



NORTH AMERICAN ENERGY STANDARDS BOARD

801 Travis, Suite 1675 • Houston, Texas 77002 • Phone: (713) 356-0060 • Fax: (713) 356-0067

email: naesb@naesb.org • Web Site Address: www.naesb.org

July 29, 2016
Filed Electronically

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

RE: NAESB Status Report for Submittal to the Commission Concerning FERC Order No. 809, *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities* (Docket No. RM14-2-000)

Dear Ms. Bose:

The North American Energy Standards Board ("NAESB") is voluntarily submitting this report to the Federal Energy Regulatory Commission ("FERC" or "Commission") to supplement prior status reports submitted to the Commission on August 4, 2015¹ and December 22, 2015² in Docket No. RM14-2-000. These status reports are in response to the April 16, 2015 FERC Final Order No. 809, *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities*³ and are intended to inform the Commission of action taken by the NAESB to address the Commission's requests described in paragraph 107 of the Order.

The cover letter, report and enclosures are being filed electronically in Adobe Acrobat® Portable Document Format (.pdf), with each enclosure bookmarked separately. The entire 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 report.

Respectfully submitted,

Rae McQuade

Ms. Rae McQuade

President & COO, North American Energy Standards Board

¹ The August 4, 2015 NAESB Update Report Concerning FERC Order No. 809 may be accessed at the following link: https://www.naesb.org/pdf4/ferc080415_naesb_update_report_order809.pdf.

² The December 22, 2015 NAESB Status Report for Submittal to the Commission Concerning FERC Order No. 809 may be accessed at the following link: https://www.naesb.org/pdf4/ferc122215_naesb_order809_status_report.pdf.

³ Order No. 809, *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities*, 80 Fed. Reg. 23,197 (Apr. 24, 2015), FERC Stats. & Regs. ¶ 31,368 (cross-referenced at 151 FERC ¶ 61,049) (2015).



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cc:

Chairman Norman C. Bay, Federal Energy Regulatory Commission
Commissioner Tony Clark, Federal Energy Regulatory Commission
Commissioner Collette Honorable, Federal Energy Regulatory Commission
Commissioner Cheryl LaFleur, Federal Energy Regulatory Commission

Mr. Michael Bardee, Director, Office of Electric Reliability, Federal Energy Regulatory Commission

Ms. Jamie L. Simler, Director, Office of Energy Market Regulation, Federal Energy Regulatory Commission

Mr. Max Minzner, General Counsel, Office of the General Counsel, Federal Energy Regulatory Commission

Mr. J. Arnold Quinn, Director, Office of Energy Policy and Innovation, Federal Energy Regulatory Commission

Mr. J. Cade Burks, Chairman and CEO, North American Energy Standards Board

Ms. Valerie Crockett, Vice Chairman WGQ, North American Energy Standards Board

Mr. Michael Desselle, Vice Chairman WEQ, North American Energy Standards Board

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

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

Terry Thorn, Advisory Council, North American Energy Standards Board

Sue Tierney, Advisory Council, North American Energy Standards Board

Enclosures (all documents noted in the appendices are available publicly on the NAESB website – <http://www.naesb.org>):

Appendix A	GEH Forum Meeting Schedule
Appendix B	GEH Forum Participants
Appendix C	GEH Forum Distribution List
Appendix D	Presentations and Comments
Appendix E	GEH Forum Meeting Notes, Work Papers, Comments and Transcripts
Appendix F	NAESB Executive Committee and Board of Directors Meeting Minutes, Work Papers, Comments and Transcripts
Appendix G	GEH Forum Survey, Results and Comments
Appendix H	GEH Forum Board Report Presented to the Board, April 7, 2016
Appendix I	2016 WEQ Annual Plan
Appendix J	2016 WGQ Annual Plan
Appendix K	End Notes – NAESB 2016 Annual Plans

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

**Coordination of the Scheduling Processes of
Interstate Natural Gas Pipelines and Public Utilities**)

Docket No. RM 14-2-000

REPORT OF THE NORTH AMERICAN ENERGY STANDARDS BOARD

The North American Energy Standards Board (“NAESB”) is voluntarily submitting this status report to the Federal Energy Regulatory Commission (“FERC or Commission”) to inform the Commission of action taken by the NAESB in response to FERC Order No. 809 (“Order”)¹ and supplement the previous status reports submitted to the Commission on August 4, 2015² and December 22, 2015.³ As all reports submitted by NAESB to the Commission are informational in nature, NAESB is not advocating for Commission action or inaction on any of the issues presented.

To support the status report and to offer a complete record of the NAESB activities completed in response to the Order, eleven enclosures are attached to this submittal.

1. Appendix A provides the schedule of meetings held by the Gas-Electric Harmonization (“GEH”) Forum (“Forum”) between January and May 2016
2. Appendix B provides a list of all participants from the Forum meetings between January and May 2016
3. Appendix C provides the Forum email distribution list
4. Appendix D provides the presentations and comments submitted during the Forum process
5. Appendix E provides all notes, work papers, comments and transcripts from the Forum meetings
6. Appendix F provides all notes work papers, comments and transcripts from related Executive Committee and Board of Directors meetings
7. Appendix G provides the Forum survey, results and comments
8. Appendix H provides the GEH Forum Board Report Presented to the Board, April 7, 2016
9. Appendix I provides the 2016 WEQ Annual Plan
10. Appendix J provides the 2016 WGQ Annual Plan
11. Appendix K provides the end notes for the 2016 Annual Plans

As stated in the previous status reports, NAESB has undertaken activities related to natural gas and electricity market coordination since the transformation of the Gas Industry Standards Board (“GISB”) to NAESB in 2002. NAESB’s initial efforts resulted in the development of the NAESB Gas/Electric Coordination standards adopted by the Commission on June 25, 2007 through FERC Order No. Order No. 698⁴ and the creation of the NAESB Board of Directors Gas-Electric Interdependency Committee. Since that time, NAESB has continued to focus on

¹ Order No. 809, *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities*, 80 Fed. Reg. 23,197 (Apr. 24, 2015), FERC Stats. & Regs. ¶ 31,368 (cross-referenced at 151 FERC ¶ 61,049) (2015).

² The August 4, 2015 *NAESB Update Report Concerning FERC Order No. 809* may be accessed at the following link: https://www.naesb.org/pdf4/ferc080415_naesb_update_report_order809.pdf.

³ The December 22, 2015 *NAESB Status Report for Submittal to the Commission Concerning FERC Order No. 809* may be accessed at the following link: https://www.naesb.org/pdf4/ferc122215_naesb_order809_status_report.pdf.

⁴ Order No. 698, *Standards for Business Practices for Interstate Natural Gas Pipelines; Standards for Business Practices for Public Utilities*, 72 Fed. Reg. 38,757 (July 16, 2007), FERC Stats. & Regs ¶ 31,251 (2007).

coordination issues resulting from Commission requests and the work of committees and subcommittees dedicated to this important industry issue has been ongoing. Actions in response to the most recent request of the Commission, FERC Order No. 809, have been underway since early 2015 and were described in the two status reports submitted to the Commission in 2015. As an update to those status reports, NAESB is submitting this report and will make a subsequent filing with the Commission as requested in the September 17, 2015 Order on Rehearing “...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.”⁵

As reported in the December 2015 status update, the NAESB board directed the Forum through WEQ Annual Plan Item 7 and WGQ Annual Plan Item 3 to provide the board with direction concerning the development of standards or modifications to existing standards as needed to support the request of the Commission in the Order. Additionally, the board included specific steps the Forum should employ. Specifically, the board requested that the Forum provide a venue for industry education on computerized scheduling as articulated in the Order, identify potential issues specific to computerized scheduling as articulated in the Order, identify any potential solutions to those issues and identify any potential schedules for standards development.

In response to this directive, the NAESB Forum, co-chaired by Dr. Susan Tierney and Terry Thorn, held a series of meetings between January 25, 2016 and May 13, 2016, which culminated in the GEH Forum Report to the Board of Directors included as Appendix H and the NAESB GEH Forum Survey included as Appendix G. The report was presented to the Board of Directors on April 7, 2016 and describes, in detail, the activities of the Forum and the record that was developed throughout the process. The NAESB GEH Survey was created and distributed at the request of the Forum during their March 21-22, 2016 meeting and was intended to seek additional industry-wide input concerning the coordination issues identified by the Forum and the potential for action by NAESB to address those issues. The results of the survey were to provide additional information for the board to consider in its deliberations on how to respond to Commission’s request in the Order.

As noted in the April 7, 2016 report, the survey was distributed to the NAESB Advisory Council, the NAESB membership and the Forum distribution list on March 24, 2016 with responses requested by March 31, 2016. Given the proximity to the April 7, 2016 board meeting, the full results of the survey were not made available in time for consideration by the Board of Directors during its meeting. However, the board was provided with preliminary results that were summarized in the Forum report. After thorough discussion during the April 7, 2016 meeting, the board decided to postpone any action related to the Order pending the full results of the survey. The board also recommended that the Forum hold an additional meeting to review the full results of the survey and discuss any potential recommendations for next steps that the board could consider.

The full results of the survey were posted on April 18, 2016 as the GEH Forum Report – Survey Results Addendum, also included in Appendix G. The summary of the survey results contained in the addendum highlight three separate categories of issue responses.

- First, those responses related to the four issues identified through the Forum process as solely actionable by NAESB in the current environment
- Second, those issues that received fifty percent or greater affirmative responses from all respondents to questions concerning the scope of the issue and whether the issue can be economically pursued
- Third, those issues that received fifty percent or greater affirmative responses from a single quadrant to questions concerning the scope of the issue and whether the issue can be economically pursued.

Each of the 11 issues that fell within these categories were reviewed during the May 13, 2016 Forum meeting, and the participants were given an opportunity to discuss any potential recommendations for next steps that the Board of Director’s could consider. Additionally, during the meeting, the comments submitted by the American Gas Association (“AGA”) were discussed and a correction to the GEH Forum Report – Survey Results Addendum was noted. The results of this meeting and the full survey results, as corrected on May 13, 2016, were forwarded to the Board of Director’s for its consideration during a May 31, 2106 conference call.

⁵FERC Order No. 809, *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities*, 80 Fed. Reg. 23,198 (Apr. 24, 2015), FERC Stats. & Regs. ¶ 31,368 (2015) (cross-referenced at 151 FERC ¶ 61,049 (2015)), *order on clarification*, 152 FERC ¶ 61,095, *order on reh’g*, 152 FERC ¶ 61,212 (2015), *order on clarification*, 153 FERC ¶ 61,049 (2015).

Concurrently to the Forum process, NAESB received several requests for standards development from industry participants related to the effort but not a direct result of it. Specifically, the following requests were submitted on March 24, 2016, May 5, 2016 and May 12, 2016.

- Request R16003 was submitted on behalf of Skipping Stone and Environmental Defense Fund. The request proposes standards that addresses certain business practices relating to best efforts scheduling for natural gas pipeline 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)⁶
- Request R16004 was submitted on behalf of FIS Global – Energy Services. The request proposes standards that update the NAESB WGQ Standard No. 1.4.1 nomination dataset to remove all non-necessary data elements and to evaluate the use of all Mutually Agreed and Business Conditional data elements for their continued relevance.⁷
- Request R16005 was submitted on behalf of FIS Global – Energy Services. The request proposes standards that modify the usage of the Service Requester and Service Requester Contract in the NAESB WGQ Standard No. 1.4.1 nomination dataset to reflect actual usage.⁸
- Request R16006 was submitted on behalf of FIS Global – Energy Services. The request proposes standards that update the NAESB WGQ Standard No. 2.4.11 imbalance trade dataset to re-add in the Confirming Trader’s ability to reject the trade.⁹
- Request R16007 was submitted on behalf of FIS Global – Energy Services. The request proposes standards that update NAESB WGQ Standard No. 1.4.1 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.¹⁰

As several of the requests could be considered related to the Forum efforts and could impact the board’s determinations related to the Order, a Triage Subcommittee conference call was scheduled for May 16, 2016 to review the requests and determine a disposition. Within the NAESB process, all requests found within NAESB’s scope by the Triage Subcommittee are assigned to a quadrant and subcommittee in that quadrant for potential standards development. The Triage Subcommittee consists of all members of each quadrant’s Executive Committee and triage dispositions are subject to review by the Executive Committee of the quadrant to which the request is assigned. During the Triage Subcommittee conference call on May 16, 2016 a quorum was not present, and the requests were distributed to the subcommittee members for consideration through a notational ballot. This notational ballot period closed on May 30, 2016. While all of the requests included in the ballot received the requisite support from the Triage Subcommittee to move to standards development, Request R16003 did not receive simple majority support from the respondents in the WGQ Executive Committee due to questions of scope. Accordingly, the request was elevated to the Board of Directors for its consideration.

On May 31, 2016 the Board of Directors held a conference call to consider the results of the survey, as corrected, the outcome of the May 13, 2016 Forum meeting and to formulate a direction to respond to the request of the Commission in the Order. As a quorum of directors was not present for the conference call, the meeting was deemed a working session. During the working session, the participants focused discussion on the five issues identified through the survey that received fifty percent or greater affirmative responses from all respondents to questions concerning the scope of the issue and whether the issue could be economically pursued. Additionally, the participants reviewed the comments submitted by AGA, OATI, Inc. and the Natural Gas Supply Association and discussed the adequacy of the five requests submitted by the industry to address the Commission’s Order. Through discussion, it was noted that only requests R16003, R16004 and R16007 pertain to coordination issues and that R16005 and R16006 should not be considered in that context.

Because quorum was not established during the May 31, 2016 conference call and the meeting was deemed a working session, no action could be taken. As a result, the Chairman of the Board of Directors requested that two notational ballots be distributed for consideration and vote by the board members. The first notational ballot,

⁶ Request R16003 may be accessed at the following link: <https://www.naesb.org/pdf4/r16003.doc>.

⁷ Request R16004 may be accessed at the following link: <https://www.naesb.org/pdf4/r16004.doc>.

⁸ Request R16005 may be accessed at the following link: <https://www.naesb.org/pdf4/r16005.doc>.

⁹ Request R16006 may be accessed at the following link: https://www.naesb.org/member_login_check.asp?doc=r16006.doc.

¹⁰ Request R16007 may be accessed at the following link: <https://www.naesb.org/pdf4/r16007.doc>.

distributed on June 2, 2016 proposed the inclusion of the five issues identified through the Forum process and the survey results as additions to the 2016 WEQ and WGQ Annual Plans.¹¹ These proposed annual plan items are listed below.

- GEH Forum Issue 22: “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”
- GEH Forum Issue 25: Communication protocols with LDCs, gas generator operators and natural gas marketing companies
- GEH Forum Issue 26: “Improve efficiency of critical information sharing (related to issues 22 and 25)
- GEH Forum Issue 33: “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”
- GEH Forum Issue 36: “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 17 in the first presentation.”

The annual plan items were assigned to the WGQ and WEQ Executive Committees, respectively, to consider if standards development was needed, to develop a recommendation and to report back to the Board of Directors. If standards development is deemed appropriate, the Executive Committees would then develop a recommendation for standards.

On June 3, 2016, a second notational ballot was distributed requesting the Board of Directors to vote on the scope question that resulted from the triage action on Request R16003 and whether Request R16003, if deemed in scope, Request R16004 and Request R16007 should be added to the 2016 WGQ Annual Plan.¹² These proposed annual plan items can be found below.

- Develop business practices as needed to support R16003: 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 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).
- Develop business practices as needed to support R16004: “Update the NAESB 1.4.1 Nomination dataset to remove all non-necessary data elements and to evaluate the use of all Mutually Agreed and Business Conditional data elements for their continued relevance.”
- 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.”

Responses to the two notational ballots were requested on June 21, 2016 and on June 24, 2016, respectively. All proposed modifications to the 2016 WEQ and WGQ Annual Plans were adopted by a simple majority vote of the Board of Directors and Request R16003 was determined to be within the scope of NAESB. As a result, all annual plans have been updated to reflect the decisions of the Board of Directors.

Work is currently underway in the WGQ Business Practice Subcommittee to address the new annual plan items. The subcommittee held its first conference call on July 12, 2016 to review the annual plan items. Additional meetings are being scheduled through August, and NAESB will continue to update the Commission as it makes progress towards reaching its goal of submitting standards or a report on standards development to Commission by October 17, 2016. As always, NAESB appreciates the guidance of the Commission and the leadership of the Board of Directors, and looks forward to working with the industry to develop standards which support the wholesale and retail natural gas and electricity markets.

¹¹ The June 2, 2016 notational ballot may be accessed at the following link: <https://www.naesb.org/pdf4/bd060216ballot.docx>.

¹² The June 3, 2016 notational ballot may be accessed at the following link: <https://www.naesb.org/pdf4/bd060316ballot.docx>.

Appendices:

- A..... GEH Forum Meeting Schedule
- B..... GEH Forum Participants
- C..... GEH Forum Distribution List
- D..... Presentations and Comments
- E..... GEH Forum Meeting Notes, Work Papers, Comments and Transcripts
- F..... NAESB Executive Committee and Board of Directors Meeting Minutes, Work Papers,
Comments and Transcripts
- G..... GEH Forum Survey, Results and Comments
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- I..... 2016 WEQ Annual Plan
- J..... 2016 WGQ Annual Plan
- K..... End Notes – NAESB 2016 Annual Plans

January 12, 2016

TO: NAESB Board of Directors, Gas-Electric Harmonization (GEH) Forum and Interested Parties
FROM: NAESB Office
RE: Timeline to Address 2016 WEQ Annual Plan Item 7.a & 2016 WGQ Annual Plan Item 3.a – *Updated January 19, 2016*

Dear Board Members, Forum Participants and Interested Parties,

Please find below a timeline that would support the development of potential solutions in response to 2016 WEQ Annual Plan Item 7.a and 2016 WGQ Annual Plan Item 3.a for board consideration.

TIMELINE -- SCHEDULE OF MEETINGS AND DELIVERABLES

✓ ☐ Date/Time	Committee & Meeting	Deliverables
January 25, 2016 - 10:00 am to 11:00 am Central	Conference Call GEH Forum – Organizational & Informational	Administrative Session
February 1, 2016	Inform NAESB office of intent to submit presentations	
February 8, 2016	Presentations forwarded to the NAESB office	Presentations posted on the NAESB web site
February 18, 2016 – 8:00 am to 5:00 pm Central February 19, 2016 - 8:00 am to 2:00 pm Central	GEH Forum face to face meeting (1.5 day meeting) in Houston, TX at the Doubletree Downtown Hotel	Review all presentations with time allotted for questions and answers. Presentations will provide education on the current process, identification of issues and potential solutions within the bounds of the request of the FERC in Order No. 809
March 7, 2016 – 8:00 am to 5:00 pm Central March 8, 2016 - 8:00 am to 2:00 pm Central	GEH Forum face to face meeting (1.5 day meeting) in Houston, TX at the Hilton Americas	Discussion of presentations and potential solutions
March 21, 2016 – 8:00 am to 5:00 pm Central March 22, 2016 - 8:00 am to 2:00 pm Central	GEH Forum face to face meeting (1.5 day meeting) in Houston, TX at the Hilton Americas	Summation of potential solutions
April 3, 2016	GEH Forum Report developed by the GEH Forum co-chairs and NAESB staff based upon GEH Forum discussion record	GEH Forum Report posted to the NAESB website
April 7, 2016 – 9:00 am to 1:00 pm Central	NAESB Board of Directors Meeting	The GEH Forum Report will be presented to the NAESB Board of Directors for further direction
May 13, 2016 – 10:00 am to 4:00 pm Central	GEH Forum face to face meeting (1 day meeting) in Houston, TX at the Hilton Americas	Review the results of the data collected through the March 24, 2016 survey.
May 31, 2016	NAESB Board of Directors Conference Call	Make determination on future action.

TIMELINE -- SCHEDULE OF MEETINGS AND DELIVERABLES

✓ <input type="checkbox"/> Date/Time	Committee & Meeting	Deliverables
July 2016	Status report to Commission	A status report including the direction determined by the NAESB Board of Directors will be filed with the Commission.

Appendix B: GEH Forum Participants

Total Participants – 214

[NAESB Membership Roster](#)

Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Denise	Adams	ONEOK Rockies Midstream	WGQ	Services	N
Dave	Allred	NWP Marketing Services	----	----	N
Karl	Almquist	Tallgrass Operations, LLC	WGQ	Pipeline	Y
Terry	Altenbaumer	Accenture, LLC	WGQ	Services	N
Omar	Aslam	Federal Energy Regulatory Commission (FERC)	None	None	**G
Trevante	Bailey	Dominion Transmission, Inc.	WGQ	Pipeline	Y
John	Baker	Open Access Technology International, Inc. (OATI)	WEQ	End User	Y
Stacy	Bartoszek	NJR Energy Services Company	WGQ	Services	N
Sharat	Batra	Los Angeles Department of Water and Power	WEQ	Mrkt/Brk	Y
Wayne	Benoit	Boardwalk Pipeline Partners, LP	WGQ	Pipeline	Y
Susan	Bergles	American Gas Association	WGQ	LDC	Y
Carrie	Bivens	Electric Reliability Council of Texas, Inc. (ERCOT)	WEQ	IGO	Y
Na	Bocangel	Colorado Springs Utilities	WGQ	LDC	Y
Jonathan	Booe	North American Energy Standards Board	----	----	Staff
Paul	Borkovich	Southern California Gas Company	WGQ	LDC	Y
Brad	Bouillon	California Independent System Operator Corp.	WEQ	IGO	Y
Y.J.	Bourgeois	Anadarko Energy Services Company	WGQ	Producer	Y
Sue	Brodeur	Unitil	----	----	N
Kelly R.	Brooks	WBI Energy Transmission, Inc.	WGQ	Pipeline	Y
Richard	Brown	PJM Interconnection, LLC	WEQ	IGO	Y
John	Broyles	New York ISO	WEQ	IGO	Y
Dan	Buckner	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	WGQ	End User	N
J. Cade	Burks	Big Data Energy Services	RMQ	SP/S	Y

Appendix B: GEH Forum Participants

Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Michaela	Burroughs	American Gas Association	WGQ	LDC	Y
James (Jim)	Busch	BP West Coast Products	WGQ	End User	N
Montie	Callager	Targa Resources Inc.	WGQ	Services	N
William A.	Callan	ISO New England, Inc.	WEQ	IGO	Y
Greg	Campoli	New York ISO	WEQ	IGO	Y
Evelyn	Carmouche	Shell Energy North America (US), L.P.	WGQ	Services	Y
Joe	Casey	Spectra Energy Corp	WGQ	Pipeline	Y
Jack	Cashin	The Electric Power Supply Association (EPSA)	WGQ	End User	N
Douglas	Chapel	Consumers Energy Company	WGQ	LDC	N
Joe	Conneely	Granite State Gas Transmission System	WGQ	Pipeline	N
Pete	Connor	American Gas Association rep	WGQ	LDC	Y
Chuck	Cook	Chevron Natural Gas	WGQ	Producer	Y
Margaret	Cordts	NorthWestern Energy	WGQ	LDC	N
Janet	Corritore	Tenaska Marketing Ventures	WGQ	Mrkt/Brk	N
David	Crabtree	TECO/Peoples Gas System	WEQ	Distribution	Y
Valerie	Crockett	Tennessee Valley Authority	WGQ	End User	Y
Lorraine	Cross	Cross & Company, P.L.L.C.	None	None	*A
Kelly A.	Daly	Stinson Leonard Street LLP	WGQ	Services	N
George	Danner	Business Laboratory, LLC	WEQ	Services	N
Dale	Davis	Williams	WGQ	Pipeline	Y
Rae	Davis	Dominion Carolina Gas Transmission , LLC	WGQ	Pipeline	Y
Alexander	Davydov	Total Gas and Power North America Inc.	WGQ	Pipeline	N
Jeffrey	DeAnna	NJR Energy Services Company	WGQ	Services	N
Laura K.	Demman	Northern Natural Gas Company	WGQ	Pipeline	Y

