voluntary	Voluntary	Economic	Day-Ahead or Forecast Real-Time LMP = or > \$100/MWh	None	Yes	System Operator	Demand Designated Entities	Not Monitored	http://www.iso.com/markets/wholesale/Programs/RTPR.html
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	100 kW	Yes	Voluntary	Mandatory	Reliability	Critical Peak Hours: OP4 Action 6 or higher and Forecast Peak Hours whenever Day-Ahead Forecast = or > 95% of 30-50 Seasonal Peak forecast for the applicable season	None	No	System Operator	Demand Designated Entities	Telemetry	http://www.iso.com/markets/wholesale/Programs/RTDR.html
ISO-NE	OP and SP	FCM: On-Peak, Seasonal Peak Resources	Capacity	100 kW	Yes	Voluntary	Mandatory	Reliability	On-Peak (hours ending 1800-1900 winter season, 1400-1700 summer season) Seasonal Peak (real time hourly load is >= 90% of 50-50 system peak load forecast for the applicable season, Critical Peak Hours: OP4 Action 6 or higher and Forecast Peak Hours when	None	Yes	None	None	Not Monitored	http://www.iso.com/markets/wholesale/Programs/OPandSP.html
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	None	No	System Operator	Demand Designated Entities	Telemetry	http://www.iso.com/markets/wholesale/Programs/RTEG.html

ISO/RTO Product / Service										Product / Service Features							
Region	Acronym	Name	Service Type	Minimum Size	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Deployment "Oversize" Restriction Hours Only	"Peak" Deployment Instruction Source	Deployment Instruction Destination	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)			
MISO	EDR	Emergency Demand Response	Energy	100 kW	Yes	Voluntary	Voluntary	Reliability	Operational Procedure	No	System Operator	Market Participant	Daily Update	http://www.midwestmarket.org/public/Default2.aspx?tabid=1181923946_728/104485244			
MISO	DRR-I	Demand Response Resource Type I	Energy	1 MW	Yes	Voluntary	Voluntary	Economic	Energy Price > Offer Price	No	System Operator	Market Participant	Telemetry	http://www.midwestmarket.org/public/Default2.aspx?tabid=1181923946_728/104485244			
MISO	DRR-I	Demand Response Resource Type I	Reserve	1 MW	Yes	Voluntary	Mandatory	Reliability	Energy Price > Offer Price	No	System Operator	Market Participant	Telemetry	http://www.midwestmarket.org/public/Default2.aspx?tabid=1181923946_728/104485244			
MISO	DRR-II	Demand Response Resource Type II	Energy	1 MW	No	Voluntary	Voluntary	Economic	Energy Price > Offer Price	No	System Operator	Market Participant	Telemetry	http://www.midwestmarket.org/public/Default2.aspx?tabid=1181923946_728/104485244			
MISO	DRR-II	Demand Response Resource Type II	Reserve	1 MW	No	Voluntary	Mandatory	Reliability	Energy Price > Offer Price	No	System Operator	Market Participant	Telemetry	http://www.midwestmarket.org/public/Default2.aspx?tabid=1181923946_728/104485244			
MISO	DRR-II	Demand Response Resource Type II	Regulation	1 MW	No	Voluntary	Mandatory	Reliability	Energy Price > Offer Price	No	System Operator	Market Participant	Telemetry	http://www.midwestmarket.org/public/Default2.aspx?tabid=1181923946_728/104485244			
MISO	LMR	Load Modifying Resource	Capacity	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	No	System Operator	Local Balancing Authority (LBA)	Daily Update	http://www.midwestmarket.org/public/Default2.aspx?tabid=1181923946_728/104485244			
NYISO																	
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	1 MW	Yes	Voluntary	Mandatory	Economic	Energy Price > Offer Price (Security Constrained Unit Commitment)	No	System Operator	Demand Resource	Not Monitored	http://www.nyiso.com/public/producer/demand_response/day-ahead.asp			
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Offer Price (Security Constrained Economic Dispatch)	No	System Operator	Demand Resource	Telemetry	http://www.nyiso.com/public/producer/demand_response/dsasp.asp			
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Offer Price (Security Constrained Economic Dispatch)	No	System Operator	Demand Resource	Telemetry	http://www.nyiso.com/public/producer/demand_response/dsasp.asp			
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Offer Price (Security Constrained Economic Dispatch)	No	System Operator	Demand Resource	Telemetry	http://www.nyiso.com/public/producer/demand_response/dsasp.asp			
NYISO	EDRP	Emergency Demand Response Program	Energy	100 kW (per Zone)	Yes	Voluntary	Voluntary	Reliability	Operational Procedure	No	System Operator	Containment Service Provider (CSP)	Not Monitored	http://www.nyiso.com/public/producer/demand_response/dsasp.asp			

ISO-RTD Product / Service				Product / Service Features											
Region	Acronym	Name	Service Type	Minimum Size	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Deployment "Oversize" Restriction Hours Only	"Peak" Hours Only	Deployment Instruction Source	Deployment Instruction Destination	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO-RTD Web Link)
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy	100 kW (per Zone)	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	None	No	System Operator	Responsible Interface Party (RIP)	Not Monitored	http://www.nyiso.com/publicprod/scr/demand http://www.nyiso.com/scr_page
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity	100 kW (per Zone)	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	None	No	System Operator	Responsible Interface Party (RIP)	Not Monitored	http://www.nyiso.com/publicprod/scr/demand http://www.nyiso.com/scr_page
PJM															
PJM	Economic	Economic Load Response	Energy	100 kW	Yes	Voluntary	Voluntary	Economic	Self-Scheduled, Cleared Day-Ahead Bid, or Real-Time Dispatch	Bidtable Daily Participation	No	System Operator (Unless Self Deployment)	Curtailment Service Provider (CSP)	Not Monitored	http://www.pjm.com/markets/aml/operations/demand_response/-media/markets/ops/dsr/2009/106-demand_response-reference-sheet.pdf
PJM	Economic	Economic Load Response	Reserve	1 MW (0.5 MW proposed)	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	Bidtable Daily Participation	No	System Operator	Curtailment Service Provider (CSP)	Not Monitored	http://www.pjm.com/markets/aml/operations/demand_response/-media/markets/ops/dsr/2009/106-demand_response-reference-sheet.pdf
PJM	Economic	Economic Load Response	Reserve	1 MW (0.5 MW proposed)	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	Bidtable Daily Participation	No	System Operator	Curtailment Service Provider (CSP)	Not Monitored	http://www.pjm.com/markets/aml/operations/demand_response/-media/markets/ops/dsr/2009/106-demand_response-reference-sheet.pdf
PJM	Economic	Economic Load Response	Regulation	1 MW	No	Voluntary	Mandatory	Reliability	Operational Procedure	Bidtable Daily Participation	No	System Operator	Curtailment Service Provider (CSP)	Telemetry	http://www.pjm.com/markets/aml/operations/demand_response/-media/markets/ops/dsr/2009/106-demand_response-reference-sheet.pdf
PJM	Emergency (Energy Only)	Emergency Load Response - Energy Only	Energy	100 kW	Yes	Voluntary	Voluntary	Reliability	Operational Procedure	None	No	System Operator	Curtailment Service Provider (CSP)	Not Monitored	http://www.pjm.com/markets/aml/operations/demand_response/-media/markets/ops/dsr/2009/106-demand_response-reference-sheet.pdf
PJM	Emergency	Full Emergency Load Response (Capacity Component)	Capacity	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	6 Hours (Maximum)	Yes	System Operator	Curtailment Service Provider (CSP)	Not Monitored	http://www.pjm.com/markets/aml/operations/demand_response/-media/markets/ops/dsr/2009/106-demand_response-reference-sheet.pdf
PJM	Emergency	Full Emergency Load Response (Energy Component)	Energy	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	6 Hours (Maximum)	Yes	System Operator	Curtailment Service Provider (CSP)	Not Monitored	http://www.pjm.com/markets/aml/operations/demand_response/-media/markets/ops/dsr/2009/106-demand_response-reference-sheet.pdf
SPP															
SPP	VDDR	Variable Dispatch Demand Response	Energy	1 MW	Aggregation to a single withdrawal point from Transmission Grid (and single Retail Provider) is permitted	Voluntary	Mandatory	Economic	Energy Price - Offer Price (Security Constrained Economic Dispatch)	Bidtable Daily Participation	No	System Operator	Market Participant	ICCP	http://www.spp.org/operation_ops/vearr=32742/vearr=27

ISO/RTD Product / Service			Deployment Type				Deployment Technology				Event Timing				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Dedicated Network	Internet	Verbal	e-mail	Automatic Relay	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period
AESO															
AESO	DOS	Demand Opportunity Service	Energy	✓					✓			None	- 7 Minutes (Term & 7 Minute Service) - 1 Hour (1 Hour Service) - Standard - immediate	8 Hours (Minimum)	Based on Resource Parameters
AESO	FLSS	Frequency Load Shed Service	Regulation			✓					✓	None	Effectively instantaneous	As Scheduled / Dispatched	N / A
AESO	SUP	Supplemental Operating Reserves	Reserve			✓	✓					None	10 Minutes	1 Hour (Minimum)	Based on Resource Parameters
AESO	VLCP	Voluntary Load Curtailment Program	Energy	✓					✓			None	one hour, unless customer declines dispatch	As Scheduled / Dispatched	Based on Resource Parameters
CAISO															
CAISO	PLP	Participating Load Program	Energy	✓				✓				Day-Ahead Market Clearing (~ 1:00 PM)	1 Hour	1 hour or resource's minimum time	Based on Resource Parameters
CAISO	PLP	Participating Load Program	Reserve	✓				✓				Day-Ahead Market Clearing (~ 1:00 PM)	10 Minutes	2 Hours (Maximum)	Based on Resource Parameters
ERCOT															
ERCOT	EILS	Emergency Interruptible Load Service	Capacity		✓		✓		✓			None	10 Minutes	As Scheduled / Dispatched	10 Hours
ERCOT	LaAR /RRS / UFR	Loads Acting as a Resource providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	✓	✓	✓	✓		✓		✓	Day-Ahead Market Clearing (~ E:30)	10 Minutes (Phone) 30 Cycles (Relay)	As Scheduled / Dispatched	3 Hours
ERCOT	LaAR /RRS / CLR	Loads Acting as a Resource providing Responsive Reserve Service -- Controllable Load Resource Type	Reserve	✓	✓	✓	✓		✓			Day-Ahead Market Clearing (~ E:30)	Continuous, similar to governor action by a generator, and 10 min response for remaining electronic instruction	As Scheduled / Dispatched	3 Hours
ERCOT	LaAR /NSRS	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	✓	✓		✓		✓			Day-Ahead Market Clearing (~ E:30)	30 Minutes	As Scheduled / Dispatched	3 Hours
ERCOT	CLR	Controllable Load Resources providing Regulation Service	Regulation			✓	✓					Day-Ahead Market Clearing (~ E:30)	Effectively instantaneous	As Scheduled / Dispatched	N / A

ISO/RTO Product / Service		Deployment Type					Deployment Technology				Event Timing				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Dedicated Network	Internet	Verbal	e-mail	Automatic Relay	Advance Notifications	Ramp Period	Sustained Response Period	Recovery Period
ISO															
ISO	ELRP	Emergency Load Reduction Program	Energy	✓					✓	✓		Day-Ahead Advisory (15:00 to 16:00) at least + 1 Hour (Minimum)	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored
ISO	EDRP	Emergency Demand Response Program	Energy	✓					✓	✓		None	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored
ISO	DL	Dispatchable Load	Energy	✓			✓					5 Minutes (Minimum)	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored
ISO	DL	Dispatchable Load (30 minute reserve)	Reserve	✓			✓					5 Minutes (Minimum)	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored
ISO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	✓			✓					5 Minutes (Minimum)	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored
ISO-NE															
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity		✓			✓				None	10 Minutes/ 30 Minutes	As Scheduled / Dispatched	Not Monitored
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy		✓			✓				None	10 Minutes/ 30 Minutes	As Scheduled / Dispatched	Not Monitored
ISO-NE	DALRP-RTDR	Day-Ahead Load Response Program for RTDRP	Energy	✓				✓				Day-Ahead Market Clearing (-4:00 PM)	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored
ISO-NE	DALRP-RTDR	Day-Ahead Load Response Program for RTDR	Energy	✓				✓				Day-Ahead Market Clearing (-4:00 PM)	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored
ISO-NE	DBR	Demand Response Reserves Pilot	Reserve		✓			✓				None	30 Minutes	As Scheduled / Dispatched	Not Monitored
ISO-NE	RTDR	Real Time Price Response Program	Energy		✓			✓				None	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity		✓		✓					10 PM on the day prior to the call for DR Forecast Peak Hours, in each hour for RTDR Dispatch Hours	30 Minutes	As Scheduled / Dispatched	Not Monitored
ISO-NE	OP and SP	FCM: On-Peak, Seasonal Peak Resources	Capacity			✓						None	Effectively Instantaneous	On-Peak - June, July, August hours ending 1300 to 1700, December and January hours ending 1700 to 1900, Seasonal Peak - As Scheduled	Not Monitored
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity		✓		✓					None	30 Minutes	As Scheduled / Dispatched	Not Monitored

