



North American Energy Standards Board

801 Travis, Suite 1675, 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

DECEMBER 14, 2017



North American Energy Standards Board

801 Travis, Suite 1675, Houston, Texas 77002
Phone: (713) 356-0060, Fax: (713) 356-0067, E-mail: naesb@naesb.org
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NAESB BOARD OF DIRECTORS MEETING

Marriott Marquis, 1777 Walker Street, Houston, TX – Thursday, December 14 – 9:00 am to 1:00 pm Central

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Antitrust and Other Meeting Policies

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.

Participants recording any portion of a NAESB meeting or conference call are reminded that federal and state statutes mandate various disclosure and consent requirements. It is NAESB's policy that participants comply with all applicable state and federal statutes related to the recording of conversations. As a courtesy to the meeting attendees, anyone taping a meeting should announce that they are doing so in the meeting before beginning the recording.

Participants should understand that NAESB meetings are open to any interested party, who may or may not declare themselves present when attending by phone/web cast.

Participants are advised to review the NAESB Intellectual Property Rights Policy Concerning Contributions and Comments.



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NORTH AMERICAN ENERGY STANDARDS BOARD 2017 BOARD TERMS – Wholesale Gas Quadrant

PRODUCERS SEGMENT		TERM END:
Mark Stultz	Senior Director, Communications & External Affairs, BP Energy America	12-31-2017
Y.J. Bourgeois	Manager Regulatory Affairs - Marketing, Anadarko Energy Services Company	12-31-2017
Mark A. Zdenek	Director Gas Scheduling & Operations, ConocoPhillips Company	12-31-2017
V A C A N C Y		12-31-2018
Randy E. Parker	Regulatory Affairs Upstream Commercial, Exxon Mobil Corporation	12-31-2018
PIPELINE SEGMENT		
Richard Kruse	Vice President –Regulatory and FERC Chief Compliance Officer, Spectra Energy Corp	12-31-2017
Kim Van Pelt	Manager of Regulatory Reporting and Compliance, Boardwalk Pipeline Partners, LP	12-31-2017
Millie S. Moran	Vice President, U.S. Commercial Operations, TransCanada Pipelines USA, Ltd	12-31-2018
Ronnie C. Hensley II	Regulatory Compliance Manager, Southern Star Central Gas Pipeline	12-31-2018
Gene Nowak	Vice President – Transportation & Storage Services, Kinder Morgan Inc	12-31-2018
LOCAL DISTRIBUTION COMPANY (LDC) SEGMENT		
Karl Stanley	Vice President, Major Accounts & Commercial Operations, NiSource	12-31-2017
Mike Novak	Asst. General Manager, National Fuel Gas Distribution Corporation	12-31-2017
Dennis Gee	Principal Regulatory Analyst – Core Gas Supply Dept., Pacific Gas and Electric Company	12-31-2017
Craig Colombo	Energy Trader III, Dominion Energy Inc.	12-31-2018
Tim Sherwood	Vice President – Gas Supply Operations, Southern Company Gas	12-31-2018
END USERS SEGMENT		
Willis E. McCluskey	Senior Fuel Supply Analyst, Salt River Project Agricultural Improvement & Power District	12-31-2017
Scott Wright	Executive Director Strategic Planning, Midcontinent Independent System Operator, Inc.	12-31-2017
Valerie Crockett	Senior Program Manager – Regulatory & Policy, Tennessee Valley Authority	12-31-2018
Paul Zhang	Financial Trading Desk Head, Florida Power & Light Company	12-31-2018
N. Jonathan Peress	Director, Energy Market Policy, Environmental Defense Fund, Inc.	12-31-2018
SERVICES SEGMENT		
Keith Sappenfield	Principal Consultant, Environmental Resources Management	12-31-2017
Ginger Richman	Vice President, NJR Energy Services	12-31-2017
Greg Lander	President, Skipping Stone, LLC	12-31-2018
Rakesh Agrawal	Executive Vice President, Blackstone Technology Group, Inc.	12-31-2018
Sylvia Munson	Owner, Sylvia Munson - Consultant	12-31-2018



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**NORTH AMERICAN ENERGY STANDARDS BOARD
 2017 BOARD TERMS – Retail Markets Quadrant**

RETAIL ELECTRIC UTILITIES SEGMENT		TERM END:
Brandon Stites	Director - Electric Distribution Design, Project Mgmt & Federal Energy Solutions (Dominion Energy Virginia/North Carolina), Dominion Energy	12-31-2017
Dennis Derricks	Director, Regulatory Affairs, WEC Energy Group	12-31-2017
V A C A N C Y		12-31-2017
Stuart Laval	Director, Technology Development, Duke Energy Corporation	12-31-2018
V A C A N C Y		12-31-2018
Debbie McKeever	Market Advocate, Oncor Electric Delivery Company LLC	12-31-2018
RETAIL GAS MARKET INTERESTS SEGMENT		
V A C A N C Y		12-31-2017
Alonzo Weaver	Vice President of Engineering and Operations, Memphis Light, Gas & Water Division (APGA)	12-31-2017
Dave Darnell	President & CEO, Systrends USA	12-31-2017
V A C A N C Y		12-31-2018
Leigh Spangler	President, Latitude Technologies LLC	12-31-2018
Scott Mosley	Physical Trading, SouthStar Energy Services LLC	12-31-2018
RETAIL ELECTRIC END USERS/PUBLIC AGENCIES SEGMENT		
Tobin Richardson	President and CEO, ZigBee Alliance	12-31-2017
Robert G. Gray	Public Utilities Manager, Arizona Corporation Commission	12-31-2017
V A C A N C Y		12-31-2017
V A C A N C Y		12-31-2018
James P. Cargas	Senior Assistant City Attorney, City of Houston	12-31-2018
Susan Anthony	Market Support Services, Electric Reliability Council of Texas, Inc. (ERCOT)	12-31-2018
RETAIL ELECTRIC SERVICE PROVIDERS/SUPPLIERS SEGMENT		
V A C A N C Y		12-31-2017
Barry Haaser	Executive Director, Green Button Alliance	12-31-2017
Wendell Miyaji	Vice President - Energy Sciences, Comverge, Inc.	12-31-2017
Larry Lackey	Director Cybersecurity and Standards Development, Open Energy Solutions, Inc.	12-31-2018
V A C A N C Y		12-31-2018
J. Cade Burks	President, Big Data Energy Services	12-31-2018



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NORTH AMERICAN ENERGY STANDARDS BOARD 2017 BOARD TERMS – Wholesale Electric Quadrant

TRANSMISSION SEGMENT		TERM END:
Alex DeBoissiere	Senior Vice President – Government Relations, AVANGRID	12-31-2017
Cameron Warren	Manager, Operations Engineering, Entergy Services, Inc.	12-31-2017
Adrienne Collins	Transmission General Manager, Southern Company Services, Inc.	12-31-2017
Robert King	Manager, Transmission Policy & Strategy, Bonneville Power Administration	12-31-2017
Armando Rodriguez	Sr. PM, Transmission Policy & Grid Resiliency, Tennessee Valley Authority	12-31-2018
Mike Anthony	Manager – Tariff Administration and Business Services, Duke Energy Corporation	12-31-2018
V A C A N C Y		12-31-2018
GENERATION SEGMENT		
Brad Cox	Vice President – Markets & Compliance, Tenaska, Inc.	12-31-2017
Derek Mauzy	Director, Market Research/Competitive Intelligence, NRG Energy, Inc.	12-31-2017
Wayne Moore	Vice President - Operations Compliance Officer, Southern Company Services, Inc.	12-31-2017
William J. Gallagher	Special Projects Chief, Vermont Public Power Supply Authority	12-31-2017
David Canter	Manager, RTO & Public Policy, American Electric Power Service Corp.	12-31-2018
Karen Utt	Climate Policy Sr. Program Manager, Sustainability & Climate, Tennessee Valley Authority	12-31-2018
Lou Oberski	Director NERC Reliability Compliance and NERC Policy, Dominion Resources Services, Inc.	12-31-2018
MARKETERS/BROKERS SEGMENT		
Dianne Hensley	General Manager Power Trading, Tennessee Valley Authority	12-31-2017
Rebecca Johnson	Transmission Advisor, Western Area Power Administration	12-31-2017
R. Scott Brown	Strategic Initiatives and Analysis – Exelon Corporation, Exelon Generation Company, LLC	12-31-2017
V A C A N C Y		12-31-2017
Roy True	Director of Regulatory and Market Affairs, Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	12-31-2018
Timothy Gerrish	Director of Origination – Energy Marketing & Trading, Florida Power & Light Company	12-31-2018
Michael P. Ward II	Director of System Operations, Seminole Electric Cooperative Inc.	12-31-2018



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DISTRIBUTION/LOAD SERVING ENTITIES (LSE) SEGMENT		TERM END:
Bruce Ellsworth	New York State Reliability Council	12-31-2017
Mark G. Lauby	Senior Vice President and Chief Reliability Officer, North American Electric Reliability Corporation	12-31-2017
Nelson Peeler	Vice President - Transmission System Planning and Operations, Duke Energy Corporation	12-31-2017
Paul McCurley	Chief Engineer, National Rural Electric Cooperative Association	12-31-2017
V A C A N C Y		12-31-2018
V A C A N C Y		12-31-2018
David Crabtree	Director - Federal Regulatory Affairs, Compliance & Transmission Policy, Tampa Electric Company	12-31-2018
END USERS SEGMENT		
V A C A N C Y		12-31-2017
Lila Kee	General Manager and Chief Product Officer, GMO GlobalSign, Inc.	12-31-2017
Jerry Dempsey	Sr. Vice President - Business Development, Sales and Marketing, OATI	12-31-2017
V A C A N C Y		12-31-2017
V A C A N C Y		12-31-2018
V A C A N C Y		12-31-2018
V A C A N C Y		12-31-2018
INDEPENDENT GRID OPERATORS/PLANNERS		
Ed Skiba	Consulting Advisor Standards Compliance, MISO	12-31-2017
Nicholas Ingman	Director of Market Operations, Independent Electricity System Operator (IESO)	12-31-2017
Stu Bresler	Senior Vice President Operations and Markets, PJM Interconnection, LLC	12-31-2017
Gregory Campoli	Manager, Reliability Compliance and Industry Affairs, New York Independent System Operator, Inc. (NYISO)	12-31-2018
Joel Mickey	Director of Market Design and Development, Electric Reliability Council of Texas, Inc. (ERCOT)	12-31-2018
Michael Desselle	VP & Chief Compliance and Administrative Officer, Southwest Power Pool	12-31-2018
Robert Ethier	Vice President Market Operations, ISO New England, Inc.	12-31-2018
TECHNOLOGY AND SERVICES		
V A C A N C Y		12-31-2017
E. Russell Braziel	President, RBN Energy, LLC	12-31-2017
V A C A N C Y		12-31-2017
David A. Wollman	Deputy Director, Smart Grid and Cyber-Physical Systems Program Office (NIST Engineering Laboratory), National Institute of Standards and Technology (NIST)	12-31-2018
Jim Buccigross	Vice President - Energy Industry Practice, 8760 Inc.	12-31-2018
Bryan Kelly	Sr. Director, Product Management, Power Costs, Inc.	12-31-2018
David Nilsson	Senior Vice President, Adapt2 Solutions, Inc.	12-31-2018



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Via email and posting
November 29, 2017

TO: NAESB Board of Directors, Executive Committee (EC) Members, EC Alternates, NAESB Members, NAESB Advisory Council, and Invited Guests

FROM: Rae McQuade, NAESB President

RE: Agenda and Linked Materials for NAESB Board of Directors Meeting – December 14, 2017
Highlighted with Additional Materials

Dear Board Members, EC Members, EC Alternates, NAESB Members, NAESB Advisory Council and invited guests,

As noted in other communications, we are pleased to announce the fourth quarter 2017 board meeting to be held on December 14 in Houston, Texas at the Marriott Marquis Hotel in downtown Houston. I hope you are able to travel to Houston for our upcoming board meeting, related committee meetings and our board dinner. This board meeting serves as the last board meeting of 2017, during which we will review the financials, along with the progress made towards the 2017 plans, and updates from our committees, along with approvals for our 2018 budget and 2018 annual plans.

The specifics of the board meeting and related meetings are:

Events: Board of Directors Dinner, Board of Directors Meeting, and related NAESB meetings

Where: Marriott Marquis Downtown Hotel, 1777 Walker Street, Houston, Texas 77010, phone: 713-654-1777

When: December 13 Retail Markets Quadrant Leadership Meeting from 11:00 am to 1:00 pm C (lunch served in the meeting)

December 13 Wholesale Electric Quadrant Leadership Meeting from 1:00 pm to 3:00 pm C

December 13 Wholesale Gas Quadrant Leadership Meeting from 3:00 pm to 5:00 pm C

December 13 Board Reception and Dinner - 5:30 pm reception and 7:00 pm dinner seating (held at the Marriott Marquis)

December 14 Board of Directors Meeting from 9:00 am to 1:00 pm C, (a buffet lunch will be served during the meeting)

As we complete 2017 and prepare the way to start 2018, we are fortunate to have Norman Bay as our dinner speaker on December 13 and Marc Spitzer as our speaker during the board meeting on December 14. They will give their perspectives and insights on the energy markets, and need little introduction to anyone that works in the energy industry. To have such strong individuals -- who have committed significant portions of their careers to public service -- give us a glimpse into their expectations of the future will be valuable in setting the stage for the board adoption of our plans for the upcoming year.

Please RSVP your intention to attend the board dinner or Board of Directors meeting or any of the related meetings, and your intention to bring a guest or colleague to the dinner at your earliest convenience (vthomason@naesb.org, naesb.org, 713-356-0060).

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. Board materials should be available shortly, and some of the materials are already included in this agenda as hyperlinks.



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We look forward to your attendance at the leadership meetings and the dinner on December 13, followed by the board meeting on December 14. Please contact Veronica Thomason (vthomason@naesb.org, 713-356-0060) should you need additional information.

Two buses will also be available on December 14 at 12:30 pm to take participants to either Hobby Airport or Bush Intercontinental Airport. Depending on when the meeting ends, the buses can leave between 12:30 pm and 1:00 pm. With normal traffic conditions, it should take 20-30 minutes to leave the hotel and arrive at either airport.

Best Regards,

A handwritten signature in cursive script that reads "Rae McGuade".



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SPEAKER BIOGRAPHIES



Norman C. Bay

Partner & Head of the Energy Regulatory and Enforcement Group of Willkie Farr & Gallagher LLP

Norman C. Bay is a partner and Head of the Energy Regulatory and Enforcement Group in Washington. Mr. Bay advises clients on a range of energy market regulation issues, including those relating to policy, rates, terms, and conditions of service, and mergers and acquisitions. He also focuses on enforcement and compliance and infrastructure development in the energy sector.

As a past Chairman of the Federal Energy Regulatory Commission (FERC), Mr. Bay has significant experience with all aspects of FERC's jurisdiction over the U.S. wholesale natural gas and electricity markets, as well as energy infrastructure. As a former Director of Enforcement at FERC, he has a deep understanding of FERC's enforcement jurisdiction and priorities, as well as the new anti-manipulation rules of the Commodities Futures Trading Commission (CFTC). Mr. Bay's white collar defense practice includes handling parallel investigations involving FERC, the CFTC, and DOJ.

Mr. Bay can be found on Twitter at @NormanCBay, or at his offices located at 1875 K Street, N.W., Washington, DC 20006. More information can be found on <http://www.willkie.com/professionals/b/bay-norman>



Marc L. Spitzer

Partner, Steptoe & Johnson LLP

Marc L. Spitzer, a partner in Steptoe's Washington and Phoenix offices, is recognized for his deep knowledge and understanding of energy law, policy and regulation. Mr. Spitzer counsels and represents utilities and energy companies before the Federal Energy Regulatory Commission (FERC), at state utility commissions, Congress, federal agencies and state legislatures. Mr. Spitzer served as a FERC commissioner from July 2006 to December 2011. Mr. Spitzer issued thousands of opinions and orders while serving at FERC and participated in technical conferences, initiatives, proceedings and rulemakings on rates, enforcement, reliability cases, electric transmission policy, natural gas infrastructure, and oil pipeline matters.

Mr. Spitzer served six years on the Arizona Corporation Commission (ACC) and in 2002, he was elected by his colleagues as ACC chairman. As chairman of the ACC, he focused on policies that encouraged the expansion of natural gas infrastructure, specifically distribution and storage; creating a demand side management policy; enhancing the ACC's renewables standard; and advancing consumer privacy concerns in telecommunications.

Mr. Spitzer served four terms in the Arizona State Senate, beginning in 1992. He served as chair of both the Judiciary and Finance Committees and was elected by his peers to the position of Senate majority leader in 1996.

Mr. Spitzer can be contacted at mospitzer@steptoe.com, or at his offices located at 1330 Connecticut Avenue N.W., Washington DC 20036. More information can be found on https://www.steptoe.com/professionals-Marc_Spitzer.html.



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CONFERENCE CALLING AND WEB CONFERENCING DETAILS FOR THE DECEMBER 13-14, 2017 SET OF BOARD AND RELATED MEETINGS

The meetings are open to all interested parties, who may participate by phone if unable to attend in person. The board meeting is also web cast.

Dec 13	11:00 am to 1:00 pm C	Retail Markets Quadrant Leadership Meeting (In person and Conference Call)
	Marriott Marquis, 1777 Walker Street, Houston, Texas	<ul style="list-style-type: none"> • Call in number 866-740-1260 • Access Code 3560063 • Security Code 5812
Dec 13	1:00 pm to 3:00 pm C	Wholesale Electric Quadrant Leadership Meeting (In person and Conference Call)
	Marriott Marquis, 1777 Walker Street, Houston, Texas	<ul style="list-style-type: none"> • Call in number 866-740-1260 • Access Code 3560064 • Security Code 8724
Dec 13	3:00 pm to 5:00 pm C	Wholesale Gas Quadrant Leadership Meeting (In person and Conference Call)
	Marriott Marquis, 1777 Walker Street, Houston, Texas	<ul style="list-style-type: none"> • Call in number 866-740-1260 • Access Code 3560063 • Security Code 7318
Dec 14	9:00 am to 1:00 pm C	Board Meeting (In person and Conference Call/Web Cast)
	Marriott Marquis, 1777 Walker Street, Houston, Texas	<ul style="list-style-type: none"> • Call in number 866-740-1260 • Access Code 7133560 • Security Code 6515

To join a conference call:

- Dial the 11-digit toll free call-in phone number shown above for the specific meetings
- An automated attendant will ask you to enter a seven-digit access code (shown in the table above)
- The automated attendant will ask you to record your name.
- Please note that if the conference leader has not yet initiated the conference call, you will be placed on music hold until the conference leader starts the conference.
- The automated attendant will then ask you for a four-digit security code (shown in the table above)

Please place your phone on mute unless you are speaking. For those participants that do not have a mute feature on your phone, please press (*6) to mute your phone and (*7) to un-mute your phone. Putting the conference call on hold may cause music to be played over the discussion and if so, the NAESB office will contact the on-hold line to have it disconnected.

If the meeting has the web conferencing feature enabled, to join the web conference, go to www.readytalk.com and enter the same access code and security code. Please note that if the conference leader has not yet initiated the web conference you will view a screen that states, "The Chairperson has not yet arrived. Please standby for your web conference to begin."

ReadyTalk recommends that you test your browser and network connections for compatibility prior to participating in a web conference. To do so, go to <http://test.callinfo.com>. If you have problems joining a conference call or need technical assistance, please contact ReadyTalk Customer Care, 1-800-843-9166.



North American Energy Standards Board

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NAESB BOARD OF DIRECTORS MEETING

Marriott Marquis, 1777 Walker Street, Houston, TX – Thursday, December 14 – 9:00 am to 1:00 pm Central

DRAFT AGENDA

#	Agenda Item
8:30 A	Continental Breakfast
9:00 A	1. Welcome
	a) Welcome to Board members, guests and convene the December 14, 2017 Board meeting
	b) Antitrust Guidelines: http://www.naesb.org/misc/antitrust_guidance.doc (Guidance)
	c) Establish quorum: https://www.naesb.org/pdf4/bod_terms.pdf (Board Roster)
	2. Consent Agenda
	a) Agenda Adoption: https://www.naesb.org/pdf4/bd121417a.docx (Agenda)
	b) Adoption of Draft Minutes: https://www.naesb.org/pdf4/bd090717dm.docx (9-7-17 Draft Minutes)
	c) Adoption of Revised 2017 WGQ Annual Plan: https://www.naesb.org/pdf4/wgq_ec102617a2.docx
	d) Adoption of Revised 2017 Retail Annual Plan: https://www.naesb.org/pdf4/retail_ec102517a1.docx
	e) Adoption of Revised 2017 WEQ Annual Plan: https://www.naesb.org/pdf4/weq_ec102417a2.docx
	3. Interview with Marc Spitzer, Partner, Steptoe and Johnson
	4. Membership and Financial Reports
	a) Review of the 2017 Membership and Financial Report: https://www.naesb.org/misc/financial_membership_report_sept2017.docx (9-30-17 Membership and Financial Report), https://www.naesb.org/misc/membership_report_103117.docx (10-31-17 Membership Report); https://www.naesb.org/misc/membership_changes_103117.docx (10-31-17 Membership Changes Report)
	b) Review, Discussion and Adoption of 2018 NAESB Budget: <i>(Draft 2018 Budget with September Actuals – see 9-30-17 Membership and Financial Report shown above)</i>
	5. Reports from Board Committees and Board votes where noted in meeting materials:
	a) Managing Committee Update: https://www.naesb.org/pdf4/managing082517notes.docx (8-25-17 Meeting Notes)
	b) Parliamentary Committee Update: https://www.naesb.org/pdf4/parliamentary072617fm.docx (7-26-17 Final Minutes), https://www.naesb.org/pdf4/parliamentary111717dm.docx (11-17-17 Draft Minutes)
	c) Revenue Committee Update: https://www.naesb.org/pdf4/bd_revenue111717notes.docx (7-17-17 Meeting Notes)
	d) Board Strategic Plan Task Force Update: https://www.naesb.org/pdf4/bd_strategic_111717mn.docx (11-17-17 Meeting Notes), https://www.naesb.org/pdf4/naesb_strategic_plan_2017_2019.pdf (NAESB Strategic Plan 2017-2019)
	e) Board Retail Structure Review Committee: https://www.naesb.org/pdf4/rsrc110317mn.docx (11-3-17 Meeting Notes), https://www.naesb.org/pdf4/rsrc120117a.docx (12-1-17 Meeting Agenda) https://www.naesb.org/pdf4/rsrc120117mn.docx (12-1-17 Meeting Notes)
	f) Board Critical Infrastructure Committee: https://www.naesb.org/pdf4/bd_cic120417a.doc (12-4-17 Agenda), https://www.naesb.org/pdf4/bd_cic120417notes.docx (12-4-17 Meeting Notes)



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NAESB BOARD OF DIRECTORS MEETING

Marriott Marquis, 1777 Walker Street, Houston, TX – Thursday, December 14 – 9:00 am to 1:00 pm Central
DRAFT AGENDA

6. Project Discussions and Leadership Session Reviews

- a) WGQ Leadership Session Recap: http://www.naesb.org/misc/wgq_publication_schedule_ver3_2.doc
(WGQ Publication Schedule Version 3.2)
- b) WEQ Leadership Session Recap: http://www.naesb.org/misc/weq_publication_schedule_ver3_2.doc
(WEQ Publication Schedule Version 003.2)
- c) Retail Leadership Session Recap: http://www.naesb.org/misc/retail_publication_schedule_ver3_3.doc
(RMQ Publication Schedule Version 3.3)
- d) ESPI & Open FMB Update: https://www.naesb.org/misc/rmq_espi_openfmb_update_112717.docx
- e) FERC Order 890 Update: https://www.naesb.org/misc/ferc_order_no890_update_112717.docx
- f) Sandia National Laboratory Surety
Assessment: https://www.naesb.org/misc/sandia_surety_assessment_update_112717.docx

Background Documents For Context during Discussions:

Summary of projects

- WEQ CSS: https://www.naesb.org/misc/weq_css_update_112717.docx
- WEQ BPS: https://www.naesb.org/misc/weq_bps_update_112717.docx
- WEQ Coordination: https://www.naesb.org/misc/weq_coordination_update_112717.docx
- WEQ CISS: https://www.naesb.org/misc/weq_ciss_update_112717.docx
- WEQ & WGQ eForms: https://www.naesb.org/misc/weq_wgq_ffs_update_112717.docx
- RMQ Coordination: https://www.naesb.org/misc/rmq_coordination_update_112717.docx
- Certification Programs & EIR: https://www.naesb.org/misc/certification_eir_update_112717.docx
- Mexican Energy Market Reform: https://www.naesb.org/misc/mexican_markets_update_112817.docx

7. Discuss and Approve the 2018 Annual Plans

- a) Retail Markets Annual Plan for 2018: https://www.naesb.org/pdf4/retail_ec102517a3.docx
- b) Wholesale Gas Annual Plan for 2018: https://www.naesb.org/pdf4/wgq_ec102617a1.docx
- c) Wholesale Electric Annual Plan for 2018: https://www.naesb.org/pdf4/weq_ec102417a4.docx

8. Old and New Business

- a) Regulatory Filings and Related Actions, Liaisons with external groups
 - October 2, 2017 - NAESB Submittal to the Commission on the Parallel Flow Visualization Project Status (Docket No. EL14-82-000): https://naesb.org/pdf4/ferc100217_naesb_pfv_status_report.pdf
 - September 29, 2017 - NAESB Report to FERC on WGQ Standards for Business Practices of Interstate Natural Gas Pipelines, Version 3.1 (Docket No. RM96-1 et al.): https://naesb.org/pdf4/ferc092917_wgq_version_3.1_filing.pdf
 - August 24, 2017 - NAESB Letter to K. John Holmes, National Academy of Sciences in Response to the NAS Report: https://naesb.org/pdf4/naesb_letter_response_NAS_report_082417_holmes.pdf
 - August 24, 2017 - NAESB Letter to Dr. M. Granger Morgan, Carnegie Mellon University in Response to the NAS Report https://naesb.org/pdf4/naesb_letter_response_NAS_report_082417_morgan.pdf



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NAESB BOARD OF DIRECTORS MEETING

Marriott Marquis, 1777 Walker Street, Houston, TX – Thursday, December 14 – 9:00 am to 1:00 pm Central

DRAFT AGENDA

- August 23, 2017 - The Secretary of Energy, Rick Perry Grid Study Cover Letter: https://naesb.org/pdf4/secretary_state_perry_grid_study_cover_letter_0823_2017.pdf
- August 23, 2017 - DOE Staff Report to the Secretary on Electricity Markets and Reliability: https://naesb.org/pdf4/doe_staff_report_elec_markets_reliability_aug_2017.pdf
- b) Overview of Antitrust Guidelines and Other Meeting
Policies: http://www.naesb.org/misc/antitrust_guidance.doc (Guidance)
- c) Comments from Board Members, Invited Guests and Speakers, and Attendees
- d) Board Meeting Schedule 2018: https://www.naesb.org/misc/2018_schedule.pdf
- e) NAESB Bulletin: http://naesb.org/pdf4/naesb_bulletin_vol10_issue2.pdf
- f) Recently Published Articles

1:00 P 9. **Adjourn**

12:30 P Buffet Lunch available to meeting attendees beginning at noon to 1:00 pm C, at the conclusion of the meeting

1:00 P Buses depart for airports – Buses will be available to attendees of the Board meeting, for transportation from the Four Seasons Hotel to Hobby and Bush Intercontinental Airports beginning at 12:30 pm C for those attendees needing transportation to the airports.

Attire – Business Casual



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NAESB RETAIL MARKETS QUADRANT LEADERSHIP MEETING

Marriott Marquis, 1777 Walker Street, Houston, TX – Wednesday, December 13, 11:00 am to 1:00 pm Central

DRAFT AGENDA

#	Agenda Item
11:00 am	1. Welcome
	a) Antitrust Guidelines http://www.naesb.org/misc/antitrust_guidance.doc (Guidance)
	b) Welcome to participants
	2. Agenda adoption: https://www.naesb.org/pdf4/bd121417a.docx (Agenda)
	3. Review of membership levels: https://www.naesb.org/misc/membership_report_103117.docx (10-31-17 Membership Report); https://www.naesb.org/misc/membership_changes_103117.docx (10-31-17 Membership Changes Report)
	4. Update on publication activities http://www.naesb.org/misc/retail_publication_schedule_ver3_3.doc (Retail Version 3.3 Publication Schedule); http://www.naesb.org/misc/wgq_publication_schedule_ver3_2.doc (WGQ Version 3.2 Publication Schedule); http://www.naesb.org/misc/weq_publication_schedule_ver3_2.doc (WEQ Version 003.2 Publication Schedule)
	5. Review of Revised 2017 Retail Annual Plan: https://www.naesb.org/pdf4/retail_ec102517a1.docx
	6. Update on Coordination with External Organizations: https://www.naesb.org/misc/rmq_coordination_update_112717.docx
	7. Update on Sandia National Laboratory Surety Assessment: https://www.naesb.org/misc/sandia_surety_assessment_update_112717.docx
	8. Retail Structure Review Committee Update: https://www.naesb.org/pdf4/rsrc110317mn.docx (11-3-17 Meeting Notes); https://www.naesb.org/pdf4/rsrc120117a.docx (12-1-17 Meeting Agenda)
	9. Review of the Proposed 2018 Retail Annual Plan: https://www.naesb.org/pdf4/retail_ec102517a3.docx
	10. Review of other board or leadership issues including board committee activities
	11. Old and New Business
1:00 pm	Adjourn

Attire – Business Casual – Refreshments served in the room



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NAESB WHOLESALE ELECTRIC QUADRANT LEADERSHIP MEETING

Marriott Marquis, 1777 Walker Street, Houston, TX – Wednesday, December 13 – 1:00 pm to 3:00 pm Central

DRAFT AGENDA

#	Agenda Item
1:00 pm	1. Welcome
	a) Antitrust Guidelines http://www.naesb.org/misc/antitrust_guidance.doc (Guidance)
	b) Welcome to participants
	2. Agenda adoption: https://www.naesb.org/pdf4/bd121417a.docx (Agenda)
	3. Review of membership levels: https://www.naesb.org/misc/membership_report_103117.docx (10-31-17 Membership Report); https://www.naesb.org/misc/membership_changes_103117.docx (10-31-17 Membership Changes Report)
	4. Update on publication activities http://www.naesb.org/misc/retail_publication_schedule_ver3_3.doc (Retail Version 3.3 Publication Schedule); http://www.naesb.org/misc/wgq_publication_schedule_ver3_2.doc (WGQ Version 3.2 Publication Schedule); http://www.naesb.org/misc/weq_publication_schedule_ver3_2.doc (WEQ Version 003.2 Publication Schedule)
	5. Review of Revised 2017 WEQ Annual Plan: https://www.naesb.org/pdf4/weq_ec102417a2.docx
	6. Update on Coordination with External Organizations: https://www.naesb.org/misc/weq_coordination_update_112717.docx
	7. Update on Sandia National Laboratory Surety Assessment: https://www.naesb.org/misc/sandia_surety_assessment_update_112717.docx
	8. Update on FERC Order 890 Development: https://www.naesb.org/misc/ferc_order_no890_update_112717.docx
	9. Review of the Proposed 2018 WEQ Annual Plan: https://www.naesb.org/pdf4/weq_ec102417a4.docx
	10. Review of other board or leadership issues, including board committee activities
	11. Old and New Business
3:00 pm	Adjourn

Attire – Business Casual – a working lunch served in the room at 12:30 pm



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NAESB WHOLESALE GAS QUADRANT LEADERSHIP MEETING

Marriott Marquis, 1777 Walker Street, Houston, TX – Wednesday, December 13, 3:00 pm to 5:00 pm Central

DRAFT AGENDA

#	Agenda Item
3:00 pm	1. Welcome
	a) Antitrust Guidelines http://www.naesb.org/misc/antitrust_guidance.doc (Guidance)
	b) Welcome to participants
	2. Agenda adoption: https://www.naesb.org/pdf4/bd121417a.docx (Agenda)
	3. Review of membership levels https://www.naesb.org/misc/membership_report_103117.docx (10-31-17 Membership Report); https://www.naesb.org/misc/membership_changes_103117.docx (10-31-17 Membership Changes Report)
	4. Update on publication activities http://www.naesb.org/misc/retail_publication_schedule_ver3_3.doc (Retail Version 3.3 Publication Schedule); http://www.naesb.org/misc/wgq_publication_schedule_ver3_2.doc (WGQ Version 3.2 Publication Schedule); http://www.naesb.org/misc/weq_publication_schedule_ver3_2.doc (WEQ Version 003.2 Publication Schedule)
	5. Review of Revised 2017 WGQ Annual Plan: https://www.naesb.org/pdf4/wgq_ec102617a2.docx
	6. Update on Sandia National Laboratory Surety Assessment: https://www.naesb.org/misc/sandia_surety_assessment_update_112717.docx
	7. Review of the Proposed 2018 WGQ Annual Plan: https://www.naesb.org/pdf4/wgq_ec102617a1.docx
	8. Review of other board or leadership issues, including board committee activities
	9. Old and New Business
5:00 pm	Adjourn

Attire – Business Casual – Refreshments served in the room



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October 25, 2017

TO: NAESB Board of Directors, Executive Committee (EC) Members, EC Alternates, and Invited Guests
FROM: Jonathan Booe, NAESB Executive Vice President & CAO
RE: Draft Minutes from the NAESB Board of Directors Meeting – September 7, 2017

NAESB BOARD OF DIRECTORS MEETING & MEETING OF THE MEMBERS
Marriott Marquis Hotel, Houston, Texas
Thursday, September 7, 2017 – 9:00 a.m. to 1:00 p.m. Central
DRAFT MINUTES

1. Administration and Welcome

Mr. Desselle opened the meeting and welcomed the board members and guests in the room and on the phone. Mr. Booe provided the antitrust and meeting policy guidance and called the roll of the NAESB board members. Quorum was established. Ms. McQuade noted that Ms. York will be retiring from Tennessee Valley Authority in the fall and thanked her for her leadership within NAESB. She presented Ms. York with a plaque in recognition of her service, and Ms. York gave a few remarks of appreciation.

2. Adoption of the Consent Agenda

Mr. Desselle reviewed the consent agenda, which included the [agenda](#), the [draft minutes](#) from the April 4, 2017 Board of Directors meeting and the 2017 [Wholesale Gas](#), [Wholesale Electric](#) and [Retail](#) annual plans. Mr. Peress moved to adopt the consent agenda and Mr. Gallagher seconded the motion. The motion passed without opposition.

3. Meeting of the Members and Strategic Session

Mr. Desselle opened the meeting of the members and the NAESB strategic session. He introduced Dr. Tierney and each of the participants on the strategic session panel. Ms. Tierney provided a [summary](#) of the National Academy of Sciences Report of Electric System Resiliency: Natural Gas and Electric System Interdependencies. After reviewing the findings, she recommended that NAESB continue to monitor for opportunities to support gas and electric market coordination, with the Federal Energy Regulatory Commission (FERC), through standards development or in a convening role. Following Dr. Tierney remarks, Mr. Desselle asked the panelists participating in the strategic session to provide their perspectives on the future of the energy markets and the role that NAESB could play in that future. Through the discussion, the following points on specific issues were highlighted.

Resiliency of the Grid

- NERC has been challenged by the DoE to take on resiliency as part of its mission. Resiliency after cyber-attack is a very difficult scenario to plan.
- NAESB has been asked by the National Academy of Sciences to work with FERC on gas-electric market coordination to improve the resiliency of the grid. Resiliency is impacted by the lack of coordination.

Energy Water Nexus and Energy Data Nexus

- NAESB is a vanguard in the industry, and has an obligation to support the FERC and NARUC by identifying issues – at the very least. It is important to national security. In addition to the energy/water nexus, there is an energy/data nexus that is going to continue to require enhanced communication standards – even beyond what is currently communicated on the bulk electric grid.

Supply Chain

- To be resilient and respond to interruptions, the supply chain must be more interactive.



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Gas-Electric Coordination

- Consider revitalizing the G-E Coordination effort, working in conjunction with FERC to harmonize system operations of the two markets. The House Energy and Commerce Committee will review NAS report and determine if modifications should be made to the Federal Power Act.
- Don't abandon the G-E Coordination groups within NAESB, include an item on the annual plan as provisional and monitor for opportunities to support activities.
- Recognize that the power grid is transforming dramatically and impacting all fuels used for power generation. A more flexible delivery system for natural gas to support power generation is needed.

Gas Fired Power Generation

- Natural gas is crucial to power generation, and in some areas, there is opposition to much needed infrastructure, including opposition related to environmental concerns. This is particularly evident in the New England market.
- The PJM incentive pricing for natural gas generation seems to be working and supporting effective capacity market design.

Renewables Generation and the Changing Resource Mix

- The economics of renewable generation (with or without subsidies) may be seriously impacting the structure of retail markets in competitive states. Nevada's use of affordable solar and storage is transforming the retail competition market.
- There are stranded costs and stranded resources issues to be addressed.
- Wind, as the most affordable of the renewables, will continue to have a transformative impact on the market

Distributed Energy

- NAESB should continue to monitor for standards development opportunities related to DER, specific to battery storage, microgrids and other technologies, and NAESB should pursue activities that will help to reduce the cost of base load.

Production and Distribution Systems

- Consider how NAESB standards could support production and distribution systems beyond current standards that only address the interstate pipelines (impacting 4% of generation).

Cybersecurity

- Cybersecurity concerns are pervasive and continue to be a top priority for the energy industry.

Electromagnetic Pulse Disturbances

- NAESB, and the industry, should monitor resiliency planning for electromagnetic pulse disturbances.

Potential Roles for NAESB

- NAESB does not need to comment on the subsidies battle occurring related to renewables, nuclear, and, potentially in the future, coal.
- NAESB should be on the sideline ready to assist related to resiliency, as there is already a lot of planning and coordination that occurs to ensure resiliency. NAESB should be cautious not to advocate.
- The industry should not be antagonistic or reluctant to take steps to reduce GHG emissions, and NAESB should support such standards efforts. The US could serve as a world leader for this moral and political imperative.



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Mr. Desselle thanked the panelists for their participation, and the meeting of the members and the strategic session of the board was adjourned.

4. Membership and Financial Reports

Ms. McQuade reviewed the [membership](#) and [financial](#) reports for with the participants. She noted that Mr. Desselle will address some membership concerns for the RMQ in a later update, but stated that the membership and current budget are tracking in positive directions. She also noted that the Board of Directors will be required to review and approve the 2018 budget during the December meeting and that a Revenue Committee meeting would be scheduled prior to the meeting to review the expected revenue generation that will be included in the overall budget. She asked if there were any questions regarding membership or the finances. No questions were asked.

5. Reports from Board Committees

Managing Committee: Mr. Desselle stated that the Managing Committee met in August to discuss personnel matters and staff performance. All other communications took place via email.

Parliamentary Committee: Mr. Desselle reviewed the activities of the Parliamentary Committee. He provided an overview of the steps the committee has taken to develop modifications to the NAESB governance documents to address issues concerning how majority votes should be conducted by the Board of Directors. He presented the modifications offered by the Parliamentary Committee through their July 26, 2017 [proposed resolution](#), and asked if there were any objections to voting on the proposed resolution through notational ballot. No objections were offered, and Mr. Desselle asked the NAESB staff to issue a notation ballot on the proposed governance document modifications.

Revenue Committee: Mr. Desselle provided a report of the Revenue Committee activities since the last board meeting. He stated that the committee met in April and August to continue discussions concerning the publication cycles, communication efforts and the organization's revenue generation.

Critical Infrastructure Committee: Mr. Burks stated that the committee had been reactivated in May to monitor the activities of Sandia National Laboratory (SNL) related to the surety assessment being conducted on the NAESB standards. He stated that the SNL staff asked NAESB staff to convene a meeting with a few of the NAESB standard subject matter experts to have a question and answer session. SNL staff has indicated that the surety assessment should be completed by the end of the year, and the committee will schedule any needed meetings after more information is provided.

Mr. Desselle stated that he is going to form a task force to review the current status of the RMQ and make recommendations to the Board of Directors to resolve the membership issues the quadrant is facing. Currently, the RMQ has 40 members, and the Bylaws require that each quadrant have a minimum of 40 member companies participating. He stated that he will work with Cade Burks to form and manage the task force.

6. Project Discussions and Leadership Session Reviews

Mr. Parker reviewed the discussions during the WGQ leadership meeting and noted that significant discussion surrounded the closing out of the items on the 2017 annual plan and the process for development of the 2018 annual plans. Specifically, he noted that the contracts subcommittee is in the process of completing the Mexican Addendum to the NAESB Base Contract for the Purchase and Sale of Natural Gas and that the WGQ Executive Committee will vote on the item in October. Ms. York provided a brief update of the activities of the WEQ Executive Committee and subcommittees and noted that the discussion during the leadership meetings focused on coordination efforts with NERC and activities related to cybersecurity. Ms. Do provided a review of the projects underway in the retail quadrant and noted that quadrant is committed to bringing in some new resources to support standards development.

7. Old and New Business

Mr. Booe provided an update of the regulatory activities of the organization and continued communication with the Department of Energy, the FERC, the NARUC, and NERC among others. Mr. Booe thanked Mr. Lauby for his



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leadership and continued focus on the coordination between NERC and NAESB, and noted that Mr. Boswell will be receiving a meritorious service award from ANSI for his work to support the continuation of the incorporation by reference process by the federal government. Mr. Booe also thanked the representatives from CENEGAS for their participation in the meeting and future engagement in the organization. Mr. Cuzella provided brief comments on the activities of the Office of Indian Energy and Economic Development within the Department of the Interior and stated that he looks forward to coordinating with the NAESB in the future. Mr. Desselle gave the panelists and invited guests an opportunity to provide any closing remarks.

8. Adjourn

The meeting adjourned at 11:48 am Central.



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9. BOARD ATTENDANCE		ATTENDANCE
WHOLESALE GAS QUADRANT PRODUCERS SEGMENT		
Mark Stultz	Senior Vice President – Regulatory Policy and Communications, North America Gas and Power, BP Energy	In Person
Y.J. Bourgeois	Manager Regulatory Affairs - Marketing, Anadarko Energy Services Company	In Person
Mark A. Zdenek	Manager Gas Scheduling & Operations, ConocoPhillips Company	
Randy E. Parker	Upstream Commercial Resources, Exxon Mobil Corporation	In Person
WHOLESALE GAS QUADRANT PIPELINE SEGMENT		
Richard Kruse	Vice President –Regulatory and FERC Chief Compliance Officer, Spectra Energy Corp	
Kim Van Pelt	Manager of Regulatory Reporting and Compliance, Boardwalk Pipeline Partners, LP	In Person
Millie S. Moran	Vice President, U.S. Commercial Operations, TransCanada Pipelines USA, Ltd	In Person
Ronnie C. Hensley II	Regulatory Compliance Manager, Southern Star Central Gas Pipeline	Phone
Gene Nowak	Vice President – Transportation & Storage Services, Kinder Morgan Inc	In Person
WHOLESALE GAS QUADRANT LOCAL DISTRIBUTION COMPANY (LDC) SEGMENT		
Karl Stanley	Vice President, Major Accounts & Commercial Operations, NiSource	Phone
Mike Novak	Asst. General Manager, National Fuel Gas Distribution Corporation	Phone
Dennis Gee	Principal Regulatory Analyst – Core Gas Supply Dept., Pacific Gas and Electric Company	Phone
Craig Colombo	Energy Trader III, Dominion Energy Inc.	Phone
Tim Sherwood	Vice President – Gas Supply Operations, Southern Company Gas	Phone
WHOLESALE GAS QUADRANT END USERS SEGMENT		
Willis E. McCluskey	Senior Fuel Supply Analyst, Salt River Project Agricultural Improvement & Power District	Phone
Scott Wright	Executive Director Strategic Planning, Midcontinent Independent System Operator, Inc.	Phone
Valerie Crockett	Senior Program Manager – Regulatory & Policy, Tennessee Valley Authority	In Person
Paul Zhang	Financial Trading Desk Head, Florida Power & Light Company	
N. Jonathan Peress	Director, Energy Market Policy, Environmental Defense Fund, Inc.	In Person
WHOLESALE GAS QUADRANT SERVICES SEGMENT		
Keith Sappenfield	Project Manager and Principal, Environmental Resources Management	Phone
Ginger Richman	Vice President, NJR Energy Services	In Person
Greg Lander	President, Skipping Stone, LLC	
Rakesh Agrawal	Executive Vice President, Blackstone Technology Group, Inc.	
Sylvia Munson	Owner, Sylvia Munson - Consultant	In Person



North American Energy Standards Board

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9. BOARD ATTENDANCE		ATTENDANCE
RETAIL ENERGY QUADRANT ELECTRIC UTILITIES SEGMENT		
Brandon Stites	Director - Electric Distribution Design, Project Mgmt & Federal Energy Solutions (Virginia/North Carolina), Dominion Energy	Phone
Dennis Derricks	Director Regulatory Policy and Analysis, Wisconsin Public Service Corporation	Phone
Stuart Laval	Director, Technology Development, Duke Energy Corporation	Phone
Debbie McKeever	Market Advocate, Oncor Electric Delivery Company LLC	Phone
RETAIL ENERGY QUADRANT GAS MARKET INTERESTS SEGMENT		
Alonzo Weaver	Vice President of Engineering and Operations, Memphis Light, Gas & Water Division (APGA)	
Dave Darnell	President & CEO, Systrends USA	Phone
Leigh Spangler	President, Latitude Technologies LLC	
Scott Mosley	Physical Trading, SouthStar Energy Services LLC	
RETAIL ENERGY QUADRANT ELECTRIC END USERS/PUBLIC AGENCIES SEGMENT		
Tobin Richardson	President and CEO, ZigBee Alliance	
Robert G. Gray	Executive Consultant, Arizona Corporation Commission	
James P. Cargas	Senior Assistant City Attorney, City of Houston	In Person
Susan Anthony	Market Support Services, Electric Reliability Council of Texas, Inc. (ERCOT)	In Person
RETAIL ENERGY QUADRANT ELECTRIC SERVICE PROVIDERS/SUPPLIERS SEGMENT		
Barry Haaser	Executive Director, Green Button Alliance	Phone
Wendell Miyaji	Vice President - Energy Sciences, Comverge, Inc.	
Larry Lackey	Director Cybersecurity and Standards Development, Open Energy Solutions, Inc.	Phone
J. Cade Burks	President, Big Data Energy Services	In Person
WHOLESALE ELECTRIC QUADRANT TRANSMISSION SEGMENT		
Alex DeBoissiere	Senior Vice President – Government Relations, AVANGRID	
Cameron Warren	Manager, Operations Engineering, Entergy Services, Inc.	Phone
Adrienne Collins	Transmission General Manager, Southern Company Services, Inc.	
Robert King	Manager, Transmission Policy & Strategy, Bonneville Power Administration	In Person
Armando Rodriguez	Sr. PM, Transmission Policy & Grid Resiliency, Tennessee Valley Authority	Phone
Mike Anthony	Manager – Tariff Administration and Business Services, Duke Energy Corporation	
WHOLESALE ELECTRIC QUADRANT GENERATION SEGMENT		
Brad Cox	Vice President – Markets & Compliance, Tenaska, Inc.	In Person
Derek Mauzy	Principal, Innovation and Competitive Intelligence, NRG Energy, Inc.	In Person



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9. BOARD ATTENDANCE		ATTENDANCE
Wayne Moore	Vice President - Operations Compliance Officer, Southern Company Services, Inc.	Phone
William J. Gallagher	Special Projects Chief, Vermont Public Power Supply Authority	In Person
David Canter	Manager, RTO & Public Policy, American Electric Power Service Corp.	Phone
Kathy York	Senior Program Manager – Bulk Power Regulatory, Tennessee Valley Authority	In Person
Lou Oberski	Director NERC Reliability Compliance and NERC Policy, Dominion Resources Services, Inc.	
WHOLESALE ELECTRIC QUADRANT MARKETERS/BROKERS SEGMENT		
Andrea Sanders Brackett	Senior Manager, Cybersecurity Governance, Policy and Standards, Tennessee Valley Authority	Phone
Rebecca Johnson	Transmission Advisor, Western Area Power Administration	Phone
R. Scott Brown	Market Initiatives and Analysis – Exelon Corporation, Exelon Generation Company, LLC	
Roy True	Director of Regulatory and Market Affairs, Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	In Person
Timothy Gerrish	Director of Origination – Energy Marketing & Trading, Florida Power & Light Company	Phone
Michael P. Ward II	Director of System Operations, Seminole Electric Cooperative Inc.	
WHOLESALE ELECTRIC QUADRANT DISTRIBUTION/LOAD SERVING ENTITIES (LSE) SEGMENT		
Bruce Ellsworth	New York State Reliability Council	In Person
Mark G. Lauby	Senior Vice President and Chief Reliability Officer, North American Electric Reliability Corporation	In Person
Nelson Peeler	Vice President - Transmission System Planning and Operations, Duke Energy Corporation	
Paul McCurley	Director, Energy and Power Division and Chief Engineer, National Rural Electric Cooperative Association	In Person
David Crabtree	Director - Federal Regulatory Affairs, Compliance & Transmission Policy, Tampa Electric Company	Phone
WHOLESALE ELECTRIC QUADRANT END USERS SEGMENT		
Lila Kee	Chief Product Officer and Vice President of U.S. Business Development, GMO GlobalSign, Inc.	Phone
Jerry Dempsey	Sr. Vice President; Business Development, Sales and Marketing, Open Access Technology International, Inc.	
WHOLESALE ELECTRIC QUADRANT INDEPENDENT GRID OPERATORS/PLANNERS		
Ed Skiba	Consulting Advisor Standards Compliance, MISO	In Person
Nicholas Ingman	Director of Market Operations, Independent Electricity System Operator (IESO)	Phone
Stu Bresler	Senior Vice President, Markets, PJM Interconnection, LLC	Phone
Gregory Campoli	Manager, Reliability Compliance and Industry Affairs, New York	Phone



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9. BOARD ATTENDANCE

ATTENDANCE

	Independent System Operator, Inc. (NYISO)	
Joel Mickey	Director of Market Design and Development, Electric Reliability Council of Texas, Inc. (ERCOT)	Phone
Michael Desselle	VP & Chief Compliance and Administrative Officer, Southwest Power Pool	In Person
Robert Ethier	Vice President Market Operations, ISO New England, Inc.	

WHOLESALE ELECTRIC QUADRANT TECHNOLOGY AND SERVICES

E. Russell Braziel	President, RBN Energy, LLC	
David A. Wollman	Deputy Director, Smart Grid and Cyber-Physical Systems Program Office (NIST Engineering Laboratory), NIST	Phone
Jim Buccigross	Vice President - Energy Industry Practice, 8760 Inc.	



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10. Other Attendance

Name	Organization	Attendance
Kyle Abell	MISO	Phone
Leonard Ashley	MISO	Phone
Linda Benally	APS	Phone
Jonathan Booe	NAESB Office	In Person
Bill Boswell	NAESB General Counsel	In Person
Lorraine Cross	Cross & Company	In Person
Jerry Cuzellas	US Department of Interior	In Person
Edgar De Leon	CENEGAS	In Person
Mary Do	Latitude Technologies	In Person
Regina Ibaraguengoytia	CENEGAS	In Person
Wayne Gardner	WE Gardner Company	In Person
Mark Gracey	Kinder Morgan	In Person
Archie Hickerson	Southern Gas Company	Phone
Shelia Hollis	Duane Morris	In Person
Nicole Lopez	Kinder Morgan	In Person
Elizabeth Mallett	NAESB Office	In Person
Marcy McCain	Spectra	Phone
Steve McCord	Columbia Gas Transmission LLC	In Person
Rae McQuade	NAESB Office	In Person
Fabiola Peto	CENEGAS	In Person
Josh Phillips	SPP	In Person
Alan Pritchard	Duke Energy	Phone
Denise Rager	NAESB Office	In Person
Deepak Raval	NiSource	Phone
Narinder Saini	Energy	In Person
Timothy Simon	TAS Strategies	In Person
Lisa Simpkins	Exelon	Phone
Dr. Susan Tierney	Analysis Group	Phone
Michael Tita	FERC	Phone
Mark Thomas	MISO	Phone
Veronica Thomason	NAESB Office	In Person



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10. Other Attendance

Name	Organization	Attendance
Caroline Trum	NAESB Office	In Person
Jill Vaughan	Court Reporting	In Person
JT Wood	Southern Company	Phone
Pat Wood	Wood3 Resources	In Person



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NORTH AMERICAN ENERGY STANDARDS BOARD

2017 Annual Plan for the Wholesale Gas Quadrant

Adopted by the Board of Directors on September 7, 2017 **with proposed revisions by WGQ Leadership on September 6, 2017 and by the WGQ Executive Committee on October 26, 2017**

Item Description	Completion ¹	Assignment ²
1. Update Standards Matrix Tool for Ease of Use³		
a. Update the reference tool developed for Version 3.0 to reflect modifications applicable to Version 3.1 Status: Not Started	2017 2018	WGQ IR/Technical Subcommittee
2. Electronic Delivery Mechanisms		
a. Review minimum technical characteristics in Appendices B, C, and D of the WGQ QEDM Manual, and make changes as appropriate. Status: Completed	2 nd Q, 2017	WGQ EDM Subcommittee
3. Gas-Electric Coordination^{4 5 6 7}		
a. Develop standards as needed and directed by the Board of Directors, which are specifically assigned to the WGQ.		
i. GEH Forum Issue 22 ¹ : <i>"It would be desirable to have a set of terminology agreed upon by participants to characterize shapes, profiles, ratable, non-ratable, and so forth to facilitate discussion"</i>		
1. Consider and determine if WGQ standards are needed, and develop a recommendation and report to the Board of Directors Status: Completed	1 st Q, 2017 ²	WGQ BPS
2. Develop WGQ standards according to the recommendation of Item 3.a.i.1 Status: Completed	1 st Q, 2017 ²	WGQ BPS
ii. GEH Forum Issue 25 ³ : <i>Communication protocols with LDCs, gas generator operators and natural gas marketing companies</i>		
1. Consider and determine if WGQ standards are needed, and develop a recommendation and report to the Board of Directors Status: Completed	1 st Q, 2017 ²	WGQ BPS
2. Develop WGQ standards according to the recommendation of Item 3.a.ii.1 Status: Completed	1 st Q, 2017 ²	WGQ BPS
iii. GEH Forum Issue 26 ⁴ : <i>"Improve efficiency of critical information sharing (related to issues 22 and 25)"</i>		
1. Consider and determine if WGQ standards are needed, and develop a recommendation and report to the Board of Directors	1 st Q, 2017 ²	WGQ BPS

¹ The GEH Forum Issues may be found in the GEH Survey Addendum:
https://www.naesb.org/pdf4/geh_report_addendum_041816_clean051316.docx

² The October 18, 2016 letter from Chairman Bay can be found at the following link:
https://naesb.org/pdf4/101816_ferc_chairman_bay_letter_re_order809_naesb.pdf

³ *Id.*

⁴ *Id.*



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NORTH AMERICAN ENERGY STANDARDS BOARD

2017 Annual Plan for the Wholesale Gas Quadrant

Adopted by the Board of Directors on September 7, 2017 [with proposed revisions by WGQ Leadership on September 6, 2017](#) and by the [WGQ Executive Committee on October 26, 2017](#)

Item Description	Completion ¹	Assignment ²
Status: Completed		
2. Develop WGQ standards according to the recommendation of Item 3.a.iii.1	1 st Q, 2017 ²	WGQ BPS
Status: Completed		
iv. GEH Forum Issue 33 ⁵ : <i>“Use of multiple confirmation methods in addition to traditional confirmations for intraday nominations. There is currently a good definition of Confirmation by Exception (CBE) in NAESB standards. CBE however, may not be available everywhere but there may also be additional confirmation methods that could benefit from standardization”</i>		
1. Consider and determine if WGQ standards are needed, and develop a recommendation and report to the Board of Directors	1 st Q, 2017 ²	WGQ BPS
Status: Completed		
2. Develop WGQ standards according to the recommendation of Item 3.a.iv.1	1 st Q, 2017 ²	WGQ BPS
Status: Completed		
v. GEH Forum Issue 36 ⁶ : <i>“Level of confirmations: there is a wide range of data elements that are exchanged, from a minimum amount to a very large set of data. In the “Art of Scheduling,” pipelines confirm at different levels, with potential for disparities. Greater standardization could produce confirming efficiencies. (For example, confirm at the shipper-to-shipper level. Or, if there are confirmations at a lower level of detail, it would be driven by model type.) See issue 17⁷ in the first presentation.”</i>		
1. Consider and determine if WGQ standards are needed, and develop a recommendation and report to the Board of Directors	1 st Q, 2017 ²	WGQ BPS
Status: Completed		
2. Develop WGQ standards according to the recommendation of Item 3.a.v.1	1 st Q, 2017 ²	WGQ BPS
Status: Completed		
b. Address standards development requests related to gas-electric harmonization		
i. Develop business practices as needed to support R16003 and attachment : <i>Special Efforts Scheduling Services for Natural Gas Pipeline Transportation - The proposed standard addresses certain business practices relating to Best Efforts scheduling for natural gas pipeline</i>	1 st Q, 2017 ²	WGQ BPS

⁵ *Id.*

⁶ *Id.*

⁷ GEH Forum Issue 17 “Levels of Confirmation” can be found in the GEH Survey Addendum: https://www.naesb.org/pdf4/geh_report_addendum_041816_clean051316.docx.