Appendix B: GEH Forum Participants

Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Jerry H.	Dempsey	OATI	WEQ	End User	Y
Rhonda	Denton	BP Energy Company	WGQ	Producer	Y
Michael	Desselle	Southwest Power Pool	WEQ	IGO	Y
Jay	Dibble	Calpine Energy Services, LP	WGQ	End User	Y
Dirk	Dietz	Nebraska Public Power District	WEQ	Trans	Y
Stacy	Djukic	Northern Indiana Public Service Company	WGQ	LDC	N
Bill	Donahue	Puget Sound Energy, Inc.	WEQ	Distribution	N
Mary	Draemer	Energy Transfer Equity, L.P.	WGQ	Pipeline	Y
Jeremy	Durocher	MCP Operating LLC	WGQ	Pipeline	Y
Katie	Ege	Great River Energy	WEQ	Generation	N
Catherine M.	Elder	Aspen Environmental Group	WGQ	Services	Y
Sam	Ellis	Southwest Power Pool	WEQ	IGO	Y
Cameron T.	Eoff	Associated Electric Cooperative Inc.	WEQ	Generation	N
Tamara	Evey	Ameren Services Company	WGQ	LDC	N
Anna	Fernandez	Federal Energy Regulatory Commission (FERC)	None	None	**G
Kathy	Ferreira	New Jersey Natural Gas Company	WGQ	LDC	N
Douglas	Field	Southern Star Central Gas Pipeline, Inc.	WGQ	Pipeline	Y
Brian	Fields	Calpine Energy Services, LP	WGQ	End User	Y
Brian J.	Fitzpatrick	PJM Interconnection, LLC	WEQ	IGO	Y
Jim	Fort	The Energy Authority, Inc.	WEQ	Mrkt/Brk	N
Danielle	Foster	Shell Energy North America (Canada)	----	----	N
Michael	Frey	Municipal Gas Authority of Georgia	WGQ	Services	N
William	Gallagher	Vermont Public Power Supply Authority	WEQ	Generation	Y
Wayne	Gardner	WE Gardner Company LLC	WGQ	Services	*A

Appendix B: GEH Forum Participants

Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Brad	Garrison	New York ISO	WEQ	IGO	Y
Tina	Gary	Portland General Electric Company	WEQ	Generation	N
Dennis	Gee	Pacific Gas and Electric Company (PG&E)	WGQ	LDC	Y
Tim	Gerrish	Florida Power & Light	WEQ	Mrkt/Brk	Y
Joseph	Ghormley	Southwest Power Pool	WEQ	IGO	Y
Gloria	Glover	TECO/Peoples Gas System	WEQ	Distribution	Y
Casey	Gold	Natural Gas Supply Association (NGSA)	WGQ	Producer	N
Mike	Goldenberg	Federal Energy Regulatory Commission (FERC)	None	None	**G
Lindsay	Gottspomer	AGL Resources Inc.	WGQ	Pipeline	Y
Mark	Gracey	Southern Natural Gas Company, L.L.C.	WGQ	Pipeline	N
Bob	Gray	Arizona Corporation Commission	WGQ	Services	*A
Wraye	Grimard	Peoples Gas System, a Division of Tampa Electric Company	WGQ	LDC	N
Jerry H.	Gross	Questar Pipeline Company	WGQ	Pipeline	Y
Stanley	Gross	El Paso Electric	WEQ	Trans	Y
Brandon	Guderian	Devon Energy	WGQ	Producer	Y
Tom	Gwilliam	Iroquois Gas Transmission System	WGQ	Pipeline	Y
Francis J.	Halpin	Bonneville Power Administration	WEQ	Generation	Y
Erik	Hanser	Michigan Public Service Commission	----	----	N
Kevin	Hanson	Electric Reliability Council of Texas, Inc. (ERCOT)	WEQ	IGO	Y
Ann	Hartigan	Unitil Service Corporation	WGQ	LDC	Y
Chantal	Hendrzak	PJM Interconnection, LLC	WEQ	IGO	Y
Ronnie C.	Hensley II	Southern Star Central Gas Pipeline, Inc.	WGQ	Pipeline	Y
Sherry	Hill	TransCanada PipeLines Limited	WGQ	Pipeline	Y
Roy	Hiller	Southern Company Services, Inc.	WGQ	End User	Y

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Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Micki	Hoffee	Northern Natural Gas	WGQ	Pipeline	Y
Rachel	Hogge	Dominion Transmission, Inc.	WGQ	Pipeline	Y
Brad	Holmes	Fayetteville Express Pipeline	WGQ	Pipeline	N
Brenda	Horton	Kern River Gas Transmission Company	WGQ	Pipeline	Y
Richard	Ishikawa	Southern California Gas Company	WGQ	LDC	Y
Samara	Jaffe	National Grid	WGQ	LDC	Y
Patricia	Jagtiani	Natural Gas Supply Association (NGSA)	WGQ	Producer	N
Bonnie	Janssen	Michigan Public Service Commission	WGQ	End User	**G
Steven	Jaskolski	TransCanada US Pipelines / ANR Pipeline Company	WGQ	Pipeline	Y
Andrew	Kennedy	TECO/Peoples Gas System	WEQ	Distribution	Y
Drake R.	Kijowski	PSEG Energy Resources and Trade LLC	WGQ	LDC	N
Gordon	King	Okaloosa Gas District (APGA)	WGQ	LDC	N
Robert	Kott	California Independent System Operator Corp.	WEQ	IGO	Y
Richard	Kruse	Algonquin Gas Transmission, LLC (Spectra Energy Corp)	WGQ	Pipeline	N
Debbie	Kupczyk	National Fuel Gas Supply Corporation	WGQ	Pipeline	Y
Earl	Lambert	EnCORE	----	----	N
Gregory	Lander	Skipping Stone, LLC - CapacityCenter	WGQ	Services	Y
Nancy	Leatherland	Enbridge (U.S.) Inc.	WGQ	Pipeline	Y
Teresa	Lewis	Vectren Corporation	WGQ	LDC	Y
Rodney	Luck	Los Angeles Department of Water and Power	WGQ	End User	N
Jared M.	Luner	Xcel Energy	WGQ	End User	N
Steve	Maestas	Public Service Company of New Mexico	WEQ	Mrkt/Brk	Y
Kathleen	Magruder	BP Energy Company	WEQ	Mrkt/Brk	N
James	Maguire	Direct Energy	WGQ	Services	N

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Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Elizabeth	Mallett	North American Energy Standards Board	----	----	Staff
Beth	Martin	WEC Energy Group	WGQ	LDC	Y
Willis	McCluskey	Salt River Project Agricultural Improvement & Power District	WGQ	End User	Y
Steve	McCord	Columbia Gas Transmission, LLC	WGQ	Pipeline	Y
Missy	McNamara	Columbia Gas Transmission, LLC	WGQ	Pipeline	Y
Rae	McQuade	North American Energy Standards Board	None	None	Staff
Michelle	Mendoza	Piedmont Natural Gas	WGQ	LDC	N
Cary	Metz	Enable Energy Resources, LLC	WGQ	Services	Y
Megan	Miller	Spectra Energy Corp	WGQ	Pipeline	Y
Sherri	Monteith	American Electric Power	WEQ	Generation	Y
Richard	Moreno	Energy Transfer Equity, L.P.	WGQ	Pipeline	N
Doug	Morgan	United Utility Group	WGQ	LDC	N
Art	Morris	Florida Power & Light	WGQ	End User	Y
Scott	Morrison	American Public Gas Association (APGA)	WGQ	Services	N
Bob	Mosemann	Anadarko Energy Services Company	WGQ	Producer	Y
Ann	Mountford	Pacific Gas and Electric Company	WGQ	LDC	Y
Sylvia	Munson	FIS	WGQ	Services	Y
Erin	Murphy	Environmental Defense Fund, Inc.	WGQ	End User	Y
Rebecca	Newson	Shell Energy North America (US), L.P.	WGQ	Services	Y
Christi	Nicolay	Macquarie Energy LLC	WGQ	Services	Y
David	Nilsson	Power Costs, Inc. (PCI)	WEQ	Tech/Serv	Y
Mike	Novak	National Fuel Gas Distribution Corporation	WGQ	LDC	Y
Gene	Nowak	Kinder Morgan Inc	WGQ	Pipeline	Y
Lou	Oberski	Dominion Resources Services, Inc.	WEQ	Generation	Y

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Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Linn C.	Oelker	LG&E and KU Services Company	WEQ	Generation	N
Sheree	Osborne	Puget Sound Energy, Inc.	WGQ	LDC	N
Debra Ann	Palmer	New England LDCs	WGQ	LDC	
Lopa	Parikh	Edison Electric Institute (EEI)	WEQ	End User	Y
Randy E.	Parker	ExxonMobil Gas and Power Marketing Company (a division of ExxonMobil Corporation)	WGQ	Producer	Y
Norman	Pedersen	Southern California Generation Coalition (Hanna and Morton LLP)	WGQ	End User	N
N. Jonathan	Peress	Environmental Defense Fund, Inc.	WGQ	End User	Y
Sheldan	Perry	Open Access Technology International, Inc. (OATI)	WGQ	Services	Y
Don	Petersen	Pacific Gas and Electric Company (PG&E)	WGQ	Pipeline	N
Joshua	Phillips	Southwest Power Pool	WEQ	IGO	Y
Damonica	Pierson	Shell Exploration and Production Company	WGQ	Producer	N
Phil	Precht	Baltimore Gas & Electric Company	WGQ	LDC	Y
Buffy	Pyle-Liberto	Exelon Corporation	WGQ	Services	N
Tom	Pysh	Northern Indiana Public Service Company	WEQ	Generation	N
Denise	Rager	North American Energy Standards Board	----	----	Staff
Deepak	Raval	NiSource Inc.	WGQ	LDC	Y
Jack	Reid	Seminole Electric Cooperative, Inc.	WEQ	Mrkt/Brk	Y
David	Reitz	National Fuel Gas Supply Corporation	WGQ	Pipeline	Y
Ginger	Richman	NJR Energy Services Company	WGQ	Services	N
Sara	Rogers	ONEOK Partners GP, LLC	WGQ	Pipeline	Y
Douglas	Rudd	New Jersey Natural Gas Company	WGQ	LDC	N
Michael	Russ	National Fuel Gas Supply Corporation	WGQ	Pipeline	Y
Chris	Russo	Sequent Energy Management, L.P.	WGQ	Services	Y
Steve	Salese	Direct Energy Business, LLC	WGQ	Services	Y

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First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Andy	Sanchez	Southwestern Energy Company	WGQ	Producer	N
Oscar	Santillana	Federal Energy Regulatory Commission (FERC)	None	None	**G
Manuel	Santos	Open Access Technology International, Inc. (OATI)	WGQ	Services	Y
Keith	Sappenfield	Environmental Resources Management	WGQ	Services	Y
Anita M.	Schafer	Duke Energy Corporation	WGQ	LDC	N
Jeff	Schmitt	PJM Interconnection, LLC	WEQ	IGO	Y
Ben	Schoene	ConocoPhillips Company	WGQ	Producer	Y
Dave	Schryver	American Public Gas Association (APGA)	WGQ	Services	N
Eric	Scott	Avista Utilities	WGQ	LDC	N
Mark	Sellers-Vaughn	Cascade Natural Gas	WGQ	LDC	N
Donnie	Sharp	City of Huntsville d/b/a Huntsville Utilities	WGQ	LDC	N
Lisa	Simpkins	Exelon Generation Company, LLC	WGQ	Services	Y
Carelton	Simpson	Unitil Energy Systems	WGQ	LDC	N
Jeff	Sissom	APGA/MLGW	WGQ	LDC	N
Ed	Skiba	MISO	WEQ	IGO	Y
Rick	Smead	RBN Energy LLC	WEQ	Tech/Serv	Y
Richard	Smith	Golden Pass Pipeline, LLC	WGQ	Pipeline	Y
Leigh	Spangler	Latitude Technologies, Inc.	WGQ	Services	Y
Janene	Steckelberg	Tenaska Marketing Ventures	WGQ	Mrkt/Brk	N
Joe	Sterrett	Tallgrass Operations, LLC	WGQ	Pipeline	Y
Will	Szubielski	Emera Energy Services, Inc.	WGQ	Services	N
Kenny	Taylor	Dominion Carolina Gas Transmission, LLC	WGQ	Pipeline	Y
Veronica	Thomason	North American Energy Standards Board	----	----	Staff
Terence (Terry)	Thorn	KEMA Gas Consulting Services	None	None	*A

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Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
RJ	Thornbury	The Energy Authority, Inc.	WGQ	Services	N
Sue	Tierney	Analysis Group, Inc.	None	None	*A
Michael	Tita	Federal Energy Regulatory Commission (FERC)	None	None	**G
Ronald G.	Tomlinson	Dominion Transmission, Inc.	WGQ	Pipeline	Y
Roy	True	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	WEQ	Mrkt/Brk	Y
Caroline	Trum	North American Energy Standards Board	----	-----	Staff
John	Ulloa	Pacific Gas and Electric Company (PG&E)	WEQ	Generation	N
Brad	Van Dyke	Tallgrass Operations, LLC	WGQ	Pipeline	Y
Kim	Van Pelt	Texas Gas Transmission	WGQ	Pipeline	N
Glenn	Vaughan	Enbridge (U.S.) Inc.	WGQ	Pipeline	Y
Jill	Vaughan	CSR, Transcriber	None	None	N
Deborah	Waugh	Williams - Discovery	WGQ	Pipeline	N
Janelle	Weatherford	Enbridge (U.S.) Inc.	WGQ	Pipeline	Y
Thomas	Webb	Enbridge (U.S.) Inc.	WGQ	Pipeline	Y
Maya	Weber	Platts	None	None	***P
David	Webster	Macquarie Energy LLC	WGQ	Services	Y
Brian J.	Wiese	MidAmerican Energy Company	WGQ	LDC	N
Chris	Winburn	Independence Power & Light	WEQ	Distribution	N
Vickie	Wonder	Northern Natural Gas	WGQ	Pipeline	N
Charles	Yeung	Southwest Power Pool	WEQ	IGO	Y
Kathy	York	Tennessee Valley Authority	WEQ	Mrkt/Brk	Y
Christopher	Young	Exelon Corporation	WGQ	End User	N
Randy	Young	Gulf South Pipeline Company	WGQ	Pipeline	N

*A = Advisory Council Member

**G = Governmental Participant

***P = Press Participant

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Adams, Denise	ONEOK Partners	Benson, Marty	Intermountain Gas Company
Agrawal, Rakesh	Blackstone Technology Group, Inc.	Bergles, Susan	American Gas Association
Albrecht, Matt	Chevron Natural Gas	Betancourt, Ramona	ETC Tiger Pipeline LLC
Allenback, Peggi	MidAmerican Energy Company	Billiot, Scott	Oglethorpe Power Corp.
Allred, Dave	NWP Marketing Services	Bishop, Cary M.	Greenwood Commissioners of Public Works (CPW)
Almquist, Karl	Tallgrass Operations, LLC	Bivens, Carrie	Electric Reliability Council of Texas, Inc. (ERCOT)
Altenbaumer, Terry	Accenture, LLC	Blasiak, James L.	Washington Gas Light Company
Anderson, Bruce	New England Power Generators Association, Inc.	Bleiweis, Bruce	DC Energy
Anderson, John	Electricity Consumers Resource Council (ELCON)	Bloodworth, Michelle	MISO
Anderson, Mark	Paiute Pipeline Company	Bocangel, Na	Colorado Springs Utilities
Anderson, Pam	Perkins Coie LLP	Boehme, John	Central Valley Gas Storage, LLC
Anker, Alisha	Prairie Power, Inc.	Bogdan, Candace	Liberty Utilities (Midstates Natural Gas) Corp.
Anthony, Susan	Electric Reliability Council of Texas, Inc. (ERCOT)	Booe, Jonathan	North American Energy Standards Board
Armato, John	Pacific Gas and Electric Company (PGE)	Borkovich, Paul	Southern California Gas Company
Aslam, Omar	Federal Energy Regulatory Commission (FERC)	Bormack, Mitchell	TRC Solutions
Bagot, Nance	The Electric Power Supply Association (EPSA)	Boswell, William	North American Energy Standards Board
Bailey, Trevante	Dominion Transmission, Inc.	Boucher, Jennifer	The Berkshire Gas Company
Bailey, Vicky	BHMM Energy Services, LLC	Bougner, Mike	Xcel Energy
Baird-Forristall, Caroline	MidAmerican Energy Company	Bouillon, Brad	California Independent System Operator Corp.
Baker, John	Open Access Technology International, Inc.	Bourgeois, Y.J.	Anadarko Energy Services Company
Barbieri, Amanda	Ameren Missouri	Bowling, Michael	Tucson Electric Power Company
Bartley, J.	Accenture, LLC	Bowman, Erica	America's Natural Gas Alliance (ANGA)
Bartoszek, Stacy	NJR Energy Services Company	Bradbury, Debbie	Trunkline Gas Company
Barua, Rajnish	National Regulatory Research Institute (NRRRI)	Braun, Christine	FortisBC Huntingdon Inc.
Batra, Sharat	Los Angeles Department of Water and Power	Bray, Walter	Arizona Electric Power Cooperative, Inc.
Battams, Ahuva Z.	Van Ness Feldman LLP	Breden, Dan	Prairie Power, Inc.
Baumgart, Julie A.	Wisconsin Public Service	Breezeel, Phillip	Prairie Power, Inc.
Baxter, James	Oglethorpe Power Corp.	Broderick, Kyle	Portland General Electric Company
Bear, John	ISO/RTO Council (IRC)	Brooks, Kelly	J. Aron & Company (Goldman, Sachs & Co.
Beck, Elizabeth	Vectren Corporation	Brooks, Kelly R.	WBI Energy Transmission, Inc.
Begley, Mark	Northern Natural Gas	Brown, Richard	PJM Interconnection, LLC
Bell, John S.	Kansas Corporation Commission	Brownell, Stanley	PJM Interconnection, LLC
Bellairs, David A.	Metropolitan Utilities District of Omaha	Broyles, John	New York ISO
Bellville, Nathan T.	South Mississippi Electric Power Association (SMEPA)	Bruechner, Paul	Okaloosa Gas District
Benoit, Wayne	Boardwalk Pipeline Partners, LP	Bruns, Joe	Cedar Falls Utilities
		Bryson, Michael	PJM Interconnection, LLC
		Buccigross, Jim	8760 Inc.

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Buckner, Dan	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	Connor, Pete	American Gas Association
Burgess, Tom	North American Electric Reliability Corporation (NERC)	Conte, Tony	National Fuel Gas Supply Corporation
Burke, Lynn M	Columbia Gas of Ohio, Inc.	Cook, Chuck	Chevron Natural Gas
Burks, J. Cade	Big Data Energy Services	Cooper, Chris	Dauphin Island Gathering Partners
Burroughs, Michaela	American Gas Association	Copeland, Karen	Municipal Gas Authority of Georgia
Busch, James (Jim)	BP West Coast Products	Cordts, Margaret	NorthWestern Energy
Butcher, Angie	Michigan Public Service Commission	Corritore, Janet	Tenaska
Butler, James	NiSource Inc.	Costello, Chuck	Blackstone Technology Group, Inc.
Butler, Scott	Consolidated Edison Co of New York, Inc.	Crabtree, David	TECO/Peoples Gas System
Caffery, David	PSEG Energy Resources & Trade LLC	Crawford, Ernie	Public Service Company of New Mexico
Calhoun, John Anthony	Santee Cooper	Crockett, Valerie	Tennessee Valley Authority
Callager, Montie	Targa Resources Inc.	Cross, Lorraine	Cross & Company, P.L.L.C.
Callan, William A.	ISO New England, Inc.	Crowley, Colin	Puget Sound Energy, Inc.
Campoli, Greg	New York ISO	Crysler, Dan	Latitude Technologies, Inc.
Capilla, Leslie	Arizona Public Service Company	Culp, Jodi	Black Hills Energy
Cardone, Ernie	New York ISO	Culpepper, Les	The Southeast Alabama Gas District
Carlson, Tom	Arizona Public Service Company	Cymes, Jim	Steckman Ridge
Carmouche, Evelyn	Shell Energy North America (US), L.P.	Czigler, Frank	Public Service Electric and Gas Company
Carrette, Jeffrey	Total Gas and Power North America Inc.	DaFonte, F. Chico	Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities
Carriere, Jay	Berkshire Hathaway Energy Company	Dahlberg, Lynn	Williams – Northwest Pipeline
Casey, Bill	Portland General Electric Company	Daly, Kelly A.	Stinson Leonard Street LLP
Casey, Joe	East Tennessee Natural Gas, L.L.C	Dandridge, Michelle M.	Southern California Gas Company
Casey, Melissa	Williams – Transco	Danner, George	Coalition of Energy Technology Firms
Cashin, Jack	The Electric Power Supply Association (EPSA)	Dauer, Jim	NRG Energy, Inc.
Cather, Brenda	Anadarko Energy Services Company	Davis, Dale	Williams
Chambers, Andrea	Ballard Spahr LLP	Davis, Noy S.	New England LDCs
Chang, Ibtissam	Southern California Gas Company	Davis, Rae	Dominion Carolina Gas Transmission, LLC
Chang, Stacy	NV Energy	Davydov, Alexander	Total Gas and Power North America Inc.
Chapel, Douglas	Consumers Energy Company	DeAnna, Jeffrey	NJR Energy Services
Charles-Joseph, Debbie	New York State Electric and Gas Corporation	DeBoissiere, Alex	The United Illuminating Company
Christian, Ron	Vectren Corporation	DeBruin, Martin	Liberty Utilities (New England Natural Gas Company) Corp.
Clausen, Brad	Entergy Services, Inc.	DeCoursey, Erica	New Mexico Gas Company
Cockrell, Jessica L.	Federal Energy Regulatory Commission (FERC)	Demman, Laura K.	Northern Natural Gas
Cocks, Michael	Bonneville Power Administration	Dempsey, Jerry H.	Open Access Technology International, Inc.
Colombo, Craig	Dominion Resources	Denton, Rhonda	BP Energy
Colussy, Peter	Xcel Energy	Derryberry, Richard	Xcel Energy
Conneely, Joe	Granite State Gas Transmission System	Desselle, Michael	Southwest Power Pool
		Devers, Janice	Maritimes & Northeast Pipeline, L.L.C. – US

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Dewar, Mark	Puget Sound Energy	Fields, Brian	Calpine Energy Services, LP
Diamond, Michael	Van Ness Feldman LLP	Filer, Leslie	Avista Corporation
Dibble, Jay	Calpine Energy Services, LP	Finklea, Edward	Northwest Industrial Gas Users
Dickens, Dwayne	UNS Electric	Fitzpatrick, Brian	PJM Interconnection, LLC
Dietz, Dirk	Nebraska Public Power District	Flynn, Kevin	ISO New England, Inc.
Dillavou, Jay H.	MidAmerican Energy Company	Foley, Kevin	Puget Sound Energy, Inc.
Dininger, Dennis	Indianapolis Power & Light Company (IPL)	Follmer, Annette	USG Corporation
Dinkins, Phaedra	Williams	Forshaw, Brian	Connecticut Municipal Electric Energy Cooperative
Djukic, Stacy	Northern Indiana Public Service Company	Fort, Jim	The Energy Authority, Inc.
Donahue, Bill	Puget Sound Energy, Inc.	Foss, Michelle	University of Texas
Dorr, Justin	Avista Corporation	Fossum, Drew	Tenaska Energy, Inc.
Downey, Carrie	Imperial Irrigation District	Foster, Danielle	Shell Energy North America (Canada)
Draemer, Mary	Energy Transfer Equity, L.P.	Foutch, Jeffrey	Peregrine Midstream Partners LLC
Dragulescu, Adrian	Exelon Generation Company, LLC	Freitas, Christopher	US Department of Energy
Dreskin, Joan	Interstate Natural Gas Association of America (INGAA)	Frey, Michael	Municipal Gas Authority of Georgia
Durbin, Marty	America's Natural Gas Alliance (ANGA)	Friedman, Randy	Northwest Natural
Durocher, Jeremy	MCP Operating, LLC	Fuentes, Daryll	USG Corporation
Ege, Katie	Great River Energy	Fuerst, Gary	FirstEnergy Service Co.
Ehly, Katie	America's Natural Gas Alliance (ANGA)	Fulton, Brian	USN Gas Inc.
Elder, Catherine M.	Aspen Environmental Group	Furino, Robert S.	Unitil
Elgie, Tom	Powerex Corp.	Gagliardi, Kristine	Columbia Gulf Transmission
Ellis, John	Sempra Utilities	Gallagher, William	Vermont Public Power Supply Authority
Ellis, Sam	Southwest Power Pool	Garcia, Clarissa	Goldman, Sachs & Co. J. Aron & Co.
Ellsworth, Bruce	New York State Reliability Council	Gardner, Wayne	WE Gardner Company LLC
Ellzey, Jay	Chevron Natural Gas	Garner, David	Puget Sound Energy, Inc.
Engels, William	Los Angeles Department of Water & Power	Garrison, Brad	New York ISO
Eoff, Cameron T.	Associated Electric Cooperative Inc.	Gary, Tina	Portland General Electric Company
Epstein, Max	Potomac Economics	Gee, Bob	Gee Strategies Group, LLC
Ethier, Robert	ISO New England, Inc.	Gee, Dennis	Pacific Gas and Electric Company (PGE)
Evans, Bruce	PacifiCorp	George, Simi Rose	Environmental Defense Fund
Evey, Tamara	Ameren Services Company	Gerrish, Tim	Florida Power & Light
Eynon, Patrick	American Services Company	Ghormley, Joseph	Southwest Power Pool
Fan, Chris	Pacific Gas and Electric Company (PGE)	Gibson, Tom	Columbia Gas of Maryland
Faust, Tina	Questar Gas Company	Gilbert, Steve	Northern Natural Gas
Feemster, Bryan	City Utilities of Springfield, Missouri	Gill, Paul	Sea Robin Pipeline company, LLC
Fernandez, Anna	Federal Energy Regulatory Commission (FERC)	Gillingham, Rick	Hoosier Energy Rural Electric Cooperative, Inc.
Ferreira, Kathy	New Jersey Natural Gas Company	Ginnetti, Jim	EquiPower Resources Corp
Field, Douglas	Southern Star Central Gas Pipeline, Inc.	Ginsberg, Susan	Independent Petroleum Association of America (IPAA)