Region	Acronym	ISOR/TO Product / Service		Deployment Type			Deployment Technology				Event Timing			
		Name	Service Type	Resource-Specific	Bulk	Sdr	Dedicated Network	Internet	Verbal	e-mail	Automatic Relay	Advance Notification(s)	Ramp Period	Sustained Response Period
MISO														
MISO	EDR	Emergency Demand Response	Energy	✓		✓					None	Resource-Specific (Bidtable Parameter)	As Scheduled / Dispatched	Not Monitored
MISO	DRR-I	Demand Response Resource Type I	Energy	✓	✓	✓					Day-Ahead Clearing (-5:00)	5 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored
MISO	DRR-I	Demand Response Resource Type I	Reserve	✓	✓	✓					Day-Ahead Clearing (-5:00)	10 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored
MISO	DRR-II	Demand Response Resource Type II	Energy	✓	✓	✓					Day-Ahead Clearing (-5:00)	5 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored
MISO	DRR-II	Demand Response Resource Type II	Reserve	✓	✓	✓					Day-Ahead Clearing (-5:00)	10 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored
MISO	DRR-II	Demand Response Resource Type II	Regulation	✓		✓					Day-Ahead Clearing (-5:00)	Effectively Instantaneous	As Scheduled / Dispatched with 1 Hour (Minimum)	N/A
MISO	LMR	Load Modifying Resource	Capacity	✓				✓			None	-	As Scheduled / Dispatched with 4 Hours (Minimum)	Not Monitored
NYISO														
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	✓				✓			Day-Ahead by 11 am	-	As Scheduled / Dispatched	Not Monitored
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	✓			✓				Day-Ahead by 11 am Real-time: 75 minutes	10 Minutes	As Scheduled / Dispatched	Not Monitored
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	✓			✓				Day-Ahead by 11 am Real-time: 75 minutes	10 minutes/ 30 minutes	As Scheduled / Dispatched	Not Monitored
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	✓			✓				Day-Ahead by 11 am Real-time: 5 minutes	Effectively Instantaneous	As Scheduled / Dispatched	N/A
NYISO	EDRP	Emergency Demand Response Program	Energy		✓						Day-ahead advisory Day-of: 120 minutes	2 Hours	4 Hours (Minimum)	Not Monitored

ISOR/TO Product / Service			Deployment Type				Deployment Technology				Event Timing				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Dedicated Network	Internet	Verbal	e-mail	Automatic Relay	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy		✓			✓	✓	✓		Day-ahead advisory Day-of: 120 minutes	2 Hours	4 Hours (Minimum)	Not Monitored
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity		✓				✓	✓		Day-ahead advisory Day-of: 120 minutes	2 Hours	4 Hours (Minimum) (or 1 Hour for Test)	Not Monitored
PJM															
PJM	Economic	Economic Load Response	Energy	✓		✓		✓		✓		Day-Ahead Clearing (-4:00)	Resource Specific	As Scheduled / Dispatched	Not Monitored
PJM	Economic	Economic Load Response	Reserve		✓			✓	✓			1 Hour	10 Minutes	As Scheduled / Dispatched	Not Monitored
PJM	Economic	Economic Load Response	Reserve	✓				✓		✓		Day-Ahead Clearing (-4:00)	30 Minutes	As Scheduled / Dispatched	Not Monitored
PJM	Economic	Economic Load Response	Regulation	✓			✓					None	Effectively Instantaneous	As Scheduled / Dispatched	N/A
PJM	Emergency (Energy Only)	Emergency Load Response - Energy Only	Energy		✓			✓	✓			2 Hours (Maximum)	1 Hour or 2 Hours (Participant Selected)	As Scheduled / Dispatched	Not Monitored
PJM	Emergency	Full Emergency Load Response (Capacity Component)	Capacity		✓			✓	✓			2 Hours (Maximum)	1 Hour or 2 Hours (Participant Selected)	As Scheduled / Dispatched	Not Monitored
PJM	Emergency	Full Emergency Load Response (Energy Component)	Energy		✓			✓	✓			2 Hours (Maximum)	1 Hour or 2 Hours (Participant Selected)	As Scheduled / Dispatched	Not Monitored
SPP															
SPP	VDDR	Variable Dispatch Demand Response	Energy	✓			✓	✓	✓			5 Minutes (Maximum)	5 Minutes	5 Minutes	5 Minutes

ISORTO Product/Service				Telemetry						
Region	Acronym	Name	Service Type	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements	Communication Protocol	Governor Control Equivalent (Regulation Only)	On-Site Generation Telemetry Requirement
AESO										
AESO	DOOS	Demand Opportunity Service	Energy	Yes	± 5%	4 Seconds (or on threshold crossing)	Quality check on all points from site	ICCP	N/A	Yes
AESO	FLSS	Frequency Load Shed Service	Regulation	Yes	± 5%	4 Seconds (or on threshold crossing)	Quality check on all points from site	ICCP	No	No
AESO	SUP	Supplemental Operating Reserves	Reserve	Yes	± 5%	4 Seconds (or on threshold crossing)	Quality check on all points from site	ICCP	N/A	Yes
AESO	VLCP	Voluntary Load Curtailment Program	Energy	Limited	± 5%	4 Seconds (or on threshold crossing)	Quality check on all points from site	ICCP	N/A	Yes (Selected Sites)
CAISO										
CAISO	PLP	Participating Load Program	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
CAISO	PLP	Participating Load Program	Reserve	Yes	± 2%	1 Minute (resource to eBAC 4-Second eDAC to CAISO)	None	DNP3 or ICOP	N/A	No
ERCOT										
ERCOT	EIS	Emergency Interruptible Load Service	Capacity	No	N/A	N/A	N/A	N/A	N/A	N/A
ERCOT	LaaR/RRS/UFK	Loads Acting as a Resource providing Responsive Reserve Service - Under Frequency Relay Type	Reserve	Yes	± 3%	2 Seconds	UFK Status Breaker Status Data Quality Status	DNP3	N/A	No
ERCOT	LaaR/RRS/CLR	Loads Acting as a Resource providing Responsive Reserve Service - Controllable Load Resource Type	Reserve	Yes	± 3%	2 Seconds	Breaker Status Data Quality Status	DNP3	N/A	No
ERCOT	LaaR/NSRS	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	Yes	± 3%	2 Seconds	Breaker Status Data Quality Status	DNP3	N/A	No
ERCOT	CLR	Controllable Load Resources providing Regulation Service	Regulation	Yes	± 3%	2 Seconds	Breaker Status Data Quality Status	DNP3	Yes	No

ISO/RTO Product / Service				Telemetry						
Region	Acronym	Name	Service Type	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements	Communication Protocol	Governor Control Equivalent (Regulation Requirement Only)	On-Site Generation Telemetry Requirement
IESO										
IESO	ELRP	Emergency Load Reduction Program	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
IESO	EDRP	Emergency Demand Response Program	Energy	Yes	± 2 %	2 Seconds	None	SCADA	N/A	No
IESO	DL	Dispatchable Load	Energy	Yes	± 2 %	2 Seconds	None	SCADA	N/A	No
IESO	DL	Dispatchable Load (30 minute reserve)	Reserve	Yes	± 2 %	2 Seconds	None	SCADA	N/A	No
IESO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	Yes	± 2 %	2 Seconds	None	SCADA	N/A	No
ISO-NE										
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	Yes	± 2 % (± 0.5 % if meter is used for Distribution Billing)	5 Minutes	None	Internet (BICS Protocol)	N/A	No
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	Yes	± 2 % (± 0.5 % if meter is used for Distribution Billing)	5 Minutes	None	Internet (BICS Protocol)	N/A	No
ISO-NE	DALRP-RTDRP	Day-Ahead Load Response Program for RTDRP	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
ISO-NE	DALRP-RTDRP	Day-Ahead Load Response Program for RTDRP	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	Yes	± 2 % (± 0.5 % if meter is used for Distribution Billing)	5 Minutes	None	Internet (BICS Protocol)	N/A	No
ISO-NE	RTPR	Real Time Price Response Program	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	Yes	± 2 % (± 0.5 % if meter is used for Distribution Billing)	5 Minutes	None	Internet (BICS Protocol)	N/A	No
ISO-NE	OP and SP	FCM: On-Peak, Seasonal Peak Resources	Capacity	No	N/A	N/A	N/A	N/A	N/A	N/A
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	Yes	± 2 % (± 0.5 % if meter is used for Distribution Billing)	5 Minutes	None	Internet (BICS Protocol)	N/A	Yes

ISOR TO Product / Service				Telemetry						
Region	Acronym	Name	Service Type	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements	Communication Protocol	Governor Control Equivalent (Regulation Requirement Only)	On-Site Generation Telemetry Requirement
MISO										
MISO	EDR	Emergency Demand Response	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
MISO	DRE-I	Demand Response Resource Type I	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
MISO	DRE-I	Demand Response Resource Type-I	Reserve	No	N/A	N/A	N/A	N/A	N/A	N/A
MISO	DRE-II	Demand Response Resource Type II	Energy	yes	Consistent with other ICCP Data	4 Seconds	None	ICCP	N/A	Yes
MISO	DRE-II	Demand Response Resource Type-II	Reserve	yes	Consistent with other ICCP Data	4 Seconds	None	ICCP	N/A	Yes
MISO	DRE-II	Demand Response Resource Type-II	Regulation	Yes	Consistent with other ICCP Data	4 Seconds	None	ICCP	No	Yes
MISO	LMR	Load Modifying Resource	Capacity	No	N/A	N/A	N/A	N/A	N/A	N/A
NYISO										
NYISO	DADRP	Day Ahead Demand Response Program	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	Yes	Digital data: Maximum error of +0.1 percent of reading Analog data: combined error of less than 1.0 percent of full scale reading end to end for the telemetering oscillator and converter	6 Seconds	Regulation Flag, Base Load Interval, Calc Response MW, Breaker Status	ICCP	N/A	Yes
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	Yes	Digital data: Maximum error of +0.1 percent of reading Analog data: combined error of less than 1.0 percent of full scale reading end to end for the telemetering oscillator and converter	6 Seconds	Regulation Flag, Base Load Interval, Calc Response MW, Breaker Status	ICCP	N/A	Yes
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	Yes	Digital data: Maximum error of +0.1 percent of reading Analog data: combined error of less than 1.0 percent of full scale reading end to end for the telemetering oscillator and converter	6 Seconds	Regulation Flag, Base Load Interval, Calc Response MW, Breaker Status	ICCP	No	Yes
NYISO	EDRP	Emergency Demand Response Program	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A

ISARTO Product/Service				Telemetry						
Region	Acronym	Name	Service Type	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements	Communication Protocol	Governor Control Equivalent (Regulation Only)	On-Site Generation Telemetry Requirement
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity	No	N/A	N/A	N/A	N/A	N/A	N/A
PJM										
PJM	Economic	Economic Load Response	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
PJM	Economic	Economic Load Response	Reserve	No	N/A	N/A	N/A	N/A	N/A	N/A
PJM	Economic	Economic Load Response	Reserve	No	N/A	N/A	N/A	N/A	N/A	N/A
PJM	Economic	Economic Load Response	Regulation	Yes	±2 %	2-4 Seconds	None	ICCP	No	No
PJM	Emergency (Energy Only)	Emergency Load Response - Energy (Energy Only)	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
PJM	Emergency	Full Emergency Load Response (Capacity Component)	Capacity	No	N/A	N/A	N/A	N/A	N/A	N/A
PJM	Emergency	Full Emergency Load Response (Energy Component)	Energy	No	N/A	N/A	N/A	N/A	N/A	N/A
SPP										
SPP	VDDR	Variable Dispatch Demand Response	Energy	Yes	Consistent with all other ICCP Data	4 Seconds	Breaker Status	ICCP	N/A	Yes

ISO/RTO Product / Service				After-the-Fact Metering					Available Performance Evaluation Methods			
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement	Available Performance Evaluation Methods
AESO												
AESO	DOS	Demand Opportunity Service	Energy	Yes	± 0.2 %	Applicable standards	"Industry Canada" and ISO standards	Event Day + 3 Business Days	15 Minutes	VEE described in ISO standards	N/A	AESO-1
AESO	FLSS	Frequency Load Shed Service	Regulation	Yes	± 0.2 %	Applicable standards	"Industry Canada" and ISO standards	Event Day + 3 Business Days	15 Minutes	VEE described in ISO standards	N/A	AESO-1
AESO	SEP	Supplemental Operating Reserves	Reserve	Yes	± 0.2 %	Applicable standards	"Industry Canada" and ISO standards	Event Day + 3 Business Days	15 Minutes	VEE described in ISO standards	N/A	AESO-1
AESO	VLCP	Voluntary Load Curtailment Program	Energy	Yes	± 0.2 %	Applicable standards	"Industry Canada" and ISO standards	Event Day + 3 Business Days	15 Minutes	VEE described in ISO standards	N/A	AESO-1
CAISO												
CAISO	PLP	Participating Load Program	Energy	Yes	± 25 %	Accuracy of the meter clock must be within 0.02% (2 minutes per week) at ambient temperature	"Local Regulatory Authority" certification or CAISO certified meter standards	Event Day + 45 Days (Scheduling Coordinator Entry) OR Daily (CAISO Metered Entry)	5 Minutes	The Scheduling Coordinator is responsible for the Validating, Editing and Estimation of meter data. If CAISO polled meters then the CAISO is responsible for VEE	N/A	N/A
CAISO	PLP	Participating Load Program	Reserve	Yes	± 25 %	Accuracy of the meter clock must be within 0.02% (2 minutes per week) at ambient temperature	"Local Regulatory Authority" certification or CAISO certified meter standards	Event Day + 45 Days (Scheduling Coordinator Metered Entry) OR Daily (CAISO Metered Entry)	5 Minutes	The Scheduling Coordinator is responsible for the Validating, Editing and Estimation of meter data. If CAISO polled meters then the CAISO is responsible for VEE	N/A	N/A
ERCOT												
ERCOT	EILS	Emergency Interruptible Load Service	Capacity	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12. Guidelines for non-DK metered Load aggregations http://www.ercot.com/services/programs/load/eh/	Contract Period End + 35 Days	15 Minutes	Standard VEE by meter reading entry	N/A	ERCOT-1, ERCOT-2, ERCOT-3, ERCOT-4, ERCOT-5
ERCOT	LauK / RRS / UFR	Loads Acting as a Resource providing Responsive Reserve Service - Under Frequency Relay Type	Reserve	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; UFRS must be set no lower than 59.7 Hz and must be set to trip for a frequency drop of no more than 20 cycles	Monthly	15 Minutes	Standard VEE by meter reading entry	N/A	ERCOT-6
ERCOT	LauK / RRS / CLR	Loads Acting as a Resource providing Responsive Reserve Service - Controllable Load Resource Type	Reserve	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; Governor-type response requirements described at http://www.ercot.com/services/programs/load/	Monthly	15 Minutes	Standard VEE by meter reading entry	N/A	ERCOT-6
ERCOT	LauK / NSRS /	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12.	Monthly	15 Minutes	Standard VEE by meter reading entry	N/A	ERCOT-6
ERCOT	CLR	Controllable Load Resources providing Regulation Service	Regulation	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; AGC and Governor-type response requirements described at http://www.ercot.com/services/programs/load/	Monthly	15 Minutes	Not Applicable to Regulation Service	N/A	ERCOT-7