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2017 Annual Plan for the Wholesale Gas Quadrant

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Item Description	Completion ¹	Assignment ²
<p><i>transportation that is: a) scheduled outside of the standard grid-wide nomination cycles, b) permits flow changes outside of standard schedule flow periods; and/or c) involves Shaped Flow Transactions (as defined in the proposed standard).</i></p> <p>Status: Completed</p>		
<p>ii. Develop business practices as needed to support R16007: “Update the NAESB Nomination dataset and related datasets to support the ability for a service requester to submit a single nomination with hourly quantities when such a service is supported by the TSP.”</p> <p>Status: Completed</p>	1 st Q, 2017 ²	WGQ BPS
<p>4. Develop and/or modify standards to support FERC Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms (Docket No. AD15-11-000)⁸</p>		
<p>a. Develop business practices as needed to support electronic filing protocols for submittal of FERC Forms</p> <p>Status: Underway</p>	2017/2018	Joint WEQ/WGQ FERC Forms Subcommittee
<p>5. Mexican Addendum or Base Contract</p>		
<p>a. Consider and determine if there is a need for a Mexican Addendum or Base Contract</p> <p>Status: Completed</p>	2017	WGQ Contracts Subcommittee
<p>b. Develop the Mexican Addendum or Base Contract according to the analysis completed in Item 5.a</p> <p>Status: UnderwayCompleted</p>	3 rd Q, 2017	WGQ Contracts Subcommittee
<p>Program of Standards Maintenance & Fully Staffed Standards Work</p>		
Business Practice Requests	Ongoing	Assigned by the EC ⁸
Continue review against plan for migration to ANSI ASC X12 new versions as needed and coordinate such activities with DISA.	Ongoing	Assigned by the EC ³
Information Requirements and Technical Mapping of Business Practices	Ongoing	Assigned by the EC ³
Interpretations for Clarifying Language Ambiguities	Ongoing	Assigned by the EC ⁸
Maintenance of Code Values and Other Technical Matters	Ongoing	Assigned by the EC ³
Maintenance of eTariff Standards	As Requested	Assigned by the EC ⁸
<p>Provisional Activities</p>		
1. Develop and/or modify standards as need in support of the October 18, 2016 correspondence ⁹ from Chairman Bay not otherwise addressed by 2017 WGQ Annual Plan Items 3.a and 3.b.		

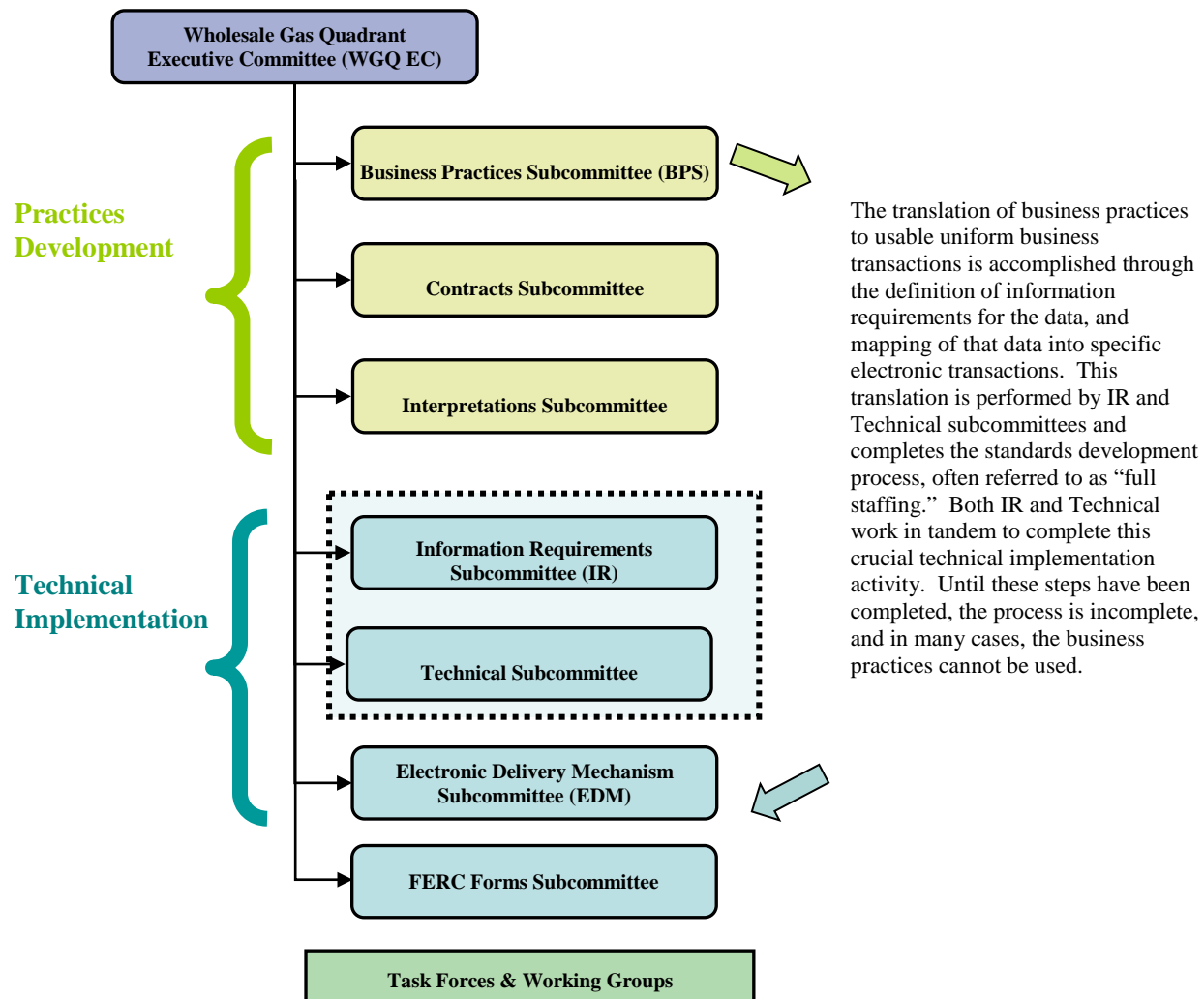
⁸ The FERC *Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms*, issued on April 16, 2015, can be found through the following hyperlink: https://www.naesb.org/pdf4/ferc041615_electronic_filing_protocols_forms.pdf

⁹ The October 18, 2016 letter from Chairman Bay can be found at the following link: https://naesb.org/pdf4/101816_ferc_chairman_bay_letter_re_order809_naesb.pdf



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NAESB 2017 WGQ EC and Subcommittee Leadership:

- Executive Committee: Jim Buccigross, Chair and Randy Parker, Vice-Chair
- Business Practices Subcommittee: Sylvia Munson, Willis McCluskey, Phil Precht, Ben Schoene
- Information Requirements Subcommittee: Rachel Hogge
- Technical Subcommittee: Kim Van Pelt
- Contracts Subcommittee: Keith Sappenfield
- Electronic Delivery Mechanism Subcommittee: Leigh Spangler
- WGQ/WEQ FERC Forms Subcommittee: Leigh Spangler, Dick Brooks



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End Notes, WGQ 2017 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 As implementation of business issues are presented to the Information Requirements Subcommittee and Technical Subcommittee, those issues will be given precedence over WGQ 2017 Annual Plan Item No. 1.

⁴ FERC Order No. 809 can be found through the following hyperlink: <https://www.ferc.gov/whats-new/comm-meet/2015/041615/M-1.pdf>

⁵ FERC Order No. 809 ¶107. While NAESB's modified standards represent an improvement over the currently effective standards, we continue to recognize that additional intraday nomination opportunities could promote more efficient use of existing pipeline infrastructure and provide additional operational flexibility to all pipeline shippers, including gas-fired generators. The modified NAESB standards reflect reduced intraday processing times from the current NAESB standards (i.e., three hours instead of the current four hours), and existing operational limitations, including the manual processes utilized by pipelines for processing nominations, may affect the ability of the gas industry to add additional standard nomination cycles applicable to all shippers. However, the use of computerized scheduling would appear to provide an opportunity for faster and more frequent scheduling of intraday nominations for those shippers and their confirming parties willing to commit to scheduling electronically. We request that gas and electric industries, through NAESB, explore the potential for faster, computerized scheduling when shippers and confirming parties all submit electronic nominations and confirmations, including a streamlined confirmation process if necessary. Providing such an option would enable those entities that need greater scheduling flexibility to have their requests processed expeditiously.

⁶ The steps for the GEH forum shall be:

- (1) Provide a forum for industry education from both the natural gas and electric industries regarding gas-electric coordination specific to computerized scheduling, and confirmations including a streamlined confirmation process, if necessary ([FERC Order No. 809 Order on Rehearing, Docket No. RM14-2-001](#))
- (2) Identify potential issues specific to computerized scheduling, and confirmations including a streamlined confirmation process, if necessary which could be based on the education provided in step 1
- (3) Identify potential solutions to the issues identified in step 2
- (4) Identify potential schedules for standards development including status and progress reports to the board Identify potential schedules for standards development including status and progress reports to the board.

⁷ FERC Order on Rehearing ¶1 – September 17, 2015 [Docket No. RM14-2-001] In Order No. 809, the Commission revised its regulations relating to the scheduling of transportation service on interstate natural gas pipelines to better coordinate the scheduling practices of the wholesale natural gas and electric industries, as well as to provide additional scheduling flexibility to all shippers on interstate natural gas pipelines.⁷ The Commission also requested that natural gas and electric industries, through the North American Energy Standards Board (NAESB), explore the potential for faster, computerized scheduling when shippers and confirming parties all submit electronic nominations and confirmations, including a streamlined confirmation process if necessary. On May 18, 2015, the Desert Southwest Pipeline Stakeholders (DSPS)⁷ filed a request for rehearing of Order No. 809. On August 4, 2015, NAESB filed a report indicating that due to the press of implementing the revised nomination standards by April 1, 2016, it would not begin the development of computerized scheduling standards until after that date. As discussed below, the Commission denies DSPS' request for rehearing and directs El Paso Natural Gas Company, L.L.C. (El Paso), Transwestern Pipeline Company, LLC (Transwestern), and TransCanada-North Baja Pipelines (TransCanada-North Baja) to make an informational filing within 90 days of the date of this order. In addition, while we recognize the time commitments in implementing the revised nomination timeline, the Commission requests that the natural gas and electric industries, through NAESB, begin considering the development of standards related to faster, computerized scheduling and file such standards or a report on the development of such standards with the Commission by October 17, 2016.

⁸ The EC assigns maintenance of existing standards on a request-by-request basis.



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**NORTH AMERICAN ENERGY STANDARDS BOARD
2017 ANNUAL PLAN for the RETAIL MARKETS QUADRANT**

Adopted by the Board of Directors on September 7, 2017 with proposed revisions by RMQ Leadership on September 6, 2017 and by the RMQ Executive Committee on October 25, 2017

Item Number & Description ¹	Completion ²	Assignment ³
1. Update Existing Model Business Practices – Review and update all existing Model Business Practices, filling in any gaps that may exist and making the language consistent throughout all Books.⁴		
a. Book 15 – Specifications for Common Electricity Product and Pricing Definition Status: Not Started	2017	BPS/ESPI
b. Book 16 – Specifications for Common Schedule Communication Mechanism for Energy Transactions Status: Not Started	2017	BPS/ESPI
c. Book 17 – Specifications for Retail Standard Demand Response Signals Status: Not Started	2017	BPS/ESPI
d. Book 18 – Retail Customer Energy Usage Information Communication Status: Not Started	2017	BPS/ESPI
e. Book 21 – Energy Services Provider Interface Status: Not Started	2017	BPS/ESPI
f. Book 22 – Third Party Access to Retail Customer Information Status: Not Started	2017	BPS/Data Privacy Task Force
g. Book 23 – Supplier Marketing Practices Status: Not Started	3 rd Q, 2017	BPS
h. Book 24 – Enrollment, Drop, Account Information Change in Demand Response Programs Status: Underway	2017	BPS/DSM-EE
i. Book 27 – Enrollment, Drop and Account Information Change for Demand Response Programs in a Registration Agent Model Status: Complete	1 st Q, 2017	BPS/DSM-EE
2. Update Existing Data Dictionaries and Technical Implementation – Review and update all existing Data Dictionaries and technical implementation, filling in any gaps that may exist as a result of the updates developed to support annual plan item.		
a. Book 9 – Customer Billing and Payment Notification via Uniform Electronic Transactions Status: Not Started	2017	IR/TEIS
b. Book 12 – Inquiries Status: Not Started	2017	IR/TEIS
c. Book 13 – Measurement and Verification (M&V) of Demand Response Programs Status: Not Started	2017	IR/TEIS
d. Book 14 – Service Request, Disconnection and Reconnection in the Registration Agent Model Status: Underway	2 nd Q, 2017	IR/TEIS



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Item Number & Description ¹	Completion ²	Assignment ³
e. Book 15 – Specifications for Common Electricity Product and Pricing Definition Status: Not Started	2017	IR/TEIS
f. Book 16 – Specifications for Common Schedule Communication Mechanism for Energy Transactions Status: Not Started	2017	IR/TEIS
g. Book 17 – Specifications for Retail Standard Demand Response Signals Status: Not Started	2017	IR/TEIS
h. Book 18 – Retail Customer Energy Usage Information Communication Status: Not Started	2017	IR/TEIS
i. Book 21 – Energy Services Provider Interface Status: Not Started	2017	IR/TEIS
j. Book 22 – Third Party Access to Retail Customer Information Status: Not Started	2017	IR/TEIS
k. Book 23 – Supplier Marketing Practices Status: Not Started	2017	IR/TEIS
l. Book 24 – Enrollment, Drop, Account Information Change in Demand Response Programs Status: Not Started	2017	IR/TEIS
m. Book 27 - Enrollment, Drop, Account Information Change for Demand Response Programs in a Registration Agent Model Status: Not Started	2017	IR/TEIS
3. Example X12 Uniform Electronic Transactions – Add a section to Part 6 (Technical Implementation) of each of the following books, showing examples of the X12 Uniform Electronic Transactions covered in the book along with an explanation and/or description of each technical segment in the Uniform Electronic Transaction.		
a. Book 10 – Customer Enrollment, Drop, and Account Information Change Status: Not Started Completed	3 rd Q, 2017	IR/TEIS
b. Book 11 – Customer Enrollment, Drop, and Account Information Change Using a Registration Agent Status: Not Started Completed	4 th Q, 2017	IR/TEIS
c. Book 8 – Customer Information Status: Not Started Completed	2018 ^{2nd} Q, 2017	IR/TEIS
d. Book 3 – Billing and Payment Status: Not Started Completed	2018 ^{2nd} Q, 2017	IR/TEIS
e. Book 9 – Customer Billing and Payment Notification via Uniform Electronic Transaction Status: Not Started Completed	2018 ^{2nd} Q, 2017	IR/TEIS
f. Book 14 – Service Request, Disconnection and Reconnection in the	2 nd Q, 2017	IR/TEIS



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Item Number & Description ¹	Completion ²	Assignment ³
Registration Agent Model Status: Underway		
g. Book 24 – Enrollment, Drop and Account Information Change in Demand Response Programs Status: Not Started <u>Underway</u>	2018	IR/TEIS
h. Book 27 – Enrollment, Drop, and Account Information Change for Demand Response Programs in a Registration Agent Model Status: Not Started <u>Underway</u>	2018	IR/TEIS
4. Request R14008 – Open Field Message Bus (OpenFMB)		
a. Cybersecurity for the RMQ.26 – OpenFMB – develop security model business practices as necessary for the OpenFMB architecture Status: Not Started	3rd Q, 2017 <u>2017/2018</u>	Open FMB Task Force
5. Self-Deployment of a Demand Response program by a Demand Response Service Provider in the Registration Agent Marketplace		
a. Investigate the feasibility and necessity of developing a new book regarding self-deployment of a Demand Response program by a Demand Response Service Provider in the Registration Agent marketplace Status: Complete	1 st Q, 2017	BPS
b. If feasible and necessary, develop a new book containing the applicable model business practices Status: Underway <u>Complete</u>	2 nd Q, 2017	BPS
c. If feasible and necessary, add a technical section to the new book containing the applicable technical implementation guidelines Status: Not Started	2017	IR/TEIS
6. Book 27 – Enrollment, Drop and Account Information Change for Demand Response Programs in a Registration Agent Model		
a. Develop model business practices to include interval usage, non-interval usage, and Retail Net Metering Status: Not Started <u>Complete</u>	2 nd Q, 2017	BPS/DSM-EE
7. Program of Standards Maintenance & Fully Staffed Standards Work⁵		
a. Business Practice Requests	Ongoing	Assigned by the EC
b. Information Requirements and Technical Mapping of Business Practices	Ongoing	Assigned by the EC
c. Interpretations for Clarifying Language Ambiguities	Ongoing	Assigned by the EC
d. Maintenance of Code Values and Other Technical Matters	Ongoing	Assigned by the EC
e. Development and Maintenance of Definitions	Ongoing	Glossary
f. Harmonization of Definitions with All Other Quadrants	Ongoing	Glossary
g. Development and Maintenance of Model Business Practices	Ongoing	BPS



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NORTH AMERICAN ENERGY STANDARDS BOARD 2017 ANNUAL PLAN for the RETAIL MARKETS QUADRANT

Adopted by the Board of Directors on September 7, 2017 with proposed revisions by RMQ Leadership on September 6, 2017 and by the RMQ Executive Committee on October 25, 2017

Item Number & Description ¹	Completion ²	Assignment ³
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Provisional Activities

1. Review security standards as may be deemed necessary, such as Public Key Infrastructure (PKI).
2. Develop NAESB Certification checklist criteria for Retail Quadrants to be used in the NAESB Certification Program. The certification checklist may address test scripts, a checklist of items to be tested, data connectivity for test scripts and EDM testing.
3. Review RXQ.6 pending results of 2015 WGQ Annual Plan Item 5 – Develop possible revisions to Base Contract in response to NAESB request R15007 submitted by TVA. Concurrently, review recent CFTC Final Rules issued on Forward Contracts and Trade Option and update NAESB CFTC Whitepaper and associated Forward Contract Matrix.
4. Consider development of business practices to support the use of software applications for customer authorizations, including mobile devices.
5. Develop new Model Business Practices and modify existing Model Business Practices, as necessary, to support FERC order(s) issued in Docket No. RM14-2-000.
6. Consider the need for development of Model Business Practices to support the implementation of distributed generation.
7. Consider the need for development of Energy Efficiency Model Business Practices to support the request of the American National Standards Institute.

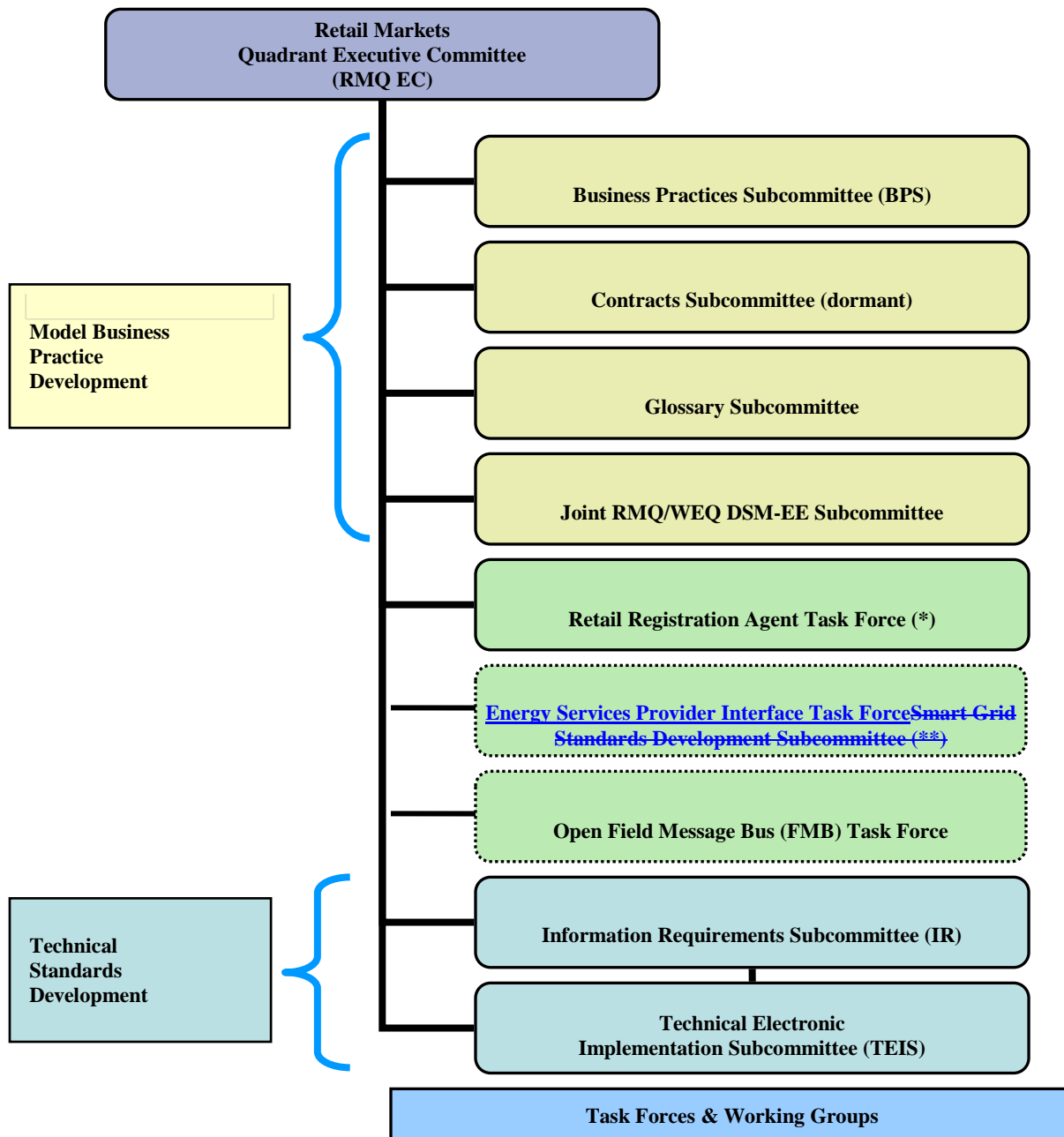
Retail Electric Model Business Practices Only:

1. 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 RMQ.
2. Review and develop model business practices to support renewable portfolio programs.



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NAESB Retail Subcommittee Leadership:

Executive Committee: ~~Phil Preeht, Chair~~, Mary Do, Chair
Business Practices Subcommittee: ~~Phil Preeht~~ Mary Do
Information Requirements Subcommittee/Technical Electronic Implementation Subcommittee: ~~Judy Ray~~ Mary Do
Glossary Subcommittee: Patrick Eynon
DSM-EE Subcommittee: Roy True (WEQ) and Paul Wattles (WEQ)
Retail Registration Agent Task Force: Debbie McKeever
Open FMB Task Force: ~~Joe Zhou~~, Stuart Laval, Larry Lackey
Energy Services Provider Interface (ESPI): J. Cade Burks, Donald Coffin

(*) -The Retail Registration Agent Task Force may draft MBPs, process flows, implementation guides and technical standards supportive of the Registration Agent and submit them to the BPS. The group is chaired by Debbie McKeever.

~~(**) The Smart Grid Standards Subcommittee is a joint group of the Retail Energy and Wholesale Electric Quadrants with other standards development groups such as OASIS, CalConnect, FIX and UCAlug, and includes other groups. Direction may be given from NIST, DoE or FERC and the group reports jointly to the NAESB Board Smart Grid Strategic Steering Committee and the RMQ and WEQ ECs. The group is chaired by Wayne Longeore, Joe Zhou and Robert Burke.~~

RMQ 2017 Annual Plan End Notes:

¹ As outlined in the NAESB Bylaws, the RMQ will also address requests submitted by members and assigned to the RMQ through the Triage Process.

² Dates in the completion column are by end of the quarter for completion by the assigned committee and subcommittee. 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.

³ The assignments are abbreviated. The abbreviations and committee structure can be found at the end of the Annual Plan document.

⁴ BPS and IR/TEIS will not review the following Books:

- Book 5 – Quadrant Specific Electronic Delivery Mechanisms
- Book 7 – Internet Electronic Transport, or
- Book 20 – Smart Grid Standards Data Element Table

⁵ This work is considered routine maintenance and thus the items are not separately numbered. The RMQ EC will assign maintenance efforts on a request-by-request basis.



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NORTH AMERICAN ENERGY STANDARDS BOARD 2017 ANNUAL PLAN for the WHOLESale ELECTRIC QUADRANT

Adopted by the Board of Directors on September 7, 2017 **with proposed revisions by WEQ Leadership on September 6, 2017 and the WEQ Executive Committee on October 24, 2017**~~Proposed Changes for the WEQ Executive Committee to Consider on October 24, 2017~~

Item Description	Completion ¹	Assignment ²
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) Parallel Flow Visualization/Mitigation for Reliability Coordinators in the Eastern Interconnection – Permanent Solution Note: Consideration should be given to provisional item 2.a. Work is being coordinated with the IDC Association. Status: Full Staffing	TBD	BPS
b) Perform consistency review of WEQ-008 Transmission Loading Relief Business Practice Standards and develop recommendation. ¹ Status: Full Staffing	TBD	BPS
c) Revise TLR level 5 to be treated similarly to TLR Level 3 in terms of treating the next hour allocation separately from that of current hour. (R11020) Status: Full Staffing	TBD	BPS
d) Assess impact to NAESB Business Practices with FERC approval of removing the PSE (Order RR15-4-000) and LSE- (Order RR15-4-001) from the NERC Compliance Registry Status: Completed	3 rd Q, 2017	BPS/CISS
i) Modifications to WEQ-004 Coordinate Interchange Business Practice Standards for Dynamic Tags and Pseudo-Tie type e-Tags R16008 Status: Completed	3 rd Q, 2017	CISS/BPS
e) Assess Impact on NAESB Business Practice Standards and Specifications due to changes in tool ownership, NERC Committee Structure, and changes to the NERC Rules of Procedures. R16010 (See Assignment List)		

¹ In some sections of WEQ-008 it appears that the standards are applicable to all of the Interconnections and other it appears that the standards are only applicable to the Eastern Interconnection. The title indicates the standards are applicable to the Eastern Interconnection.



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NORTH AMERICAN ENERGY STANDARDS BOARD 2017 ANNUAL PLAN for the WHOLESale ELECTRIC QUADRANT

Adopted by the Board of Directors on September 7, 2017 **with proposed revisions by WEQ Leadership on September 6, 2017 and the WEQ Executive Committee on October 24, 2017** ~~Proposed Changes for the WEQ Executive Committee to Consider on October 24, 2017~~

	Item Description	Completion ¹	Assignment ²
i)	Review standards request and propose assignments to specific subcommittees. Status: Complete, recommendations follow in ii – v	Q4 2016	SRS
ii)	Review and modify as necessary WEQ-000 and the Electronic Tagging Functional Specification to address Line Items 1 and 23 from SRS Assignment Document Status: Completed	2 nd Q, 2017	CISS
iii)	Review and modify as necessary WEQ-001, WEQ-002, WEQ-003, and WEQ-013 to address Line Items 2 through 17 from SRS Assignment Document Status: Completed	3 rd Q, 2017	OASIS
iv)	Review and modify as necessary WEQ-008 to address Line Item 18 from SRS Assignment Document Status: Completed	2 nd Q, 2017	BPS
v)	Review and modify as necessary WEQ-015, WEQ-018, and WEQ-020 to address Line Items 19 through 22 from SRS Assignment Document Status: Not Started Completed	3 rd Q, 2017	DSM-EE

2. Develop business practice standards in support of the FERC RM05-25-000 and RM05-17-000 (OATT Reform)²

- a) Develop version 3 business practice standards to better coordinate the use of the transmission system among neighboring transmission providers.
Request R05004 was expanded to include the [Order No. 890 \(Docket Nos. RM05-17-000 and RM02-25-000\)](#), [\(Order No. 890-A \(Docket Nos. RM05-17-001, 002 and RM05-25-001, 002\)\)](#), and [Order No. 890-B \(Docket Nos. RM05-17-03 and RM05-25-03\)](#) “Preventing Undue Discrimination and Preference in Transmission Services”

² FERC Order No. 890, issued February 16, 2007, can be accessed from the following link:
http://www.naesb.org/doc_view4.asp?doc=ferc021607.doc.



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NORTH AMERICAN ENERGY STANDARDS BOARD 2017 ANNUAL PLAN for the WHOLESALE ELECTRIC QUADRANT

Adopted by the Board of Directors on September 7, 2017 **with proposed revisions by WEQ Leadership on September 6, 2017 and the WEQ Executive Committee on October 24, 2017** ~~Proposed Changes for the WEQ Executive Committee to Consider on October 24, 2017~~

Item Description	Completion ¹	Assignment ²
i) Preemption; Request No. R05019 (Part of Preemption and Competition)		
1) Short-Term Firm Preemption and Competition (OATT Section 13.2 and 14.2)		
Status: Completed	3 rd Q, 2017	OASIS
ii) Miscellaneous (Paragraph 1627 ³ of FERC Order No. 890)		
1) Paragraphs 1627 of Order 890 – Posting of additional information on OASIS regarding firm transmission curtailments	2nd Q, 2017 4 th Q, 2018 TBD	OASIS/BPS
Status: Started		
2) Redispatch Cost Posting to allow for posting of third party offers of planning redispatch services.	2nd Q, 2017 2 nd Q, 2018	OASIS/BPS
Status: Started		
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		
a) Make remaining incremental enhancements to OASIS as an outgrowth of the NAESB March 29, 2005 conference on the future of OASIS (R05026).	2nd Q, 2017 2 nd Q, 2018 ^{4th} Q, 2017	OASIS/BPS
Scoping statement completed by SRS. There were a number of assignments from the Standards Request. The outstanding item is Enhance the TSR result postings to allow showing of available generation dispatch options that would allow acceptance of reservation request.		
Status: Started		
b) Enhance the TSR Results posting to allow a showing of limiting transmission elements for denied transmission service requests. This shall include information for denied Coordinated Requests. R05026 scoping statement completed by SRS and R12006 .	2nd Q, 2017 3 rd Q, 2018 2017	OASIS/BPS
Status: Started		
c) Requirements for OASIS to use data in the Electric Industry Registry (R12001)	TBD 2017	OASIS
Status: Not Started		

³ Paragraph 1627 of FERC Order No. 890, issued February 16, 2007: We agree with suggestions for the posting of additional curtailment information on OASIS and, therefore, require transmission providers, working through NAESB, to develop a detailed template for the posting of additional information on OASIS regarding firm transmission curtailments. Transmission providers need not implement this new OASIS functionality and any related business practices until NAESB develops appropriate standards. These postings must include all 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. This information is in addition to the Commission's existing requirements: (1) when any transmission is curtailed or interrupted, the transmission provider must post notice of the curtailment or interruption on OASIS, and the transmission provider must state on OASIS the reason why the transaction could not be continued or completed; (2) information to support any such curtailment or interruption, including the operating status of facilities involved in the constraint or interruption, must be maintained for three years and made available upon request to the curtailed or interrupted customer, the Commission's Staff, and any other person who requests it; and, (3) any offer to adjust the operation of the transmission provider's system to restore a curtailed or interrupted transaction must be posted and made available to all curtailed and interrupted transmission customers at the same time.

~~Proposed Changes for the WEQ Executive Committee to Consider on October 24, 2017~~ 2017 WEQ Annual Plan adopted by the Board of Directors on September 7, 2017 **with proposed revisions by WEQ Leadership on September 6, 2017**



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NORTH AMERICAN ENERGY STANDARDS BOARD 2017 ANNUAL PLAN for the WHOLESale ELECTRIC QUADRANT

Adopted by the Board of Directors on September 7, 2017 **with proposed revisions by WEQ Leadership on September 6, 2017 and the WEQ Executive Committee on October 24, 2017** ~~Proposed Changes for the WEQ Executive Committee to Consider on October 24, 2017~~

Item Description	Completion ¹	Assignment ²
4. Develop and/or maintain standard communication protocols and - cybersecurity business practices as needed.		
a) Review annually at a minimum, WEQ-012 and the accreditation requirements for Authorized Certification Authorities to determine if any changes are needed to meet market conditions. ⁴ Status: Started Completed	4th Q 3 rd Q, 2017	Cybersecurity Subcommittee
b) Evaluate and modify standards as needed to support and/or complement the current version of the NERC Critical Infrastructure Protection Standards ⁵ and any other activities of NERC and the FERC related to cybersecurity. Status: Started Completed	3 rd Q, 2017	Cybersecurity Subcommittee
5 Maintain existing body of Version 3.x standards		
a) Add language to WEQ-001-4 Online Negotiation and Confirmation process to clarify Table 4-3 (R09003) Status: Completed	3 rd Q, 2017	OASIS
6. Develop and/or modify standards to support FERC Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms (Docket No. AD15-11-000)⁶		
a) Develop business practices as needed to support electronic filing protocols for submittal of FERC Forms Status: Started	2017 2018	Joint WEQ/WGQ FERC Forms Subcommittee

⁴ The "NAESB Accreditation Requirements for Authorized Certification Authorities" can be found at: http://www.naesb.org/member_login_check.asp?doc=certification_specifications.docx.

⁵ <http://www.nerc.com/pa/Stand/Pages/CIPStandards.aspx>

⁶ The FERC Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms, issued on April 16, 2015, can be found through the following hyperlink: https://www.naesb.org/pdf4/ferc041615_electronic_filing_protocols_forms.pdf

Proposed Changes for the WEQ Executive Committee to Consider on October 24, 2017 ~~2017 WEQ Annual Plan adopted by the Board of Directors on September 7, 2017 with proposed revisions by WEQ Leadership on September 6, 2017~~



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NORTH AMERICAN ENERGY STANDARDS BOARD 2017 ANNUAL PLAN for the WHOLESale ELECTRIC QUADRANT

Adopted by the Board of Directors on September 7, 2017 **with proposed revisions by WEQ Leadership on September 6, 2017 and the WEQ Executive Committee on October 24, 2017**~~Proposed Changes for the WEQ Executive Committee to Consider on October 24, 2017~~

Item Description	Completion ¹	Assignment ²
7. Gas-Electric Coordination		
a) Resulting from the efforts of annual plan item 7(a), develop standards as needed and directed by the Board of Directors, which are specifically assigned to the WEQ		
i. GEH Forum Issue 22 ⁷ : <i>“It would be desirable to have a set of terminology agreed upon by participants to characterize shapes, profiles, ratable, non-ratable, and so forth to facilitate discussion”</i>		
1. Consider and determine if WEQ standards are needed, and develop a recommendation and report to the Board of Directors Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force
2. Develop WEQ standards according to the recommendation of item 7b(i)1. Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force
ii. GEH Forum Issue 25 ⁸ : <i>Communication protocols with LDCs, gas generator operators and natural gas marketing companies</i>		
1. Consider and determine if WEQ standards are needed, and develop a recommendation and report to the Board of Directors Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force
2. Develop WEQ standards according to the recommendation of item 7b(ii)1. Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force
iii. GEH Forum Issue 26 ⁹ : <i>“Improve efficiency of critical information sharing (related to issues 22 and 25)</i>		
1. Consider and determine if WEQ standards are needed, and develop a recommendation and report to the Board of Directors Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force
2. Develop WEQ standards according to the recommendation of item 7b(iii)1. Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force
iv. GEH Forum Issue 33 ¹⁰ : <i>“Use of multiple confirmation methods in addition to traditional confirmations for intraday nominations. There is</i>		

⁷ The GEH Forum Issues may be found in the GEH Survey Addendum:
https://www.naesb.org/pdf4/geh_report_addendum_041816_clean051316.docx

⁸ *Id.*

⁹ *Id.*



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NORTH AMERICAN ENERGY STANDARDS BOARD 2017 ANNUAL PLAN for the WHOLESale ELECTRIC QUADRANT

Adopted by the Board of Directors on September 7, 2017 **with proposed revisions by WEQ Leadership on September 6, 2017** and the WEQ Executive Committee on October 24, 2017 ~~Proposed Changes for the WEQ Executive Committee to Consider on October 24, 2017~~

Item Description	Completion ¹	Assignment ²
<i>currently a good definition of Confirmation by Exception (CBE) in NAESB standards. CBE however, may not be available everywhere but there may also be additional confirmation methods that could benefit from standardization”</i>		
1. Consider and determine if WEQ standards are needed, and develop a recommendation and report to the Board of Directors Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force
2. Develop WEQ standards according to the recommendation of item 7b(iv)1. Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force
v. GEH Forum Issue 36 ¹¹ : <i>“Level of confirmations: there is a wide range of data elements that are exchanged, from a minimum amount to a very large set of data. In the "Art of Scheduling," pipelines confirm at different levels, with potential for disparities. Greater standardization could produce confirming efficiencies. (For example, confirm at the shipper-to-shipper level. Or, if there are confirmations at a lower level of detail, it would be driven by model type.) See issue 17¹² in the first presentation.”</i>		
1. Consider and determine if WEQ standards are needed, and develop a recommendation and report to the Board of Directors Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force
2. Develop WEQ standards according to the recommendation of item 7b(v)1. Status: Completed	1 st Q, 2017	WEQ EC and GEH Task Force

¹⁰ *Id.*

¹¹ *Id.*

¹² GEH Forum Issue 17 “Levels of Confirmation” can be found in the GEH Survey Addendum: https://www.naesb.org/pdf4/geh_report_addendum_041816_clean051316.docx



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**NORTH AMERICAN ENERGY STANDARDS BOARD
2017 ANNUAL PLAN for the WHOLESAL ELECTRIC QUADRANT**
Adopted by the Board of Directors on December 8, 2016 and as revised by the WEQ Executive Committee on February 21, 2017

PROVISIONAL ITEMS

1. **Optional Work to Extend Existing Standards**
 - a) Prepare recommendations for future path for TLR¹³ (Phase 2) in concert with NERC, which may include alternative congestion management procedures¹⁴. Work on this activity is dependent on completing 2017 WEQ Annual Plan 1.a (Parallel Flow Visualization/Mitigation for Reliability Coordinators in the Eastern Interconnection - Phase 1).
 - b) Re-examine the need for business practice standards for organization/company codes for NAESB standards – and address current issues on the use of DUNs numbers, GLN, and LEI.
 2. **Pending Regulatory or Legislative Action**
 - a) Determine NAESB action needed to support FERC Action Plan for Smart Grid Technology.
 - b) Develop business practice standards for cap and trade programs for greenhouse gas.
 - c) Should the FERC determine to act in response to NAESB's report of the Version 003.1 Business Practice Standards, and should the FERC recommend specific action, develop and/or revise Business Practice Standards as needed.
 - d) Revise WEQ-023 based on FERC Orders associated to Docket Nos. RM14-7-000 and AD15-5-000
 - e) Develop and/or modify standards as need in support of the October 18, 2016 correspondence¹⁵ from Chairman Bay not otherwise addressed by 2017 WEQ Annual Plan Items 7.a.
-

¹³ Phase 2 of the Parallel Flow Visualization looks at developing options for and reporting of the most cost effective alternatives to achieve curtail obligations assigned during Phase 1.

¹⁴ For additional information, please see comments submitted by PJM and Midwest ISO for this Annual Plan Item:
http://www.naesb.org/pdf3/weq_apan102907w1.pdf.

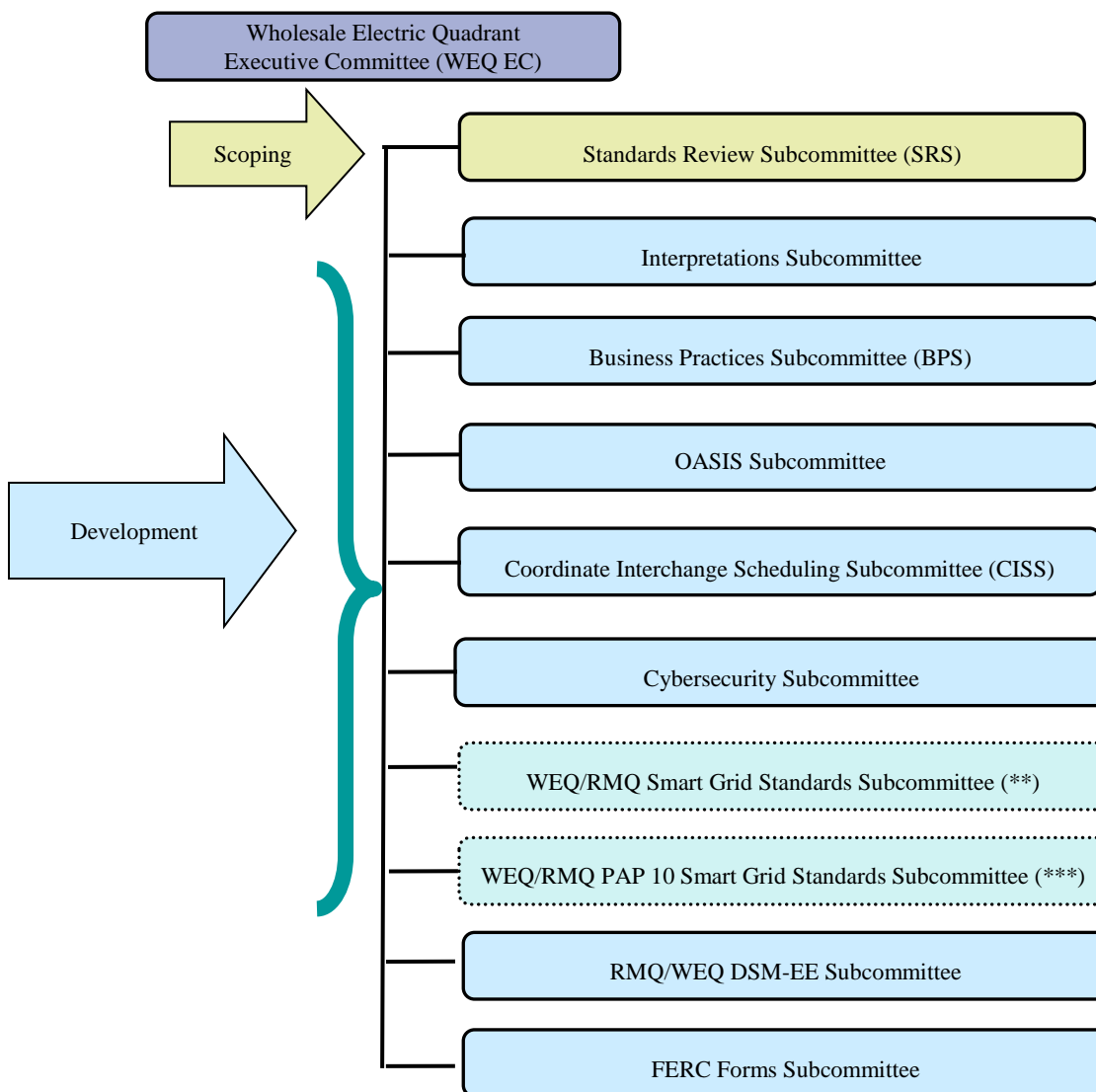
¹⁵ The October 18, 2016 letter from Chairman Bay can be found at the following link:
https://naesb.org/pdf4/101816_ferc_chairman_bay_letter_re_order809_naesb.pdf



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WHOLESALE ELECTRIC QUADRANT EXECUTIVE COMMITTEE AND SUBCOMMITTEE STRUCTURE





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NAESB WEQ EC and Active Subcommittee Leadership:

Executive Committee (EC): Kathy York (Chair) and Roy True (Vice Chair)

Standards Review Subcommittee (SRS): Ron Robinson, Kevin Spontak

Interpretations Subcommittee: Ed Skiba

Business Practices Subcommittee (BPS): Jason Davis, Paul Graves, Ross Kovacs, Narinder Saini

Open Access Same Time Information System (OASIS) Subcommittee: Rob Arbitelle, Alan Pritchard, Ken Quimby, Matt Schingle, J.T. Wood

Coordinate Interchange Scheduling Subcommittee (CISS): Joshua Phillips, Zack Buus

Cybersecurity Subcommittee: Jim Buccigross

Demand Side Management-Energy Efficiency (DSM-EE) RMQ/WEQ Subcommittee: Roy True (WEQ) and Paul Wattles (WEQ)

FERC Forms Subcommittee (WEQ/WGQ): Leigh Spangler (WGQ), Dick Brooks (WEQ)

Inactive Subcommittees:

e-Tariff Joint WEQ/WGQ Subcommittee (e-Tariff): Keith Sappenfield (WGQ)

- (**) —The Smart Grid Standards Subcommittee is a joint group of the retail [electric-markets](#) and wholesale electric quadrants with other standards development groups such as OASIS (Organization for the Advancement of Structured Information Standards, not Open Access Same Time Information Systems related to NAESB standards and FERC actions), CalConnect, FIX and UCAIug, among others. Direction may be given from NIST, DoE or FERC and the group reports jointly to the NAESB Board Smart Grid Planning Group and the WEQ and RMQ ECs.
- (***) —The PAP 10 Smart Grid Standards Subcommittee is a joint group of the retail [electric-markets](#) and wholesale electric quadrants with other standards development groups such as OASIS, UCAIug, OpenADE, ZigBee, ASHRAE, EIS Alliance, NARUC and includes other groups. Direction may be given from NIST, DoE or FERC and the group reports jointly to the NAESB Board Smart Grid Planning Group and the WEQ and RMQ ECs.

End Notes WEQ 2017 Annual Plan:

¹ Dates in the completion column are by end of the quarter for completion by the assigned committee, sub-committee or task force. 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 sub-committee structure can be found at the end of the annual plan document.



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2017 UPDATE – SEPTEMBER 30, 2017 NAESB MEMBERSHIP, MEETING STATISTICS, FINANCIAL REPORTS

SUMMARY

Comparison		Current Year Actuals & Est.	Prior Year Actuals or Current Budget
Membership Numbers Compared to Prior Year	●	303	299
Membership Revenues Compared to Budget	●	\$1,876,667	\$1,862,792
Membership Revenues Compared to Prior Year	●		\$1,862,791
Sales of Products Compared to Prior Year	●	\$150,947	\$164,426
Sales of Products Compared to Budget	●		\$169,866
YTD Revenues Compared to Prior Year	●	\$2,033,780	\$2,098,536
YTD Revenues Compared to Budget	●		\$2,045,676
YTD Expenses Compared to Prior Year	●	\$1,504,080	\$1,601,183
YTD Expenses Compared to Budget	●		\$1,604,150
YTD Net Income Compared to Prior Year	●	\$539,700	\$497,353
YTD Net Income Compared to Budget	●		\$441,526
YE Projected Net Income Compared to Prior Year	●	\$26,244	\$77,044
YE Projected Net Income Compared to YE Budget	●		\$26,469
Cash YTD Expense Compared to Prior Year	●	\$1,527,212	\$1,691,317
Cash YTD Revenue Compared to Prior Year	●	\$1,497,113	\$1,629,356
Cash YTD Ending Balance Compared to Prior Year	●	\$840,926	\$768,613

RETAINED EARNINGS ANALYSIS

Retained Earnings as of YE 2015		(\$277,343)
Retained Earnings as of YE 2016		(\$200,299)
Net Income for 2017		\$26,244
Retained Earnings for YE 2017	●	(\$176,242)

Legend: ● Green – Same or Better Position Today, ● Yellow – Within 2% of Today, ● Red – More Than 2% Worse Position Today

Note: All dollar amounts are accrual based unless otherwise noted, and based on actuals through September 2017.

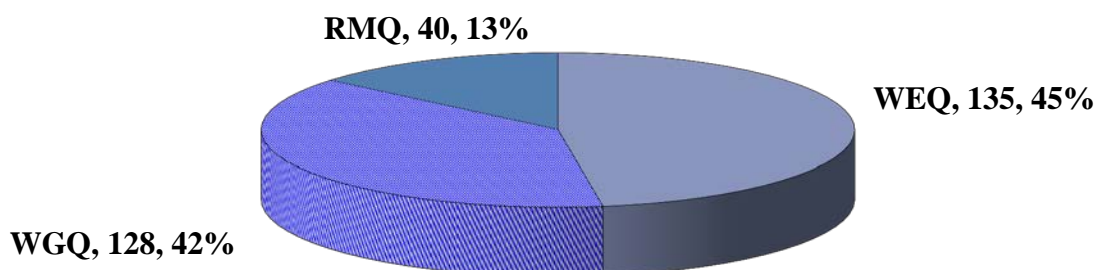


North American Energy Standards Board

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2017 UPDATE – SEPTEMBER 30, 2017
NAESB MEMBERSHIP, MEETING STATISTICS, FINANCIAL REPORTS

Membership Profile as of September 2017:



Quadrant Statistics	WEQ	WGQ	RMQ	Total
Membership YE 2016	134	122	43	299
Reclassification	0	0	0	0
Net Change	+1	+6	-3	+4
Membership YTD	135	128	40	303

NAESB Membership Report - Quadrant/Segment Membership Analysis		Number of Members
WGQ Segments	TOTAL	128
	End Users	15
	Distributors	23
	Pipelines	42
	Producers	13
	Services	35
RMQ Segments	TOTAL	40
	Retail Electric End Users/Public Agencies	16
	Retail Gas Market Interests Segment	10
	Retail Electric Utilities	7
	Retail Electric Service Providers/Suppliers	7



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NAESB Membership Report - Quadrant/Segment Membership Analysis		Number of Members
WEQ Segments	TOTAL	135
	End Users	11
	Distributors	19
	Transmission	44
	Generation	21
	Marketers	22
	None Specified	1
	Independent Grid Operators/Planners	8
	Technology /Services	9

- January 31, 2017: Membership in January is 299. Membership by quadrant is: 123 (WGQ), 43 (RMQ), 133 (WEQ). Year to date, we have had one new membership (0 – WEQ, 0 – RMQ, 1 – WGQ) and one resignation (0 – WGQ, 0 – RMQ, 1 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In January we had one new member, Ambit Energy Holdings, LLC (WGQ, Services) and one member resignation, The United Illuminating Company (WEQ, Transmission).
- February 28, 2017: Membership in February is 300. Membership by quadrant is: 123 (WGQ), 44 (RMQ), 133 (WEQ). Year to date, we have had three new memberships (0 – WEQ, 1 – RMQ, 2 – WGQ) and two resignations (1 – WGQ, 0 – RMQ, 1 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In February we had two new members, Freeport LNG Development L.P. (WGQ, Pipeline), Open Energy Solutions, Inc. (RMQ, Retail Electric Service Providers/Suppliers) and one member resignation, Dominion Carolina Gas Transmission, LLC (WGQ, Pipeline).
- March 31, 2017: Membership in March is 302. Membership by quadrant is: 123 (WGQ), 44 (RMQ), 135 (WEQ). Year to date, we have had six new memberships (2 – WEQ, 1 – RMQ, 3 – WGQ) and three resignations (2 – WGQ, 0 – RMQ, 1 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In March we had three new members, Enbridge (U.S.) Inc. (WEQ/Transmission), MCG Energy Solutions (WEQ, Technology and Services), Sylvia Munson – Consultant (WGQ, Services) and one member resignation, Arizona Public Service Company (WGQ, End Users).
- April 30, 2017: Membership in April is 300. Membership by quadrant is: 124 (WGQ), 42 (RMQ), 134 (WEQ). Year to date, we have had seven new memberships (2 – WEQ, 1 – RMQ, 4 – WGQ) and six resignations (2 – WGQ, 2 – RMQ, 2 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In April we had one new member, DTE Gas Company (WGQ, LDC) and three member resignations, Peak Reliability (WEQ, IGO), Southern Company Services (RMQ, Retail Electric Service Providers/Suppliers), Baltimore Gas and Electric (RMQ, Retail Electric Utilities).
- May 31, 2017: Membership in May is 302. Membership by quadrant is: 125 (WGQ), 42 (RMQ), 135 (WEQ). Year to date, we have had nine new memberships (3 – WEQ, 1 – RMQ, 5 – WGQ) and six resignations (2 – WGQ, 2 – RMQ, 2 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In May we had two new members, Enercross LLC (WGQ, Services), SoftSmiths, Inc. (WEQ, Technology and Services) and no member resignations.



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- June 30, 2017: Membership in June is 302. Membership by quadrant is: 127 (WGQ), 40 (RMQ), 135 (WEQ). Year to date, we have had 11 new memberships (3 – WEQ, 1 – RMQ, 7 – WGQ) and eight resignations (2 – WGQ, 4 – RMQ, 2 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In June we had two new members, Aquilon Energy Services, Inc. (WGQ, Services), Cascade Natural Gas Corporation (WGQ, LDC) and two member resignations, ABB Ventyx (RMQ, Retail Electric Service Providers/Suppliers), Just Energy (RMQ, Retail Electric Service Providers/Suppliers).
- July 31, 2017: Membership in July is 301. Membership by quadrant is: 127 (WGQ), 39 (RMQ), 135 (WEQ). Year to date, we have had 11 new memberships (3 – WEQ, 1 – RMQ, 7 – WGQ) and nine resignations (2 – WGQ, 5 – RMQ, 2 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In July we had no new members and one member resignation, Ernst & Young LLC (RMQ, Retail Electric Service Providers/Suppliers).
- August 31, 2017: Membership in August is 301. Membership by quadrant is: 127 (WGQ), 40 (RMQ), 134 (WEQ). Year to date, we have had 13 new memberships (3 – WEQ, 2 – RMQ, 8 – WGQ) and 11 resignations (3 – WGQ, 5 – RMQ, 3 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In August we had two new members, Power Authority of the State of New York (WGQ, End Users), Gas Natural Servicios, S.A.de C.V. (RMQ, Retail Gas Market Interests) and two member resignation, California Department of Water Resources (WEQ, Generation) and Centra Gas Manitoba Inc. (WGQ, LDC).
- September 30, 2017: Membership in September is 303. Membership by quadrant is: 128 (WGQ), 40 (RMQ), 135 (WEQ). Year to date, we have had 15 new memberships (4 – WEQ, 2 – RMQ, 9 – WGQ) and 11 resignations (3 – WGQ, 5 – RMQ, 3 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In September we had two new members, SaskPower Corporation (WEQ, Transmission), UGI Central Gas Control, LLC (WGQ, Pipeline) and no member resignations.



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NET GAINS AND LOSSES IN 2017:

WEQ	New Members: 1-Enbridge (U.S.) Inc. (Transmission), 2-MCG Energy Solutions (Technology and Services), 3-SoftSmiths, Inc. (Technology and Services), 4-SaskPower Corporation (Transmission)	4
	Member Resignations: 1-The United Illuminating Company (Transmission), 2-Peak Reliability (IGO), 3-California Department of Water Resources (Generation)	3
WGQ	New Members: 1-Ambit Energy Holdings, LLC (Services), 2-Freeport LNG Development L.P. (Pipeline), 3-Sylvia Munson – Consultant (Services), 4-DTE Gas Company (LDC), 5-Enercross LLC (Services), 6-Aquilon Energy Services, Inc. (Services), 7-Cascade Natural Gas Corporation (LDC), 8- Power Authority of the State of New York (End Users), 9-UGI Central Gas Control, LLC (Pipeline)	9
	Member Resignations: 1-Dominion Carolina Gas Transmission, LLC (Pipeline), 2-Arizona Public Service Company (End Users), 3-Centra Gas Manitoba Inc. (LDC)	3
RMQ	New Members: 1-Open Energy Solutions, Inc. (Retail Electric Service Providers/Suppliers), 2-Gas Natural Servicios, S.A. de C.V. (Retail Gas Market Interests)	2
	Member Resignations: 1-Southern Company Services (Retail Electric Service Providers/Suppliers), 2-Baltimore Gas and Electric (Retail Electric Utilities), 3-ABB Ventyx (Retail Electric Service Providers/Suppliers), 4-Just Energy (Retail Electric Service Providers/Suppliers), 5-Ernst & Young LLC (Retail Electric Service Providers/Suppliers)	5
TOTAL	New Members:	15
	Member Resignations:	11



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2017 UPDATE – SEPTEMBER 30, 2017 NAESB MEMBERSHIP, MEETING STATISTICS, FINANCIAL REPORTS

MEMBERSHIP LISTING AS OF SEPTEMBER 30, 2017

Organization	Seg ¹	Contact
Retail Markets Quadrant (RMQ) Members:		
1 Ameren Services Company	u	Patrick Eynon
2 American Public Gas Association (APGA)	g	Alonzo Weaver
3 Arizona Corporation Commission	e	Robert G. Gray
4 Big Data Energy Services	s	J. Cade Burks, Jennifer Teel
5 California Energy Commission	e	Melissa Jones
6 California Public Utilities Commission	e	Marzia Zafar
7 CenterPoint Energy Houston Electric, LLC	u	John Hudson
8 City of Houston	e	James P. Cargas
9 Comverge, Inc.	s	Wendell Miyaji
10 Dominion Energy	u	Brandon Stites
11 Duke Energy Corporation	u	Dan Jones, Stuart Laval
12 Electric Reliability Council of Texas, Inc. (ERCOT)	e	Susan Anthony
13 Gas Natural Servicios, S.A. de C.V.	g	Alberto Alberto Alfaro
14 Green Button Alliance	s	Barry Haaser
15 Intelometry, Inc.	s	Raymond W. Anderson
16 ISO New England, Inc.	e	Doug Smith
17 Latitude Technologies LLC	g	Leigh Spangler
18 Maryland Public Service Commission	e	Dan Hurley
19 Minnesota Public Utilities Commission	e	Robert Harding
20 National Association of Regulatory Utility Commissioners	e	Sam Watson
21 New Jersey Board of Public Utilities	e	Cynthia Covie, Lauren Mattox
22 Oncor Electric Delivery Company LLC	u	Debbie McKeever, Chris Rowley, Debra Anderson, Mark Carpenter
23 Open Access Technology International, Inc.	s	Michelle Coon
24 Open Energy Solutions, Inc.	s	Larry Lackey
25 Pennsylvania Office Of Consumer Advocate	e	Tanya J. McCloskey
26 Pennsylvania Office of Consumer Advocate	g	Tanya J. McCloskey
27 Pennsylvania Public Utility Commission	e	Lee Yalcin, Jeff McCracken

¹ The segment abbreviations are: **RMQ**: u – retail electric utilities, g – retail gas market interests, e – retail electric end users/public agencies, s – retail electric service providers/suppliers. **WEQ**: m – marketer/broker, d – distribution, i – independent grid operators/planners, t – transmission owner, e – end user, g – generator, ts – technology/services. **WGO**: s – services, pl – pipeline, l – LDC, pr – producer, e – end user.