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Glazebrook, Sherri	Tennessee Gas Pipeline Company, L.L.C.	Hart, Anita	NV Energy
Glazer, Craig	PJM Interconnection, LLC	Hartigan, Ann	Unitil Service Corporation
Glines, Brent	Golden Spread Electric Cooperative	Hartsoe, Joseph	American Electric Power Service Corp.
Glover, Gloria	TECO/Peoples Gas System	Hathaway, Dave	Wisconsin Public Service
Goddard, Aaron	Columbia Gas of Maryland	Helm, M. Gary	PJM Interconnection, LLC
Gold, Amy	Shell Energy North America (US) L.P.	Hendrzak, Chantal	PJM Interconnection, LLC
Gold, Casey	Natural Gas Supply Association (NGSA)	Henry, Mike	Emera Energy
Goldbeck, Glenn	Pacific Gas and Electric Company (PGE)	Hensley II, Ronnie C.	Southern Star Central Gas Pipeline, Inc.
Goldenberg, Mike	Federal Energy Regulatory Commission (FERC)	Hicken, Jeff	Alliant Energy
Goodman, Craig	National Energy Marketers Association (NEM)	Hild, Jeffrey	Xcel Energy
Gottspomer, Lindsay	AGL Resources Inc.	Hill, Audrea	PSC Nitrogen Fertilizer, L.P.
Gracey, Mark	Kinder Morgan Inc	Hill, Sherry	TransCanada PipeLines Ltd.
Grassi, Bob	PPL Services Corporation	Hiller, Roy	Southern Company Services, Inc.
Gray, Bob	Arizona Corporation Commission	Hoffee, Micki	Northern Natural Gas
Gray, Dax	Utah Associated Municipal Power Systems (UAMPTS)	Hogge, Rachel	Dominion Transmission, Inc.
Gray, Kevin	Southern Star Central Gas Pipeline, Inc.	Holmes, Brad	Fayetteville Express Pipeline
Grimard, Wraye	Peoples Gas System, a Division of Tampa Electric	Horn, Jennifer	JEA
Grooms, Craig	Buckeye Power	Horne, Glenda	Santee Cooper
Gross, Blake	American Electric Power	Horner, Jason	Portland General Electric Company
Gross, Jerry H.	Questar Pipeline Company	Horton, Brenda	Kern River Gas Transmission
Gross, Stanley	El Paso Electric	Horton, Rob	Hoosier Energy Rural Electric Cooperative, Inc.
Grover, Scott	Southern Company Services, Inc.	Hughes, John	Electricity Consumers Resource Council (ELCON)
Guderian, Brandon	Devon Gas Services L.P.	Ishikawa, Richard	Southern California Gas Company
Gwilliam, Tom	Iroquois Gas Transmission System	Jaffe, Samara	National Grid
Haas, Paul	El Paso Natural Gas Company, L.L.C.	Jagtiani, Patricia	Natural Gas Supply Association (NGSA)
Haines, Phil	Puget Sound Energy	Janssen, Bonnie	Michigan Public Service Commission
Hale, Kenneth J.	City Utilities of Springfield, Missouri	Jaskolski, Steven	TransCanada US Pipelines / ANR Pipeline Company
Halpin, Francis J.	Bonneville Power Administration	Jones, Dan	Duke Energy Corporation
Hammer, Mark	Puget Sound Energy, Inc.	Jones, Kim	NCUC
Hanchey, Jeannette	PXD	Jones, Paul	Salt River Project Agricultural Improvement & Power District
Hanser, Erik	Michigan Public Service Commission	Joosten, John	Kern River Gas Transmission Company
Hanson, Kevin	Electric Reliability Council of Texas, Inc. (ERCOT)	Jordan, Deena	Regency Energy Partners LP
Hardy, Dave	Tri-State Generation and Transmission Association, Inc.	Joseph, Kelli	New York ISO
Hargett, Chris	Consolidated Edison Co of New York, Inc.	Joyce, Patrick	Black Hills Corporation
Harrel, Scott	Oglethorpe Power Corp.	Kasha, Priscila Castillo	Los Angeles Department of Water and Power
Harshbarger, Bob	Puget Sound Energy, Inc.	Kasperek, Jessica	Lincoln Electric System
		Katz, Andrew	NSTAR

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Kelley, Rod	Bonneville Power Administration	Linder, Sorana	Crossroads Pipeline
Kennedy, Andrew	TECO/ Peoples Gas System	Lobdell, Julie	Municipal gas Authority of Georgia
Kennedy, Mariah	Puget Sound Energy, Inc.	Locke, Michael	JEA
Keogh, Miles	National Association of Regulatory Utility Commissioners (NARUC)	Love, Paul	Natural Gas Pipeline Company of America LLC
Kerr, Paul	Shell Energy North America (Canada)	Luck, Rodney	Los Angeles Department of Water and Power
Kerrigan, Lily	Wright & Talisman, P.C.	Luner, Jared M.	Xcel Energy
Kijowski, Drake R.	PSEG Energy Resources and Trade LLC	Lyser, Shelly	Consolidated Edison Co of New York, Inc.
King, Gordon	Okaloosa Gas District	Maestas, Steve	Public Service Company Of New Mexico
Kinser, Glenn	TOTAL Gas & Power North America, Inc.	Maffa, Paul	Liberty Utilities (Peach State Natural Gas) Corp.
Kisluk, Eileen Wilson	PAA Natural Gas Storage	Magruder, Kathleen	BP Energy Company
Knight, Jim	Metropolitan Utilities District	Maguire, James	Direct Energy Business, LLC
Koch, Kent E.	Columbia Gas of Kentucky	Malcolm, Shelby	Open Access Technology International, Inc.
Kott, Robert	California ISO	Mallett, Elizabeth	North American Energy Standards Board
Koza, Frank	PJM Interconnection, LLC	Mancuso, Melanie	FirstEnergy Utilities
Kramer, Bernard	DTE Gas Company	Manning, James	North Carolina Electric Membership Corporation
Kruse, Richard	Algonquin Gas Transmission, LLC	Markovich, Kevin	NorthWestern Energy
Kuczyk, Debbie	National Fuel Gas Supply Corporation	Martin, Beth	WEC Energy Group
Kvam, Michele	Puget Sound Energy, Inc.	Martin, Tim	Wolverine Power Supply Cooperative
Lacy, Catharine M.	Dominion Resources Services, Inc.	Marton, David	FirstEnergy
Lambert, Earl	EnCORE	Mata, Antelmo	Williams - Transco
Lander, Gregory	Skipping Stone, LLC	Matthews, Jennifer	Southern Star Central Gas Pipeline, Inc.
Lane, Bryan	FortisBC Energy, Inc.	Maust, Keith	Piedmont Natural Gas
Langel, Gina	Omaha Public Power District	Mayette, Joe	United States Gypsum Company
Langston, Mike	Energy Transfer Equity, L.P.	McAnally, Robert	Northwest Natural
Lasa, Dulce	Southern California Gas Company	McBroom, Melissa	ONEOK Partners GP LLC
Lauby, Mark	North American Electric Reliability Corporation (NERC)	McCluskey, Willis	Salt River Project Agricultural Improvement & Power District
Laval, Stuart	Duke Energy Corporation	McCord, Steve	Columbia Gas Transmission Corporation
Lavarco, William	NextEra Energy Power Marketing, LLC	McCord, Tom	The Energy Authority, Inc.
Leatherland, Nancy	Enbridge (U.S.) Inc.	McCoy, Matt	SouthernStar Central Gas Pipeline
Lee, Amy	Northwest Natural	McDermott, Mike	Pacific Gas and Electric Company (PGE)
Lee, Michael	Federal Energy Regulatory Commission (FERC)	McGeeney, Chris	Associated Electric Cooperative Inc.
Leesman, Katie	Process Gas Consumers Group (Ballard Spahr LLP rep)	McLafferty, Dan	Pacific Gas and Electric Company (PGE)
Lehman, Richard	Salt River Project Agricultural Improvement & Power District	McNamara, Missy	Columbia Gas Transmission, LLC
Lennon, Rose	Washington Gas Light Company	McNevin, John	EnCORE
Leuschen, Sam	PPA Natural Gas Storage, LLC	McQuade, Rae	North American Energy Standards Board
Lewis, Teresa	Vectren Corporation	Meehan, James H.	FirstEnergy Corporation
Liang-Nicol, Cecilia	Monongahela Power Company	Melvin, Jasmin	Platts

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SORT BY PARTICIPANT LAST NAME
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Mendoza, Michelle	Piedmont Natural Gas	Nilsson, David	Power Costs, Inc. (PCI)
Meriwether, Tom	Targa Resources	Nishimuta, Lisa	ONEOK
Metz, Cary	Enable Energy Resources, LLC	Nolte, Bill	Sunflower Electric Power Corporation
Metzker, Amber L.	Xcel Energy	Norton, Chris	American Municipal Power, Inc.
Millar, Debra	Columbia Gas of Pennsylvania	Novak, Mike	National Fuel Gas Distribution Corporation
Millard, Ryan	Portland General Electric Company	Nowak, Gene	Kinder Morgan Inc
Miller, Mary Kay	Northern Natural Gas	O'Bryan, Wayne	Big Rivers Electric Corporation
Miller, Megan	Spectra Energy Corp	O'Hara, Chris	NRG Energy, Inc.
Miller, Rebecca	Dominion Transmission, Inc.	Oberski, Louis	Dominion Resources Services, Inc.
Miller, William T.	American Public Gas Association (APGA)	Oelker, Linn C.	LG&E and KU Services Company
Mills, Ron	Latitude Technologies, Inc.	Ogg, Joelle	DC Energy
Miyaji, Wendell	Comverge	Olenick, John	Southwest Gas Corporation
Monteith, Sherri	American Electric Power Service Corp.	Olling, Kevin	Midland Cogeneration Venture LP
Moore, Wayne	Southern Company Services, Inc.	Omey, Samantha	ExxonMobil Corporation / XTO Energy Inc.
Moreno, Richard	Energy Transfer	Orr, Bryant	Oglethorpe Power Corp.
Morgan, Doug	United Utility Group	Osborne, Sheree	Puget Sound Energy, Inc.
Morris, Alex	Pacific Gas and Electric Company (PGE)	Owens, David	Edison Electric Institute (EEI)
Morris, Art	Florida Power & Light	Pace, Dawnell	Williams – Northwest Pipeline, LLC
Morrison, Andrew	MarkWest Energy Partners, L.P.	Padilla, Eleanor	Arizona Public Service Company
Morrissey, Tomas	Pacific Northwest Utilities Conference Committee	Page, Carly	Natural Gas Supply Association (NGSA)
Morrow, Mark C.	UGI Corporation	Palmer, Debra Ann	New England LDCs
Mosemann, Bob	Anadarko Energy Services Company	Parikh, Lopa	Edison Electric Institute (EEI)
Mosley, Scott	SouthStar Energy Services, LLC	Parker, Randy E.	ExxonMobil Gas and Power Marketing Company (a division of ExxonMobil Corporation)
Mott, Michael	Northwest Natural	Patrick, Marguerite (Becky)	Infinite Energy
Mountford, Ann	Pacific Gas and Electric Company (PGE)	Patterson, Delia	American Public Power Association (APPA)
Moura, John	North American Electric Reliability Corporation (NERC)	Patton, Gail	Targa Resources
Mucci, Ron	ONEOK	Pauley, Bob	Indiana Commission
Munson, Sylvia	FIS	Pedersen, Norman	Hanna and Morton LLP
Murphy, Erin	Environmental Defense Fund, Inc.	Pederson, Blake	Tucson Electric Power Company
Murphy, Kyle	Latitude Technologies, Inc.	Penner, Audrey	Manitoba Hydro
Musich, Beth	Southern California Gas Company	Pennock, Lori-Lynn	Salt River Project Agricultural Improvement & Power District
Mysore, Sunil	Latitude Technologies, Inc.	Peoples, John	Duquesne Light
Nance, Peter	ICF International	Percell, Cynthia	Red Willow Production Company owned by the Southern Ute Indian Tribe
Neph, Sherry	ONEOK Partners GP LLC	Peress, N. Jonathan	Conservation Law Foundation
Newson, Rebecca	Shell Energy North America (US), L.P.	Pergola, Perry M.	Vectren Corporation
Nichols, Marshall	National Petroleum Council		
Nicolay, Christi	Macquarie Energy LLC		
Nielsen, Janie	Kern River Gas Transmission Company		

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As of May 19, 2016

Perry, Sheldan	Open Access Technology International, Inc.	Rogers, Sara	ONEOK
Persekian, Joe	USG Corporation	Roth, Tom	Roth Energy Company
Peschka, Terri	Portland General Electric Company	Rudd, Douglas	New Jersey Natural Gas Company
Petersen, Don	Pacific Gas and Electric Company (PGE)	Rudiak, John	New England LDCs
Pettinato, Robert	Los Angeles Department of Water and Power	Rudolphi, Matthew R.	South Mississippi Electric Power Association (SMEPA)
Philips, Marjorie	Direct Energy Business, LLC	Ruperto, Melinda	MidAmerican Energy Company
Phillips, Joshua	Southwest Power Pool	Russ, Mike	National Fuel Gas Supply Corporation
Pierson, Damonica	Shell Exploration and Production Company	Russell, Chelsea	Superior Water, Light and Power
Pleasant, Rochelle	Total	Russo, Chris	Sequent Energy Management, L.P.
Plumaj, Joshua	Columbia Gulf Transmission	Ryu, Heejin	Exelon Generation
Poli, Patricia	Michigan Public Service Commission	Sahba, Shahriar	Open Access Technology International, Inc.
Pollard, Joseph	TransCanada US Pipelines	Saini, Ishwar	Macquarie Energy LLC
Pranaitis, Mark	The Southern Connecticut Gas Company	Salese, Steve	Direct Energy Business, LLC
Precht, Phil	Baltimore Gas & Electric Company	Salisbury, Chad	Santee Cooper
Price, Kent E.	Salt River Project Agricultural Improvement & Power District	Sanchez, Andy	Southwestern Energy Company
Price, Valerie	Enable Gas Transmission	Santa, Don	The Interstate Natural Gas Association of America (INGAA)
Pyle-Liberto, Buffy	Exelon Corporation	Santillana, Oscar	Federal Energy Regulatory Commission (FERC)
Pyles, Adam	CenterPoint Energy Services	Santman, Ken	Avista Corporation
Pysh, Tom	Northern Indiana Public Service Company	Santos, Manuel	Open Access Technology International, Inc.
Rager, Denise	North American Energy Standards Board	Sappenfield, Keith	Environmental Resources Management
Ramsey, Brad	National Association of Regulatory Utility Commissioners (NARUC)	Schafer, Anita M.	Duke Energy Corporation
Raval, Deepak	NiSource Inc.	Schmitt, Jeff	PJM Interconnection, LLC
Razack, Abdul	Nevada Power	Schoene, Ben	ConocoPhillips Company
Reeping, Robert	FirstEnergy Utilities	Schryver, Dave	American Public Gas Association (APGA)
Reese, Benjamin J.	PAA Natural Gas Storage	Schubert, Eric	BP America Production Company
Reid, Jack	Seminole Electric Cooperative, Inc.	Scott, Eric	Avista Corporation
Reid, John D.	PAA Natural Gas Storage	Sellers-Vaughn, Mark	Cascade Natural Gas Corporation
Reitz, David	National Fuel Gas Supply Corporation	Selsmeyer, Patrick J.	Integrus Energy Services, Inc.
Renshaw, Kevin	Southern Star Central Gas Pipeline, Inc.	Shah, Jayana	New Jersey Natural Gas Company
Retherford, Angila	Vectren Corporation	Shahidehpour, Mohammad	Eastern Interconnection States Planning Council (EISPC) -IIT
Rhyno, Wendy	Alliance Pipeline	Sharp, Donnie	City of Huntsville d/b/a Huntsville Utilities
Richman, Ginger	NJR Energy Services Company	Sharp, Steve	Arkansas Electric Cooperative Corporation (AECC)
Rikard, Clay	Southern Company Services, Inc.	Shields, Justin	UNS Electric
Rivers, Cynthia	Florida Gas Transmission, LLC	Shipley, Don	Southwest Power Pool
Rivers, Cynthia	Fitchburg Gas & Electric Light Company	Shoemaker, Mike	FortisBC Energy Inc.
Robbins, Chris	Intermountain Gas Company	Short, Tag	MISO
Roberts, Emily	Gill Ranch Storage Company	Shumway, Neal	Tenaska Marketing Ventures
Robinson, Dennis	ISO New England, Inc.		

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SORT BY PARTICIPANT LAST NAME

As of May 19, 2016

Silberstein, Pam	National Rural Electric Cooperative Association (NRECA)	Thorn, Terence (Terry)	KEMA Gas Consulting Services
Simon, Timothy	TAS Strategies	Thornbury, RJ	The Energy Authority, Inc.
Simpkins, Lisa	Exelon Generation Company, LLC	Tierney, Sue	Analysis Group, Inc.
Simpson, Carleton	Unitil Energy Systems	Tilbury, Joshua	New Mexico Gas Company
Singh, Harry	Goldman, Sachs & Co.	Tingler, Teri	ONEOK
Sissom, Jeff	APGA/MLGW	Tita, Michael	Federal Energy Regulatory Commission (FERC)
Sixkiller, Heather	Portland General Electric Company	Toledano, Donna	Colorado Springs Utilities
Skelton, Kathryn	Noble Energy, Inc.	Tomlinson, Ronald G.	Dominion Transmission, Inc.
Skiba, Ed	MISO	Trent, Dan	Associated Electric Cooperative Inc.
Smead, Rick	RBN Energy LLC	True, Roy	ACES
Smith, Chris	Puget Sound Energy, Inc.	Trum, Caroline	North American Energy Standards Board
Smith, Jim	Municipal Energy Resources Corporation	Tulchinsky, Don	Columbia Gas of Massachusetts
Smith, Richard	Golden Pass Products LLC	Tweed, Caitlin	Bracewell & Giuliani LLP
Snider, Wade	Brazos Electric Cooperative	Twiggs, Thane Thomas	Castleton commodities Merchant Trading L.P.
Snow, Robert V.	Federal Energy Regulatory Commission (FERC)	Ulloa, John	Pacific Gas and Electric Company (PGE)
Soreng, Erik	PacifiCorp	Ulmer, Andrew	California Independent System Operator Corp.
Spangler, Leigh	Latitude Technologies, Inc.	Van Dyke, Brad	Tallgrass Operations, LLC
Steckelberg, Janene	Tenaska Marketing Ventures	Van Pelt, Gregory	California Independent System Operator Corp.
Sterrett, Joe	Tallgrass Operations, LLC	Van Pelt, Kim	Boardwalk Pipeline Partners, LP
Stone, Carolyn	Cascade Natural Gas Corporation	Van Schaack, Phil	MISO
Stuchell, Jeff	FirstEnergy Solutions	Vance, Kevin	Shell Oil Products US
Stultz, Mark	BP America Production Company	Vannoy, Kevin	MISO
Sturm, John	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	Vaughan, Glenn	Enbridge (U.S.) Inc.
Stutzman, Rain	NRG Energy, Inc.	Vesuvio, Vincent	Infinite Energy
Suga, Glenn	Sierra Pacific Power Company	Vidas, Harry	Eastern Interconnection States Planning Council (EISPC) -ICFI
Szubielski, Will	Emera Energy Services, Inc.	Vu, Mia	Pacific Gas and Electric Company (PGE)
Tardy, Ryan	Sierra Pacific LDC	Wagner, Tom	Entergy Nuclear Power Marketing, LLC
Tarpey, Steve	BP West Coast Products	Wah, Pauline C.	Southern California Gas Company
Tatum, Ed	Old Dominion Electric Coop	Walker, Wesley	Dominion Resources Services, Inc.
Taylor, Brandon	Puget Sound Energy	Walsh, Lisa	Encana Oil and Gas
Taylor, Kenny	Dominion Carolina Gas Transmission, LLC	Washington, Kathy	Transwestern Pipeline
Tennyson, John	City Utilities of Springfield, Missouri	Wateland, Dale	CenterPoint Energy Services
Theobald, David	Omaha Public Power District	Watson, Kimberly	Golden Triangle Storage, Inc.
Thomas, Sharon	National Association of Regulatory Utility Commissioners (NARUC)	Waugh, Deborah	Williams – Discovery Gas Transmission
Thomason, Veronica	North American Energy Standards Board	Weatherford, Janelle	Enbridge (U.S.) Inc.
Thompson, Michael J.	Wright & Talisman, P.C.	Weaver, Alonzo	Memphis Light, Gas & Water Division
Thoms, Eric	MISO	Webb, Thomas	Enbridge (U.S.) Inc.