Region		ISO/RTO Product/Service					After-the-Fact Metering					Meter Data Reporting					Available Performance Evaluation Methods	
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement	ISO-1	ISO-2	ISO-3	ISO-4	ISO-5	ISO-6	
IESO	ELRP	Emergency Load Reduction Program	Energy	Yes	± 0.2 %	None	1. IESO Metering standards for RWM installations or retail electricity meter revenue meter with a 0.5% interval meter covered by the LDC or 3. Interval meter covered by the LDC or 4. Customer-owned interval meters (sub-meters) or 5. SCADA Energy Management Sy	End-of-Month + 60 Days	1 Hour	Standard VEE by meter-reading entry	N/A	IESO-1	IESO-2	IESO-3				
	EDRP	Emergency Demand Response Program	Energy	Yes	± 0.2 %	± 5 seconds relative to IESO Meter Data collection systems	"Measurement Canada" and IESO Metering standards	Daily	5 Minutes	Standard VEE process by IESO meter-reading	Yes	N/A						
	DL	Dispatchable Load	Energy	Yes	± 0.2 %	± 5 seconds relative to IESO Meter Data collection systems	"Measurement Canada" and IESO Metering standards	Daily	5 Minutes	Standard VEE process by IESO meter-reading	Yes	N/A						
	DL	Dispatchable Load (30 minute reserve)	Reserve	Yes	± 0.2 %	± 5 seconds relative to IESO Meter Data collection systems	"Measurement Canada" and IESO Metering standards	Daily	5 Minutes	Standard VEE process by IESO meter-reading	Yes	N/A						
	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	Yes	± 0.2 %	± 5 seconds relative to IESO Meter Data collection systems	"Measurement Canada" and IESO Metering standards	Daily	5 Minutes	Standard VEE process by IESO meter-reading	Yes	N/A						
ISO-NE																		
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	Yes	± 2 % (± 1/2 % if meter is used for Distribution billing)	accuracy of ± 1/2, 2 minutes, with the National Institute of Standards and Technology (NIST)	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Event Day + 2.5 Business Days	5 Minutes	VEE described in ISO standards Manual-WVDR	Yes	ISO-NE-1	ISO-NE-3	ISO-NE-4				
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	Yes	± 2 % (± 1/2 % if meter is used for Distribution billing)	accuracy of ± 1/2, 2 minutes, with the National Institute of Standards and Technology (NIST)	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Event Day + 2.5 Business Days	5 Minutes	VEE described in ISO standards Manual-WVDR	Yes	ISO-NE-1	ISO-NE-3	ISO-NE-4				
ISO-NE	DALRP-RTDRP	Day-Ahead Load Response Program for RTDRP	Energy	Yes	± 2 % (± 1/2 % if meter is used for Distribution billing)	accuracy of ± 1/2, 2 minutes, with the National Institute of Standards and Technology (NIST)	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Monthly	5 Minutes OR 1 Hour	VEE described in ISO standards Manual-WVDR	Yes	ISO-NE-1	ISO-NE-3	ISO-NE-4				
ISO-NE	DALRP-RTDRP	Day-Ahead Load Response Program for RTDRP	Energy	Yes	± 2 % (± 1/2 % if meter is used for Distribution billing)	accuracy of ± 1/2, 2 minutes, with the National Institute of Standards and Technology (NIST)	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Monthly	5 Minutes OR 1 Hour	VEE described in ISO standards Manual-WVDR	Yes	ISO-NE-1	ISO-NE-2	ISO-NE-4				
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	Yes	± 2 % (± 1/2 % if meter is used for Distribution billing)	accuracy of ± 1/2, 2 minutes, with the National Institute of Standards and Technology (NIST)	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Daily	5 Minutes	VEE described in ISO standards Manual-WVDR	Yes	ISO-NE-1	ISO-NE-3	ISO-NE-4				
ISO-NE	RTPR	Real Time Price Response Program	Energy	Yes	± 2 % (± 1/2 % if meter is used for Distribution billing)	accuracy of ± 1/2, 2 minutes, with the National Institute of Standards and Technology (NIST)	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Monthly	1 Hour	VEE described in ISO standards Manual-WVDR	Yes	ISO-NE-1	ISO-NE-3	ISO-NE-4				
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	Yes	± 2 % (± 1/2 % if meter is used for Distribution billing)	accuracy of ± 1/2, 2 minutes, with the National Institute of Standards and Technology (NIST)	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Daily	5 Minutes	VEE described in ISO standards Manual-WVDR	Yes	ISO-NE-5	ISO-NE-6	ISO-NE-7				
ISO-NE	OP and SP	FCM: On-Peak, Seasonal Peak Resources	Capacity	Yes	± 2 % (± 1/2 % if meter is used for Distribution billing)	accuracy of ± 1/2, 2 minutes, with the National Institute of Standards and Technology (NIST)	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Monthly	15 Minutes	VEE described in ISO standards Manual-WVDR	Yes	ISO-NE-5	ISO-NE-6	ISO-NE-7				
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	Yes	± 2 % (± 1/2 % if meter is used for Distribution billing)	accuracy of ± 1/2, 2 minutes, with the National Institute of Standards and Technology (NIST)	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Daily	5 Minutes	VEE described in ISO standards Manual-WVDR	Yes	ISO-NE-5	ISO-NE-6	ISO-NE-7				

ISO/RTO Product / Service				After-the-Fact Metering						Available Performance Evaluation Methods			
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement I	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement I		
MISO	EDR	Emergency Demand Response	Energy	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	Event Day + 53 Days	1 Hour	N/A	Yes	MISO-1, MISO-2, MISO-3, MISO-4, MISO-5	
MISO	DRR-I	Demand Response Resource Type I	Energy	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead During Dispatch Day – next Hour	1 Minute	N/A	Yes	MISO-6	
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead During Dispatch Day – next Hour	1 Minute	N/A	Yes	MISO-6	
MISO	DRR-II	Demand Response Resource Type II	Energy	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead During Dispatch Day – next Hour	1 Minute	N/A	Yes	MISO-6	
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead During Dispatch Day – next Hour	1 Minute	N/A	Yes	MISO-6	
MISO	DRR-II	Demand Response Resource Type-II	Regulation	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead During Dispatch Day – next Hour	1 Minute	N/A	Yes	MISO-6	
MISO	LMR	Load Modifying Resource	Capacity	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	Event Day + 53 Days	1 Hour	N/A	Yes	MISO-1, MISO-2, MISO-3, MISO-4, MISO-5	
NYISO													
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	Yes	± 2%	None	±2% of full scale reading for non-revenue interval metering devices; certified by a Professional Engineer as meeting ANSI C12. (1) Must use certified Meter Service Provider (MSP) and meter Data Service Provider (MDSP) (2) Hourly interval metering requir	Event Day + 55 Days	1 Hour	N/A	N/A	N/A	NYISO-3
NYISO	DSASP	Demand Side Auxiliary Services Program	Reserve	Yes	± 2%	None	Revenue Grade; approved by NY Public Service Commission	Instantaneous, plus Scheduled Day + 55 Days	1 Hour	Instantaneous data compared to revenue billing meter after the fact	N/A	NYISO-2	
NYISO	DSASP	Demand Side Auxiliary Services Program	Reserve	Yes	± 2%	None	Revenue Grade; approved by NY Public Service Commission	Instantaneous, plus Scheduled Day + 55 Days	1 Hour	Instantaneous data compared to revenue billing meter after the fact	Must be net metered	NYISO-2	
NYISO	DSASP	Demand Side Auxiliary Services Program	Regulation	Yes	± 2%	None	Revenue Grade; approved by NY Public Service Commission	Instantaneous, plus Scheduled Day + 55 Days	1 Hour	Instantaneous data compared to revenue billing meter after the fact	N/A	NYISO-2	
NYISO	EDRP	Emergency Demand Response Program	Energy	Yes	± 2%	None	±2% of full scale reading for non-revenue interval metering devices; certified by a Professional Engineer as meeting ANSI C12. (1) Must use certified Meter Service Provider (MSP) and meter Data Service Provider (MDSP) (2) Hourly interval metering requir	Event Day + 75 Days	1 Hour	N/A	Optional	NYISO-3, NYISO-4 (Small Customer Aggregations), NYISO-5	

ISO/RTO Product / Service				After-The-Fact Metering						Available Performance Evaluation Methods		
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement	
NYISO	SCR	Installed Capacity Spinal Case Resources (Energy Component)	Energy	Yes	± 2%	None	±2% of full scale reading for non-revenue interval metering devices, certified by a Professional Engineer as meeting ANSI C12.1 (1) Must use certified Meter Service Provider (MSP) and meter Data Service Provider (MDSF) (2) Hourly interval metering requir	Event Day + 75 Days	1 Hour	N/A	Optional	NYISO-3, NYISO-4 (Small Customer Aggregations), NYISO-5
NYISO	SCR	Installed Capacity Spinal Case Resources (Capacity Component)	Capacity	Yes	± 2%	None	±2% of full scale reading for non-revenue interval metering devices, certified by a Professional Engineer as meeting ANSI C12.1 (1) Must use certified Meter Service Provider (MSP) and meter Data Service Provider (MDSF) (2) Hourly interval metering requir	Event Day + 75 Days	1 Hour	N/A	Optional	NYISO-1, NYISO-3, NYISO-4 (Small Customer Aggregations), NYISO-5
PJM												
PJM	Economic	Economic Load Response	Energy	Yes	± 2%	None	Retail electric service requirements or ANSI C12.1 and 57.13	Event Day + 60 Days	1 Hour	NAESB VEE protocol	N/A	PJM-1, PJM-2, PJM-3, PJM-8
PJM	Economic	Economic Load Response	Reserve	Yes	± 2%	None	Retail electric service requirements or ANSI C12.1 and 57.13	Event Day + 1 Business Day	1 Minute	NAESB VEE protocol	N/A	PJM-4
PJM	Economic	Economic Load Response	Reserve	Yes	± 2%	None	Retail electric service requirements or ANSI C12.1 and 57.13	Event Day + 1 Business Day	1 Minute	NAESB VEE protocol	N/A	PJM-4
PJM	Economic	Economic Load Response	Regulation	Yes	± 2%	None	Retail electric service requirements or ANSI C12.1 and 57.13	Event Day + 1 Business Day	1 Minute	NAESB VEE protocol	N/A	PJM-5
PJM	Emergency (Energy Only)	Emergency Load Response - Energy (Energy Only)	Energy	Yes	± 2%	None	Retail electric service requirements or ANSI C12.1 and 57.13	Event Day + 60 Days	1 Hour	NAESB VEE protocol	N/A	PJM-6
PJM	Emergency	Full Emergency Load Response (Capacity Component)	Capacity	Yes	± 2%	None	Retail electric service requirements or ANSI C12.1 and 57.13	End-of-Month + 45 Days	1 Hour	NAESB VEE protocol	N/A	PJM-1, PJM-2, PJM-3, PJM-6, PJM-7, PJM-8
PJM	Emergency	Full Emergency Load Response (Energy Component)	Energy	Yes	± 2%	None	Retail electric service requirements or ANSI C12.1 and 57.13	Event Day + 60 Days	1 Hour	NAESB VEE protocol	N/A	PJM-6
SPP												
SPP	VDDR	Variable Dispatch Demand Response	Energy	Yes	± 0.2%	None	ANSI C12.1 & 12.2.0	Event Day + 4 Days (2:00 AM)	1 Hour	Comparison to Telemetry	Yes	SPP-1, SPP-2