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	Organization	Seg ¹	Contact
28	Philadelphia Gas Works	g	Eloise N Young
29	Public Utilities Commission of Ohio	e	Amanda Stallings
30	Public Utility Commission of Texas	e	Therese Harris
31	Southern Company Services, Inc.	u	Lincoln E. Wood
32	SouthStar Energy Services, LLC	g	Michael Braswell, Joseph C. Monroe
33	Sprague Operating Resources LLC	g	Paul Scoff
34	Systrends USA	g	Dave Darnell
35	UGI Utilities, Inc.	g	Angelina Borelli
36	Vermont Public Service Board	e	Mary Jo Krolewski
37	WEC Energy Group	g	Tom Aridas, Ken Thiry
38	Wisconsin Public Service Corporation	u	Dennis Derricks, Ken Thiry
39	Xtensible Solutions LLC	s	Shawn Hu
40	ZigBee Alliance	e	Tobin Richardson

Wholesale Gas Quadrant (WGQ) Members:

1	8760, Inc.	s	Jim Buccigross
2	Alliance Pipeline, LP	pl	Wendy Rhyno, Brian Troicuk
3	Ambit Energy Holdings, LLC	s	Drew Gormley
4	American Gas Association	l	Susan Bergles, Pete Connor
5	American Midstream Partners, LP	s	Chelsea Whitworth
6	Anadarko Energy Services Company	pr	Y.J. Bourgeois, Beth Fruge, Scott Marshall, Chris Briggs, Brent Beitler
7	Aquilon Energy Services, Inc.	s	Jeffrey Wagner, Sylvia Munson
8	Atmos Energy	pl	Steve Easley
9	Baltimore Gas & Electric Co.	l	Ronald T. Jennings
10	Blackstone Technology Group, Inc.	s	Rakesh Agrawal
11	Boardwalk Pipeline Partners, LP	pl	Randy Young, Kim Van Pelt
12	BP Energy	pr	Mark Stultz, Kathleen E. Magruder
13	California Energy Commission	e	Melissa Jones
14	Calpine Corporation	e	Shonnie Daniel, Jay Dibble, Brian Fields
15	Cargill Incorporated	s	Lester Welch
16	Cascade Natural Gas Corporation	l	Eric Wood
17	Castleton Commodities Merchant Trading L.P.	s	Tara Liscombe
18	CenterPoint Energy Services, Inc.	s	Jeffrey Perryman, Timothy Muller, Wade Sadler
19	Centro Nacional de Control del Gas Natural (CENAGAS)	s	Eduardo Fernando Prud'homme Nieves
20	Cheniere Creole Trail Pipeline, LP	pl	Valerie Salas
21	Chevron Natural Gas	pr	Charles (Chuck) Cook



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	Organization	Seg ¹	Contact
22	Cimarex Energy Co.	pr	Vanessa Hutto
23	Citigroup Energy, Inc.	s	Carrie Southard, Angela Davis
24	Colorado Springs Utilities	l	Joe M. Holmes
25	ConocoPhillips Company	pr	Ben Schoene
26	Consolidated Edison Company of NY	l	Marie Berninger, Shelly Lyser
27	Crestwood Equity Partners LP	pl	Rob Perkins, Mark Mitchell, James Johnston, Christine Dixon
28	Dauphin Island Gathering Partners	pl	Don Perkins, Tyler Culbertson
29	Defense Logistics Agency Energy	e	Veronica Jones, Scott Taetsch
30	Department of Energy	e	Christopher Freitas
31	Devon Energy Corporation	pr	Mary Nelson
32	Direct Energy Business, LLC	s	Stephen F. Salese
33	Dominion Energy Inc.	l	Craig Colombo
34	Dominion Energy Questar Pipeline, LLC	pl	Rachel A. Hogge, Mark Christiansen
35	Dominion Energy Transmission Inc.	pl	Rachel A. Hogge, Ron Tomlinson
36	DTE Energy Trading, Inc.	s	Gregory V. Staton, James Buck, Dena Crawford, Marcia L. Hissong, Ann Marie Jambor, Cynthia Klots, Shelley Greene
37	DTE Gas Company	l	Kelly Fedele
38	Eastern Shore Natural Gas Company	pl	Jeffrey R. Tietbohl
39	Eclipse Resources Corporation	pr	Daniel T. Sweeney
40	Enable Energy Resources LLC	s	Cary Metz
41	Enable Gas Transmission, LLC	pl	Cindy Suarez, Valerie Price
42	Enable Mississippi River Transmission, LLC	pl	Cindy Suarez, Valerie Price
43	Enbridge (U.S.) Inc.	pl	Susan Schwager
44	Encana Marketing (USA) Inc.	s	Jeff Jarvis
45	Energex LLC	s	Jay Bhatt
46	Energy Transfer Equity, L.P.	pl	Michael Langston, Larry Biediger, Mary Draemer, William White, Miki Kolobara
47	Entergy Services, Inc.	e	Laura Berryman, Scott Marino
48	Environmental Defense Fund, Inc.	e	N. Jonathan Peress
49	Environmental Resources Management (ERM)	s	Keith Sappenfield
50	EP Energy E&P Company, L.P.	pr	Stephanie Karm
51	Equitrans, L.P.	pl	Paul W. Diehl
52	Exelon Generation Company, LLC	s	Lisa Simpkins, Joseph Kirwan, Andrea Kullman, Jennifer Scott
53	Exxon Mobil Corporation	pr	Randy E. Parker
54	FIS	s	Kirt Kleinman
55	Florida Power & Light Company	e	Paul Zhang, Art Morris



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56	Freeport LNG Development L.P.	pl	Adam Valentine
57	Gas Natural Fenosa LNG, S.L.	s	Carlos Humphrey Garcia, Lourdes Cacho
58	Gasoductos de Chihuahua S. de R.L. de C.V.	pl	Victor Manuel Lozano Chavez
59	Gasoductos del Noreste S. de R.L. de C.V.	pl	Victor Manuel Lozano Chavez
60	Golden Pass Pipeline, LLC	pl	Joel Hindman
61	Golden Triangle Storage, Inc.	pl	Kimberly Watson, John Fortman, Darryl Kilpatrick
62	Iberdrola USA Management Corporation (Rochester Gas and Electric Corp)	l	Mark Marini
63	Idaho Public Utilities Commission	e	Gene Fadness
64	Imperial Irrigation District	e	Belen Valenzuela, Arcadio (Art) Magana, Scott Harding
65	Iroquois Gas Transmission System	pl	Tom Gwilliam
66	Kern River Gas Transmission Company	pl	Brenda Horton
67	Kinder Morgan Inc	pl	Gene Nowak, Mark Gracey, Nichole Lopez
68	Kinetica Partners, LLC	pl	Michelle Dundee
69	Latitude Technologies LLC	s	Leigh Spangler
70	Macquarie Energy LLC	s	Michele McLendon, David Webster, Christi Nicolay
71	Marathon Oil Company	pr	Robin Perrine
72	MCP Operating LLC	pl	Jeremy Durocher
73	Midcontinent Independent System Operator, Inc.	e	Mark Thomas, Leonard Ashley
74	Millennium Pipeline Company, LLC	pl	Georgia B. Carter
75	Munich Re Trading LLC	s	Yvonne L. Aponte
76	National Fuel Gas Distribution Corporation	l	Mike Novak
77	National Fuel Gas Supply Corp.	pl	Deborah Kupczyk
78	National Grid	l	Andrew MacBride
79	New Jersey Natural Gas	l	Kathryn Ferreira
80	NextEra Energy Pipeline Services Company	s	Mark McClure
81	NiSource Inc.	l	Deepak Raval, Michael D. Watson
82	NJR Energy Services Company	s	Ginger Richman
83	Noble Americas Corp	pl	Joseph Limone, Vanessa R. Mathieu
84	Noble Energy, Inc.	pr	Kathryn Skelton, Tammy M. Stevens
85	Northern Natural Gas	pl	James Weidner, Micki Hoffee
86	Northwest Natural Gas Company	l	Randolph Friedman
87	ONE Gas, Inc.	l	Larry Dykes
88	ONEOK Partners GP, LLC	pl	Teri Tingler, Denise Adams
89	Open Access Technology International, Inc.	s	Michelle Coon
90	PAA Natural Gas Storage, LLC	s	Eileen W. Kisluk



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91	Pacific Gas and Electric Company	1	Dave Lewis
92	Paiute PipeLine Company	pl	Mark A. Litwin
93	Peoples Gas System	1	David Crabtree
94	Piedmont Natural Gas	1	Michelle Mendoza
95	Power Authority of the State of New York (dba NYPA)	e	Enrico Montesa, Jr.
96	QEP Resources, Inc.	pr	Steve Stanton
97	Quorum Business Solutions Inc.	s	Emily Perryman
98	Rager Mountain Storage Company, LLC	pl	Paul Diehl, Rob Kovacevic
99	S&P Global, Platts, Bentek	s	Arlene Long
100	Sabine Pass Liquefaction, LLC	e	Emily Browning
101	Salt River Project Agricultural Improvement & Power District	e	Willis E. McCluskey
102	Sempra Infrastructure, LLC	pl	Dan King, Elizabeth Peters
103	Sequent Energy Management, L.P.	s	Pat Metteauer, Kathryn L. McCoy, Chris Russo
104	Shell Energy North America (US), L.P.	s	Eric Gillaspie
105	Skipping Stone, LLC	s	Greg Lander
106	SNL Financial	s	Jana Wootton
107	Southern California Gas Company	1	Richard Ishikawa
108	Southern Company Gas	1	Tim Sherwood
109	Southern Company Services, Inc.	e	Alan Kilpatrick, Roy D. Hiller
110	Southern Star Central Gas Pipeline	pl	Philip Rullman, Doug Field
111	Southwest Gas Corporation	1	John Olenick, Mark Anderson, Mark Litwin
112	Spectra Energy Corp	pl	Richard Kruse, Marcy McCain
113	SWN Energy Services Company, LLC	pr	Bill Hebenstreit
114	Sylvia Munson – Consultant	s	Sylvia Munson
115	Tallgrass Operations, LLC	pl	Karl Almquist
116	Tennessee Valley Authority	e	Valerie Crockett
117	Tiger Natural Gas	s	John Burris
118	TransCanada Pipelines Limited	pl	Sherry Hill
119	TransCanada Pipelines USA, Ltd	pl	Steven W. McCord, Millie S. Moran
120	UGI Central Gas Control, LC	pl	Craig Blume
121	Unitil Service Corporation	1	Joseph Conneely
122	Vector Pipeline L.P.	pl	Amy Bruhn
123	Vectren Corporation	1	Elizabeth Beck
124	WBI Energy Transmission, Inc.	pl	Lori Myerchin, Gwen Schoepp
125	WEC Energy Group	1	Todd Duffield, Jody Arendt
126	Williams	pl	Lynn Dahlberg, Melissa Casey



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127	World Fuel Services, Inc.	s	Rachel Welch
128	WPX Energy Marketing, LLC	s	Rich Ficken, Sherrie Dodson
Wholesale Electric Quadrant (WEQ) Members:			
1	8760, Inc.	ts	Jim Buccigross
2	Alabama Municipal Electric Authority	d	Mark Ennis
3	Alcoa Power Generating Inc	m	Michael Padgett, Matt Fullerton
4	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	m	Roy J. True, Amadou Fall
5	American Electric Power Service Corp.	g	Joanne Goza, Phil Cox
6	American Municipal Power, Inc.	m	Chris Norton
7	American Public Power Association	d	Delia Patterson
8	Arizona Electric Power Cooperative, Inc.	t	Shane Sanders, Barry Brown
9	Arizona Public Service Company	t	Twyana Blair
10	Associated Electric Cooperative, Inc.	t	Jeff Johns
11	AVANGRID	t	Jim Clemente, Carol A. Purinton
12	Avangrid Renewables, LLC	g	Erin Kester, Jan Korver
13	Avista Corporation	t	Jeff Schlect, Kenneth Dillon
14	Basin Electric Power Cooperative	t	Dave Rudolph
15	Basin Electric Power Cooperative	m	Ken Rutter
16	Basin Electric Power Cooperative	g	Jason Doerr
17	BC Hydro	t	Brenda Ambrosi
18	Black Hills Corporation	g	Kenna Hagan
19	Bonneville Power Administration	d	Eric H. Carter, Michael Steigerwald, Rebecca Berdahl, Rod Kelley
20	Bonneville Power Administration	g	Francis Halpin, Ann Shintani
21	Bonneville Power Administration	m	Andrew P. Meyers, Ann Shintani
22	Bonneville Power Administration	t	Michael D. Bausch
23	California Energy Commission	e	Melissa Jones
24	California ISO	i	Brian Jacobsen
25	California Public Utilities Commission	e	Marzia Zafar
26	Central Electric Power Cooperative	d	Kale Ford
27	Deseret Generation & Transmission Co-operative	g	Clay MacArthur
28	Dominion Resources Services, Inc.	g	Lou Oberski
29	Duke Energy Corporation	d	Alan Pritchard
30	Duke Energy Corporation	t	Jack Armstrong, Michael Anthony, Lee Schuster
31	Dynegy Marketing and Trade, LLC	g	Contracts – Legal Department
32	Edison Electric Institute	n	Philip D. Moeller, Jennifer Murray



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33	El Paso Electric	t	Mike Sahs
34	Electric Reliability Council of Texas, Inc. (ERCOT)	i	Carrie Bivens, Paul Wattles, Joel Mickey
35	Emera Maine	t	Alan Richardson
36	Empire District Electric Company, The	t	Peter Eichler, Bill Killeen, Deborah Gilbertson
37	Enbridge (U.S.) Inc.	t	Travis Allen
38	Entergy Services, Inc.	t	Yarrow Etheredge, Narinder Saini
39	Eversource Energy	t	David Burnham, Andrew Y. Tan
40	Exelon Generation Company, LLC	m	William Berg
41	FIS	ts	Robin Pollara
42	Florida Municipal Power Agency	g	Carol Chinn, Chris Gowder
43	Florida Municipal Power Agency	d	Carol Chinn, Chris Gowder
44	Florida Power & Light Company	m	Timothy W. Gerrish, Tom Hartman
45	Florida Power & Light Company	t	Bernardo Benigni, Miguel Yanes
46	Georgia Transmission Corporation	t	Patrick McGovern
47	GMO GlobalSign, Inc.	e	Lila Kee
48	Hydro – Quebec Transenergie	t	Michel Prevost
49	Idaho Power Company	t	Kathy Anderson
50	Idaho Public Utilities Commission	e	Gene Fadness
51	Independent Electricity System Operator (IESO)	i	Nicholas Ingman, Scott Berry
52	Indiana Municipal Power Agency	g	Scott Berry
53	Indianapolis Power and Light Company	t	Michael L. Holtsclaw
54	ISO New England, Inc.	i	Matthew F. Goldberg, Douglas Smith
55	JEA	t	John Babik
56	Kansas City Power & Light Company	t	Denise Buffington
57	Kansas City Power & Light Company	g	Jennifer Flandermeyer
58	LG&E and KU Services Company	t	Ashley Moore, Daryn Barker
59	Links Technology Solutions, Inc.	ts	Robert VanValkenburg
60	Los Angeles Department of Water and Power	t	Kenneth Silver, Sueyen McMahon
61	Los Angeles Department of Water and Power	m	Anton Vu, Joel F. Cordero
62	Maine Public Utilities Commission	e	Denis Bergeron
63	Manitoba Hydro	t	Robin Rebillard
64	MCG Energy Solutions	ts	Jerome Khan
65	Michigan Public Power Agency	d	Erinn Evans
66	MidAmerican Energy Company	m	Dennis Kimm
67	Minnesota Public Utilities Commission	e	Robert Harding
68	MISO	i	Ed Skiba, Ellen Oswald



North American Energy Standards Board

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2017 UPDATE – SEPTEMBER 30, 2017 NAESB MEMBERSHIP, MEETING STATISTICS, FINANCIAL REPORTS

	Organization	Seg ¹	Contact
69	Missouri River Energy Services	d	Thomas J. Heller
70	Morgan, Lewis & Bockius LLP	t	Stephen M. Spina
71	Municipal Energy Agency of Nebraska	m	Robin Spady
72	Nalcor Energy	m	Erin McCormack
73	National Association of Regulatory Utility Commissioners	e	Sam Watson
74	National Grid	t	Kevin Reardon
75	National Institute of Standards and Technology	ts	David A. Wollman
76	National Rural Electric Cooperative Association	d	Paul McCurley
77	Nebraska Public Power District	t	Don Schmit
78	New Jersey Board of Public Utilities	g	Cynthia Covie, Lauren Mattox
79	New York Independent System Operator, Inc. (NYISO)	i	Wesley Yeomans, Vijaya Ganugula
80	New York State Reliability Council	d	P. Donald Raymond
81	North American Electric Reliability Corporation	d	Mark Lauby
82	North Carolina Electric Membership Corporation	d	Luis Fondacci, John Lemire, Richard McCall, James R. Manning
83	Northwestern Corporation	t	Mike Cashell
84	NRG Energy, Inc.	g	Derek Mauzy, Alan Johnson, Elizabeth Killinger
85	NV Energy	m	Sheryl Torrey
86	NV Energy, Inc.	t	Marilyn Franz
87	Open Access Technology International, Inc.	e	Jerry Dempsey
88	Open Access Technology International, Inc.	t	Paul R. Sorenson
89	Organization for the Advancement of Structured Information Standards (OASIS)	ts	Laurent M. Liscia
90	PacifiCorp	m	Joseph Hoerner
91	PacifiCorp	t	Todd Dinehart
92	PJM Interconnection, LLC	i	Rich Brown
93	Portland General Electric	t	Frank Afranji, John Walker, Johnny Useldinger
94	Power Costs, Inc. (PCI)	ts	Javier Martin
95	Powerex Corp.	m	Michael L McWilliams, Erika Rosin, Connor Curson
96	PowerSouth Energy Cooperative	d	William Ronald Graham
97	Public Service Company of New Mexico	m	Steven Maestas, Darren Wilkins, Roger Vaughn
98	Public Utilities Commission of Ohio	e	Amanda Stallings
99	Puget Sound Energy, Inc.	t	George Marshall, Bob Harshbarger, Chelsey Neil
100	RBN Energy LLC	ts	Richard G. Smead
101	Sacramento Municipal Utility District	d	Steve Sorey
102	San Diego Gas & Electric Company	t	Martine Blair
103	Santee Cooper	t	Tom Abrams



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	Organization	Seg ¹	Contact
104	SaskPower Corporation	t	Darwin Bender
105	Seattle City Light	m	Robin Cross
106	Seattle City Light	e	Robin Cross, Cory Anderson
107	Seminole Electric Cooperative, Inc.	m	Michael Ward
108	Snohomish County PUD No. 1	d	Kim Haugen
109	SoftSmiths, Inc.	ts	Lawrence S. Stone
110	South Carolina Electric & Gas Company	t	Matt Hammond, James T. Starling, Jr. , Sonya Green-Sumpter, Matt Bullard, Kevin Spitzform
111	Southern Company Services, Inc.	g	Marie Craig Knight, JT Wood
112	Southern Company Services, Inc.	m	Steve Lowe, JT Wood
113	Southern Company Services, Inc.	t	Terry Mozena, JT Wood
114	Southwest Power Pool	i	Carl Monroe, Michael Desselle, Charles Yeung
115	Tacoma Power	d	Rick Applegate
116	Tampa Electric Company	d	David Crabtree
117	Tenaska, Inc.	g	Brad Cox
118	Tennessee Valley Authority	g	Kathy York
119	Tennessee Valley Authority	m	Andrea Sanders Brackett, Valerie Crockett
120	Tennessee Valley Authority	t	Armando Rodriguez
121	TransAlta Energy Marketing (U.S.) Inc.	m	Steve Lincoln
122	Tri-State Generation and Transmission Association, Inc.	t	Doug Reese
123	Tri-State G&T Association, Inc.	g	Janelle Marriott
124	Tucson Electric Power Company	t	Raquel Aguilar, Ed Beck, Amy Welander
125	Vermont Public Power Supply Authority	g	William J. Gallagher
126	Vermont Public Service Board	e	Mary Jo Krolewski
127	Wabash Valley Power Association	g	Susan Sosbe
128	We Energies (Wisconsin Electric)	d	Linda Horn
129	We Energies (Wisconsin Electric)	g	Christopher Plante
130	Westar Energy, Inc.	g	Grant Wilkerson
131	Western Area Power Administration	t	Raymond Vojdani, Steve Sanders
132	Western Area Power Administration	m	Rebecca Johnson
133	Western Electricity Coordinating Council	t	Vijay A. Satyal
134	WPPI Energy	d	Todd Komplin
135	Xcel Energy Inc.	m	Randall L. Oye

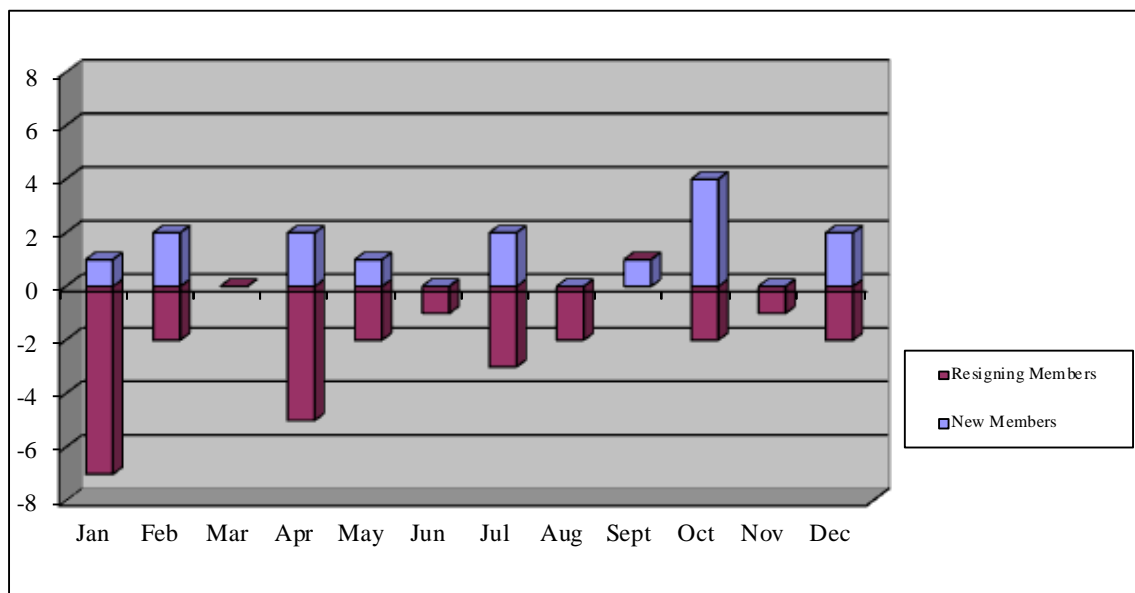


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NAESB 2016 Membership Volatility



2016	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
New Members	1	2	0	2	1	0	2	0	1	4	0	2	15
Resigning Members	-7	-2	0	-5	-2	-1	-3	-2	0	-2	-1	-2	-27
Swing	8	4	0	7	3	1	5	2	1	6	7	4	42
Cummulative Swing	8	12	0	19	22	23	28	30	31	37	38	42	
Membership	305	305	305	302	301	300	299	297	298	300	299	299	

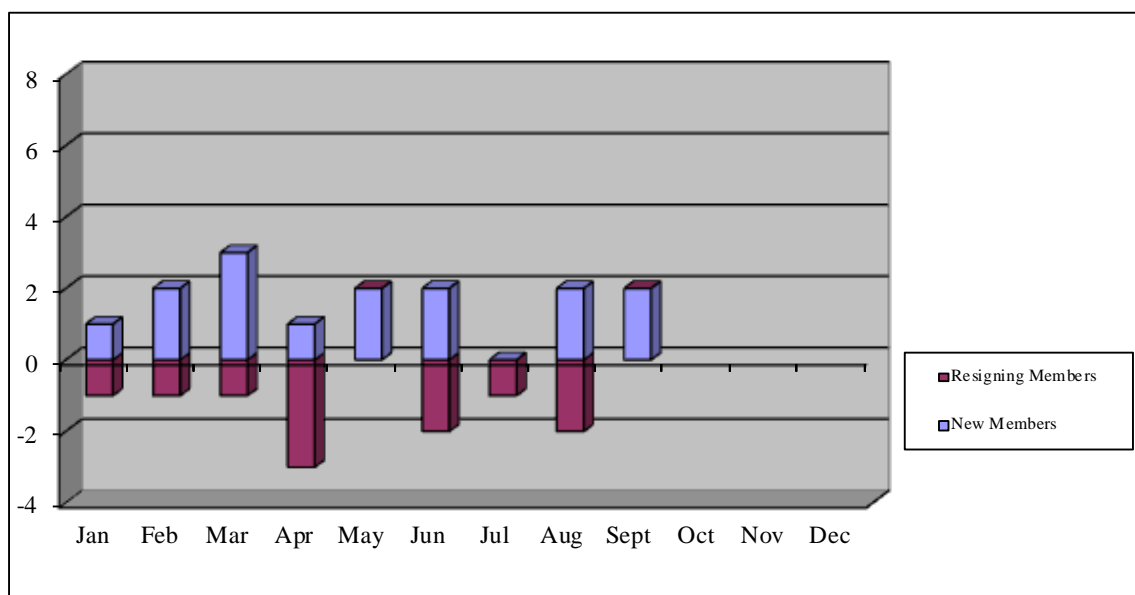


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2017 UPDATE – SEPTEMBER 30, 2017
NAESB MEMBERSHIP, MEETING STATISTICS, FINANCIAL REPORTS

NAESB 2017 Membership Volatility



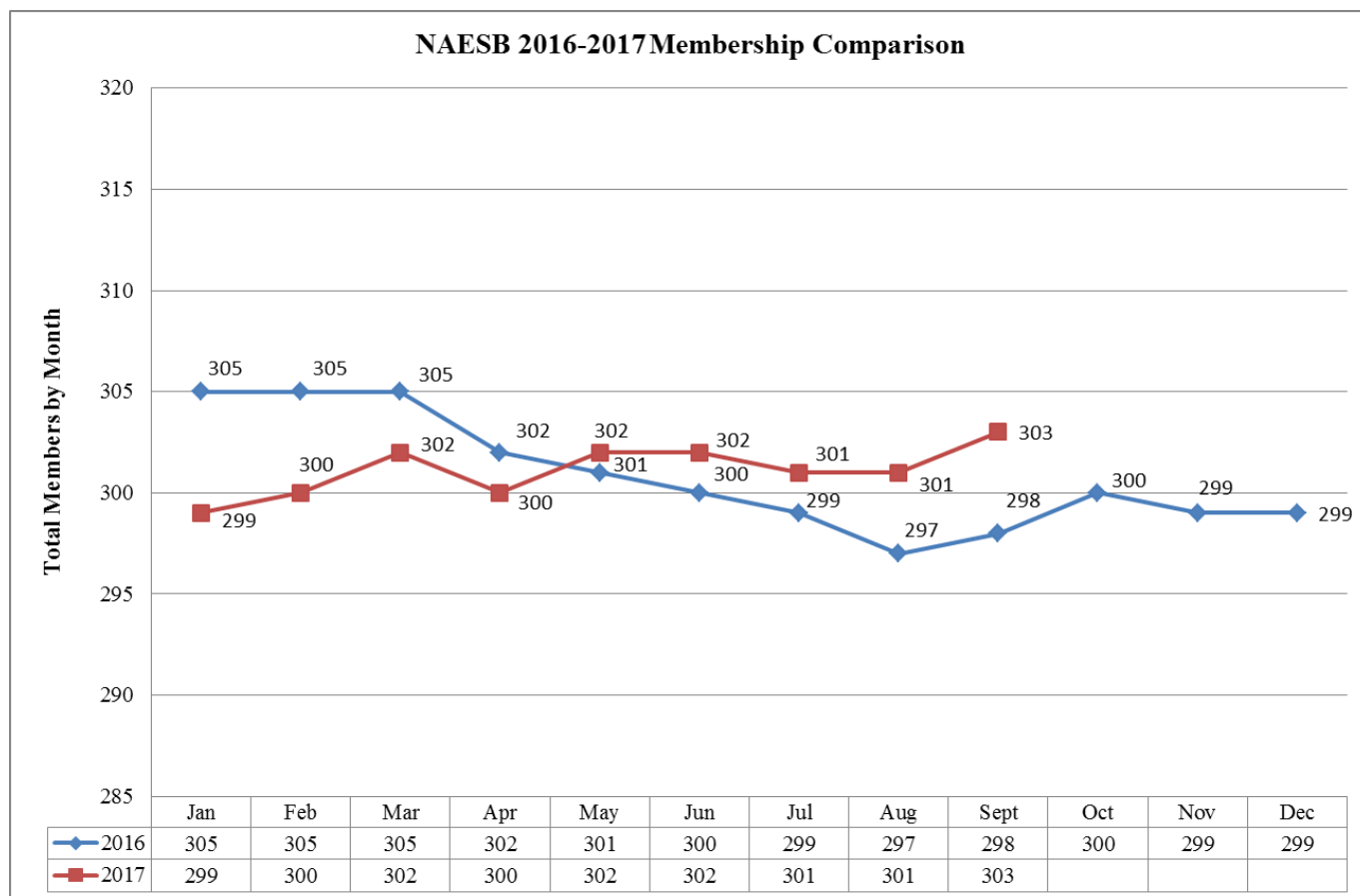
2017	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
New Members	1	2	3	1	2	2	0	2	2				15
Resigning Members	-1	-1	-1	-3	0	-2	-1	-2	0				-11
Swing	2	3	4	4	2	4	1	4	2				26
Cummulative Swing	2	5	9	13	15	19	20	24	26				
Membership	299	300	302	300	302	302	301	301	303				



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NAESB 2012-2015 Total Members by Month												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2012	291	291	292	293	294	296	295	291	288	286	287	289
2013	288	287	288	289	288	288	296	300	303	301	303	303
2014	301	302	300	308	311	309	309	308	309	312	313	312
2015	311	312	313	313	314	310	314	314	312	310	312	311



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MEETING STATISTICS

2017 NAESB Meeting Analysis

Month	Event	Total		WEQ		WGQ		Retail		Joint		Board	
		#	Hours	#	Hours	#	Hours	#	Hours	#	Hours	#	Hours
January	Meetings/Hours	7	36	3	14	4	22	0	0	0	0	0	0
	Conf. Calls/Hours	9	26.5	5	17	1	3	1	0.5	2	6	0	0
	Monthly Total	16	62.5	8	31	5	25	1	0.5	2	6	0	0
February	Meetings/Hours	16	70	5	24.5	5	27	4	15.5	2	3	0	0
	Conf. Calls/Hours	8	18.5	3	11	1	2	0	0	0	0	4	5.5
	Monthly Total	24	88.5	8	35.5	6	29	4	15.5	2	3	4	5.5
March	Meetings/Hours	5	27	3	15	2	12	0	0	0	0	0	0
	Conf. Calls/Hours	13	39	6	25	4	7	2	6	1	1	0	0
	Monthly Total	18	66	9	40	6	19	2	6	1	1	0	0
April	Meetings/Hours	6	17	2	5	2	6	1	2	0	0	1	4
	Conf. Calls/Hours	14	44	5	20	4	12.5	2	6.5	0	0	3	5
	Monthly Total	20	61	7	25	6	18.5	3	8.5	0	0	4	9
May	Meetings/Hours	5	22.5	5	22.5	0	0	0	0	0	0	0	0
	Conf. Calls/Hours	7	22	3	11	1	7	0	0	1	1	2	3
	Monthly Total	12	44.5	8	33.5	1	7	0	0	1	1	2	3
June	Meetings/Hours	5	20	3	15	1	4	0	0	1	1	0	0
	Conf. Calls/Hours	9	21	6	16	2	4	0	0	0	0	1	1
	Monthly Total	14	41	9	31	3	8	0	0	1	1	1	1
July	Meetings/Hours	4	20	3	16	1	4	0	0	0	0	0	0
	Conf. Calls/Hours	13	36	6	14	5	18	0	0	1	2	1	2
	Monthly Total	17	56	9	30	6	22	0	0	1	2	1	2
August	Meetings/Hours	4	18	3	14	1	4	0	0	0	0	0	0
	Conf. Calls/Hours	8	15.5	3	7	2	4	0	0	2	3	1	1.5
	Monthly Total	12	33.5	6	21	3	8	0	0	2	3	1	1.5
September	Meetings/Hours	9	28	5	19	1	2	1	2	1	1	1	4
	Conf. Calls/Hours	4	14	4	14	0	0	0	0	0	0	0	0
	Monthly Total	13	42	9	33	1	2	1	2	1	1	1	4



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2017 NAESB Meeting Analysis

Month	Event	Total		WEQ		WGQ		Retail		Joint		Board	
		#	Hours	#	Hours	#	Hours	#	Hours	#	Hours	#	Hours
October	Meetings/Hours	0	0										
	Conf. Calls/Hours	0	0										
	Monthly Total	0	0	0	0	0	0	0	0	0	0	0	0
November	Meetings/Hours	0	0										
	Conf. Call/Hours	0	0										
	Monthly Total	0	0	0	0	0	0	0	0	0	0	0	0
December	Meetings/Hours	0	0										
	Conf. Call/Hours	0	0										
	Monthly Total	0	0	0	0	0	0	0	0	0	0	0	0
Total YTD 2017	Meetings/Hours	61	258.5	32	145	17	81	6	19.5	4	5	2	8
	Conf. Calls/Hours	85	236.5	41	135	20	57.5	5	13	7	13	12	18
	Events/Hours	146	495	73	280	37	138.5	11	32.5	11	18	14	26
Total YTD 2016	Meetings/Hours	73	315	32	157	11	53	13	43.5	7	9	10	52.5
	Conf. Calls/Hours	96	265	34	116	16	46.5	11	30	21	47	14	25.5
	Events/Hours	169	580	66	273	27	99.5	24	73.5	28	56	24	78
Total YE 2016	Meetings/Hours	100	416	39	190	21	96.5	19	61	10	12	11	56.5
	Conf. Calls/Hours	107	292.5	38	128	19	56	12	32	22	48	16	28.5
	Events/Hours	207	708.5	77	318	40	152.5	31	93	32	60	27	85
Total YE 2015	Meetings/Hours	100	424.5	55	284	12	51.5	24	70	6	7	3	12
	Conf. Calls/Hours	128	413	56	241.5	15	50	30	76	10	14.5	17	31
	Events/Hours	228	837.5	111	525.5	27	101.5	54	146	16	21.5	20	43
Total YE 2014	Meetings/Hours	152	714	81	427	29	135	22	68	11	33	9	51
	Conf. Calls/Hours	122	306	44	149	20	44	16	46.5	17	24	25	42.5
	Events/Hours	274	1020	125	576	49	179	38	114.5	28	57	34	93.5



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2017 NAESB Meeting Analysis

Month	Event	Total		WEQ		WGQ		Retail		Joint		Board	
		#	Hours	#	Hours	#	Hours	#	Hours	#	Hours	#	Hours
Total YE 2013	Meetings/Hours	157	752.5	79	409	48	238.5	23	81	1	2	6	22
	Conf. Calls/Hours	96	204.5	42	93	18	35	16	40	11	15	9	21.5
	Events/Hours	253	957	121	502	66	273.5	39	121	12	17	15	43.5
Total YE 2012	Meetings/Hours	179	871.5	88	476	59	283	19	66.5	3	9	10	37
	Conf. Calls/Hours	156	337.5	68	195	28	54.5	17	37.5	17	30	26	60.5
	Events/Hours	335	1249	156	671	87	337.5	36	104	20	39	36	97.5
Total YE 2011	Meetings/Hours	164	733.5	77	389	54	242.5	17	52	4	17	12	33
	Conf. Calls/Hours	150	463	49	236	16	30	50	133	24	42	11	22
	Events/Hours	314	1196.5	126	625	70	272.5	67	185	28	59	23	55
Total YE 2010	Meetings/Hours	146	664.5	71	341.5	43	207	14	47.5	10	48.5	8	20
	Conf. Calls/Hours	181	502.5	45	195	23	40.5	18	66.5	91	188.5	4	12
	Events/Hours	327	1167	116	536.5	66	247.5	32	114	101	237	12	32
Total YE 2009	Meetings/Hours	142	707.5	71	380	44	228.5	8	27.5	11	51.5	8	20
	Conf. Calls/Hours	137	354.5	51	180	20	41.5	22	48	42	81	2	4
	Events/Hours	279	1062	122	560	64	270	30	75.5	53	132.5	10	24



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PRODUCT ACCESS

- Monthly: The [copyright policy and list of companies](#) with authorized access to our standards is prepared monthly and posted on the NAESB web site. It includes all companies who have legal access to the NAESB standards.
- Quarterly: The list of FERC Public Utilities under the Federal Power Act (full list updated 07/28/2017) entities without recorded access to the most recently mandated NAESB WEQ Standards is [revised quarterly](#) and posted on the NAESB web site.

The list of FERC Interstate Pipelines under the Natural Gas Act (updated 07/28/2017) entities without recorded access to the most recently mandated NAESB WGQ Standards is [revised quarterly](#) and posted on the NAESB web site.

- October 1, 2017: The copyright report as of October 1, 2017 is posted on the [web site](#). Statistics for purchases of standards are maintained monthly and can be seen below as of September 30, 2017.

2017 Purchases of NAESB Products

Product/Month	J	F	M	A	M	J	J	A	S	O	N	D	Total
WGQ Contracts (2002 or 2006) <i>(Non-members \$250)</i>	4	0	1	1	1	5	3	3	2	0	0	0	20
WGQ Agreements/Addendums <i>(Non-members \$50)</i>	2	0	1	0	2	0	0	0	1	0	0	0	6
WGQ Individual Standards Manuals <i>(Non-members \$250)</i>	1	0	0	0	1	0	0	0	0	0	0	0	2
WGQ USB of Standards, Version 3.1 <i>(Non-Members \$2000)</i>	1	0	1	3	2	4	2	0	0	0	0	0	13
WGQ USB of Standards, <i>(Older Versions)</i> <i>(Non-Members \$2000)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
WEQ Agreements/Addendums <i>(Non-members \$50)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
WEQ Individual Standards Manuals <i>(Non-members \$250)</i>	1	0	1	0	2	0	0	0	0	0	0	0	4
WEQ USB of Standards, Version 003.1 <i>(Non-Members \$2000)</i>	1	1	0	4	5	3	1	0	0	0	0	0	15
WEQ USB of Standards, <i>(Older Versions)</i> <i>(Non-Members \$2000)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail Contracts <i>(Non-members \$250)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail Individual Standards Manuals <i>(Non-members \$250)</i>	3	1	2	0	0	0	1	4	2	0	0	0	13
Retail USB of Standards, Version 3.2 <i>(Non-Members \$2000)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail USB of Standards, <i>(Older Versions)</i> <i>(Non-Members \$2000)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Actions (\$250)	0	0	0	0	0	0	0	0	0	0	0	0	0



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2017 Purchases of NAESB Products

Product/Month	J	F	M	A	M	J	J	A	S	O	N	D	Total
Total	13	2	6	8	13	12	7	7	5	0	0	0	73
2016 Total	39	6	17	12	7	11	13	5	5	12	7	4	138
2015 Total	11	5	5	6	2	15	17	13	9	19	44	9	155
2014 Total	12	5	28	8	4	8	9	5	7	15	19	3	123
2013 Total	21	8	15	20	20	1	19	4	6	3	5	22	144

Non-Member Limited Waivers

Product	J	F	M	A	M	J	J	A	S	O	N	D	Total
Non-member Access to NAESB Subcommittee/Task Force Files	0	0	0	3*	0	0	10*	1*	1*	0	0	0	15
NAESB Final Actions	0	0	0	0	1	0	0	0	0	0	0	0	1
WGQ Contracts/Agreements	1	0	0	0	0	0	0	0	0	0	0	0	1
WGQ Standards Manuals (Version 3.0 and older)	0	0	0	0	0	0	0	0	0	0	0	0	0
WGQ Standards Manuals (Version 3.1)	0	0	0	0	1	0	0	1	0	0	0	0	2
WEQ Standards Manuals (Version 003.0 and older)	0	1	0	0	0	0	0	0	0	0	0	0	1
WEQ Standards Manuals (Version 003.1)	0	0	1	1	0	0	3	0	0	0	0	0	5
Retail Contracts/Agreements	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail Model Business Practices (Version 3.1 and older)	0	0	1	0	2	0	1	0	0	0	0	0	4
Retail Model Business Practices (Version 3.2)	0	0	0	0	0	0	2	0	2	0	0	0	4
Total	1	1	2	4	4	0	16	2	3	0	0	0	33
2016 Total	8	3	1	1	0	1	3	3	3	3	1	1	28



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Non-Member Limited Waivers

Product	J	F	M	A	M	J	J	A	S	O	N	D	Total
2015 Total	3	3	1	1	1	1	2	0	0	4	0	1	17
2014 Total	28	0	2	0	0	4	16	2	1	0	0	2	55
2013 Total	4	2	2	4	1	2	5	13	38	200	40	35	346

* WGQ Contracts Subcommittee (Mexican Addendum) Work Papers



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Financial Report Year-To-Date 2017 –As of September 2017

BALANCE SHEET – ACCRUAL BASED

			Current	Previous Year
Assets	Current Assets	Cash	\$840,927	\$768,613
		Accounts Receivable	\$301,000	\$231,500
		Other Current Assets	\$12,921	\$14,506
	Fixed Assets		\$24,248	\$31,088
	Other Assets		\$21,626	\$21,626
	Total Assets		<u>\$1,200,722</u>	<u>\$1,067,333</u>
Liability & Equity		Deferred Revenue & Rents	\$806,552	\$796,341
		Accounts Payable	\$66,935	\$50,981
		Retained Earnings	(\$202,466)	(\$277,343)
		Net Income	\$529,700	\$497,353
		Total Liability and Equity		<u>\$1,200,722</u>

INCOME AND EXPENSE – ACCRUAL BASED

		Current	Previous Year
Income		\$2,033,780	\$2,098,536
Expense		\$1,504,080	\$1,601,183
Net Income		<u>\$529,700</u>	<u>\$497,353</u>



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Financial Report Year-To-Date 2017 –As of September 2017

INCOME AND EXPENSE DETAIL -- ACCRUAL BASED

	Current YTD (YTD Sep 2017)	Prev YTD (YTD Sep 2016)	2017 YTD Budget	2017 YE Budget	2017 Adjustments	2017 YE Est	2016 YE
Income							
Meeting Fees	\$2,100	\$67,300	\$9,000	\$10,000	(\$6,000)	\$4,000	\$74,200
Certification	\$4,000	\$4,000	\$4,000	\$5,000	(\$1,000)	\$4,000	\$5,000
Interest & Misc.	\$66	\$19	\$19	\$25	\$47	\$72	\$25
Dues	\$1,911,667	\$1,902,833	\$1,902,833	\$1,904,583	\$14,417	\$1,919,000	\$1,920,333
Dues Forfeited	(\$35,000)	(\$40,042)	(\$40,042)	(\$56,375)	\$6,458	(\$49,917)	(\$49,958)
Standards Sales	\$145,197	\$147,866	\$147,866	\$253,319	(\$73,917)	\$179,402	\$203,141
Workshops	\$5,750	\$16,560	\$22,000	\$25,000	(\$19,350)	\$5,650	\$15,389
Total Income	\$2,033,780	\$2,098,536	\$2,045,676	\$2,141,552	(\$79,345)	\$2,062,207	\$2,168,130
Expenses							
Salaries, Benefits and Taxes	\$929,299	\$883,939	945,000.00	\$1,215,000	(\$4,946)	\$1,210,054	\$1,144,695
Office Rents and Parking	\$139,410	\$132,452	162,000.00	\$216,000	(\$11,884)	\$204,116	\$177,158
Office Expenses	\$47,635	\$54,595	63,000.00	\$84,083	(\$17,136)	\$66,947	\$73,907
Telecommunications	\$34,589	\$43,346	45,000.00	\$60,000	(\$5,447)	\$54,553	\$58,311
Travel and Meetings	\$214,539	\$316,269	216,000.00	\$315,000	\$1,288	\$316,288	\$423,018
Publications/Mailings/Printing	\$30,099	\$45,986	44,300.00	\$60,000	(\$18,725)	\$41,275	\$57,163
Outside Services	\$98,696	\$115,107	117,600.00	\$150,000	(\$24,537)	\$125,463	\$141,874
Insurance, Taxes and Fees	\$9,814	\$9,487	\$11,250	\$15,000	\$2,287	\$17,287	\$14,960
Total Expenses	\$1,504,080	\$1,601,183	\$1,604,150	\$2,115,083	(\$79,100)	\$2,035,983	\$2,091,086
Net Income	\$529,700	\$497,353	\$441,526	\$26,469	(\$245)	\$26,224	\$77,044



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2017 UPDATE – SEPTEMBER 30, 2017 NAESB MEMBERSHIP, MEETING STATISTICS, FINANCIAL REPORTS

Financial Report Year-To-Date 2017 –As of September 2017

ACCOUNTS RECEIVABLES ANALYSIS

Accounts 30 days or less	\$147,000
Accounts 31-60 days	\$84,000
Accounts 61-90 days	\$63,000
Accounts greater than 90 days	\$7,000
Total YTD 2017	\$301,000

RETAINED EARNINGS ANALYSIS

Retained Earnings as of YE 2012	(\$481,445)
Retained Earnings as of YE 2013	(\$578,149)
Retained Earnings as of YE 2014	(\$441,770)
Retained Earnings as of YE 2015 (**)	(\$277,343)
Retained Earnings as of YE 2016 (***)	(\$202,466)
Projected Net Income for 2017	\$26,224
Projected Retained Earnings for YE 2017	(\$176,242)

** An adjustment was made in July 2016 per the auditors to the YE 2015 retained earnings. The 12/31/15 AJE recording the 2016 Forfeitures in 2015 has been recorded as follows:

DR 2015 Membership Revenue \$9,333.34 (RE loss increased by this amount)
DR Deferred Revenue \$60,666.66
CR A/R \$70,000.00

As such the entry for the Retained Earnings for 2015 was adjusted to (\$277,343) from (\$268,010), which was the amount reported in the updates to the Managing Committee, Revenue Committee and to the NAESB Board of Directors for reports provided in January to June of 2016, and in the yearend accounting of 2015.

*** An adjustment was made in July 2017 per the auditors to the YE 2016 retained earnings. The journal entries to 2016 include

DR A/R Other \$15,000	CR WEQ Forfeiture \$7,000.00
DR WEQ Membership \$6,416.66	CR WGQ Forfeiture \$7,000.00
DR WGQ Membership \$6,416.67	CR Def Rev - WEQ \$6,416.66
	CR Def Rev - WGQ \$6,416.67
	CR Certification \$1,000.00

to reflect the adjustments for the following Forfeiture's and Write off:

- Arizona Public Service Co (WGQ) - Forfeiture of Inv#8132 dated 10/25/16 (CM had been issued 3/21/17)
- Clarity Systems LLC (WEQ) - Forfeiture of Inv#8209 dated 12/12/16 (CM had been issued 4/4/17)
- Clarity Systems LLC (Certification) - Write off of Inv#8210 (CM had been issued 4/4/17)

and the impact to previously reported 2016 YE net income, which was lowered by \$2,166.67 (Membership fees \$1,166.67 + Certification \$1,000.00)



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2017 UPDATE – SEPTEMBER 30, 2017 NAESB MEMBERSHIP, MEETING STATISTICS, FINANCIAL REPORTS

Financial Report Year-To-Date 2017 –As of September 2017

CASH BASIS ANALYSIS

	Current YTD	Previous YTD
Beginning Balance January 1	\$874,928	\$842,888
Total Cash Income	\$1,497,113	\$1,629,356
Total Costs	\$1,531,115	\$1,703,631
Ending Balance September 30	\$840,926	\$768,613

INCOME AND EXPENSE DETAIL -- CASH BASIS

Income	Meeting Fees	\$2,100	\$67,300
	Certification	\$4,000	\$4,000
	Interest	\$66	\$18
	Dues	\$1,340,000	\$1,392,000
	Standards Sales	\$148,889	\$145,311
	Workshops	\$2,059	\$20,727
	Total Income	\$1,497,113	\$1,629,356
Expenses	Salaries, Benefits and Taxes	\$932,951	\$929,519
	Office Rents and Parking	\$150,040	\$140,824
	Office Expenses	\$44,063	\$60,766
	Telecommunications	\$36,338	\$43,385
	Travel and Meetings	\$232,937	\$351,473
	Publications/Mailings/Printing	\$32,214	\$45,638
	Outside Services	\$98,644	\$114,909
	Insurance, Taxes and Fees	\$25	\$4,804
Total Expenses	\$1,527,212	\$1,691,317	
Capital Expenditures	\$3,903	\$12,314	
Net Cash Increase (Decrease)	(\$34,001)	(\$74,275)	



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2017 UPDATE – SEPTEMBER 30, 2017 NAESB MEMBERSHIP, MEETING STATISTICS, FINANCIAL REPORTS

Financial Report Year-To-Date 2017 –As of September 2017

Proposed Budget for 2018 -- Work Sheet

	YE 2015	YE 2016	YE 2016 Budget	YE 2017 Budget	YE Est 2017	Proposed 2018 Budget
Income						
Meeting Fees	\$9,000	\$74,200	\$10,000	\$10,000	\$4,000	\$4,000
Certification	\$2,000	\$5,000	\$5,000	\$5,000	\$4,000	\$4,000
Interest & Misc.	\$44	\$25	\$70	\$25	\$72	\$120
Dues	\$2,024,125	\$1,920,333	\$2,078,000	\$1,904,583	\$1,919,000	\$1,930,000
Dues Forfeited	(\$89,250)	(\$49,958)	(\$100,000)	(\$56,375)	(\$49,917)	(\$45,000)
Standards Sales	\$144,537	\$203,141	\$120,000	\$253,319	\$179,402	\$220,000
Workshops	\$23,879	\$15,389	\$25,000	\$25,000	\$5,650	\$10,000
Total Income	\$2,114,335	\$2,168,130	\$2,138,070	\$2,141,552	\$2,062,207	\$2,123,120
Expenses						
Salaries, Benefits and Taxes	\$1,082,321	\$1,144,695	\$1,160,000	\$1,215,000	\$1,210,054	\$1,265,000
Office Rents and Parking	\$177,524	\$177,158	\$200,050	\$216,000	\$204,116	\$210,000
Office Expenses	\$101,775	\$73,907	\$85,000	\$84,083	\$66,947	\$70,000
Telecommunications	\$58,286	\$58,311	\$60,000	\$60,000	\$54,553	\$60,000
Travel and Meetings	\$313,469	\$423,018	\$360,000	\$315,000	\$316,288	\$315,000
Publications/Mailings/Printing	\$63,649	\$57,163	\$60,000	\$60,000	\$41,275	\$50,000
Outside Services	\$138,119	\$141,874	\$150,000	\$150,000	\$125,463	\$130,000
Insurance, Taxes and Fees	\$14,765	\$14,960	\$13,000	\$15,000	\$17,287	\$17,000
Total Expenses	\$1,949,907	\$2,091,086	\$2,088,050	\$2,115,083	\$2,035,983	\$2,117,000
Net Income	\$164,428	\$77,044	\$50,020	\$26,469	\$26,224	\$6,120



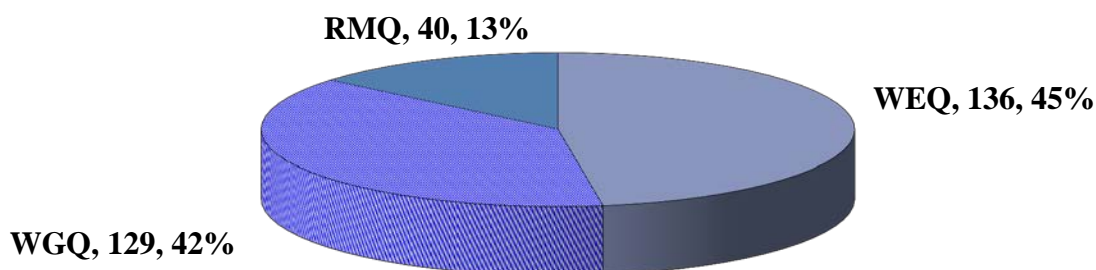
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2017 UPDATE – OCTOBER 31, 2017
MEMBERSHIP AND MEETING STATISTICS

MEMBERSHIP

Membership Profile as of October 2017:



Quadrant Statistics	WEQ	WGQ	RMQ	Total
Membership YE 2016	134	122	43	299
Reclassification	0	0	0	0
Net Change	+2	+7	-3	+6
Membership YTD	136	129	40	305

NAESB Membership Report - Quadrant/Segment Membership Analysis		Number of Members
WGQ Segments	TOTAL	129
	End Users	15
	Distributors	23
	Pipelines	42
	Producers	13
	Services	36
RMQ Segments	TOTAL	40
	Retail Electric End Users/Public Agencies	16
	Retail Gas Market Interests Segment	10
	Retail Electric Utilities	7
	Retail Electric Service Providers/Suppliers	7



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2017 UPDATE – OCTOBER 31, 2017 MEMBERSHIP AND MEETING STATISTICS

NAESB Membership Report - Quadrant/Segment Membership Analysis		Number of Members
WEQ Segments	TOTAL	136
	End Users	11
	Distributors	19
	Transmission	44
	Generation	21
	Marketers	22
	None Specified	1
	Independent Grid Operators/Planners	8
	Technology /Services	10

- January 31, 2017:** Membership in January is 299. Membership by quadrant is: 123 (WGQ), 43 (RMQ), 133 (WEQ). Year to date, we have had one new membership (0 – WEQ, 0 – RMQ, 1 – WGQ) and one resignation (0 – WGQ, 0 – RMQ, 1 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In January we had one new member, Ambit Energy Holdings, LLC (WGQ, Services) and one member resignation, The United Illuminating Company (WEQ, Transmission).
- February 28, 2017:** Membership in February is 300. Membership by quadrant is: 123 (WGQ), 44 (RMQ), 133 (WEQ). Year to date, we have had three new memberships (0 – WEQ, 1 – RMQ, 2 – WGQ) and two resignations (1 – WGQ, 0 – RMQ, 1 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In February we had two new members, Freeport LNG Development L.P. (WGQ, Pipeline), Open Energy Solutions, Inc. (RMQ, Retail Electric Service Providers/Suppliers) and one member resignation, Dominion Carolina Gas Transmission, LLC (WGQ, Pipeline).
- March 31, 2017:** Membership in March is 302. Membership by quadrant is: 123 (WGQ), 44 (RMQ), 135 (WEQ). Year to date, we have had six new memberships (2 – WEQ, 1 – RMQ, 3 – WGQ) and three resignations (2 – WGQ, 0 – RMQ, 1 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In March we had three new members, Enbridge (U.S.) Inc. (WEQ/Transmission), MCG Energy Solutions (WEQ, Technology and Services), Sylvia Munson – Consultant (WGQ, Services) and one member resignation, Arizona Public Service Company (WGQ, End Users).
- April 30, 2017:** Membership in April is 300. Membership by quadrant is: 124 (WGQ), 42 (RMQ), 134 (WEQ). Year to date, we have had seven new memberships (2 – WEQ, 1 – RMQ, 4 – WGQ) and six resignations (2 – WGQ, 2 – RMQ, 2 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In April we had one new member, DTE Gas Company (WGQ, LDC) and three member resignations, Peak Reliability (WEQ, IGO), Southern Company Services (RMQ, Retail Electric Service Providers/Suppliers), Baltimore Gas and Electric (RMQ, Retail Electric Utilities).
- May 31, 2017:** Membership in May is 302. Membership by quadrant is: 125 (WGQ), 42 (RMQ), 135 (WEQ). Year to date, we have had nine new memberships (3 – WEQ, 1 – RMQ, 5 – WGQ) and six resignations (2 – WGQ, 2 – RMQ, 2 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In May we had two new members, Enercross LLC (WGQ, Services), SoftSmiths, Inc. (WEQ, Technology and Services) and no member resignations.



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2017 UPDATE – OCTOBER 31, 2017 MEMBERSHIP AND MEETING STATISTICS

- **June 30, 2017:** Membership in June is 302. Membership by quadrant is: 127 (WGQ), 40 (RMQ), 135 (WEQ). Year to date, we have had 11 new memberships (3 – WEQ, 1 – RMQ, 7 – WGQ) and eight resignations (2 – WGQ, 4 – RMQ, 2 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In June we had two new members, Aquilon Energy Services, Inc. (WGQ, Services), Cascade Natural Gas Corporation (WGQ, LDC) and two member resignations, ABB Ventyx (RMQ, Retail Electric Service Providers/Suppliers), Just Energy (RMQ, Retail Electric Service Providers/Suppliers).
- **July 31, 2017:** Membership in July is 301. Membership by quadrant is: 127 (WGQ), 39 (RMQ), 135 (WEQ). Year to date, we have had 11 new memberships (3 – WEQ, 1 – RMQ, 7 – WGQ) and nine resignations (2 – WGQ, 5 – RMQ, 2 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In July we had no new members and one member resignation, Ernst & Young LLC (RMQ, Retail Electric Service Providers/Suppliers).
- **August 31, 2017:** Membership in August is 301. Membership by quadrant is: 127 (WGQ), 40 (RMQ), 134 (WEQ). Year to date, we have had 13 new memberships (3 – WEQ, 2 – RMQ, 8 – WGQ) and 11 resignations (3 – WGQ, 5 – RMQ, 3 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In August we had two new members, Power Authority of the State of New York (WGQ, End Users), Gas Natural Servicios, S.A.de C.V. (RMQ, Retail Gas Market Interests) and two member resignation, California Department of Water Resources (WEQ, Generation) and Centra Gas Manitoba Inc. (WGQ, LDC).
- **September 30, 2017:** Membership in September is 303. Membership by quadrant is: 128 (WGQ), 40 (RMQ), 135 (WEQ). Year to date, we have had 15 new memberships (4 – WEQ, 2 – RMQ, 9 – WGQ) and 11 resignations (3 – WGQ, 5 – RMQ, 3 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In September we had two new members, SaskPower Corporation (WEQ, Transmission), UGI Central Gas Control, LLC (WGQ, Pipeline) and no member resignations.
- **October 31, 2017:** Membership in October is 305. Membership by quadrant is: 129 (WGQ), 40 (RMQ), 136 (WEQ). Year to date, we have had 17 new memberships (5 – WEQ, 2 – RMQ, 10 – WGQ) and 11 resignations (3 – WGQ, 5 – RMQ, 3 – WEQ). We began the year with 299 members (122 (WGQ), 43 (RMQ), 134 (WEQ)). In October we had two new members, Adapt2 Solutions, Inc. (WEQ, Technology and Services), Haynes and Boone, LLP (WGQ, Services) and no member resignations.