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As of May 19, 2016

Weber, Maya	Platts
Webster, David	Macquarie Energy LLC
Weidner, James	Northern Natural Gas
Weinber, Bob	South Mississippi Electric Power Association (SMEPA)
Wetter, Kari	Wabash Valley Power Association, Inc.
Whiting, Joh	Intermountain Gas Company
Wiese, Brian J.	MidAmerican Energy Company
Wiggins, Dena	Natural Gas Supply Association (NGSA)
Wilkins, Jimmy	North Carolina Electric Membership Corporation
Williams, Richard	Midcontinent Express Pipeline LLC
Willins, Steve	U.S. Energy Services, Inc.
Willis, Troy	Georgia Transmission Corporation
Winburn, Chris	Independence Power & Light
Wingo, Mike	Carolina Gas Transmission Corporation
Wisersky, Megan	Madison Gas & Electric Company
Wonder, Vickie	Northern Natural Gas
Wood, JT	Southern Company Services, Inc.
Woosley, Stephen	Columbia Gas of Virginia
Word, Garrett	TransCanada US Pipelines
Worthington, Kerry	Eastern Interconnection States Planning Council (EISPC)
Wozniak, Caroline	Federal Energy Regulatory Commission (FERC)
Wyntjes, Sherry	Chevron Natural Gas
Yeung, Charles	Southwest Power Pool
Yildirok, Val	Portland General Electric Company
Yoho, Lisa	BG Energy Holdings Limited
York, Kathy	Tennessee Valley Authority
Young, Christopher	Exelon Corporation
Young, Randy	Boardwalk Pipeline Partners, LP
Zenner, Courtney	BG Group

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 SORT BY COMPANY NAME**

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Buccigross, Jim	8760 Inc.	Eoff, Cameron T.	Associated Electric Cooperative Inc.
Altenbaumer, Terry	Accenture, LLC	McGeeney, Chris	Associated Electric Cooperative Inc.
Bartley, J.	Accenture, LLC	Trent, Dan	Associated Electric Cooperative Inc.
True, Roy	ACES	Dorr, Justin	Avista Corporation
Gottsponer, Lindsay	AGL Resources Inc.	Filer, Leslie	Avista Corporation
Kruse, Richard	Algonquin Gas Transmission, LLC	Santman, Ken	Avista Corporation
Buckner, Dan	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	Scott, Eric	Avista Corporation
Sturm, John	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	Chambers, Andrea	Ballard Spahr LLP
Rhyno, Wendy	Alliance Pipeline	Precht, Phil	Baltimore Gas & Electric Company
Hicken, Jeff	Alliant Energy	Carriere, Jay	Berkshire Hathaway Energy Company
Barbieri, Amanda	Ameren Missouri	Yoho, Lisa	BG Energy Holdings Limited
Evey, Tamara	Ameren Services Company	Zenner, Courtney	BG Group
Bowman, Erica	America's Natural Gas Alliance (ANGA)	Bailey, Vicky	BHMM Energy Services, LLC
Durbin, Marty	America's Natural Gas Alliance (ANGA)	Burks, J. Cade	Big Data Energy Services
Ehly, Katie	America's Natural Gas Alliance (ANGA)	O'Bryan, Wayne	Big Rivers Electric Corporation
Gross, Blake	American Electric Power	Joyce, Patrick	Black Hills Corporation
Hartsoe, Joseph	American Electric Power Service Corp.	Culp, Jodi	Black Hills Energy
Monteith, Sherri	American Electric Power Service Corp.	Agrawal, Rakesh	Blackstone Technology Group, Inc.
Bergles, Susan	American Gas Association	Costello, Chuck	Blackstone Technology Group, Inc.
Burroughs, Michaela	American Gas Association	Benoit, Wayne	Boardwalk Pipeline Partners, LP
Connor, Pete	American Gas Association	Van Pelt, Kim	Boardwalk Pipeline Partners, LP
Norton, Chris	American Municipal Power, Inc.	Young, Randy	Boardwalk Pipeline Partners, LP
Miller, William T.	American Public Gas Association (APGA)	Cocks, Michael	Bonneville Power Administration
Schryver, Dave	American Public Gas Association (APGA)	Halpin, Francis J.	Bonneville Power Administration
Patterson, Delia	American Public Power Association (APPA)	Kelley, Rod	Bonneville Power Administration
Eynon, Patrick	American Services Company	Stultz, Mark	BP America Production Company
Bourgeois, Y.J.	Anadarko Energy Services Company	Schubert, Eric	BP America Production Company
Cather, Brenda	Anadarko Energy Services Company	Denton, Rhonda	BP Energy
Mosemann, Bob	Anadarko Energy Services Company	Magruder, Kathleen	BP Energy Company
Tierney, Sue	Analysis Group, Inc.	Busch, James (Jim)	BP West Coast Products
Sissom, Jeff	APGA/MLGW	Tarpey, Steve	BP West Coast Products
Gray, Bob	Arizona Corporation Commission	Tweed, Caitlin	Bracewell & Giuliani LLP
Bray, Walter	Arizona Electric Power Cooperative, Inc.	Snider, Wade	Brazos Electric Cooperative
Capilla, Leslie	Arizona Public Service Company	Grooms, Craig	Buckeye Power
Carlson, Tom	Arizona Public Service Company	Bouillon, Brad	California Independent System Operator Corp.
Padilla, Eleanor	Arizona Public Service Company	Ulmer, Andrew	California Independent System Operator Corp.
Sharp, Steve	Arkansas Electric Cooperative Corporation (AECC)	Van Pelt, Gregory	California Independent System Operator Corp.
Elder, Catherine M.	Aspen Environmental Group	Kott, Robert	California ISO

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Dibble, Jay	Calpine Energy Services, LP	Chapel, Douglas	Consumers Energy Company
Fields, Brian	Calpine Energy Services, LP	Cross, Lorraine	Cross & Company, P.L.L.C.
Wingo, Mike	Carolina Gas Transmission Corporation	Linder, Sorana	Crossroads Pipeline
Sellers-Vaughn, Mark	Cascade Natural Gas Corporation	Cooper, Chris	Dauphin Island Gathering Partners
Stone, Carolyn	Cascade Natural Gas Corporation	Bleiweis, Bruce	DC Energy
Twiggs, Thane Thomas	Castleton commodities Merchant Trading L.P.	Ogg, Joelle	DC Energy
Bruns, Joe	Cedar Falls Utilities	Guderian, Brandon	Devon Gas Services L.P.
Pyles, Adam	CenterPoint Energy Services	Maguire, James	Direct Energy Business, LLC
Wateland, Dale	CenterPoint Energy Services	Philips, Marjorie	Direct Energy Business, LLC
Boehme, John	Central Valley Gas Storage, LLC	Salese, Steve	Direct Energy Business, LLC
Albrecht, Matt	Chevron Natural Gas	Davis, Rae	Dominion Carolina Gas Transmission, LLC
Cook, Chuck	Chevron Natural Gas	Taylor, Kenny	Dominion Carolina Gas Transmission, LLC
Ellzey, Jay	Chevron Natural Gas	Colombo, Craig	Dominion Resources
Wyntjes, Sherry	Chevron Natural Gas	Lacy, Catharine M.	Dominion Resources Services, Inc.
Sharp, Donnie	City of Huntsville d/b/a Huntsville Utilities	Oberski, Louis	Dominion Resources Services, Inc.
Feemster, Bryan	City Utilities of Springfield, Missouri	Walker, Wesley	Dominion Resources Services, Inc.
Hale, Kenneth J.	City Utilities of Springfield, Missouri	Bailey, Trevante	Dominion Transmission, Inc.
Tennyson, John	City Utilities of Springfield, Missouri	Hogge, Rachel	Dominion Transmission, Inc.
Danner, George	Coalition of Energy Technology Firms	Miller, Rebecca	Dominion Transmission, Inc.
Bocangel, Na	Colorado Springs Utilities	Tomlinson, Ronald G.	Dominion Transmission, Inc.
Toledano, Donna	Colorado Springs Utilities	Kramer, Bernard	DTE Gas Company
Koch, Kent E.	Columbia Gas of Kentucky	Jones, Dan	Duke Energy Corporation
Gibson, Tom	Columbia Gas of Maryland	Laval, Stuart	Duke Energy Corporation
Goddard, Aaron	Columbia Gas of Maryland	Schafer, Anita M.	Duke Energy Corporation
Tulchinsky, Don	Columbia Gas of Massachusetts	Peoples, John	Duquesne Light
Burke, Lynn M	Columbia Gas of Ohio, Inc.	Casey, Joe	East Tennessee Natural Gas, L.L.C
Millar, Debra	Columbia Gas of Pennsylvania	Worthington, Kerry	Eastern Interconnection States Planning Council (EISPC)
Woosley, Stephen	Columbia Gas of Virginia	Vidas, Harry	Eastern Interconnection States Planning Council (EISPC) -ICFI
McCord, Steve	Columbia Gas Transmission Corporation	Shahidehpour, Mohammad	Eastern Interconnection States Planning Council (EISPC) -IIT
McNamara, Missy	Columbia Gas Transmission, LLC	Owens, David	Edison Electric Institute (EEI)
Gagliardi, Kristine	Columbia Gulf Transmission	Parikh, Lopa	Edison Electric Institute (EEI)
Plumaj, Joshua	Columbia Gulf Transmission	Gross, Stanley	El Paso Electric
Miyaji, Wendell	Comverge	Haas, Paul	El Paso Natural Gas Company, L.L.C.
Forshaw, Brian	Connecticut Municipal Electric Energy Cooperative	Anthony, Susan	Electric Reliability Council of Texas, Inc. (ERCOT)
Schoene, Ben	ConocoPhillips Company	Bivens, Carrie	Electric Reliability Council of Texas, Inc. (ERCOT)
Peress, N. Jonathan	Conservation Law Foundation	Hanson, Kevin	Electric Reliability Council of Texas, Inc. (ERCOT)
Butler, Scott	Consolidated Edison Co of New York, Inc.		
Hargett, Chris	Consolidated Edison Co of New York, Inc.		
Lyser, Shelly	Consolidated Edison Co of New York, Inc.		

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Anderson, John	Electricity Consumers Resource Council (ELCON)	Goldenberg, Mike	Federal Energy Regulatory Commission (FERC)
Hughes, John	Electricity Consumers Resource Council (ELCON)	Lee, Michael	Federal Energy Regulatory Commission (FERC)
Henry, Mike	Emera Energy	Santillana, Oscar	Federal Energy Regulatory Commission (FERC)
Szubielski, Will	Emera Energy Services, Inc.	Snow, Robert V.	Federal Energy Regulatory Commission (FERC)
Metz, Cary	Enable Energy Resources, LLC	Tita, Michael	Federal Energy Regulatory Commission (FERC)
Price, Valerie	Enable Gas Transmission	Wozniak, Caroline	Federal Energy Regulatory Commission (FERC)
Leatherland, Nancy	Enbridge (U.S.) Inc.	Marton, David	FirstEnergy
Vaughan, Glenn	Enbridge (U.S.) Inc.	Meehan, James H.	FirstEnergy Corporation
Weatherford, Janelle	Enbridge (U.S.) Inc.	Fuerst, Gary	FirstEnergy Service Co.
Webb, Thomas	Enbridge (U.S.) Inc.	Stuchell, Jeff	FirstEnergy Solutions
Walsh, Lisa	Encana Oil and Gas	Mancuso, Melanie	FirstEnergy Utilities
Lambert, Earl	EnCORE	Reeping, Robert	FirstEnergy Utilities
McNevin, John	EnCORE	Munson, Sylvia	FIS
Moreno, Richard	Energy Transfer	Rivers, Cynthia	Fitchburg Gas & Electric Light Company
Draemer, Mary	Energy Transfer Equity, L.P.	Rivers, Cynthia	Florida Gas Transmission, LLC
Langston, Mike	Energy Transfer Equity, L.P.	Gerrish, Tim	Florida Power & Light
Wagner, Tom	Entergy Nuclear Power Marketing, LLC	Morris, Art	Florida Power & Light
Clausen, Brad	Entergy Services, Inc.	Shoemaker, Mike	FortisBC Energy Inc.
George, Simi Rose	Environmental Defense Fund	Lane, Bryan	FortisBC Energy, Inc.
Murphy, Erin	Environmental Defense Fund, Inc.	Braun, Christine	FortisBC Huntingdon Inc.
Sappenfield, Keith	Environmental Resources Management	Gee, Bob	Gee Strategies Group, LLC
Ginnetti, Jim	EquiPower Resources Corp	Willis, Troy	Georgia Transmission Corporation
Betancourt, Ramona	ETC Tiger Pipeline LLC	Roberts, Emily	Gill Ranch Storage Company
Pyle-Liberto, Buffy	Exelon Corporation	Smith, Richard	Golden Pass Products LLC
Young, Christopher	Exelon Corporation	Glines, Brent	Golden Spread Electric Cooperative
Ryu, Heejin	Exelon Generation	Watson, Kimberly	Golden Triangle Storage, Inc.
Dragulescu, Adrian	Exelon Generation Company, LLC	Singh, Harry	Goldman, Sachs & Co.
Simpkins, Lisa	Exelon Generation Company, LLC	Garcia, Clarissa	Goldman, Sachs & Co. J. Aron & Co.
Omey, Samantha	ExxonMobil Corporation / XTO Energy Inc.	Conneely, Joe	Granite State Gas Transmission System
Parker, Randy E.	ExxonMobil Gas and Power Marketing Company (a division of ExxonMobil Corporation)	Ege, Katie	Great River Energy
Holmes, Brad	Fayetteville Express Pipeline	Bishop, Cary M.	Greenwood Commissioners of Public Works (CPW)
Aslam, Omar	Federal Energy Regulatory Commission (FERC)	Pedersen, Norman	Hanna and Morton LLP
Cockrell, Jessica L.	Federal Energy Regulatory Commission (FERC)	Gillingham, Rick	Hoosier Energy Rural Electric Cooperative, Inc.
Fernandez, Anna	Federal Energy Regulatory Commission (FERC)	Horton, Rob	Hoosier Energy Rural Electric Cooperative, Inc.
		Nance, Peter	ICF International

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Downey, Carrie	Imperial Irrigation District	DeBruin, Martin	Liberty Utilities (New England Natural Gas Company) Corp.
Winburn, Chris	Independence Power & Light	Maffa, Paul	Liberty Utilities (Peach State Natural Gas) Corp.
Ginsberg, Susan	Independent Petroleum Association of America (IPAA)	Kasperek, Jessica	Lincoln Electric System
Pauley, Bob	Indiana Commission	Engels, William	Los Angeles Department of Water & Power
Diningier, Dennis	Indianapolis Power & Light Company (IPL)	Batra, Sharat	Los Angeles Department of Water and Power
Patrick, Marguerite (Becky)	Infinite Energy	Kasha, Priscila Castillo	Los Angeles Department of Water and Power
Vesuvio, Vincent	Infinite Energy	Luck, Rodney	Los Angeles Department of Water and Power
Selsmeyer, Patrick J.	Integrays Energy Services, Inc.	Pettinato, Robert	Los Angeles Department of Water and Power
Benson, Marty	Intermountain Gas Company	Nicolay, Christi	Macquarie Energy LLC
Robbins, Chris	Intermountain Gas Company	Saini, Ishwar	Macquarie Energy LLC
Whiting, Joh	Intermountain Gas Company	Webster, David	Macquarie Energy LLC
Dreskin, Joan	Interstate Natural Gas Association of America (INGAA)	Wisersky, Megan	Madison Gas & Electric Company
Gwilliam, Tom	Iroquois Gas Transmission System	Penner, Audrey	Manitoba Hydro
Callan, William A.	ISO New England, Inc.	Devers, Janice	Maritimes & Northeast Pipeline, L.L.C. – US
Ethier, Robert	ISO New England, Inc.	Morrison, Andrew	MarkWest Energy Partners, L.P.
Flynn, Kevin	ISO New England, Inc.	Durocher, Jeremy	MCP Operating, LLC
Robinson, Dennis	ISO New England, Inc.	Weaver, Alonzo	Memphis Light, Gas & Water Division
Bear, John	ISO/RTO Council (IRC)	Knight, Jim	Metropolitan Utilities District
Brooks, Kelly	J. Aron & Company (Goldman, Sachs & Co.	Bellairs, David A.	Metropolitan Utilities District of Omaha
Horn, Jennifer	JEA	Butcher, Angie	Michigan Public Service Commission
Locke, Michael	JEA	Hanser, Erik	Michigan Public Service Commission
Bell, John S.	Kansas Corporation Commission	Janssen, Bonnie	Michigan Public Service Commission
Thorn, Terence (Terry)	KEMA Gas Consulting Services	Poli, Patricia	Michigan Public Service Commission
Horton, Brenda	Kern River Gas Transmission	Allenback, Peggi	MidAmerican Energy Company
Joosten, John	Kern River Gas Transmission Company	Baird-Forristall, Caroline	MidAmerican Energy Company
Nielsen, Janie	Kern River Gas Transmission Company	Dillavou, Jay H.	MidAmerican Energy Company
Gracey, Mark	Kinder Morgan Inc	Ruperto, Melinda	MidAmerican Energy Company
Nowak, Gene	Kinder Morgan Inc	Wiese, Brian J.	MidAmerican Energy Company
Crysler, Dan	Latitude Technologies, Inc.	Williams, Richard	Midcontinent Express Pipeline LLC
Mills, Ron	Latitude Technologies, Inc.	Olling, Kevin	Midland Cogeneration Venture LP
Murphy, Kyle	Latitude Technologies, Inc.	Bloodworth, Michelle	MISO
Mysore, Sunil	Latitude Technologies, Inc.	Short, Tag	MISO
Spangler, Leigh	Latitude Technologies, Inc.	Skiba, Ed	MISO
Oelker, Linn C.	LG&E and KU Services Company	Thoms, Eric	MISO
DaFonte, F. Chico	Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities	Van Schaack, Phil	MISO
Bogdan, Candace	Liberty Utilities (Midstates Natural Gas) Corp.	Vannoy, Kevin	MISO

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Liang-Nicol, Cecilia	Monongahela Power Company	Campoli, Greg	New York ISO
Smith, Jim	Municipal Energy Resources Corporation	Cardone, Ernie	New York ISO
Copeland, Karen	Municipal Gas Authority of Georgia	Garrison, Brad	New York ISO
Frey, Michael	Municipal Gas Authority of Georgia	Joseph, Kelli	New York ISO
Lobdell, Julie	Municipal gas Authority of Georgia	Charles-Joseph, Debbie	New York State Electric and Gas Corporation
Keogh, Miles	National Association of Regulatory Utility Commissioners (NARUC)	Ellsworth, Bruce	New York State Reliability Council
Ramsey, Brad	National Association of Regulatory Utility Commissioners (NARUC)	Lavarco, William	NextEra Energy Power Marketing, LLC
Thomas, Sharon	National Association of Regulatory Utility Commissioners (NARUC)	Butler, James	NiSource Inc.
Goodman, Craig	National Energy Marketers Association (NEM)	Raval, Deepak	NiSource Inc.
Novak, Mike	National Fuel Gas Distribution Corporation	DeAnna, Jeffrey	NJR Energy Services
Conte, Tony	National Fuel Gas Supply Corporation	Bartoszek, Stacy	NJR Energy Services Company
Kupczyk, Debbie	National Fuel Gas Supply Corporation	Richman, Ginger	NJR Energy Services Company
Reitz, David	National Fuel Gas Supply Corporation	Skelton, Kathryn	Noble Energy, Inc.
Russ, Mike	National Fuel Gas Supply Corporation	Burgess, Tom	North American Electric Reliability Corporation (NERC)
Jaffe, Samara	National Grid	Lauby, Mark	North American Electric Reliability Corporation (NERC)
Nichols, Marshall	National Petroleum Council	Moura, John	North American Electric Reliability Corporation (NERC)
Barua, Rajnish	National Regulatory Research Institute (NRR)	Booe, Jonathan	North American Energy Standards Board
Silberstein, Pam	National Rural Electric Cooperative Association (NRECA)	Boswell, William	North American Energy Standards Board
Love, Paul	Natural Gas Pipeline Company of America LLC	Mallett, Elizabeth	North American Energy Standards Board
Gold, Casey	Natural Gas Supply Association (NGSA)	McQuade, Rae	North American Energy Standards Board
Jagtiani, Patricia	Natural Gas Supply Association (NGSA)	Rager, Denise	North American Energy Standards Board
Page, Carly	Natural Gas Supply Association (NGSA)	Thomason, Veronica	North American Energy Standards Board
Wiggins, Dena	Natural Gas Supply Association (NGSA)	Trum, Caroline	North American Energy Standards Board
Jones, Kim	NCUC	Manning, James	North Carolina Electric Membership Corporation
Dietz, Dirk	Nebraska Public Power District	Wilkins, Jimmy	North Carolina Electric Membership Corporation
Razack, Abdul	Nevada Power	Djukic, Stacy	Northern Indiana Public Service Company
Davis, Noy S.	New England LDCs	Pysh, Tom	Northern Indiana Public Service Company
Palmer, Debra Ann	New England LDCs	Begley, Mark	Northern Natural Gas
Rudiak, John	New England LDCs	Demman, Laura K.	Northern Natural Gas
Anderson, Bruce	New England Power Generators Association, Inc.	Gilbert, Steve	Northern Natural Gas
Ferreira, Kathy	New Jersey Natural Gas Company	Hoffee, Micki	Northern Natural Gas
Rudd, Douglas	New Jersey Natural Gas Company	Miller, Mary Kay	Northern Natural Gas
Shah, Jayana	New Jersey Natural Gas Company	Weidner, James	Northern Natural Gas
DeCoursey, Erica	New Mexico Gas Company	Wonder, Vickie	Northern Natural Gas
Tilbury, Joshua	New Mexico Gas Company	Finklea, Edward	Northwest Industrial Gas Users
Broyles, John	New York ISO	Friedman, Randy	Northwest Natural
		Lee, Amy	Northwest Natural

**NAESB GAS-ELECTRIC HARMONIZATION FORUM DISTRIBUTION LIST
 SORT BY COMPANY NAME**

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McAnally, Robert	Northwest Natural	McDermott, Mike	Pacific Gas and Electric Company (PGE)
Mott, Michael	Northwest Natural	McLafferty, Dan	Pacific Gas and Electric Company (PGE)
Cordts, Margaret	NorthWestern Energy	Morris, Alex	Pacific Gas and Electric Company (PGE)
Markovich, Kevin	NorthWestern Energy	Mountford, Ann	Pacific Gas and Electric Company (PGE)
Dauer, Jim	NRG Energy, Inc.	Petersen, Don	Pacific Gas and Electric Company (PGE)
O'Hara, Chris	NRG Energy, Inc.	Ulloa, John	Pacific Gas and Electric Company (PGE)
Stutzman, Rain	NRG Energy, Inc.	Vu, Mia	Pacific Gas and Electric Company (PGE)
Katz, Andrew	NSTAR	Morrissey, Tomas	Pacific Northwest Utilities Conference Committee
Chang, Stacy	NV Energy	Evans, Bruce	PacifiCorp
Hart, Anita	NV Energy	Soreng, Erik	PacifiCorp
Allred, Dave	NWP Marketing Services	Anderson, Mark	Paiute Pipeline Company
Baxter, James	Oglethorpe Power Corp.	Grimard, Wraye	Peoples Gas System, a Division of Tampa Electric
Billiot, Scott	Oglethorpe Power Corp.	Foutch, Jeffrey	Peregrine Midstream Partners LLC
Harrel, Scott	Oglethorpe Power Corp.	Anderson, Pam	Perkins Coie LLP
Orr, Bryant	Oglethorpe Power Corp.	Maust, Keith	Piedmont Natural Gas
Bruechner, Paul	Okaloosa Gas District	Mendoza, Michelle	Piedmont Natural Gas
King, Gordon	Okaloosa Gas District	Brown, Richard	PJM Interconnection, LLC
Tatum, Ed	Old Dominion Electric Coop	Brownell, Stanley	PJM Interconnection, LLC
Langel, Gina	Omaha Public Power District	Bryson, Michael	PJM Interconnection, LLC
Theobald, David	Omaha Public Power District	Fitzpatrick, Brian	PJM Interconnection, LLC
Mucci, Ron	ONEOK	Glazer, Craig	PJM Interconnection, LLC
Nishimuta, Lisa	ONEOK	Helm, M. Gary	PJM Interconnection, LLC
Rogers, Sara	ONEOK	Hendrzak, Chantal	PJM Interconnection, LLC
Tingler, Teri	ONEOK	Koza, Frank	PJM Interconnection, LLC
Adams, Denise	ONEOK Partners	Schmitt, Jeff	PJM Interconnection, LLC
McBroom, Melissa	ONEOK Partners GP LLC	Melvin, Jasmin	Platts
Neph, Sherry	ONEOK Partners GP LLC	Weber, Maya	Platts
Baker, John	Open Access Technology International, Inc.	Broderick, Kyle	Portland General Electric Company
Dempsey, Jerry H.	Open Access Technology International, Inc.	Casey, Bill	Portland General Electric Company
Malcolm, Shelby	Open Access Technology International, Inc.	Gary, Tina	Portland General Electric Company
Perry, Sheldan	Open Access Technology International, Inc.	Horner, Jason	Portland General Electric Company
Sahba, Shahriar	Open Access Technology International, Inc.	Millard, Ryan	Portland General Electric Company
Santos, Manuel	Open Access Technology International, Inc.	Peschka, Terri	Portland General Electric Company
Kisluk, Eileen Wilson	PAA Natural Gas Storage	Sixkiller, Heather	Portland General Electric Company
Reese, Benjamin J.	PAA Natural Gas Storage	Yildirok, Val	Portland General Electric Company
Reid, John D.	PAA Natural Gas Storage	Epstein, Max	Potomac Economics
Armato, John	Pacific Gas and Electric Company (PGE)	Nilsson, David	Power Costs, Inc. (PCI)
Fan, Chris	Pacific Gas and Electric Company (PGE)	Elgie, Tom	Powerex Corp.
Gee, Dennis	Pacific Gas and Electric Company (PGE)	Leuschen, Sam	PPA Natural Gas Storage, LLC
Goldbeck, Glenn	Pacific Gas and Electric Company (PGE)		