Cross-Reference	PERFORMANCE EVALUATION METHODS							Baseline Information				
	Performance Evaluation	Baseline Window Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Calculation Type Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Sampling Precision and Accuracy Baseline Type-II Only	Exclusion Rules Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Baseline Adjustments Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Adjustment Window Meter Before / Meter After Baseline Type-I, Baseline Type-II Only					
AESO												
AESO-1	Maximum Base Load	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CAISO												
CAISO-1	Meter Before / Meter After	Meter read before deployment	Single reading	N/A	None	None	None	None	None	None	None	None
ERCOT												
ERCOT-1	Baseline Type-I	12+ months of historical data	Model built using historical meter data	N/A	None	Event day adjustment (scalar based on load point)	80					
ERCOT-2	Baseline Type-I	10 most recent like days (weekdays, weekend/holiday)	Average	N/A	Exclude highest and lowest of the 10 most recent like days	Event day adjustment (scalar based on load point)	Deployment - 3 Hours (2 Hour Duration)					
ERCOT-3	Baseline Type-I	12 months	Model built using best matching day from prior 12 months	N/A	None	Event day adjustment (scalar based on load point)	Deployment - 3 Hours (2 Hour Duration)					
ERCOT-4	Maximum Base Load	N/A	N/A	N/A	N/A	N/A	N/A					
ERCOT-5	Baseline Type-II	12+ months of historical data	Model built using historical meter data	Sample size which produces appropriate accuracy and confidence based on ISO-determined requirements	None	None	None					
ERCOT-6	Meter Before / Meter After	1 to 5 minutes, depending on Auxiliary Service	Compare actual telemetered Load to 1-minute or 5-minute average telemetered Load prior to event	N/A	None	None	None					
ERCOT-7	Meter Before / Meter After	4 Seconds	Compare actual telemetered Load to dispatched set point	N/A	None	None	None					
IESO												
IESO-1	Baseline Type-I	Data is based on the loss adjusted total metered energy consumption of the past eleven same trading hours on business days immediately preceding the ELRP activation event.	Hourly interval load data of qualifying days	N/A	Exclude weekends, holidays and any weekdays where a curtailment event occurred within the Baseline Window	Weather-Sensitive Adjustment (Optional Election by Resource)	Customer / Resource Specific					
IESO-2	Baseline Type-I	Baseline value being the maximum value of the loss adjusted net metered (MWh) load in the two hours before the activation period for an aggregation of one or more meters measuring a total net load	Hourly interval load data of qualifying days	N/A	Exclude weekends, holidays and any weekdays where a curtailment event occurred within the Baseline Window	Weather-Sensitive Adjustment (Optional Election by Resource)	Customer / Resource Specific					
IESO-3	Baseline Type-II	90% of the prior qualifying baseline + 10% of the previous qualifying day (five minute increment) (similar to a 10 day rolling average)	Five minute interval load data of qualifying days	Accuracy and Precision 90/10	None	None	None					
ISONE-1	Behind-the-Meter Generation	N/A	N/A	N/A	N/A	N/A	N/A					
ISONE-5	Baseline Type-I	90% of the prior qualifying baseline + 10% of the previous qualifying day (five minute increment) (similar to a 10 day rolling average)	Five minute interval load data of qualifying days	N/A	Exclude weekends, holidays and any weekdays where a curtailment event occurred within the Baseline Window	Weather-Sensitive Adjustment (Symmetric)	Reduction Deadline - 2.5 Hours (2 Hour Duration)					
ISONE-6	Baseline Type-II	Equivalent of the Baseline Window defined for other resources, as approved on a case by case basis	Equivalent of the Calculation Type defined for other resources, as approved on a case by case basis	Accuracy and Precision 80/10	Equivalent of the Exclusion Rules defined for other resources, as approved on a case by case basis	Equivalent of the Baseline Adjustment defined for other resources, as approved on a case by case basis	Equivalent of the Adjustment Window defined for other resources, as approved on a case by case basis					
ISONE-7	Behind-the-Meter Generation	N/A	N/A	N/A	N/A	N/A	N/A					

Cross-Reference	PERFORMANCE EVALUATION METHODS							Baseline Information				
	Performance Evaluation	Baseline Window Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Calculation Type Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Sampling Precision and Accuracy Baseline Type-II Only	Exclusion Rules Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Baseline Adjustments Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Adjustment Window Meter Before / Meter After Baseline Type-I, Baseline Type-II Only					
MISO												
MISO-1	Baseline Type-I	Customer / Resource Specific	Customer / Resource Specific	N/A	Customer / Resource Specific	Customer / Resource Specific	Customer / Resource Specific					
MISO-2	Baseline Type-II	Customer / Resource Specific	Customer / Resource Specific	Customer / Resource Specific	Customer / Resource Specific	Customer / Resource Specific	Customer / Resource Specific					
MISO-3	Behind-the-Meter Generation	N/A	N/A	N/A	N/A	N/A	N/A					
MISO-4	Maximum Base Load	N/A	N/A	N/A	N/A	N/A	N/A					
MISO-5	Meter Before / Meter After	Meter read before deployment	Single reading	N/A	None	None	None					
MISO-6	Meter Before / Meter After	Meter read before deployment plus Host Load Zone Forecast	One-minute interval data	N/A	None	None	None					
NYISO												
NYISO-1	Maximum Base Load	CAPACITY ONLY; Contracted Maximum Demand Local Generation; per Capability Period	Average of maximum peak demand (APMD) between the hours of 12 pm and 8 pm for the four months of the previous like capability period determines available capacity Summer: June, July, August, September --- Winter: November, December, January, February Lo	N/A	N/A	N/A	N/A					
NYISO-2	Meter Before / Meter After	N/A	N/A	N/A	N/A	N/A	N/A					
NYISO-3	Baseline Type-I	WEEKDAY Event: Previous 10 weekdays within the last 30 days, subject to exclusion rules WEEKEND Event: Previous 3 weekends - same day type (e.g. Sat. or Sun.), no exclusions	WEEKDAY Event: Hourly simple average of the 5 highest total event period load days in CBL WEEKEND Event: Hourly simple average of the highest total event period load days in CBL Window	N/A	Weather-Sensitive Adjustment (Optional), Symmetrical Proportional Adjustment with a maximum of +/- 20%	Weather-Sensitive Adjustment (Optional), Symmetrical Proportional Adjustment with a maximum of +/- 20%	Advance Notification - 2 Hours					
NYISO-4	Baseline Type-II	Equivalent of the Baseline Window defined for other resources (NYISO-6), as approved on a case by case basis	Equivalent of the Calculation Type defined for other resources (NYISO-6), as approved on a case by case basis	Customer / Resource Specific	Equivalent of the Baseline Adjustment defined for other resources (NYISO-6), as approved on a case by case basis	Equivalent of the Baseline Adjustment defined for other resources (NYISO-6), as approved on a case by case basis	Customer / Resource Specific					
NYISO-5	Behind-the-Meter Generation	WEEKDAY Event: Previous 10 weekdays within the last 30 days, subject to exclusion rules WEEKEND Event: Previous 3 weekends - same day type (e.g. Sat. or Sun.), no exclusions	WEEKDAY Event: Hourly simple average of the 5 lowest total event period load days in CBL WEEKEND Event: Hourly simple average of the 2 lowest total event period load days in CBL Window	N/A	WEEKDAY Events only; Exclude day preceding event, holidays, and any weekdays where a curtailment event occurred within the Baseline Window	WEEKDAY Events only; Exclude day preceding event, holidays, and any weekdays where a curtailment event occurred within the Baseline Window	N/A					
PJM												
PJM-1	Baseline Type-I	45 calendar days which may be extended an additional 15 days based on specific conditions	Hourly average based on high 4 of 5 days for weekdays and high 2 of 3 for Saturday or Sun Holiday.	N/A	Event days, different day types, event usage threshold < 25%	Weather-Sensitive Adjustment OR Symmetric Additive Adjustment	3 Hour Window Ending 1 Hour prior to Deployment					
PJM-2	Behind-the-Meter Generation	N/A	N/A	N/A	N/A	N/A	N/A					
PJM-3	Baseline Type-II	Approved on case by case basis or may use published deemed savings study	Approved on case by case basis or may use published deemed savings study	Approved on case by case basis or may use published deemed savings study	Approved on case by case basis or may use published deemed savings study	Approved on case by case basis or may use published deemed savings study	Approved on case by case basis or may use published deemed savings study					
PJM-4	Meter Before / Meter After	Deployment - 1 Minute	Single Reading (with special processing)	N/A	None	None	None					
PJM-5	Meter Before / Meter After	4 Seconds Before Signal	Single Reading (with special processing)	N/A	None	None	None					
PJM-6	Meter Before / Meter After	Sustained Response Period - 1 Hour	Single Reading (with special processing)	N/A	CBL substitution if resource already on economic deployment	None	None					
PJM-7	Maximum Base Load	N/A	N/A	N/A	N/A	N/A	N/A					

Cross-Reference	Performance Evaluation	Baseline Information					
		Baseline Window Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Calculation Type Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Sampling Precision and Accuracy Baseline Type-II Only	Exclusion Rules Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Baseline Adjustments Meter Before / Meter After Baseline Type-I, Baseline Type-II Only	Adjustment Window Meter Before / Meter After Baseline Type-I, Baseline Type-II Only
PJM-8	Baseline Type-I	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market	N/A	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market
SPP							
SPP-1	Behind-the-Meter Generation	N/A	N/A	N/A	N/A	N/A	N/A
SPP-2	Baseline Type-I	Customer / Resource Specific	Customer / Resource Specific	N/A	Customer / Resource Specific	Customer / Resource Specific	Customer / Resource Specific

PERFORMANCE EVALUATION METHODS		Event Information			Special Processing		
Cross-Reference	Performance Evaluation	Use of Real-Time Telemetry	Use of Alter-The-Fact Metering	Performance Window	Measurement Type	Highly-Variable Load Logic	On-Site Generation Requirements
						ALL EXCEPT Behind-The-Meter Generation	ALL EXCEPT Behind-The-Meter Generation
AESO							
AESO-1	Maximum Base Load	Yes	Yes	Sustained Response Period	SCADA or Meter Data if compliance appears to be an issue	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
CAISO							
CAISO-1	Meter Before / Meter After	No	For SC Metered Entities: Interval meter data is collected and submitted by a SC as Settlement Interval data. For CA ISO Metered Entities: Interval meter data is directly polled by the C.	Sustained Response Period	5-Minute Interval Load	None	None
ERCOT							
ERCOT-1	Baseline Type-I	No	Yes	Sustained Response Period	15-minute Interval Data Recorder compared to model	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-2	Baseline Type-I	No	Yes	Sustained Response Period	15-minute Interval Data Recorder compared to model	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-3	Baseline Type-I	No	Yes	Sustained Response Period	15-minute Interval Data Recorder compared to model	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-4	Maximum Base Load	No	Yes	Sustained Response Period	15-minute Interval Data Recorder compared to model	This model is specifically designed for highly variable loads	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-5	Baseline Type-II	No	Yes	Sustained Response Period	Model based on statistical sample consistent with industry best practices and approved by ISO Staff is compared to the model	None	None
ERCOT-6	Meter Before / Meter After	Yes	Yes	Sustained Response Period	Telemetry (2-second) backed by 15-minute IDR meter data	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-7	Meter Before / Meter After	Yes	No	Sustained Response Period	Telemetry (2-second)	None	None
IESO							
IESO-1	Baseline Type-I	No	Yes	Event-dependent, as specified in Notification instructions	Hourly metered load	None	None
IESO-2	Baseline Type-I	No	Yes	Event-dependent, as specified in Notification instructions	Hourly metered load	None	None
IESO-3	Baseline Type-II	No	No	Event-dependent, as specified in Notification instructions	Statistical equivalent of 5 minute or hourly metered load	None	None
ISO-NE-4	Behind-the-Meter Generation	Yes	Optional	Sustained Response Period	5-Minute Interval Load	N/A	N/A
ISO-NE-5	Baseline Type-I	Yes	Optional	Sustained Response Period	5-Minute Interval Load	M&V alternative subject to ISO-NE approval	None (On-site generation is not prohibited but performance is measured via Load reduction)
ISO-NE-6	Baseline Type-II	No	Yes	Sustained Response Period	Statistical equivalent of 5 minute metered load	M&V alternative subject to ISO-NE approval	None (On-site generation is not prohibited but performance is measured via Load reduction)
ISO-NE-7	Behind-the-Meter Generation	Yes	Optional	Sustained Response Period	5-Minute Interval Load	N/A	N/A

Cross-Reference	PERFORMANCE EVALUATION METHODS			Event Information			Special Processing	
	Performance Evaluation	Use of Real-Time Telemetry	Use of After-The-Fact Metering	Performance Window	Measurement Type	Highly-Variable Load Logic ALL EXCEPT Behind-The-Meter Generation	On-Site Generation Requirements ALL EXCEPT Behind-The-Meter Generation	
MISO								
MISO-1	Baseline Type-I	No	Yes	Sustained Response Period	Customer / Resource Specific	None	None	
MISO-2	Baseline Type-II	No	Yes	Sustained Response Period	Customer / Resource Specific	None	None	
MISO-3	Behind-the-Meter Generation	No	Yes	Sustained Response Period	Customer / Resource Specific	N / A	N / A	
MISO-4	Maximum Base Load	No	Yes	Sustained Response Period	Customer / Resource Specific	None	None	
MISO-5	Meter Before / Meter After	No	Yes	Sustained Response Period	Customer / Resource Specific	None	None	
MISO-6	Meter Before / Meter After	Yes	Yes	Sustained Response Period	Hour Load Forecast - integrated one-minute meter data	None	None	
NYISO								
NYISO-1	Maximum Base Load	No	Yes	Event-dependent, as specified in Advance Notification instructions	Hourly interval meter data is collected by a NY PSC-approved Meter Data Service Provider (MDSFP)	None	None	
NYISO-2	Meter Before / Meter After	Yes (with Meter connection to Transmission Owner)	Yes	Sustained Response Period	Instantaneous metered load	None	None	
NYISO-3	Baseline Type-I	No	Yes	As scheduled (DADRP) or Event-dependent, as specified in Advance Notification instructions	Hourly interval meter data is collected by a NY PSC-approved Meter Data Service Provider (MDSFP)	None	No local backup generators permitted in DADRP	
NYISO-4	Baseline Type-II	No	As approved on a case by case basis for the use of After-The-Fact Metering, defined for other resources (NYISO-6), as approved on a case by case basis (for SCR Services)	Event-dependent, as specified in Advance Notification instructions	Statistical equivalent of hourly metered load	None	None	
NYISO-5	Behind-The-Meter Generation	No	Yes (if unit is not net metered)	Event-dependent, as specified in Advance Notification instructions	Hourly metered output	None	No base load generators permitted in EDRP	
PJM								
PJM-1	Baseline Type-I	No	Yes	Sustained Response period or optionally Deployment Period (Participant Selection)	Hourly Meter relative to CBL	Based on specific resource	None (On-site generation is not prohibited but performance is measured via Load reduction)	
PJM-2	Behind-the-Meter Generation	No	Yes	Sustained Response Period	Settlement on Hourly Meter Read	N / A	N / A	
PJM-3	Baseline Type-II	No	Yes	Sustained Response period or optionally Deployment Period (Participant Selection)	Hourly Meter relative to CBL	None	None (On-site generation is not prohibited but performance is measured via Load reduction)	
PJM-4	Meter Before / Meter After	No	Yes	Sustained Response Period	Average over Performance Window	Specific rules for facilities with batch processing	None (On-site generation is not prohibited but performance is measured via Load reduction)	
PJM-5	Meter Before / Meter After	Yes	Yes	Sustained Response Period	Average over Performance Window	None	None (On-site generation is not prohibited but performance is measured via Load reduction)	
PJM-6	Meter Before / Meter After	No	Yes	Sustained Response Period	Average over Performance Window	None	None (On-site generation is not prohibited but performance is measured via Load reduction)	
PJM-7	Maximum Base Load	No	Yes	Sustained Response Period	Average over Performance Window	None	None (On-site generation is not prohibited but performance is measured via Load reduction)	