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2017 UPDATE – OCTOBER 31, 2017 MEMBERSHIP AND MEETING STATISTICS

NET GAINS AND LOSSES IN 2017:

WEQ	New Members: 1-Enbridge (U.S.) Inc. (Transmission), 2-MCG Energy Solutions (Technology and Services), 3-SoftSmiths, Inc. (Technology and Services), 4-SaskPower Corporation (Transmission), 5-Adapt2 Solutions, Inc. (Technology and Services)	5
	Member Resignations: 1-The United Illuminating Company (Transmission), 2-Peak Reliability (IGO), 3-California Department of Water Resources (Generation)	3
WGQ	New Members: 1-Ambit Energy Holdings, LLC (Services), 2-Freeport LNG Development L.P. (Pipeline), 3-Sylvia Munson – Consultant (Services), 4-DTE Gas Company (LDC), 5-Enercross LLC (Services), 6-Aquilon Energy Services, Inc. (Services), 7-Cascade Natural Gas Corporation (LDC), 8- Power Authority of the State of New York (End Users), 9-UGI Central Gas Control, LLC (Pipeline), 10-Haynes and Boone, LLP (Services)	10
	Member Resignations: 1-Dominion Carolina Gas Transmission, LLC (Pipeline), 2-Arizona Public Service Company (End Users), 3-Centra Gas Manitoba Inc. (LDC)	3
RMQ	New Members: 1-Open Energy Solutions, Inc. (Retail Electric Service Providers/Suppliers), 2-Gas Natural Servicios, S.A. de C.V. (Retail Gas Market Interests)	2
	Member Resignations: 1-Southern Company Services (Retail Electric Service Providers/Suppliers), 2-Baltimore Gas and Electric (Retail Electric Utilities), 3-ABB Ventyx (Retail Electric Service Providers/Suppliers), 4-Just Energy (Retail Electric Service Providers/Suppliers), 5-Ernst & Young LLC (Retail Electric Service Providers/Suppliers)	5
TOTAL	New Members:	17
	Member Resignations:	11



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2017 UPDATE – OCTOBER 31, 2017 MEMBERSHIP AND MEETING STATISTICS

MEMBERSHIP LISTING AS OF OCTOBER 31, 2017

	Organization	Seg ¹	Contact
Retail Markets Quadrant (RMQ) Members:			
1	Ameren Services Company	u	Patrick Eynon
2	American Public Gas Association (APGA)	g	Alonzo Weaver
3	Arizona Corporation Commission	e	Robert G. Gray
4	Big Data Energy Services	s	J. Cade Burks, Jennifer Teel
5	California Energy Commission	e	Melissa Jones
6	California Public Utilities Commission	e	Marzia Zafar
7	CenterPoint Energy Houston Electric, LLC	u	John Hudson
8	City of Houston	e	James P. Cargas
9	Comverge, Inc.	s	Wendell Miyaji
10	Dominion Energy	u	Brandon Stites
11	Duke Energy Corporation	u	Dan Jones, Stuart Laval
12	Electric Reliability Council of Texas, Inc. (ERCOT)	e	Susan Anthony
13	Gas Natural Servicios, S.A. de C.V.	g	Alberto Alberto Alfaro
14	Green Button Alliance	s	Barry Haaser
15	Intelometry, Inc.	s	Raymond W. Anderson
16	ISO New England, Inc.	e	Doug Smith
17	Latitude Technologies LLC	g	Leigh Spangler
18	Maryland Public Service Commission	e	Dan Hurley
19	Minnesota Public Utilities Commission	e	Robert Harding
20	National Association of Regulatory Utility Commissioners	e	Sam Watson
21	New Jersey Board of Public Utilities	e	Cynthia Covie, Lauren Mattox
22	Oncor Electric Delivery Company LLC	u	Debbie McKeever, Chris Rowley, Debra Anderson, Mark Carpenter
23	Open Access Technology International, Inc.	s	Michelle Coon
24	Open Energy Solutions, Inc.	s	Larry Lackey
25	Pennsylvania Office Of Consumer Advocate	e	Tanya J. McCloskey
26	Pennsylvania Office of Consumer Advocate	g	Tanya J. McCloskey
27	Pennsylvania Public Utility Commission	e	Lee Yalcin, Jeff McCracken

¹ The segment abbreviations are: **RMQ**: u – retail electric utilities, g – retail gas market interests, e – retail electric end users/public agencies, s – retail electric service providers/suppliers. **WEQ**: m – marketer/broker, d – distribution, i – independent grid operators/planners, t – transmission owner, e – end user, g – generator, ts – technology/services. **WGO**: s – services, pl – pipeline, l – LDC, pr – producer, e – end user.



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2017 UPDATE – OCTOBER 31, 2017 MEMBERSHIP AND MEETING STATISTICS

	Organization	Seg ¹	Contact
28	Philadelphia Gas Works	g	Eloise N Young
29	Public Utilities Commission of Ohio	e	Amanda Stallings
30	Public Utility Commission of Texas	e	Therese Harris
31	Southern Company Services, Inc.	u	Lincoln E. Wood
32	SouthStar Energy Services, LLC	g	Michael Braswell, Joseph C. Monroe
33	Sprague Operating Resources LLC	g	Paul Scoff
34	Systrends USA	g	Dave Darnell
35	UGI Utilities, Inc.	g	Angelina Borelli
36	Vermont Public Service Board	e	Mary Jo Krolewski
37	WEC Energy Group	g	Tom Aridas, Ken Thiry
38	Wisconsin Public Service Corporation	u	Dennis Derricks, Ken Thiry
39	Xtensible Solutions LLC	s	Shawn Hu
40	ZigBee Alliance	e	Tobin Richardson

Wholesale Gas Quadrant (WGQ) Members:

1	8760, Inc.	s	Jim Buccigross
2	Alliance Pipeline, LP	pl	Wendy Rhyno, Brian Troicuk
3	Ambit Energy Holdings, LLC	s	Drew Gormley
4	American Gas Association	l	Susan Bergles, Pete Connor
5	American Midstream Partners, LP	s	Chelsea Whitworth
6	Anadarko Energy Services Company	pr	Y.J. Bourgeois, Beth Fruge, Scott Marshall, Chris Briggs, Brent Beitler
7	Aquilon Energy Services, Inc.	s	Jeffrey Wagner, Sylvia Munson
8	Atmos Energy	pl	Steve Easley
9	Baltimore Gas & Electric Co.	l	Ronald T. Jennings
10	Blackstone Technology Group, Inc.	s	Rakesh Agrawal
11	Boardwalk Pipeline Partners, LP	pl	Randy Young, Kim Van Pelt
12	BP Energy	pr	Mark Stultz, Kathleen E. Magruder
13	California Energy Commission	e	Melissa Jones
14	Calpine Corporation	e	Shonnie Daniel, Jay Dibble, Brian Fields
15	Cargill Incorporated	s	Lester Welch
16	Cascade Natural Gas Corporation	l	Eric Wood
17	Castleton Commodities Merchant Trading L.P.	s	Tara Liscombe
18	CenterPoint Energy Services, Inc.	s	Jeffrey Perryman, Timothy Muller, Wade Sadler
19	Centro Nacional de Control del Gas Natural (CENAGAS)	s	Eduardo Fernando Prud'homme Nieves
20	Cheniere Creole Trail Pipeline, LP	pl	Valerie Salas
21	Chevron Natural Gas	pr	Charles (Chuck) Cook



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2017 UPDATE – OCTOBER 31, 2017 MEMBERSHIP AND MEETING STATISTICS

	Organization	Seg ¹	Contact
22	Cimarex Energy Co.	pr	Vanessa Hutto
23	Citigroup Energy, Inc.	s	Carrie Southard, Angela Davis
24	Colorado Springs Utilities	l	Joe M. Holmes
25	ConocoPhillips Company	pr	Ben Schoene
26	Consolidated Edison Company of NY	l	Marie Berninger, Shelly Lyser
27	Crestwood Equity Partners LP	pl	Rob Perkins, Mark Mitchell, James Johnston, Christine Dixon
28	Dauphin Island Gathering Partners	pl	Don Perkins, Tyler Culbertson
29	Defense Logistics Agency Energy	e	Veronica Jones, Scott Taetsch
30	Department of Energy	e	Christopher Freitas
31	Devon Energy Corporation	pr	Mary Nelson
32	Direct Energy Business, LLC	s	Stephen F. Salese
33	Dominion Energy Inc.	l	Craig Colombo
34	Dominion Energy Questar Pipeline, LLC	pl	Rachel A. Hogge, Mark Christiansen
35	Dominion Energy Transmission Inc.	pl	Rachel A. Hogge, Ron Tomlinson
36	DTE Energy Trading, Inc.	s	Gregory V. Staton, James Buck, Dena Crawford, Marcia L. Hissong, Ann Marie Jambor, Cynthia Klots, Shelley Greene
37	DTE Gas Company	l	Kelly Fedele
38	Eastern Shore Natural Gas Company	pl	Jeffrey R. Tietbohl
39	Eclipse Resources Corporation	pr	Daniel T. Sweeney
40	Enable Energy Resources LLC	s	Cary Metz
41	Enable Gas Transmission, LLC	pl	Cindy Suarez, Valerie Price
42	Enable Mississippi River Transmission, LLC	pl	Cindy Suarez, Valerie Price
43	Enbridge (U.S.) Inc.	pl	Susan Schwager
44	Encana Marketing (USA) Inc.	s	Jeff Jarvis
45	Enercross LLC	s	Jay Bhaty
46	Energy Transfer Equity, L.P.	pl	Michael Langston, Larry Biediger, Mary Draemer, William White, Miki Kolobara
47	Entergy Services, Inc.	e	Laura Berryman, Scott Marino
48	Environmental Defense Fund, Inc.	e	N. Jonathan Peress
49	Environmental Resources Management (ERM)	s	Keith Sappenfield
50	EP Energy E&P Company, L.P.	pr	Stephanie Karm
51	Equitrans, L.P.	pl	Paul W. Diehl
52	Exelon Generation Company, LLC	s	Lisa Simpkins, Joseph Kirwan, Andrea Kullman, Jennifer Scott
53	Exxon Mobil Corporation	pr	Randy E. Parker
54	FIS	s	Kirt Kleinman



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2017 UPDATE – OCTOBER 31, 2017 MEMBERSHIP AND MEETING STATISTICS

	Organization	Seg ¹	Contact
55	Florida Power & Light Company	e	Paul Zhang, Art Morris
56	Freeport LNG Development L.P.	pl	Adam Valentine
57	Florida Southeast Connection LLC	pl	Mark McClure
58	Gas Natural Fenosa LNG, S.L.	s	Carlos Humphrey Garcia, Lourdes Cacho
59	Gasoductos de Chihuahua S. de R.L. de C.V.	pl	Victor Manuel Lozano Chavez
60	Gasoductos del Noreste S. de R.L. de C.V.	pl	Victor Manuel Lozano Chavez
61	Golden Pass Pipeline, LLC	pl	Joel Hindman
62	Golden Triangle Storage, Inc.	pl	Kimberly Watson, John Fortman, Darryl Kilpatrick
63	Haynes and Boone, LLP	s	Kim Mai
64	Iberdrola USA Management Corporation (Rochester Gas and Electric Corp)	l	Mark Marini
65	Idaho Public Utilities Commission	e	Gene Fadness
66	Imperial Irrigation District	e	Belen Valenzuela, Arcadio (Art) Magana, Scott Harding
67	Iroquois Gas Transmission System	pl	Tom Gwilliam
68	Kern River Gas Transmission Company	pl	Brenda Horton
69	Kinder Morgan Inc	pl	Gene Nowak, Mark Gracey, Nichole Lopez
70	Kinetica Partners, LLC	pl	Michelle Dundee
71	Latitude Technologies LLC	s	Leigh Spangler
72	Macquarie Energy LLC	s	Michele McLendon, David Webster, Christi Nicolay
73	Marathon Oil Company	pr	Robin Perrine
74	MCP Operating LLC	pl	Jeremy Durocher
75	Midcontinent Independent System Operator, Inc.	e	Mark Thomas, Leonard Ashley
76	Millennium Pipeline Company, LLC	pl	Georgia B. Carter
77	Munich Re Trading LLC	s	Yvonne L. Aponte
78	National Fuel Gas Distribution Corporation	l	Mike Novak
79	National Fuel Gas Supply Corp.	pl	Deborah Kupczyk
80	National Grid	l	Andrew MacBride
81	New Jersey Natural Gas	l	Kathryn Ferreira
82	NiSource Inc.	l	Deepak Raval, Michael D. Watson
83	NJR Energy Services Company	s	Ginger Richman
84	Noble Americas Corp	pl	Joseph Limone, Vanessa R. Mathieu
85	Noble Energy, Inc.	pr	Kathryn Skelton, Tammy M. Stevens
86	Northern Natural Gas	pl	James Weidner, Micki Hoffee
87	Northwest Natural Gas Company	l	Randolph Friedman
88	ONE Gas, Inc.	l	Larry Dykes



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	Organization	Seg ¹	Contact
89	ONEOK Partners GP, LLC	pl	Teri Tingler, Denise Adams
90	Open Access Technology International, Inc.	s	Michelle Coon
91	PAA Natural Gas Storage, LLC	s	Eileen W. Kisluk
92	Pacific Gas and Electric Company	l	Dave Lewis
93	Paiute PipeLine Company	pl	Mark A. Litwin
94	Peoples Gas System	l	David Crabtree
95	Piedmont Natural Gas	l	Michelle Mendoza
96	Power Authority of the State of New York (dba NYPA)	e	Enrico Montesa, Jr.
97	QEP Resources, Inc.	pr	Steve Stanton
98	Quorum Business Solutions Inc.	s	Emily Perryman
99	Rager Mountain Storage Company, LLC	pl	Paul Diehl, Rob Kovacevic
100	S&P Global, Platts, Bentek	s	Arlene Long
101	Sabine Pass Liquefaction, LLC	e	Emily Browning
102	Salt River Project Agricultural Improvement & Power District	e	Willis E. McCluskey
103	Sempra Infrastructure, LLC	pl	Dan King, Elizabeth Peters
104	Sequent Energy Management, L.P.	s	Pat Metteauer, Kathryn L. McCoy, Chris Russo
105	Shell Energy North America (US), L.P.	s	Eric Gillaspie
106	Skipping Stone, LLC	s	Greg Lander
107	SNL Financial	s	Jana Wootton
108	Southern California Gas Company	l	Richard Ishikawa
109	Southern Company Gas	l	Tim Sherwood
110	Southern Company Services, Inc.	e	Alan Kilpatrick, Roy D. Hiller
111	Southern Star Central Gas Pipeline	pl	Philip Rullman, Doug Field
112	Southwest Gas Corporation	l	John Olenick, Mark Anderson, Mark Litwin
113	Spectra Energy Corp	pl	Richard Kruse, Marcy McCain
114	SWN Energy Services Company, LLC	pr	Bill Hebenstreit
115	Sylvia Munson – Consultant	s	Sylvia Munson
116	Tallgrass Operations, LLC	pl	Karl Almquist
117	Tennessee Valley Authority	e	Valerie Crockett
118	Tiger Natural Gas	s	John Burris
119	TransCanada Pipelines Limited	pl	Sherry Hill
120	TransCanada Pipelines USA, Ltd	pl	Steven W. McCord, Millie S. Moran
121	UGI Central Gas Control, LC	pl	Craig Blume
122	Unitil Service Corporation	l	Joseph Conneely
123	Vector Pipeline L.P.	pl	Amy Bruhn
124	Vectren Corporation	l	Elizabeth Beck



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125	WBI Energy Transmission, Inc.	pl	Lori Myerchin, Gwen Schoepp
126	WEC Energy Group	l	Todd Duffield, Jody Arendt
127	Williams	pl	Michael Rasmuson, Melissa Casey
128	World Fuel Services, Inc.	s	Rachel Welch
129	WPX Energy Marketing, LLC	s	Rich Ficken, Sherrie Dodson
Wholesale Electric Quadrant (WEQ) Members:			
1	8760, Inc.	ts	Jim Buccigross
2	Adapt2 Solutions, Inc.	ts	David Nilsson
3	Alabama Municipal Electric Authority	d	Mark Ennis
4	Alcoa Power Generating Inc	m	Michael Padgett, Matt Fullerton
5	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	m	Roy J. True, Amadou Fall
6	American Electric Power Service Corp.	g	Joanne Goza, Phil Cox
7	American Municipal Power, Inc.	m	Chris Norton
8	American Public Power Association	d	Delia Patterson
9	Arizona Electric Power Cooperative, Inc.	t	Shane Sanders, Barry Brown
10	Arizona Public Service Company	t	Twyana Blair
11	Associated Electric Cooperative, Inc.	t	Jeff Johns
12	AVANGRID	t	Jim Clemente, Carol A. Purinton
13	Avangrid Renewables, LLC	g	Erin Kester, Jan Korver
14	Avista Corporation	t	Jeff Schlect, Kenneth Dillon
15	Basin Electric Power Cooperative	t	Dave Rudolph
16	Basin Electric Power Cooperative	m	Ken Rutter
17	Basin Electric Power Cooperative	g	Jason Doerr
18	BC Hydro	t	Brenda Ambrosi
19	Black Hills Corporation	g	Kenna Hagan
20	Bonneville Power Administration	d	Eric H. Carter, Michael Steigerwald, Rebecca Berdahl, Rod Kelley
21	Bonneville Power Administration	g	Francis Halpin, Ann Shintani
22	Bonneville Power Administration	m	Andrew P. Meyers, Ann Shintani
23	Bonneville Power Administration	t	Michael D. Bausch
24	California Energy Commission	e	Melissa Jones
25	California ISO	i	Brian Jacobsen
26	California Public Utilities Commission	e	Marzia Zafar
27	Central Electric Power Cooperative	d	Kale Ford
28	Deseret Generation & Transmission Co-operative	g	Clay MacArthur



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29	Dominion Resources Services, Inc.	g	Lou Oberski
30	Duke Energy Corporation	d	Alan Pritchard
31	Duke Energy Corporation	t	Jack Armstrong, Michael Anthony, Lee Schuster
32	Dynegy Marketing and Trade, LLC	g	Contracts – Legal Department
33	Edison Electric Institute	n	Philip D. Moeller, Jennifer Murray
34	El Paso Electric	t	Mike Sahs
35	Electric Reliability Council of Texas, Inc. (ERCOT)	i	Carrie Bivens, Paul Wattles, Joel Mickey
36	Emera Maine	t	Alan Richardson
37	Empire District Electric Company, The	t	Peter Eichler, Bill Killeen, Deborah Gilbertson
38	Enbridge (U.S.) Inc.	t	Travis Allen
39	Entergy Services, Inc.	t	Yarrow Etheredge, Narinder Saini
40	Eversource Energy	t	David Burnham, Andrew Y. Tan
41	Exelon Generation Company, LLC	m	William Berg
42	FIS	ts	Robin Pollara
43	Florida Municipal Power Agency	g	Carol Chinn, Chris Gowder
44	Florida Municipal Power Agency	d	Carol Chinn, Chris Gowder
45	Florida Power & Light Company	m	Timothy W. Gerrish, Tom Hartman
46	Florida Power & Light Company	t	Bernardo Benigni, Miguel Yanes
47	Georgia Transmission Corporation	t	Patrick McGovern
48	GMO GlobalSign, Inc.	e	Lila Kee
49	Hydro – Quebec Transenergie	t	Michel Prevost
50	Idaho Power Company	t	Kathy Anderson
51	Idaho Public Utilities Commission	e	Gene Fadness
52	Independent Electricity System Operator (IESO)	i	Nicholas Ingman, Scott Berry
53	Indiana Municipal Power Agency	g	Scott Berry
54	Indianapolis Power and Light Company	t	Michael L. Holtsclaw
55	ISO New England, Inc.	i	Matthew F. Goldberg, Douglas Smith
56	JEA	t	John Babik
57	Kansas City Power & Light Company	t	Denise Buffington
58	Kansas City Power & Light Company	g	Jennifer Flandermeyer
59	LG&E and KU Services Company	t	Ashley Moore, Daryn Barker
60	Links Technology Solutions, Inc.	ts	Robert VanValkenburg
61	Los Angeles Department of Water and Power	t	Kenneth Silver, Sueyen McMahon
62	Los Angeles Department of Water and Power	m	Anton Vu, Joel F. Cordero
63	Maine Public Utilities Commission	e	Denis Bergeron
64	Manitoba Hydro	t	Robin Rebillard



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	Organization	Seg ¹	Contact
65	MCG Energy Solutions	ts	Jerome Khan
66	Michigan Public Power Agency	d	Erinn Evans
67	MidAmerican Energy Company	m	Dennis Kimm
68	Minnesota Public Utilities Commission	e	Robert Harding
69	MISO	i	Ed Skiba, Ellen Oswald
70	Missouri River Energy Services	d	Thomas J. Heller
71	Morgan, Lewis & Bockius LLP	t	Stephen M. Spina
72	Municipal Energy Agency of Nebraska	m	Robin Spady
73	Nalcor Energy	m	Erin McCormack
74	National Association of Regulatory Utility Commissioners	e	Sam Watson
75	National Grid	t	Kevin Reardon
76	National Institute of Standards and Technology	ts	David A. Wollman
77	National Rural Electric Cooperative Association	d	Paul McCurley
78	Nebraska Public Power District	t	Don Schmit
79	New Jersey Board of Public Utilities	g	Cynthia Covie, Lauren Mattox
80	New York Independent System Operator, Inc. (NYISO)	i	Wesley Yeomans, Vijaya Ganugula
81	New York State Reliability Council	d	Herb Schrayshuen
82	North American Electric Reliability Corporation	d	Mark Lauby
83	North Carolina Electric Membership Corporation	d	Luis Fondacci, John Lemire, Richard McCall, James R. Manning
84	Northwestern Corporation	t	Mike Cashell
85	NRG Energy, Inc.	g	Derek Mauzy, Alan Johnson, Elizabeth Killinger
86	NV Energy	m	Sheryl Torrey
87	NV Energy, Inc.	t	Marilyn Franz
88	Open Access Technology International, Inc.	e	Jerry Dempsey
89	Open Access Technology International, Inc.	t	Paul R. Sorenson
90	Organization for the Advancement of Structured Information Standards (OASIS)	ts	Laurent M. Liscia
91	PacifiCorp	m	Joseph Hoerner
92	PacifiCorp	t	Todd Dinehart
93	PJM Interconnection, LLC	i	Rich Brown
94	Portland General Electric	t	Frank Afranji, John Walker, Johnny Useldinger
95	Power Costs, Inc. (PCI)	ts	Javier Martin
96	Powerex Corp.	m	Michael L McWilliams, Erika Rosin, Connor Curson
97	PowerSouth Energy Cooperative	d	William Ronald Graham
98	Public Service Company of New Mexico	m	Steven Maestas, Darren Wilkins, Roger Vaughn



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	Organization	Seg ¹	Contact
99	Public Utilities Commission of Ohio	e	Amanda Stallings
100	Puget Sound Energy, Inc.	t	George Marshall, Bob Harshbarger, Chelsey Neil
101	RBN Energy LLC	ts	Richard G. Smead
102	Sacramento Municipal Utility District	d	Steve Sorey
103	San Diego Gas & Electric Company	t	Martine Blair
104	Santee Cooper	t	Tom Abrams
105	SaskPower Corporation	t	Darwin Bender
106	Seattle City Light	m	Robin Cross
107	Seattle City Light	e	Robin Cross, Cory Anderson
108	Seminole Electric Cooperative, Inc.	m	Michael Ward
109	Snohomish County PUD No. 1	d	Kim Haugen
110	SoftSmiths, Inc.	ts	Lawrence S. Stone
111	South Carolina Electric & Gas Company	t	Matt Hammond, James T. Starling, Jr. , Sonya Green-Sumpter, Matt Bullard, Kevin Spitzform
112	Southern Company Services, Inc.	g	Marie Craig Knight, JT Wood
113	Southern Company Services, Inc.	m	Steve Lowe, JT Wood
114	Southern Company Services, Inc.	t	Terry Mozena, JT Wood
115	Southwest Power Pool	i	Carl Monroe, Michael Desselle, Charles Yeung
116	Tacoma Power	d	Rick Applegate
117	Tampa Electric Company	d	David Crabtree
118	Tenaska, Inc.	g	Brad Cox
119	Tennessee Valley Authority	g	Kathy York
120	Tennessee Valley Authority	m	Andrea Sanders Brackett, Valerie Crockett
121	Tennessee Valley Authority	t	Armando Rodriguez
122	TransAlta Energy Marketing (U.S.) Inc.	m	Steve Lincoln
123	Tri-State Generation and Transmission Association, Inc.	t	Doug Reese
124	Tri-State G&T Association, Inc.	g	Janelle Marriott
125	Tucson Electric Power Company	t	Raquel Aguilar, Ed Beck, Amy Welander
126	Vermont Public Power Supply Authority	g	William J. Gallagher
127	Vermont Public Service Board	e	Mary Jo Krolewski
128	Wabash Valley Power Association	g	Susan Sosbe
129	We Energies (Wisconsin Electric)	d	Linda Horn
130	We Energies (Wisconsin Electric)	g	Christopher Plante
131	Westar Energy, Inc.	g	Grant Wilkerson
132	Western Area Power Administration	t	Raymond Vojdani, Steve Sanders
133	Western Area Power Administration	m	Rebecca Johnson



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	Organization	Seg¹	Contact
134	Western Electricity Coordinating Council	t	Vijay A. Satyal
135	WPPI Energy	d	Todd Komplin
136	Xcel Energy Inc.	m	Randall L. Oye

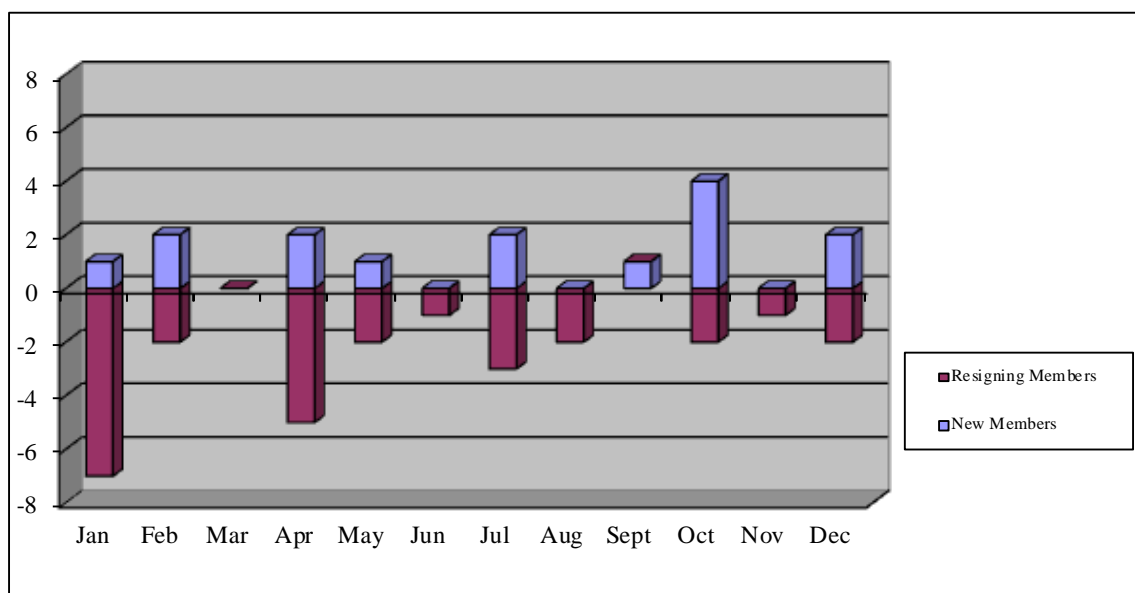


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MEMBERSHIP AND MEETING STATISTICS

NAESB 2016 Membership Volatility



2016	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
New Members	1	2	0	2	1	0	2	0	1	4	0	2	15
Resigning Members	-7	-2	0	-5	-2	-1	-3	-2	0	-2	-1	-2	-27
Swing	8	4	0	7	3	1	5	2	1	6	7	4	42
Cummulative Swing	8	12	0	19	22	23	28	30	31	37	38	42	
Membership	305	305	305	302	301	300	299	297	298	300	299	299	

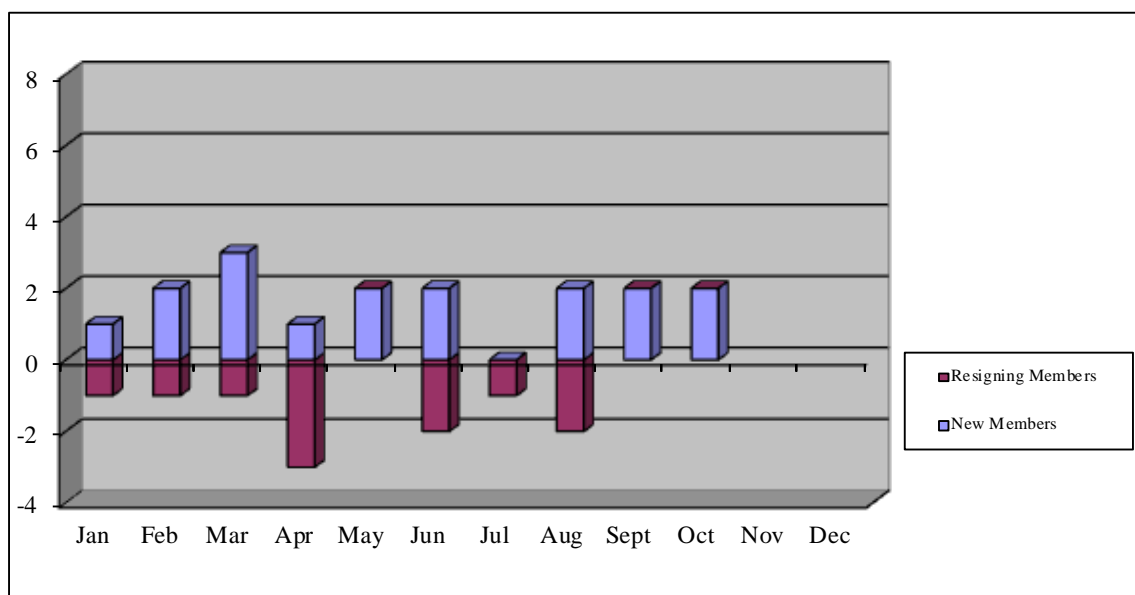


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MEMBERSHIP AND MEETING STATISTICS

NAESB 2017 Membership Volatility



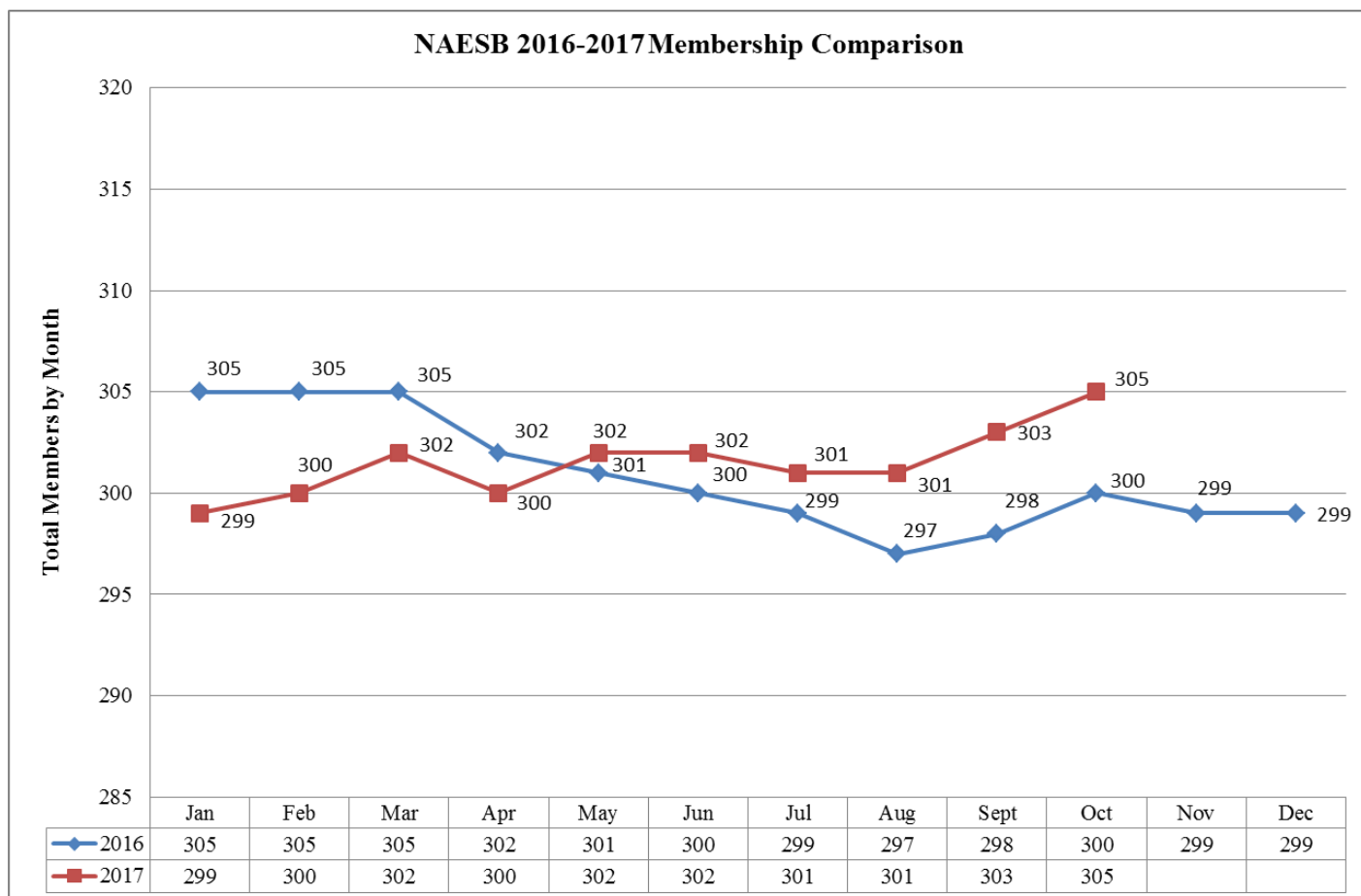
2017	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
New Members	1	2	3	1	2	2	0	2	2	2			17
Resigning Members	-1	-1	-1	-3	0	-2	-1	-2	0	0			-11
Swing	2	3	4	4	2	4	1	4	2	2			28
Cummulative Swing	2	5	9	13	15	19	20	24	26	28			
Membership	299	300	302	300	302	302	301	301	303	305			



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NAESB 2012-2015 Total Members by Month												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2012	291	291	292	293	294	296	295	291	288	286	287	289
2013	288	287	288	289	288	288	296	300	303	301	303	303
2014	301	302	300	308	311	309	309	308	309	312	313	312
2015	311	312	313	313	314	310	314	314	312	310	312	311



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MEETING STATISTICS

2017 NAESB Meeting Analysis

Month	Event	Total		WEQ		WGQ		Retail		Joint		Board	
		#	Hours	#	Hours	#	Hours	#	Hours	#	Hours	#	Hours
January	Meetings/Hours	7	36	3	14	4	22	0	0	0	0	0	0
	Conf. Calls/Hours	9	26.5	5	17	1	3	1	0.5	2	6	0	0
	Monthly Total	16	62.5	8	31	5	25	1	0.5	2	6	0	0
February	Meetings/Hours	16	70	5	24.5	5	27	4	15.5	2	3	0	0
	Conf. Calls/Hours	8	18.5	3	11	1	2	0	0	0	0	4	5.5
	Monthly Total	24	88.5	8	35.5	6	29	4	15.5	2	3	4	5.5
March	Meetings/Hours	5	27	3	15	2	12	0	0	0	0	0	0
	Conf. Calls/Hours	13	39	6	25	4	7	2	6	1	1	0	0
	Monthly Total	18	66	9	40	6	19	2	6	1	1	0	0
April	Meetings/Hours	6	17	2	5	2	6	1	2	0	0	1	4
	Conf. Calls/Hours	14	44	5	20	4	12.5	2	6.5	0	0	3	5
	Monthly Total	20	61	7	25	6	18.5	3	8.5	0	0	4	9
May	Meetings/Hours	5	22.5	5	22.5	0	0	0	0	0	0	0	0
	Conf. Calls/Hours	7	22	3	11	1	7	0	0	1	1	2	3
	Monthly Total	12	44.5	8	33.5	1	7	0	0	1	1	2	3
June	Meetings/Hours	5	20	3	15	1	4	0	0	1	1	0	0
	Conf. Calls/Hours	9	21	6	16	2	4	0	0	0	0	1	1
	Monthly Total	14	41	9	31	3	8	0	0	1	1	1	1
July	Meetings/Hours	4	20	3	16	1	4	0	0	0	0	0	0
	Conf. Calls/Hours	13	36	6	14	5	18	0	0	1	2	1	2
	Monthly Total	17	56	9	30	6	22	0	0	1	2	1	2
August	Meetings/Hours	4	18	3	14	1	4	0	0	0	0	0	0
	Conf. Calls/Hours	8	15.5	3	7	2	4	0	0	2	3	1	1.5
	Monthly Total	12	33.5	6	21	3	8	0	0	2	3	1	1.5
September	Meetings/Hours	9	28	5	19	1	2	1	2	1	1	1	4
	Conf. Calls/Hours	4	14	4	14	0	0	0	0	0	0	0	0
	Monthly Total	13	42	9	33	1	2	1	2	1	1	1	4



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2017 NAESB Meeting Analysis

Month	Event	Total		WEQ		WGQ		Retail		Joint		Board	
		#	Hours	#	Hours	#	Hours	#	Hours	#	Hours	#	Hours
October	Meetings/Hours	9	39	3	14	3	14	2	10	1	1	0	0
	Conf. Calls/Hours	10	28	4	12	4	13	1	2	1	1	0	0
	Monthly Total	19	67	7	26	7	27	3	12	2	2	0	0
November	Meetings/Hours	0	0										
	Conf. Call/Hours	0	0										
	Monthly Total	0	0	0	0	0	0	0	0	0	0	0	0
December	Meetings/Hours	0	0										
	Conf. Call/Hours	0	0										
	Monthly Total	0	0	0	0	0	0	0	0	0	0	0	0
Total YTD 2017	Meetings/Hours	70	297.5	35	159	20	95	8	29.5	5	6	2	8
	Conf. Calls/Hours	95	264.5	45	147	24	70.5	6	15	8	14	12	18
	Events/Hours	165	562	80	306	44	165.5	14	44.5	13	20	14	26
Total YTD 2016	Meetings/Hours	87	369.5	35	171	16	77	18	59	8	10	10	52.5
	Conf. Calls/Hours	107	292.5	38	128	19	56	12	32	22	48	16	28.5
	Events/Hours	194	662	73	299	35	133	30	91	30	58	26	81
Total YE 2016	Meetings/Hours	100	416	39	190	21	96.5	19	61	10	12	11	56.5
	Conf. Calls/Hours	107	292.5	38	128	19	56	12	32	22	48	16	28.5
	Events/Hours	207	708.5	77	318	40	152.5	31	93	32	60	27	85
Total YE 2015	Meetings/Hours	100	424.5	55	284	12	51.5	24	70	6	7	3	12
	Conf. Calls/Hours	128	413	56	241.5	15	50	30	76	10	14.5	17	31
	Events/Hours	228	837.5	111	525.5	27	101.5	54	146	16	21.5	20	43
Total YE 2014	Meetings/Hours	152	714	81	427	29	135	22	68	11	33	9	51
	Conf. Calls/Hours	122	306	44	149	20	44	16	46.5	17	24	25	42.5
	Events/Hours	274	1020	125	576	49	179	38	114.5	28	57	34	93.5



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2017 UPDATE – OCTOBER 31, 2017
MEMBERSHIP AND MEETING STATISTICS

2017 NAESB Meeting Analysis

Month	Event	Total		WEQ		WGQ		Retail		Joint		Board	
		#	Hours	#	Hours	#	Hours	#	Hours	#	Hours	#	Hours
Total YE 2013	Meetings/Hours	157	752.5	79	409	48	238.5	23	81	1	2	6	22
	Conf. Calls/Hours	96	204.5	42	93	18	35	16	40	11	15	9	21.5
	Events/Hours	253	957	121	502	66	273.5	39	121	12	17	15	43.5
Total YE 2012	Meetings/Hours	179	871.5	88	476	59	283	19	66.5	3	9	10	37
	Conf. Calls/Hours	156	337.5	68	195	28	54.5	17	37.5	17	30	26	60.5
	Events/Hours	335	1249	156	671	87	337.5	36	104	20	39	36	97.5
Total YE 2011	Meetings/Hours	164	733.5	77	389	54	242.5	17	52	4	17	12	33
	Conf. Calls/Hours	150	463	49	236	16	30	50	133	24	42	11	22
	Events/Hours	314	1196.5	126	625	70	272.5	67	185	28	59	23	55
Total YE 2010	Meetings/Hours	146	664.5	71	341.5	43	207	14	47.5	10	48.5	8	20
	Conf. Calls/Hours	181	502.5	45	195	23	40.5	18	66.5	91	188.5	4	12
	Events/Hours	327	1167	116	536.5	66	247.5	32	114	101	237	12	32
Total YE 2009	Meetings/Hours	142	707.5	71	380	44	228.5	8	27.5	11	51.5	8	20
	Conf. Calls/Hours	137	354.5	51	180	20	41.5	22	48	42	81	2	4
	Events/Hours	279	1062	122	560	64	270	30	75.5	53	132.5	10	24



North American Energy Standards Board

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2017 UPDATE – OCTOBER 31, 2017 MEMBERSHIP AND MEETING STATISTICS

PRODUCT ACCESS

- **Monthly:** The [copyright policy and list of companies](#) with authorized access to our standards is prepared monthly and posted on the NAESB web site. It includes all companies who have legal access to the NAESB standards.
- **Quarterly:** The list of FERC Public Utilities under the Federal Power Act (full list updated 07/28/2017) entities without recorded access to the most recently mandated NAESB WEQ Standards is [revised quarterly](#) and posted on the NAESB web site.
The list of FERC Interstate Pipelines under the Natural Gas Act (updated 07/28/2017) entities without recorded access to the most recently mandated NAESB WGQ Standards is [revised quarterly](#) and posted on the NAESB web site.
- **November 1, 2017:** The copyright report as of November 1, 2017 is posted on the [web site](#). Statistics for purchases of standards are maintained monthly and can be seen below as of October 31, 2017.

2017 Purchases of NAESB Products

Product/Month	J	F	M	A	M	J	J	A	S	O	N	D	Total
WGQ Contracts (2002 or 2006) <i>(Non-members \$250)</i>	4	0	1	1	1	5	3	3	2	8	0	0	28
WGQ Agreements/Addendums <i>(Non-members \$50)</i>	2	0	1	0	2	0	0	0	1	4	0	0	10
WGQ Individual Standards Manuals <i>(Non-members \$250)</i>	1	0	0	0	1	0	0	0	0	1	0	0	3
WGQ USB of Standards, Version 3.1 <i>(Non-Members \$2000)</i>	1	0	1	3	2	4	2	0	0	0	0	0	13
WGQ USB of Standards, <i>(Older Versions)</i> <i>(Non-Members \$2000)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
WEQ Agreements/Addendums <i>(Non-members \$50)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
WEQ Individual Standards Manuals <i>(Non-members \$250)</i>	1	0	1	0	2	0	0	0	0	1	0	0	5
WEQ USB of Standards, Version 003.1 <i>(Non-Members \$2000)</i>	1	1	0	4	5	3	1	0	0	1	0	0	16
WEQ USB of Standards, <i>(Older Versions)</i> <i>(Non-Members \$2000)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail Contracts <i>(Non-members \$250)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail Individual Standards Manuals <i>(Non-members \$250)</i>	3	1	2	0	0	0	1	4	2	0	0	0	13
Retail USB of Standards, Version 3.2 <i>(Non-Members \$2000)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail USB of Standards, <i>(Older Versions)</i> <i>(Non-Members \$2000)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Actions (\$250)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	13	2	6	8	13	12	7	7	5	15	0	0	88
2016 Total	39	6	17	12	7	11	13	5	5	12	7	4	138



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2017 UPDATE – OCTOBER 31, 2017
MEMBERSHIP AND MEETING STATISTICS

2017 Purchases of NAESB Products

Product/Month	J	F	M	A	M	J	J	A	S	O	N	D	Total
2015 Total	11	5	5	6	2	15	17	13	9	19	44	9	155
2014 Total	12	5	28	8	4	8	9	5	7	15	19	3	123
2013 Total	21	8	15	20	20	1	19	4	6	3	5	22	144

Non-Member Limited Waivers

Product	J	F	M	A	M	J	J	A	S	O	N	D	Total
Non-member Access to NAESB Subcommittee/Task Force Files*	0	0	0	3	0	0	10	1	1	2	0	0	17
NAESB Final Actions	0	0	0	0	1	0	0	0	0	0	0	0	1
WGQ Contracts/Agreements	1	0	0	0	0	0	0	0	0	0	0	0	1
WGQ Standards Manuals (Version 3.0 and older)	0	0	0	0	0	0	0	0	0	0	0	0	0
WGQ Standards Manuals (Version 3.1)	0	0	0	0	1	0	0	1	0	0	0	0	2
WEQ Standards Manuals (Version 003.0 and older)	0	1	0	0	0	0	0	0	0	0	0	0	1
WEQ Standards Manuals (Version 003.1)	0	0	1	1	0	0	3	0	0	0	0	0	5
Retail Contracts/Agreements	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail Model Business Practices (Version 3.1 and older)	0	0	1	0	2	0	1	0	0	0	0	0	4
Retail Model Business Practices (Version 3.2)	0	0	0	0	0	0	2	0	2	0	0	0	4
Total	1	1	2	4	4	0	16	2	3	2	0	0	35
2016 Total	8	3	1	1	0	1	3	3	3	3	1	1	28
2015 Total	3	3	1	1	1	1	2	0	0	4	0	1	17



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2017 UPDATE – OCTOBER 31, 2017
MEMBERSHIP AND MEETING STATISTICS

Non-Member Limited Waivers

Product	J	F	M	A	M	J	J	A	S	O	N	D	Total
2014 Total	28	0	2	0	0	4	16	2	1	0	0	2	55
2013 Total	4	2	2	4	1	2	5	13	38	200	40	35	346

* WGQ Contracts Subcommittee (Mexican Addendum) Work Papers



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2017 UPDATE – MEMBERSHIP CHANGES AS OF OCTOBER 31, 2017

North American Energy Standards Board 2017 Membership Changes

17 New Members as of October 31, 2017

Company	Quadrant	Segment	Date Joining	Reason
Open Energy Solutions, Inc.	RMQ	Elec SP/S	Feb 2017	Participation
Gas Natural Servicios, S.A. de C.V.	RMQ	GasMkt	Aug 2017	Participation
Enbridge (U.S.) Inc.	WEQ	Trans	Mar 2017	Participation
SaskPower Corporation	WEQ	Trans	Sept 2017	Participation
Adapt2 Solutions, Inc.	WEQ	Tech/Serv	Oct 2017	Participation
MCG Energy Solutions	WEQ	Tech/Serv	Mar 2017	Participation
SoftSmiths, Inc.	WEQ	Tech/Serv	May 2017	Participation
Power Authority of the State of New York	WGQ	EU	Aug 2017	Participation
Cascade Natural Gas Corporation	WGQ	LDC	Jun 2017	Participation
DTE Gas Company	WGQ	LDC	Apr 2017	Participation
Freeport LNG Development L.P.	WGQ	PL	Feb 2017	Participation
UGI Central Gas Control, LLC	WGQ	PL	Sept 2017	Participation
Ambit Energy Holdings, LLC	WGQ	Serv	Jan 2017	Participation
Aquilon Energy Services, Inc.	WGQ	Serv	Jun 2017	Participation
Energross LLC	WGQ	Serv	May 2017	Participation
Haynes and Boone, LLP	WGQ	Serv	Oct 2017	Access
Sylvia Munson – Consultant	WGQ	Serv	Mar 2017	Participation



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2017 UPDATE – MEMBERSHIP CHANGES AS OF OCTOBER 31, 2017

North American Energy Standards Board 2016 Membership Changes

15 New Members as of December 31, 2016

Company	Quadrant	Segment	Date Joining	Reason
Just Energy	RMQ	Elec SP/S	May 2016	Participation
JEA	WEQ	Trans	Jan 2016	Participation
Morgan, Lewis & Bockius	WEQ	Trans	Dec 2016	Access and Participation
Midcontinent Independent System Operator, Inc.	WGQ	EU	Dec 2016	Participation
Sabine Pass Liquefaction, LLC	WGQ	EU	Sept 2016	Participation
Gasoductos del Noreste S. de R.L. de C.V.	WGQ	PL	July 2016	Rejoining for Access and Participation
Golden Triangle Storage, Inc.	WGQ	PL	Oct 2016	Participation
Kern River Gas Transmission Company	WGQ	PL	Feb 2016	Participation
Centra Gas Manitoba Inc.	WGQ	LDC	July 2016	Participation
New Jersey Natural Gas	WGQ	LDC	Oct 2016	Participation
Piedmont Natural Gas	WGQ	LDC	Oct 2016	Participation
Centro Nacional de Control del Gas Natural (CENAGAS)	WGQ	Serv	Apr 2016	Participation
Direct Energy Business, LLC	WGQ	Serv	Feb 2016	Participation
NextEra Energy Pipeline Services Company	WGQ	Serv	Apr 2016	Participation
NJR Energy Services Company	WGQ	Serv	Oct 2016	Participation



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2017 UPDATE – MEMBERSHIP CHANGES AS OF OCTOBER 31, 2017

North American Energy Standards Board 2017 Membership Changes

11 Member Resignations as of October 31, 2017

Company	Quadrant	Segment	Date Resigning	Reason
ABB Ventyx	RMQ	Elec SP/S	Jun 2017	Non-renewal; as they no longer require these services.
Ernst & Young LLC	RMQ	Elec SP/S	Jul 2017	Non-renewal; management decision
Just Energy	RMQ	Elec SP/S	Jun 2017	Non-renewal due to budget cuts. Hope next year is better in terms of budget.
Southern Company Services	RMQ	Elec SP/S	Apr 2017	Non-renewal; membership changes in affiliates (Southern Company Services, Inc.)
Baltimore Gas & Electric Co	RMQ	Utilities	Apr 2017	Non-renewal; Will continue participation in the WGQ, LDC segment
California Department of Water Resources	WEQ	Gen	Aug 2017	Non-renewal; joined for project which has been completed. No longer in need of the service.
Peak Reliability	WEQ	IGO	Apr 2017	on-renewal due to financial considerations
The United Illuminating Company	WEQ	Trans	Jan 2017	Non-renewal; Central Maine Power and UI have consolidated under a single company – AVANGRID (WEQ, Trans)
Arizona Public Service Company	WGQ	EU	Mar 2017	Non-renewal; Will assess again in 2018.
Centra Gas Manitoba Inc.	WGQ	LDC	Aug 2017	Decision to not renew membership
Dominion Carolina Gas Transmission, LLC (DCG)	WGQ	PL	Feb 2017	Non-renewal; DCG is now an affiliate of Dominion Transmission Inc. (WGQ, PL)



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2017 UPDATE – MEMBERSHIP CHANGES AS OF OCTOBER 31, 2017

North American Energy Standards Board 2016 Membership Changes

27 Member Resignations as of December 31, 2016

Company	Quadrant	Segment	Date Resigning	Reason
Aurea Energy Solutions	RMQ	Elec SP/S	Apr 2016	Non-renewal; Aurea does not intend to renew its NAESB membership at this time.
Hansen Technologies (previously PPLSolutions, LLC)	RMQ	Elec SP/S	Aug 2016	Non-renewal after PPLSolutions, LLC was acquired by Hansen Technologies on July 1, 2016
Department of General Services	RMQ	Gas Mkt	May 2016	Non-renewal, They are a very small office of 3 people – they use the base contract, but did not feel they were gaining the benefits to justify the annual fee.
Conservation Law Foundation	WEQ	EU	May 2016	Non-renewal
Arkansas Electric Cooperative Corporation	WEQ	Gen	June 2016	Non-renewal at this time
Wisconsin Public Service Corporation	WEQ	Gen	Jan 2016	Non-renewal WEC Energy Group has decided not to renew Wisconsin Public Service Corporation's (WPSC's) Wholesale Electric Quadrant (WEQ), Generation segment membership. We Energies will continue their membership in the WEQ generation segment.
Manitoba Hydro	WEQ	Mkt/Bkr	July 2016	Non-renewal, we find that following issues relevant to our business and participating at NAESB requires sufficient staff if engagement is going to be meaningful. Unfortunately at this time, we do not have such resources available and so must relinquish our membership for the time being. Manitoba Hydro will continue their membership in the WEQ transmission segment.
Salt River Project Agricultural Improvement & Power District	WEQ	Mkt/Bkr	Apr 2016	Non-renewal; primary contact retired and SRP will not be renewing this membership (continuing participation in the WGQ, End Users segment)
Omaha Public Power District	WEQ	Trans	Oct 2016	Non-renewal, The cost of the membership came under heavy scrutiny this year and it was decided by a control committee that benefits did not justify the cost.
Liaison Technologies, Inc.	WEQ	Tech/Serv	July 2016	Non-renewal; "the client that we had which required this membership is no longer using our services."



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2017 UPDATE – MEMBERSHIP CHANGES AS OF OCTOBER 31, 2017

North American Energy Standards Board 2016 Membership Changes

27 Member Resignations as of December 31, 2016

Company	Quadrant	Segment	Date Resigning	Reason
OpenLink Financial LLC	WEQ	Tech/Serv	July 2016	Non-renewal, Openlink decided to put on hold for now its membership status with NAESB
NextEra Energy Power Marketing, LLC	WGQ	EU	Oct 2016	Non-renewal, NextEra already participates through FPL in the WGQ and last year our new pipeline business also joined NAESB. As a result, we no longer have a need for NextEra Energy Power Marketing, LLC to be a member as we are well covered.
Northwest Industrial Gas Users	WGQ	EU	Apr 2016	Non-renewal, due to budget constraints they will have to let the membership in NAESB lapse. They appreciated the value in being a member, but issues at the state level have to take priority in the coming year.
Talen Energy Marketing, LLC	WGQ	EU	Dec 2016	Non-renewal; Talen Energy has elected not to renew its membership for 2017
ANR Pipeline Company	WGQ	PL	Dec 2016	Non-renewal; ANR Pipeline Company, we intend to let the ANR membership expire at the end of 2016
BP Pipelines (North America) Inc.	WGQ	PL	Aug 2016	Non-renewal, they had one regulated natural gas line and it has been sold.
Enterprise Products Partners, L.P.	WGQ	PL	Nov 2016	Non-renewal
Gas Transmission Northwest Corporation	WGQ	PL	Jan 2016	Non-renewal; U.S. Pipelines have consolidated under ANR Pipeline Company (membership) and will purchase standards for affiliates going forward.
Gasoductos del Noreste S. de R.L. de C.V.	WGQ	PL	Feb 2016	Non-renewal
Great Lakes Gas Transmission	WGQ	PL	Jan 2016	Non-renewal; U.S. Pipelines have consolidated under ANR Pipeline Company (membership) and will purchase standards for affiliates going forward.
Kern River Gas Transmission Company	WGQ	PL	Jan 2016	Non-renewal; due to budget. Working with management group to reinstate budget for NAESB membership and possibly rejoin.
Northern Border Pipeline Company	WGQ	PL	Jan 2016	Non-renewal; U.S. Pipelines have consolidated under ANR Pipeline Company (membership) and will purchase standards for affiliates going forward.