**NAESB GAS-ELECTRIC HARMONIZATION FORUM DISTRIBUTION LIST
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Grassi, Bob	PPL Services Corporation	Calhoun, John Anthony	Santee Cooper
Anker, Alisha	Prairie Power, Inc.	Horne, Glenda	Santee Cooper
Breden, Dan	Prairie Power, Inc.	Salisbury, Chad	Santee Cooper
Breezeel, Phillip	Prairie Power, Inc.	Gill, Paul	Sea Robin Pipeline company, LLC
Leesman, Katie	Process Gas Consumers Group (Ballard Spahr LLP rep)	Reid, Jack	Seminole Electric Cooperative, Inc.
Hill, Audrea	PSC Nitrogen Fertilizer, L.P.	Ellis, John	Sempra Utilities
Caffery, David	PSEG Energy Resources & Trade LLC	Russo, Chris	Sequent Energy Management, L.P.
Kijowski, Drake R.	PSEG Energy Resources and Trade LLC	Carmouche, Evelyn	Shell Energy North America (US), L.P.
Crawford, Ernie	Public Service Company of New Mexico	Foster, Danielle	Shell Energy North America (Canada)
Maestas, Steve	Public Service Company Of New Mexico	Kerr, Paul	Shell Energy North America (Canada)
Czigler, Frank	Public Service Electric and Gas Company	Gold, Amy	Shell Energy North America (US) L.P.
Dewar, Mark	Puget Sound Energy	Newson, Rebecca	Shell Energy North America (US), L.P.
Haines, Phil	Puget Sound Energy	Pierson, Damonica	Shell Exploration and Production Company
Taylor, Brandon	Puget Sound Energy	Vance, Kevin	Shell Oil Products US
Crowley, Colin	Puget Sound Energy, Inc.	Tardy, Ryan	Sierra Pacific LDC
Donahue, Bill	Puget Sound Energy, Inc.	Suga, Glenn	Sierra Pacific Power Company
Foley, Kevin	Puget Sound Energy, Inc.	Lander, Gregory	Skipping Stone, LLC
Garner, David	Puget Sound Energy, Inc.	Bellville, Nathan T.	South Mississippi Electric Power Association (SMEPA)
Hammer, Mark	Puget Sound Energy, Inc.	Rudolphi, Matthew R.	South Mississippi Electric Power Association (SMEPA)
Harshbarger, Bob	Puget Sound Energy, Inc.	Weinber, Bob	South Mississippi Electric Power Association (SMEPA)
Kennedy, Mariah	Puget Sound Energy, Inc.	Borkovich, Paul	Southern California Gas Company
Kvam, Michele	Puget Sound Energy, Inc.	Chang, Ibtissam	Southern California Gas Company
Osborne, Sheree	Puget Sound Energy, Inc.	Dandridge, Michelle M.	Southern California Gas Company
Smith, Chris	Puget Sound Energy, Inc.	Ishikawa, Richard	Southern California Gas Company
Hanchey, Jeannette	PXD	Lasa, Dulce	Southern California Gas Company
Faust, Tina	Questar Gas Company	Musich, Beth	Southern California Gas Company
Gross, Jerry H.	Questar Pipeline Company	Wah, Pauline C.	Southern California Gas Company
Smead, Rick	RBN Energy LLC	Grover, Scott	Southern Company Services, Inc.
Percell, Cynthia	Red Willow Production Company owned by the Southern Ute Indian Tribe	Hiller, Roy	Southern Company Services, Inc.
Jordan, Deena	Regency Energy Partners LP	Moore, Wayne	Southern Company Services, Inc.
Roth, Tom	Roth Energy Company	Rikard, Clay	Southern Company Services, Inc.
Jones, Paul	Salt River Project Agricultural Improvement & Power District	Wood, JT	Southern Company Services, Inc.
Lehman, Richard	Salt River Project Agricultural Improvement & Power District	Field, Douglas	Southern Star Central Gas Pipeline, Inc.
McCluskey, Willis	Salt River Project Agricultural Improvement & Power District	Gray, Kevin	Southern Star Central Gas Pipeline, Inc.
Pennock, Lori-Lynn	Salt River Project Agricultural Improvement & Power District	Hensley II, Ronnie C.	Southern Star Central Gas Pipeline, Inc.
Price, Kent E.	Salt River Project Agricultural Improvement & Power District	Matthews, Jennifer	Southern Star Central Gas Pipeline, Inc.
		Renshaw, Kevin	Southern Star Central Gas Pipeline, Inc.
		McCoy, Matt	SouthernStar Central Gas Pipeline

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Mosley, Scott	SouthStar Energy Services, LLC	Culpepper, Les	The Southeast Alabama Gas District
Olenick, John	Southwest Gas Corporation	Pranaitis, Mark	The Southern Connecticut Gas Company
Desselle, Michael	Southwest Power Pool	DeBoissiere, Alex	The United Illuminating Company
Ellis, Sam	Southwest Power Pool	Pleasant, Rochelle	Total
Ghormley, Joseph	Southwest Power Pool	Kinser, Glenn	TOTAL Gas & Power North America, Inc.
Phillips, Joshua	Southwest Power Pool	Carrette, Jeffrey	Total Gas and Power North America Inc.
Shipley, Don	Southwest Power Pool	Davydov, Alexander	Total Gas and Power North America Inc.
Yeung, Charles	Southwest Power Pool	Hill, Sherry	TransCanada PipeLines Ltd.
Sanchez, Andy	Southwestern Energy Company	Pollard, Joseph	TransCanada US Pipelines
Miller, Megan	Spectra Energy Corp	Word, Garrett	TransCanada US Pipelines
Cymes, Jim	Steckman Ridge	Jaskolski, Steven	TransCanada US Pipelines / ANR Pipeline Company
Daly, Kelly A.	Stinson Leonard Street LLP	Washington, Kathy	Transwestern Pipeline
Nolte, Bill	Sunflower Electric Power Corporation	Bormack, Mitchell	TRC Solutions
Russell, Chelsea	Superior Water, Light and Power	Hardy, Dave	Tri-State Generation and Transmission Association, Inc.
Almquist, Karl	Tallgrass Operations, LLC	Bradbury, Debbie	Trunkline Gas Company
Sterrett, Joe	Tallgrass Operations, LLC	Bowling, Michael	Tucson Electric Power Company
Van Dyke, Brad	Tallgrass Operations, LLC	Pederson, Blake	Tucson Electric Power Company
Meriwether, Tom	Targa Resources	Willins, Steve	U.S. Energy Services, Inc.
Patton, Gail	Targa Resources	Morrow, Mark C.	UGI Corporation
Callager, Montie	Targa Resources Inc.	Mayette, Joe	United States Gypsum Company
Simon, Timothy	TAS Strategies	Morgan, Doug	United Utility Group
Kennedy, Andrew	TECO/ Peoples Gas System	Furino, Robert S.	Unitil
Crabtree, David	TECO/Peoples Gas System	Simpson, Carleton	Unitil Energy Systems
Glover, Gloria	TECO/Peoples Gas System	Hartigan, Ann	Unitil Service Corporation
Corritore, Janet	Tenaska	Foss, Michelle	University of Texas
Fossum, Drew	Tenaska Energy, Inc.	Dickens, Dwayne	UNS Electric
Shumway, Neal	Tenaska Marketing Ventures	Shields, Justin	UNS Electric
Steckelberg, Janene	Tenaska Marketing Ventures	Freitas, Christopher	US Department of Energy
Glazebrook, Sherri	Tennessee Gas Pipeline Company, L.L.C.	Follmer, Annette	USG Corporation
Crockett, Valerie	Tennessee Valley Authority	Fuentes, Daryll	USG Corporation
York, Kathy	Tennessee Valley Authority	Persekian, Joe	USG Corporation
Boucher, Jennifer	The Berkshire Gas Company	Fulton, Brian	USN Gas Inc.
Bagot, Nance	The Electric Power Supply Association (EPSA)	Gray, Dax	Utah Associated Municipal Power Systems (UAMPTS)
Cashin, Jack	The Electric Power Supply Association (EPSA)	Battams, Ahuva Z.	Van Ness Feldman LLP
Fort, Jim	The Energy Authority, Inc.	Diamond, Michael	Van Ness Feldman LLP
McCord, Tom	The Energy Authority, Inc.	Beck, Elizabeth	Vectren Corporation
Thornbury, RJ	The Energy Authority, Inc.	Christian, Ron	Vectren Corporation
Santa, Don	The Interstate Natural Gas Association of America (INGAA)	Lewis, Teresa	Vectren Corporation

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Pergola, Perry M.	Vectren Corporation
Retherford, Angila	Vectren Corporation
Gallagher, William	Vermont Public Power Supply Authority
Wetter, Kari	Wabash Valley Power Association, Inc.
Blasiak, James L.	Washington Gas Light Company
Lennon, Rose	Washington Gas Light Company
Brooks, Kelly R.	WBI Energy Transmission, Inc.
Gardner, Wayne	WE Gardner Company LLC
Martin, Beth	WEC Energy Group
Davis, Dale	Williams
Dinkins, Phaedra	Williams
Waugh, Deborah	Williams – Discovery Gas Transmission
Dahlberg, Lynn	Williams – Northwest Pipeline
Pace, Dawnell	Williams – Northwest Pipeline, LLC
Mata, Antelmo	Williams - Transco
Casey, Melissa	Williams – Transco
Baumgart, Julie A.	Wisconsin Public Service
Hathaway, Dave	Wisconsin Public Service
Martin, Tim	Wolverine Power Supply Cooperative
Kerrigan, Lily	Wright & Talisman, P.C.
Thompson, Michael J.	Wright & Talisman, P.C.
Bougner, Mike	Xcel Energy
Colussy, Peter	Xcel Energy
Derryberry, Richard	Xcel Energy
Hild, Jeffrey	Xcel Energy
Luner, Jared M.	Xcel Energy
Metzker, Amber L.	Xcel Energy

Appendix D – Presentations and Comments

Date	Request for Presentations	Presentations and Comments
January 12, 2016	NAESB GEH Request for Presentations: https://www.naesb.org/pdf4/geh012516w1.doc	Presentations Due February 1, 2016 <u>Presentations:</u> NAESB WGQ Pipeline Segment: https://www.naesb.org/pdf4/geh021816w1.pdf PJM: https://www.naesb.org/pdf4/geh021816w2.pdf ACES Power: https://www.naesb.org/pdf4/geh021816w3.pptx Fidelity National Information Services (FIS): https://www.naesb.org/pdf4/geh021816w4.pptx Fidelity National Information Services - Additional Notes and Comments including Examples: https://www.naesb.org/pdf4/geh021816w10.docx Skipping Stone: https://www.naesb.org/pdf4/geh021816w5.pptx Environmental Defense Fund (EDF): https://www.naesb.org/pdf4/geh021816w6.pptx Coalition of Energy Technology Firms: https://www.naesb.org/pdf4/geh021816w7.pptx Coalition of Energy Technology Firms, G. Danner: https://www.naesb.org/pdf4/geh021816w11.zip (Zip File Due to Size) OATI, Inc.: https://www.naesb.org/pdf4/geh021816w8.pptx OATI, Inc. – Addendum: https://www.naesb.org/pdf4/geh021816w9.pdf

Appendix E: NAESB GEH Forum Meeting Notes, Work Papers, Comments and Transcripts

Appendix E: NAESB GEH Forum Meeting Notes, Work Papers, Comments and Transcripts		
Date	Link to Agendas, Notes and Transcripts	Work Papers, Comments and Transcripts
January 25, 2016	<p>GEH Forum Organizational & Informational Conference Call w/Web Conferencing</p> <p>Agenda: https://www.naesb.org/pdf4/geh012516a.docx</p> <p>Meeting Notes: https://www.naesb.org/pdf4/geh012516notes.docx</p> <p>Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807</p>	<p>GEH Forum Request for Presentations - January 12, 2016: https://www.naesb.org/pdf4/geh012516w1.doc</p> <p>Timeline to Address 2016 WEQ Annual Plan Item 7.a & 2016 WGQ Annual Plan Item 3.a: https://www.naesb.org/pdf4/geh012516w2.doc</p> <p>Timeline to Address 2016 WEQ Annual Plan Item 7.a & 2016 WGQ Annual Plan Item 3.a - Updated January 19, 2016: https://www.naesb.org/pdf4/geh012516w3.doc</p>
February 18-19, 2016	<p>GEH Forum Meeting w/Web Conferencing, Houston, TX (Held at the Doubletree Downtown Hotel)</p> <p>Agenda: https://www.naesb.org/pdf4/geh021816a.docx</p> <p>Meeting Notes: https://www.naesb.org/pdf4/geh021816notes.docx</p> <p>Attachment – White Board Notes: https://www.naesb.org/pdf4/geh021816a1.docx</p> <p>Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807</p>	<p>Presentations:</p> <p>NAESB WGQ Pipeline Segment: https://www.naesb.org/pdf4/geh021816w1.pdf</p> <p>PJM: https://www.naesb.org/pdf4/geh021816w2.pdf</p> <p>ACES Power: https://www.naesb.org/pdf4/geh021816w3.pptx</p> <p>Fidelity National Information Services (FIS): https://www.naesb.org/pdf4/geh021816w4.pptx</p> <p>Fidelity National Information Services - Additional Notes and Comments including Examples: https://www.naesb.org/pdf4/geh021816w10.docx</p> <p>Skipping Stone: https://www.naesb.org/pdf4/geh021816w5.pptx</p> <p>Environmental Defense Fund (EDF): https://www.naesb.org/pdf4/geh021816w6.pptx</p> <p>Coalition of Energy Technology Firms: https://www.naesb.org/pdf4/geh021816w7.pptx</p> <p>Coalition of Energy Technology Firms, G. Danner: https://www.naesb.org/pdf4/geh021816w11.zip (Zip File Due to Size)</p> <p>OATI, Inc.: https://www.naesb.org/pdf4/geh021816w8.pptx</p> <p>OATI, Inc. – Addendum: https://www.naesb.org/pdf4/geh021816w9.pdf</p>

Appendix E: NAESB GEH Forum Meeting Notes, Work Papers, Comments and Transcripts

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Date	Link to Agendas, Notes and Transcripts	Work Papers, Comments and Transcripts
March 7-8, 2016	GEH Forum Meeting w/Web Conferencing, Houston, TX (Held at the Hilton Americas Hotel) Agenda: https://www.naesb.org/pdf4/geh030716a.docx Meeting Notes: https://www.naesb.org/pdf4/geh030716notes.docx Attachment – Comments on the February 18-19, 2016 White Board Notes: https://www.naesb.org/pdf4/geh030716a1.docx Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807	February 18-19, 2016 Meeting Notes, Comments from D. Davis, Williams: https://www.naesb.org/pdf4/geh030716w1.docx Comments from D. Nilsson, PowerCosts, Inc.: https://www.naesb.org/pdf4/geh030716w2.pdf Comments Submitted by AGA on GEH Forum Meeting February 18-19, 2016: https://www.naesb.org/pdf4/geh030716w3.pdf DRAFT Day 1 - Discussion Work Paper: https://www.naesb.org/pdf4/geh030716w4.docx Comments Submitted by OATI: https://www.naesb.org/pdf4/geh030716w5.pdf DRAFT Day 1 and Day 2 - Discussion Work Paper: https://www.naesb.org/pdf4/geh030716w6.docx
March 21-22, 2016	GEH Forum Meeting w/Web Conferencing, Houston, TX (Held at the Hilton Americas Hotel) Agenda: https://www.naesb.org/pdf4/geh032116a.docx Staff Notes: https://www.naesb.org/pdf4/geh032116staffnotes.docx Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807	Excel Spreadsheet of Categorized Issues: https://www.naesb.org/pdf4/geh032116w1.xlsx Word Formatted Tables of Categorized Issues: https://www.naesb.org/pdf4/geh032116w2.docx Comments Submitted by S. Munson (Excel Spreadsheet of Categorized Issues): https://www.naesb.org/pdf4/geh032116w3.xlsx Comments Submitted by S. Munson (Word Formatted Tables of Categorized Issues): https://www.naesb.org/pdf4/geh032116w4.docx Comments Submitted by The Pipelines (Excel Spreadsheet of Categorized Issues): https://www.naesb.org/pdf4/geh032116w5.xlsx Comments Submitted by D. Nilsson, PowerCosts, Inc.: https://www.naesb.org/pdf4/geh032116w6.pdf DRAFT Tables of Categorized Issues Work Paper (Day 1 - March 21): https://www.naesb.org/pdf4/geh032116w7.docx DRAFT Tables of Categorized Issues Work Paper (Days 1&2 - March 21-22): https://www.naesb.org/pdf4/geh032116w8.docx Comments Submitted by S. Morrison, American Public Gas Association: https://www.naesb.org/pdf4/geh032116w9.docx

Appendix E: NAESB GEH Forum Meeting Notes, Work Papers, Comments and Transcripts

Appendix E: NAESB GEH Forum Meeting Notes, Work Papers, Comments and Transcripts		
Date	Link to Agendas, Notes and Transcripts	Work Papers, Comments and Transcripts
March 24, 2016	GEH Forum Survey – Due March 31, 2016 No later than 5:00 pm (Central)	NAESB GEH Forum Survey Distribution: https://www.naesb.org/pdf4/geh032416survey.docx NAESB GEH Forum Survey Adobe Format: https://www.naesb.org/pdf4/2016_naesb_geh_survey_032416.pdf Comments Submitted by the American Gas Association and the American Public Gas Association, April 5, 2016: https://www.naesb.org/pdf4/geh032416_aga_apga_comments.pdf Comments Submitted by the Natural Gas Supply Association, April 6, 2016: https://www.naesb.org/pdf4/geh032416_ngsa_comments.pdf
May 13, 2016	GEH Forum Meeting w/Web Conferencing, Houston, TX (Held at the Hilton Americas Hotel) Agenda: https://www.naesb.org/pdf4/geh051316a.docx Staff Notes: https://www.naesb.org/pdf4/geh051316staffnotes.docx Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807	GEH Forum Report - Survey Results Addendum: https://www.naesb.org/pdf4/geh_report_addendum_041816.docx Corrected GEH Forum Report – Survey Results Addendum May 2, 2016 (redline): https://www.naesb.org/pdf4/geh_report_addendum_041816_redlined.docx Corrected GEH Forum Report – Survey Results Addendum May 2, 2016 (clean): https://www.naesb.org/pdf4/geh_report_addendum_041816_clean.docx Comments Submitted by M. Burroughs, American Gas Association: https://www.naesb.org/pdf4/geh051316w1.pdf Corrected GEH Forum Report – Survey Results Addendum May 13, 2016 (redline): https://www.naesb.org/pdf4/geh_report_addendum_041816_redlined051316.docx Corrected GEH Forum Report – Survey Results Addendum May 13, 2016 (clean): https://www.naesb.org/pdf4/geh_report_addendum_041816_clean051316.docx
June 10, 2016	Update on Board Notational Ballots Regarding GEH Efforts: https://www.naesb.org/pdf4/geh061016_update.docx	
June 28, 2016	Update on Board Notational Ballots Regarding GEH Efforts: https://www.naesb.org/pdf4/geh062816_update.doc	

Appendix F: NAESB Executive Committee and Board of Directors Meeting Minutes, Work Papers, Comments and Transcripts

Appendix F: NAESB Executive Committees and Board of Directors Meeting Minutes, Work Papers, Comments and Transcripts		
Date	Link to Agendas, Notes and Transcripts	Work Papers, Comments and Transcripts
December 10, 2015	<p>NAESB Board of Directors Meeting w/Web Conferencing – Houston, TX (Held at the Four Seasons Hotel Downtown)</p> <p>Agenda: https://www.naesb.org/pdf4/bd121015a.docx</p> <p>Meeting Minutes: https://www.naesb.org/pdf4/bd121015fm.docx</p> <p>Attachments:</p> <p>Dr. Samir Succar - Board Dinner Presentation: https://www.naesb.org/pdf4/bd121015a1.pdf</p> <p>2015 Retail Annual Plan Adopted by the Board of Directors: https://www.naesb.org/pdf4/bd121015a2.docx</p> <p>2015 WEQ Annual Plan Adopted by the Board of Directors: https://www.naesb.org/pdf4/bd121015a3.docx</p> <p>2015 WGQ Annual Plan Adopted by the Board of Directors: https://www.naesb.org/pdf4/bd121015a4.docx</p> <p>2016 Retail Annual Plan Adopted by the Board of Directors: https://www.naesb.org/pdf4/bd121015a5.docx</p> <p>2016 WEQ Annual Plan Adopted by the Board of Directors: https://www.naesb.org/pdf4/bd121015a6.docx</p> <p>2016 WGQ Annual Plan Adopted by the Board of Directors: https://www.naesb.org/pdf4/bd121015a7.docx</p> <p>FERC Order No 809 Historical Timeline - December 7, 2015: https://www.naesb.org/pdf4/bd121015a8.doc</p> <p>Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807</p>	<p>Assembled Board Materials: https://www.naesb.org/pdf4/bdbk121015.pdf</p> <p>Board Agenda Cross Reference: https://www.naesb.org/pdf4/bd121015cross_ref.docx</p> <p>Supplemental: Work Paper Submitted by S. Munson, SunGard Energy: https://www.naesb.org/pdf4/bd121015w1.docx</p>

Appendix F: NAESB Executive Committee and Board of Directors Meeting Minutes, Work Papers, Comments and Transcripts

Appendix F: NAESB Executive Committees and Board of Directors Meeting Minutes, Work Papers, Comments and Transcripts		
Date	Link to Agendas, Notes and Transcripts	Work Papers, Comments and Transcripts
April 7, 2016	<p>NAESB Board of Directors Meeting w/Web Conferencing – Houston, TX (Held at the Four Seasons Hotel Downtown) Agenda: https://www.naesb.org/pdf4/bd040716a.docx Draft Meeting Minutes: https://www.naesb.org/pdf4/bd040716dm.docx Attachments: 2016 WEQ Annual Plan Adopted by the Board of Directors: https://www.naesb.org/pdf4/bd040716a1.docx 2016 Retail Annual Plan Adopted by the Board of Directors: https://www.naesb.org/pdf4/bd040716a2.docx 2016 WGQ Annual Plan Adopted by the Board of Directors: https://www.naesb.org/pdf4/bd040716a3.docx</p> <p>Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807</p>	<p>Assembled Board Materials: https://www.naesb.org/pdf4/bdbk040716.pdf Board Agenda Cross Reference: https://www.naesb.org/pdf4/bd040716cross_ref.docx GEH Forum Report Presented to the Board April 7, 2016: https://www.naesb.org/pdf4/geh_report_040516.docx Comments Submitted by the American Gas Association and the American Public Gas Association, April 5, 2016: https://www.naesb.org/pdf4/geh032416_aga_apga_comments.pdf GEH Forum Survey Results March 31, 2016 Preliminary Draft: https://www.naesb.org/pdf4/geh033116preliminarydraft_survey_results.docx Comments Submitted by the Natural Gas Supply Association, April 6, 2016: https://www.naesb.org/pdf4/geh032416_ngsa_comments.pdf</p>
May 16, 2016	<p>Triage Subcommittee Conference Call Agenda: https://www.naesb.org/pdf4/tr051616a.docx Meeting Notes: https://www.naesb.org/pdf4/tr051616notes.docx Notational Ballot, Due May 30, 2016: https://www.naesb.org/pdf4/tr051616_ballot.docx Triage Disposition: https://www.naesb.org/pdf4/tr051616disposition.docx</p>	<p>Comments Submitted by B. Schoene, ConocoPhillips: https://www.naesb.org/pdf4/tr051616w1.docx Comments Submitted by the WGQ Executive Committee Pipeline Segment: https://www.naesb.org/pdf4/tr051616a1.docx</p>

Appendix F: NAESB Executive Committee and Board of Directors Meeting Minutes, Work Papers, Comments and Transcripts