PERFORMANCE EVALUATION METHODS		Event Information				Special Processing	
Cross-Reference	Performance Evaluation	Use of Real-Time Telemetry	Use of After-The-Fact Metering	Performance Window	Measurement Type	Highly-Variable Load Logic	On-Site Generation Requirements
PIM-8	Baseline Type-1	No	Yes	Sustained Response period or optionally Deployment Period (Participant Selection)	Hourly Meter relative to CBL	ALL EXCEPT Behind-The-Meter Generation	ALL EXCEPT Behind-The-Meter Generation
SPP							
SPP-1	Behind-the-Meter Generation	Yes	Yes	5 Minutes & Hourly	Actual vs. Setpoint	N/A	N/A
SPP-2	Baseline Type-1	Yes	Yes	5 Minutes & Hourly	Actual vs. Setpoint	None	None

Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market

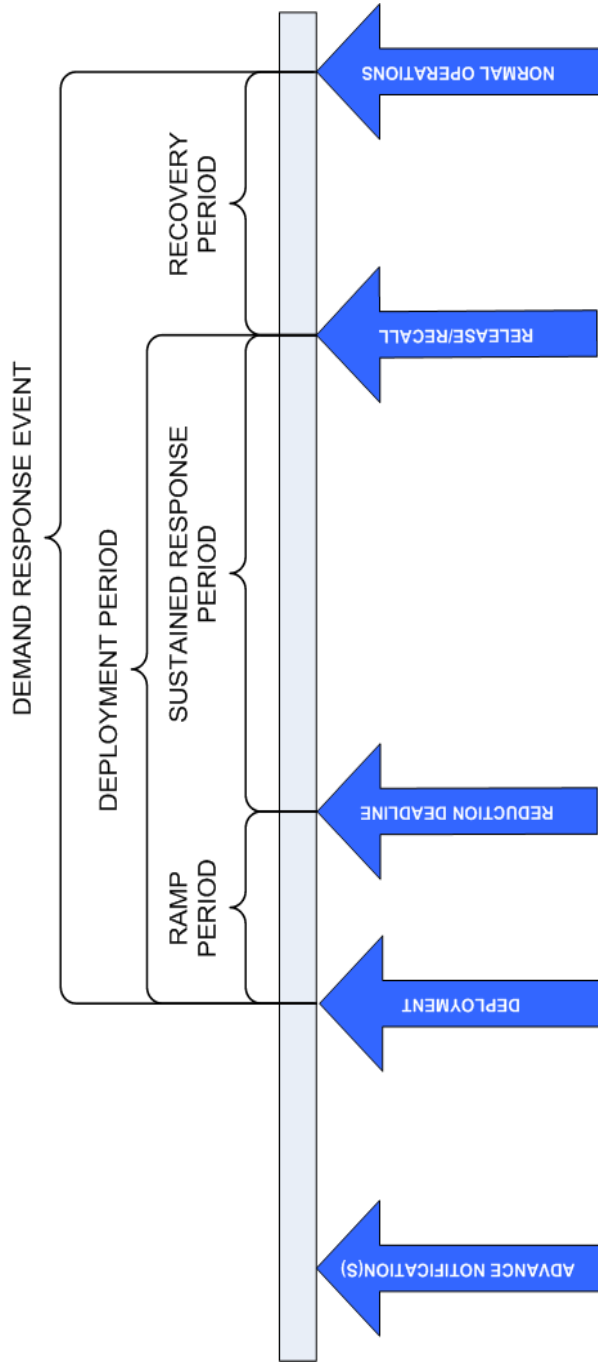
None (On-site generation is not prohibited but performance is measured via Load reduction)

Terms used in this document are taken from the **Business Practices for Measurement and Verification of Wholesale Electricity Demand Response** available to NAESB members via the following hyperlink:

http://www.naesb.org/member_login_form.asp?doc=fa_weg_2008_api5a.doc

Clarification of other terms utilized:

Resource-Specific Deployment	The System Operator issues dispatch instructions to one or more discrete unique resources designated to provide the demand response service. A defined communication channel is required. Real-time two-way communication is optional.
Bulk Deployment	The System Operator issues dispatch instructions to a group or block of resources designated to provide the demand response service. A defined communication channel is required. Real-time two-way communication is optional.
Self Deployment	Deployment of resources is automatic or initiated by the resource or aggregator and not initiated by the System Operator via a defined communication channel. Rather, the resource responds to signals such as real-time electrical system conditions, real-time economic conditions, or market outcomes. Real-time communication is optional.



		Advance Notification(s)	Deployment	Ramp Period	Reduction Deadline
1	Day-Ahead Energy				
2	Emergency Energy or 30-Minute Reserve	4:00 (day before)	2:00	30 Minutes	2:30
3	Day-Ahead Energy	-	2:00	30 Minutes	2:30
4	10-Minute Reserve	4:00 (day before)	2:00	-	2:00
5	Balancing Energy	-	2:15	10 Minutes	2:25
6	Day-Ahead Energy	-	1:55, 2:00, 2:05...	5 Minutes	2:00, 2:05, 2:10...
7	Balancing Energy	4:00 (day before)	2:00	-	2:00
		4:00 (day before for day schedule) & 1:30 (for imbalance)	2:00	15 minutes	2:15

The ISO/RTO notifies a CSP at 4:00 the day before an event to begin ramping down at 2:00 with the load required to be off the system at 2:30

The ISO/RTO calls a CSP at 2:00 and states that load must be off the system by 2:30

The ISO/RTO clears a resource at 4:00 the day before for a 2:00 event.

The ISO/RTO calls a resource enrolled for 10-minute reserve from the control room at 2:15 to respond to a reduction request

The ISO/RTO uses a powerflow algorithm to calculate setpoints and sends these new targets to the demand resource every 5 minutes, beginning at 1:55.

A 10 MW demand resource can be curtailed to 5 MW under a price-responsive bid. The resource clears for the 2:00 hour in day-ahead at 8 MW and is notified through the DA final schedule at 4:00 (day-ahead). The resource has 30 minute startup time and a ramp limitation of 0.2 MW/min. (Detailed example of #3)

Same scenarios as above, however the remaining 3 MW of potential load drop is offered as real-time imbalance energy and, in real-time, the ISO/RTO selects the imbalance bid and dispatches the resource to 5 MW.



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NORTH AMERICAN ENERGY STANDARDS BOARD
2009 WGQ Annual Plan as Approved by the Board on March 26, 2009
with Changes Suggested by the WGQ EC on May 14, 2009

Item Description	Completion ⁱ	Assignment ⁱⁱ
1. Damage Reporting for Natural Gas Pipeline Facilities		
Review and develop standards as appropriate to support posting of information as noted in Docket No. RM06-18-000, Order No. 682 and Docket No. RM06-18-001, Order No. 682-A . Review transmission line damage reporting to identify commonality and apply as appropriate. Status: Complete	2 nd Q, 2009	Interpretations
2. Contracts Activities		
a. Update ISDA Gas Annex to correspond to the updated NAESB Base Contract for Sale and Purchase of Sale of Natural Gas, dated September 5, 2006. Status: Underway	3 rd Q, 2009	Contracts
b. Revise the Trading Partner Agreement TPA by removing the Exhibits from the agreement and relegate such information as contained in the Exhibits to operational worksheet(s), (R08015). Status: Complete	2 nd Q, 2009	Joint Retail BPS/WGQ Contracts
3. Gas-Electric Interdependency		
Respond to directives of FERC Order No. 698 issued 6-25-07 , Docket Nos. RM05-5-001 and RM96-1-027 as related to the NAESB reports submitted in Docket No. RM05-28-000 :		
a. ¶ 56 of Order No. 698: "... Under the Commission regulations, the releasing shipper is responsible for clearly setting out the terms and conditions of the release and that would include the means for implementing the formula rate. <u>This is also an issue on which NAESB can develop standards to ensure that such releases can be processed quickly and efficiently.</u> " (emphasis added)		
i.) Prepare fully staffed recommendation Status: Complete	2 nd Q, 2009	BPS, IR/Technical
b. Provide for Enhanced Granularity for Public Utilities in Identifying Critical Operational Flow Orders. (R08020) Status: Underway	4 th Q, 2009	BPS, IR/Tech jointly with WEQ BPS
4. Promotion of a More Efficient Capacity Release Market		
Review FERC Order Nos. 712 and 712A and modify NAESB standards as appropriate (Docket Nos. RM08-1-000, RM08-1-001).		
a. Develop business practice standards as appropriate Status: Complete	2 nd Q, 2009	BPS/Interpretations
b. Prepare fully staffed recommendation Status: Complete	2 nd Q, 2009	BPS, Interpretations, IR and Technical



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Item Description	Completion ⁱ	Assignment ⁱⁱ
5. Capacity Release EDI Review		
Review capacity release transactions upload and related responses to determine suitability for EDI		
a. Conduct Technical Investigation and prepare report for BPS consideration Status: Not Started (Dependent on conclusion of Item 4)	4 th Q, 2009	IR/Technical
b. Develop Business Practice Standards as appropriate Status: Not Started (Adjustments may be made to Completion Dates based on report from Item 5.a)	4 th Q, 2009	BPS
c. Prepare fully staffed recommendation Status: Not Started (Adjustments may be made to Completion Dates based on report from Item 5.a)	1 st Q, 2010	BPS, IR/Technical
6. Customer Security Administration		
Review and develop standards as appropriate to support Customer Security Administration Standards (Comment Submittal, 10-29-07) Status: Not started (Scoping to take place 3 rd Q, 2009 after which a Completion Date will be set)	2009	BPS
7. Gas Quality Reporting		
a. Respond to directives of FERC Docket No. RP07-504-000: ¶ 10 "... develop a uniform set of standards regarding the posting of rapidly changing gas quality information applicable to those pipelines which are required by their tariffs to do so." (Docket No. RP07-504-000) Status: Complete	1 st Q, 2009	BPS
b. Prepare fully staffed recommendation Status: Complete	2 nd Q, 2009	IR/Technical
8. Standards of Conduct		
Review and develop standards, as appropriate, to support posting of standards of conduct information pursuant to Docket No. RM07-1-000, Order No. 717 Status: Complete	1 st Q, 2009	BPS
9. Electronic Delivery Mechanisms		
Review minimum technical characteristics in Appendices B, C, and D of the WGQ QEDM Manual, and make changes as appropriate. Status: Complete	1 st Q, 2009	EDM



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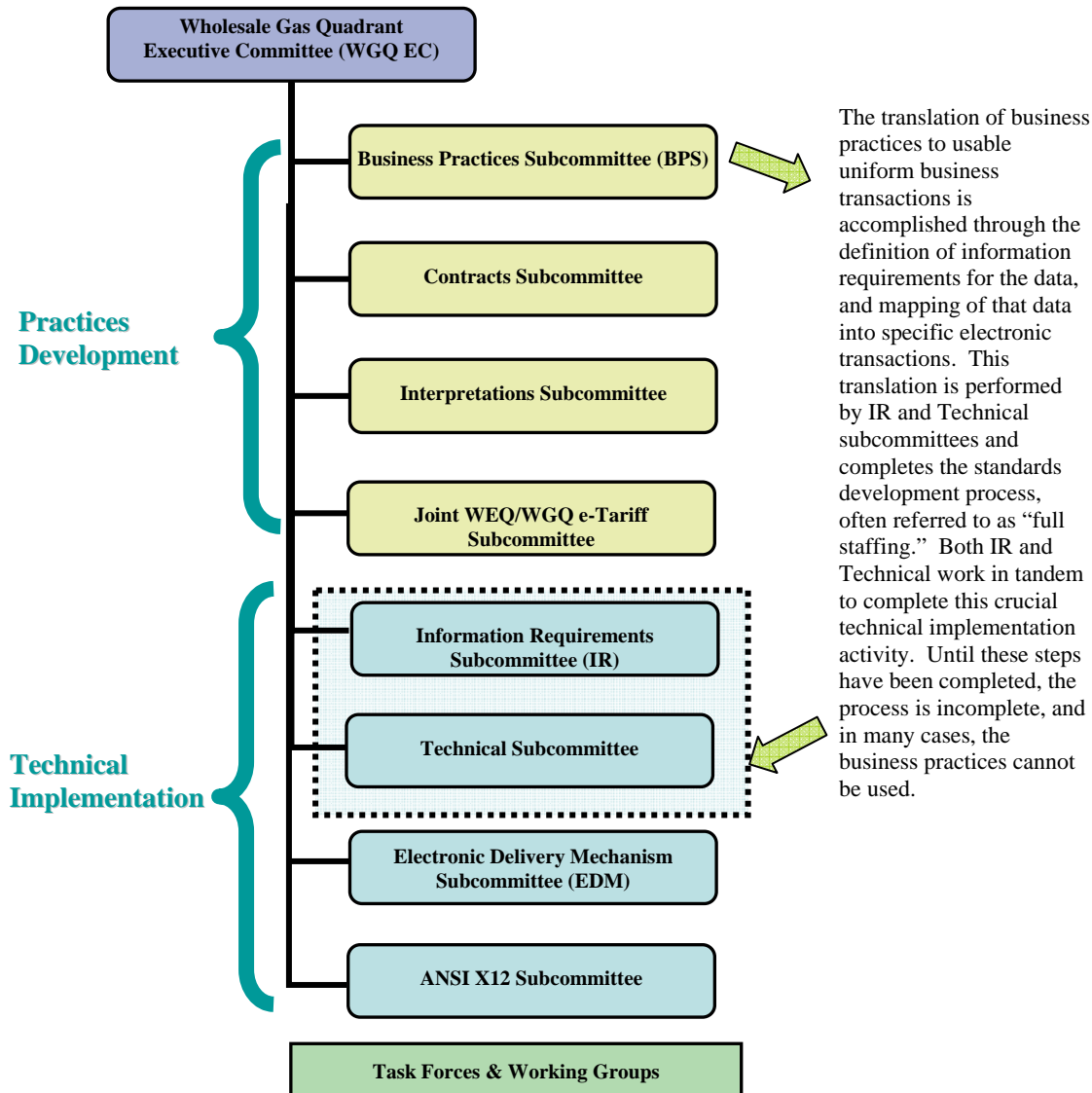
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Item Description	Completionⁱ	Assignmentⁱⁱ
Program of Standards Maintenance & Fully Staffed Standards Work		
Business Practice Requests	Ongoing	Assigned by the EC ⁱⁱⁱ
Continue review against plan for migration to ANSI ASC X12 new versions as needed and coordinate such activities with DISA.	Ongoing	ANSI X12 Subcommittee
Information Requirements and Technical Mapping of Business Practices	Ongoing	Assigned by the EC ⁴
Interpretations for Clarifying Language Ambiguities	Ongoing	Assigned by the EC ⁴
Maintenance of Code Values and Other Technical Matters	Ongoing	Assigned by the EC ⁴
Provisional Activities		
Respond to requests as received that are related to Docket No. AD06-11-000 (Market Transparency Reporting).		