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2017 UPDATE – MEMBERSHIP CHANGES AS OF OCTOBER 31, 2017

North American Energy Standards Board 2016 Membership Changes

27 Member Resignations as of December 31, 2016

Company	Quadrant	Segment	Date Resigning	Reason
NOVA Gas Transmission Ltd.	WGQ	PL	Jan 2016	Non-renewal; Canadian Pipelines have consolidated under TransCanada Pipelines Limited (membership) and will purchase standards for affiliates going forward.
Portland Natural Gas Transmission System	WGQ	PL	Jan 2016	Non-renewal; Canadian Pipelines have consolidated under TransCanada Pipelines Limited (membership) and will purchase standards for affiliates going forward.
Mewbourne Oil Company	WGQ	PR	Feb 2016	Non-renewal, not using the membership enough to justify the expense at this time.
Accenture, LLP	WGQ	Serv	Apr 2016	Non-renewal
Pillsbury Winthrop Shaw Pittman	WGQ	Serv	Apr 2016	Non-renewal; We will not be renewing this membership for the coming year



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2017 UPDATE – MEMBERSHIP CHANGES AS OF OCTOBER 31, 2017

North American Energy Standards Board
Board and Executive Committee Vacancies as of October 31, 2017

% Vacant	Quadrant	Seat (# of Vacancies)	Segment (# of Vacancies)
33%	Retail Markets	Board (8) – 16 seats filled of 24	Retail Electric Utilities (2) Retail Gas Market Interests (2) Retail Electric End Users/Public Agencies (2) Retail Electric Service Providers/Suppliers (2)
50%		Executive Committee (12) – 12 seats filled of 24	Retail Electric Utilities (2) Retail Gas Market Interests (5) Retail Electric End Users/Public Agencies (2) Retail Electric Service Providers/Suppliers (3)
24%	Wholesale Electric	Board (12) – 37 seats filled of 49	Transmission (1) Marketers/Brokers (1) Distribution/Load Serving Entities (LSE) (2) End User (5) Technology/Services (3)
31%		Executive Committee (15) – 34 seats filled of 49	Generation (2) Marketers/Brokers(1) Distribution/LSE (3) End User (4) Technology/Services (5)
4%	Wholesale Gas	Board (1) – 24 seats filled of 25	Producer (1)
0%		Executive Committee (0) - 25 seats filled of 25	



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TO: Managing Committee: Michael Desselle, Valerie Crockett, Bruce Ellsworth, Cade Burks, Bill Boswell, Rae McQuade, Posting on the NAESB Web Site

FROM: Rae McQuade

cc: Jonathan Booe

RE: Notes from the August 25, 2017 Managing Committee Meeting – Austin, Texas

DATE: October 4, 2017

The NAESB Managing Committee met on August 25, 2017 to review: (1) the mid-year, end of year staffing, performance and compensation, multi-year staff requirements, and (2) September Board meeting agenda items and strategic direction discussion. The meeting was convened at 8:00 am C by Michael Desselle. All members were in attendance. Jonathan Booe reminded the committee that the antitrust guidance provided was in effect for the meeting. The agenda was adopted unanimously through a motion of Michael Desselle and a second of Valerie Crockett. Due to the storm approaching the Texas coastline, it was determined to compress the meeting schedule to permit changes to travel schedules.

The finances for June were reviewed as well as the financial review results for 2016. General topics of the status of OpenFMB and the OATI Registry status were discussed, along with the update on the efforts of the Parliamentary Committee and the expected presentation of those efforts to the Board of Directors in September. Membership in the retail quadrant was discussed as it continues to hover close to the threshold amount of 40 members to meet the requirements of an active quadrant. The September board meeting agenda was discussed. No issues required motions or specific actions to be taken by the Managing Committee.

The performance and compensation of staff was discussed and compensation changes were approved through a motion of Bruce Ellsworth. All were in favor.

There was no other business to address. The motion was made by Michael Desselle and seconded by Valerie Crockett to adjourn the meeting. The meeting was adjourned at 10:30 am C.



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July 26, 2017

TO: NAESB Parliamentary Committee Members: Bill Boswell, Jim Buccigross, Cade Burks, James Cargas, Valerie Crockett, Michael Desselle, Bruce Ellsworth, Joe Hartsoe, Richard Kruse, Greg Lander, Debbie McKeever, Rae McQuade, Randy Parker, Timothy Simon
FROM: Jonathan Booe, NAESB Executive Vice President & CAO
RE: Parliamentary Committee Final Meeting Minutes – July 26, 2017

NAESB Parliamentary Committee Conference Call Wednesday, July 26, 2017 from 1:00 PM to 3:30 PM Central

1. Administration and Welcome

Mr. Desselle welcomed the participants and called the meeting to order. Mr. Booe provided the antitrust guidance reminder. Mr. Booe called the roll of committee members and established quorum. Mr. Desselle reviewed the agenda with the committee. Mr. Lander moved, seconded by Ms. Crockett, to adopt the agenda as drafted. The motion passed without opposition.

Mr. Desselle reviewed the June 26, 2017 draft meeting minutes with the participants and asked for any modifications. None were offered. Mr. Lander moved, seconded by Ms. Crockett, to adopt the draft minutes as final. The motion passed without opposition.

The final meeting minutes may be accessed at following hyperlink: <https://www.naesb.org/pdf4/parliamentary062617fm.docx>.

2. Review and Possibly Vote on Proposed Certificate of Incorporation and Bylaw Amendment to Support Weighted Voting

As requested during the previous meeting, Mr. Boswell reviewed the [work paper](#) containing proposed modifications to the NAESB Certificate of Incorporation and Bylaws to allow for weighted voting with the participants. The proposed modifications incorporate process by which Board members may request a weighted simple majority vote, and the procedures to be followed in the event that the voting item fails to garner simple majority support of each quadrant. Upon conclusion, the participants reviewed the additional redline modifications offered by Mr. Kruse and included in his submitted [work paper](#). Through discussion, a few non-substantive modifications were made to Mr. Kruse’s proposed changes and are included in redline format in the following document: <https://www.naesb.org/pdf4/parliamentary072617a1.docx>. Upon conclusion of the discussion, Mr. Lander moved, seconded by Ms. Crockett, to adopt the proposed amendments to the Certificate of Incorporation and the Bylaws and forward the proposal to the Board of Director’s for its consideration. The motion passed unanimously. Mr. Desselle stated that the recommendation will be included in the agenda for the Board of Directors meeting in September.

3. Other Business and Action Items

Mr. Desselle stated that if the Board of Directors approves the proposed Certificate of Incorporation and Bylaw modifications, the next order of business for the Parliamentary Committee will be to review the governance documents to remove reference to the defined term Majority when necessary.

4. Adjourn

The meeting was adjourned at 1:55 PM Central.

5. Attendance by Committee Members

Parliamentary Committee Members		
Name	Organization	Attendance
Bill Boswell*	NAESB General Counsel	Present



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Parliamentary Committee Members		
Name	Organization	Attendance
Jim Buccigross	8760, Inc.	
J. Cade Burks	Big Data Energy Services	Present
James P. Cargas	City of Houston	Present
Valerie Crockett	Tennessee Valley Authority	Present
Michael Desselle	Southwest Power Pool	Present
Bruce Ellsworth	New York State Reliability Council	Present
Joseph R. Hartsoe	American Electric Power Service Corp.	
Richard Kruse	Spectra Energy Corp	Present
Greg Lander	Skipping Stone, LLC	Present
Debbie McKeever	Oncor Electric Delivery Company LLC	
Rae McQuade*	North American Energy Standards Board	Present
Randy E. Parker	ExxonMobil Gas and Power Marketing Company	
Timothy Simon	TAS Strategies	

*Mr. Boswell and Ms. McQuade are non-voting members of the Parliamentary Committee.

6. Other Attendance

Name	Organization
Jonathan Booe	North American Energy Standards Board
Elizabeth Mallett	North American Energy Standards Board
Gene Nowak	Kinder Morgan
Denise Rager	North American Energy Standards Board
Kevin Spontak	Midcontinent Independent System Operator
Terry Thorne	JKM Energy & Environmental Consulting
Caroline Trum	North American Energy Standards Board
Kim Van Pelt	Boardwalk Pipeline Partners
Kathy York	Tennessee Valley Authority



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December 7, 2017

TO: NAESB Parliamentary Committee Members: Bill Boswell, Jim Buccigross, Cade Burks, James Cargas, Valerie Crockett, Michael Desselle, Bruce Ellsworth, Richard Kruse, Greg Lander, Debbie McKeever, Rae McQuade, Randy Parker, Timothy Simon
FROM: Jonathan Booe, NAESB Executive Vice President & CAO
RE: Parliamentary Committee Meeting Minutes – November 17, 2017

NAESB Parliamentary Committee Conference Call Friday, November 17, 2017 from 1:00 PM to 2:30 PM Central

1. Administration and Welcome

Mr. Desselle welcomed the participants and called the meeting to order. Mr. Booe provided the antitrust guidance reminder. Mr. Booe called the roll of committee members and established quorum. Mr. Desselle reviewed the agenda with the committee. Mr. Simon moved, seconded by Mr. Cargas, to adopt the agenda as drafted. The motion passed without opposition.

Mr. Desselle reviewed the July 26, 2017 draft meeting minutes with the participants and asked for any modifications. None were offered. Mr. Parker moved, seconded by Ms. Crockett, to adopt the draft minutes as final. The motion passed without opposition.

The final meeting minutes may be accessed at following hyperlink: <https://www.naesb.org/pdf4/parliamentary072617fm.docx>.

2. Review Results of Board Action to Support Weighted Voting and Resolve the Majority Voting Issue

Mr. Desselle asked Mr. Booe to review the results of the votes on the modifications to the NAESB Bylaws and Certificate of Incorporation to support weighted voting. Mr. Booe stated that the modifications to the Bylaws and Certificate of Incorporation were adopted by the Board of Directors on September 26, 2017 with one vote in opposition. The ballot for the membership ratification of the modification to the Certificate of Incorporation was distributed on September 28, 2017 and the changes were ratified on October 30, 2017 with one vote in opposition. Mr. Booe stated that the updated governing documents have been posted and the NAESB office will coordinate filing the updated Certificate of Incorporation with the state of Delaware.

3. Discuss Governance Document Update

Mr. Desselle stated that earlier in the year the committee had discussed undertaking an update of the NAESB governance documents. He stated that in addition to reviewing the documents to make consistency changes for the weighted voting measures just adopted, Mr. Booe and Mr. Boswell had provided a plan to move forward with a “NAESB 2.0” effort captured in the [work paper](#) posted for today’s meeting. Mr. Booe reviewed the work paper with the participants and described the path forward for the update. Mr. Desselle asked if there were any objections to moving forward with the direction described. None were offered. Mr. Desselle moved to direct the NAESB staff to undertake efforts to update the NAESB governing documents as described in the work paper and to report back to the committee when substantive progress has been made. Ms. Crockett seconded the motion and the motion passed without opposition. Mr. Desselle noted that the effort will be significant and that there were probably be fewer committee meetings in 2018

4. Other Business and Action Items

No other business was discussed.

5. Adjourn

The meeting was adjourned at 1:15 PM Central.



North American Energy Standards Board

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6. Attendance by Committee Members

Parliamentary Committee Members		
Name	Organization	Attendance
Bill Boswell*	NAESB General Counsel	Present
Jim Buccigross	8760, Inc.	
J. Cade Burks	Big Data Energy Services	
James P. Cargas	City of Houston	Present
Valerie Crockett	Tennessee Valley Authority	Present
Michael Desselle	Southwest Power Pool	Present
Bruce Ellsworth	New York State Reliability Council	Present
Richard Kruse	Spectra Energy Corp	Present
Greg Lander	Skipping Stone, LLC	
Debbie McKeever	Oncor Electric Delivery Company LLC	Present
Rae McQuade*	North American Energy Standards Board	Present
Randy E. Parker	ExxonMobil Gas and Power Marketing Company	Present
Timothy Simon	TAS Strategies	Present

*Mr. Boswell and Ms. McQuade are non-voting members of the Parliamentary Committee.

7. Other Attendance

Name	Organization
Jonathan Booe	North American Energy Standards Board
Pete Connor	AGA
David Crabtree	Tampa Electric Company
Elizabeth Mallett	North American Energy Standards Board
Marcy McCain	Spectra Energy Corp.
Denise Rager	North American Energy Standards Board
Kevin Spontak	Midcontinent Independent System Operator
Kim Van Pelt	Boardwalk Pipeline Partners



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via posting

TO: NAESB Board Revenue Committee Members: Michael Desselle, Jim Buccigross, Cade Burks, Valerie Crockett, Bruce Ellsworth, Joe Hartsoe, Debbie McKeever, Gene Nowak, Randy Parker, Terry Thorn, Roy True
FROM: Jonathan Booe, Executive Vice President and CAO
RE: Meeting Notes from the NAESB Board Revenue Committee Conference Call on November 17, 2017
DATE: November 27, 2017

Dear Board Revenue Committee Members,

A Board Revenue Committee conference call was held on November 17, 2017. The meeting was called to order at 2:30 PM Central. Mr. Desselle presided over the meeting. The notes and attachments below serve as a record for the meeting.

Notes from the November 17, 2017 NAESB Board Revenue Committee Conference Call

Administrative Mr. Desselle welcomed the committee members to the conference call and provided the antitrust and other meeting policy guidance. He called the roll of the Revenue Committee and established quorum. Mr. Desselle reviewed the agenda for the meeting, and Ms. Crockett moved to adopt it as drafted. Mr. True seconded the motion and the motion passed without opposition. Also, the committee reviewed the draft minutes from the August 31, 2017 conference call. Ms. Crockett moved to adopt the minutes as final and Mr. True seconded the motion. The motion passed without opposition.

Communications Update Mr. Booe delivered an update on the NAESB communication efforts. He noted the pending publication of the August through October NAESB bulletin, reviewed the NAESB monthly update conference call schedule and highlighted the recent speaking engagements undertaken by the staff. He also noted that Ms. Mallett will have an article published in the December issue of Natural Gas and Electricity. Mr. True noted that the staff provided a presentation concerning the responsibilities of subcommittee co-chairs in the WEQ for those that volunteered for the leadership position within the last few months.

Publication Schedule Ms. Rager reviewed the publication schedules with the participants, and noted that the WEQ will be the last quadrant to publish in 2017 on December 8th. She stated that publication dates have not been set for the other quadrants at this time since they recently published their latest versions.

Revenue Report, Membership Report & 2018 Revenue Projections Ms. McQuade stated that she could address the agenda items for the review of the latest revenue report, the membership report and the 2018 revenue projections together. She began by reviewing the latest [revenue report](#). Specifically, she highlighted the reduction in expenses for 2017 and the journal entry error discovered by the auditors during the annual financial review. She stated that the error will modify the negative retained earnings figure for 2016 but is not significant. Mr. Nowak asked what changes could be attributed to the expense reduction. Ms. McQuade stated that the reduction can be partially attributed to fewer meeting and travel expenses during the year. Next, she reviewed the [2018 revenue projections](#) to incorporated into the 2018 budget presented to the board in December. It was noted that there was cut and paste error in the work paper. Ms. McQuade stated that she would correct the error and that if there were any changes to the projections based on the revenue received in October, she would circulate a new draft with the participants prior to the board meeting.

Next, Ms. McQuade and Ms. Rager reviewed the membership and prospect reports with the participants. Mr. Booe stated that the NAESB office is distributing a letter to the General



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Notes from the November 17, 2017 NAESB Board Revenue Committee Conference Call

Counsel's of the companies included on the list of the WGQ entities without recorded access informing them of how they can access the new version of WGQ standards.

GBA, SEPA and the Retail Structure Review Committee

Mr. Booe delivered quick update don the activities underway between the Green Button Alliance, the Smart Electric Power Alliance and NAESB to better coordinate their activities. NAESB and the GBA finalized a MoU defining their relationship consistent with past discussions held by the Revenue Committee and NAESB staff is initiating discussions with SEPA about a similar arrangement. Mr. Desselle provided an update of the RSRC and noted that they have a meeting coming on December 3rd to continue their discussions about the future of the RMQ.

Other Business and Action Items

The date and time of the next Board Revenue Committee meeting will be announced by the NAESB office.

Action Items:

- Ms. McQuade will distribute any modifications to the revenue projections for the 2018 budget if any are made prior to the board meeting.

Adjourn

The meeting adjourned by consensus at 3:22 PM Central.

Work Papers Provided for the Meeting

- **Agenda Item 1:** Antitrust Guidance: http://www.naesb.org/misc/antitrust_guidance.doc (antitrust), http://www.naesb.org/pdf4/board_revenue_committee_members.pdf (roster), https://www.naesb.org/pdf4/bd_revenue111717a.docx (agenda), https://www.naesb.org/pdf4/bd_revenue083117notes.docx (notes)
- **Agenda Item 2:** NAESB Communication Strategy https://www.naesb.org/pdf4/naesb_communications_strategy.pdf
- **Agenda Item 3:** Publication Schedules: https://www.naesb.org/misc/bd_revenue_publication_history_092917.docx (Publication Work Paper), https://www.naesb.org/misc/wgq_publication_schedule_ver3_2.doc (WGQ Version 3.2), https://www.naesb.org/misc/weq_publication_schedule_ver3_2.doc (WEQ Version 003.2), https://www.naesb.org/misc/retail_publication_schedule_ver3_3.doc (RMQ Version 3.3)
- **Agenda Item 4:** Revenue Report September 2017: <https://www.naesb.org/misc/revenue111717wp1.docx> (Sept 2017 Revenue Report), <https://www.naesb.org/misc/revenue111717wp2.docx> (Sept 2017 Revenue Statistics)
- **Agenda Item 5:** Membership Reports and Prospect List: https://www.naesb.org/misc/membership_report_103117.docx (Oct 2017 Report), https://www.naesb.org/pdf4/bod_terms.pdf (Board



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Roster), https://www.naesb.org/pdf4/ec_terms.pdf (EC Roster), https://www.naesb.org/pdf4/weq_jurisdictional_entities_without_recorded_access.pdf (WEQ Entities Without Recorded Access), https://www.naesb.org/pdf4/wgq_jurisdictional_entities_without_recorded_access.pdf (WGQ Entities Without Recorded Access), https://www.naesb.org/misc/member_prospect_list_103117.docx (Oct 2017 Prospect List)

- **Agenda Item 6:** Revenue Projections – 2018
Budget: <https://www.naesb.org/misc/revenue111717whhttps://www.naesb.org/misc/revenue111717wp3.docxp3.docx> (2018 Budget)
- **Agenda Item 8:** Board Retail Structure Review
Committee: https://naesb.org/retail_structure_review.asp (November 3, 2017 Agenda)

November 17, 2017 NAESB Board Revenue Committee Conference Call REVENUE COMMITTEE MEMBERS

Name	Organization
Valerie Crockett	Tennessee Valley Authority
Michael Desselle	Southwest Power Pool
Bruce Ellsworth	New York State Reliability Council
Debbie McKeever	Oncor Electric Delivery Company
Gene Nowak	Kinder Morgan Inc.
Randy Parker	Exxon Mobil Corporation
Roy True	ACES

OTHER ATTENDEES

Name	Organization
Jonathan Booe	North American Energy Standards Board
Pete Connor	AGA
David Crabtree	Tampa Electric
Elizabeth Mallett	North American Energy Standards Board
Steve McCord	TransCanada Pipelines USA
Rae McQuade	North American Energy Standards Board
Denise Rager	North American Energy Standards Board
Kevin Spontak	MISO
Kim Van Pelt	Boardwalk Pipeline Partners



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via posting

TO: NAESB Board Strategic Plan Ad Hoc Task Force Members and Interested Industry Parties
FROM: Elizabeth Mallett, Deputy Director, NAESB
RE: Meeting Notes from the NAESB Board Strategic Plan Ad Hoc Task Force Conference Call – November 17, 2017
DATE: November 17, 2017

Dear Task Force Members,

A Board Strategic Plan Ad Hoc Task Force conference call was held on Friday, November 17, 2017. The meeting was called to order at 10:00 AM Central. Mr. Desselle presided over the meeting. The notes and attachments below serve as a record for the meeting.

Notes from the November 17, 2017 NAESB Board Strategic Plan Ad Hoc Task Force Conference Call

Administrative: Mr. Desselle welcomed the participants, called the roll of the task force, and established quorum. Mr. Booe provided the antitrust guidance and other meeting policy reminder. Ms. Crockett, seconded by Ms. Tierney, moved to adopt the draft agenda as final. The motion passed without opposition. Mr. Desselle reviewed the draft notes from the April 19, 2017 conference call with the participants. Ms. Crockett, seconded by Mr. True, moved to adopt the draft notes as final. The motion passed without opposition.

Review the Proposed 2018 Annual Plans for the WEQ, WGQ and RMQ to Ensure Consistency with the 2017-2019 NAESB Strategic Plan Mr. Booe reviewed the Proposed 2018 Wholesale Electric Quadrant (WEQ) Annual Plan. Ms. McQuade stated that there may be additional work in the WEQ driven by the National Academy of Sciences Report, [Enhancing the Resilience of the Nation's Electricity System](#). Mr. Booe stated that a provisional item regarding that report and the recent DoE Notice of Proposed Rulemaking, [Grid Reliability and Resilience Pricing](#), Docket No. RM18-1000 was discussed in each quadrant during the series of Annual Plan Subcommittee conference calls that took place on October 18, 2017. He explained that, in the first call, the Wholesale Gas Quadrant (WGQ) decided that it should wait for policy determinations to be made before taking action to consider any efforts in these areas. In the following two Annual Plan Subcommittee calls, the WEQ and Retail Markets Quadrant (RMQ) made the same determination. Mr. Desselle noted that NERC recently released a report, [Special Reliability Assessment: Potential Bulk Power System Impacts Due to Severe Disruptions on the Natural Gas System](#), that may create the need for complementary business practice standards.

Mr. True asked why gas-electric coordination was not placed on the annual plan as a provisional item. Mr. Desselle stated that based on information from the FERC Commissioners, it may be prudent to wait until there is more policy guidance before taking action. He also referenced the discussions that took place during the Annual Plan Subcommittee meetings. The task force agreed that the Proposed 2018 WEQ Annual Plan is in alignment with the 2017-2019 NAESB Strategic Plan.

Mr. Booe reviewed the Proposed 2018 WGQ Annual Plan. Mr. Desselle noted that a provisional item to potentially address any items developed from the Sandia National Laboratories surety assessment was added to the proposed annual plan. Mr. Booe stated that a scoping document has been developed for the surety assessment and a conference call is being scheduled for the Critical Infrastructure Committee in early December. Mr. Booe stated that, to date, the staff at Sandia National Laboratories has indicated that it is on track to complete the assessment by late December or early January. The task force agreed that the Proposed 2018 WGQ Annual Plan is



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Notes from the November 17, 2017 NAESB Board Strategic Plan Ad Hoc Task Force Conference Call

consistent with the 2017-2019 NAESB Strategic Plan.

Mr. Booe reviewed the 2018 RMQ Annual Plan with the participants. He noted that several subject matter experts in the RMQ have retired and that Mary Do, of Latitude Technologies, has picked up the leadership effort, but does not have much support to address the annual plan items. Mr. Booe also noted that the proposed annual plan includes an item regarding the Sandia National Laboratories as well as an item to support the results of the Board Retail Structure Review Committee review. Additionally, there is a provisional item to support community solar initiatives underway in Illinois. The task force determined that the Proposed 2018 RMQ Annual Plan is consistent with the 2017-2019 NAESB Strategic Plan.

Discuss the Development of the 2018 NAESB Standards Development Survey

Mr. Booe stated that NAESB will draft a 2018 NAESB Standards Development Survey. The strawman of the survey will be provided in April and distributed over the summer. He encouraged the participants to contact him with any recommendations for information to include in the survey.

Discuss Activities of Retail Structure Review Committee

Mr. Booe stated that the Board Retail Structure Review Committee (RSRC) met on November 3, 2017. The Committee was reactivated by Mr. Desselle to examine the membership levels within the RMQ and make suggestions to the Board of Directors to address membership deficiency. Mr. Booe noted that Board RSRC revised its proposed mission statement and highlighted the activities that were currently underway within the quadrant. The next Board RSRC conference call will be held on December 1, 2017 from 2:00 PM to 4:00 PM Central.

Ms. Tierney suggested that NAESB reach out to the National Association of State Energy Officials (NASEO), along with standards groups dealing with microgrids, energy storage, on-site storage, and electric vehicle charging. She volunteered to introduce the NAESB leadership to her connections within these groups. The participants encouraged NAESB staff to continue engagement with the National Association of Regulatory Utility Commissioners (NARUC) on the issue. Mr. True asked whether the RSRC is considering a stretch goal for increased membership. He stated that a membership threshold of 45 or 50 may provide the cushioning needed to not have to frequently reevaluate the quadrant membership levels.

Ms. McKeever explained that, until there is a driver for companies to join the RMQ, the membership numbers will not improve. She stated that those companies that were heavily involved in the RMQ have not replaced the subject matter experts that have left. Ms. McKeever stated that while there is a temporary membership driver at times, such as the Energy Services Provider Interface (ESPI) or Open Field Message Bus (OpenFMB), there is no long-term driver. Mr. Booe noted that the RSRC discussed that OpenFMB and ESPI are more temporary standards development efforts, while the EDI standards that support customer choice require maintenance and much more time to develop. Mr. True stated that the value of participation should also be considered. Mr. Simon volunteered to introduce the NAESB leadership to additional contacts in California that are working on community choice aggregation.

Other Business

There was no other business discussed.

Outstanding Action Items

- The NAESB staff will correct the typos on the annual plans.
- Ms. Tierney and Mr. Booe will reach out to a number of groups.



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Notes from the November 17, 2017 NAESB Board Strategic Plan Ad Hoc Task Force Conference Call

- Mr. Simon will also reach out to additional contacts.
- All participants are encouraged to dial into the December 1, 2017 Board RSRC call.

Adjourn:

Ms. Tierney, seconded by Mr. Simon, moved to adjourn the meeting at 11:00 AM Central.

**Work Papers
Provided for the
Meeting:**

- **Agenda Item 1:** Administrative: http://www.naesb.org/misc/antitrust_guidance.doc (antitrust and other meeting policies), https://www.naesb.org/pdf4/board_strategic_plan_adhoc_taskforce_members.pdf (roster), http://www.naesb.org/pdf4/bd_strategic_111717a.docx (agenda), https://naesb.org/pdf4/bd_strategic_041917mn.docx (April 19, 2017 Notes)
 - **Agenda Item 2:** Proposed 2018 Annual Plans: https://naesb.org/pdf4/bd_strategic_111717w2.docx (WEQ 2018 Annual Plan); https://naesb.org/pdf4/bd_strategic_111717w1.docx (WGQ 2018 Annual Plan); https://naesb.org/pdf4/bd_strategic_111717w3.docx (RMQ 2018 Annual Plan)
 - **Agenda Item 3:** 2016 NAESB Standards Development Survey: https://naesb.org/pdf4/bd_strategic_2016survey_063016.pdf
 - **Agenda Item 4:** Board Retail Structure Review Committee: https://naesb.org/retail_structure_review.asp (November 3, 2017 Agenda)
 - Board Strategic Plan 2017-2019: https://www.naesb.org/pdf4/naesb_strategic_plan_2017_2019.pdf
 - Board Strategic Plan 2015-2017: https://www.naesb.org/pdf4/naesb_strategic_plan_2015_2017.pdf
 - Board Strategic Plan Report: https://www.naesb.org/pdf4/board_strategic_plan_task_force_report_adopted_091114.docx
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November 17, 2017 NAESB Board Strategic Plan Ad Hoc Task Force Conference Call

STRATEGIC PLAN AD HOC TASK FORCE MEMBERS

Name	Organization	Attendance
J. Cade Burks	Big Data Energy Services	
James P. Cargas	City of Houston	
Valerie Crockett	Tennessee Valley Authority	Present
Lorraine Cross	Cross & Company, P.L.L.C.	
Dave Darnell	Systrends, USA	Present
Michael Desselle (Chairman)	Southwest Power Pool	Present
Richard Kruse	Enbridge	Present
Mark Lauby	North American Electric Reliability Corporation	
Debbie McKeever	Oncor Electric Delivery Company LLC	Present
Timothy Alan Simon	TAS Strategies	Present
Mark Stultz	BP Energy	
Terence (Terry) Thorn	JKM Energy & Environmental Consulting	
Sue Tierney	Analysis Group, Inc.	Present
Roy True	Alliance for Cooperative Energy Services Power Marketing LLC	Present

OTHER ATTENDEES

Name	Organization
Jonathan Booe	North American Energy Standards Board
Pete Connor	American Gas Association
David Crabtree	Tampa Electric Company
Bill Gallagher	Vermont Public Power Supply Authority
Annabelle Lee	Nevermore Security
Elizabeth Mallett	North American Energy Standards Board
Marcy McCain	Spectra Energy Corp.
Steven McCord	TransCanada Pipelines USA, Ltd
Rae McQuade	North American Energy Standards Board
Denise Rager	North American Energy Standards Board
Caroline Trum	North American Energy Standards Board

*Please note that attendees that did not provide their company affiliation are not included in the attendance list above. If you did attend this meeting and are not listed, please alert the NAESB office and we will update this record.



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NAESB Strategic Plan –2017-2019

The North American Energy Standards Board (NAESB) serves as an industry forum for the development and promotion of standards which will lead to a seamless marketplace for wholesale and retail natural gas and electricity, as recognized by its customers, business community, participants, and regulatory entities.

Mission

To propose and adopt voluntary standards and model business practices designed to promote more competitive and efficient natural gas and electric service; as such standards apply to electronic data interchange (“EDI”) record formats and communications protocols and related business practices that streamline the transactional processes of the natural gas and electric industries.

Vision

To be a standards development organization that utilizes subject matter experts from the energy industries to develop voluntary business practice standards and model business practices that improve market transactions.

Core Values and Guiding Principles

The following core values and guiding principles serve as guidelines for all NAESB activities.

Independence – NAESB is an independent body. While it may have informal liaisons to trade associations, other standards organizations and government agencies, it should be a separately incorporated, fully independent, organization.

Openness – NAESB should conduct its activities in the open. Openness should apply to all aspects of its organizational governance, elections and Standards or Model Business Practices development processes, including work products and related meetings. The meetings, agendas and items set for discussion and/or possible vote should be publicly noticed, and interested parties, regardless of membership should have the opportunity to participate.

Voluntary – Participation in NAESB should be voluntary and adherence to its Standards and Model Business Practices should, from NAESB's perspective, also be voluntary. Membership should not be dependent upon whether the company seeking membership implements the Standards and Model Business Practices. NAESB will not maintain any type of enforcement activity.

Balance of Interests – The voting with respect to governance, Standards, Model Business Practices, and Operating Practices should provide for balance among industry Segments and Quadrants participating in NAESB so as to avoid any one interest group or group of interests having the ability to exert undue influence over any decision.

Inclusivity – All interested parties have the opportunity to participate in the activities of the standards organization and to join NAESB. All participants should be identified and associated with a Segment and Quadrant.



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Consensus-Based Decisions – The voting rules should be constructed so that decisions based upon consensus are encouraged. In addition, with respect to voting upon the Standards or Model Business Practices issued or to be issued by NAESB, energy Quadrants and their Segments should be assured that each energy Quadrant and its Segments can protect its interests by requiring both super-majorities and a minimum per Segment, and that a per Quadrant threshold be achieved for passage of such Standards and Model Business Practices by NAESB.

No Advocacy – NAESB should be prohibited from taking advocacy positions on its Standards or Model Business Practices as a party to any proceeding before a governmental agency. This is not intended to preclude NAESB's duly authorized representatives from educating or communicating with any group as to NAESB's procedures and/or work product(s).

Membership Driven – NAESB should be membership driven. The paid staff should perform administrative functions to support NAESB's activities. Requests for Standard(s) or Model Business Practices should be proposed by identified persons and not by NAESB or its committees and subcommittees. NAESB's staff should neither have a vote nor a role with respect to conducting the affairs of NAESB other than to provide ministerial functions.

Develop Practices, Not Policy – The committees, subcommittees and task forces of NAESB should endeavor not to create policy in their Standards or Model Business Practices development activities absent being requested to do so by the Board.

Incorporate Best Practices – To the extent reasonable, the Standards and Model Business Practices to be established should reflect standardization and streamlining of activities chosen as best practices from among existing and reasonably anticipated policies and practices.

Broad Applicability – To the extent reasonable, the Standards and Model Business Practices to be established should be structured such that they can be applicable to both the electric and natural gas industries. The two industries should work together to develop Standards and Model Business Practices when joint Standards and Model Business Practices are appropriate. However, where operating requirements dictate the need for different approaches, discrete Standards and Model Business Practices will be established separately by Quadrant(s).

ANSI Accreditation – NAESB is an American National Standards Institute Standards Development Organization.

Strategic Goals 2017-2019

NAESB has identified four goals in the following strategic areas: standards; certification; tool management; and coordination and collaboration.

Standards

Goal 1: To develop relevant and effective business practice standards and model business practices through wide industry participation that supports the commercial needs of the wholesale and retail natural gas and electric markets.

Objective 1: Business practice standards and model business practices will be clear and concise.

Key Deliverables:

- When possible and appropriate, all business practice standards and model business practices will be distributed for an informal industry wide comment period by subcommittees and/or task forces during the standards drafting process.



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- All draft business practice standards and model business practices will be distributed for a formal industry wide thirty-day comment period before being reviewed by the appropriate Executive Committee(s).
- All draft business practice standards and model business practices and industry comments will be reviewed by the appropriate Executive Committee(s) with the authority to make any necessary edits prior to adoption and distribution for quadrant ratification.

Objective 2: Business practice standards and model business practices will reflect a wide range of industry participation and interests.

Key Deliverables:

- Membership in NAESB is open to all interested parties.
- The submission of standards development requests and participation in the standards development process is open to all interested parties despite membership status.
- All draft business practice standards and model business practices will be distributed for a formal industry wide thirty-day comment period before being reviewed by the appropriate Executive Committee(s).

Objective 3: Business practice standards and model business practices will be developed in a timely and efficient manner.

Key Deliverables:

- Resource availability and deadlines for the development of all business practice standards and model business practices will be established and managed by the NAESB Board of Directors through the quadrant annual plans.
- Open discussion and responses to questions concerning the standards development process of individual business practice standards and model business practices will be facilitated by NAESB staff.

Certification

Goal 2: To successfully maintain a certification process that fosters market confidence in products and/or services that support the existing and future NAESB business practice standards and model business practices for adoption by interested industry parties.

Objective 1: Certification will provide transparency into the relevant products and/or services offered by parties claiming NAESB certification.

Key Deliverables:

- Require and make available any documentation that supports compliance with the requirements for individual certification programs.
- All requests for the development of certification programs will be considered by the Board of Directors.
- The development and maintenance of NAESB certification programs will be the responsibility of the Board Certification Program Committee.

Tool Management

Goal 3: To successfully manage tools that efficiently supports industry commercial functions.

Objective 1: NAESB will be responsive to the needs of the industry in the management of commercially related tools.



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Key Deliverables:

- Maintenance of a process whereby enhancements to the NAESB managed tool can be implemented when supported by industry.
- NAESB staff, with support of the Board of Directors, will establish and maintain relationships with any vendors or service providers engaged in the implementation of NAESB managed tool.
- All requests for the adoption or development of commercially related tools will be considered by the Board of Directors.

Coordination and Collaboration

Goal 4: To successfully coordinate and collaborate with industry participants, both member and non-member parties, and external organizations in support of the goals of the industry and of NAESB.

Objective 1: NAESB will maintain strong relationships with industry stakeholders and ensure that the organization is inclusive and responsive to all interested parties.

Key Deliverables:

- Participate in industry activities including conferences, seminars, forums and other industry gatherings that are supportive of industry and the organization.
- Offer courses to interested parties, both members and non-members, related to the business practice standards and model business practices and other NAESB work products.
- Execute of the NAESB Communications Strategy.

Objective 2: NAESB will maintain strong working relationships with external industry organizations and regulators.

Key Deliverables:

- NAESB staff will continue to maintain an open dialog and hold regular meetings with the staff and leadership of external organizations and regulators relevant to the goals of NAESB and supportive of the industry.
 - These organizations include, but are not limited to, the Department of Energy, the Department of Commerce, the National Petroleum Council, the Federal Energy Regulatory Commission, the National Association of Regulatory Utility Commissioners, individual state commissions, the North American Electric Reliability Corporation, the National Institute of Standards and Technology, the American National Standards Institute, the White House Office of Science and Technology Policy, trade organizations, and other various industry organizations, forums, coalitions, councils and collaborations.



North American Energy Standards Board

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TO: NAESB Board Retail Structure Review Committee Members
FROM: Jonathan Booe, NAESB Executive Vice President & CAO
RE: Notes from the NAESB Board Retail Structure Review Committee Conference Call – November 3, 2017
DATE: November 27, 2017

Dear Retail Structure Review Committee,

A Retail Structure Review Committee conference call was held on November 3, 2017 to initiate discussions concerning the future of the RMQ and the potential membership deficiencies. Mr. Booe served as the counsel for the conference call and the notes below serve as the record.

Notes from the November 3, 2017 NAESB Board Retail Structure Review Committee Conference Call

- Administrative
- Mr. Burks welcomed the participants to the conference call and thanked them for their attendance. Mr. Booe provided the antitrust guidance and meeting policy reminder. Mr. Booe called the updated roll of the Retail Structure Review Committee (RSRC), and quorum was established. Mr. Burks reviewed the agenda with the participants and Mr. Stultz moved to adopt it as drafted. Mr. Peress seconded the motion and the motion passed without opposition.
 - Next, Mr. Burks reviewed the revised mission statement with the participants.

“The Retail Structure Review Committee functions solely at the pleasure of the NAESB Board of Directors and reports to the NAESB Board of Directors. The Committee will make recommendations to the full board to address the membership levels in the Retail Markets Quadrant (RMQ) and realign activities with the overarching goals of the RMQ.”

Mr. Desselle moved to adopt revised mission statement and Mr. Gallagher seconded the motion. The motion was adopted without opposition. Mr. Desselle thanked all of the committee members and non-members for their participation and Mr. Burks for his leadership.

- Discussion
- Mr. Burks opened the discussion by recognizing many of the challenges and opportunities faced by the RMQ. Specifically, he noted that he has been given feedback that the some of the obstacles to increasing membership by retail participants in NAESB are related to the high cost of membership, the lack of interest in nationalized EDI standards when work in the individual states is already underway and the development of copyright enforced standards rather than open standards. He stated that these obstacles need to be addressed and that the RMQ should consider how they can be addressed in relation to the evolution of the Open FMB and ESPI model business practices and the potential for new standards development to support the wind and solar industries. Mr. Burks asked for Mr. Booe and others on the conference call to walk through the [Work Paper Packet](#) prepared for the meeting and to discuss each of the items in the context of the challenges and opportunities that had been identified. Through discussion the following observations and action items were identified

Open FMB

- Consider making Appendix A included in the Open FMB Model Business Practices available in a similar manner as the schema included from the ESPI Model Business Practices to encourage adoption of the standard
 - Consider whether modifications to the NAESB Intellectual Property Policy would
-



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Notes from the November 3, 2017 NAESB Board Retail Structure Review Committee Conference Call

encourage participation by vendors in the Open FMB Task Force

- Consider whether NAESB should pursue the possibility of developing a certification program administered by NAESB

ESPI / Green Button

- Consider actions NAESB could take to overcome the perception that NAESB only develops EDI related standards in the retail market
- It is unlikely the standard development activities related to the ESPI model business practices will drive new membership
- Consider outreach to the state utility commissions that have Green Button or Open FMB implementations in their jurisdictions.

State Working Group Activities

- Consider the development of a value proposition for moving the technical work of the individual state working groups into NAESB, as the cost of membership is prohibitive of that taking place

Solar and Wind Participation

- Continue discussions related to standards development to support the solar and wind generation industries

Generalized Observations/Considerations

- How do we align the NAESB relationship with the regulatory community in the retail market with the relationship in the wholesale market?
- What is the value proposition for general participation in the RMQ?
- How we engage the retail suppliers in NAESB?
- Should we consider a lesser form of membership in the RMQ to encourage participation?
- How do we work with other standards organizations to encourage participation in NAESB?
- Mr. Burks thanked all of the participants for their feedback and thoughts and noted that the discussions during the conference call would be used for the development of an agenda for the next meeting on December 1, 2017. He stated that the participants should be considering what type of report they would like to provide to the Board of Directors during the next meeting on December 14, 2017. s

Adjournment

- The meeting was adjourned at 3:51 pm Central.

Member Attendance

Name	Organization	Attendance
Cade Burks	Big Data Energy Services	Phone
James P. Cargas	City of Houston	
Michael Desselle	Southwest Power Pool	Phone
Bruce Ellsworth	New York State Reliability Council	Phone



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Notes from the November 3, 2017 NAESB Board Retail Structure Review Committee Conference Call

William Gallagher	Vermont Public Power Supply Authority	Phone
Wendell Miyagi	Comverge	
Jonathan Peress	Environmental Defense Fund	Phone
Tim Sherwood	Southern Company Gas	
Leigh Spangler	Latitude Technologies, LLC	Phone
Mark Stultz	BP Energy	Phone

Observer
 Attendance

Name	Organization
Jonathan Booe	NAESB
Donald Coffin	Green Button Alliance
Valerie Crockett	TVA
Mary Do	Latitude Technologies, LLC
Patrick Eynon	Ameren Services
Stuart Laval	Duke Energy
Keith Sappenfield	ERM
Doug Smith	New England ISO
Sam Watson	NARUC
Lincoln Wood	Southern Company



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via email & Posting for Interested Parties, November 27, 2017

TO: NAESB Board Retail Structure Review Committee (RSRC) Members and Retail Markets Quadrant (RMQ) Board and Executive Committee Members

FROM: Rae McQuade, NAESB President & COO

RE: Announcement and Agenda for NAESB Retail Structure Review Committee Conference Call

Dear All – The Retail Structure Review Committee has scheduled a conference call for Friday, December 1, 2017 from 2:00 pm to 4:00 pm Central to continue discussions concerning the membership levels in the Retail Markets Quadrant (RMQ) and the future direction of the quadrant’s activities. Below please find the agenda and instructions for participating in the meeting.

TOPIC	INFORMATION/REQUESTS
Previous Activities & Purpose of Current Activity	<ul style="list-style-type: none">• The Retail Structure Review Committee (RSRC) was originally formed in December 2004 by Michael Desselle to address the issue of membership in the retail quadrants and to report to the Board of Directors on progress made towards meeting the membership thresholds and structural changes in support of the retail quadrants. In September 2012, the Committee was reactivated to review the structure of the Retail Electric Quadrant and Retail Gas Quadrant and make recommendations to the Board of Directors concerning the future of the Quadrants. After a recommendation to merge the two quadrants was made by the committee, the Board took action in April 2013 to complete the merger and move forward with a single Retail Markets Quadrant (RMQ). Since that date, the discussions concerning the status of the RMQ membership have been conducted during the Retail Leadership, Board Revenue Committee meetings.• As membership within the RMQ has continued to hover just above the 40-member requirement defined in the NAESB Bylaws, Michael Desselle, Chairman of the Board of Directors, has requested that the Retail Structure Review Committee begin meeting and make recommendations to the full board to address the membership levels and realign the activities of the quadrant with the overarching goals of the RMQ. The RSRC mission statement can be found following: <i>“The Retail Structure Review Committee functions solely at the pleasure of the NAESB Board of Directors and reports to the NAESB Board of Directors. The Committee will make recommendations to the full board to address the membership levels in the Retail Markets Quadrant and realign activities with the overarching goals of the RMQ.”</i>• Materials for this group are posted on the NAESB web site in the Retail Structure Review Committee page: http://www.naesb.org/retail_structure_review.asp.
Call & web cast information:	<ul style="list-style-type: none">• Call-in information for attendance by phone: Conference number: 866-740-1260, Access code: 7133562, Security code: 3991• Web cast is accessible through http://www.readytalk.com, using the same access code and security code.• Any interested party can attend. All voting and motions are reserved for the members of the committee.• Please provide any written comments to the NAESB Office (drager@naesb.org) prior to the



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TOPIC	INFORMATION/REQUESTS
	meeting if you are unable to attend.
Pre-meeting Assignments	<ul style="list-style-type: none">• Review the bylaw requirements for quadrant and segment membership• Review any work papers created for the meeting and submit comments or recommendations in response.
Draft Agenda	<ol style="list-style-type: none">1) Administrative – Welcome, Antitrust & Other Meeting Policies Review, Introduction of Committee Members and Attendees, Adoption of Agenda, Adoption of Meeting Minutes2) Review Work Paper and Discuss Overarching Goals of the Quadrant & Potential Strategies to Increase Membership and Participation3) Discuss Progress Report to be Made to the Board of Directors on December 14, 20174) Summary of Action Items, Assignments and Other Business5) Adjourn
Meeting & Background Reference Materials	<ul style="list-style-type: none">• Agenda Item 1: Antitrust & Other Meeting Policies Guidance: http://www.naesb.org/misc/antitrust_guidance.doc (antitrust), https://www.naesb.org/pdf2/rsrc_members.pdf (roster), https://naesb.org/pdf4/rsrc110317a.docx (agenda), https://www.naesb.org/pdf4/rsrc110317mn.docx (RSRC Notes - November 3, 2017)• Agenda Item 2: Work Paper – <i>to be posted shortly</i>• Agenda Item 3: RSRC Report April 4, 2013: https://naesb.org/pdf4/rsrc022213a1.docx
Schedule of Upcoming Conference Calls	<p>✓ Friday, November 3, 2017, 2:00 pm to 4:00 pm C Friday, December 1, 2017, 2:00 pm to 4:00 pm C Other meetings will be scheduled as needed by Cade Burks.</p>



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TO: NAESB Board Retail Structure Review Committee Members
FROM: Elizabeth Mallett, NAESB Deputy Director
RE: Notes from the NAESB Board RSRC Conference Call – December 1, 2017
DATE: December 7, 2017

Dear Retail Structure Review Committee,

A Retail Structure Review Committee conference call was held on December 1, 2017 to initiate discussions concerning the future of the RMQ and the potential membership deficiencies. Mr. Booe served as the counsel for the conference call and the notes below serve as the record.

Notes from the December 1, 2017 NAESB Board Retail Structure Review Committee Conference Call

- Administrative
- Mr. Burks welcomed the participants to the conference call and thanked them for their attendance. Ms. Mallett provided the antitrust guidance and other meeting policies reminder. Mr. Booe called the updated roll of the Retail Structure Review Committee and quorum was established. Mr. Burks reviewed the agenda with the participants. Mr. Spangler moved to adopt the agenda as drafted. Mr. Gallagher seconded the motion and the motion passed without opposition.
- Discussion
- Mr. Burks walked the participants through the [Work Paper](#) prepared for the meeting. The committee discussed potential ideas in light of the challenges within each of the three areas: State Working Group Activities, Open Field Message Bus (OpenFMB), and Green Button. The following is a highlight of that review.
 - State Working Group Activities
 - Mr. Burks asked whether the committee should make a recommendation to the board regarding the development of a value proposition for moving the technical work of the individual state working groups into NAESB. The participants reviewed the challenges, such as the cost of the NAESB membership versus the free state working group participation. Mr. Booe stated that he would look into a pilot program that was considered when the Retail Gas and Retail Electric Quadrants were created, in which new members were given an opportunity to join at a discounted rate for a limited period. Mr. True noted that, if a lower membership is offered, the website should be segregated to prevent those paying the lower membership from accessing the wholesale standards.
 - The participants discussed the possibility of a tiered structure, based on revenue or participation, for membership in the RMQ. Mr. Laval suggested splitting the membership into voting active participants and observers.
 - Mr. Spangler stated that it would be a tremendous value for energy companies that operate in multiple jurisdictions to have a standardized and centralized place to submit and receive information. In response to a comment that the public utility commissions could assist with funding, Mr. Watson explained that most public utility commissions do not have the discretionary funds needed for these matters.
 - Open Field Message Bus (OpenFMB)
 - Mr. Burks explained that one of the biggest challenges with OpenFMB is defining roles and responsibilities between the Smart Electric Power Alliance (SEPA) and NAESB. Mr. Booe added that SEPA and NAESB are



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Notes from the December 1, 2017 NAESB Board Retail Structure Review Committee Conference Call

continuing discussions to define their roles.

- The participants considered whether modifications to the NAESB Intellectual Property (IP) policy would encourage participation by vendors in the OpenFMB Task Force. Mr. Laval stated that representatives from ABB, Itron, Cisco, and General Electric have indicated to him that they would need more granularity regarding patent protection. Mr. Lackey stated that the SEPA IP policy could be used. Mr. Booe noted that Mr. Lackey and Mr. Laval had previously stated there were vendors that had issues with the SEPA policy as well. Mr. Burks stated that perhaps the NAESB IP policy could be made quadrant specific.
 - Mr. Peress asked how NAESB would structure the Memorandum of Understanding (MOU). Mr. Booe stated that his familiar with the NERC and the Green Button Alliance (GBA) MoU and that it would probably be structured in a similar manner. Mr. Peress suggested that NAESB reach out to Former Chairman Bay during the board meeting to see whether he would consider investing time in the retail efforts. Mr. Booe stated that he would speak with Former Chairman Bay at the board meeting. Mr. Peress offered to write an email to Chairman Bay as well.
 - Mr. Cargas noted that SEPA applied for a trademark for “OpenFMB”. Mr. Booe stated that NAESB is aware that the trademark/certification mark was not yet granted and is continuing to monitor the situation as the initial talks between the two organizations progress.
- ESPI/Green Button
 - Mr. Burks noted that the Ontario Ministry of Energy has issued a Notice of Proposed Rulemaking to adopt the Green Button in its province, and London Hydro is set to provide Green Button as a software service in the Ontarian market.
 - Mr. Booe stated that there are several versions of the ESPI standard being implemented and variations are openly available. He explained that Ontario has a great interest in NAESB updating the ESPI standard given the recent NOPR.
 - Mr. Coffin explained the difference between the derived works from the ESPI Standard and the current version of the ESPI standard. He stated that, the current version is UTC based but does not specify a time zone. The derived works add local time parameters from the Common Information Model. He noted that the current version also has issues with address lines. Mr. Coffin explained that he would like to bring subject matter experts into NAESB to update the current version, but is having difficulties due to the nature of the NAESB IP policy. Mr. Booe stated that the IP policy has been an issue since the work began in 2013. He noted that NAESB is in the process of releasing the XML schema under an Apache 2.0 license.
 - Mr. Burks thanked the participants and noted that during the board meeting, a report and/or discussion should focus on different levels of membership, where NAESB stands with SEPA, the NAESB IP policy.
- Adjournment
- Mr. Peress, seconded by Mr. Cargas, moved to adjourn the meeting at 3:05 PM Central.



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Member Attendance	Name	Organization	Attendance
	Cade Burks	Big Data Energy Services	Phone
	James P. Cargas	City of Houston	Phone
	Michael Desselle	Southwest Power Pool	
	Bruce Ellsworth	New York State Reliability Council	Phone
	William Gallagher	Vermont Public Power Supply Authority	Phone
	Wendell Miyaji	Comverge, Inc.	Phone
	Jonathan Peress	Environmental Defense Fund	Phone
	Tim Sherwood	Southern Company Gas	Phone
	Leigh Spangler	Latitude Technologies, LLC	Phone
	Mark Stultz	BP Energy	
Observer Attendance	Name	Organization	
	Susan Anthony	Electric Reliability Council of Texas, Inc.	
	Jonathan Booe	North American Energy Standards Board	
	Donald Coffin	Green Button Alliance	
	Valerie Crockett	Tennessee Valley Authority	
	Dave Darnell	Systrends USA	
	Mary Do	Latitude Technologies, LLC	
	Larry Lackey	Open Energy Solutions, Inc.	
	Stuart Laval	Duke Energy	
	Elizabeth Mallett	North American Energy Standards Board	
	Doug Smith	New England Independent System Operator	
	Denise Rager	North American Energy Standards Board	
	Roy True	Alliance for Cooperative Energy Services Power Marketing LLC	



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Via email and posting
November 14, 2017

TO: NAESB Critical Infrastructure Committee Members: Bill Boswell, Jim Buccigross, J. Cade Burks, Valerie Crockett, Dave Darnell, Michael Desselle, Bruce Ellsworth, Christopher Freitas, William Gallagher, Bob Gee, Annabelle Lee, Joelle Ogg, Thomas Pearce, Brett Perlman, and Leigh Spangler
CC: NAESB Board of Directors and NAESB Advisory Council
FROM: Rae McQuade
RE: Announcement: Meeting of the NAESB Board Critical Infrastructure Committee – December 4, 2017

Dear Board Critical Infrastructure Committee and Interested Parties,

We have scheduled a conference call and webcast for the Critical Infrastructure Committee to review documentation provided by Sandia National Laboratories regarding the scope of work of the surety assessment. The specifics for our call on Monday, December 4, 2017 are shown below, including the agenda and work papers.

NAESB BOARD CRITICAL INFRASTRUCTURE COMMITTEE MEETING –DECEMBER 4, 2017 – 2:00 PM TO 3:00 PM C

TOPIC	INFORMATION/REQUESTS
Creation of the Group	<ul style="list-style-type: none"> This named committee was created in 2010 at the request of the NAESB Board of Directors. The Committee is tasked with guiding the NAESB Board of Directors on cybersecurity and critical infrastructure activities that affect NAESB. Materials for this group are posted on the NAESB web site in the Board Critical Infrastructure Committee page: https://naesb.org/board_critical_infrastructure.asp.
Call and Web Cast for Monday, December 4, 2017 from 2:00 PM to 3:00 PM Central	<ul style="list-style-type: none"> Call-in information for attendance by phone: Conference number: 866-740-1260 Access code: 7133562 Security code: 3610 Web cast is accessible through http://www.readytalk.com, using the same access code and security code. Any interested party can attend. All voting and motions are reserved for the members of the committee. Please provide any written comments to the NAESB Office (drager@naesb.org) prior to the meeting if you are unable to attend.
Pre-meeting Assignments	<ul style="list-style-type: none"> Review working documents and comments submitted by interested parties If unable to attend, please provide any written comments you would like considered.



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NAESB BOARD CRITICAL INFRASTRUCTURE COMMITTEE MEETING –DECEMBER 4, 2017 – 2:00 PM TO 3:00 PM C

TOPIC	INFORMATION/REQUESTS
Draft Agenda	<ol style="list-style-type: none">1) Administrative – Welcome, antitrust guidance, introduction of committee members and attendees, adoption of agenda2) Discuss Sandia National Laboratories Surety Assessment Tasking Document3) Plan for Future Meetings4) Other Business5) Adjourn
Meeting & Reference Materials	<ul style="list-style-type: none">• Agenda Item 1 – Administrative: http://www.naesb.org/misc/antitrust_guidance.doc (antitrust)• Agenda Item 2 – Sandia National Laboratories Surety Assessment Tasking Document: https://naesb.org/pdf4/bd_cic120417w1.docx (tasking document)
Schedule of Upcoming Conference Calls	<ul style="list-style-type: none">• To be discussed during meeting
Committee Members	https://naesb.org/pdf4/board_critical_inf_members.pdf



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via posting

TO: NAESB Critical Infrastructure Committee Members: Bill Boswell, Jim Buccigross, J. Cade Burks, Valerie Crockett, Dave Darnell, Michael Desselle, Bruce Ellsworth, Christopher Freitas, William Gallagher, Bob Gee, Annabelle Lee, Joelle Ogg, Thomas Pearce, Brett Perlman, and Leigh Spangler
FROM: Caroline Trum, Deputy Director, NAESB
RE: Meeting Notes from the NAESB Board Critical Infrastructure Committee Conference Call – December 4, 2017
DATE: December 7, 2017

Dear Board Critical Infrastructure Committee Members,

A Board Critical Infrastructure Committee conference call was held on December 4, 2017. The meeting was called to order at 2:00 PM Central. Mr. Burks and Mr. Darnell presided over the meeting. The notes and attachments below serve as a record for the meeting.

Notes from the December 4, 2017 NAESB Board Critical Infrastructure Committee Conference Call

Administrative Mr. Burks welcomed the committee members to the conference call. Ms. Trum provided the antitrust and meeting policy guidance and called the roll of the Critical Infrastructure Committee. As quorum was not established, the meeting was declared a working session. Mr. Burks reviewed the agenda. Ms. Crockett moved, seconded by Mr. Darnell, to adopt the agenda. The motion passed without opposition.

Discuss Sandia National Laboratories Surety Assessment Tasking Document Mr. Burks asked Mr. Anderson to review the tasking document provided by Sandia National Laboratories regarding the surety assessment on the NAESB Business Practice Standards. Mr. Anderson stated that Mr. Freitas had contacted Sandia National Laboratories to perform a Department of Energy sponsored surety assessment on the NAESB Business Practice Standards. Sandia National Laboratories had performed two previous surety assessments on the NAESB Business Practice Standards.

The current surety assessment is divided into three tasks: a review of the WGQ and RMQ Internet Electronic Transport and Electronic Delivery Mechanism Standards, a review of the standards and documentation comprising the Public Key Infrastructure (PKI) Certification Program, and a dependency analysis between the gas and electric markets. Mr. Anderson stated that his team with met with a few NAESB subject matter experts in August to gain a better understanding of the standards and how they are translated into operational activities. The overall goal of the surety assessment is to identify any possible security concerns or vulnerabilities, especially those that could impact a more integrated market. Mr. Booe stated that in discussions between NAESB and Mr. Freitas regarding the surety assessment, there was identified a need to include the WGQ contract mechanism to ensure wholesale gas market transactions utilizing the mechanism are secure. He asked if this area was a focus of the surety assessment. Mr. Anderson responded that Sandia National Laboratories is taking a wholistic approach to its review, which includes not only a review of the standards but also how the standards interact and operate. He indicated that this was an area included in the surety assessment.

Mr. Anderson stated that his team is in the process of drafting its report and will work with Mr. Freitas and the Department of Energy regarding its release. Mr. Booe stated that in reviewing the PKI Standards, the team from Sandia National Laboratories had questions about the interaction with the PKI Standards and the OASIS Standards. He asked if the OASIS Standards were also



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Notes from the December 4, 2017 NAESB Board Critical Infrastructure Committee Conference Call

included in the surety assessment. Mr. Anderson stated that his team had reviewed the OASIS Standards and identified approximately half a dozen to be included in the surety assessment.

Mr. Booe stated that all three quadrants had added a provisional item to their 2018 Annual Plan regarding potential standards development based on any recommendations from the surety assessment report. He asked the timeline for preparing and releasing the report. Mr. Anderson stated that the report should be completed by the end of this year or early January 2018. Mr. Burks suggested that the committee reconvene following the release of the report. He stated that it may be beneficial for the committee to review the report prior to any standards development. There was general agreement to proceed in this manner.