Appendix F: NAESB Executive Committees and Board of Directors Meeting Minutes, Work Papers, Comments and Transcripts		
Date	Link to Agendas, Notes and Transcripts	Work Papers, Comments and Transcripts
May 31, 2016	<p>NAESB Board of Directors Conference Call w/Web Cast Agenda: https://www.naesb.org/pdf4/bd053116a.docx Draft Meeting Minutes: https://www.naesb.org/pdf4/bd053116dm.docx Attachments: Board of Directors Notational Ballot - Due June 21, 2016: https://www.naesb.org/pdf4/bd060216ballot.docx Comments Submitted by W. Moore, Southern Company Services: https://www.naesb.org/pdf4/bd060216comments_moore.docx Board of Directors Notational Ballot - Due June 24, 2016: https://www.naesb.org/pdf4/bd060316ballot.docx Comments Submitted by D. Petersen, PG&E and Mike Novak, National Fuel Gas Distribution: https://www.naesb.org/pdf4/bd060216comments_petersen_novak.docx Comments Submitted by R. Kruse, Spectra Energy: https://www.naesb.org/pdf4/bd060316comments_kruse.pdf Notational Ballot Results: https://www.naesb.org/pdf4/bd060216_060316_results.doc</p> <p>Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807</p>	<p>GEH Forum Report - Survey Results Addendum: https://www.naesb.org/pdf4/geh_report_addendum_041816.docx Corrected GEH Forum Report – Survey Results Addendum May 2, 2016(redline): https://www.naesb.org/pdf4/geh_report_addendum_041816_redlined.docx Corrected GEH Forum Report – Survey Results Addendum May 2, 2016(clean): https://www.naesb.org/pdf4/geh_report_addendum_041816_clean.docx Corrected GEH Forum Report – Survey Results Addendum May 13, 2016 (redline): https://www.naesb.org/pdf4/geh_report_addendum_041816_redlined051316.docx Corrected GEH Forum Report – Survey Results Addendum May 13, 2016 (clean): https://www.naesb.org/pdf4/geh_report_addendum_041816_clean051316.docx Comments Submitted by M. Burroughs, American Gas Association: https://www.naesb.org/pdf4/bd053116w1.pdf OATI Submittal to NAESB to Further Supplement Discussions on the e-Tag Concepts Applied to Gas Scheduling: https://www.naesb.org/pdf4/bd053116w2.pdf NGS Comments and Recommendation on Gas-Electric Harmonization Forum to Address FERC Directive in Order 809: https://www.naesb.org/pdf4/bd053116w3.pdf</p>

Appendix G: GEH Forum Survey, Results and Comments

Appendix G: NAESB GEH Forum Survey, Results and Comments		
Date	Link to Survey Results	Survey and Comments
March 24, 2016	GEH Forum Survey – Due March 31, 2016 GEH Forum Report - Survey Results Addendum: https://www.naesb.org/pdf4/geh_report_addendum_041816.docx Corrected GEH Forum Report – Survey Results Addendum May 2, 2016 (redline): https://www.naesb.org/pdf4/geh_report_addendum_041816_redlined.docx Corrected GEH Forum Report – Survey Results Addendum May 2, 2016 (clean): https://www.naesb.org/pdf4/geh_report_addendum_041816_clean.docx Corrected GEH Forum Report – Survey Results Addendum May 13, 2016 (redline): https://www.naesb.org/pdf4/geh_report_addendum_041816_redlined051316.docx Corrected GEH Forum Report – Survey Results Addendum May 13, 2016 (clean): https://www.naesb.org/pdf4/geh_report_addendum_041816_clean051316.docx	NAESB GEH Forum Survey Distribution: https://www.naesb.org/pdf4/geh032416survey.docx NAESB GEH Forum Survey Adobe Format: https://www.naesb.org/pdf4/2016_naesb_geh_survey_032416.pdf Comments Submitted by the American Gas Association and the American Public Gas Association, April 5, 2016: https://www.naesb.org/pdf4/geh032416_aga_apga_comments.pdf Comments Submitted by the Natural Gas Supply Association, April 6, 2016: https://www.naesb.org/pdf4/geh032416_ngsa_comments.pdf Comments Submitted by M. Burroughs, American Gas Association, April 18, 2016: https://www.naesb.org/pdf4/geh_report_addendum_041816_clean.docx

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North American Energy Standards Board Gas-Electric Harmonization Forum Report

Presented to the NAESB Board of Directors on April 7, 2016

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I. BACKGROUND

Since the transformation of the Gas Industry Standards Board (“GISB”) to NAESB in 2002, NAESB has had substantive activities underway to support the requests of the Federal Energy Regulatory Commission (“FERC” or “Commission”) and the industry to improve coordination between the natural gas and electricity markets. NAESB’s involvement can be traced back to the formation of the NAESB Gas and Electric Coordination Task Force in December of 2003 and its efforts to investigate potential areas for standards development related to the transactions between the electric and the gas industry market participants.¹ Their efforts, along with the urgings of FERC Chairman Patrick H. Wood², led to the development of the NAESB Gas/Electric Coordination standards³ and the formation of the first NAESB Board of Directors committee dedicated to coordination efforts, the Gas-Electric Interdependency Committee. This committee furthered the progress made by the original task force by developing a report identifying obstacles to better gas and electric market coordination and highlighting six areas where standards development may benefit coordination if clarification of existing Commission policy was provided. Through FERC Order No. 698 issued in June 2007⁴, the Commission responded to this report by adopting the NAESB standards and challenging NAESB to consider standards development in three of the six areas included in the report; specifically, the development of standards to support the use of index-based capacity release transactions, increased flexibility of the receipt and delivery points for redirects of scheduled gas quantities and the addition of intra-day nomination periods. NAESB met that challenge by developing standards related to index-based capacity release and flexible receipt and deliverable points but was unable to come to consensus on revisions to the nomination timeline. The standards developed by NAESB were adopted by the Commission in March 2010 and the Commission recognized NAESB’s efforts to consider changes to the nomination cycles, but declined to take any action at that time.⁵

NAESB continued its efforts to support gas and electric market coordination through the creation of a new NAESB board committee, the NAESB Gas-Electric Harmonization (“GEH”) Committee, created to respond to the National Petroleum Council’s “Prudent Development – Realizing the Potential of North America’s Abundant Natural Gas and Oil Resources” study published in September 2011.⁶ Through its report, the National Petroleum Council recommended that organizations such as the North American Electric Reliability Corporation, NAESB, FERC and the National Association of Regulatory Utility Commissioners take action to harmonize the interactions between the two markets. Over the course of eight months, the GEH Committee developed a report that was presented and adopted by the NAESB Board of Directors in September 2012. The report included a recommendation that NAESB

¹ The November 30, 2004 Gas and Electric Coordination Task Force Report can be found through the following hyperlink: http://www.naesb.org/member_login_check.asp?doc=ferc113004.pdf.

² The December 14, 2004 Correspondence from Chairman Wood can be found through the following hyperlink: http://www.naesb.org/member_login_check.asp?doc=ferc121404.pdf.

³ The June 27, 2005 NAESB Report can be found through the following hyperlink: http://www.naesb.org/member_login_check.asp?doc=ferc062705_cover_report.pdf.

⁴ FERC Order No. 698 was issued on June 25, 2007 and can be found through the following hyperlink link: http://www.naesb.org/member_login_check.asp?doc=ferc062507.doc.

⁵ FERC Order No. 587-U was issued on March 24, 2010 and can be found through the following hyperlink: <https://www.naesb.org/pdf4/ferc032410.pdf>.

⁶ The National Petroleum Council’s report, *Prudent Development – Realizing the Potential of North America’s Abundant Natural Gas and Oil Resources* can be found through the following link: www.npc.org/nard-execsommvol.pdf.

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revisit standards development in three specific areas including market timelines and coordination of scheduling, flexibility in scheduling and availability of information.⁷ The NAESB Board of Directors took action to include provisional items on the wholesale electric quadrant (“WEQ”) and wholesale gas quadrant (“WGQ”) 2013 and 2014 annual plans, but did not initiate action on these items until the Commission issued a Notice of Proposed Rulemaking (“NOPR”) concerning the *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities* on March 20, 2014.⁸ In the NOPR, the Commission proposed specific modifications to the existing nomination timeline and to the start of the gas day, and offered the industry, working through NAESB, an opportunity to present alternatives to the proposal through modifications to the existing standards.

In response to the NOPR, the NAESB Board of Directors convened the industry through a new platform, the NAESB GEH Forum (“Forum”), and asked the Forum participants to consider alternatives to the Commission’s proposals and submit a report of its findings to the Board of Directors. Through a series of four meetings the Forum discussed alternatives to the proposed nomination timeline and start of the gas offered by the Commission. While complete consensus on an alternative package was not garnered by the Forum participants, the information gathered through the discussions and the Forum process provided the Board of Directors with a basis to direct the NAESB WGQ Executive Committee to develop a set of recommended standards. These standards, representing an industry alternative to the proposal made by the Commission in the March 2014 NOPR, were submitted to the FERC in an informational filing on September 29, 2014.⁹ After an industry comment period, the Commission took action to adopt the standards developed by NAESB and not alter the existing start of the gas day through FERC Order No. 809.¹⁰

In paragraph 107 of FERC Order No. 809, issued on April 15, 2015, the Commission requested “...that the gas and electric industries, through NAESB, explore the potential for computerized scheduling when shippers and confirming parties all submit electronic nominations and confirmations, including a streamlined confirmation process if necessary.” As done in the past, the NAESB Board of Directors took immediate action to consider the request of the Commission and held a special working session on June 1, 2015 to discuss potential revisions to the 2015 WEQ¹¹ and WGQ¹² annual plans to address the item.¹³ Through a notational ballot distributed after the

⁷ The NAESB Gas-Electric Harmonization Committee Report is posted on the NAESB website and can be found through the following hyperlink: <https://www.naesb.org/pdf4/bd092012a1.pdf>.

⁸ The March 20, 2014 Notice of Proposed Rulemaking, *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities*, can be found through the following hyperlink: https://www.naesb.org/pdf4/ferc032014_nopr_coord_scheduling_process_interstate_ngps_public_utilities.pdf.

⁹ The September 29, 2014 NAESB Report to FERC in response to the Gas Electric Harmonization Notice of Proposed Rulemaking can be found through the following hyperlink: https://www.naesb.org/pdf4/ferc092914_naesb_geh_report_nopr032014.pdf.

¹⁰ FERC Order No. 809 was issued on April 16, 2015 and can be found through the following hyperlink: https://www.naesb.org/pdf4/ferc041615_order809_geh_final_rule.pdf.

¹¹ The redlined 2015 WEQ Annual Plan as revised on June 1, 2015 can be found through the following hyperlink: <https://www.naesb.org/pdf4/bd060115a2.docx>.

¹² The redlined 2015 WGQ Annual Plan as revised on June 1, 2015 can be found through the following hyperlink: <https://www.naesb.org/pdf4/bd060115a1.docx>.

¹³ The final minutes from the June 1, 2015 Board of Directors meeting can be found through the following hyperlink: <https://www.naesb.org/pdf4/bd060115fm.docx>.

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meeting, the board determined that NAESB's path forward should be similar to the action taken in 2014 and that the Forum should initiate the project by considering the issue before any standards development is pursued. The board also determined that the Forum's activities should not begin until 2016, as wholesale gas market participants would be occupied implementing the modifications to the timeline adopted in FERC Order No. 809 and Version 3.0 of the NAESB WGQ Standards per FERC Order No. 587-W.¹⁴ These decisions were communicated to the Commission through an informational filing submitted on August 4, 2015.¹⁵

On September 17, 2015, the Commission issued an Order on Rehearing in response to the May 18, 2015 request of the Desert Southwest Pipeline Stakeholders ("DSPS").¹⁶ Through the Order, the Commission denied the DSPS request for rehearing and, again, requested "...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." This request was made by the Commission with the recognition of the time commitments in implementing the revised nomination timeline. In consideration of the deadline set by the Commission, the Board of Directors held a single-topic conference call to discuss the request of the Commission and consider modifications to the timeline established in the 2015 WEQ and WGQ annual plans. Through a subsequent notational ballot, the plans were modified to remove the language prohibiting the initiation of activities by the Forum until 2016.¹⁷

During the December 10, 2015 meeting, the Board of Directors, once again, reviewed the WEQ and WGQ annual plan items developed to respond to FERC Order No. 809 and determined that additional guidance should be provided to the Forum prior to the initiation of their efforts. Specifically, the board recommended the Forum take the following steps in responding to the WEQ and WGQ annual plan items.

- (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

The additional guidance adopted by the board was developed through the recommendations of board members participating in the December 9, 2015 board leadership meetings, and is intended to reflect their concerns about the scope of the Forum effort and the use of voting to achieve consensus on specific recommendations that may impact

¹⁴ The October 16, 2015 FERC Order No. 587-W can be found through the following hyperlink:
https://www.naesb.org/pdf4/ferc101615_order587w.docx.

¹⁵ The August 4, 2015 NAESB Update Report to FERC concerning FERC Order No. 809 can be found through the following hyperlink: https://www.naesb.org/pdf4/ferc080415_naesb_update_report_order809.pdf.

¹⁶ The September 17, 2015 FERC Order No. 809 Order on Rehearing can be found through the following hyperlink:
https://www.naesb.org/pdf4/ferc091715_order809_order_on_rehearing.docx.

¹⁷ The results of the November 5, 2015 notational ballot can be found through the following hyperlink:
https://www.naesb.org/pdf4/bd110515ballot_results.doc

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the final board directives. The board requested that the Forum provide a report or a status update of the Forum's efforts during the April 7, 2016 board meeting to inform any decisions the board determines necessary to respond to the Commission's request included the September 17, 2015 Order on Rehearing on FERC Order No. 809.¹⁸ This direction was communicated to the Commission through an informational filing submitted to the Commission on December 22, 2015.¹⁹

II. PROCESS FOLLOWED BY THE FORUM

To respond to the directive of the Board of Directors, NAESB solicited the support of Dr. Susan Tierney and Terry Thorn to serve as the co-chairs of the Forum and facilitate the development of this report for presentation to the board during the April 7, 2016 meeting. To initiate the effort and address all administrative issues prior to discussion on substantive matters, the co-chairs scheduled a conference call for January 25, 2016 and distributed a request for presentations on January 13, 2016.²⁰ In the call for presentations, the co-chairs asked that all interested parties submit a notice of intent to develop a presentation to the NAESB office by February 1, 2016 and that all presentations be submitted to NAESB by February 8, 2016.²¹ Presenters were directed to respond directly to the request of the Commission in paragraph 107 of FERC Order No. 809 and focus on providing the following information.

- (1) Education on the current practices and processes in both the natural gas and electric industries regarding gas-electric coordination and computerized scheduling
- (2) Identification of issues related to computerized scheduling
- (3) Potential solutions to the issues identified

The meeting announcement and request for presentations was distributed to the NAESB Advisory Council, all NAESB members and the Forum distribution list developed during the 2014 effort. Additionally, NAESB contacted interested trade organizations to solicit their participation and contacted FERC staff to make them aware of the activities.

January 25, 2016 Conference Call

During the January 25, 2016 conference call the co-chairs reviewed the requests of the Commission and the charge of the Forum as provided by the Board of Directors, announced the schedule of meetings and expected deliverables from each meeting²² and answered questions concerning the January 13, 2016 request for presentations. The co-chairs explained that the goal of the Forum's activities is to develop a record and report that can be considered by the Board of Directors and not vote on any specific recommendations for action. They also encouraged robust and

¹⁸ The minutes from the December 10, 2015 Board of Directors meeting can be found through the following hyperlink: <https://www.naesb.org/pdf4/bd121015dm.docx>

¹⁹ The December 22, 2015 NAESB Status Report for submittal to the Commission concerning FERC Order No. 809 can be found through the following hyperlink: https://www.naesb.org/pdf4/ferc122215_naesb_order809_status_report.pdf

²⁰ The January 25, 2016 GEH Forum conference call announcement can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh012516a.docx>

²¹ The request for presentations can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh012516w1.doc>

²² The meeting schedule can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh012516w3.doc>

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meaningful participation and noted the importance of having representatives from all segments of the industry involved in the process.²³

February 18-19, 2016 Meeting

The Forum held its first face-to-face meeting at the Double Tree Hotel in downtown Houston, Texas on February 18-19, 2016. The purpose of the meeting was to review each of the presentations submitted by the interested industry participants and give the participants an opportunity to ask questions and seek clarification of the points made by the presenters. Presenters were given 20-30 minutes to make their presentations and an equal amount of time was allocated to questions and answers. Over the course of two days, the participants heard presentations from the eight submitting parties and discussed relevant points from each.²⁴

March 7-8, 2016 Meeting

The second meeting took place on March 7-8, 2016 at the Hilton Americas in downtown Houston, Texas. Included in the agenda for the meeting was a list of 48 issues taken directly from the presentations and discussion provided during the February 18-19, 2016 meeting.²⁵ The participants were asked to review each of the identified issues in the context of the five specific questions listed below. During the meeting, the participants reviewed the five questions included in the materials and made modifications to add clarity to the questions and better define their scope. Additionally, a sixth item was added to identify issues in the list as factual points. The questions, as modified during the meeting, follow.

- (1) Is a discussion of this issue within the scope of the Commission's 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?" and "... natural gas and electric industries, through NAESB, begin considering the development of standards related to faster, computerized scheduling"?
- (2) Is it an issue that could be pursued where more uniformity or streamlining would meet the Commission's request? Would it be economical and efficient to do so? Should consideration of this issue be postponed until we have more experience and a better understanding of the impact of changing the nominations timeline which is to be implemented April 1?
- (3) Is this an issue where a national standard is not helpful, and is best addressed by services individually tailored to customer's needs and reflecting individual inherent operational requirements? Is this an issue (non FERC policy related) where something stands in the way of resolving it? Is this an operational issue or some other matter that falls outside of NAESB's purview?

²³ The January 25, 2016 Forum conference call meeting notes can be found through the following hyperlink:

<https://www.naesb.org/pdf4/geh012516notes.docx>

²⁴ The February 18-19, 2016 Forum meeting notes can be found through the following hyperlink:

<https://www.naesb.org/pdf4/geh012516notes.docx>

²⁵ The agenda and list of issues can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh030716a.docx>

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- (4) Other Miscellaneous Topics: Is this issue a topic where tools can be used to address the Commission's request and uniformity is not helpful or is more detrimental than beneficial?
- (5) Is it an issue that NAESB cannot take action on in the absence of FERC taking prior action? Is this an issue where the Commission itself could consider addressing the issue (without presuming a conclusion that the Commission would actually decide to introduce policy changes, but still entertaining the possibility that additional action may be warranted after a full record is developed)?
- (6) This is a factual point.

After the participants expanded upon the questions, they reviewed each of the issues identified in the presentations and made modifications to more clearly explore the intent of the statement included in the presentation. The participants were also given an opportunity to add issues to the list that were not originally included in the agenda. The participants also placed each issue with a category as defined by the questions. No votes were taken on the questions, issues or modifications made to either. Accordingly, nothing in the list represents a consensus of the group, rather a record of comments provided by the participants. Upon conclusion of the review, the participants discussed generalized comments that were recommended for inclusion in the report to be submitted to the Board of Directors. Specifically, the participants asked that the following points be noted in the report.

- Because no votes were taken by the Forum participants (by design), nothing in the report reflects a consensus view of the participants.
- Because changes will be introduced after April 2016, it would be useful to gain insights from that new experience before considering what, if any, changes are needed.
- Regarding questions on whether an issue is or is not in scope:
 - By definition, if we're reporting on an issue someone thought it was in scope
 - But the scope from FERC and the Board may be narrower.
- The list of issues originated in individuals' presentations, but the subsequent summary phrasing and discussion of those issues does not necessarily reflect the original presenter's point of view.
- The meeting notes for each day's session reflect the summary as prepared by the NAESB staff. Because no votes were taken on any matters during these meetings, the meeting notes should not be viewed as consensus statements. Participants have had the opportunity to provide comments on the sessions' meeting notes, and any comments should be considered part of the record of discussions. The white board notes from the February session were the facilitator's notes and do not reflect consensus from the meeting participants.

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The information provided by the participants was captured in a working document and the participant asked that the list of issues and comments included in the working document be categorized by topic.²⁶

March 21-22, 2016 Meeting

The final meeting of the Forum was held at the Hilton Americas in downtown Houston, Texas on March 21-22, 2016.²⁷ As requested after the March 7-8, 2016 meeting, the list of issues and questions associated with each issue in the working document were categorized by issue topic and provided as work paper for the meeting. The following twelve categories were identified.

- (1) No-notice Service Offerings - Issues and discussion items pertaining to no-notice service offerings
- (2) Non-ratable Takes - Issues and discussions specific to non-ratable takes and best-efforts nominations
- (3) Observations - Facts or observations noted in the discussions on the presentations
- (4) Support for Multiple Versions of Standards - Issues and discussion items pertaining to support for multiple versions of NAESB standards, even though only one version is mandated by the FERC
- (5) Levels of Confirmations - Issues and discussion items pertaining to types and levels of confirmations, synchronization of processes and number of iterations, including those supporting best-efforts nominations
- (6) Additional Nomination Cycles - Issues and discussion items pertaining to the introduction of additional cycles for nominations and scheduling for a variety of services and the corresponding shorter processing time frames along with potential scheduling flexibility. This category may also address best-efforts processes and addressing changes to support renewable energy.
- (7) Scheduling Issues Surrounding Interconnects - Issues and discussion items pertaining to electronic scheduling and impacts at interconnect points
- (8) Access to Scheduling During Non-business Hours - Issues and discussion items pertaining to access to services during non-traditional business hours
- (9) Communications - Issues and discussion items pertaining to terminology used between trading partners and communication protocols
- (10) Inconsistencies in Electric-Industry Day-Ahead Markets - Issues and discussion items pertaining to different timing and processing of day-ahead electric markets and its impact on electronic scheduling
- (11) Data Issues, Data-Transfer Issues, Field Testing and Modeling - Issues and discussion items pertaining to the application of technology to electronic scheduling
- (12) New Service Offerings - Issues and discussion items that identified possible new service offerings that could enhance the electronic scheduling process and introduce flexibility

In conjunction with information provided in comments submitted by the NAESB WGQ Pipeline Segment²⁸ and Fidelity National Information Services,²⁹ the participants, again, reviewed each issue by category and discussed

²⁶ The final working document from the meeting can be found through the following hyperlink:

<https://www.naesb.org/pdf4/geh030716w6.docx>

²⁷ The agenda can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh032116a.docx>

²⁸ The comments submitted by the WGQ Pipeline segment can be found through the following hyperlink:

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whether a proposed solution was something that was actionable or not actionable by NAESB. All items fell into one or more of the following categories.

- Not actionable
- Not actionable, but if there are actions, they should occur through FERC and /or pipeline service offerings
- Not actionable, because this is an observation
- Actionable by NAESB in the current environment for those pipelines offering such services
- Actionable by NAESB in the current environment
- Actionable by NAESB after sufficient experience has been gained and analyzed after April 2016
- Actionable by NAESB to the extent FERC Orders and/or pipelines offer the provision of enhanced scheduling services
- A better industry understanding is needed to determine if there are applicable/relevant lessons for improving the gas scheduling process.
- A better industry understanding is needed to determine if there are issues that could be identified for later policy review

Again, as no votes were taken on the categorizations, nothing in the work paper represents a consensus of the group, rather a record of comments provided by the participants. As such, several of the items received multiple, and sometimes conflicting, categorizations.³⁰

Generalized support was given for the NAESB office to distribute a survey to the Forum distribution list soliciting input on the identified issues in the context of the six specific questions reviewed during March 7-8, 2016 meeting. The language of the questions was modified and questions one and two were broken into multiple parts. The participants requested that the responses be in a “yes” or “no” format and all blank responses be treated as a “no opinion” response. The participants also requested that the scoping questions concerning the Commission’s request, the board’s directive to the Forum and scope of the organization be clearly explained in the survey instructions and that all items categorized solely as observations not be included in the survey.

The survey was distributed to the NAESB Advisory Council, the NAESB membership and the Forum distribution list on March 24, 2016.³¹ Responses were requested by March 31, 2016, and the results will be made available by the NAESB office as soon as possible. The results will be analyzed in aggregate by (1) respondents who attended one or more of the 2016 NAESB GEH Forum face-to-face meetings either in person or by phone, (2) those that responded to the survey but did not attend any of the 2016 NAESB GEH Forum face-to-face meetings either in person or by phone, and (3) in total.

<https://www.naesb.org/pdf4/geh032116w5.xlsx>.

²⁹ The comments submitted by Fidelity National Information Services can be found at the following link:

<https://www.naesb.org/pdf4/geh032116w4.docx>.