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NAESB 2009 WGQ EC and Subcommittee Leadership:

Executive Committee: Jim Buccigross, Chair and Mike Novak, Vice-Chair
 Business Practices Subcommittee: Kim Van Pelt, Valerie Crockett, Steve Abbey and Richard Smith
 Information Requirements Subcommittee: Dale Davis
 Technical Subcommittee: Mike Stender, Kim Van Pelt
 Contracts Subcommittee: Keith Sappenfield
 Electronic Delivery Mechanism Subcommittee: Leigh Spangler, Christopher Burden
 Interpretations Subcommittee: Paul Love
 Joint WEQ/WGQ e-Tariff Subcommittee: Keith Sappenfield, Jane Daly



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End Notes WGQ 2009 Annual Plan:

ⁱ Dates in the completion column are by end of the quarter for completion by the assigned committee. The dates do not necessarily mean that the standards are fully staffed to be implementable by the industry, and/or ratified by membership. If one item is completed earlier than planned, another item can begin earlier and possibly complete earlier than planned. There are no begin dates on the plan.

ⁱⁱ The assignments are abbreviated. The abbreviations and committee structure can be found at the end of the annual plan document.

ⁱⁱⁱ The EC assigns maintenance of existing standards on a request-by-request basis.



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**NORTH AMERICAN ENERGY STANDARDS BOARD
2009 ANNUAL PLAN for the RETAIL GAS and ELECTRIC QUADRANTS
Adopted by the NAESB Board of Directors on March 26, 2009 with Suggested Retail EC Changes as of May 13, 2009**

Item Number & Description ⁱ	Completion ⁱⁱ	Assignment ^{iiiiv}
1. Electronic Retail Billing. Develop Technical Electronic Implementation Standards and Data Dictionaries – Book 9: Customer Billing and Payment Notification via Uniform Electronic Transactions, (R05016 and Attachment , submitted by Wal-Mart/J.C. Penney) Status: Complete	2 nd Q, 2009	TEIS
2. Develop Technical Electronic Implementation Standards and Data Dictionaries – Book 8: Customer Information Status: Complete	2 nd Q, 2009	TEIS
3. Develop Technical Electronic Implementation Standards and Data Dictionaries – Book 10: Customer Enrollment, Drop and Account Information Change (Non Texas Model) Status: Complete	2 nd Q, 2009	TEIS
4. Customer Inquiries		
a. Develop Model Business Practices and procedures for responding to customer inquiries directed to Distributors and/or Suppliers and for notification of the other party. Status: Complete	2 nd Q, 2009	BPS
b. Develop Technical Electronic Implementation Standards to support MBPs for customer inquiries directed to Distributors and/or Suppliers and for notification of the other party. Status: Underway	3 rd Q, 2009	IR/TEIS/Texas Task Force
5. Develop NAESB Certification checklist criteria for Retail Quadrants to be used in the NAESB Certification Program. Status: Not Started. Dependent upon publication of Version 1.1 at a minimum, but more dependent upon completion of Customer Choice efforts.	4 th Q, 2009	Ad Hoc EC Certification Group
6. Review and develop needed model business practices for a standardized method for quantifying benefits, savings, cost avoidance and/or the reduction in energy demand and usage derived from the implementation of demand side management and energy efficiency programs. This effort will include demand side response, energy efficiency programs and metering, including the 'curtailment service provider' program. Status: Underway		Joint WEQ/REQ DSM Subcommittee
a. Develop matrix and business practice standards for measurement and verification for demand response products and services in ISO/RTO footprint areas. Status: Completed	4 th Q, 2008	WEQ Section of the Joint WEQ/REQ DSM Subcommittee
b. Develop more detailed technical standards for the measurement and verification of demand response products and services in ISO-RTO footprint areas. Status: Underway	Phase 2	WEQ Section of the Joint WEQ/REQ DSM Subcommittee
c. Develop preamble for business practice standards for measurement and verification for demand response and energy efficiency programs.	3 rd Q, 2009	Joint WEQ/REQ DSM



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Item Number & Description ⁱ	Completion ⁱⁱ	Assignment ^{iiiiv}
Status: Underway		Subcommittee
d. Develop glossary for business practice standards Status: Underway	3 rd Q, 2009	Joint WEQ/REQ DSM Subcommittee
e. Support retail development of matrix and model business practice standards for measurement and verification for demand response programs Status: Underway	3 rd Q, 2009	Retail Section of the Joint WEQ/REQ DSM Subcommittee
f. Develop business practice standards to measure and verify energy reductions that are made to comply with a Renewable Portfolio Standard that included energy efficiency or a stand-alone Energy Efficiency Portfolio Standard. Status: Not Started (Scope to be initiated in 2 nd Q, 2009, after which a completion date will be set)	Phase 2*	WEQ Section of the Joint WEQ/REQ DSM Subcommittee
g. Develop business practice standards to factor Demand Control and Energy Efficiency programs into reliability / supply decisions at the wholesale level for generation and transmission planning and operations. Status: Not Started (Scope to be initiated in 2 nd Q, 2009, after which a completion date will be set)	Phase 2*	WEQ Section of the Joint WEQ/REQ DSM Subcommittee
h. Develop business practice standards to support cap and trade programs for green house gas. Status: Not Started (Scope to be initiated in 2 nd Q, 2009 at the earliest. Upon conclusion of the scoping statement it will be determined whether NAESB standards development is appropriate)	Phase 2*	Joint WEQ/REQ DSM Subcommittee
7. Revise the Trading Partner Agreement TPA by removing the Exhibits from the agreement and relegate such information as contained in the Exhibits to operational worksheet(s), (R08015). Status: Complete	2 nd Q, 2009	Joint Retail/WGQ Contracts
8. Billing and Payments		
a. Develop Process Flows to be included as models in book 3 – billing and payments Status: Underway	3 rd Q, 2009	BPS
b. If the development of Process Flows indicate a gap in the model business practices, then develop new model business practices to address the gap. Status: Underway	3 rd Q, 2009	BPS

* These items may be moved to Provisional Activities



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Item Number & Description ⁱ	Completion ⁱⁱ	Assignment ^{iiiiv}
<p>9. Model Business Practices User Guide</p> <p>Add a new section to Book 0 to describe what Books have been developed, how the Books are laid out, and revised the title of the Book to reflect the additions</p> <p>Status: Not Started</p>	4 th Q, 2009	BPS
<p>10. Additional Registration Agent Processes</p> <p>a. Review all existing Model Business Practices to determine if the Service Request process is already covered, and if necessary develop any new Model Business Practices required</p> <p>Status: Underway</p> <p>b. Review all existing Model Business Practices to determine if the update Customer Information process is already covered, and if necessary develop any new Model Business Practices required</p> <p>Status: Underway</p> <p>c. Review all existing Model Business Practices to determine if the disconnection and reconnection process is already covered, and if necessary develop any new Model Business Practices required.</p> <p>Status: Underway</p> <p>d. Review all existing Model Business Practices to determine if the billing & payment process is already covered, and if necessary develop any new Model Business Practices required</p> <p>Status: Underway</p>	4 th Q, 2009	BPS
<p>11. Supplier Certification</p> <p>Review Book 1 – Market Participant Interactions to determine if Supplier Certification is fully covered, and if necessary develop any new Model Business Practices required with the potential of moving all related Model Business Practices to a new Book</p> <p>Status: Not Started</p>	4 th Q, 2009	BPS
<p>12. Supplier Marketing Practices</p> <p>Develop Model Business Practices providing for a “Consumer Disclosure Statement” to be presented to residential and small commercial customers describing the Supplier’s service offering and related contract provisions. This statement would also identify how certain Supplier-Customer interactions are conducted.</p> <p>Amongst the topics to be considered for inclusion on the statement would be the following:</p> <ul style="list-style-type: none"> • the most important terms of the Supplier agreement, such as the contract’s term and termination fee provisions; • training and identification of Supplier marketing representatives; • protocols for Supplier in-person and telephone contacts with customers; • added measures for protecting non-English speaking customers; and • Processes for handling customer complaints and resolving disputes arising from Supplier marketing activities. <p>Status: Not Started</p>	4 th Q, 2009	BPS



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**NORTH AMERICAN ENERGY STANDARDS BOARD
2009 ANNUAL PLAN for the RETAIL GAS and ELECTRIC QUADRANTS
Adopted by the NAESB Board of Directors on March 26, 2009 with Suggested Retail EC Changes as of May 13, 2009**

Item Number & Description ⁱ	Completion ⁱⁱ	Assignment ^{iiiiv}
Program of Standards Maintenance & Fully Staffed Standards Work^v		
Business Practice Requests	Ongoing	Assigned by the EC
Information Requirements and Technical Mapping of Business Practices	Ongoing	Assigned by the EC
Ongoing Interpretations for Clarifying Language Ambiguities	Ongoing	Assigned by the EC
Ongoing Maintenance of Code Values and Other Technical Matters	Ongoing	Assigned by the EC
Ongoing Development and Maintenance of Definitions	Ongoing	Glossary

Provisional Activities

Joint Effort:

Supplier Certification: Develop practices for Distribution Companies to register/certify new Suppliers when they seek to begin doing business in the Distribution Company's service area.

Modify TPA as necessary.

Review security standards as may be deemed necessary, such as Public Key Infrastructure (PKI).

Review existing body of model business practices for consistency and develop or modify model business practices as needed.

Retail Electric Quadrant Effort Only:

Retail Meter Data Validation, Editing & Estimating: Develop procedures for insuring the integrity and validity of retail customer metering data that is needed by utilities and suppliers for billing, etc. Issues related to unbundled or competitive metering are not to be considered.

Settlement Process: Reconcile energy schedules and energy delivered by suppliers within a given market. Note: will need to be coordinated with the WEQ for the REQ.

Retail Gas Quadrant Effort Only:

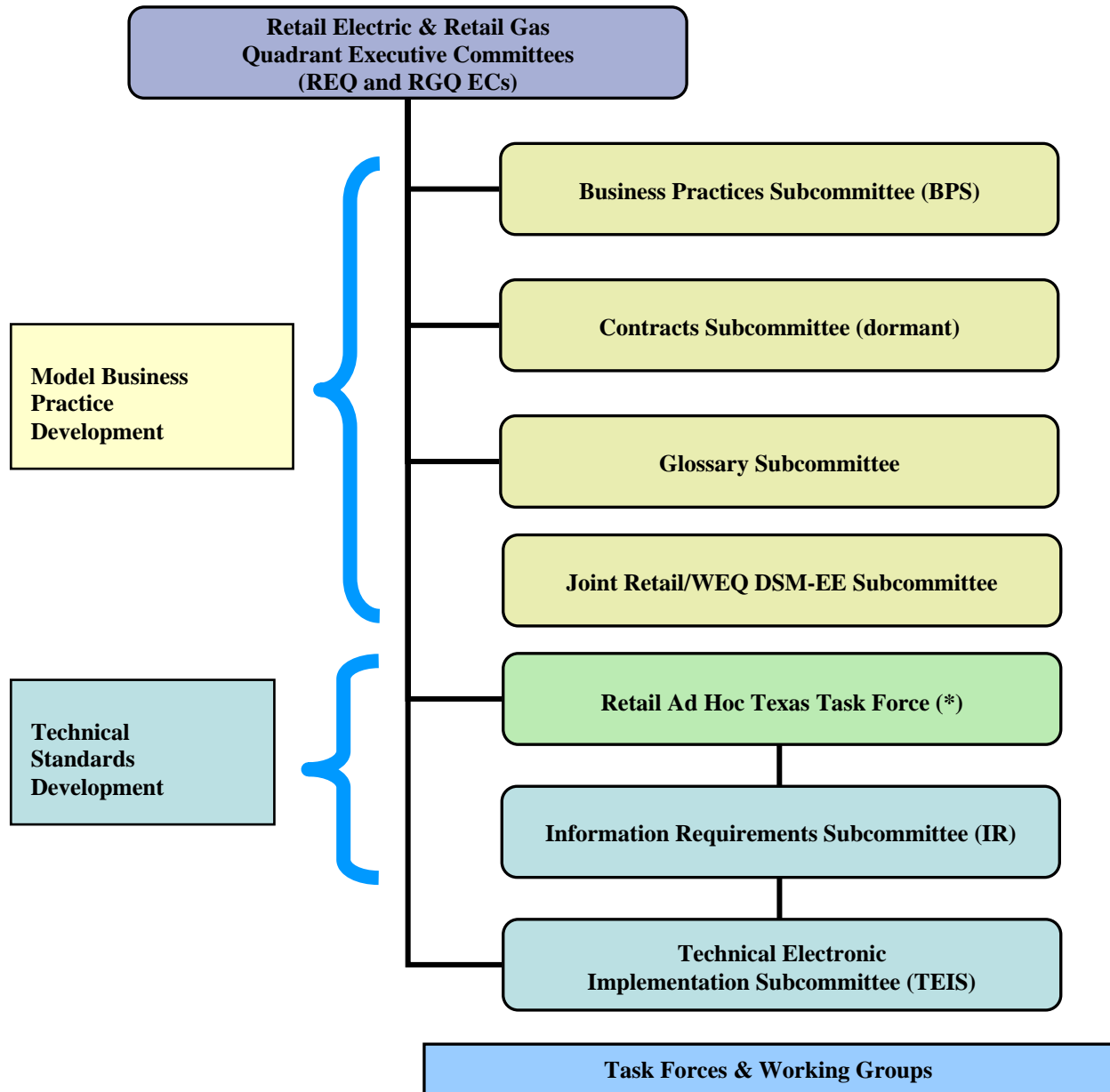
Examine Wholesale Gas Quadrant Non-EDM Standards for applicability to retail business practices.