Plan for Future Meetings

Mr. Burks stated that the next meeting of the committee will likely be in January to review the report regarding the surety assessment.

Other Business

There was no other business discussed.

Action Items:

- Ms. Trum will work with the committee chairs to schedule the next meeting of the committee following the release of the report on the surety assessment.

Adjourn

The meeting adjourned at 2:20 PM on a motion by Mr. Darnell, seconded by Mr. Spangler.

Work Papers Provided for the Meeting

- **Agenda Item 1:** Antitrust Guidance:
http://www.naesb.org/misc/antitrust_guidance.doc (antitrust),
https://naesb.org/pdf4/board_critical_inf_members.pdf (roster),
https://naesb.org/pdf4/bd_cic120417a.doc (agenda)
 - **Agenda Item 2:** Sandia National Laboratories Surety Tasking Document
https://naesb.org/pdf4/bd_cic120417w1.docx (tasking document)
-



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December 4, 2017 NAESB Board Critical Infrastructure Committee Conference Call CRITICAL INFRASTRUCTURE COMMITTEE MEMBERS

Name	Organization
Cade Burks	Big Data Energy Services
Valerie Crockett	Tennessee Valley Authority
Dave Darnell	Systrends USA
Bruce Ellsworth	New York State Reliability Council
Annabelle Lee	Nevermore Security
Thomas Pearce	US Department of Energy – Office of Energy Policy and Systems Analysis (EPSA)
Leigh Spangler	Latitude Technologies

OTHER ATTENDEES

Name	Organization
Ben Anderson	Sandia National Laboratories
Jonathan Booe	NAESB
David Crabtree	TECO/Peoples Gas System
Joshua Daley	Sandia National Laboratories
Rachel Hogge	Dominion Energy Transmission
Lila Kee	GMO GlobalSign, Inc.
Steve McCord	TransCanada Pipelines
Keith Sappenfield	Environmental Resources Management
Ed Skiba	MISO
Kevin Spontak	MISO
Denise Rager	NAESB
Marshall Riley	Sandia National Laboratories
Caroline Trum	NAESB
Kim Van Pelt	Boardwalk Pipeline Partners



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**NAESB UPDATE: VERSION 3.2 – WHOLESALE GAS QUADRANT (WGQ)
NOVEMBER 28, 2017**

ACTIONS TO BE APPLIED TO WGQ VERSION 3.1 TO CREATE WGQ VERSION 3.2:

Version 3.1 was published on September 29, 2017. *(Filed with FERC on September 29, 2017)*

2017:

Final Actions:

2017 WGQ Annual Plan Items 5.a and 5.b – Mexican Addendum or Base Contract: 5.a - Consider and determine if a need for a Mexican Addendum or Base Contract, 5.b. - Develop the Mexican Addendum or Base Contract according to the analysis completed in Item 5.a as approved by the WGQ Executive Committee on October 26, 2017.

Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_wgq_2017_api_5a-b.docx – *ratified November 27, 2017*

Attachment – Exhibit A: https://www.naesb.org/member_login_check.asp?doc=fa_wgq_2017_api_5a-b_attach.docx

Recommendations:

R17001 – Request to add the data element “Right to Amend Primary Points 3 Month Limit” to NAESB WGQ Standard Nos. 5.4.24 (Offer), 5.4.26 (Award Download), and 5.4.20 (Transactional Reporting – Capacity Release) data sets, and two associated code values.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=wgq_r17003_rec.docx

Request for Comments: https://www.naesb.org/pdf4/wgq_111317reqcom.doc - *comment period ending December 13, 2017*

R17003 – Request to add the data element “Right to Amend Primary Points 3 Month Limit” to NAESB WGQ Standard Nos. 5.4.24 (Offer), 5.4.26 (Award Download), and 5.4.20 (Transactional Reporting – Capacity Release) data sets, and two associated code values.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=wgq_r17003_rec.docx

Request for Comments: https://www.naesb.org/pdf4/wgq_111317reqcom.doc - *comment period ending December 13, 2017*

Minor Corrections:

MC17015 – Minor correction to be included in NAESB WGQ Version 3.2 proposes the addition of 1 new code value (Imbalance Resolution) in the Notice Type data element for NAESB WGQ Standard No. 5.4.16 (System-Wide Notices) data set as approved by the WGQ Executive Committee on October 26, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=wgq_mc17015_rec_102617.docx
(Effective November 27, 2017)

MC17016 – Minor correction to be included in NAESB WGQ Version 3.2 proposes the addition of 1 new code value in the Reduction Reason data element for NAESB WGQ Standard Nos. 1.4.4 (Confirmation Response), 1.4.5 (Scheduled Quantity), and 1.4.6 (Scheduled Quantity for Operator) data sets in NAESB WGQ Standards Version 3.1 as approved by the WGQ Executive Committee on October 26, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=wgq_mc17016_rec_102617.docx
(Effective November 27, 2017)



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NAESB UPDATE: VERSION 3.2 – WHOLESALE GAS QUADRANT (WGQ) NOVEMBER 28, 2017

MC17017 – Minor correction to be included in NAESB WGQ Version 3.2 proposes the addition of 1 new code value in the Reduction Reason data element for the NAESB WGQ Standard Nos. 1.4.5 (Scheduled Quantity) and 1.4.6 (Scheduled Quantity for Operator) data sets. Addition of this code value would allow a more specific indication that the reason for a scheduling cut resulted from a validation on storage minimum balance as approved by the WGQ Executive Committee on October 26, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=wgq_mc17017_rec_102617.docx
(Effective November 27, 2017)

MC17018 – Minor correction to be included in NAESB WGQ Version 3.2 proposes the addition of 1 code value for the data element “Transaction Type” in the NAESB WGQ Standard No. 3.4.1 (Transportation / Sales Invoice) data set as approved by the WGQ Executive Committee on October 26, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=wgq_mc17018_rec_102617.docx
(Effective November 27, 2017)

MC17019 – Minor correction to be included in NAESB WGQ Version 3.2 proposes the addition of existing code values for the data element “Reduction Reason Code” in the NAESB WGQ Standard No. 1.4.4 (Confirmation Response) data set. These code values are currently present in the NAESB WGQ Standard Nos. 1.4.5 (Scheduled Quantity) and 1.4.6 (Scheduled Quantity for Operator) datasets as approved by the WGQ Executive Committee on October 26, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=wgq_mc17019_rec_102617.docx
(Effective November 27, 2017)

TIMELINE:

- Version 3.2 scheduled for publication (TBD).
- 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 003.2 – WHOLESALE ELECTRIC QUADRANT (WEQ)
December 8, 2017

ACTIONS TO BE APPLIED TO WEQ VERSION 003.1 TO CREATE WEQ VERSION 003.2:

Version 003.1 was published on September 30, 2015. (*Filed with FERC on October 26, 2015*)

2015-2017:

Final Actions:

WEQ 2015 Annual Plan Item 1.c – Disturbance Control Standard (DCS)(BAL-002) Coordination with NERC Project 2010-14.1 Phase 1 of Balancing Authority Reliability-based Controls: Reserves.
Final Action: https://www.naesb.org/pdf4/weq_2015_ap1c_rec_022316.doc - Approved by the WEQ Executive Committee on February 23, 2016 (*No further action needed*)

WEQ 2015 Annual Plan Item 4.a i - Review annually at a minimum the accreditation requirements for Authorized Certification Authorities to determine if any changes are needed to meet market conditions.
Final Action: https://www.naesb.org/pdf4/weq_2015_ap4ai_rec_022316.docx - Approved by the WEQ Executive Committee on February 23, 2016 (*No further action needed*)

WEQ 2015 Annual Plan Item 4.c - Evaluate and modify standards as needed to support and/or complement the current version of the NERC Critical Infrastructure Protection Standards and any other activities of the FERC related to cybersecurity.
Final Action: https://www.naesb.org/pdf4/weq_2015_ap4c_rec_022316.docx - Approved by the WEQ Executive Committee on February 23, 2016 (*No further action needed*)

WEQ 2016 Annual Plan Item 8.a/RMQ 2016 Annual Plan Item 7.a - Develop and/or modify Demand Response Standards as needed in response to the Supreme Court decisions regarding the final D.C. Circuit ruling on FERC Order No. 745.
Final Action: https://www.naesb.org/pdf4/weq_2016_ap8a_rm_q_2016_ap7a_rec_042716.docx - Approved by the WEQ Executive Committee on April 26, 2016 and RMQ Executive Committee on April 27, 2016 (*No further action needed*)

WEQ 2016 Annual Plan Item 1.f – Develop, modify or delete business practice standards to support NERC activities related to NERC Inadvertent Interchange BAL-006.
Final Action: https://www.naesb.org/pdf4/weq_2016_ap1f_rec_081616.doc - Approved by the WEQ Executive Committee on August 16, 2016 (*No further action needed*)

WEQ 2016 Annual Plan Item 5.d Final Action – Review and modify as necessary WEQ-004, EIR Business Practice Standards, e-Tag Specification, and e-Tag Schema to make the necessary modifications to recognize the Market Operator Role within the Electric Industry Registry, ratified September 19, 2016.
Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2016_api_5d.docx
Attachment 1 – WEQ-004:
https://www.naesb.org/member_login_check.asp?doc=fa_weq_2016_api_5d_attach1.doc
Attachment 2 – WEQ-022:
https://www.naesb.org/member_login_check.asp?doc=fa_weq_2016_api_5d_attach2.docx
Attachment 3 – WEQ-002, WEQ-003, and WEQ-013:
https://www.naesb.org/member_login_check.asp?doc=fa_weq_2016_api_5d_attach3.docx



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NAESB UPDATE: VERSION 003.2 – WHOLESALE ELECTRIC QUADRANT (WEQ) December 8, 2017

(WEQ 2016 Annual Plan Item 5.d) NAESB WEQ Electronic Tagging - Functional Specification, Version 1.8.3 approved by the WEQ EC on August 16, 2016 (Includes: Link to Version 1.8.3 XML Schema on page 5 of this document): https://www.naesb.org/member_login_check.asp?doc=weq_etag_specification_v183_081616.pdf

WEQ 2016 Annual Plan Item 4.a - Review annually at a minimum WEQ-012 and the accreditation requirements for Authorized Certification Authorities to determine if any changes are needed to meet market conditions.
Final Action: https://www.naesb.org/pdf4/weq_2016_ap4a_rec_102516.docx - Approved by the WEQ Executive Committee on October 25, 2016 (*No further action needed*)

WEQ 2016 Annual Plan Item 4.b - Evaluate and modify standards as needed to support and/or complement the current version of the NERC Critical Infrastructure Protection Standards and any other activities of the FERC related to cybersecurity.
Final Action: https://www.naesb.org/pdf4/weq_2016_ap4b_rec_102516.docx - Approved by the WEQ Executive Committee on October 25, 2016 (*No further action needed*)

WEQ 2016 Annual Plan Item 5.b / R09015 - Create a new OASIS mechanism that allows for the merger of like reservations without the use of the resale mechanism (R09015), ratified November 25, 2016.
Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2016_ap5b_r09015.docx

R16002/2016 WEQ Annual Plan Item 1.d – Request for NAESB to retire WEQ-006 Manual Time Error Correction/Develop, modify or delete business practice standards to support NERC activities related to NERC Time Error Correction (BAL-004-0), ratified March 24, 2017.
Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2016_ap1d_r16002.docx
Attachment: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2016_ap1d_r16002_attachment.docx

WEQ 2016 Annual Plan Item 5.c – Review WEQ-022 and remove references to NERC (ERO) to reflect the full transition of the EIR, ratified March 24, 2017.
Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2016_ap5c.docx
Attachment: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2016_ap5c_attachment.docx

WEQ 2017 Annual Plan Items 7.a.i-v - Gas-Electric Coordination – Resulting from the efforts of annual plan item 7(a), develop standards as needed and directed by the Board of Directors, which are specifically assigned to the WEQ.
Final Action: https://www.naesb.org/pdf4/weq_2017_ap7a_i-v_rec_051017.docx - Approved by the WEQ Executive Committee via Notational Ballot on May 10, 2017 (*No further action needed*)

WEQ 2017 Annual Plan Item 1.e.ii - Review and modify as necessary WEQ-000 and the Electronic Tagging Functional Specification to address Line Items 1 and 23 from the SRS Assignment Document.
Final Action: https://www.naesb.org/pdf4/weq_2017_api_1eii_rec_081517.docx - Approved by the WEQ Executive Committee on August 15, 2017 (*No further action needed*)

WEQ 2017 Annual Plan Item 1.e.iv/R16010 - Review and modify as necessary WEQ-008 to address Line Item 18 from the SRS Assignment Document, ratified September 15, 2017.
Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2017_api_1eiv_r16010.docx
Attachment: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2017_api_1eiv_r16010_attach.docx



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NAESB UPDATE: VERSION 003.2 – WHOLESALE ELECTRIC QUADRANT (WEQ) December 8, 2017

WEQ 2017 Annual Plan Item 1.d.i/R16008 – Modifications to WEQ-004 Coordinate Interchange Business Practice Standards for Dynamic Tags and Pseudo-Tie type e-Tags, ratified September 15, 2017.

Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2017_api_1di_r16008.docx

WEQ 2017 Annual Plan Item 4.b - Evaluate and modify standards as needed to support and/or complement the current version of the NERC Critical Infrastructure Protection Standards and any other activities of NERC or the FERC related to cybersecurity as approved by the WEQ Executive Committee on October 24, 2017.

Recommendation: https://www.naesb.org/pdf4/weq_2017_api_4b_rec_102417.docx - Approved by the WEQ Executive Committee on October 24, 2017 (*No further action needed*)

WEQ 2017 Annual Plan Items 2.a.i.1/R05019 and 5.a/R09003 – Short-Term Firm Preemption and Competition (OATT Section 13.2 and 14.2), and Add language to WEQ-001-4 Online Negotiation and Confirmation process to clarify Table 4-3, ratified November 28, 2017

Final Action:

https://www.naesb.org/member_login_check.asp?doc=fa_weq_2017_api_2ai1_r05019_5a_r09003.docx

WEQ 2017 Annual Plan Item 1.e.iii - Review and modify as necessary WEQ-001, WEQ-002, WEQ-003, and WEQ-013 to address Line Items 2 through 17 from SRS Assignment Document, ratified November 28, 2017.

Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2017_api_1eiii.docx

WEQ 2017 Annual Plan Item 1.e.v - Review and modify as necessary WEQ-015, WEQ-018, and WEQ-020 to address Line Items 19 through 22 from SRS Assignment Document, ratified November 28, 2017.

Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_weq_2017_api_1ev.docx

Recommendations:

Minor Corrections:

MC16008 – Minor correction to be published in Version 003.2, several references to “Renewal” need to be updated to “renewal” as renewal is not a defined term in the WEQ-000 Abbreviations, Acronyms, and Definition of Terms. This minor correction will be consistent with the recommendation for the long-term firm rollover rights competition as approved by the WEQ Executive Committee on February 23, 2016.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=weq_mc16008_rec_022316.docx
(Effective March 25, 2016)

MC17001 – Minor correction to be published in Version 003.2, updates the definition for “Native Load (NL)” in Version 003.1 of the WEQ-000 Abbreviations, Acronyms, and Definition of Terms. Native Load is not only applicable to Business Practice Standards WEQ-008 but also to Business Practice Standards WEQ-001, 002, 003, and 013. This minor correction will provide consistency between the above noted standards as approved by the WEQ Executive Committee on February 21, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=weq_mc17001_rec_022117.docx
(Effective March 23, 2017)



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NAESB UPDATE: VERSION 003.2 – WHOLESALE ELECTRIC QUADRANT (WEQ) December 8, 2017

MC17002 – Minor correct to correct the E-Tag Schema 1.8.3 contained in the NAESB WEQ Electronic Tagging - Functional Specification, Version 1.8.3 approved by the WEQ EC on August 16, 2016. The Market Operator was inadvertently not included in the list of entities allowed to exchange messages within the schema documentation. This minor correction ensures the schema supports the intent of the functional specification as approved by the WEQ Executive Committee on February 21, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=weq_mc17002_rec_022117.doc

Attachment: https://www.naesb.org/member_login_check.asp?doc=weq_mc17002_rec_022117_attachment.xsd
(Effective March 23, 2017)

MC17005 - Minor Correction to the e-Tag Specification Version 1.8.3 to Sections 1.4.2.2 and 5.6.3.1 to clarify the issuance of a Security Key approved by the WEQ Executive Committee by notational ballot on May 10, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=weq_mc17005_rec_051017.doc

(Effective June 12, 2017)

MC17020 – Minor Correction to modify the definition of the defined term ‘Applicant’ in WEQ-000-2 (Definition of Terms) in NAESB WEQ Business Practice Standards Version 003.1. As currently written, the definition for the defined term Applicant is too narrow and can result unintended consequences for those wanting to access the Electric Industry Registry approved by the WEQ Executive Committee on October 24, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=weq_mc17020_rec_102417.doc

(Effective November 23, 2017)

MC17021 - Minor Correction to NAESB Wholesale Electric Quadrant (WEQ) Business Practice Standards WEQ-022 Electric Industry Registry (EIR) and WEQ-015 Measurement and Verification of Wholesale Electricity Demand Response. In reviewing the publication for NAESB WEQ Business Practice Standards, Version 003.2 the WEQ-022-3 Section title "PUBLICATION" needs to be changed to "RESERVED" and in WEQ-015-1.13.4 the reference to “NERC BAL-005-02.b, R8” should be changed to “NERC BAL-005-1, R1” in Business Practice Standard for consistency with the FERC issued Order approving NERC BAL-005-1 approved by the WEQ Executive Committee by notational ballot on November 17, 2017.

Recommendation: https://www.naesb.org/member_login_check.asp?doc=weq_mc17021_rec_111717.doc

(Effective December 8, 2017)

TIMELINE:

- Version 003.2 was published on December 8, 2017.
- 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 003.2 – WHOLESALE ELECTRIC QUADRANT (WEQ)
December 8, 2017

WEQ Annual Plan Items and Request that *failed* Executive Committee approval:

WEQ 2015 Annual Plan Item 2.a.i.2 – Long-Term Firm Rollover Rights Competition (OATT Section 2.2).

Recommendation-1 was remanded back to the WEQ OASIS Subcommittee on February 23, 2016 by WEQ Executive Committee. WEQ Executive Committee notational ballot to approve Recommendation 2 (as revised by the Executive Committee on April 26, 2016) failed to gain a super majority approval.

Recommendation-2 (as Revised by the WEQ Executive Committee):

https://www.naesb.org/member_login_check.asp?doc=weq_ec042616a1.docx

WEQ EC Notational Ballot Results: https://www.naesb.org/pdf4/weq_ec042616ballot_2ai2_results.docx.

R16011 - Appeal of 2015 API 2.a.i.2 (Long-Term Rollover Rights Competition) ***Recommendation failed to gain super majority approval by the WEQ Executive Committee on February 21, 2017.***

Recommendation: https://www.naesb.org/member_login_check.asp?doc=weq_r16011_rec.docx

Request for Formal Comments: https://www.naesb.org/pdf4/weq_103116_reqcom.doc - *comment period ending November 30, 2016*



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**NAESB UPDATE: VERSION 3.3– RETAIL MARKETS QUADRANT (RMQ)
NOVEMBER 28, 2017**

ACTIONS TO BE APPLIED TO RETAIL VERSION 3.2 TO CREATE RETAIL VERSION 3.3:

Version 3.2 was published on July 14, 2017.

2017:

Final Actions:

R17004 - Request to make corresponding modifications as necessary to REQ.13, REQ.17 and REQ.20 to complement modifications made to WEQ-015, WEQ-018, and WEQ-020 as approved by the RMQ Executive Committee on October 25, 2017.

Final Action: https://www.naesb.org/member_login_check.asp?doc=fa_rm_q_r17004.docx – ratified November 27, 2017

Recommendations:

Minor Corrections:

TIMELINE:

- Version 3.3 is scheduled for publication: TBD.
- 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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November 27, 2017

TO: All Interested Parties
FROM: Elizabeth Mallett, NAESB Deputy Director
RE: **Update to the Board of Directors – ESPI and OpenFMB**

Energy Services Provider Interface (ESPI)

In 2018, the review and update of the NAESB REQ.21 Energy Services Provider Interface (ESPI) Model Business Practices will be a major effort within NAESB. As you may remember, ESPI provides an industry-standard XML format and a data exchange protocol for the exchange of a retail customer's energy usage information between their designated data custodian and an authorized third-party service provider. Serving as the critical foundation for the Green Button, the ESPI Model Business Practices provide best practices, use cases, models, and an XML schema that facilitate the exchange of the energy usage information. Recently, NAESB and the Green Button Alliance (GBA) signed a memorandum of understanding (MOU) to define the relationship that the two organizations will share regarding the ESPI Model Business Practices and the Green Button Certified Download My Data, Connect My Data, and other future GBA certification programs. As part of the MOU, in exchange for providing free access to the XML Schema, the GBA will provide its resources to assist in the updates of ESPI and will require valid, legal access to the ESPI model business practices as a condition of certification within any Green Button related certification programs – currently the Green Button Certified Download My Data and Green Button Certified Connect My Data programs. The release of the NAESB ESPI XML schema under an open source license was a one-time exception discussed and approved by the NAESB Managing Committee.

Launched in 2012, the Green Button Initiative is a response to the White House call to action that challenged utilities to provide their customers with easy and secure access to their energy usage data via a “Green Button” on their websites. Since the Green Button Initiative started in the United States, over 150 utilities and service providers have committed to providing more than 60 million US households with access to Green Button data. In Canada, more than half of the Ontario-based consumers, totaling 3 million residences and businesses, now have access to their Green Button data. In 2012, the Green Button was presented to Ontario with the support of the Ministry of Energy. Also, the Green Button Initiative was promoted in Ontario's 2013 *Long-Term Energy Plan* as a way to give consumers access to their electricity consumption data. Most recently, *Ontario's Five Year Climate Change Action Plan 2016-2020* committed to expanding Green Button province-wide to let “Ontarians access and share their data on electricity, natural gas and water consumption in a secure, standardized electronic format.” NAESB and the Ontario Ministry of Energy staff frequently hold discussions regarding Green Button efforts. The Ontario Ministry of Energy has previously utilized the NAESB REQ.21 –ESPI Model Business Practices within a reference architecture guide for Green Button implementation in its jurisdiction. In the past years, NAESB has helped facilitate the participation of over seventy-seven Ontarian utility companies in the Ontario Green Button program and looks forward to any future coordination efforts with the Ontario Ministry of Energy.

OpenFMB

In the upcoming months, the Open Field Message Bus (OpenFMB) Task Force anticipates scheduling a meeting to begin updating the OpenFMB Model Business Practices. As you may remember, OpenFMB was ratified by the NAESB membership in March of 2016 and subsequently published in Version 3.1 of the NAESB RMQ publication that same month. While leveraging a non-proprietary and standards-based reference architecture platform, Open FMB expands interoperability for intelligent field devices on the grid.

During the original development of OpenFMB, the OpenFMB Task Force focused on grid-edge technology, with three microgrid use cases serving as drivers for the effort – Microgrid Optimization, Microgrid Unscheduled Islanding Transition, and Microgrid Island to Grid Connected Transition. Since the publication of Version 3.1, several additional OpenFMB use cases have been considered to address DER Circuit Segment Management, Circuit Segment Optimization, Microgrid Unscheduled Islanding, and Microgrid Reconnection. During the next Open FMB Task Force meeting, the participants will begin an evaluation of possible additional use cases for further model business practices development. The NAESB office will announce the meeting when scheduled and all interested parties are welcome to attend.



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November 27, 2017

TO: All Interested Parties
FROM: Elizabeth Mallett, NAESB Deputy Director
RE: **Update to the Board of Directors – FERC Order No. 890 Update**

Recently, NAESB reached one of the last major milestones towards the completion of its response to FERC Order No. 890. On November 28, 2017, the NAESB membership ratified the recommendation for Short-term Preemption and Competition. Serving as the lynchpin for the December 8, 2017 WEQ publication, the recommendation was developed by the WEQ OASIS Subcommittee in response to the series of FERC 890 Orders and two NAESB Standards Requests, R05019 and R09003. The Preemption and Competition recommendation modifies four WEQ books under two annual plan items that called for the development of Short-Term Firm Preemption and Competition Business Practice Standards and the addition of language to the WEQ-001-4 Online Negotiation and Confirmation process in order to clarify Table 4-3.

As you may remember, the Short-Term Preemption and Competition recommendation was unanimously voted out of the WEQ OASIS Subcommittee in June and posted for a 45-day formal comment period that concluded on August 4, 2017. Ten submitted comments – over 400 individual comments – were received and reviewed by the WEQ OASIS Subcommittee, resulting in the revised version of the recommendation that was adopted by the WEQ Executive Committee during its October 24, 2017 meeting. The comments were submitted on behalf of North Carolina Electric Membership Corporation, Bonneville Power Administration, Southern Company, Duke Energy, Arizona Public Service Company, OATI, PJM, and the ISO/RTO Council's Standards Review Committee. Beginning in January of 2012, the WEQ OASIS Subcommittee efforts to develop the Preemption and Competition recommendation have spanned over 98 meetings, many lasting multiple days – totaling over 176 days of meetings. Additionally, the participants of the subcommittee spent countless hours on individual assignments and in preparation for each meeting. NAESB would like to thank the past and present co-chairs of the subcommittee for their subcommittee leadership throughout the standards development effort – JT Wood, Alan Pritchard, Paul Sorenson, Ken Quimby, and Matt Schingle.

Looking ahead to 2018, the WEQ OASIS and WEQ Business Practices Subcommittee will continue to work together to close out the efforts on FERC Order No. 890 with two annual plan items that seek to develop business practice standards to better coordinate the use of the transmission system among neighboring transmission providers. Under the proposed 2018 WEQ Annual Plan Item 2.a.i.1, the subcommittees will consider the language in Paragraph 1627 of FERC Order No. 890¹ regarding the posting of additional information regarding firm transmission curtailments. The completion date for this effort is scheduled for the fourth quarter of 2018. Under the proposed 2018 WEQ Annual Plan Item 2.a.i.2, both the WEQ BPS and the WEQ OASIS Subcommittee will consider redispatch cost posting to allow for posting of third party offers of planning redispatch services. The subcommittees anticipate completing the recommendation for this annual plan item within the second quarter of 2018. The WEQ OASIS Subcommittee began discussing these two efforts in October and, in the near future, the NAESB office will announce the upcoming joint WEQ OASIS and WEQ BPS meetings to continue to address the items. The next WEQ OASIS Subcommittee meeting will be hosted by Southern Company on November 28-30, 2017. During the

¹FERC Order No. 890, *Preventing Undue Discrimination and Preference in Transmission Service*, at Paragraph 1627 (Feb. 16, 2007) states: We agree with suggestions for the posting of additional curtailment information on OASIS and, therefore, require transmission providers, working through NAESB, to develop a detailed template for the posting of additional information on OASIS regarding firm transmission curtailments. Transmission providers need not implement this new OASIS functionality and any related business practices until NAESB develops appropriate standards. These postings must include all 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. This information is in addition to the Commission's existing requirements: (1) when any transmission is curtailed or interrupted, the transmission provider must post notice of the curtailment or interruption on OASIS, and the transmission provider must state on OASIS the reason why the transaction could not be continued or completed; (2) information to support any such curtailment or interruption, including the operating status of facilities involved in the constraint or interruption, must be maintained for three years and made available upon request to the curtailed or interrupted customer, the Commission's Staff, and any other person who requests it; and, (3) any offer to adjust the operation of the transmission provider's system to restore a curtailed or interrupted transaction must be posted and made available to all curtailed and interrupted transmission customers at the same time.



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meeting, the WEQ OASIS participants will continue discussion on the two annual plan items responding to Paragraph 1627 of FERC Order No. 890. As always, this meeting is open to all interested parties.



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November 27, 2017

TO: All Interested Parties
FROM: Caroline Trum, NAESB Deputy Director
RE: **Update to the Board of Directors – Sandia National Laboratories Surety Assessment**

The Sandia National Laboratories Surety Assessment is well-underway, and per communications from Sandia National Laboratories, on track to be completed by the end of 2017 or early 2018. In recognition of the forthcoming assessment, the WEQ, WGQ, and RMQ Annual Plan Subcommittees all included a 2018 provisional annual plan item to develop and/or modify standards if needed to address any recommendations resulting from the surety assessment. The 2018 Annual Plans will be presented to the Board of Directors for approval during the December 14, 2017 meeting.

Recently, Sandia National Laboratories communicated to NAESB a [Surety Assessment Tasking Document](#) that details the scope of the surety assessment. The scope includes the WGQ and RMQ Internet Electronic Transport and Electronic Delivery Mechanism Standards and the NAESB Certification Program for Accredited Certification Authorities, which is comprised of the WEQ Public Key Infrastructure Standards, the Accreditation Requirements for Authorized Certification Authorities, and the Authorized Certification Authority Process. The Board Critical Infrastructure Committee has scheduled a meeting for December 4, 2017 to discuss and review the scope document. Participants in the meeting will include representatives from Sandia National Laboratories working on the surety assessment of the NAESB standards. At the request of the Chair of the Board of Directors, the Board Critical Infrastructure Committee was reconvened for the purpose of addressing cybersecurity and critical infrastructure activities, specifically the forthcoming surety assessment. The committee held its initial meeting on May 16, 2017.

In August, NAESB hosted a meeting between Sandia National Laboratories and NAESB standards subject matter experts. The purpose of the meeting was to review and discuss the standards Sandia National Laboratories had identified for inclusion in the surety assessment to provide additional information and a broader understanding of how the industry utilizes the standards.

During the April 6, 2017 meeting of the Board of Directors, it was announced that Sandia National Laboratories would move forward with the surety assessment sponsored by the Department of Energy. During previous surety assessments, Sandia National Laboratories has given GISB/NAESB standards a clean bill of health, with assessments focusing on the WGQ and RMQ Business Practice Standards addressing electronic communications as well as draft versions on the Public Key Infrastructure (PKI) Business Practice Standards.



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November 27, 2017

TO: All Interested Parties
FROM: Elizabeth Mallett, NAESB Deputy Director
RE: **Update to the Board of Directors – WEQ Cybersecurity Subcommittee (CSS)**

In February, the Wholesale Electric Quadrant (WEQ) Executive Committee will consider a recommendation from the WEQ Cybersecurity Subcommittee (CSS) concerning 2017 WEQ Annual Plan Item 4.a, which tasked the subcommittee with a review of the Public Key Infrastructure (PKI) Business Practice Standards and the accreditation requirements for Authorized Certification Authorities (ACAs) to determine if any changes are needed to meet market conditions. When the WEQ CSS first discussed this topic in July, the participants reviewed the new version of the National Institute of Standards and Technology (NIST) Special Publication, *Digital Identity Guidelines*,¹ released in June of 2017. As the NAESB Accreditation Requirements for ACAs contains a section on identity proofing that references an earlier version of those NIST guidelines, the subcommittee considered any possible revisions to be made to the Accreditation Requirements for ACAs. On October 12, 2017, the WEQ CSS voted out the recommendation which proposed revisions modifying Section 2.2.2 Authentication of Subscribers of the NAESB Accreditation Requirements for Authorized Certification Authorities to provide new mappings for the identity proofing process methods. Additionally, a requirement related to an action that NAESB may take was deleted from Section 3.7.1 as the concept is adequately addressed by the Authorized Certification Authority Process. Furthermore, the recommendation also corrects the usage of the terms “Subscriber”, “Applicant”, and “End Entity”. No comments were submitted on the recommendation during the thirty-day industry comment period that concluded on November 10, 2017.

Adopted by the WEQ Executive Committee on October 24, 2017, the second WEQ CSS recommendation developed this year determined that no action was needed in response to 2017 WEQ Annual Plan Item 4.b. This annual plan item required the WEQ CSS to evaluate and modify standards as needed to support and/or complement the current version of the NERC Critical Infrastructure Protection (CIP) Standards and any other activities of NERC and the FERC related to cybersecurity. As part of these discussions, the subcommittee reviewed the May 11, 2017 Executive Order, *Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure*² and determined that there was no impact on the NAESB WEQ Business Practice Standards. Additionally, the subcommittee reviewed NERC Project 2016-02 Modifications to CIP Standards and NERC Project 2016-03 Cyber Security Supply Chain Risk Management and found no modifications to the standards to be necessary.

In response to the directives from the July 21, 2016 FERC Order No. 829³, NERC, in Project 2016-03, addresses supply chain risk management for industrial control system hardware, software, and computing and networking services associated with the Bulk Electric System (BES) operations. As any of the developments on this project could have potentially modified the CIP standards, the WEQ CSS monitored the efforts. NAESB staff coordinated with NERC staff on NERC Project 2016-03 to determine whether the NERC Reliability Standards being developed as part of the effort would impact tools referenced by NAESB standards, such as OASIS and the EIR, or if the NAESB ACAs that issue digital certificates would be considered vendors under the new NERC standards. After receiving a statement from NERC that the CIP Reliability Standards would only be applicable to systems and tools entities have previously designated as having a high or medium impact on bulk electric reliability, the WEQ CSS voted the no action recommendation during its September meeting.

¹ National Institute of Standards and Technology, *Special Publication 800-63-3*, Natl. Inst. Stand. Technol. Spec. Publ. 800-63-3, 73 pages (June 2017). The finalized four-volume SP 800-63 *Digital Identity Guidelines* document suite is now available through the following link: <https://pages.nist.gov/800-63-3/>.

² Exec. Order No. 13800, 82 Fed. Reg. 22391 (May 11, 2017).

³ Order No. 829, *Revised Critical Infrastructure Protection Reliability Standards*, 156 FERC ¶ 61, 050, 81 Fed. Reg. 49878 (2016).



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November 27, 2017

TO: All Interested Parties
FROM: Elizabeth Mallett, NAESB Deputy Director
RE: **Update to the Board of Directors – WEQ Business Practices Subcommittee (BPS)**

On October 2, 2017, NAESB filed a status report with the Federal Energy Regulatory Commission (FERC) in Docket No. EL14-82-000.¹ The report, drafted in coordination with NERC and Eastern Interconnect Data Sharing Network (EIDSN), provides the FERC with an update on the PFV field trial, which began on September 28, 2017. After detailing the updated project timeline, the report provides more information on the responsibilities moving forward between NAESB, NERC, and EIDSN. To date, the WEQ BPS continues to receive coordination updates from the IDC Working Group regarding the PFV field trial. Upon reaching the end of the eighteen-month PFV field trial, the NAESB WEQ Business Practice Subcommittee (BPS) will receive a report from the Interchange Distribution Calculator Working Group detailing the results of the commercial metrics of the project. The subcommittee will use that report to determine whether any changes should be made to the NAESB standards. Next, the WEQ Executive Committee will consider the WEQ BPS recommendation. The recommendation for the PFV Business Practice Standards was previously voted out of the WEQ Executive Committee in February of 2015; however, the recommendation is being held in abeyance until the end of the field trial.

Ratified by the NAESB membership on September 10, 2017, the recommendation in support of 2017 WEQ Annual Plan Item 1.d.i and Standards Request R16008 was jointly developed by the WEQ Coordinate Interchange Scheduling Subcommittee (CISS) and the WEQ BPS. On July 10, 2017, the subcommittees voted out the recommendation, modifying the WEQ-004 Coordinate Interchange Business Practice Standards for dynamic tags and pseudo-tie type e-Tags. Specifically, the recommendation proposes the incorporation of two NERC requirements, NERC INT-004-3.1 R1 and R2, into the WEQ-004 standards with minor clarifications. As described in Standards Request R16008, submitted by the Chair and Vice-Chair of the WEQ Executive Committee, these requirements were formerly applicable to the Purchasing-Selling Entity – a role NERC removed from the NERC Compliance Registry with FERC's approval. The retirement of the two NERC requirements may have impacted NAESB's overall congestion management industry processes and tools, particularly the WEQ-008 Parallel Flow Visualization Business Practice Standards and the proper implementation of such standards after the completion of testing. NAESB staff coordinated with NERC staff on the issue, and in May, NERC provided a letter indicating that the NERC requirements referenced in Standards Request R16008 were effectively retired when NERC removed the PSE functional entity registration category.² The recommendation was posted for a thirty-day industry comment period that concluded on August 9, 2017. No comments were submitted. On August 15, 2017, the WEQ Executive Committee adopted the recommendation.

Ratified on September 15, 2017, the WEQ BPS voted out a recommendation to support 2017 WEQ Annual Plan Item 1.e.iv and Standards Request R16010 – Review and modify as necessary WEQ-008 to address Line Item 18 from SRS Assignment Document. The annual plan item was created in response to Standards Request R16010 that called for assessing the impact on the NAESB Business Practice Standards, and, where necessary, making changes, to reflect changes in tool ownership and various changes within NERC. The recommendation proposes modifications to the WEQ-008 Transmission Loading Relief Eastern Interconnection Business Practice Standards that reflect current industry practices and the current NERC Reliability Standards.

Looking ahead, the WEQ Business Practices Subcommittee will hold a series of joint meetings with the WEQ OASIS Subcommittee to address several items on the 2018 WEQ Annual Plan. During the first of these joint meetings on November 30, 2017, the subcommittees will vote on a no action recommendation in response to two annual plan items: (1) 2017 WEQ Annual Plan Item 3.a – Make remaining incremental enhancements to OASIS as an outgrowth of the NAESB March 29, 2005 conference on the future of OASIS (R05026), and (2) 2017 WEQ Annual Plan Item 3.b – Enhance the TSR results posting to allow a showing of limiting transmission elements for denied transmission service requests. As the two annual plan items were previously reviewed by the WEQ BPS, the WEQ OASIS began its discussions during its October meeting to prepare for the joint meeting. Additionally, in 2018, the WEQ BPS and WEQ OASIS Subcommittees will work together to complete two annual plan items in response to Paragraph 1627 of FERC Order No. 890.

¹ The October 2, 2017 NAESB Status Report to FERC is available at the following link:
https://www.naesb.org/pdf4/ferc100217_naesb_pfv_status_report.pdf.

² Communication from NERC: https://naesb.org/pdf4/weq_bps_ciiss061617w1.pdf.



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November 27, 2017

TO: All Interested Parties
FROM: Elizabeth Mallett, NAESB Deputy Director
RE: **Update to the Board of Directors – WEQ Coordination**

In the latter half of 2017, NERC and NAESB strengthened their coordination ties due to several industry efforts. As you may know, NAESB staff, WEQ leadership, and NERC staff hold regular conference calls to ensure that the organizations remain in lock-step regarding commercial and reliability industry issues. Recent topics of discussion have included Parallel Flow Visualization, Standards Request R16008, and cybersecurity.

NAESB, NERC, and the Eastern Interconnection Data Sharing Network (EIDSN) continue to coordinate on the Parallel Flow Visualization effort. On October 2, 2017, NAESB submitted a report to FERC in Docket No. EL14-82-000.¹ The report, drafted in coordination with NERC and EIDSN, provides the FERC with an update on the PFV field trial, which began on September 28, 2017. The report also states the goals between NAESB, NERC, and EIDSN as they move forward with the projected timeline. Upon conclusion of the eighteen-month PFV field trial, the Interchange Distribution Calculator Working Group will provide a report on the results of the commercial metrics of the project, and the NAESB WEQ Business Practice Subcommittee (BPS) will utilize that report to conclude whether the NAESB standards should be modified. Next, the WEQ BPS will present the recommendation to the WEQ Executive Committee for its consideration. Now held in abeyance until the conclusion of the field trial, the recommendation for the PFV Business Practice Standards was voted out of the WEQ Executive Committee in February 2015.

Back in May, NAESB coordinated with NERC to attain a letter indicating that the NERC requirements referenced in Standards Request R16008 were effectively retired when NERC removed the Purchasing-Selling Entity functional entity registration category.² This effort was taken in response to the joint standards development effort between the WEQ BPS and the WEQ Coordinate Interchange Scheduling Subcommittee (CISS) to address Standards Request R16008/2017 WEQ Annual Plan Item 1.d.i – Modifications to WEQ-004 Coordinate Interchange Business Practice Standards for dynamic tags and pseudo-tie type e-Tags. On July 10, 2017, the recommendation was voted out of the subcommittees and the WEQ Executive Committee adopted the recommendation on August 15, 2017. Ratified on September 10, 2017, the recommendation proposes the incorporation of two NERC Reliability Standard requirements related to dynamic tagging and pseudo-ties applicable to the Purchasing-Selling Entity.

Further NERC and NAESB staff coordination was necessary during the WEQ Cybersecurity Subcommittee standards development effort to address 2017 WEQ Annual Plan Item 4.b, requiring the WEQ CSS to evaluate and modify the standards as needed to support and/or complement the current version of the NERC Critical Infrastructure Protection (CIP) Reliability Standards and any other activities of NERC and the FERC related to cybersecurity. As part of these discussions, NERC staff conferred on whether the NERC Reliability Standards being developed as part of the effort in Project 2016-03 would impact tools referenced by NAESB standards, such as OASIS and the Electric Industry Registry, or if the NAESB ACAs that issue digital certificates would be considered vendors under the new NERC standards. NERC provided a statement to the WEQ CSS that indicated that the CIP Reliability Standards would only be applicable to systems and tools entities that have been previously designated as having a high or medium impact on bulk electric reliability. Subsequently, the WEQ CSS approved a no action recommendation during its September meeting.

¹ The October 2, 2017 NAESB Status Report to FERC is available at the following link: https://www.naesb.org/pdf4/ferc100217_naesb_pfv_status_report.pdf.

² Communication from NERC: https://naesb.org/pdf4/weq_bps_ciiss061617w1.pdf.



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November 27, 2017

TO: All Interested Parties
FROM: Caroline Trum, NAESB Deputy Director
RE: **Update to the Board of Directors – WEQ Coordinate Interchange Scheduling Subcommittee (CISS)**

On November 7, 2017, the implementation process for Version 1.8.3 of the Electronic Tagging (e-Tag) Functional Specification was completed. The implementation process began on October 10, 2017, when the industry began using e-Tag Version 1.8.3 in parallel with e-Tag Version 1.8.2, which was retired on November 7. The new version of the e-Tag Functional Specification makes modifications to support the full use of the market operator role in the EIR. The successful implementation can be attributed to the contributions and coordination of the industry, the WEQ CISS participants, the tagging vendors, and the leadership of the subcommittee co-chairs, Zachary Buus with BPA and Joshua Phillips with SPP.

The WEQ CISS last met on August 22, 2017 to discuss EIR Enhancement Request ER16001. This request, submitted by Gridforce Energy Management, proposes modifications to the registration of pseudo-ties in the Electric Industry Registry (EIR). The subcommittee held initial discussions on this request in August 2016 but postponed further action until NERC addressed a similar standards authorization request (SAR) submitted by the same entity. As you may remember, the pseudo-tie registration functionality was added to the EIR in support of an EIR Enhancement Request submitted by NERC to support requirements in the NERC Reliability Standards. NAESB staff coordinated with NERC staff regarding potential NERC action on the SAR, and in July 2017, the NERC Standards Committee voted not to move forward with the request.

When the WEQ CISS reconvened to continue discussions on the ER16001, the requester informed the subcommittee that the pending enhancement request may no longer be needed depending on forthcoming NERC action to revise the ACE Diversity Interchange (ADI) Process Reliability Guidelines. NAESB staff reached out to NERC staff regarding the status of this effort. The revisions to the ADI Process Reliability Guidelines were posted for a forty-five day comment period in July 2017 and should be presented to the NERC Operating Committee for approval during their December 12 – 13, 2017 meeting. Following NERC action, the WEQ CISS will again reconvene to address the outstanding enhancement request.



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November 27, 2017

FROM: Elizabeth Mallett, NAESB Deputy Director
RE: **Update to the Board of Directors – WEQ/WGQ FERC Forms Subcommittee eForms Effort**

In 2018, the Wholesale Electric Quadrant (WEQ)/Wholesale Gas Quadrant (WGQ) FERC Forms Subcommittee will schedule a series of meetings to address the eForms effort. As FERC staff has committed to providing the XML and XSD documents for this project, the subcommittee will remain in a holding pattern until the completion of their efforts, likely in the coming months. Per the guidance of FERC staff, the subcommittee has focused its attention on the development of FERC Form 1. It is expected that, after the completion of the documentation for FERC Form 1 –which will likely include a schema, business practice standards, and a data dictionary – the work on the remaining forms identified as part of the project will precede on a truncated timeline as most of the XML foundational work will have been resolved.

As you may remember, the eForms effort is in response to the FERC *Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms* issued on April 16, 2015 in Docket No. AD15-11-000.¹ In that order, FERC notified the public that Microsoft is no longer supporting Visual FoxPro and requested that the industry consider the transition of certain forms from Visual FoxPro to XML. Specifically, Forms 1, 1-F, 2, 2-A, 3-Q electric, 3-Q gas, 6, 6-Q, FERC-60 and FERC-714.

Also of note, the Commission stated that “[w]orking with the NAESB consensus standards development process to facilitate discussions between Commission staff and industry proved invaluable during the development of eTariff.”² After citing this past success of the NAESB eTariff efforts, FERC encouraged the industry to work through NAESB to accomplish this industry objective. Additionally, the Commission hosted a technical conference, that included NAESB, to initiate discussion on the transition to the new submission format. The WGQ/WEQ FERC Forms Subcommittee conference calls and meetings are open to any interested party. The next meeting will be announced by the NAESB office.

¹ *Electronic Filing Protocols for Commission Forms*, 151 FERC ¶61,025 (2015) is available at the following link: https://www.naesb.org/pdf4/ferc041615_electronic_filing_protocols_forms.pdf.

² *Id.* at P 9.



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November 27, 2017

TO: All Interested Parties
FROM: Elizabeth Mallett, NAESB Deputy Director
RE: **Update to the Board of Directors – Retail Markets Quadrant (RMQ) Coordination**

Board Retail Structure Review Committee

During the September Board of Directors meeting, NAESB Chairman Michael Desselle, announced that he would reconvene the Board Retail Structure Review Committee to review the current status of the RMQ and make recommendations to the Board of Directors to resolve the membership challenges that the quadrant is facing. Section 2.3 of the NAESB Bylaws states, “[i]n order to have representation on the Board or the EC, a Quadrant shall have at least forty Voting Members and at least four Segments.” At the time of this writing, the RMQ has exactly forty members. Chaired by Cade Burks of Big Data Energy, the committee held a kick off meeting in November. During the meeting, the participants discussed many of the challenges and opportunities faced by the RMQ. Specifically, the committee noted feedback that some of the obstacles to increasing membership by retail participants in NAESB are related to the cost of membership and the lack of interest in nationalized Electronic Data Interchange (EDI) standards while work in the individual states is already underway. Additionally, the committee discussed the development of copyright enforced standards versus open standards. The next Board Retail Structure Review Committee will be held on December 1, 2017.

Coordination with the Green Button Alliance

NAESB and the Green Button Alliance (GBA) staff continue to harmonize efforts regarding the Green Button. Driven by a 2012 White House call to action, the Green Button Initiative spurred utilities to offer retail customers the capability to download their energy usage information with the click of a “green button” from their sites. The GBA provides marketing and education regarding the Green Button Initiative to the industry. Additionally, the organization orchestrates a certification program for the implementation of the Green Button, which requires the purchase of the NAESB Energy Services Provider (ESPI) Model Business Practices. In November, NAESB and the GBA executed a memorandum of understanding (MOU) to outline the responsibilities that the two organizations will share relating to ESPI and the current and future GBA certification programs. Per the MOU, NAESB will provide an open source license for the ESPI XML Schema and host those XML files on its site. In exchange, the MOU commits the GBA to utilize its resources to update ESPI and requires the GBA to ensure that valid, legal access to the ESPI Model Business Practices is a condition of certification for any current or future Green Button related certification programs. As you know, the NAESB revenue model depends upon the copyright and sale of the NAESB standards. The release of the NAESB ESPI XML schema under an open source license was a one-time exception discussed and approved by the NAESB Managing Committee.

Potential Coordination with the Smart Electric Power Alliance

Ongoing discussions between NAESB and the Smart Electric Power Alliance (SEPA) have recently centered on the possibility of SEPA developing a certification program for the Open Field Message Bus (Open FMB) Model Business Practices. After ratification by the NAESB membership in March of 2016, OpenFMB was subsequently published in Version 3.1 of the NAESB RMQ publication. While leveraging a non-proprietary and standards-based reference architecture platform, Open FMB provides a framework that expands interoperability for intelligent field devices on the grid.



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November 27, 2017

TO: All Interested Parties
FROM: Caroline Trum, NAESB Deputy Director
RE: **Update to the Board of Directors – Certification Programs and the NAESB EIR**

Certification Programs

On October 12, 2017, the WEQ Cybersecurity Subcommittee voted out a recommendation to support 2017 WEQ Annual Plan Item 4.a – Review annually at a minimum WEQ-012 and the accreditation requirements for Authorized Certification Authorities to determine if any changes are needed to meet market conditions. The recommendation proposes modifications to the NAESB Accreditation Requirements for Authorized Certification Authorities (ACAs); the document which defines technical requirements a certificate authority must meet as part of the NAESB Certification Program for Accredited Certification Authorities.

The proposed revisions address changes to the Digital Identity Guidelines developed by the National Institute of Standards and Technology (NIST) that served as the basis for requirements within the specification regarding the validation of the identity of people seeking a digital certificate from an ACA. Under the proposed modifications, these requirements are now based on a combination of guidelines established by both NIST and the Certificate Authority Browser (CAB) Forum. The formal comment period for the recommendation closed on November 10, 2017 with no comments submitted. The WEQ Executive Committee will consider the recommendation during their next meeting, scheduled for February 20, 2017.

In the smart grid space, NAESB and the Green Button Alliance (GBA) signed a memorandum of understanding (MOU) to outline the working relationship between the two organizations concerning the NAESB RMQ.21 Energy Services Providers Interface (ESPI) Standard and the Green Button Certified Download My Data, Connect My Data, and other future GBA certification programs. Among other statements, the MOU delineates that the GBA will require valid, legal access to the ESPI Standard as a condition of certification for any current or future Green Button related certification programs.

Discussions are ongoing between NAESB and the Smart Electric Power Alliance regarding a certification program for the RMQ.26 – Open Field Message Bus (OpenFMB) Model Business Practices. Ratified by the NAESB membership on March 7, 2016, the OpenFMB framework is a specification for intelligent field devices to leverage a non-proprietary and standards-based reference architecture, which consists of internet protocol networking and Internet of Things messaging protocols.

NAESB Electric Industry Registry (EIR)

To coincide with the retirement of the Electronic Tagging (e-Tag) Functional Specification Version 1.8.2 on November 7, 2017, legacy market operator functionalities were also retired from the EIR. These legacy functionalities were carried over as part of the original transition of the registry from NERC to NAESB in 2012. Previously, market operator functionalities were previously performed by balancing authorities and transmission service providers who indicated through a check-box that they also functioned as a market operator; however, the EIR was designed to represent market operators as its own role within the registry. The retirement of these legacy functionalities supports the full use of the separate market operator role within the EIR and will help the industry differentiate between e-Tagging changes made for market and reliability purposes.

On November 28, 2017, modifications to the EIR will be implemented to ensure consistency in the performance of all data objects. Earlier this year, it was discovered that there was a coding error that had caused some pseudo-tie data objects that contained expired or otherwise invalid data to inadvertently still appear on registry display screens. The modifications will correct this coding error and allow subscribers to receive alarm notifications regarding the pending expiration of a pseudo-tie, similar to the alarm notifications provided for other pending data object expirations. There will also be a one-time clean-up of the pseudo-tie display screens.



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November 28, 2017

TO: All Interested Parties
FROM: Elizabeth Mallett, NAESB Deputy Director
RE: **Update on Activities Related to Mexican Energy Market Reform**

On November 27, 2017, the NAESB membership ratified the recommendation containing the Mexican Addendum for the WGQ 6.3.1 – NAESB Base Contract for Sale and Purchase of Natural Gas. In mid-2016, NAESB and Mexico’s Comisión Reguladora de Energía (CRE) began a dialogue regarding how NAESB could be supportive of the activities underway at the CRE and the newly reformed Mexican market. In response to this coordination effort, the NAESB Board of Directors added an item to the NAESB annual plan to consider and determine whether there is a need for a Mexican Addendum to the NAESB Base Contract for Sale and Purchase of Natural Gas or a Base Contract developed specifically for Mexico.

Developed under 2017 WGQ Annual Plan Item 5, the WGQ Contracts Subcommittee began work on the Mexican Addendum to the NAESB Base Contract last December. In order to encourage feedback from the industry, an early draft of the Mexican Addendum was posted for a twenty-five-day informal industry comment period that concluded on July 6, 2017. On July 12, 2017, the WGQ Contracts Subcommittee met to review the informal comment received from Munich Re Trading LLC and modified the draft recommendation as necessary. Following several conference calls and the informal comment period, the WGQ Contracts Subcommittee voted out the Mexican Addendum on August 22, 2017. One comment was submitted during the formal thirty-day comment period which concluded on September 20, 2017. On October 20, 2017, the subcommittee held a follow up conference call to review the submitted formal comments from Santa Fe Natural Gas and to develop late comments from the subcommittee in response. During its October 26, 2017 meeting, the WGQ Executive Committee reviewed the comments and the recommendation and approved the recommendation as revised by the subcommittee in its late comments.

Driven by requests from several entities interested in the newly reformed Mexican environment, NAESB has attained a verbatim Spanish translation of three of its WGQ Contracts. The NAESB WGQ 6.3.1 - NAESB Base Contract for Sale and Purchase of Natural Gas; the NAESB WGQ 6.3.1.CA - Canadian Addendum; and the NAESB WGQ 6.5.3 - NAESB WGQ Model Credit Support Addendum are now available to NAESB members and for nonmember purchase. The contracts may be accessed on the NAESB website. As always, NAESB looks forward to supporting future standardization efforts within the Mexican market.



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**NORTH AMERICAN ENERGY STANDARDS BOARD
2018 ANNUAL PLAN for the RETAIL MARKETS QUADRANT**
Proposed by the RMQ Annual Plan Subcommittee on October 18, 2017 as revised by the RMQ Executive Committee on October 25, 2017

Item Number & Description ¹	Completion ²	Assignment ³
1. Update Existing Model Business Practices – Review and update all existing Model Business Practices, filling in any gaps that may exist and making the language consistent throughout all Books.⁴		
a. Book 15 – Specifications for Common Electricity Product and Pricing Definition Status: Not Started	1 st Q, 2018	BPS/ESPI
b. Book 16 – Specifications for Common Schedule Communication Mechanism for Energy Transactions Status: Not Started	1 st Q, 2018	BPS/ESPI
c. Book 17 – Specifications for Retail Standard Demand Response Signals Status: Not Started	1 st Q, 2018	BPS/ESPI
d. Book 18 – Retail Customer Energy Usage Information Communication Status: Not Started	3 rd Q, 2018	BPS/ESPI
e. Book 21 – Energy Services Provider Interface Status: Not Started	3 rd Q, 2018	BPS/ESPI
f. Book 22 – Third Party Access to Retail Customer Information Status: Not Started	4 th Q, 2018	BPS/Data Privacy Task Force
2. Update Existing Data Dictionaries and Technical Implementation – Review and update all existing Data Dictionaries and technical implementation, filling in any gaps that may exist as a result of the updates developed to support annual plan item.		
a. Book 9 – Customer Billing and Payment Notification via Uniform Electronic Transactions Status: Not Started	2018	IR/TEIS
b. Book 12 – Inquiries Status: Not Started	2018	IR/TEIS
c. Book 13 – Measurement and Verification (M&V) of Demand Response Programs Status: Not Started	2018	IR/TEIS
d. Book 14 – Service Request, Disconnection and Reconnection in the Registration Agent Model Status: Underway	2018	IR/TEIS
e. Book 15 – Specifications for Common Electricity Product and Pricing Definition Status: Not Started	2018	IR/TEIS/ESPI
f. Book 16 – Specifications for Common Schedule Communication Mechanism for Energy Transactions Status: Not Started	2018	IR/TEIS/ESPI
g. Book 17 – Specifications for Retail Standard Demand Response Signals Status: Not Started	2018	IR/TEIS/ESPI
h. Book 18 – Retail Customer Energy Usage Information Communication	2018	IR/TEIS/ESPI



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**NORTH AMERICAN ENERGY STANDARDS BOARD
2018 ANNUAL PLAN for the RETAIL MARKETS QUADRANT**
Proposed by the RMQ Annual Plan Subcommittee on October 18, 2017 as revised by the RMQ Executive Committee on October 25, 2017

Item Number & Description ¹	Completion ²	Assignment ³
Status: Not Started		
i. Book 21 – Energy Services Provider Interface Status: Not Started	2018	IR/TEIS/ESPI
j. Book 22 – Third Party Access to Retail Customer Information Status: Not Started	2018	IR/TEIS/Data Privacy Task Force
k. Book 23 – Supplier Marketing Practices Status: Not Started	2018	IR/TEIS
l. Book 24 – Enrollment, Drop, Account Information Change in Demand Response Programs Status: Not Started	2018	IR/TEIS
m. Book 27 - Enrollment, Drop, Account Information Change for Demand Response Programs in a Registration Agent Model Status: Not Started	2018	IR/TEIS
3. Example X12 Uniform Electronic Transactions – Add a section to Part 6 (Technical Implementation) of each of the following books, showing examples of the X12 Uniform Electronic Transactions covered in the book along with an explanation and/or description of each technical segment in the Uniform Electronic Transaction.		
a. Book 14 – Service Request, Disconnection and Reconnection in the Registration Agent Model Status: Underway	2018	IR/TEIS
b. Book 24 – Enrollment, Drop and Account Information Change in Demand Response Programs Status: Underway	2018	IR/TEIS
c. Book 27 – Enrollment, Drop, and Account Information Change for Demand Response Programs in a Registration Agent Model Status: Underway	2018	IR/TEIS
4. Request R14008 – Open Field Message Bus (OpenFMB)		
a. Cybersecurity for the RMQ.26 – OpenFMB – develop security model business practices as necessary for the OpenFMB architecture Status: Not Started	2018	Open FMB Task Force
5. Self-Deployment of a Demand Response program by a Demand Response Service Provider in the Registration Agent Marketplace		
a. If feasible and necessary, add a technical section to the new book containing the applicable technical implementation guidelines Status: Not Started	2018	IR/TEIS
6. Program of Standards Maintenance & Fully Staffed Standards Work⁵		
a. Business Practice Requests	Ongoing	Assigned by the EC
b. Information Requirements and Technical Mapping of Business Practices	Ongoing	Assigned by the EC
c. Interpretations for Clarifying Language Ambiguities	Ongoing	Assigned by the EC



North American Energy Standards Board

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NORTH AMERICAN ENERGY STANDARDS BOARD 2018 ANNUAL PLAN for the RETAIL MARKETS QUADRANT

Proposed by the RMQ Annual Plan Subcommittee on October 18, 2017 as revised by the RMQ Executive Committee on October 25, 2017

Item Number & Description ¹	Completion ²	Assignment ³
d. Maintenance of Code Values and Other Technical Matters	Ongoing	Assigned by the EC
e. Development and Maintenance of Definitions	Ongoing	Glossary
f. Harmonization of Definitions with All Other Quadrants	Ongoing	Glossary
g. Development and Maintenance of Model Business Practices	Ongoing	BPS

Provisional Activities

1. Review security standards as may be deemed necessary, such as Public Key Infrastructure (PKI).
2. Develop NAESB Certification checklist criteria for Retail Quadrants to be used in the NAESB Certification Program. The certification checklist may address test scripts, a checklist of items to be tested, data connectivity for test scripts and EDM testing.
3. Consider development of business practices to support the use of software applications for customer authorizations, including mobile devices.
4. Consider the need for development of Model Business Practices to support the implementation of distributed generation.
5. Consider the need for development of Energy Efficiency Model Business Practices to support the request of the American National Standards Institute.
6. Develop and/or modify the NAESB Model Business Practices if needed to address any recommendations resulting from the surety assessment performed by Sandia National Laboratories.
7. Support the activities of the Retail Structure Review Committee related to standards development.