³⁰ The work paper can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh032116w8.docx>

³¹ The NAESB GEH Forum Survey distributed on March 24, 2016 can be found at the following link:

<https://www.naesb.org/pdf4/geh032416survey.docx>

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III. PRESENTATIONS AND COMMENTS

In response to the January 13, 2016 solicitation, the NAESB office received eight presentations that were reviewed by the Forum and served as the basis for their activities to develop this report. A summary of the eight presentations was included in the February 18-19, 2016 Forum meeting notes that were approved by the Forum during the March 7-8, 2016 meeting. These notes below reflect the NAESB staff summary of the presentation included in the approved notes.

- (1) NAESB WGO Pipeline Segment:³² The presentation and following discussion focused on the automated and manual scheduling activities of pipelines between the nomination and confirmation process and the many variables that impact how scheduled quantities are determined. Specifically, the participants discussed the degree of automation currently used in the scheduling and confirmation processes. It was noted that the degree of automation varies by pipeline, but the majority of pipelines have a mix of automated and manual activities, and some require no human interaction at all. None of the participants could identify a pipeline with a fully automated system. Several participants stated that allowing a pipeline the opportunity to review its system operations during this process often allows for a more efficient use of available capacity than would occur if there is a fully automated system. These efforts were characterized as the “art of scheduling.” Regarding a new national standard for automation processes, it was recognized that some processes may be easier to automate than others, but that there is no “one-size-fits-all” solution as every pipeline is unique and implementation costs would vary by system. Additionally, it was noted that not all parties in the scheduling/confirmation process are regulated by FERC, and that some existing system processes are proprietary. Pipeline representatives stated that their companies are constantly undertaking efforts to improve the efficiency of their intraday processes which account for roughly 10% to 20% of some pipeline’s daily nominations, but that it is not done on an industry wide basis. Representatives from the Local Distribution Companies (LDCs) segment also noted the importance of scheduling flexibility to support their LDC customers, some of whom are power generators. The level of automation of LDC processes, like pipelines, often depends on the size of the individual company. The participants also discussed how the costs of ‘best efforts’ services, apart from no-notice or hourly services, are absorbed by the pipeline companies and whether those costs should be attributed to the customer. It was noted that the no-notice services and hourly services are available on some pipelines for firm customers and are part of the rate design, but that those services can be expensive. It was also noted that non-ratable supplies are often supplied with the line pack when operationally feasible, and that the processes for such services are typically completely manual, as are most evening and weekend nominations.
- (2) PJM:³³ The presentation and discussion focused on PJM’s current and future gas-electric coordination efforts and how the 2014 winter peak impacted their system. The participants discussed the extent of automation utilized in the electric scheduling processes, and noted that while it is highly automated, there are still manual

³² The NAESB WGO Pipeline Segment presentation can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh021816w1.pdf>.

³³ The PJM presentation can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh021816w2.pdf>.

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processes in place that serve as check points. Representatives from the ISO/RTO market noted that they, like those in the gas market, have to deal with system constraints and that they have a curtailment process in place that is almost fully automated, but recognized that it is difficult to compare the two commodities. It was stated that the greater scheduling opportunities and faster processing times would be beneficial from an electric perspective, but it is difficult to determine which would be most helpful – faster processing times or more nomination cycles. The participants discussed whether the issue in the PJM market during the 2014 winter was related to the number of opportunities to nominate gas for generators or if it was a pipeline capacity issue, and whether the winter was an anomaly that is not representative of how the system typically works on peak days. Several LDC participants noted that need for careful information sharing and that a strong working relationship with their ISO/RTO is key to effective coordination.

- (3) ACES Power:³⁴ The presentation and discussion focused on NAESB proceeding with caution in order to maintain the scheduling flexibility provided by the pipelines through interruptible services. The participants discussed the increased use of natural gas and renewable energy for power generation and the shift away from coal. This increasing use of renewables results in the need for quick start-up times, ratable takes and ancillary services. The participants also discussed how new pipeline construction is being driven by the producers more so than electric generators.
- (4) Fidelity National Information Services:³⁵ The presentation and discussion focused on standardizing ‘best efforts’ nominations and creating corresponding efficiencies in the confirmation process. The participants discussed how ‘best efforts’ nominations currently offered by pipelines work with the standardized nomination cycles, and the various confirmation process currently used by pipelines. It was noted that having a single, standardized confirmation response process and eliminating unsolicited confirmation options, is needed to fully automate the scheduling and confirmation processes. Allowing ‘best efforts’ nominations, if utilized efficiently, could eliminate the need for unsolicited confirmations. The participants also discussed the benefits and drawbacks to moving from an EDI to an XML data format, with some participants questioning whether a change in the data format used to communicate between parties is within scope as it doesn’t change the underlying scheduling/confirmation process. Representatives from the LDC community noted the importance of the clean-up cycles, and questioned how a requirement for ‘best efforts’ nominations would impact those cycles. The participants agreed that the purpose of a nomination should be to indicate the request of a shipper and not to “true things up” after the fact.
- (5) Skipping Stone:³⁶ The presentation and discussion focused on how non-ratable flow can be used to address coordination issues. Some pipelines offer these services for which they are not compensated. Allowing for non-ratable takes and letting the market develop price signals that can be used to ensure equity may resolve some of the scheduling issues. The participants noted that this may create an opportunity for market

³⁴ The ACES Power presentation can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh021816w3.pptx>.

³⁵ The Fidelity National Information Services can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh021816w4.pptx>.

³⁶ The Skipping Stone presentation can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh021816w5.pptx>.

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manipulation and that the Commission would need to carefully monitor all activities. The participants also discussed the scope of this project and whether NAESB is the appropriate forum for offering such a recommendation. It was also noted that proposal would not address all of the scheduling issues identified by the Commission, including after hours and weekend nominations. The participants discussed whether developing the market espoused in the proposal could be done as a “field test,” similar to “field tests” undertaken on other NAESB standards.

- (6) Environmental Defense Fund.³⁷ The presentation and following discussion focused on how enhanced scheduling could support more dynamic coordination between the markets and examined the PJM market events during the 2014 polar vortex. Specifically, it was noted that unavailability of nomination opportunities during that particular event lead to the inefficient use of capacity resulting in higher prices. The participants discussed whether the data provided was representative of the entire Northeast during the vortex or an isolated example. The presenter noted that information included in Skipping Stone’s presentation indicated that only 16% of contracts in place to support electric generation are for firm service and only 32% of the entire pipeline system is contracted to support electric generation. This means that firm service for electric generation accounts for roughly 5% of the total system. They also discussed the “must serve” obligations of power providers during such events and reserve requirements, and that ancillary services are essential for meeting their obligations. Representatives from the pipeline community also observed that customers are not typically requesting additional scheduling opportunities because they are offered no-notice services and non-ratable flow options to meet unexpected demands for capacity. It was noted that more compressed scheduling times could lead to more conservative scheduling by pipelines. Participants representing LDCs noted that there is access to storage in the Northeast and that it may have been used to mitigate constraint issues during the 2014 vortex. Discussions during the presentation provided by Skipping Stone raised concerns with the scope of the presentation relative to the request of the Commission and direction of the Board of Directors.
- (7) Coalition of Energy Technology Firms.³⁸ The presentation and discussion focused on the use of modeling to support and improve market efficiencies. The presenters recognized that a certain amount of judgment may be needed as part of the “art of scheduling,” but when there are opportunities for automation to speed up the scheduling and confirmation processes, modeling can help to identify those areas. Representatives from pipeline companies stated that they already support the use of data analytics and modeling, and currently use them to review and test their own processes.
- (8) OATI, Inc..³⁹ The presentation and following discussion focused on how the wholesale electricity market’s e-Tag electronic scheduling system could be used to support gas scheduling processes. The participants discussed the physical differences between the two commodities and noted that confidential information related to the pooling and liquidity in the gas market may present issues that would make it difficult to adapt an e-Tag system

³⁷ The Environmental Defense Fund presentation can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh021816w6.pptx>.

³⁸ The Coalition of Energy Technology Firms presentation can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh021816w7.pptx>.

³⁹ The OATI, Inc. presentation can be found through the following hyperlink: <https://www.naesb.org/pdf4/geh021816w8.pptx>.

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to gas. The participants also discussed how FERC Order Nos. 888 and 1000 transformed the wholesale electric market nearly 20 years ago, and how each market currently addresses system constraints. It was noted that some of the same concerns being raised now were made when the transformative electric market orders were drafted. Concerns regarding the scope of the presentation were raised, and the presenters noted that the purpose of the presentation was to solicit discussion and further refine the rough outline of how the e-Tag system could be applied to the gas system.

IV. POSSIBLE SOLUTIONS DISCUSSED BY FORUM

As noted in Section II, during the March 21-22, 2016 meeting the participants reviewed each of the issues as categorized and provided comments concerning whether a possible solution was actionable or not actionable. Of the 58 issues reviewed (some issues were included in multiple categories) 18 were categorized as actionable with or without conditions, 48 were categorized as not actionable and 5 were categorized as requiring more understanding. Again, as no votes were taken on the categorizations, nothing in the work paper represents a consensus of the group, rather a record of comments provided by the participants. As such, several of the issues received multiple, and sometimes conflicting, categorizations.

The nine tables below provide a breakdown of the issues by possibility of solution as recorded during the meeting. Please note that * indicates that the issue appeared in multiple tables.

Only 4 issues were categorized solely as actionable in the current environment and included in Table 5. These issues are:

17. Levels of confirmation
33. 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.
36. 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 17 in the first presentation.
9. 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.

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Identification of Actionable v. Not Actionable Items			
Table 1 - Possible Solution: Not Actionable			
Category	Issue		
1	No-notice Service Offerings		
	1	No-notice needs for capacity to support anticipated usage of services purchased, which may or may not be scheduled (e.g., if no notice is not scheduled, such capacity can be made available to other shippers). This issue is one way to address the potential for greater flexibility. Pipelines forecast the amount of no-notice service they expect to provide on a next-day basis and then utilize any projected unused capacity on an interruptible basis to serve other shippers including gas fired electric generators with non-ratable demand. This is a foundational concept for Order 636.	
5	Levels of Confirmation		
	19	Manual confirmation processes	
	34b	True-up processes at the end of the gas day are examples of best efforts. This may be necessary but not sufficient to effectuate a transaction that can be scheduled.	
	37*	Investigate the need to define the number of iterations to support confirmation, including on a best-effort basis. Defined iterations needed to support confirmations, including best efforts. Taking a look at these issues does not necessarily presume there is a magic number of iterations, in part to changing market conditions and because of respecting the goal of maximizing flow.	
	39	Addressing the communication of characteristics of the information in the confirmation process could require a fundamental redesign, with potential changes to make confirmations more efficient. (Reasonable) commercial confidentiality issues must be respected. Note that some pipeline practices already may include this kind of information in the confirmation process.	
	56	Compress confirmations by expediting verification of nominations. Using simulation to recreate “The Art of Scheduling” tools of software models could support more efficient and effective decision making.	
6	Additional Nomination Cycles		
	34b	True-up processes at the end of the gas day are examples of best efforts. This may be necessary but not sufficient to effectuate a transaction that can be scheduled.	

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Identification of Actionable v. Not Actionable Items			
Table 1 - Possible Solution: Not Actionable			
Category	Issue		
8	Access to Scheduling During Non-business Hours		
	21*	Computerized scheduling and confirmations for nomination of subscribed services during non-traditional business hours.	
11	Data Issues, Data-Transfer Issues, Field Testing and Modeling		
	39	Addressing the communication of characteristics of the information in the confirmation process could require a fundamental redesign, with potential changes to make confirmations more efficient. (Reasonable) commercial confidentiality issues must be respected. Note that some pipeline practices already may include this kind of information in the confirmation process.	
	56	Compress confirmations by expediting verification of nominations. Using simulation to recreate “The Art of Scheduling” tools of software models could support more efficient and effective decision making.	

Identification of Actionable v. Not Actionable Items			
Table 2 - Possible Solution: Not Actionable, but if there are actions, they should occur through FERC and/or service offerings			
Category	Issue		
1	No-notice Service Offerings		
	29	Generators rely on flexibility for a number of operational issues on the electric side. (Electric systems may require very-short periods of gas use to address perturbations on the systems, and electric systems also need to address forecasting error for flexible power-plant operations.) Interruptible services are needed because firm service doesn’t always provide for all of the flexibility attributes needed for reliability of power system operations. There are no-notice services, but they are limited. It is challenging to generators that flexibility elements of services are themselves interruptible.	
2	Non-ratable Takes		
	2	Non-ratable flexibility, both required to support services purchased and on a best efforts basis. Pipelines that offer no-notice service forecast the amount of no-notice service they expect to provide on a next-day basis and then utilize any projected unused capacity on an interruptible basis to serve other shippers including gas fired electric generators with non-ratable demand. This is a foundational concept for Order 636.	

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Identification of Actionable v. Not Actionable Items			
Table 2 - Possible Solution: Not Actionable, but if there are actions, they should occur through FERC and/or service offerings			
Category	Issue		
	23*	For certain service types, the ability to provide a more granular (e.g., 24 hour) take pattern could alleviate/reduce reliance on intraday to achieve that take pattern.	
	40*	Some parties seek more opportunities to change the shape of flows over the course of a gas day so that the actual flows may differ from the 1/24th per hour rate. For example: use more nomination cycles and schedules to achieve non-ratable takes, instead of /in addition to using other tools like no-notice and hourly nomination services.	
	42	A field test for best-efforts scheduling may be able to give us information as to demand and utility of services supporting non-ratable service.	
	46*	Best-efforts scheduling could also be applied to day-ahead shaped flows.	
5	Levels of Confirmation		
	34a	There are non-bumping best-efforts nomination opportunities with streamlined confirmations as an intra-cycle nomination subject to operating conditions of the pipeline.	
6	Additional Nomination Cycles		
	34a	There are non-bumping best-efforts nomination opportunities with streamlined confirmations as an intra-cycle nomination subject to operating conditions of the pipeline.	
11	Data Issues, Data Transfer Issues, Field Testing and Modeling		
	42	A field test for best-efforts scheduling may be able to give us information as to demand and utility of services supporting non-ratable service.	
12	New Service Offerings		
	41*	Would the ability to reserve current contracted primary FT capacity for use tomorrow, address issues related to inability to use FT contracts to serve intermittent electric generation?	
	43	Observation: the current set of firm offerings is not meeting the demands of generators in some parts of the country. The suggestion is that it is not necessary to change the existing services, but rather to add new services (for example, one could add a block of capacity, e.g. a seasonal block in which a shipper could take x quantity and y quantity for day). This is similar to the type of offering that some pipelines now offer (e.g. revenue banking). Of course physical capabilities of pipeline systems must be taken into account.	
	44*	Volumetric service to support electric generation akin to SGS (Small Generation Service) on a best-efforts basis may meet expressed needs.	

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Identification of Actionable v. Not Actionable Items	
Table 2 - Possible Solution: Not Actionable, but if there are actions, they should occur through FERC and/or service offerings	
Category	Issue
	48* There could be benefits that flow from better matching the efficiency of gas scheduling to the provision of electric-market ancillary services (e.g., addressing short term imbalances, frequency regulation, flexible capacity) by gas generators. Because scheduling of gas is a process and electric ancillary services are products, it would be helpful to analyze what components of the scheduling process could be helpful in accommodating the provision of ancillary service.

Identification of Actionable v. Not Actionable Items	
Table 3 - Possible Solution: Not Actionable, because this is an observation	
Category	Issue
3	Observations
	3 Performance of receipt/delivery locations – off-rate (daily/hourly)
	4 Redirection of net scheduled flows resulting from nominations can occur through other portions of the pipeline
	5 Interdependent capacity changes due to location of receipts/deliveries
	6 Impact of weather on supply/demand and compressor efficiencies
	7 Pipeline line pack, pipeline storage, and third party storage(including LDC storage) levels/location in relation to supply/demand
	8 Gas quality fluctuation – heat content, etc.
	9 Backhaul/displacement reliability. Pipelines evaluate historic patterns of backhaul/displacement transactions to determine whether such transactions can be relied upon during evaluation of the following scheduling cycles. (E.g.: Can the backhaul happen? Can you keep relying on it and does it create space for forward haul?)
	10 Maintenance activities
	12 Order of applying reductions (optimization) – location v. segments, order of scheduling segments, timing of the balancing
	13 Identification of opportunities for imbalance management
	14 Balancing of pools

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Identification of Actionable v. Not Actionable Items			
Table 3 - Possible Solution: Not Actionable, because this is an observation			
Category	Issue		
	15	Flexibility of EPSQ, its level and when it should apply	
	24	Operational risk assessment. Some grid operators take into consideration impacts of gas scheduling and nomination on the electric grid through routine risk assessments.	
4	Support for Multiple Versions of Standards		
	16	Application of various NAESB versions and support provided by pipelines for several versions	
6	Additional Nomination Cycles		
	18*	Nomination errors requiring manual intervention for mismatches during the confirmation process	
	28	Tight execution windows for gas markets	
	30	Decreasing operational flexibility provided by IT service when providing the possibility of more frequent opportunities for FT and IT through additional nominations/scheduling cycles. The status quo has certain rights and benefits that have been baked into expectations about the amount of flexibility that is available under different services. Changes ahead in either the gas or electric industries may disrupt the flexibility that has worked in the past and may not in the future.	
	31	Coordination/timing challenges	
	32	Forcing pipelines to process quicker may decrease operational flexibility because there may be less time to determine if interruptible transportation is available. Shorter timeframes may inadvertently introduce too much rigidity.	
	45	Intra-cycle capacity releases may improve best efforts scheduling. Conversely best-efforts scheduling may improve the effectiveness of existing intraday capacity releases.	
	47	Episodic analysis of daily flows suggests that more opportunities to schedule may provide additional flexibility to generators and electric consumers' benefits.	
	52	How to address less time to validate nomination data that would not lead to errors or legal risks? Using simulation to recreate "The Art of Scheduling" tools of software models could support more efficient and effective decision making.	
	53	How to address tighter deadlines that hamper gas controllers ability to account for shifts in volume. Using simulation to recreate "The Art of Scheduling" tools of software models could support more efficient and effective decision making.	
	54	By adding more schedules, are tools available or currently in use that support both the gas controllers and the gas fired generators? Using simulation to recreate "The Art of Scheduling" tools of software models could support more efficient and effective decision making.	

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Identification of Actionable v. Not Actionable Items			
Table 3 - Possible Solution: Not Actionable, because this is an observation			
Category	Issue		
7	Scheduling Issues Surrounding Interconnects		
	11	Physical assistance agreed upon between interconnecting parties. OBAs and similar type of arrangement (the implementing devices), seem to be working well.	
	20	Availability of capacity at interconnection points. There is currently uncertainty as to impact of tighter timeframes on the scheduling of capacity for the later cycles. (At present, the schedules tend to come out early.)	
10	Inconsistencies in Electric-Industry Day-Ahead Markets		
	27	Timing and Processing Times for Day Ahead energy markets are different across electric markets	
11	Data Issues, Data Transfer Issues, Field Testing and Modeling		
	50	How to support through efficient scheduling, a better coordination of gas supplies, transport services, ISOs and RTOs needs and needs of power generators? Using simulation to recreate “The Art of Scheduling” tools of software models could support more efficient and effective decision making.	
	51	Through efficient nominations and scheduling, addressing service interruptions in the supply chain. Using simulation to recreate “The Art of Scheduling” tools of software models could support more efficient and effective decision making.	
	52	How to address less time to validate nomination data that would not lead to errors or legal risks? Using simulation to recreate “The Art of Scheduling” tools of software models could support more efficient and effective decision making.	
	53	How to address tighter deadlines that hamper gas controllers ability to account for shifts in volume. Using simulation to recreate “The Art of Scheduling” tools of software models could support more efficient and effective decision making.	
	54	By adding more schedules, are tools available or currently in use that support both the gas controllers and the gas fired generators? Using simulation to recreate “The Art of Scheduling” tools of software models could support more efficient and effective decision making.	
	55	Need for role playing. Using simulation to recreate “The Art of Scheduling” tools of software models could support more efficient and effective decision making.	

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Identification of Actionable v. Not Actionable Items			
Table 4 - Possible Solution: Actionable by NAESB in the current environment for those pipelines offering such services			
Category	Issue		
2	Non-ratable Takes		
	23*	For certain service types, the ability to provide a more granular (e.g., 24 hour) take pattern could alleviate/reduce reliance on intraday to achieve that take pattern.	
	40*	Some parties seek more opportunities to change the shape of flows over the course of a gas day so that the actual flows may differ from the 1/24th per hour rate. For example: use more nomination cycles and schedules to achieve non-ratable takes, instead of /in addition to using other tools like no-notice and hourly nomination services.	
	46*	Best-efforts scheduling could also be applied to day-ahead shaped flows.	

Identification of Actionable v. Not Actionable Items			
Table 5 - Possible Solution: Actionable by NAESB in the current environment			
Category	Issue		
5	Levels of Confirmations		
	17	Levels of confirmation	
	33	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.	
	35*	Lining up the processes and timeframes that occur within the confirmations/scheduling window to gain efficiency of data exchange.	
	36	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 17 in the first presentation.	

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Identification of Actionable v. Not Actionable Items			
Table 5 - Possible Solution: Actionable by NAESB in the current environment			
Category	Issue		
	37*	Investigate the need to define the number of iterations to support confirmation, including on a best-effort basis. Defined iterations needed to support confirmations, including best efforts. Taking a look at these issues does not necessarily presume there is a magic number of iterations, in part to changing market conditions and because of respecting the goal of maximizing flow. [Here iterations is meant to refer to the frequency and timing of data exchanges between confirming parties]	
	38*	Further standardize methods and processes (for example, standardizing time frames for the different elements of the processes) employed to support confirmations. Standardization could clarify the steps and expectations among parties surrounding default actions that may arise from different time periods in the process.	
6	Additional Nomination Cycles		
	18*	Nomination errors requiring manual intervention for mismatches during the confirmation process	
	49*	As the electric system continues to evolve into a peakier and a more renewable grid, the need for enhanced scheduling and flexibility from the gas transportation system will grow.	
8	Access to Scheduling During Non-business Hours		
	21*	Computerized scheduling and confirmations for nomination of subscribed services during non-traditional business hours.	
9	Communications		
	22	It would be desirable to have a set of terminology agreed upon by participants to characteristics shapes, profiles, ratable, non-ratable, and so forth to facilitate discussion.	
	25*	Communication protocols with LDCs, gas generator operators and natural gas marketing companies	
	26*	Improve efficiency of critical information sharing (related to items 22 and 25)	
11	Data Issues, Data-Transfer Issues, Field Testing and Modeling		
	35*	Lining up the processes and timeframes that occur within the confirmations/scheduling window to gain efficiency of data exchange.	
	36	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 level with potential for disparities; greater standardization could produce confirming efficiencies. (For example, confirm at the shipper to shipper level, or if you do it as a lower level of detail it would be driven by model type.) See issue 17 in the first presentation.	

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Identification of Actionable v. Not Actionable Items			
Table 5 - Possible Solution: Actionable by NAESB in the current environment			
Category	Issue		
	38*	Further standardize methods and processes (for example, standardizing time frames for the different elements of the processes) employed to support confirmations. Standardization could clarify the steps and expectations among parties surrounding default actions that may arise from different time periods in the process.	
12	New Service Offerings		
	48*	There could be benefits that flow from better matching the efficiency of gas scheduling to the provision of electric-market ancillary services (e.g., addressing short term imbalances, frequency regulation, flexible capacity) by gas generators. Because scheduling of gas is a process and electric ancillary services are products, it would be helpful to analyze what components of the scheduling process could be helpful in accommodating the provision of ancillary service.	
	49*	As the electric system continues to evolve into a peakier and a more renewable grid, the need for enhanced scheduling and flexibility from the gas transportation system will grow.	

Identification of Actionable v. Not Actionable Items			
Table 6 - Possible Solution: Actionable by NAESB after sufficient experience has been gained and analyzed after April 2016			
Category	Issue		
5	Levels of Confirmations		
	35*	Lining up the processes and timeframes that occur within the confirmations/scheduling window to gain efficiency of data exchange.	
	38*	Further standardize methods and processes (for example, standardizing time frames for the different elements of the processes) employed to support confirmations. Standardization could clarify the steps and expectations among parties surrounding default actions that may arise from different time periods in the process.	
8	Access to Scheduling During Non-business Hours		
	21*	Computerized scheduling and confirmations for nomination of subscribed services during non-traditional business hours.	