Settlement Process: Reconcile energy schedules and energy delivered by suppliers within a given market.



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NAESB Retail Subcommittee Leadership: ^{vi}

- Executive Committee: Mike Novak, Chair (RGQ), Ruth Kiselewich, Chair (REQ)
- Business Practices Subcommittee: Phil Precht (RGQ), Mary Edwards and Dan Jones (REQ)
- Information Requirements Subcommittee: Jennifer Teel (REQ)
- Technical Electronic Implementation Subcommittee: TBD
- Glossary Subcommittee: Don Sytsma (RGQ), Mary Edwards and Patrick Eynon (REQ)
- DSM-EE Subcommittee: Ruth Kiselewich, David Koogler (REQ), Roy True (WEQ), and Paul Wattles (WEQ)
- Retail Ad Hoc Texas Task Force: Debbie McKeever (REQ), Jennifer Teel (REQ), and Susan Munson (REQ)

(*) The Retail Ad Hoc Texas Task Force may draft MBPs, process flows, implementation guides and technical standards supportive of the Registration Agent.



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Retail 2009 Annual Plan End Notes:

- ⁱ As outlined in the NAESB Bylaws, the REQ and RGQ will also address requests submitted by members and assigned to the REQ and RGQ through the Triage Process.
- ⁱⁱ Dates in the completion column are by end of the quarter for completion by the assigned committee. The dates do not necessarily mean that the standards are fully staffed to be implementable by the industry, and/or ratified by membership. If one item is completed earlier than planned, another item can begin earlier and possibly complete earlier than planned. There are no begin dates on the plan.
- ⁱⁱⁱ The assignments are abbreviated. The abbreviations and committee structure can be found at the end of the annual plan document.
- ^{iv} The DSM-EE subcommittee is expected to be split into several separate subcommittees to support concurrent development of separate standards sets. The split is to take place at the end of May after which the assignments will be modified.
- ^v This work is considered routine maintenance and thus the items are not separately numbered. The REQ and RGQ ECs will assign maintenance efforts on a request-by-request basis.
- ^{vi} The ECs and the subcommittees can create task forces and working groups to support their development activities for development of model business practices and technical standards.



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NORTH AMERICAN ENERGY STANDARDS BOARD

NAESB 2009 WEQ Annual Plan as approved by the Board on 3-26-09

with redlined changes submitted by the WEQ EC on 5-12-09 and Leadership Changes

Item Description	Completion ¹	Assignment ²³
1 Develop business practices standards as needed to complement reliability standards		
Develop business practice standards to support and complement NERC reliability standards, NERC policies and NERC standards authorization requests (SARs) using the NERC/NAESB Coordination Joint Standards Development Process as appropriate. Current NAESB activities underway to develop business practice standards that are supportive of this annual plan item are:		
a) Develop business practices to support Coordinate Interchange – R05020 “Include a guideline for rounding schedules with partial MWh's in the coordinate interchange business practice WEQ BPS-002-000” the rounding standard recommendation	3 rd Q, 2009	JISWG
Status: Underway		
b) Continuous support of TLR Procedure in alignment with NERC efforts on TLR Phase II and Phase III development.		
i) Parallel Flow Visualization/Mitigation for Reliability Coordinators in the Eastern Interconnection.	4 th Q, 2009	BPS
Note: Activity is dependent on NERC approval of SAR expected in 2 nd Q, 2009. Upon approval of the SAR and NAESB action on this item, consideration should be given to provisional item 4.		
Status: Not Started		
ii) Update WEQ-008 Appendix D to include the Market Flow Threshold Percentage recommended by NERC working group/task force	4 th Q, 2009	BPS
Status: Not Started (dependent on successful field test - expected Oct. 2009) Upon receipt of recommendation, completion date may be adjusted.		
c) Conduct analysis as to whether standards can be developed which outline a standardized process for the coordination and execution of emergency energy schedules. These would be complementary standards to EOP-002-2 Requirements R4 and R6 (SRS Analysis of EOP-002-2 R4 & R6)	1 st Q, 2009	JISWG
Status: Completed and as a result item (3)(a)(viii) has been added to the plan		
d) Time Error and Inadvertent (BAL-004 and BAL-006) Coordination with NERC	2011	TIMTF
Status: Not Started (Upon initiation of this item by NAESB, a completion date will be determined. The date of 2011 is based on a completion date provided in the NERC BAC project schedule which includes extensive field testing and diverse proposed TIMTF directions to be reconciled in subcommittee meetings.)		
e) DCS and AGC (BAL-002 and BAL-005) Coordination with NERC	2011	TIMTF
Status Not Started (Upon initiation of this item by NAESB, a completion date will be determined. The date of 2011 is based on a completion date provided in the NERC BAC project schedule which includes extensive field testing and diverse proposed TIMTF directions to be reconciled in subcommittee meetings.)		



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Item Description	Completion ¹	Assignment ²³
2 Develop business practice standards in support of the FERC RM05-25-000 and RM05-17-000 (OATT Reform)		
a) Develop version 2 business practice standards to better coordinate the use of the transmission system among neighboring transmission providers. Such business practice standards would be based on recommendations from NERC's Long Term ATC/AFC Task Force and would involve revised procedures for the ATC calculation and/or revised protocols as determined by the final order.		
Status: Underway		
Development is using joint standards development process with NERC. Request R050004 was expanded to include the Order No. 890 (Docket Nos. RM05-25-000 and RM05-17-000) and Order No. 890-A (Docket Nos. RM05-17-001, 002 and RM05-25-001, 002), "Preventing Undue Discrimination and Preference in Transmission Services," issued April 11, 2007).		
i) Group 3: Network Service On OASIS		
1. Use of OASIS to Make Electronic Requests to Designate and Terminate Network Resource	4 th Q, 2009	ESS/ITS
Status: Underway		
2. Ability to Query Requests to Designate and Terminate Network Resources and Allow for Queries of All Information Provided with Designation Requests	4 th Q, 2009	ESS/ITS
Status: Underway		
3. Masking of Designated Network Resource Operating Restrictions and Generating Cost Information	4 th Q, 2009	ESS/ITS
Status: Underway		
4. Procedural Requirements for Submitting Designations over new OASIS Functionality	4 th Q, 2009	ESS/ITS
Status: Underway		
5. Specify How Designated Network Service Informational Postings are Posted on OASIS	4 th Q, 2009	ESS/ITS
Status: Underway		
6. Develop standards for the treatment of OASIS Requests when the Customer Fails to Provide the Necessary Attestation	4 th Q, 2009	ESS/ITS
Status: Underway		
7. Procedural Requirements for Submitting Both Temporary and Indefinite Terminations of Network Resources	4 th Q, 2009	ESS/ITS
Status: Underway		



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Item Description	Completion ¹	Assignment ²³
8. Procedures for Submitting and Processing Requests for Concomitant Evaluations of Transmission Requests and Temporary Terminations Status: Underway	4 th Q, 2009	ESS/ITS
ii) Group 4: Pre-Emption; Request No. R05019; and Revisions to Standard 9.7		
1. Pre-Emption Status: Not Started	4 th Q, 2009	ESS/ITS
2. Request No. R05019 Status: Not Started	4 th Q, 2009	ESS/ITS
3. Modify WEQ-001-9.7 Rollover Rights for Redirect on a Firm Basis Status: Completed	2 nd Q, 2009	ESS/ITS
iii) Group 5: Paragraph 1377		
1. Paragraph 1377 Status: Not Started	4 th Q, 2009	ESS/ITS
2. Re-Bid Of Partial Service across Multiple Transmission Providers' Systems Status: Not Started	4 th Q, 2009	ESS/ITS
iv) Group 6: Miscellaneous (Paragraphs 1390 and 1627 of Order 890)		
1. Paragraph 1390 of Order 890 Status: Not Started	4 th Q, 2009	ESS/ITS
2. Paragraphs 1627 of Order 890 Status: Not Started	4 th Q, 2009	ESS/ITS
3. Redispatch Cost Posting to allow for posting of third party offers of planning redispatch services. Status: Not Started	4 th Q, 2009	ESS/ITS
b) Develop the needed business practices as companion to the NERC standards for ATC related efforts		
i) Develop standards to support existing Request No. R05004 .		



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Item Description	Completion ¹	Assignment ²³
<p>1. The processing of transmission service requests, which use TTC/ATC/AFC, in coordination with NERC changes to MOD 001 where the allocation of flowgate capability based on historical Network Native Load impacts the evaluation of transmission service requests, requiring the posting of those allocation values in conjunction with queries of service offerings on OASIS</p> <p>Status: Underway</p>	4 th Q, 2009	ESS/ITS
<p>3 Develop business practices standards to improve the current operation of the wholesale electric market and develop and maintain business practice and communication standards for OASIS and Electronic Scheduling</p>		
<p>a) Develop and/or maintain business practice standards as needed for OASIS and electronic scheduling. Specific items to address include:</p>		
<p>i) Network Services: Determine and develop needed business practice standards or other support is needed to support use of OASIS for Network Service transactions (R04006E). (Related to AP 2(a)(iii))</p> <p>Status: Underway</p>	4 th Q, 2009	ESS/ITS
<p>ii) Registry (TSIN): Determine and develop needed business practice standards to support the registry functions currently supported by NERC (R04037, R06027).</p>		
<p>1) Work with the NAESB counsel to develop a confidentiality agreement, (R07013)</p> <p>Status: Underway</p>	3 rd Q, 2009	JISWG
<p>2) Transition the TSIN Registry from NERC to NAESB as the enhanced Electric Industry Registry (EIR), (R06027).</p> <p>Status: Underway</p>	4 th Q, 2009	NAESB/NERC Administration, JISWG
<p>iii) Document procedures used to implement the displacement/interruption terms of the Pro Forma tariff (R05019).</p> <p>Status: Deleted as a duplicate of 2009 AP item 2.a.ii.2</p>	4 th Q, 2009	ESS/ITS
<p>iv) Make remaining incremental enhancements to OASIS as an outgrowth of the NAESB March 29, 2005 conference on the future of OASIS (R05026).</p> <p>Scoping statement completed by SRS and assignments made to BPS and ESS/ITS.</p>		
<p>1) Eliminate Masking of TSR tag source and sink when requested status is denied, withdrawn refused, displaced, invalid, declined, annulled or retracted</p> <p>Status: Not Started</p>	4 th Q, 2009	ESS/ITS



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	Item Description	Completion¹	Assignment²³
2)	Initiate standard that eliminates the disparity of posting “sensitive” information. This standard should also include procedures of user certification that allows access to this class of information. Status: Underway (upon further development of this item by NAESB, a completion date will be determined)	2010	ESS/ITS
3)	Enhance the TSR result postings to allow showing of (i) limiting transmission elements and (ii) available generation dispatch options that would allow acceptance of reservation request. Status: Not Started (upon initiation of this item by NAESB, a completion date will be determined)	2010	ESS/ITS
v)	Develop, coordinate interoperability testing, and implement e-Tag version 1.8.1 Status: Underway	4 th Q, 2009	JISWG
vi)	Transition e-Tag Specification and schema to NAESB Status: Complete. Version 1.8.1 will be identified as the NAESB Electronic Tagging Functional Specification	1 st Q, 2009	JISWG
vii)	Review and correct the WEQ-004 Coordinate interchange Business Practice Standard as noted during the development of the e-Tag 1.8 development process. Status: Underway	3 rd Q, 2009	JISWG
viii)	Review and correct WEQ-004 Coordinate Interchange Business Practice Standard as needed based on activities in NERC Project 2008-12, Coordinate Interchange Standards Revisions and supporting EOP-002-2 R4 and R6. [note: this is a new item] Status: Not started – dependent on NERC activity (upon initiation of this item by NAESB, a completion date will be determined)	2010	JISWG
b)	Develop and/or maintain standard communication protocols and cyber-security business practices as needed.		
i)	Develop PKI certification program for e-Tag and OASIS Status: Not Started (upon initiation of this item by NAESB, a completion date will be determined)	2009	Board Certification Program Committee
ii)	Develop PKI standards for OASIS. Status: Not Started (upon initiation of this item by NAESB, a completion date will be determined)	2009	ESS/ITS
iii)	Develop Industry Implementation Plan for meeting PKI Standard requirements for e-tagging. Status: Underway. eTagging items are linked to the transition of the Registry from NERC to NAESB.	July, 2009	JISWG