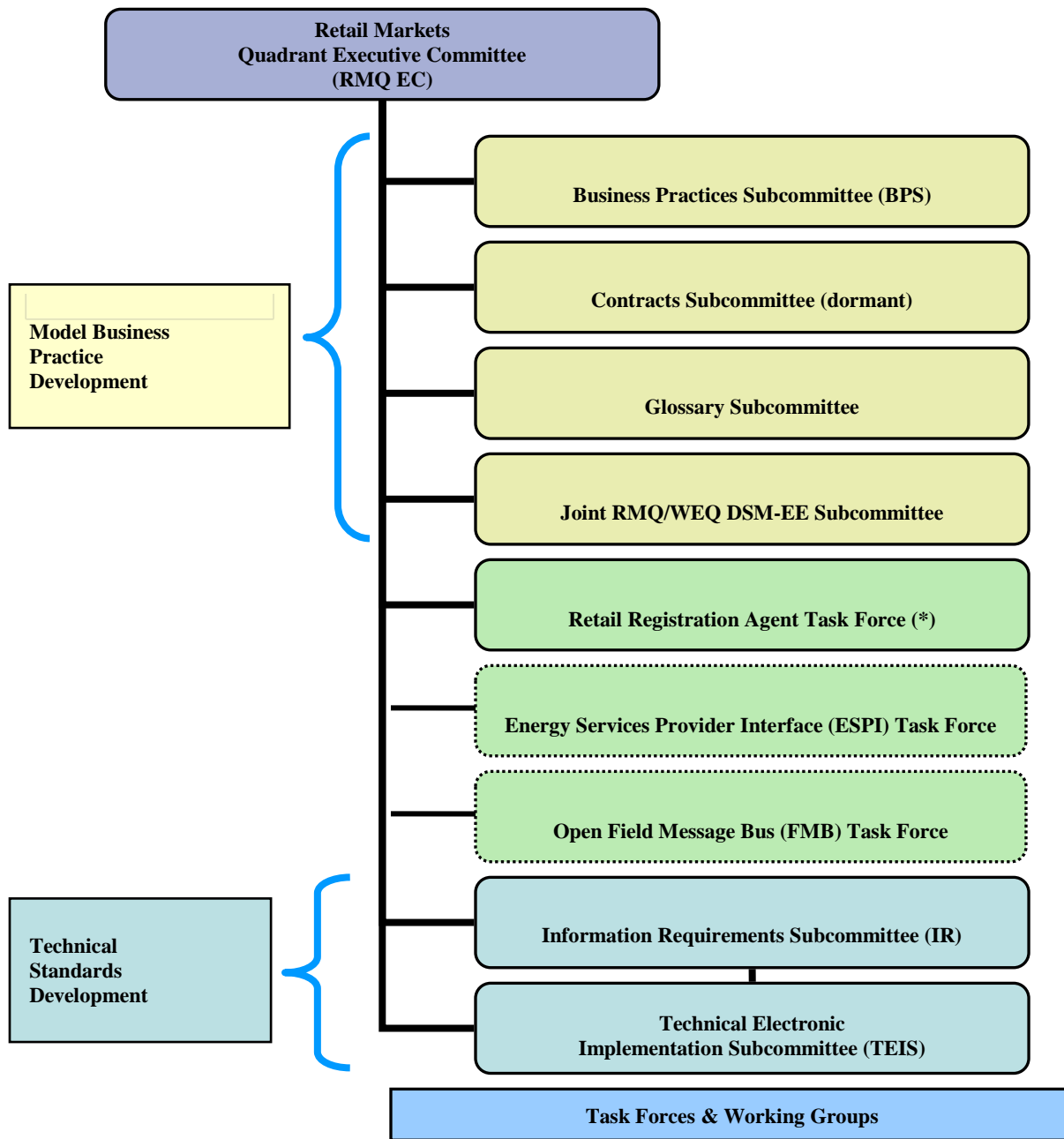
Retail Electric Model Business Practices Only:

1. 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 RMQ.
2. Review and develop model business practices to support renewable portfolio programs.
3. Develop and/or modify the NAESB Model Business Practices to address any requests regarding community solar or aggregated net metering.



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NAESB Retail Subcommittee Leadership:

Executive Committee: Mary Do, Chair
Business Practices Subcommittee: Mary Do
Information Requirements Subcommittee/Technical Electronic Implementation Subcommittee: Mary Do
Glossary Subcommittee: Patrick Eynon
DSM-EE Subcommittee: Roy True (WEQ) and Paul Wattles (WEQ)
Retail Registration Agent Task Force: Debbie McKeever
Open FMB Task Force: Stuart Laval, Larry Lackey
Energy Services Provider Interface (ESPI) Task Force: J. Cade Burks, Donald Coffin

(*) The Retail Registration Agent Task Force may draft MBPs, process flows, implementation guides and technical standards supportive of the Registration Agent and submit them to the BPS. The group is chaired by Debbie McKeever.

RMQ 2018 Annual Plan End Notes:

¹ As outlined in the NAESB Bylaws, the RMQ will also address requests submitted by members and assigned to the RMQ through the Triage Process.

² Dates in the completion column are by end of the quarter for completion by the assigned committee and subcommittee. 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.

³ The assignments are abbreviated. The abbreviations and committee structure can be found at the end of the Annual Plan document.

⁴ BPS and IR/TEIS will not review the following Books:

- Book 5 – Quadrant Specific Electronic Delivery Mechanisms
- Book 7 – Internet Electronic Transport, or
- Book 20 – Smart Grid Standards Data Element Table

⁵ This work is considered routine maintenance and thus the items are not separately numbered. The RMQ EC will assign maintenance efforts on a request-by-request basis.



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NORTH AMERICAN ENERGY STANDARDS BOARD

2018 Annual Plan for the Wholesale Gas Quadrant

Proposed by the WGQ Annual Plan Subcommittee on October 18, 2017 and as approved by the WGQ Executive Committee on October 26, 2017

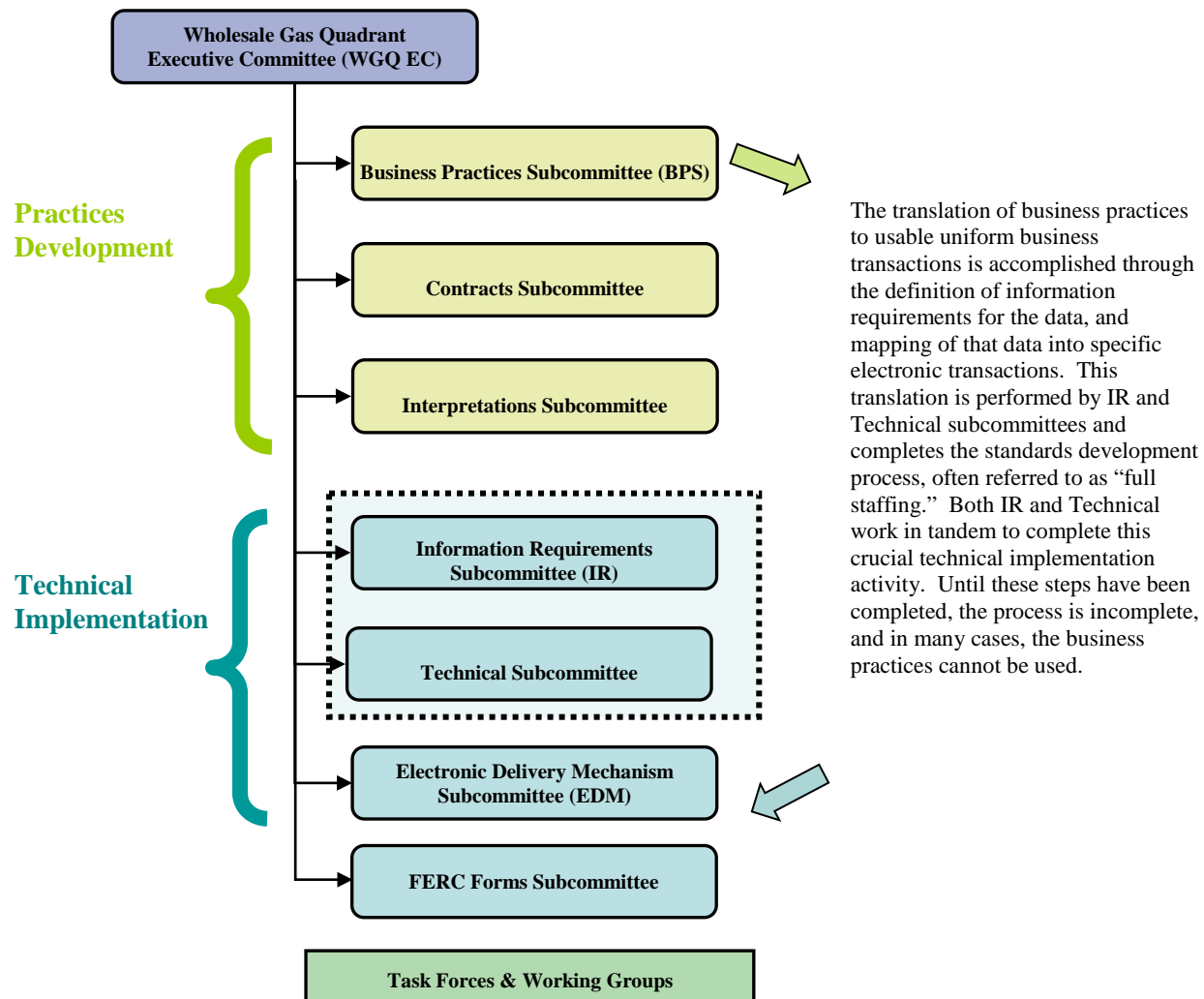
Item Description	Completion ¹	Assignment ²
1. Update Standards Matrix Tool for Ease of Use³		
a. Update the reference tool developed for Version 3.0 to reflect modifications applicable to Version 3.1 Status: Not Started	2018	WGQ IR/Technical Subcommittee
2. Electronic Delivery Mechanisms		
a. Review minimum technical characteristics in Appendices B, C, and D of the WGQ QEDM Manual, and make changes as appropriate. Status: Not Started	2018	WGQ EDM Subcommittee
3. Develop and/or modify standards to support FERC Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms (Docket No. AD15-11-000)¹		
a. Develop business practices as needed to support electronic filing protocols for submittal of FERC Forms Status: Underway	2018	Joint WEQ/WGQ FERC Forms Subcommittee
Program of Standards Maintenance & Fully Staffed Standards Work		
Business Practice Requests	Ongoing	Assigned by the EC ⁴
Continue review against plan for migration to ANSI ASC X12 new versions as needed and coordinate such activities with DISA.	Ongoing	Assigned by the EC ³
Information Requirements and Technical Mapping of Business Practices	Ongoing	Assigned by the EC ³
Interpretations for Clarifying Language Ambiguities	Ongoing	Assigned by the EC ⁴
Maintenance of Code Values and Other Technical Matters	Ongoing	Assigned by the EC ³
Maintenance of eTariff Standards	As Requested	Assigned by the EC ⁴
Provisional Activities		
1. Develop and/or modify the NAESB Business Practice Standards if needed to address any recommendations resulting from the surety assessment performed by Sandia National Laboratories.		

¹The FERC Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms, issued on April 16, 2015, can be found through the following hyperlink: https://www.naesb.org/pdf4/ferc041615_electronic_filing_protocols_forms.pdf



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NAESB 2018 WGQ EC and Subcommittee Leadership:

- Executive Committee: Jim Buccigross, Chair and Randy Parker, Vice-Chair
- Business Practices Subcommittee: Sylvia Munson, Willis McCluskey, Ben Schoene
- Information Requirements Subcommittee: Rachel Hogge
- Technical Subcommittee: Kim Van Pelt
- Contracts Subcommittee: Keith Sappenfield
- Electronic Delivery Mechanism Subcommittee: Leigh Spangler
- WGQ/WEQ FERC Forms Subcommittee: Leigh Spangler, Dick Brooks



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End Notes, WGQ 2018 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 As implementation of business issues are presented to the Information Requirements Subcommittee and Technical Subcommittee, those issues will be given precedence over WGQ 2018 Annual Plan Item No. 1.

⁴ The EC assigns maintenance of existing standards on a request-by-request basis.



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**NORTH AMERICAN ENERGY STANDARDS BOARD
2018 ANNUAL PLAN for the WHOLESALE ELECTRIC QUADRANT**
Proposed by the WEQ Annual Plan Subcommittee on October 18, 2017 and approved by the WEQ Executive Committee on October 24, 2017

Item Description	Completion ¹	Assignment ²
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) Parallel Flow Visualization/Mitigation for Reliability Coordinators in the Eastern Interconnection – Permanent Solution Note: Consideration should be given to provisional item 2.a. Work is being coordinated with the Eastern Interconnection Data Sharing Network (EIDSN). Status: Full Staffing	TBD	BPS
b) Revise TLR level 5 to be treated similarly to TLR Level 3 in terms of treating the next hour allocation separately from that of current hour. (R11020) Status: Full Staffing	TBD	BPS
2. Develop business practice standards in support of the FERC RM05-25-000 and RM05-17-000 (OATT Reform)¹		
a) Develop business practice standards to better coordinate the use of the transmission system among neighboring transmission providers. Request R05004 was expanded to include the Order No. 890 (Docket Nos. RM05-17-000 and RM02-25-000) , (Order No. 890-A (Docket Nos. RM05-17-001, 002 and RM05-25-001, 002)) , and Order No. 890-B (Docket Nos. RM05-17-03 and RM05-25-03) “Preventing Undue Discrimination and Preference in Transmission Services”		
i) Miscellaneous (Paragraph 1627 ² of FERC Order No. 890)		
1) Paragraphs 1627 of Order 890 – Posting of additional information on OASIS regarding firm transmission curtailments Status: Started	4 th Q, 2018	OASIS/BPS
2) Redispatch Cost Posting to allow for posting of third party offers of planning redispatch services. Status: Started	2 nd Q, 2018	OASIS/BPS

¹ FERC Order No. 890, issued February 16, 2007, can be accessed from the following link: http://www.naesb.org/doc_view4.asp?doc=ferc021607.doc.

² Paragraph 1627 of FERC Order No. 890, issued February 16, 2007: We agree with suggestions for the posting of additional curtailment information on OASIS and, therefore, require transmission providers, working through NAESB, to develop a detailed template for the posting of additional information on OASIS regarding firm transmission curtailments. Transmission providers need not implement this new OASIS functionality and any related business practices until NAESB develops appropriate standards. These postings must include all 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. This information is in addition to the Commission’s existing requirements: (1) when any transmission is curtailed or interrupted, the transmission provider must post notice of the curtailment or interruption on OASIS, and the transmission provider must state on OASIS the reason why the transaction could not be continued or completed; (2) information to support any such curtailment or interruption, including the operating status of facilities involved in the constraint or interruption, must be maintained for three years and made available upon request to the curtailed or interrupted customer, the Commission’s Staff, and any other person who requests it; and, (3) any offer to adjust the operation of the transmission provider’s system to restore a curtailed or interrupted transaction must be posted and made available to all curtailed and interrupted transmission customers at the same time.



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NORTH AMERICAN ENERGY STANDARDS BOARD
2018 ANNUAL PLAN for the WHOLESALE ELECTRIC QUADRANT
Proposed by the WEQ Annual Plan Subcommittee on October 18, 2017 and approved by the WEQ Executive Committee on October 24, 2017

Item Description	Completion ¹	Assignment ²
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		
a) Make remaining incremental enhancements to OASIS as an outgrowth of the NAESB March 29, 2005 conference on the future of OASIS (R05026). Scoping statement completed by SRS. There were a number of assignments from the Standards Request. The outstanding item is Enhance the TSR result postings to allow showing of available generation dispatch options that would allow acceptance of reservation request. Status: Started	2 nd Q, 2018	OASIS/BPS
b) Enhance the TSR Results posting to allow a showing of limiting transmission elements for denied transmission service requests. This shall include information for denied Coordinated Requests. R05026 scoping statement completed by SRS and R12006 . Status: Started	3 rd Q, 2018	OASIS/BPS
c) Requirements for OASIS to use data in the Electric Industry Registry (R12001) Status: Not Started	TBD	OASIS
d) Evaluate the ability to define specific lists to be submitted for the Query/Response in the OASIS Template format and develop new standards/modifications as needed Status: Not Started	TBD	OASIS
e) Evaluate adding dynamic notification for the rollover rights renewal deadline and develop new standards/modifications as needed Status: Not Started	TBD	OASIS
f) Review the NAESB Network Integration Transmission Service (NITS) Business and Technical Standards for needed modifications based on implementation and operational experiences since their adoption. Areas of investigation should include, but are not limited to: <ul style="list-style-type: none"> • Corrections and clarifications of existing standards • Evaluate adding a customer response time limit once a NITS request has been set to the status of DEFICIENT and develop new standards/modifications as needed • Evaluate all NITS Templates to determine additional fields that may be modified and develop new standards/modifications as needed • Evaluate adding CUSTOMER_NAME in the DNR List and develop new standards/modifications as needed • Evaluate adding the ability to annul a generator record and develop new standards/modifications as needed • Modifications for support of fractional megawatt quantities as applicable, e.g. generator capacity • Potential extensions to requesting and modifying scheduling rights <ul style="list-style-type: none"> ○ Flexibility in use of service points ○ On designating network resources ○ On terminating network resources 	TBD	OASIS



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Item Description	Completion ¹	Assignment ²
<ul style="list-style-type: none"> ○ On addition of load ○ Requests independent of resource designations • New standards to be developed to address specific areas of concern within the industry <p>Status: Not Started</p>		
<p>g) Develop new OASIS Business Practice Standards to ensure that reservation capacity that is assigned to untagged Pseudo-Ties is preserved for that purpose.</p> <ul style="list-style-type: none"> • Develop a mechanism to reduce the Uncommitted Capacity of PTP reservations that support untagged Pseudo-Ties to prevent the capacity used for the Pseudo-Tie to be otherwise encumbered (redirected, resold, tagged, etc.). The subcommittee may wish to adopt a practice that considers the full PTP reservation registered in a Pseudo-Tie to be fully bound (fully encumbered) or may wish to develop a more robust mechanism for encumbering portions of the reserved capacity. • The standards should prohibit releasing as non-firm ATC the capacity reserved for an untagged Pseudo-Tie. • Require that all new Pseudo-Tie reservations be Tier 1 or unconditional Tier 2, so that they are not subject to preemption after confirmation. • Expand SAMTS to permit Coordinated Requests to be reduced or terminated by the Transmission Customer if the Coordinated Group includes a reservation that is denied registration in a Pseudo-Tie in webRegistry. <p>The new standard will also minimize the potential for unreserved use penalties due to double-use of a reservation if it should simultaneously a) serve a reservation for the Pseudo-Tie and also b) serve as the basis for deliver energy on an alternate path or alternate tag.</p> <p>This issue has been discussed in the WEQ BPS and the WEQ OASIS subcommittees. A Proposal for OASIS Treatment of Pseudo-Ties was presented to the WEQ-BPS subcommittee in the December 4-5, 2013 meeting (link) and the WEQ-OASIS subcommittee discussed Pseudo-Tie Reservations on OASIS in the January 14-16, 2014 meeting (link).</p> <p>Status: Not Started</p>	TBD	OASIS
<p>h) Evaluate the need for new OASIS Business Practice Standards and/or mechanisms to allow documentation for coordination of partial path reservations to demonstrate the complete path associated with long-term firm interchange. This information, when populated, would provide a tool to improve coordination of interchange by transmission planners when developing planning models. This will provide greater certainty that partial path reservations are properly accounted for in transmission planning models and that reliable service is provided.</p> <p>Status: Not Started</p>	TBD	OASIS



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2018 ANNUAL PLAN for the WHOLESALE ELECTRIC QUADRANT
Proposed by the WEQ Annual Plan Subcommittee on October 18, 2017 and approved by the WEQ Executive Committee on
October 24, 2017

Item Description	Completion ¹	Assignment ²
4. Develop and/or maintain standard communication protocols and - cybersecurity business practices as needed.		
a) Review annually at a minimum, WEQ-012 and the accreditation requirements for Authorized Certification Authorities to determine if any changes are needed to meet market conditions. ³ Status: Not Started	4 th Q, 2018	Cybersecurity Subcommittee
b) Evaluate and modify standards as needed to support and/or complement the current version of the NERC Critical Infrastructure Protection Standards ⁴ and any other activities of NERC and the FERC related to cybersecurity. Status: Not Started	4 th Q, 2018	Cybersecurity Subcommittee
5. Develop and/or modify standards to support FERC Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms (Docket No. AD15-11-000)⁵		
a) Develop business practices as needed to support electronic filing protocols for submittal of FERC Forms Status: Started	2018	Joint WEQ/WGQ FERC Forms Subcommittee

³ The "NAESB Accreditation Requirements for Authorized Certification Authorities" can be found at: http://www.naesb.org/member_login_check.asp?doc=certification_specifications.docx.

⁴ <http://www.nerc.com/pa/Stand/Pages/CIPStandards.aspx>

⁵ The FERC Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms, issued on April 16, 2015, can be found through the following hyperlink: https://www.naesb.org/pdf4/ferc041615_electronic_filing_protocols_forms.pdf



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NORTH AMERICAN ENERGY STANDARDS BOARD 2018 ANNUAL PLAN for the WHOLESale ELECTRIC QUADRANT

Proposed by the WEQ Annual Plan Subcommittee on October 18, 2017 and approved by the WEQ Executive Committee on October 24, 2017

PROVISIONAL ITEMS

1. **Optional Work to Extend Existing Standards**
 - a) Prepare recommendations for future path for TLR⁶ in concert with NERC, which may include alternative congestion management procedures⁷. Work on this activity is dependent on completing 2018 WEQ Annual Plan 1.a (Parallel Flow Visualization/Mitigation for Reliability Coordinators in the Eastern Interconnection).
 - b) Re-examine the need for business practice standards for organization/company codes for NAESB standards – and address current issues on the use of DUNs numbers, GLN, and LEI.
 - c) Develop and/or modify NAESB Business Practice Standards if needed to address any recommendations resulting from the surety assessment performed by Sandia National Laboratories.
 2. **Pending Regulatory or Legislative Action**
 - a) Determine NAESB action needed to support smart grid technology, including but not limited to FERC Action Plan(s).
 - b) Develop business practice standards for cap and trade programs for greenhouse gas.
 - c) Should the FERC determine to act in response to NAESB's report of the Version 003.1 or Version 003.2 Business Practice Standards, and should the FERC recommend specific action, develop and/or revise Business Practice Standards as needed.
 - d) Revise WEQ-023 based on FERC Orders associated to Docket Nos. RM14-7-000 and AD15-5-000
-

⁶ Phase 2 of the Parallel Flow Visualization looks at developing options for and reporting of the most cost effective alternatives to achieve curtail obligations assigned during Phase 1.

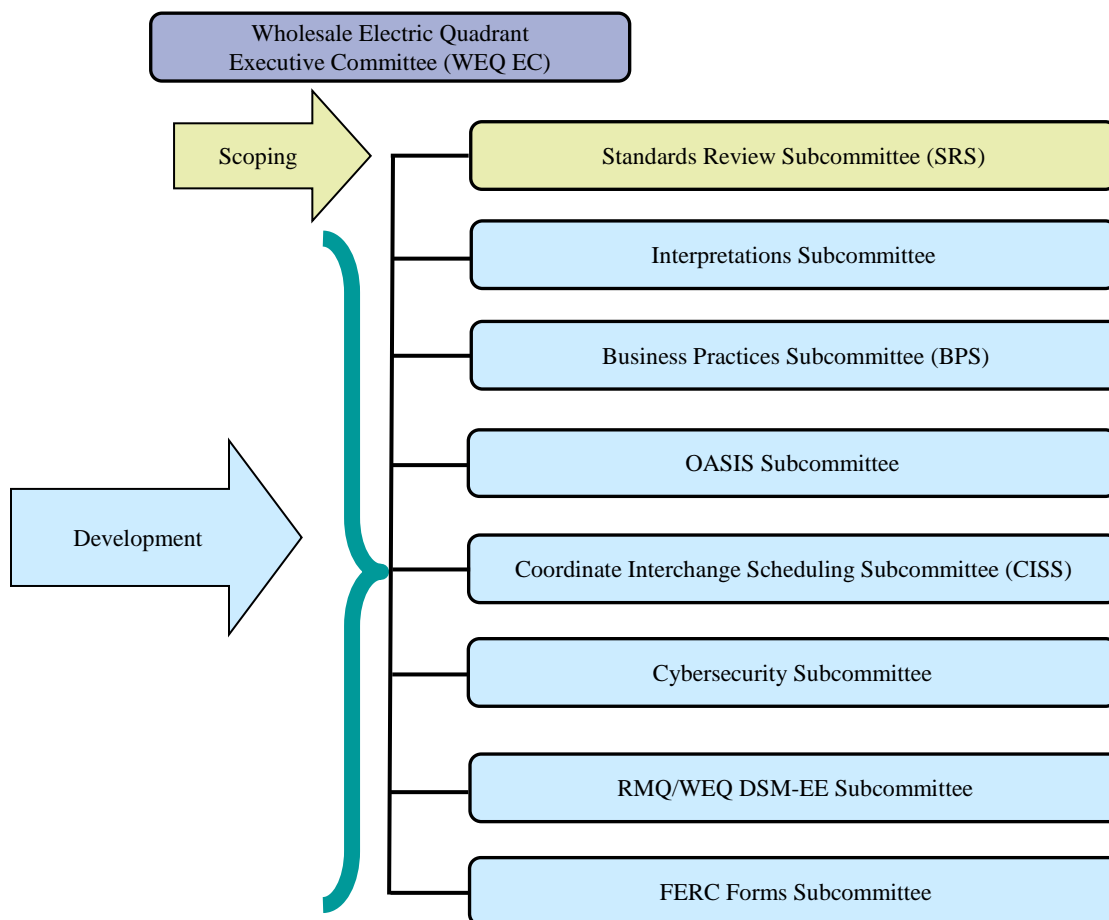
⁷ For additional information, please see comments submitted by PJM and Midwest ISO for this Annual Plan Item:
http://www.naesb.org/pdf3/weq_aplan102907w1.pdf.



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WHOLESALE ELECTRIC QUADRANT EXECUTIVE COMMITTEE AND SUBCOMMITTEE STRUCTURE





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NAESB WEQ EC and Active Subcommittee Leadership:

Executive Committee (EC): Kathy York (Chair) and Roy True (Vice Chair)

Standards Review Subcommittee (SRS): Ron Robinson, Kevin Spontak

Interpretations Subcommittee: Ed Skiba

Business Practices Subcommittee (BPS): Jason Davis, Paul Graves, Ross Kovacs, Narinder Saini

Open Access Same Time Information System (OASIS) Subcommittee: Rob Arbitelle, Alan Pritchard, Ken Quimby, Matt Schingle, J.T. Wood

Coordinate Interchange Scheduling Subcommittee (CISS): Joshua Phillips, Zack Buus

Cybersecurity Subcommittee: Jim Buccigross

Demand Side Management-Energy Efficiency (DSM-EE) RMQ/WEQ Subcommittee: Roy True (WEQ) and Paul Wattles (WEQ)

FERC Forms Subcommittee (WEQ/WGQ): Leigh Spangler (WGQ), Dick Brooks (WEQ)

Inactive Subcommittees:

e-Tariff Joint WEQ/WGQ Subcommittee (e-Tariff): Keith Sappenfield (WGQ)

End Notes WEQ 2018 Annual Plan:

¹ Dates in the completion column are by end of the quarter for completion by the assigned committee, sub-committee or task force. 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 sub-committee structure can be found at the end of the annual plan document.



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October 2, 2017
Filed Electronically

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street N.E., Room 1A
Washington, D.C. 20426

RE: Parallel Flow Visualization Project Status (Docket No. EL14-82-000)

Dear Ms. Bose:

The North American Energy Standards Board ("NAESB") voluntarily submits this report to the Federal Energy Regulatory Commission ("FERC" or "Commission") to provide an update on the Parallel Flow Visualization ("PFV") effort. This report includes information on the PFV field trial being conducted by the Eastern Interconnection Data Sharing Network, Inc. ("EIDSN"), an updated project timeline, and the continued coordination efforts of NAESB, the North American Electric Reliability Corporation ("NERC") and EIDSN.

This report, drafted by NAESB with the support of NERC and EIDSN, is intended to supplement the previous status reports filed by NAESB on July 11, 2014, January 28, 2015, March 25, 2015, January 29, 2016, and October 17, 2016. As indicated in these reports, NAESB will continue to periodically update the Commission on the progress of the PFV field trial as well as any PFV-related standards modifications. Following the completion of the field trial and ratification of the PFV-related standards by NAESB membership, NAESB will file a report with the Commission containing the final version of the relevant NAESB WEQ Business Practice Standards.

Respectfully submitted,

Ms. Rae McQuade
President & COO, North American Energy Standards Board

cc: Chairman, Neil Chatterjee, Federal Energy Regulatory Commission
Commissioner, Cheryl A. LaFleur, Federal Energy Regulatory Commission
Commissioner, Robert F. Powelson, Federal Energy Regulatory Commission
Mr. Michael Bardee, Office of Electric Reliability, Federal Energy Regulatory Commission
Mr. James Danly, General Counsel of the Commission, Federal Energy Regulatory Commission
Mr. Michael Goldenberg, Senior Attorney, Office of General Counsel, Federal Energy Regulatory Commission
Ms. Anna Cochrane, Director, Office of Energy Market Regulation, Federal Energy Regulatory Commission
Mr. J. Arnold Quinn, Director, Office of Energy Policy and Innovation, Federal Energy Regulatory Commission

Report of the North American Energy Standards Board
Parallel Flow Visualization Project Status (Docket No. EL14-82-000)
October 2, 2017

Mr. Michael Desselle, Chairman and Chief Executive Officer, North American Energy Standards Board

Mr. Jonathan Booe, Vice President and CAO, North American Energy Standards Board

Mr. William P. Boswell, General Counsel, North American Energy Standards Board

Mr. Gerry W. Cauley, President and Chief Executive Officer, North American Electric Reliability Corporation

Mr. Mark Lauby, Senior Vice President and Chief Reliability Officer, North American Electric Reliability Corporation

Mr. Charles A. Berardesco, Senior Vice President, General Counsel, and Corporate Secretary, North American Electric Reliability Corporation

Mr. Rich Mandes, Executive Director, Eastern Interconnect Data Sharing Network

Mr. Don Reichenbach, Chair of the IDC Steering Committee, Eastern Interconnect Data Sharing Network

Enclosures (all documents and links are available publically on the NAESB website – www.naesb.org)

Appendix A Updated Parallel Flow Visualization Project Timeline

Appendix B NAESB Full Staffing Process

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

REPORT OF THE NORTH AMERICAN ENERGY STANDARDS BOARD

The North American Energy Standards Board ("NAESB") voluntarily submits this report to provide the Federal Energy Regulatory Commission ("FERC" or "Commission") with an update on the Parallel Flow Visualization ("PFV") effort. The report supplements the information provided in the previous status reports, drafted with the support of the North American Electric Reliability Corporation ("NERC") and the Eastern Interconnection Data Sharing Network, Inc. ("EIDSN") and filed by NAESB on October 17, 2016, January 29, 2016, March 25, 2015, January 28, 2015, and July 11, 2014.

PFV is an effort initiated by the wholesale electric industry with the goal of enhancing the Eastern Interconnection congestion management processes by improving the availability of real-time data used by the Interchange Distribution Calculator ("IDC"), an industry tool utilized by the Eastern Interconnection in congestion management procedures. This use of real-time data should in turn improve the visibility of the source and magnitude of parallel interchange flows on the bulk electric grid. The PFV effort is supported by the coordination of EIDSN, which through its IDC Steering Committee and IDC Working Group oversees the management of the IDC tool, NAESB, and NERC. This status report provides the Commission with information on the EIDSN-conducted PFV field trial, which began on September 28, 2017, the updated PFV timeline, and the continued coordination efforts of NAESB, NERC, and EIDSN.

As indicated in the last update to the Commission, EIDSN was making preparations for the PFV field trial by modifying the IDC tool to support the proposed PFV-related changes to the NAESB Wholesale Electric Quadrant ("WEQ") Business Practice Standards. Since that time, the EIDSN IDC Working Group worked diligently with the IDC tool software vendor, OATI, to finish preparations. While minor delays were encountered, the PFV field trial began on September 28, 2017, within one month of the originally indicated start date and should not significantly delay the project. An updated project timeline is included in Appendix A of this report.

The expected length of the PFV field trial is eighteen months and will be conducted in parallel operations with the current IDC tool functionality. After the PFV field trial concludes, the EIDSN IDC Working Group will evaluate the field trial data and will develop a report on the commercial metrics of the project. The NAESB WEQ Business Practices Subcommittee will use this report to determine if any revisions to the standards are necessary. Similarly, the NERC Operating Reliability Subcommittee ("ORS") will evaluate a report on the reliability metrics. No adverse reliability impacts are anticipated from the PFV effort, but should any be identified, NAESB will coordinate with both NERC and EIDSN to resolve them. Per the NAESB full-staffing process (see Appendix B), the PFV-related NAESB WEQ Business Practice Standards will be re-presented to the NAESB WEQ Executive Committee following the conclusion of the PFV field trial, regardless of any additional revisions that may or may not be made to the standards. Should the NAESB WEQ Executive Committee adopt the standards, they will be

Report of the North American Energy Standards Board
Parallel Flow Visualization Project Status (Docket No. EL14-82-000)
October 2, 2017

submitted to the NAESB WEQ membership for ratification. If ratified, NAESB will file the standards with the Commission.

NAESB, NERC, and the EIDSN are committed to continued coordination to support this multi-year PFV effort. NAESB staff and EIDSN leadership will continue to communicate regarding the progress of the PFV field trial, and NAESB and NERC staffs will continue to discuss PFV project updates during monthly coordination calls.. Additionally, as indicated in the previous report, the NAESB WEQ Business Practices Subcommittee will continue to have a a standing agenda item to discuss any PFV-related coordination issues from the EIDSN IDC Working Group, and a NAESB WEQ Business Practices Subcommittee co-chair will continue to serve as a liaison between the NAESB subcommittee and the EIDSN IDC Working Group.

As always, NAESB will continue to make status reports to update the Commission on the progress of the PFV effort, including any delays in the communicated timeline or modifications to the NAESB WEQ Business Practice Standards.

Appendices:

- A. Updated Parallel Flow Visualization Project Timeline
- B. NAESB Full Staffing Process

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Parallel Flow Visualization Project Status (Docket No. EL14-82-000)
October 2, 2017

Appendix A – Updated Parallel Flow Visualization Project Timeline

Updated Timeline for the Future of the Parallel Flow Visualization Project

- February 24, 2015 – The NAESB WEQ Executive Committee voted to adopt the recommendation of the NAESB WEQ BPS for the PFV-related modifications to the NAESB WEQ Business Practice Standards and initiate the full-staffing process. The standards will be held in abeyance for the entirety of the full-staffing period to allow for the IDC Association (now EIDSN) to conduct the PFV field trial.
- March 2015 to December 2015 – The IDCWG performed its assessment on the PFV-related modifications to the NAESB WEQ Business Practice Standards and communicated its evaluation of the necessary changes to the IDC tool to OATI through a draft change order.
- December 2015 to February 2016 – OATI reviewed the IDCWG’s assessment and evaluated the change order for the necessary modifications to the IDC tool.
- February 9, 2016 – OATI presented the change order to the IDC Association Steering Committee for consideration.
- April 1, 2016 – The IDC Association transitioned management structure to EIDSN.
- April 29, 2016 – EIDSN executed the PFV-related change order for modifications to the IDC tool with OATI.
- May 2016 to February 2017 – OATI, working with the IDCWG, developed the PFV-related modifications to the IDC tool. During this time period, the IDCWG also created the test plan for the PFV field trial.
- February 2017 to September 2017 – OATI and the IDCWG conducted acceptance testing on the implemented modifications to the IDC tool in preparation for the PFV field trial, making any necessary adjustments.
- September 28, 2017 – The eighteen month PFV field trial began
- September 2017 to March 2019 – The eighteen month PFV field trial is conducted in a parallel testing environment.
- As indicated in the July 2014 filing, the NAESB WEQ BPS, the NERC ORS, and EIDSN will all work together to address any adverse reliability impacts. Following the conclusion of the PFV field trial, the NAESB WEQ BPS will evaluate the report on the commercial metrics provided by EIDSN to determine if any revisions to the standards are necessary. The recommendation either as originally presented to the NAESB WEQ Executive Committee in February 2015 or with any additional modifications deemed necessary by the NAESB WEQ BPS will be submitted to the NAESB WEQ Executive Committee for approval. If the NAESB WEQ Executive Committee takes action to end the full-staffing period and to adopt the recommendation, the standards will be submitted for NAESB WEQ membership ratification. Once ratified, NAESB will file the standards with the Commission.

Report of the North American Energy Standards Board
Parallel Flow Visualization Project Status (Docket No. EL14-82-000)
October 2, 2017

Appendix B – NAESB Full-Staffing Process

Excerpt from the NAESB Operating Practices as approved via Board Resolution September 11, 2015 (Section C3)

Section C. Standards Development and Maintenance

3. Full Staffing

The NAESB practice of full staffing is to be employed when there are interdependencies in the development of standards that would require an iterative approach.

This process is applied when the technical standards developed to support business practices may require changes to the business practices, or it is impractical to implement the business practices without the supporting technical standards completed. The business practices are adopted by the applicable quadrant EC(s), but they are not ratified until the technical standards are complete. In this manner, there is an opportunity to change the business practices if needed, and an indication of industry support is attained through the EC vote on the business practices prior to undertaking the technical development.

Similarly, implementation of business practices that may be dependent on other organization's or other quadrant's work products can use the process of full staffing to approve the business practices yet begin the ratification process after the dependent activity is complete, thus providing an opportunity for the business practices to be modified to take into account the other organization's or quadrant's work products. By doing such, the standards development in NAESB may be more effectively coordinated and timed for release with other organization's or quadrant's work products.

For the applicable EC(s) to use the full staffing process, first there will be a simple majority vote to determine if full staffing is required, which would imply a delay of ratification until the interdependent development is completed. Following the full staffing vote, the business practice standard(s) would be adopted pursuant to a super majority vote. Prior to ratification, should it be determined that additional change(s) are required to the EC adopted standard(s), the change(s) would follow the existing process for standards development. At any time, the applicable EC(s) can determine to stop the full staffing process and begin the ratification process through a simple majority vote.



NORTH AMERICAN ENERGY STANDARDS BOARD

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September 29, 2017
Filed Electronically

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

RE: Standards for Business Practices of Interstate Natural Gas Pipelines (Docket No. RM96-1 et al.)

Dear Ms. Bose:

The North American Energy Standards Board (“NAESB”) herewith submits this report to the Federal Energy Regulatory Commission (“FERC” or “Commission”) regarding NAESB’s activities from November 2014 to September 2017 with respect to the development of Version 3.1 of the NAESB Wholesale Gas Quadrant (“WGQ”) Standards. The NAESB WGQ Version 3.1 Standards have been ratified by the WGQ membership and are published today, on September 29, 2017, with the inclusion of minor corrections applicable to Version 3.1, Version 3.0, Version 2.1, and Version 2.0.¹ An executive summary describing the changes that resulted in Version 3.1 is included in the attached report, along with a listing of the standards that were created or modified as part of the version.

The standards referenced in this submittal include newly created standards and modifications to existing standards developed through the NAESB standards development process or the NAESB minor correction process. The development efforts in NAESB reflect the work of multiple market interests and, in some cases, considerable industry debate on the language and the level of standardization. As stated in previous reports, NAESB supports a wide range of perspectives through a public process permitting all segments of the marketplace, regardless of membership status in NAESB, to equally voice their positions.

All requests for new standards or modifications to existing standards, as well as work papers and recommendations from subcommittees and task forces regarding the requests are accessible through the NAESB homepage (www.naesb.org). Participation and voting in NAESB at the subcommittee and task force level, where standards requests are addressed and recommended standards are formulated, is open to any interested party regardless of membership. Should a participant be unable to attend a meeting where a request of interest is discussed, the party may prepare written comments that will be posted as work papers for subcommittee or task force consideration.

The Executive Committee meetings where these standards were discussed and adopted took place from October 2014 to August 2017. The minutes of these meetings, including the voting records of the Executive Committee, are provided as links. Additionally, the ratification ballots and member ratification voting record results are included as links, as well as all comments filed as part of the NAESB formal comment period.

¹ The NAESB standards referenced in this report are available to the public through multiple methods. To access the standards at no cost, NAESB will provide a limited copyright waiver for evaluation purposes or for response in regulatory filings, using a product called Locklizard (<https://www.locklizard.com/>). To request a waiver, please contact the NAESB office or follow the instructions in the following document: https://www.naesb.org/misc/NAESB_Nonmember_Evaluation.pdf.



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The cover letter, report and enclosures are being filed electronically in Adobe Acrobat® Portable Document Format (.pdf), with each enclosure bookmarked separately. The filing is also available on the NAESB website (www.naesb.org). Please feel free to call the office at (713) 356-0060 or refer to the NAESB website (www.naesb.org) should you have any questions or need additional information regarding the NAESB WGQ Version 3.1 Standards.

Respectfully submitted,

Ms. Rae McQuade
President & COO, North American Energy Standards Board

cc with enclosures:

Chairman Neil Chatterjee, Federal Energy Regulatory Commission
Commissioner Robert F. Powelson, Federal Energy Regulatory Commission
Commissioner Cheryl A. LaFleur, Federal Energy Regulatory Commission
Mr. Michael Bardee, Office of Electric Reliability, Federal Energy Regulatory Commission
Ms. Anna Cochrane, Director, Office of Energy Market Regulation, Federal Energy Regulatory Commission
Mr. James Danly, General Counsel of the Commission, Federal Energy Regulatory Commission
Mr. J. Arnold Quinn, Director, Office of Energy Policy and Innovation, Federal Energy Regulatory Commission
Mr. Michael Desselle, Chairman and CEO, North American Energy Standards Board
Ms. Valerie Crockett, Vice Chairman, North American Energy Standards Board
Mr. William P. Boswell, General Counsel, North American Energy Standards Board
Mr. Jonathan Booe, Vice President and CAO, North American Energy Standards Board

Enclosures (all documents and links are available publicly on the NAESB website – www.naesb.org):

- Appendix A Links to Executive Committee Meeting Minutes, Comments, and Voting Record Links
- Appendix B Links to Ratification Ballots and Ratification Results
- Appendix C List of Available Meeting Transcripts
- Appendix D NAESB Process for Standards Development
- Appendix E NAESB WGQ Annual Plans
- Appendix F Minor Corrections Applicable to Version 2.0, Version 2.1, Version 3.0, and Version 3.1
- Appendix G Requests and Minor Corrections – No Action Needed
- Appendix H 1- Entities with Access to NAESB Standards, 2- Entities without Recorded Access to the most recently mandated NAESB WGQ Standards, Version 3.0
- Appendix I NAESB WGQ Annual Plan End Notes



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August 24, 2017

Via post and email

K. John Holmes

National Academy of Sciences
500 Fifth Street, NW
Washington, DC 20001

RE: National Academy of Sciences Report: Enhancing the Resilience of the Nation's Electricity System

Dear Mr. Holmes,

On behalf of the North American Energy Standards Board (NAESB), I want to thank you for your efforts, with the sponsorship of the Department of Energy, to develop the Enhancing the Resilience of the Nation's Electricity System report and taking steps to identify issues and propose recommendations to address this matter of growing importance to the energy industry. In the report, you specifically recommend¹ that NAESB work with the Federal Energy Regulatory Commission (FERC) and industry stakeholders to improve awareness, communication, coordination and planning between the natural gas and electric industries in an effort to mitigate potential impacts resulting from one markets infrastructure failure on the other market. NAESB has a long history of working with the Federal Energy Regulatory Commission to develop standards intended to enhance the coordination between the wholesale natural gas and power markets, and, as an industry organization uniquely positioned to support coordination, our Board of Directors carefully evaluates all requests for NAESB involvement in such efforts to determine if the work is within the organization's scope as defined in the NAESB Certificate of Incorporation² and whether participants will be able to work together effectively through the NAESB process to produce meaningful results. As such, our Board of Directors will begin discussions concerning the recommendation contained in the National Academy of Sciences report during our upcoming Board of Directors meeting on September 7, 2017, and will work in any capacity our Board of Directors, the FERC and the Department of Energy deem appropriate and helpful to support the recommendation.

Again, we are appreciative of your recognition in the report, and our Board of Directors looks forward to considering the recommendation and any direction provided by the FERC in the coming months.

With Best Regards,

Rae McQuade, President, NAESB

¹ Recommendation 4.7: The Federal Energy Regulatory Commission and the North American Energy Standards Board, in conjunction with industry stakeholders, should further prioritize their efforts to improve awareness, communications, coordination, and planning between the natural gas and electric industries. Such efforts should be extended to consider explicitly what recovery strategies should be employed in the case of failed interdependent infrastructure. Fuel diversity, dual fuel capability, and local storage should be explicitly addressed as part of these resilience strategies.

² The NAESB Purpose and Scope can be found in Article II of the NAESB Certificate of Incorporation: https://www.naesb.org/pdf/naesb_certificate_102414.pdf



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August 24, 2017

Via post and email

Dr. M. Granger Morgan

University and Hamerschlag Professor of Engineering
Department of Engineering and Public Policy
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PA 15213

RE: National Academy of Sciences Report: Enhancing the Resilience of the Nation's Electricity System

Dear Professor Morgan,

On behalf of the North American Energy Standards Board (NAESB), I want to thank you for your efforts, with the sponsorship of the Department of Energy, to develop the Enhancing the Resilience of the Nation's Electricity System report and taking steps to identify issues and propose recommendations to address this matter of growing importance to the energy industry. In the report, you specifically recommend¹ that NAESB work with the Federal Energy Regulatory Commission (FERC) and industry stakeholders to improve awareness, communication, coordination and planning between the natural gas and electric industries in an effort to mitigate potential impacts resulting from one markets infrastructure failure on the other market. NAESB has a long history of working with the Federal Energy Regulatory Commission to develop standards intended to enhance the coordination between the wholesale natural gas and power markets, and, as an industry organization uniquely positioned to support coordination, our Board of Directors carefully evaluates all requests for NAESB involvement in such efforts to determine if the work is within the organization's scope as defined in the NAESB Certificate of Incorporation² and whether participants will be able to work together effectively through the NAESB process to produce meaningful results. As such, our Board of Directors will begin discussions concerning the recommendation contained in the National Academy of Sciences report during our upcoming Board of Directors meeting on September 7, 2017, and will work in any capacity our Board of Directors, the FERC and the Department of Energy deem appropriate and helpful to support the recommendation.

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With Best Regards,

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The Secretary of Energy

Washington, DC 20585

August 23, 2017

A reliable and resilient electric grid is critical not only to our national and economic security, but also to the everyday lives of American families. As Secretary of Energy, it is my job to help ensure the electric grid and markets meet those needs now and in the future.

With that in mind, I directed my staff to develop a report including an assessment of the reliability and resilience of the electric grid and an overview of the evolution of electricity markets. This review is something that was long overdue. The industry has experienced massive change in recent years, and government has failed to keep pace. This report examines the evolution of markets that has occurred over the last fifteen years. Policy makers and regulators should be making decisions based on what the markets look like today, not what they looked like years ago.

This staff report examines the complexity of these topics and the very real implications they have for the American people. It was prepared by experts throughout the Department and several of our National Laboratories.

This study contains a comprehensive analysis and series of recommendations from the Department of Energy staff meant to inform and guide policy makers, regulators, and the general public in future conversations about the challenges we face.

The industry has experienced extraordinary technological and resource changes in recent years. While these changes are providing more choices for consumers, they are also challenging the regulatory paradigm that has guided the industry's growth for decades. The core objective of electricity regulation has always been, and should continue to be, to ensure a reliable and resilient electric supply system that serves customers in an equitable manner.

It is apparent that in today's competitive markets certain regulations and subsidies are having a large impact on the functioning of markets, and thereby challenging our power generation mix. It is important for policy makers to consider their intended and unintended effects. Federal and State policy makers must continue to work together in close consultation to address these important issues that have a deep impact on grid reliability and resilience.

America is blessed with ingenuity, technology, and millions of dedicated men and women in the industry who do a tremendous job of guiding the process of generating, transmitting, and distributing electricity. From engineers to miners and everyone else along the way, the process of providing the electricity required to power our homes and businesses is remarkable. The people who do this important work should be recognized for their dedication and success.

America is also fortunate to have a variety of fuel sources. We need to consider how to use each effectively while recognizing our differences and unique state and regional circumstances. We also need to recognize the relationship between resiliency and the price of energy. Customers should know that a resilient electric grid does come with a price. As the Secretary of Energy and a member of the National Security Council, I realize the broad security implications of our power supply. We must utilize the most effective combination of energy sources with an “all of the above” approach to achieve long-term, reliable American energy security.

When this report was initiated it received wide ranging stakeholder interest, which was welcome and underscores the importance and significance of the topic. I hope the report will serve as the starting point for an important conversation about the future reliability and resilience of our electric grid.

As Secretary of Energy, I am committed to ensuring that we provide American families and businesses an electric power system that is technologically advanced, resilient, and reliable for years to come.

A handwritten signature in black ink that reads "Rick Perry". The signature is written in a cursive, slightly slanted style.

Rick Perry

Staff Report to the Secretary on Electricity Markets and Reliability



August 2017

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1 Introduction

On April 14, 2017, Energy Secretary Rick Perry issued a memorandum requesting a study to examine electricity markets and reliability. With this document, Department of Energy (DOE) staff are delivering a study that seeks not only to evaluate the present status of the electricity system, but more importantly to exercise foresight to help ensure a system that is reliable, resilient, and affordable long into the future. Therefore, while carefully acknowledging history, this study focuses on the present trajectory of trends that are of particular concern in meeting those long-term goals.

Specifically, the April 14 memo directed a study that explores the following three issues:

- The evolution of wholesale electricity markets, including the extent to which Federal policy interventions and the changing nature of the electricity fuel mix are challenging the original policy assumptions that shaped the creation of those markets;
- Whether wholesale energy and capacity markets are adequately compensating attributes such as on-site fuel supply and other factors that strengthen grid resilience and, if not, the extent to which this could affect grid reliability and resilience in the future; and
- The extent to which continued regulatory burdens, as well as mandates and tax and subsidy policies, are responsible for forcing the premature retirement of baseload power plants.

The U.S. electricity industry is facing unprecedented changes. Last year, for the first time in history, natural gas replaced coal as the leading source of electricity generation. In 2015, a record-high amount of generating capacity retired. Over the course of the last decade, overall growth in electricity consumption at the national level has stalled, while many generation sources—particularly natural gas, wind, and solar—frequently hit new record levels of penetration.

The stakes are high around these issues because electricity is crucial to modern society and economic activity, and because of the physical and financial magnitude of the industry. As noted in the report, *Transforming the Nation's Electricity System: The Second Installment of The Quadrennial Energy Review* (QER 1.2):

The United States has around 7,700 operating power plants¹ that generate electricity from a variety of primary energy sources; 707,000 miles of high-voltage transmission lines;² more than 1 million rooftop solar installations;³ 55,800 substations;⁴ 6.5 million miles of local distribution lines;⁵ and 3,354 distribution utilities⁶ delivering electricity to 148.6 million customers. The total amount of money paid by end users end for electricity in 2015 was about \$400 billion.⁷ This drives an \$18.6 trillion U.S. gross domestic product and significantly influences global economic activity totaling roughly \$80 trillion.⁸

Recognizing how vital electricity is to our society and the health of the U.S. economy, the April 14 memo asked staff to “provide concrete policy recommendations and solutions.” It also offered principles for policy formulation: “the Trump Administration will be guided by the principles of reliability, resilience, affordability, and fuel diversity—principles that underpin a thriving economy.” To that end, this report concludes by outlining policy recommendations to advance those principles.

Section 2 of this study offers a summary of findings. Sections 3 through 6 provide the analytical framework, relevant data, and research. In addition, each of these sections concludes with a “looking forward” note, as many of the issues raised in the April 14 memo are of growing importance. Section 1

presents policy recommendations available—to DOE and others—to address the issues identified in this study. Section 8 outlines potential areas for further research.

Data Used in This Study

This study uses data collected by the Energy Information Administration (EIA) for the years 2002 through 2017, looking back before 2002 on a few specific issues. The 2002–2017 time range captures several important developments:

- Centrally-organized wholesale electricity markets (Regional Transmission Operators [RTOs] and Independent System Operators [ISOs]) were in the early stages of implementation in 2002. Competition within centrally-organized markets among a large segment of merchant generation did not take effect until the mid-2000s. Three RTO/ISOs initiated mandatory capacity markets in 2006–2007: New York ISO (NYISO), PJM Interconnection (PJM), and ISO-New England (ISO-NE).
- The emergence of a large amount of unconventional natural gas production—the shale revolution—started in 2006–2007. The consequent drop in natural gas prices began in 2009 under the combined impacts of low demand during the economic recession and a significant increase in supply.
- The recession contributed to a significant drop in electricity demand in 2008, and it took several years for demand to return to 2008 levels. Although economic activity has picked up in recent years, electricity consumption and gross domestic product (GDP)—which grew together for decades—now appear less correlated as industries have become less energy-intensive and energy efficiency measures have taken full effect.
- Several environmental regulations implemented under statutes enacted in the 1970s and 1990s, which raise capital and operating costs for affected power plants, had compliance deadlines in the period 2010–2017.
- Driven in part by Federal and state policies, tax incentives, and mandates, significant quantities of variable renewable energy (VRE) resources—specifically wind and solar, and at levels high enough to alter traditional patterns of grid operation—began to impact certain areas around 2010.
- Also around 2010, demand response emerged as a way for customers to compete in most centrally-organized wholesale markets.

Because all of the above factors have emerged over the past 15 years—each affecting power supply and demand in different ways—looking at data since 2002 helps to reveal the impact and interactions of these changes. Additionally, EIA believes that the highly detailed EIA data used in this study (down to the level of individual generators) is most reliable for 2002 forward.

Further, the data used for this study include power plant fuel conversions as retirements for the original fuel source. This study reports power (e.g. generation capacity) and energy (e.g. production or consumption over time) in megawatts (MW) and megawatt-hours (MWh), respectively (unless otherwise noted). Finally, all generation capacity figures reported in this study are net summer capacity as opposed to nameplate (unless otherwise noted).

Defining Regions

The U.S. bulk power system (BPS) is a patchwork of different markets for electricity, shaped over time by technological changes, as well as state, regional, and Federal policies. This patchwork presents organizational and operational challenges, but its diversity also contributes to the system's robustness.

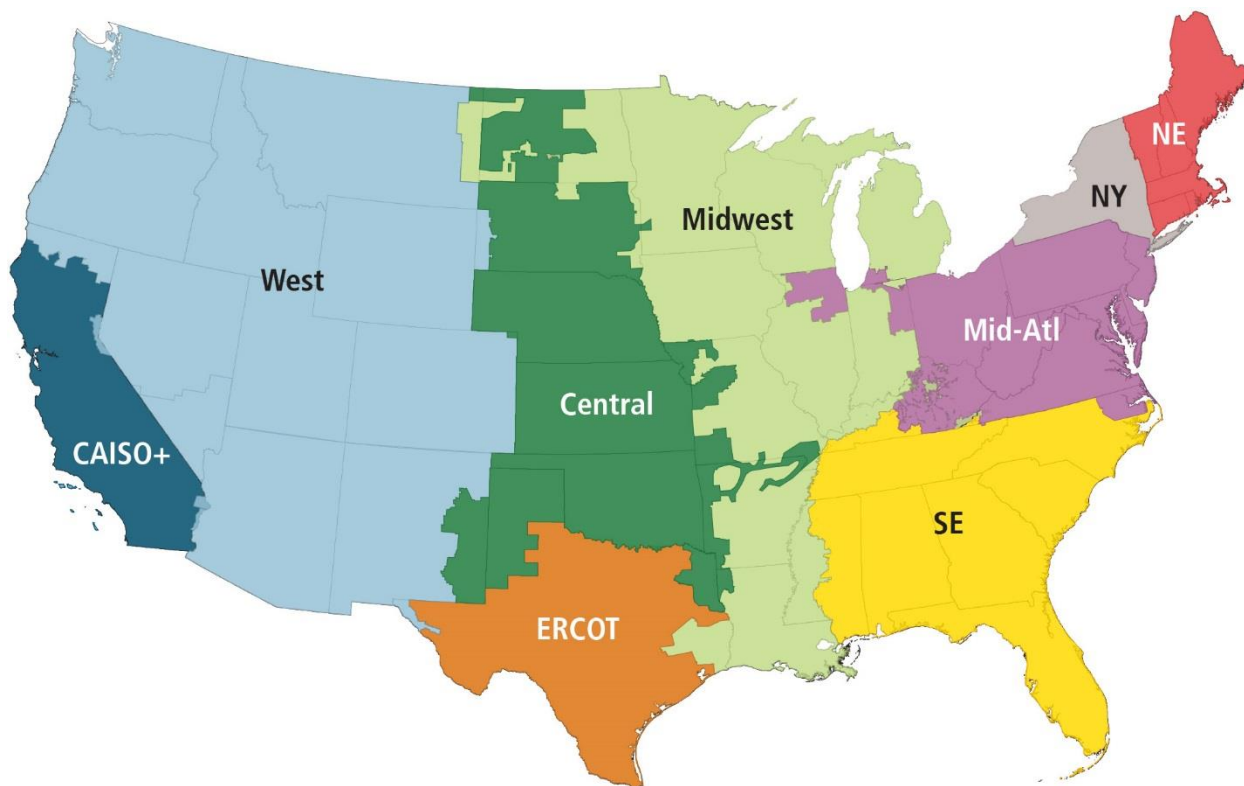
The U.S. power system in the lower 48 states^a is divided into three synchronized grids: the Eastern Interconnection, the Western Interconnection, and the Electric Reliability Council of Texas (ERCOT).^{b, 9} There are limited connections between the Eastern and Western Interconnections, and even fewer connections from ERCOT to the other grids.

Issues confronting the BPS vary widely across regions. This study divides the lower 48 states into nine regions that represent either individual or groups of electric systems, known as balancing authority areas (see Figure 1.1). Within these regions, there are 66 balancing authorities (which can be as small as individual utilities or as large as a multi-state region). Using nine balancing authority-based regions for this analysis is a useful way of aggregating electricity data and revealing regional trends.

^a Both Alaska and Hawaii have unique islanded electric power systems that are not comparable to the rest of the Nation and thus are not included in this study. This is discussed in detail in a later section.

^b For most purposes, ERCOT can be considered electrically isolated from the other grids. ERCOT is also not subject to most elements of the Federal Power Act and therefore economic regulation by the Federal Energy Regulatory Commission. A significant exception is Federal Energy Regulatory Commission oversight and regulation of power system reliability, which does apply to ERCOT.

Figure 1.1. Regions Used in This Study¹⁰



Seven of the nine regions analyzed in this study correlate primarily or directly to the seven ISOs and RTOs in the United States that supply about two-thirds of electricity delivered to end-use customers:^c

- NE = ISO-NE
- NY = NYISO
- ERCOT = Electric Reliability Council of Texas
- Mid-Atl = PJM
- Midwest = Mid-Continent ISO (MISO)
- Central = Southwest Power Pool (SPP)
- CAISO+ = California ISO (plus smaller balancing areas in the state)

The two remaining regions include numerous balancing authorities, all of which lie outside RTO/ISO service areas:

- SE = Southeast
- West = non-CAISO+ Western Interconnection.

^c The last four regions in this list include a few additional (mostly small) balancing authorities outside the formal ISO or RTO footprint.

Defining Baseload Generation

This study defines baseload generation as power plants that are operated in baseload patterns—that is, plants that run at high, sustained output levels and high capacity factors, with limited cycling or ramping. While this definition includes most nuclear, coal, and natural gas steam generators, it is not a given that every nuclear, coal, or natural gas steam generator is operated as a baseload plant, or that other technologies cannot function as baseload plants (such as hydroelectric generators). In addition, this study uses the term conventional generation to mean coal, nuclear, and natural gas power plants, regardless of how they are operated.^d

Other organizations and publications use similar definitions. For example, PJM defines baseload generation as “those units which operate the great majority of hours of the year to meet load requirements.”¹¹

The North American Electric Reliability Corporation (NERC) offers an explanation as well:

There is a distinction between baseload generation and the characteristics of generation providing reliable “baseload” power. Baseload is a term used to describe generation that falls at the bottom of the economic dispatch stack, meaning [those power plants] are the most economical to run. Coal and nuclear resources, by design, are designed for low cost O&M [operation and maintenance] and continuous operation [...]

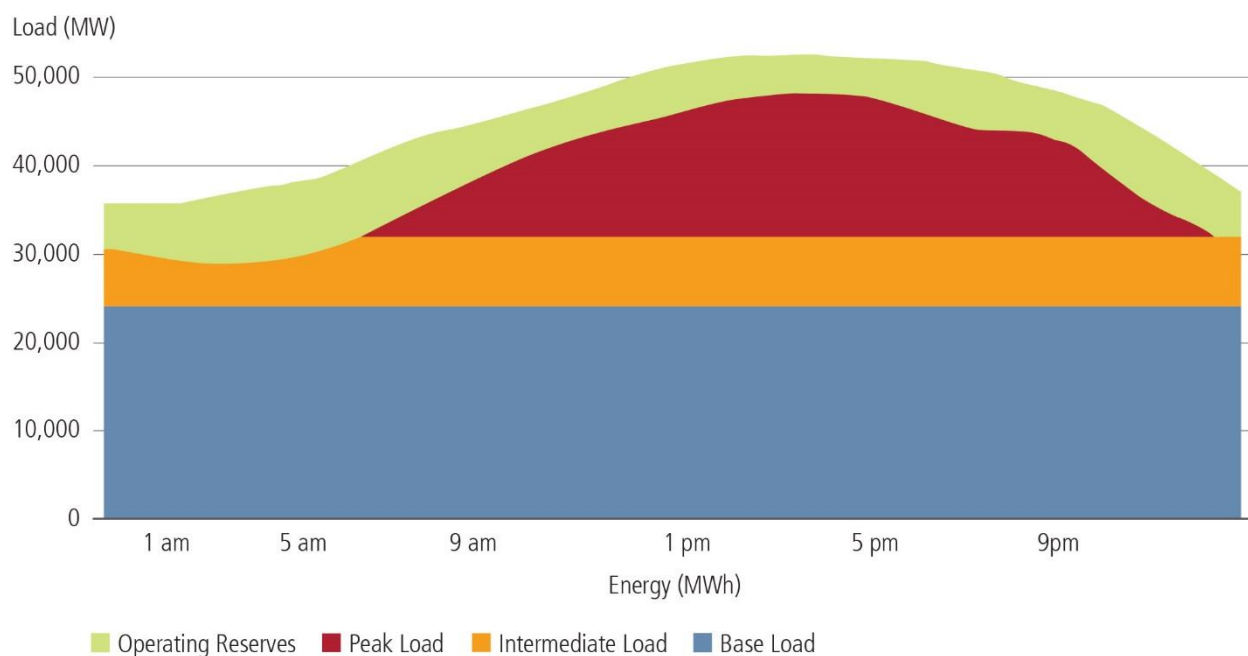
However, it is not the economics nor the fuel type that make these resources attractive from a reliability perspective. Rather, these conventional steam-driven generation resources have **low forced and maintenance outage** hours traditionally and have **low exposure to fuel supply chain issues**. Therefore, “baseload” generation is not a requirement; however, having a portion of a resource fleet with high reliability characteristics, such as low forced and maintenance outage rates and low exposure to fuel supply chain issues, is one of the most fundamental necessities of a reliable BPS. These characteristics ensure that “baseload” generation is more resilient to disruptions.¹²

The electricity industry has traditionally referred to baseload generation as the power plants that are used to meet “base” load—the minimum level of electricity that customers demand around the clock, as illustrated in Figure 1.2. Large nuclear, coal, natural gas steam, and hydroelectric plants have historically been used for baseload generation.^e Baseload plants generally have high capital costs but low fuel costs, and they tend to be fairly fuel efficient. Although the output level of these plants can be changed, they are most economic—in terms of cost per unit of electricity produced—when operated at near-full capacity at all times (although hydroelectric plants are more flexible). Traditional baseload units tend to have longer start-up and shut-down times and generally move (ramp) slowly between production levels to avoid damaging plant components with thermal stress or metal fatigue (see Appendix C on cycling).

^d QER 1.2 does not define the term baseload in its glossary. However, the report states in a caption on page 1-21 that “baseload is considered coal, nuclear, and natural gas combined-cycle plants.”

^e Other technologies that have traditionally operated as baseload include geothermal and biomass power plants. However, those technologies represent a relatively small portion of total U.S. electricity generation; while valuable for the grid reliability services they provide, they are not covered in this report.

Figure 1.2. Schematic of Typical Daily Load Curve Showing Base Load¹³



Intermediate or mid-merit plants are used to follow load, meeting daily variations in demand. Depending on the mix of generation resources available in different regions of the country and relative fuel prices, natural gas and/or coal units are typically used for load following. Short-duration demand peaks, which occur infrequently throughout the year, are generally met by natural gas units with high heat rates.^f More recently, customer-provided demand response is helping to meet peak demand.

Analysis in Section 3 shows that many of the power plants that retired between 2002 and 2016 were used for baseload generation in the past, but were no longer operating in that role at the time of retirement due to changes in electricity market dynamics. With the sustained drop in natural gas prices, for example, natural gas-fired combined-cycle (NGCC) plants are currently a less costly source of baseload generation than coal or nuclear power in many regions of the country.

VRE resources such as wind and solar are beginning to serve more of minimum load, albeit at variable or intermittent output levels.^g The proliferation of these sources has also led grid operators in some regions to place an increasing premium on flexible generation resources (e.g., NGCC units) that can help balance VRE variability by meeting base load and intermediate load, both of which are affected by a

^f According to EIA, “Heat rate is one measure of the efficiency of a generator or power plant that converts a fuel into heat and into electricity. The heat rate is the amount of energy used by an electrical generator or power plant to generate one kilowatt-hour (kWh) of electricity.” <https://www.eia.gov/tools/faqs/faq.php?id=107&t=3>.

^g For the purposes of this study, wind and solar are referred to as VRE. Terms such as “non-dispatchable” and “intermittent” may also apply to these technologies, but for consistency, this study uses the term variable. In contrast, some renewables are dispatchable—that is, sources that can provide power to the grid within sub-hourly time scales to match demand during any 24-hour period. Dispatchable renewables include sources such as biofuels, geothermal, and hydropower (with the caveat on hydropower that it may only be seasonally dispatchable in some cases).

changing net load profile.^h These factors, among others, have collectively lessened the immediate need for traditional baseload resources in certain regions, but still speak to the need for baseload generation.

Defining Premature Retirement

The dictionary definition of premature is “happening ... or performed before the proper, usual or intended time.”¹⁴ The Department does not have an official definition for the term “premature retirement”ⁱ with respect to power plants, as the term is highly subjective. Below are some of the prevailing viewpoints and associated meanings:

- ✓ Power plant engineers may think a power plant retired prematurely if it has not yet run to the end of its nominal design life (for instance, approximately 40 years for post-1970 coal plants) or through the term of reasonable plant life extension modifications.
- ✓ An RTO/ISO or reliability organization may think a power plant retirement is premature if its continued operation is still required to deliver Essential Reliability Services (ERS)^j in that location (in which case the operator may delay retirement by designating it a “reliability-must-run” resource).
- ✓ A policymaker or legislator may think a power plant has been forced to retire prematurely if the plant delivers benefits that the state or society values, such as emissions-free energy, local jobs, or maintaining local generation.
- ✓ A mayor or employee may think a power plant is retiring prematurely if the retirement causes harms to the community and the individuals who work there.
- ✓ A merchant competitor that built or acquired a power plant may think its plant has been forced to retire prematurely if the merchant has not been able to recover its investment in the plant through sales of energy and capacity or through other revenue streams.
- ✓ A vertically integrated utility executive may think a power plant has been forced to retire prematurely if the utility has not yet fully recovered its rate-based capital investment in the plant and its return on that rate base.
- ✓ Nuclear or hydroelectric plant owners and regulators may think a power plant has retired prematurely if it has not yet run through the full term of its operating license and/or license extension. Federal Energy Regulatory Commission (FERC) hydro licenses run for up to 50 years with potential reauthorizations of 30–50 years, and Nuclear Regulatory Commission (NRC) nuclear operating licenses run for 40 years with potential 20-year extensions.
- ✓ Electricity economists may think a power plant retired prematurely if the plant was still able to sell electricity competitively against other energy sources but was required to close due to policy directives. On the other hand, economists may also think a power plant retired

^h “Net load” is the instantaneous difference between total customer electricity demand (load) and VRE generation.

ⁱ QER 1.2—*Transforming the Nation’s Electricity System: The Second Installment of the Quadrennial Energy Review*—discussed “premature nuclear retirements” but did not explicitly define the term. For example, in Chapter 3, page 24, the report notes: “When analyzing the impacts of **premature nuclear retirements** on power generation in the state, a state of Illinois report considered a scenario in which 80 percent of the replacement generation was coal. Other analysis concludes that roughly 75 percent of the at-risk nuclear generation nationwide would be replaced with fossil generation, largely powered with natural gas.” [notes omitted, emphasis added]

^j See Section 4.1.1 for a discussion of ERS.

prematurely if the plant provided un-priced benefits to society that, if priced, would have made the plant profitable.

- ✓ A long-term planner and risk manager may think a power plant has retired prematurely if it offered valuable diversity, reliability, resilience, and optionality benefits that are not yet fully recognized, valued, and/or compensated.

Each of these viewpoints represents a valid perspective, particularly those of grid operators and other institutions responsible for reliability. While stakeholders may maintain that a power plant has been forced to retire prematurely based on one or more of the considerations above, the results of this study show that some observed power plant retirements were appropriate and consistent with markets as they are currently functioning. In other words, not every power plant retirement is cause for alarm.

However, NERC is concerned with the trend of retirements as it relates to reliability and resilience. NERC wrote in response to the April 14 memo:

As conventional resources **prematurely** retire, sufficient amounts of essential reliability services, such as frequency and voltage support, ramping capability, etc., must be replaced based on the configuration and needs of the system.¹⁵ [emphasis added]

Given the difficulty in assigning a single definition to premature retirement, as well as the subjective nature of such a definition, this study does not attempt to determine whether any *specific* power plant retirements have been premature. Instead, this study assesses the various factors that contribute to power plant retirement *trends*.

Topics Beyond the Scope of This Study

This study does not directly address several topics for the following reasons:

- **Cybersecurity** is a critical component to ensuring the reliable and resilient operation of the Nation's energy infrastructure. Existing and emerging cybersecurity threats can affect any aspect of the electric sector, ranging from power plants, to transmission and distribution systems, to customers and end-use devices. The December 2015 attack on the Ukrainian electricity system and the 2012 Shamoon virus targeting the energy sector in Saudi Arabia, for example, were wake-up calls.¹⁶

DOE takes these threats seriously and is designated as the Federal Government's lead Sector-Specific Agency for cybersecurity for the energy sector, which entails supporting the cyber protection of the Nation's critical energy infrastructure.^k However, while cybersecurity is a significant concern and top priority, it is not addressed in this report because it is the subject of an upcoming joint report between DOE and the Department of Homeland Security being prepared in response to Executive Order No. 13800, *Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure*.

- **Alaska and Hawaii:** While the broad trends discussed in this report apply in Alaska and Hawaii as well as the lower 48 states, many of this study's economic observations do not directly apply to the power plants in the Hawaii and Alaska power systems, as they are not large, interconnected energy markets, and utility system operators in the states face unique operational and fuel supply chain considerations.

^k For more information, visit DOE's website on the Department's cyber activities: <https://www.energy.gov/national-security-safety/cybersecurity>.

The Hawaii and Alaska power systems are remote, vertically integrated systems with plant sizes that tend to fall below the size screens used in this study. The average generating unit sizes in Hawaii and Alaska are 18 MW and 5 MW, respectively, compared to an average unit size of 70 MW in the lower 48 states.¹⁷ Because neither state is interconnected with any of the major U.S. interconnections, or to any transmission or distribution network in Canada, utilities in both states must self-supply all ERS.¹ As a result, utilities in these isolated systems might consider different parameters for reliability in their system planning compared to utilities in the contiguous United States, who can obtain reliability services and products in real time through markets and bilateral transactions.¹⁸ Their experiences, however, may inform the efforts of utilities in the contiguous U.S. seeking to better manage rural systems and effectively integrate VRE and microgrids.

- **Geothermal, biomass, and combined heat and power** plants are often operated as baseload plants, operating at a relatively stable level over a long period of time. However, because these types of plants are not as prevalent or widespread as gas, coal, and nuclear plants, this study did not perform detailed analyses of trends and closures for these technologies.

¹ In 2014, an intertie to the Western Interconnection of British Columbia was proposed to the Alaska Energy Authority in order to bring power to Alaska. However, as of 2016, no further work on the project had been completed due to economic reasons. <http://energy-alaska.wikidot.com/railbelt>.



NORTH AMERICAN ENERGY STANDARDS BOARD

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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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October 20, 2017

TO: NAESB Board of Directors and Executive Committee
FROM: Rae McQuade
RE: Schedule of 2018 Meetings

Below is the schedule of 2018 meetings for the Board of Directors, Advisory Council and Executive Committee.

2018 Calendar of Board and Advisory Council Meetings

Date	Meeting	Location
February 10	Advisory Council Meeting	Washington D.C. – Renaissance Washington Hotel (in conjunction with NARUC Winter Meeting)
April 5	Board of Directors	Houston, TX – Downtown Marriott Marquis
September 6	Board of Directors, Meeting of the Members and Strategic Session	Houston, TX – Downtown Marriott Marquis
December 13	Board of Directors	Houston, TX – Downtown Marriott Marquis

2018 Calendar of Executive Committee Meetings

Date	Meeting	Location
February 20-22	Executive Committee (WEQ, Retail, WGQ)	Host Salt River Project, Phoenix, AZ
April 24-26	Executive Committee (WEQ, Retail, WGQ)	Host Southwest Power Pool, Little Rock, AR
August 21-23	Executive Committee (WEQ, Retail, WGQ)	Host Oncor, Dallas, TX
October 9-11	Executive Committee (WEQ, Retail, WGQ)	Host Dominion, Richmond, VA

Notes:

1. For each of the Board meetings, a dinner will be held the night before at the same hotel as the board meeting.

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[2017 Retail Annual Plan](#)
[2017 WEQ Annual Plan](#)
[2017 WGQ Annual Plan](#)

[NAESB Board of Directors](#)
[NAESB Executive Committee Members](#)
[NAESB Members](#)
[Membership Information](#)
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2017 Calendar:

December

- 12/1 - NAESB Board Retail Structure Review Committee Conf. Call
- 12/4 - NAESB Board Critical Infrastructure Committee Conf. Call
- 12/7 - NAESB Monthly Update Conf. Call
- 12/12-13 - WGQ IR/Technical Meeting (Houston, TX)
- 12/13 - Retail Leadership Meeting (Houston, TX)
- 12/13 - WEQ Leadership Meeting (Houston, TX)
- 12/13 - WGQ Leadership Meeting (Houston, TX)
- 12/13 - NAESB Board Reception & Dinner with Guest Speaker
- 12/14 - NAESB Board of Directors Meeting (Houston, TX)
- 12/25 - Holiday - Christmas (NAESB Closed)
- 12/26 - Holiday - Day after Christmas (NAESB Closed)

2018 Annual Planning Process: On October 18, 2017, NAESB initiated the process for the development of the 2018 Wholesale Electric Quadrant (WEQ), Wholesale Gas Quadrant (WGQ) and Retail Markets Quadrant (RMQ) annual plans. As you may know, the annual plans define the standards development activities that NAESB will undertake in 2018 and the input provided assists the NAESB Board of Directors in setting the strategies and the focus of the organization. The deadline for submitting the comments was October 13, 2017 and commenters were asked to keep in mind the 2017-2019 NAESB Strategic Plan and the notes from the September 7, 2017 Board of Directors Strategic Session.

Comments and suggestions for items to be considered by the WEQ Annual Plan Subcommittee for inclusion on the 2018 plans were submitted from OATI, MISO, Duke Energy, and NCEMC. Five new annual plan items, all addressing electronic scheduling on the OASIS system, were added to the 2018 WEQ Annual Plan. Also, one provisional item was added to develop NAESB standards, if needed, to address any recommendations resulting from the surety assessment of the NAESB standards and model business practices currently being performed by Sandia National Laboratories. During the RMQ Annual Plan Subcommittee call, three provisional items were added to address the Sandia National Laboratories surety assessment, to support the activities of the Retail Structure Review Committee related to standards development, and to develop NAESB Model Business Practices to address any requests regarding community solar or aggregated net metering. No comments were received on the RMQ annual plan. Several comments were submitted for consideration by the WGQ Annual Plan Subcommittee, including comments from ERM, New York Power Authority, and American Gas Association. Mirroring the annual plans of the other two quadrants, the WGQ also added a provisional item to address any recommendations resulting from the surety assessment performed by Sandia National Laboratories.

In late October, the quadrant specific annual plans were approved by each of the Executive Committees. Following those meetings, the NAESB Board of Directors will finalize each of the annual plans during its December 14, 2017 meeting.

For more information, please go to [October 18, 2017 Annual Plan Conference Call Agenda and Request for Comments](#), [2017-2019 NAESB Strategic Annual Plan](#), [September 7, 2017 Board Strategic Session Notes](#), [Proposed 2018 WEQ Annual Plan Redline](#), [Comments on 2018 WEQ Annual Plan Submitted by P. Sorenson](#), [OATI Comments on 2018 WEQ Annual Plan Submitted by E. Skiba](#), [MISO Comments on 2018 WEQ Annual Plan Submitted by A. Pritchard](#), [Duke Energy Comments on 2018 WEQ Annual Plan Submitted by J. Manning](#), [NCEMC and A. Pritchard, Duke Energy, 2018 WEQ Annual Plan Combined Comments](#), [Proposed 2018 RMQ Annual Plan Redline](#), [Proposed 2018 WGQ Annual Plan Redline](#), [Comments on 2018 WGQ Annual Plan Submitted by K. Sappenfield](#), [ERM, Email Comments on 2018 WGQ Annual Plan Submitted by R. Desai](#), [New York Power Authority Comments on 2018 WGQ Annual Plan Submitted by R. Desai](#), [New York Power Authority Comments on 2018 WGQ Annual Plan Submitted by S. Bergles](#), [AGA](#), and [2018 WGQ Annual Plan Combined Comments](#).

Sandia National Laboratories: At the request of the Chairman of the Board of Directors, the NAESB Board Critical Infrastructure Committee (Board CIC), chaired by Cade Burks and Dave Darnell, was reconvened in May to address cybersecurity and critical infrastructure activities; specifically, the surety assessment on the NAESB Standards. While monitoring the activities of the surety assessment, the Board CIC will also present any related recommendations to the board.

The Board CIC has scheduled its next meeting for December 4, 2017. During the meeting, the committee will review the scope of work document for the surety assessment provided by Sandia National Laboratories. Per the documentation, the scope will include the WGQ and RMQ Internet Electronic Transport and Electronic Delivery Mechanism Business Practice Standards as well as the WEQ Public Key Infrastructure Business Practice Standards and other documentation comprising the NAESB Certification Program for Accredited Certification Authorities.

In late 2016, NAESB was contacted by Sandia National Laboratories regarding the potential for a surety assessment on the NAESB Business Practice Standards sponsored by the Department of Energy. As you may remember, Sandia National Laboratories has given GISB/NAESB standards a clean bill of health in the past, with assessments focusing on the WGQ and RMQ Business Practice Standards addressing electronic communications as well as draft versions on the PKI Business Practice Standards. The date of the next Board CIC meeting will be announced upon the receipt of an official communication regarding the surety assessment from the Sandia National Laboratories.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [2017 RMQ Annual Plan](#), [Proposed 2018 RMQ Annual Plan](#), [2017 WGQ Annual Plan](#), and [Proposed 2018 WGQ Annual Plan](#).

Click on any underlined text and you can access more detailed reports.

NAESB Bulletin

STANDARDS DEVELOPMENT

WEQ and WGQ Publication: With the approval of the WEQ OASIS Subcommittee recommendation addressing Short-Term Firm Preemption and Competition, NAESB is now on track to meet the December 8, 2017 publication date for the NAESB WEQ Version 003.2 Business Practice Standards. Version 003.2 will also contain modifications to the WEQ-004 Coordinate Interchange Business Practice Standards, the retirement of the WEQ-006 Manual Time Error Correction, and the new OASIS mechanism – Consolidations, among other new and revised standards. This version builds upon and supplements the NAESB WEQ Version 003.1 Business Practice Standards that were published on September 30, 2015, submitted to the Commission on October 26, 2015, and became the subject of a July 21, 2016, FERC Notice of Proposed Rulemaking (NOPR) in Docket RM05-5-025. In that NOPR, FERC proposed to adopt Version 003.1; however, a final order on the NOPR has not been issued. Following the publication of Version 003.2, NAESB will submit an informational report to the Commission.

On September 29, 2017, NAESB submitted a report informing

the Commission of the NAESB Version 3.1 WGQ Business Practice Standards publication on the same day. The changes reflect 63 separate action items (requests, minor corrections or annual plan items) – 13 of which are final actions and 50 that are minor corrections, many of which are code value changes. Of the changes in the new version, there are: New items: 2 standards, 55 code values, 11 data elements; and Revised items: 6 standards, 130 data set modifications, 24 technical implementations. Version 3.1 incorporates all of the changes made as part of Version 3.0, published on November 14, 2014.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [2017 WGQ Annual Plan](#), [Proposed 2018 WGQ Annual Plan](#), [Version 3.1 Publication Schedule](#), [NAESB WEQ Version 003.1 Business Practice Standards](#), [July 21, 2016 FERC NOPR](#), [NAESB WGQ Version 3.1 Business Practice Standards](#), [NAESB WGQ Version 3.0 Business Practice Standards](#), and [September 29, 2017 NAESB Report to FERC](#).

Non-member Access/Participation: For our participants who are non-members, from the NAESB Home Page you can access one of the four quadrant squares – wholesale electric, retail electric, wholesale gas and retail gas, you are directed to the “NAESB Non-member Access: NAESB Committees, Subcommittees and Task Forces” web page, (https://www.naesb.org/nonmember_page.asp). *For more information, please go to [NAESB Current Committee Activities](#) or contact Denise Rager (drager@naesb.org) for additional information.*

Support of the Mexican Markets: On October 26, 2017, the WGQ Executive Committee approved the recommendation for 2017 WGQ Annual Plan Item 5, an annual plan item requesting that the WGQ Contracts Subcommittee consider a Mexican Addendum for the NAESB Base Contract for Sale and Purchase of Natural Gas. Following a twenty-five-day informal comment period, the recommendation was voted out of the subcommittee in late August and posted for a thirty-day formal industry comment period which concluded on September 20, 2017. The WGQ Contracts Subcommittee held a conference call to review the one formal comment submitted from Santa Fe Natural Gas and to develop late comments for the consideration of the WGQ Executive Committee. The recommendation is currently out for ratification by the NAESB membership. The ratification ballot period will conclude on November 27, 2017. As you may remember, the WGQ Contracts Subcommittee began addressing this annual plan item in December of last year and subsequently developed and approved the Mexican Addendum during its August 2017 meeting.

Driven by requests from several entities interested in the Mexican markets, NAESB has attained a verbatim Spanish translation of three of its WGQ Contracts. The NAESB WGQ 6.3.1 - NAESB Base Contract for Sale and Purchase of Natural Gas; the NAESB WGQ 6.3.1.CA - Canadian Addendum; and the NAESB WGQ 6.5.3 - NAESB WGQ Model Credit Support Addendum are now available to NAESB members and for nonmember purchase. The contracts may be accessed on the NAESB website.

Related to the reformation occurring in the Mexican electric market, on September 29, 2017, Jonathan Booe, NAESB Executive Vice President and Chief Administrative Officer, delivered a presentation titled *Outlook – Industry Standards development for the Smart Grid* during the Smart Grid Congress Latin America 2017. The presentation described NAESB’s efforts to support Smart Grid development in the United States. As always, NAESB looks forward to supporting future standardization efforts within the Mexican market.

For more information, please go to [2017 WGQ Annual Plan](#), [Proposed 2018 WGQ Annual Plan](#), [October 26, 2017 WGQ Executive Committee Announcement](#), [October 26, 2017 WGQ Executive Committee Agenda](#), [Recommendation as Approved by the WGQ Executive Committee on October 26, 2017](#), [Exhibit A, Ratification Ballot](#), [Request for Formal Comments](#), [Comments Submitted from Santa Fe Natural Gas](#), [Late Comments Submitted by the WGQ Contracts Subcommittee Redlined](#), [Request for Informal Comments](#), [Redlined Comments Submitted by Munich Re Trading LLC](#), [Clean Comments Submitted by Munich Re Trading LLC](#), [August 22, 2017 WGQ Contracts Subcommittee Chair’s Work paper](#), [WGQ Contracts Recommendation for No Action](#), [Comments Submitted by V. Crockett as WGQ Chair](#), [Comments Submitted by Group 8760](#), [Comments Submitted by the M. de la Peza](#), [CRE](#), [NAESB Order Form](#), [Spanish Translation of the WGQ 6.3.1 - NAESB Base Contract for Sale and Purchase of Natural Gas](#), [Spanish Translation of the WGQ 6.3.1.CA - Canadian Addendum](#), and [Spanish Translation of the WGQ 6.5.3 - NAESB WGQ Model Credit Support Addendum](#).

NAESB Bulletin

STANDARDS DEVELOPMENT *(continued)*

Demand-Side Management and Energy Efficiency (DSM-EE) Update: During its October meeting, the WEQ Executive Committee approved the recommendation recently developed by the DSM-EE Subcommittee. The annual plan item, 2017 WEQ Annual Plan Item 1.e.v, called for the subcommittee to review and modify as necessary WEQ 015, WEQ 018, and WEQ 020 to address Line Items 19 through 22 from a WEQ SRS Assignment Document and Standards Request R16010. In a related effort, during its October meeting, the RMQ Executive Committee approved a recommendation under Standards Request R17004 making corresponding modifications as necessary to REQ.13, REQ.17 and REQ.20 to complement the aforementioned modifications made to the WEQ standards.

As a background, Standards Request R16010, proposed to assess the impact of changes in tool ownership, NERC Committee Structure, and changes to the NERC Rules of Procedure on the NAESB Business Practice Standards and Specifications and make any needed consistency changes. In October 2016, the Triage Subcommittee assigned R16010 to the WEQ SRS for a determination on final assignments, as it may affect multiple sets of WEQ standards managed by several different WEQ subcommittees. The WEQ SRS met seven times and voted out an assignments list, assigning several of the items, Line Items 19 through 22, to the DSM-EE Subcommittee. In a corresponding effort, Standards Request R17004 was submitted to develop any parallel modifications to the RMQ Model Business Practices in response to the WEQ modifications.

The DSM-EE Subcommittee met in August to consider and vote out a recommendation that modified WEQ 015, WEQ 018, and WEQ 020 to conform to modifications made to the NERC Reliability Standards. The subcommittee also voted out a recommendation that included changes to RMQ.20 to align with the modifications to WEQ-020. No comments were received on either recommendation during the thirty-day formal industry comment period that concluded on October 2, 2017. The recommendations were approved during the October Executive Committee meetings and are currently posted for ratification by the NAESB Membership. The ratification ballot for the RMQ modifications is due by November 27, 2017 and the ratification ballot for the WEQ modifications is due on November 24, 2017.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [October 24, 2017 WEQ Executive Committee Agenda](#), [Recommendation for 2017 WEQ Annual Plan Item 1.e.v as Approved by the WEQ Executive Committee on October 24, 2017](#), [R16010, Ratification Ballot for WEQ Recommendation](#), [2017 RMQ Annual Plan](#), [Proposed 2018 RMQ Annual Plan](#), [October 25, 2017 RMQ Executive Committee Agenda](#), [Recommendation for R17004 as Approved by the RMQ Executive Committee on October 25, 2017](#),

[R17004, Ratification Ballot for RMQ Recommendation](#), [October 21, 2016 NAESB Triage Subcommittee Disposition](#), [May 18, 2017 WEQ SRS Final Minutes](#), and [WEQ SRS Assignment Document](#).

Parallel Flow Visualization-Transmission Loading Relief (PFV-TLR): September 28, 2017 marks the beginning of the Parallel Flow Visualization (PFV) field trial. Although there was a one-month delay in the anticipated start date, the original project timeline should not be significantly changed. NAESB has coordinated with NERC and the Eastern Interconnection Data Sharing Network (EIDSN) on a status report submitted to FERC on October 2, 2017. The status report, filed in Docket No. EL14-82-000, includes information on the PFV field trial being conducted by the EIDSN, provides an updated project timeline, and details the continued coordination efforts of NAESB, NERC and EIDSN.

Following the conclusion of the eighteen-month PFV field trial, the Interchange Distribution Calculator Working Group (IDCWG) will provide a report on the results of the commercial metrics of the project, and the NAESB WEQ Business Practice Subcommittee (BPS) will utilize that report to investigate whether any changes should be made to the NAESB standards. The WEQ BPS recommendation will then be presented to the WEQ Executive Committee for its consideration. As you may remember, the recommendation for the PFV Business Practice Standards was voted out of the WEQ Executive Committee in February of 2015 and is being held in abeyance until the conclusion of the PFV field trial.

As an industry initiated effort, the PFV effort seeks to improve the congestion management process of the Eastern Interconnection by increasing the real-time visibility of the source and magnitude of parallel flows in the bulk electric system. The proposed modifications to the business practice standards support the submittal of near real-time data to the IDC, furthering the goal of ensuring that non-firm intrabalancing authority transmission service is curtailed before firm service.

As discussed in the recent filing, NAESB, NERC, and the EIDSN will continue to coordinate on the PFV effort.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [October 2, 2017 PFV Status Report to FERC](#), [October 17, 2016 PFV Status Report to FERC](#), [January 29, 2016 PFV Status Report to FERC](#), [March 25, 2015 NAESB PFV Report to FERC](#), [January 28, 2015 PFV Status Report to FERC](#), [July 11, 2014 PFV Status Report to FERC](#), [Recommendation approved by the NAESB WEQ Executive Committee on February 24, 2015 to initiate the full staffing process \(Redline\)](#), and [February 24, 2015 WEQ Executive Committee Meeting Notes](#).

NAESB Bulletin

STANDARDS DEVELOPMENT *(continued)*

WEQ Open Access Same-time Information Systems (OASIS) Subcommittee: Serving as a lynchpin for the upcoming WEQ publication, the recommendation for Short-Term Firm Preemption and Competition was approved by the WEQ Executive Committee on October 24, 2017. After the WEQ OASIS Subcommittee voted out the recommendation in June, the WEQ Executive Committee requested that the recommendation be posted for an extended 45-day formal comment period from June 21, 2017 through August 4, 2017. Two well-attended review sessions were hosted by the co-chairs of the subcommittee in order to facilitate comments on the recommendation. Eight entities submitted comments that totaled to about 400 individual comments on the recommendation. Over several meetings, the subcommittee reviewed the comments by dividing them into a concept discussion document, grammatical edits, and miscellaneous items that were missed during the review period. The subcommittee voted out a revised version of the recommendation as a set of subcommittee late comments during its face-to-face meeting held on September 26-28, 2017.

During the review of the formal comments and through subcommittee discussion, an additional proposal, the Best Offer Proposal, was presented by Bonneville Power Administration to correct an inequity identified in the standards. On October 6, 2017, the subcommittee took a balanced vote that resulted in an additional set of late comments from the subcommittee incorporating the Best Offer Proposal into the Short-Term Preemption and Competition recommendation. Subsequent to the October WEQ OASIS meeting and in preparation for the October WEQ Executive Committee meeting, the participants from BPA and Southern Company drafted a Compromise Proposal, an alternative to the BPA Best Offer Proposal, which resulted in an additional set of late comments submitted to the WEQ Executive Committee. After hearing presentations and discussion on both proposals – the Best Offer Proposal developed by BPA and the Compromise Proposal developed by BPA and Southern Company – the WEQ Executive Committee adopted the late subcommittee comments with the inclusion of the BPA Best Offer Proposal.

The efforts on the WEQ OASIS recommendation for preemption and competition began in January of 2012 and have spanned 98 meetings for a total of over 176 days. In addition to these meetings, the participants have spent countless hours on individual assignments and preparation for each meeting. The recommendation modifies a substantial bulk of the NAESB WEQ Business Practice Standards to support two NAESB Standards Requests and the series of FERC Order No. 890 issuances from the Commission.

Also on October 24, 2017, the WEQ Executive Committee approved a second recommendation from the OASIS Subcommittee under 2017 WEQ Annual Plan Item 1.e.iii/R16010 – Review and modify as necessary WEQ 001, WEQ 002, WEQ 003, and WEQ 013 to address Line Items 2 through 17 from the WEQ Standards Review Subcommittee (SRS) Assignment Document. As mentioned in an earlier section of this bulletin, Standards Request R16010 was submitted by MISO and lists action items that culminate in a detailed review of the NAESB Business Practice Standards and specifications in response to previous changes to the ownership of the EIR, revisions to the NERC Committee structure, and changes to the NERC Rules of Procedure. R16010 was assigned to the WEQ SRS with direction from the WEQ Executive Committee that the WEQ SRS suggest which subcommittees should develop the recommendations on the list. The subject of the OASIS recommendation, 2017 WEQ Annual Plan Item 1.e.iii, was one of several annual plan items created in response to R16010. One comment from the ISO/RTO Council was received during the thirty-day formal industry comment period that concluded on August 21, 2017. The recommendation is currently out for ratification by the NAESB membership.

Looking ahead, the November and December WEQ OASIS meetings will focus on annual plan items that were jointly assigned to the WEQ OASIS Subcommittee and the WEQ BPS, including the development of business practice standards in support of the FERC RM05-25-000 and RM05-17-000 (OATT Reform) and communication standards for OASIS and electronic scheduling.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [FERC Order No. 890](#), [FERC Order No. 890-A](#), [FERC Order No. 890-B](#), [R05019](#), [R09003](#), [Recommendation for 2016 WEQ Annual Plan Item Nos. 2.a.i.1/R05019 and 5.a/R09003 as Approved by the October 24, 2017 WEQ Executive Committee](#), [Request for Informal Comments, June 20-22, 2017 WEQ OASIS Final Minutes](#), [Request for Comments Due August 4, 2017](#), [Comments Submitted by R. Kelley, Bonneville Power Administration](#), [Addendum to Comments Submitted by R. Kelley, Bonneville Power Administration](#), [Comments Submitted by J. Lemire, NCEMC](#), [Comments Submitted by C. Bigelow, Arizona Public Service Company](#), [Comments Submitted by P. Sorenson, OATI](#), [Comments Submitted by A. Pritchard, Duke Energy](#), [Redline Recommendation Comments Submitted by A. Pritchard, Duke Energy](#), [Comments Submitted by JT Wood, Southern Company](#), [Comments Submitted by R. Brown, PJM](#), [Comments Submitted by the ISO/RTO Council's Standards Review Committee](#), [Ratification Ballot for 2016 Annual Plan Item Nos. 2.a.1/R05019 and 5.a/R09003, R16010](#), [Request for Comments on 2017 WEQ Annual Plan Item 1.e.iii/R16010](#), [Comments Submitted by the ISO/RTO Council's Standards Review Committee](#), [Late Comments Submitted by the WEQ OASIS](#), [Late Comments Submitted by the WEQ OASIS in Response to the ISO/RTO Council's Standards Review Committee Comments](#), [Recommendation on 2017 WEQ Annual Plan Item 1.e.iii/R16010 as Approved by the WEQ Executive Committee on October 24, 2017](#), [WEQ SRS Assignment Document](#), and [Ratification Ballot for 2017 WEQ Annual Plan Item 1.e.iii/R16010](#).

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STANDARDS DEVELOPMENT (continued)

Electronic Filing Protocols for Commission Forms (eForms): In April 2015, FERC issued *Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms* in Docket No. AD15-11-000. In the order, FERC proposed a transition from Microsoft Visual FoxPro to the XML file format for the submission of several FERC Forms. After remarking on the industry’s previous success on the development of the electronic tariff (eTariff) filings through NAESB, the Commission proposed that the industry once again work through NAESB to develop the documentation for the new format of FERC Forms.

On the heels of the order, NAESB created the WEQ/WGQ FERC Forms Subcommittee, chaired by Leigh Spangler of Latitude Technology and Dick Brooks of ISO New England. To date, FERC staff is currently working to complete Form 1 XML and XSD documents. Once completed, the WEQ/WGQ FERC Forms Subcommittee spring into action to develop a data dictionary and begin the drafting of any related business practice standards. After the completion of the Form 1 XML and XSD documents, the subcommittee anticipates that much of that initial work can be duplicated to expedite the development of the remaining forms. The next WEQ/WGQ FERC Forms Subcommittee Meeting will be announced by the NAESB office in the near future.

For more information, please go to [2017 WEQ Annual Plan](#), [2017 WGO Annual Plan](#), [April 16, 2015 FERC Order Instituting Proceeding to Develop Electronic Filing Protocols for Commission Forms](#), [May 1, 2015 Notice of Conference with NAESB](#), [May 29, 2015 Supplemental Notice of Conference with NAESB](#), [June 10, 2015 Technical Conference Transcript](#), and [July 16, 2015 FERC Notice of NAESB Meeting](#).



NAESB and NERC Continuing Coordination: During monthly coordination calls and the day-to-day communications between staff, NAESB and NERC harmonize their efforts to support industry goals. Recently, discussion has centered on Parallel Flow Visualization, the NAESB WEQ 023 Modeling Business Practice Standards, cybersecurity, and the recommendation modifying WEQ 004 under Standards Request R16008.

In mid-September, the NAESB membership ratified the WEQ Business Practices Subcommittee (BPS) and the WEQ Coordinate Interchange Scheduling Subcommittee (CISS) recommendation in support of Standards Request R16008/2017 WEQ Annual Plan Item 1.d.i. The recommendation incorporates two NERC Reliability Standard requirements related to dynamic tagging and pseudo-ties applicable to the Purchase Selling Entity (PSE) into the WEQ 004 Coordinate Interchange Business Practice Standards. Back in 2015, NERC removed the PSE from the NERC Compliance Registry following FERC’s approval of NERC’s petition to do so; however, the standards requirements referencing PSEs remained in the NERC Reliability Standards. NAESB staff coordinated with NERC staff, and NERC recently provided correspondence indicating that the NERC requirements referenced in the NAESB Standards Request R16008 were effectively retired when NERC removed the PSE functional entity registration category.

In the cybersecurity space, NAESB staff coordinated with NERC staff regarding the NERC CIP Reliability Standards being developed as part of NERC Project 2016-03. The WEQ Cybersecurity Subcommittee (CSS) was evaluating these standards as part of their efforts to address 2017 WEQ Annual Plan Item 4.b. After receiving a statement from NERC that the CIP Reliability Standards would only be applicable to systems and tools entities have previously designated as having a high or medium impact on bulk electric reliability, the WEQ CSS voted out a no action recommendation which was adopted during the October WEQ Executive Committee meeting.

On October 2, 2017, NAESB filed a status report with the Commission in Docket No. EL14-82-000. The report, drafted in coordination with NERC and Eastern Interconnect Data Sharing Network (EIDSN), provides the Commission with an update on the PFV field trial, which began on September 28, 2017. After detailing the updated project timeline, the report provides more information on the goals moving forward between NAESB, NERC, and EIDSN.

NAESB and NERC continue to monitor FERC activities regarding the MOD efforts. In a July 21, 2016 NOPR, the Commission explained that the WEQ 023 Modeling Business Practices were not being proposed for incorporation by reference, but will be considered as part of an overall inquiry into Available Transfer Capability (ATC). The Commission is currently considering NERC’s proposed retirement of its ATC-related reliability standards filed in Docket No. RM14-7-000. In the meantime, the Commission announced the creation of Docket No. AD15-5-000 to consider proposed changes to the calculation of ATC.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [ER16001](#), [ER16001 Announcement](#), [R16008](#), [Ratification Ballot for R16008](#), [Ratification Tally for R16008](#), [Recommendation to Support 2017 WEQ Annual Plan Item 1.d.i/R16008 as Approved by the WEQ Executive Committee on August 15, 2017](#), [Communication from NERC, October 2, 2017 NAESB PFV Report to FERC](#), and [July 21, 2016 FERC NOPR \(WEQ Version 003.1\)](#).

NAESB Bulletin

STANDARDS DEVELOPMENT *(continued)*

Cybersecurity: During its October meeting, the WEQ Executive Committee unanimously approved the no action recommendation developed in response to 2017 WEQ Annual Plan Item 4.b. The annual plan item asked the WEQ Cybersecurity Subcommittee (CSS) to evaluate and modify the NAESB WEQ standards, if necessary, to support and/or complement the current version of the NERC Critical Infrastructure Protection (CIP) Standards and any other activities of NERC and the FERC related to cybersecurity. The WEQ CSS voted out the recommendation on September 7, 2017 after reviewing several industry activities, including NERC Project 2016-02 Modification to CIP Standards and NERC Project 2016-03 Cyber Security Supply Chain Risk Management. During the meeting discussions, there was concern expressed on whether the NERC CIP standards under development at NERC as part of NERC Project 2016-03 would impact the NAESB WEQ standards. NERC indicated to NAESB staff that the NERC CIP Reliability Standards would only be applicable to systems and tools entities have previously designated as having a high or medium impact on bulk electric reliability. Following this communication, the WEQ CSS voted out a no action recommendation. No comments were posted during the thirty-day formal industry comment period from September 11, 2017 through October 11, 2017. The recommendation is currently posted for ratification by the NAESB membership.

On October 12, 2017, the WEQ CSS voted out a recommendation proposing modifications to the NAESB Accreditation Requirements for Authorized Certification Authorities. The modifications in the recommendation provide new mappings for the identity proofing process methods and remove a requirement that the subcommittee determined was duplicative. The recommendation was posted for a thirty-day formal comment period from October 12, 2017 to November 10, 2017 and will be reviewed during the February WEQ Executive Committee meeting. Additionally, the subcommittee discussion on this annual plan item spurred a minor correction that was submitted by MISO on October 12, 2017 and approved during the October WEQ Executive Committee meeting. The minor correction, MC17020, expands the definition of “Applicant” in WEQ 000-2. The requester noted that references to “End Entity” in the original definition limited those who could apply to certificates to individuals within a “registered business entity or other organization” that an Authorized Certification Authority had already issued a certificate. As this was not the intent of the term, the definition was modified to convey that any individual may apply for a digital certificate that can be used to access the NAESB EIR.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [No Action Recommendation for 2017 WEQ Annual Plan Item 4.b as Approved by the WEQ Executive Committee on October 24, 2017](#), [September 7, 2017 WEQ CSS Final Minutes](#), [Request for Comments, Recommendation for 2017 WEQ Annual Plan Item 4.a](#), [Attachment, Request for Comments](#), and [MC17020](#).

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Smart Grid Update: One highlight of the NAESB Smart Grid activities in 2018 will be the upcoming modifications to RMQ.21 Energy Services Provider Interface (ESPI) Standard. As you may already know, the ESPI Standard is the essential foundation for the Green Button. Beginning as a White House call to action in 2011, the Green Button Initiative challenged utilities to provide customers with easy and secure access to their energy usage data via a “green button” on their websites. To date, more than 150 service providers and utilities provide more than 60 million U.S. households with their Green Button energy data.

In 2012, the Green Button was introduced to Ontario with the support of the Ministry of Energy. The Green Button initiative was promoted in Ontario’s 2013 *Long-Term Energy Plan* as a way to give consumers access to their electricity consumption data. Most recently, *Ontario’s Five Year Climate Change Action Plan 2016-2020* committed to expanding Green Button province-wide to “let Ontarians access and share their data on electricity, natural gas and water consumption in a secure, standardized electronic format.” NAESB continues to strengthen ties with entities in the Ontarian markets and the standard is now available to more than 60 percent of Ontarian electricity customers with smart meters.

For more information, please go to [2017 RMO Annual Plan](#), [Proposed 2018 RMO Annual Plan](#), [REQ.21 ESPI Model Business Practices](#), [Green Button Alliance Page](#), [Achieving Balance Ontario’s 2013 Long-Term Energy Plan](#), [Ontario’s Five Year Climate Change Action Plan 2016-2020](#), and [Green Button Page](#).

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Update on the Electric Industry Registry (EIR) and e-Tagging Specification: On October 10, 2017, the implementation of the Electronic Tagging (e-Tag) Functional Specification began with Versions 1.8.2 and 1.8.3 running in parallel until November 7, 2017. On November 7, 2017, the e-Tag Specification Version 1.8.2 will be retired. Version 1.8.3 makes modifications to support the full use of the market operator role in the EIR. In early May, the EIR functionality to support the full registration of market operators was made available.

With a focus on increasing registry performance and enhancing user experience several updates were made to the EIR on August 3, 2017. One such change was implemented in response to EIR Enhancement Request ER17001. The request, submitted by Duke Energy, proposed to expand the length of a field used within the EIR to record contract reservation numbers. The modification will allow all necessary contract and transmission reservation numbers associated with a pseudo-tie to be included as part of pseudo-tie registration, eliminating the need to communicate this information externally.

In other EIR-related news, the WEQ Coordinate Interchange Scheduling Subcommittee (CISS) is in the process of evaluating EIR Enhancement Request ER16001. The request, submitted by Gridforce Energy Management, proposes modifications to the registration of pseudo-ties in the EIR and is currently on hold pending potential NERC action on guidelines that may provide additional clarity regarding the use of pseudo-ties. Initial review of the request was put on hold pending the outcome of a similar request for standards development submitted by the requester to NERC. NAESB staff engaged in frequent discussions with

NERC staff regarding the pending NERC Standards Authorization Request (SAR), and in July 2017, the NERC Standards Committee voted not to move forward with the SAR submitted. The WEQ CISS met on August 22, 2017 to resume discussion on ER16001 and was subsequently informed that the EIR Enhancement Request may no longer be needed pending additional NERC reliability guidelines regarding the ACE Diversity Interchange (ADI) Process. NAESB staff reached out to NERC staff regarding the status of these guidelines. Per NERC staff, the revised ADI Process Reliability Guidelines were posted for a forty-five-day comment period in July and should be presented to the NERC Operating Committee for approval in December 2017.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [October 19, 2017 EIR Market Operator Legacy Functionality Retirement Announcement](#), [September 22, 2017 EIR Updates Announcement](#), [August 1, 2017 EIR Updates Announcement](#), [NAESB WEQ Electronic Tagging Functional Specification, Version 1.8.3 \(as approved by the WEQ Executive Committee\)](#), and [ER16001](#).



NAESB Board Committees Update: In preparation for the upcoming December 14, 2017 NAESB Board of Directors meeting, several board committees will meet in November to discuss a wide variety of topics. At the request of Michael Desselle, NAESB Chairman of the Board of Directors, the Retail Structure Review Committee has been reactivated and a conference call has been scheduled to take place on November 3, 2017. As membership within the RMQ has continued to hover just above the forty-member requirement defined in the NAESB Bylaws, the Retail Structure Review Committee will initiate discussions concerning the membership levels in the RMQ and the future direction of the quadrant’s activities.

Three board committee conference calls have been scheduled to take place on November 17. During the NAESB Board Strategic Plan Ad Hoc Task Force call, participants will review the proposed 2018 annual plan for each of the quadrants for consistency with the NAESB 2017-2019 Strategic Plan. Next, the Board Parliamentary Committee will discuss the approved modifications to the NAESB Certificate of Incorporation and the NAESB Bylaws. Adopted by the board through a notational ballot on September 12, 2017, the modifications detail a process for weighted simple majority voting by the Board of Directors. Also scheduled for November 17, the Board Revenue Committee conference call will be held to discuss the revenue projections within the 2018 budget, among other items. These conference calls, as all NAESB meetings and conference calls, are open to any interested participants.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [2017 RMO Annual Plan](#), [Proposed 2018 RMO Annual Plan](#), [2017 WGQ Annual Plan](#), [Proposed 2018 WGQ Annual Plan](#), [November 3, 2017 Board Retail Structure Review Committee Agenda](#), [Revised Board Strategy Metrics White Paper-April 2017](#), [Parliamentary Committee Resolution](#), [Modifications to the NAESB Certificate of Incorporation](#), [Modifications to the NAESB Bylaws](#), [Notational Ballot](#), [Notational Ballot Results](#), [NAESB Operating Practices](#), [NAESB Bylaws](#), and [NAESB Certificate of Incorporation](#).

NAESB Quadrant/Segment Membership Analysis:

<u>Wholesale Gas Quadrant</u>	129 Members
End Users Segment	15
Distributors/LDC Segment	23
Pipelines Segment	42
Producers Segment	13
Services Segment	36
<u>Retail Markets Quadrant</u>	40 Members
Retail Electric End Users/Public Agencies Segment	16
Retail Gas Market Interests Segment	10
Retail Electric Utilities Segment	7
Retail Electric Service Providers/Suppliers Segment	7
<u>Wholesale Electric Quadrant</u>	136 Members
End Users Segment	11
Distributors Segment	19
Transmission Segment	44
Generation Segment	21
Marketers/Brokers Segment	22
Non Specified	1
Independent Grid Operators/Planners Segment	8
Technology & Services Segment	10
Total Membership	305 Members

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Filings: On October 2, 2017, NAESB submitted a Parallel Flow Visualization Status Report to the Commission in Docket No. EL14-82-000. The report included informational updates on the PFV field trial which began on September 28, 2017 and details the coordinated efforts between NAESB, the Eastern Interconnection Data Sharing Network (EIDSN), and NERC. Following the completion of the PFV field trial and ratification of the PFV-related standards by the NAESB membership, NAESB will file a report with the Commission containing the final version of the relevant NAESB WEQ Business Practice Standards.

On September 29, 2017, NAESB filed a report in FERC Docket No. RM96-1 et al to inform the Commission of the publication of Version 3.1 of the NAESB WGQ Business Practice Standards on the same day. NAESB WGQ Version 3.1 includes 13 final actions and 50 minor corrections, two standards requests, 50 minor corrections, and 55 new code values, among other important industry-driven items.

On August 24, 2017, Rae McQuade addressed separate correspondence to both K. John Holmes of the National Academy of Sciences and Dr. M. Granger Morgan of Carnegie Mellon University in response to the National Academy of Sciences Report, *Enhancing the Resilience of the Nation's Electricity System*. The report contains a specific recommendation that NAESB work with the FERC and industry stakeholders to improve awareness, communication, coordination, and planning between the natural gas and electric industries in an effort to mitigate potential impacts resulting from one markets infrastructure failure on the other market. In the correspondence, Ms. McQuade explained that NAESB is appreciative of the recognition in the report and the Board of Directors looks forward to considering the recommendation and any direction provided by the FERC in the coming months.

For more information, please go to [2017 WEQ Annual Plan](#), [Proposed 2018 WEQ Annual Plan](#), [2017 RMO Annual Plan](#), [Proposed 2018 RMO Annual Plan](#), [2017 WGO Annual Plan](#), [Proposed 2018 WGO Annual Plan](#), and [Enhancing the Resilience of the Nation's Electricity System](#).

NAESB Webcast Courses: In 2018, NAESB will continue to offer interactive webcast courses to the industry. Last year's webinars were well attended and the NAESB office received positive feedback from course attendees. In the coming year, NAESB will offer a number of courses including the Understanding the NAESB WGQ Contracts Webcast Course and the NAESB 101 Webinar. Additionally, dependent upon events within the industry, the NAESB WEQ Business Practices Standards Webcast Course and the NAESB WGQ Business Practice Standards Webcast Course may also be offered along with other courses, as they become necessary. The dates of the 2018 webcast courses will soon be announced by the NAESB office.

For more information, please go to [NAESB Primers and Training Courses Page](#).

NAESB New Members

Wholesale Gas Quadrant (Segment):

Haynes and Boone, LLP (Services)

UGI Central Gas Control, LLC (Pipeline)

Wholesale Electric Quadrant (Segment):

Adapt2 Solutions, Inc. (Technology & Services)

SaskPower Corporation (Transmission)

Copyright/NAESB Standards Access: As everyone should be aware, NAESB copyrights its work products – a practice used by most standards organizations. The copyrights are considered a subset of intellectual property law, and NAESB retains the rights to publication, reproduction, display and distribution. NAESB members may obtain materials free of charge as part of their benefits, but these benefits do not extend to their agents, affiliates or subsidiaries without prior approval and waivers from the NAESB office. Damages for copyright infringement can be significant, including penalties of \$100,000+, injunction, impounding of materials, seizure of property, and award of punitive damages. At the same time, NAESB is very liberal in its policies towards sharing information, and has granted waivers to regulators and educational institutions depending on the intended use. There is also a process by which anyone can request a three-day waiver to review the work products, as they consider whether they should purchase them. Waivers for longer periods can also be granted depending on use. NAESB's control of copyrighted material provides a small revenue stream which offsets some of its standards development expenses and thus those of its members in the creation of the work products. More importantly, as entities must come to NAESB for its standards material, it assures that they will have access to the most current version.

For more information, please go to [Copyright](#), [NAESB Materials Order Form](#) or contact Denise Rager (drager@naesb.org) for additional information.

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