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Item Description	Completion ¹	Assignment ²³
<p>c) Develop needed business practice standards for organization/company codes for NAESB standards – and address current issues on the use of DUNs numbers.</p> <p>Status: Underway (upon further development of this item by NAESB, a completion date will be determined)</p> <p>Common code usage is linked to the transition of the Registry from NERC to NAESB</p>	2009	NAESB Staff with WEQ support
<p>d) Develop business practice standards in support of FERC Order No. 717</p> <p>Status: Complete</p>	1 st Q, 2009	BPS
<p>4 Review and develop business practices standards to Demand Response, Demand Side Management and Energy Efficiency Programs</p> <p>Review and develop needed model business practices for a standardized method for quantifying benefits, savings, cost avoidance and/or the reduction in energy demand and usage derived from the implementation of demand side management and energy efficiency programs. This effort will include demand side response, energy efficiency programs and metering, including the 'curtailment service provider' program.</p>		
<p>a) Develop matrix and business practice standards for measurement and verification for demand response products and services in ISO/RTO footprint areas.</p> <p>Status: Completed</p>	4 th Q, 2008	WEQ Section of the Joint WEQ/REQ DSM-EE Subcommittee
<p>b) Develop more detailed technical standards for the measurement and verification of demand response products and services in ISO-RTO footprint areas, including examples to be developed to support item 4(a) above.</p> <p>Status: In Progress</p>	Phase 2	WEQ Section of the Joint WEQ/REQ DSM-EE Subcommittee
<p>c) Develop preamble for business practice standards for measurement and verification for demand response and energy efficiency programs.</p> <p>Status: Underway</p>	3 rd Q, 2009	Joint WEQ/REQ DSM-EE Subcommittee
<p>d) Develop glossary for business practice standards</p> <p>Status: Underway</p>	3 rd Q, 2009	Joint WEQ/REQ DSM-EE Subcommittee
<p>e) Support retail development of matrix and model business practice standards for measurement and verification for demand response programs</p> <p>Status: Underway</p>	3 rd Q, 2009	Retail Section of Joint WEQ/REQ DSM-EE Subcommittee



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Item Description	Completion ¹	Assignment ²³
<p>f) Develop business practice standards to measure and verify energy reductions that are made to comply with a Renewable Portfolio Standard that included energy efficiency or a stand-alone Energy Efficiency Portfolio Standard.</p> <p>Status: Not Started (Scope to be initiated in 2nd Q, 2009, after which a completion date will be set)</p>	Phase 2	<p>WEQ Section/Joint WEQ/REQ DSM-EE Subcommittee</p>
<p>g) Develop business practice standards to factor Demand Control and Energy Efficiency programs into reliability / supply decisions at the wholesale level for generation and transmission planning and operations in ISO/RTO footprint areas.</p> <p>Status: Not Started (Scope to be initiated in 2nd Q, 2009, after which a completion date will be set)</p>	Phase 2	<p>WEQ Section/Joint WEQ/REQ DSM-EE Subcommittee</p>
<p>h) Develop business practice standards for cap and trade programs for green house gas</p> <p>Status: Not Started (Scope to be initiated in 2nd Q, 2009 at the earliest. Upon conclusion of the scoping statement it will be determined whether NAESB standards development is appropriate)</p>	Phase 2	<p>Joint WEQ/REQ DSM-EE Subcommittee</p>
5 Maintain existing body of Version 2 standards		
<p>a) Make consistency changes to Version 1.0 standards as directed by the WEQ Leadership Committee on December 12, 2007 (R08001 – BPS, ESS/ITS, R08002 - ESS/ITS, R08003 - ESS/ITS - BPS, R08004, R08005 - ESS/ITS)</p>		
<p>1) OASIS Consistency Changes (R08001, R08002, R08003, R08005)</p> <p>Status: Not Started (upon initiation of this item by NAESB, a completion date will be determined)</p>	2009	ESS/ITS
<p>2) Gas / Electric Communication Consistency Changes (R08004)</p> <p>Status: Complete</p>	2 nd Q, 2009	BPS
<p>b) Modify NAESB definitions to address internal inconsistencies and inconsistencies with the NERC glossary. Revise existing NAESB glossary/definition of terms to be applicable to entire set of WEQ Business Practices. (http://www.naesb.org/pdf3/weq_ec051308w3.doc)</p> <p>Status: Underway</p>	3 rd Q, 2009	<p>BPS/ESS/ITS/ SRS Co-chairs</p>
<p>Subcommittee co-chairs are developing WEQ-000 Definition of Terms/Acronyms to replace definitions being included in each NAESB Business Practice.</p>		
<p>c) Develop standards to allow for registered Market Operators to request changes to the Market Level profile of Implemented Interchange (R06006)</p> <p>Status: Complete</p>	1 st Q, 2009	JISWG



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	Item Description	Completion ¹	Assignment ²³
d)	<p>Consistent with ¶51 of FERC Order No. 890-A, add AFC and TFC values to the “System_Attribute” data element of the NAESB Standard WEQ-003: OASIS S&CP Data Dictionaries. (R08011)</p> <p>Status: Not Started</p> <p>This Standards Request was assigned to the ESS/ITS in May 2008.</p>	3 rd Q, 2009	ESS/ITS
e)	<p>Provide for Enhanced Granularity for Public Utilities in Identifying Critical Operational Flow Orders. (R08020)</p> <p>Status: WEQ Complete/WGQ In Progress. This Standards Request was assigned to the BPS in August 2008 (upon initiation of this item by NAESB, a completion date will be determined)</p>	2 nd Q, 2009	BPS jointly with WGQ BPS
f)	<p>Synchronize Bidding Credit Requirements for FTR, TCC and CRR (R08025)</p> <p>Posting of collateral is an important issue for financial marketers. Most financial marketers and smaller entities are required to post cash for FTR transactions, while most utilities post unsecured credit. Therefore, the timing for posting collateral is especially crucial to financial marketers. There are two posting periods for FTRs:</p> <ol style="list-style-type: none"> 1. The Bidding Requirement: Credit must be posted with FTR bids and these monies are held until bids are cleared. 2. The Holding Requirement: After bids are cleared and FTRs awarded, collateral is required for the amount of time the FTR is active. <p>Status: In Progress</p>	4 th Q, 2009	SRS (Scoping)
g)	<p>Correct WEQ 013-2.6.7.2. – Resale off OASIS (R08027)</p>	TBD	ESS/ITS
h)	<p>Add language to WEQ-001-4 Online Negotiation and Confirmation process to clarify Table 4-3 (R09003)</p>	TBD	ESS/ITS



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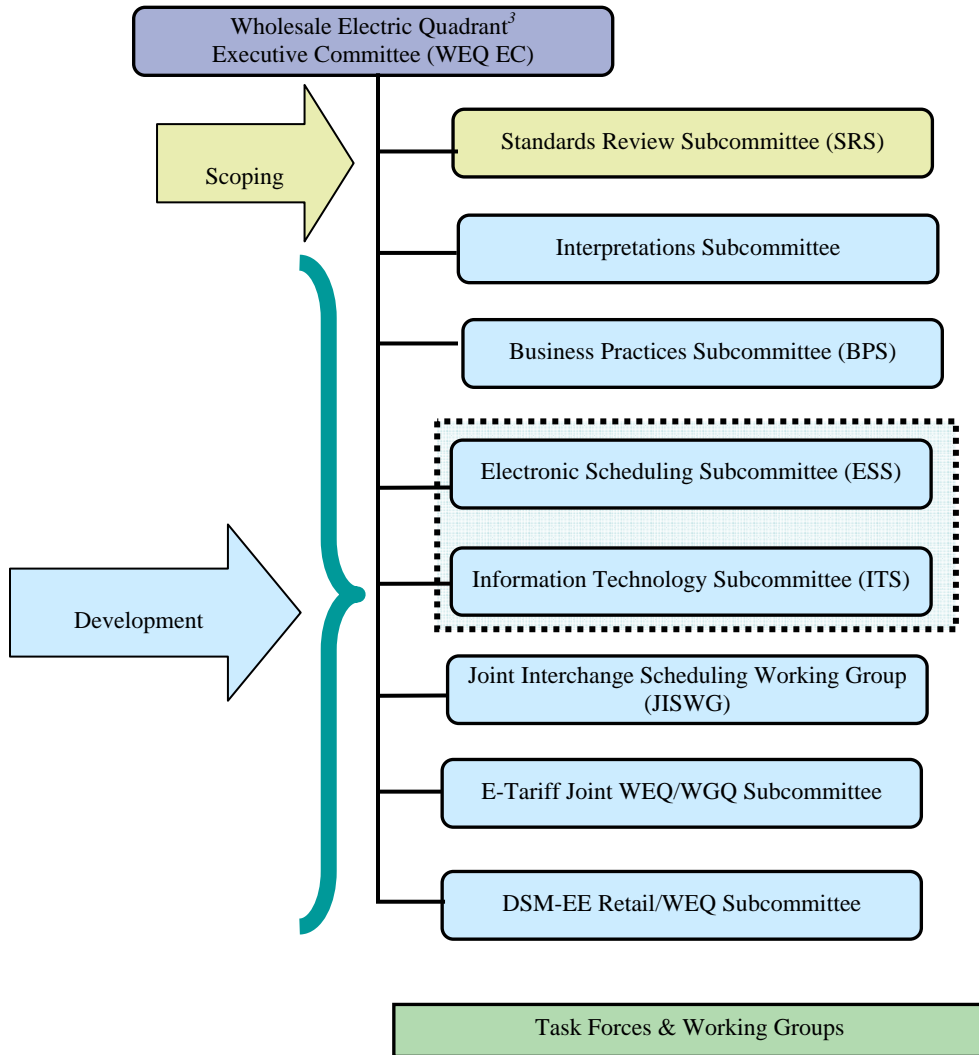
PROVISIONAL ITEMS

- 1 Develop and or modify business practices related to support of NERC effort on the NERC Resources and Transmission Adequacy (Project 2009-05 Resource Adequacy Assessment).
- 2 Develop business practices for allocating capacity among requests received during a submittal window Order 890-A ([Docket Nos. RM05-17-001, 002 and RM05-25-001, 002](#) - Paragraph 805).
- 3 Determine any needed NAESB action in support of the Interchange Distribution Calculator (IDC) and develop any necessary standards.
- 4 Prepare recommendations for future path for TLR (equity concerns) in concert with NERC, which may include alternative congestion management procedures⁴. Work on this activity is dependent on completing 2009 WEQ Annual Plan 1.c.i (Parallel Flow Visualization/Mitigation for Reliability Coordinators in the Eastern Interconnection).
- 5 Develop complementary standards that align with NERC Project 2008-01 Voltage and Reactive Control, for which a white paper is expected after the 2009 SAR is processed.
- 6 Develop NAESB business practices as needed to complement NERC reliability standards for FAC-012 and FAC-013.
- 7 Determine NAESB action needed to support FERC Action Plan for Smart Grid Technology.



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NAESB WEQ EC and Subcommittee Leadership:

Executive Committee: Kathy York (WEQ EC Chair) and Matthew Goldberg (WEQ EC Vice Chair)

Standards Review Subcommittee: Narinder Saini, Ed Skiba

Interpretations Subcommittee: Robert Schwermann

Business Practices Subcommittee & Task Forces: Jim Busbin (TLR), Ed Skiba

Electronic Scheduling Subcommittee/Information Technology Subcommittee & Task Forces: Paul Sorenson, J.T. Wood, Marcie Otondo

Joint Interchange Scheduling Working Group (JISWG): Bob Harshbarger (NAESB), Jim Hansen (NERC)

e-Tariff Joint WEQ/WGQ Subcommittee (e-Tariff): Jane Daly (WEQ), Keith Sappenfield (WGQ)

DSM-EE Joint Retail/WEQ Subcommittee: Ruth Kiselewich and David Koogler (Retail), Roy True and Paul Wattles (WEQ)



North American Energy Standards Board

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End Notes WEQ 2009 Annual Plan:

¹ Dates in the completion column are by end of the quarter for completion by the assigned committee. The dates do not necessarily mean that the standards are fully staffed to be implementable by the industry, and/or ratified by membership. If one item is completed earlier than planned, another item can begin earlier and possibly complete earlier than planned. There are no begin dates on the plan.

² The assignments are abbreviated. The abbreviations and committee structure can be found at the end of the annual plan document.

³ The subcommittee assignments will change in June/July to reflect streamlining the subcommittee structure within the WEQ EC.

⁴ For additional information, please see comments submitted by PJM and MISO for this Annual Plan Item:
http://www.naesb.org/pdf3/weq_aplan102907w1.pdf.



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January 28, 2009

TO: NAESB Executive Committee and Interested Industry Participants
FROM: Rae McQuade, NAESB Executive Director
RE: Schedule of 2009 Meetings

Below is the schedule of 2009 meetings for the Executive Committee, Board of Directors and Advisory Council.

2009 Calendar of Board and EC Meetings

Date	Meeting	Location
March 26	Board of Directors	Houston – Marriott IAH
June 25	Board of Directors Meeting and Meeting of the Members	Houston – Marriott IAH
September 24	Board of Directors	Houston – Marriott IAH
December 10	Board of Directors	Houston – Marriott IAH
February 3-5	Executive Committee (WEQ, Retail, WGQ)	Phoenix, Hosted by SRP
February 14	Advisory Council Meeting	Washington D.C. – Renaissance Washington Hotel (in conjunction with NARUC Winter Meeting)
May 12-14	Executive Committee (WEQ, Retail, WGQ)	Carmel, IN hosted by ACES Power
August 18-20	Executive Committee (WEQ, Retail, WGQ)	Colorado Springs hosted by El Paso Western Pipelines
October 27-29	Executive Committee (WEQ, Retail, WGQ)	Richmond, VA hosted by Dominion