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Identification of Actionable v. Not Actionable Items			
Table 6 - Possible Solution: Actionable by NAESB after sufficient experience has been gained and analyzed after April 2016			
Category	Issue		
9	Communications		
	25*	Communication protocols with LDCs, gas generator operators and natural gas marketing companies	
	26*	Improve efficiency of critical information sharing (related to items 22 and 25)	
11	Data Issues, Data-Transfer Issues, Field Testing and Modeling		
	35*	Lining up the processes and timeframes that occur within the confirmations/scheduling window to gain efficiency of data exchange.	
	38*	Further standardize methods and processes (for example, standardizing time frames for the different elements of the processes) employed to support confirmations. Standardization could clarify the steps and expectations among parties surrounding default actions that may arise from different time periods in the process.	
12	New Service Offerings		
	48*	There could be benefits that flow from better matching the efficiency of gas scheduling to the provision of electric-market ancillary services (e.g., addressing short term imbalances, frequency regulation, flexible capacity) by gas generators. Because scheduling of gas is a process and electric ancillary services are products, it would be helpful to analyze what components of the scheduling process could be helpful in accommodating the provision of ancillary service.	

Identification of Actionable v. Not Actionable Items			
Table 7 - Possible Solution: Actionable by NAESB to the extent FERC orders and/or pipelines offer the provision of enhanced scheduling services			
Category	Issue		
5	Levels of Confirmations		
	57	Could eTag be applied to the gas industry to mimic the significant number of transactions processed on the power grid that use eTag in short processing windows, and if so, can it result in a streamlined scheduling process for natural gas?	
	58*	Are there “lessons learned” in the electric industry that could benefit the gas industry as it considers the feasibility of modifying the scheduling process to make it more efficient?	

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Identification of Actionable v. Not Actionable Items			
Table 7 - Possible Solution: Actionable by NAESB to the extent FERC orders and/or pipelines offer the provision of enhanced scheduling services			
Category	Issue		
6	Additional Nomination Cycles		
	49*	As the electric system continues to evolve into a peakier and a more renewable grid, the need for enhanced scheduling and flexibility from the gas transportation system will grow.	
	58*	Are there “lessons learned” in the electric industry that could benefit the gas industry as it considers the feasibility of modifying the scheduling process to make it more efficient?	
11	Data Issues, Data-Transfer Issues, Field Testing and Modeling		
	57	Could eTag be applied to the gas industry to mimic the significant number of transactions processed on the power grid that use eTag in short processing windows, and if so, can it result in a streamlined scheduling process for natural gas?	
12	New Service Offerings		
	49*	As the electric system continues to evolve into a peakier and a more renewable grid, the need for enhanced scheduling and flexibility from the gas transportation system will grow.	

Identification of Actionable v. Not Actionable Items			
Table 8 - Possible Solution: A better industry understanding is needed to determine if here are applicable/relevant lessons for improving the gas scheduling process.			
Category	Issue		
5	Levels of Confirmations		
	57	Could eTag be applied to the gas industry to mimic the significant number of transactions processed on the power grid that use eTag in short processing windows, and if so, can it result in a streamlined scheduling process for natural gas?	
	58*	Are there “lessons learned” in the electric industry that could benefit the gas industry as it considers the feasibility of modifying the scheduling process to make it more efficient?	
6	Additional Nomination Cycles		
	58*	Are there “lessons learned” in the electric industry that could benefit the gas industry as it considers the feasibility of modifying the scheduling process to make it more efficient?	

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Identification of Actionable v. Not Actionable Items			
Table 9 - Possible Solution: A better industry understanding is needed to determine if there are issues that could be identified for later policy review			
Category	Issue		
12	New Service Offerings		
	41*	Would the ability to reserve current contracted primary FT capacity for use tomorrow, address issues related to inability to use FT contracts to serve intermittent electric generation?	
	44*	Volumetric service to support electric generation akin to SGS (Small Generation Service) on a best-efforts basis may meet expressed needs.	
	48*	There could be benefits that flow from better matching the efficiency of gas scheduling to the provision of electric-market ancillary services (e.g., addressing short term imbalances, frequency regulation, flexible capacity) by gas generators. Because scheduling of gas is a process and electric ancillary services are products, it would be helpful to analyze what components of the scheduling process could be helpful in accommodating the provision of ancillary service.	

IV. POSSIBLE ACTION FOR BOARD CONSIDERATION

The Board of Directors has several choices in determining the direction to be taken to respond to the Commission’s requests that “...that the gas and electric industries, through NAESB, explore the potential for computerized scheduling when shippers and confirming parties all submit electronic nominations and confirmations, including a streamlined confirmation process if necessary”, and “...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.” The Board can consider the issues identified in the Forum and direct NAESB to consider particular actions that may lead to standards development. Conversely, the board could consider the issues identified in the Forum and determine that no standards development action by NAESB is necessary. The board could also determine that additional analysis of the information provided would be helpful before it takes any action and assign that analytic task to a group, which once completed, could provide a focused foundation for decision making. Should the board determine that standards-development on any issue by NAESB is advisable, an added consideration is timing: Would this standards development activity take place in 2016, or would it take place sometime after 2016 when sufficient time has passed to permit a better understanding of the impact of the changes to the nominations timeline, which was implemented on April 1, 2016?

The survey results, which may provide greater insight into the level of support for NAESB standards development action on any particular issue, could assist the board in setting a direction. The survey results will be presented separately, as the survey response period concluded March 31. Similarly, the participants in the Forum, plus other interested parties, may choose to develop requests for standards development that are directly related to the Forum’s

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efforts. Indeed, one request for standards development⁴⁰ was received shortly after the Forum completed its last March meeting.

VI. CONCLUSION

As noted in this report, the NAESB Board of Directors has many options it may choose to pursue as it determines how best to respond to FERC Order No. 809. The Forum serves at the pleasure of the board, and is willing and able to address any assignments now or in the future the Board sees fit. The participants of the Forum thank the Board of Directors for providing this opportunity to serve NAESB and look forward to supporting the organization in the future. The NAESB staff and co-chairs of the Forum conclude with thanks to all who helped provide the information included in this report.

⁴⁰ The request currently being considered by the NAESB Triage Subcommittee can be found through the following hyperlink: <https://www.naesb.org/pdf4/tr032416a.docx>

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(Board Report – Appendices)

Appendices:

- A..... GEH Forum Meeting Schedule
- B..... GEH Forum Participants
- C..... GEH Form Distribution List
- D..... Presentations and Comments
- E..... Meeting Notes, Work Papers, Comments and Transcripts
- F Summary of Board Action in Response to FERC Order No. 809

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(Board Report - Appendix A: GEH Forum Meeting Schedule)

January 12, 2016

TO: NAESB Board of Directors, Gas-Electric Harmonization (GEH) Forum and Interested Parties
FROM: NAESB Office
RE: Timeline to Address 2016 WEQ Annual Plan Item 7.a & 2016 WGQ Annual Plan Item 3.a – *Updated January 19, 2016*

Dear Board Members, Forum Participants and Interested Parties,

Please find below a timeline that would support the development of potential solutions in response to 2016 WEQ Annual Plan Item 7.a and 2016 WGQ Annual Plan Item 3.a for board consideration.

TIMELINE -- SCHEDULE OF MEETINGS AND DELIVERABLES

✓ ☐ Date/Time	Committee & Meeting	Deliverables
January 25, 2016 - 10:00 am to 11:00 am Central	Conference Call GEH Forum – Organizational & Informational	Administrative Session
February 1, 2016	Inform NAESB office of intent to submit presentations	
February 8, 2016	Presentations forwarded to the NAESB office	Presentations posted on the NAESB web site
February 18, 2016 – 8:00 am to 5:00 pm Central February 19, 2016 - 8:00 am to 2:00 pm Central	GEH Forum face to face meeting (1.5 day meeting) in Houston, TX at the Doubletree Downtown Hotel	Review all presentations with time allotted for questions and answers. Presentations will provide education on the current process, identification of issues and potential solutions within the bounds of the request of the FERC in Order No. 809
March 7, 2016 – 8:00 am to 5:00 pm Central March 8, 2016 - 8:00 am to 2:00 pm Central	GEH Forum face to face meeting (1.5 day meeting) in Houston, TX at the Hilton Americas	Discussion of presentations and potential solutions
March 21, 2016 – 8:00 am to 5:00 pm Central March 22, 2016 - 8:00 am to 2:00 pm Central	GEH Forum face to face meeting (1.5 day meeting) in Houston, TX at the Hilton Americas	Summation of potential solutions
April 3, 2016	GEH Forum Report developed by the GEH Forum co-chairs and NAESB staff based upon GEH Forum discussion record	GEH Forum Report posted to the NAESB website
April 7, 2016 – 9:00 am to 1:00 pm Central	NAESB Board of Directors Meeting	The GEH Forum Report will be presented to the NAESB Board of Directors for further direction
Week of April 11 th	Status report to Commission	A status report including the direction determined by the NAESB Board of Directors will be filed with the Commission.

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 (Board Report - Appendix B: GEH Forum Participants)

Total Participants – 205

[NAESB Membership Roster](#)

Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Denise	Adams	ONEOK Rockies Midstream	WGQ	Services	N
Dave	Allred	NWP Marketing Services	----	----	N
Karl	Almquist	Tallgrass Operations, LLC	WGQ	Pipeline	Y
Omar	Aslam	Federal Energy Regulatory Commission (FERC)	None	None	**G
Trevante	Bailey	Dominion Transmission, Inc.	WGQ	Pipeline	Y
John	Baker	Open Access Technology International, Inc. (OATI)	WEQ	End User	Y
Stacy	Bartoszek	NJR Energy Services Company	WGQ	Services	N
Sharat	Batra	Los Angeles Department of Water and Power	WEQ	Mrkt/Brk	Y
Wayne	Benoit	Boardwalk Pipeline Partners, LP	WGQ	Pipeline	Y
Susan	Bergles	American Gas Association	WGQ	LDC	Y
Carrie	Bivens	Electric Reliability Council of Texas, Inc. (ERCOT)	WEQ	IGO	Y
Na	Bocangel	Colorado Springs Utilities	WGQ	LDC	Y
Jonathan	Booe	North American Energy Standards Board	----	----	Staff
Paul	Borkovich	Southern California Gas Company	WGQ	LDC	Y
Brad	Bouillon	California Independent System Operator Corp.	WEQ	IGO	Y
Y.J.	Bourgeois	Anadarko Energy Services Company	WGQ	Producer	Y
Sue	Brodeur	Unitil	----	----	N
Kelly R.	Brooks	WBI Energy Transmission, Inc.	WGQ	Pipeline	Y
Richard	Brown	PJM Interconnection, LLC	WEQ	IGO	Y
John	Broyles	New York ISO	WEQ	IGO	Y
Dan	Buckner	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	WGQ	End User	N
Michaela	Burroughs	American Gas Association	WGQ	LDC	Y

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Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
James (Jim)	Busch	BP West Coast Products	WGQ	End User	N
Montie	Callager	Targa Resources Inc.	WGQ	Services	N
William A.	Callan	ISO New England, Inc.	WEQ	IGO	Y
Greg	Campoli	New York ISO	WEQ	IGO	Y
Evelyn	Carmouche	Shell Energy North America (US), L.P.	WGQ	Services	Y
Joe	Casey	Spectra Energy Corp	WGQ	Pipeline	Y
Jack	Cashin	The Electric Power Supply Association (EPSA)	WGQ	End User	N
Douglas	Chapel	Consumers Energy Company	WGQ	LDC	N
Joe	Conneely	Granite State Gas Transmission System	WGQ	Pipeline	N
Pete	Connor	American Gas Association rep	WGQ	LDC	Y
Chuck	Cook	Chevron Natural Gas	WGQ	Producer	Y
Margaret	Cordts	NorthWestern Energy	WGQ	LDC	N
Janet	Corritore	Tenaska Marketing Ventures	WGQ	Mrkt/Brk	N
David	Crabtree	TECO/Peoples Gas System	WEQ	Distribution	Y
Valerie	Crockett	Tennessee Valley Authority	WGQ	End User	Y
Lorraine	Cross	Cross & Company, P.L.L.C.	None	None	*A
Kelly A.	Daly	Stinson Leonard Street LLP	WGQ	Services	N
George	Danner	Business Laboratory, LLC	WEQ	Services	N
Dale	Davis	Williams	WGQ	Pipeline	Y
Rae	Davis	Dominion Carolina Gas Transmission , LLC	WGQ	Pipeline	Y
Alexander	Davydov	Total Gas and Power North America Inc.	WGQ	Pipeline	N
Jeffrey	DeAnna	NJR Energy Services Company	WGQ	Services	N
Laura K.	Demman	Northern Natural Gas Company	WGQ	Pipeline	Y

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Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Jerry H.	Dempsey	OATI	WEQ	End User	Y
Rhonda	Denton	BP Energy Company	WGQ	Producer	Y
Jay	Dibble	Calpine Energy Services, LP	WGQ	End User	Y
Stacy	Djukic	Northern Indiana Public Service Company	WGQ	LDC	N
Bill	Donahue	Puget Sound Energy, Inc.	WEQ	Distribution	N
Mary	Draemer	Energy Transfer Equity, L.P.	WGQ	Pipeline	Y
Jeremy	Durocher	MCP Operating LLC	WGQ	Pipeline	Y
Katie	Ege	Great River Energy	WEQ	Generation	N
Catherine M.	Elder	Aspen Environmental Group	WGQ	Services	Y
Sam	Ellis	Southwest Power Pool	WEQ	IGO	Y
Cameron T.	Eoff	Associated Electric Cooperative Inc.	WEQ	Generation	N
Tamara	Evey	Ameren Services Company	WGQ	LDC	N
Anna	Fernandez	Federal Energy Regulatory Commission (FERC)	None	None	**G
Kathy	Ferreira	New Jersey Natural Gas Company	WGQ	LDC	N
Douglas	Field	Southern Star Central Gas Pipeline, Inc.	WGQ	Pipeline	Y
Brian	Fields	Calpine Energy Services, LP	WGQ	End User	Y
Brian J.	Fitzpatrick	PJM Interconnection, LLC	WEQ	IGO	Y
Jim	Fort	The Energy Authority, Inc.	WEQ	Mrkt/Brk	N
Danielle	Foster	Shell Energy North America (Canada)	----	----	N
Michael	Frey	Municipal Gas Authority of Georgia	WGQ	Services	N
William	Gallagher	Vermont Public Power Supply Authority	WEQ	Generation	Y
Wayne	Gardner	WE Gardner Company LLC	WGQ	Services	*A
Tina	Gary	Portland General Electric Company	WEQ	Generation	N

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First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Dennis	Gee	Pacific Gas and Electric Company (PG&E)	WGQ	LDC	Y
Tim	Gerrish	Florida Power & Light	WEQ	Mrkt/Brk	Y
Joseph	Ghormley	Southwest Power Pool	WEQ	IGO	Y
Gloria	Glover	TECO/Peoples Gas System	WEQ	Distribution	Y
Casey	Gold	Natural Gas Supply Association (NGSA)	WGQ	Producer	N
Mike	Goldenberg	Federal Energy Regulatory Commission (FERC)	None	None	**G
Lindsay	Gottsoner	AGL Resources Inc.	WGQ	Pipeline	Y
Mark	Gracey	Southern Natural Gas Company, L.L.C.	WGQ	Pipeline	N
Bob	Gray	Arizona Corporation Commission	WGQ	Services	*A
Wraye	Grimard	Peoples Gas System, a Division of Tampa Electric Company	WGQ	LDC	N
Jerry H.	Gross	Questar Pipeline Company	WGQ	Pipeline	Y
Stanley	Gross	El Paso Electric	WEQ	Trans	Y
Brandon	Guderian	Devon Energy	WGQ	Producer	Y
Tom	Gwilliam	Iroquois Gas Transmission System	WGQ	Pipeline	Y
Francis J.	Halpin	Bonneville Power Administration	WEQ	Generation	Y
Erik	Hanser	Michigan Public Service Commission	----	----	N
Kevin	Hanson	Electric Reliability Council of Texas, Inc. (ERCOT)	WEQ	IGO	Y
Ann	Hartigan	Unitil Service Corporation	WGQ	LDC	Y
Chantal	Hendrzak	PJM Interconnection, LLC	WEQ	IGO	Y
Ronnie C.	Hensley II	Southern Star Central Gas Pipeline, Inc.	WGQ	Pipeline	Y
Sherry	Hill	TransCanada PipeLines Limited	WGQ	Pipeline	Y
Roy	Hiller	Southern Company Services, Inc.	WGQ	End User	Y
Micki	Hoffee	Northern Natural Gas	WGQ	Pipeline	Y

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Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Rachel	Hogge	Dominion Transmission, Inc.	WGQ	Pipeline	Y
Brad	Holmes	Fayetteville Express Pipeline	WGQ	Pipeline	N
Brenda	Horton	Kern River Gas Transmission Company	WGQ	Pipeline	Y
Richard	Ishikawa	Southern California Gas Company	WGQ	LDC	Y
Samara	Jaffe	National Grid	WGQ	LDC	Y
Patricia	Jagtiani	Natural Gas Supply Association (NGSA)	WGQ	Producer	N
Bonnie	Janssen	Michigan Public Service Commission	WGQ	End User	**G
Steven	Jaskolski	TransCanada US Pipelines / ANR Pipeline Company	WGQ	Pipeline	Y
Andrew	Kennedy	TECO/Peoples Gas System	WEQ	Distribution	Y
Drake R.	Kijowski	PSEG Energy Resources and Trade LLC	WGQ	LDC	N
Gordon	King	Okaloosa Gas District (APGA)	WGQ	LDC	N
Robert	Kott	California Independent System Operator Corp.	WEQ	IGO	Y
Richard	Kruse	Algonquin Gas Transmission, LLC (Spectra Energy Corp)	WGQ	Pipeline	N
Debbie	Kupczyk	National Fuel Gas Supply Corporation	WGQ	Pipeline	Y
Earl	Lambert	EnCORE	----	----	N
Gregory	Lander	Skipping Stone, LLC - CapacityCenter	WGQ	Services	Y
Nancy	Leatherland	Enbridge (U.S.) Inc.	WGQ	Pipeline	Y
Rodney	Luck	Los Angeles Department of Water and Power	WGQ	End User	N
Jared M.	Luner	Xcel Energy	WGQ	End User	N
Steve	Maestas	Public Service Company of New Mexico	WEQ	Mrkt/Brk	Y
Kathleen	Magruder	BP Energy Company	WEQ	Mrkt/Brk	N
James	Maguire	Direct Energy	WGQ	Services	N
Elizabeth	Mallett	North American Energy Standards Board	----	----	Staff

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First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Beth	Martin	WEC Energy Group	WGQ	LDC	Y
Willis	McCluskey	Salt River Project Agricultural Improvement & Power District	WGQ	End User	Y
Steve	McCord	Columbia Gas Transmission, LLC	WGQ	Pipeline	Y
Missy	McNamara	Columbia Gas Transmission, LLC	WGQ	Pipeline	Y
Rae	McQuade	North American Energy Standards Board	None	None	Staff
Michelle	Mendoza	Piedmont Natural Gas	WGQ	LDC	N
Cary	Metz	Enable Energy Resources, LLC	WGQ	Services	Y
Megan	Miller	Spectra Energy Corp	WGQ	Pipeline	Y
Sherri	Monteith	American Electric Power	WEQ	Generation	Y
Richard	Moreno	Energy Transfer Equity, L.P.	WGQ	Pipeline	N
Doug	Morgan	United Utility Group	WGQ	LDC	N
Art	Morris	Florida Power & Light	WGQ	End User	Y
Scott	Morrison	American Public Gas Association (APGA)	WGQ	Services	N
Bob	Mosemann	Anadarko Energy Services Company	WGQ	Producer	Y
Ann	Mountford	Pacific Gas and Electric Company	WGQ	LDC	Y
Sylvia	Munson	FIS	WGQ	Services	Y
Erin	Murphy	Environmental Defense Fund, Inc.	WGQ	End User	Y
Rebecca	Newson	Shell Energy North America (US), L.P.	WGQ	Services	Y
Christi	Nicolay	Macquarie Energy LLC	WGQ	Services	Y
David	Nilsson	Power Costs, Inc. (PCI)	WEQ	Tech/Serv	Y
Mike	Novak	National Fuel Gas Distribution Corporation	WGQ	LDC	Y
Gene	Nowak	Kinder Morgan Inc	WGQ	Pipeline	Y
Lou	Oberski	Dominion Resources Services, Inc.	WEQ	Generation	Y

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First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Linn C.	Oelker	LG&E and KU Services Company	WEQ	Generation	N
Sheree	Osborne	Puget Sound Energy, Inc.	WGQ	LDC	N
Debra Ann	Palmer	New England LDCs	WGQ	LDC	
Lopa	Parikh	Edison Electric Institute (EEI)	WEQ	End User	Y
Randy E.	Parker	ExxonMobil Gas and Power Marketing Company (a division of ExxonMobil Corporation)	WGQ	Producer	Y
Norman	Pedersen	Southern California Generation Coalition (Hanna and Morton LLP)	WGQ	End User	N
N. Jonathan	Peress	Environmental Defense Fund, Inc.	WGQ	End User	Y
Sheldan	Perry	Open Access Technology International, Inc. (OATI)	WGQ	Services	Y
Don	Petersen	Pacific Gas and Electric Company (PG&E)	WGQ	Pipeline	N
Joshua	Phillips	Southwest Power Pool	WEQ	IGO	Y
Damonica	Pierson	Shell Exploration and Production Company	WGQ	Producer	N
Phil	Precht	Baltimore Gas & Electric Company	WGQ	LDC	Y
Buffy	Pyle-Liberto	Exelon Corporation	WGQ	Services	N
Tom	Pysh	Northern Indiana Public Service Company	WEQ	Generation	N
Denise	Rager	North American Energy Standards Board	----	----	Staff
Deepak	Raval	NiSource Inc.	WGQ	LDC	Y
Jack	Reid	Seminole Electric Cooperative, Inc.	WEQ	Mrkt/Brk	Y
David	Reitz	National Fuel Gas Supply Corporation	WGQ	Pipeline	Y
Ginger	Richman	NJR Energy Services Company	WGQ	Services	N
Sara	Rogers	ONEOK Partners GP, LLC	WGQ	Pipeline	Y
Douglas	Rudd	New Jersey Natural Gas Company	WGQ	LDC	N
Michael	Russ	National Fuel Gas Supply Corporation	WGQ	Pipeline	Y
Chris	Russo	Sequent Energy Management, L.P.	WGQ	Services	Y

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First Name	Last Name	Company	Quadrant	Segment	NAESB Member
Steve	Salese	Direct Energy Business, LLC	WGQ	Services	Y
Andy	Sanchez	Southwestern Energy Company	WGQ	Producer	N
Manuel	Santos	Open Access Technology International, Inc. (OATI)	WGQ	Services	Y
Keith	Sappenfield	Environmental Resources Management	WGQ	Services	Y
Anita M.	Schafer	Duke Energy Corporation	WGQ	LDC	N
Jeff	Schmitt	PJM Interconnection, LLC	WEQ	IGO	Y
Ben	Schoene	ConocoPhillips Company	WGQ	Producer	Y
Dave	Schryver	American Public Gas Association (APGA)	WGQ	Services	N
Eric	Scott	Avista Utilities	WGQ	LDC	N
Mark	Sellers-Vaughn	Cascade Natural Gas	WGQ	LDC	N
Donnie	Sharp	City of Huntsville d/b/a Huntsville Utilities	WGQ	LDC	N
Lisa	Simpkins	Exelon Generation Company, LLC	WGQ	Services	Y
Carelton	Simpson	Unitil Energy Systems	WGQ	LDC	N
Jeff	Sissom	APGA/MLGW	WGQ	LDC	N
Ed	Skiba	MISO	WEQ	IGO	Y
Rick	Smead	RBN Energy LLC	WEQ	Tech/Serv	Y
Richard	Smith	Golden Pass Pipeline, LLC	WGQ	Pipeline	Y
Leigh	Spangler	Latitude Technologies, Inc.	WGQ	Services	Y
Joe	Sterrett	Tallgrass Operations, LLC	WGQ	Pipeline	Y
Will	Szubielski	Emera Energy Services, Inc.	WGQ	Services	N
Kenny	Taylor	Dominion Carolina Gas Transmission, LLC	WGQ	Pipeline	Y
Veronica	Thomason	North American Energy Standards Board	----	----	Staff
Terence (Terry)	Thorn	KEMA Gas Consulting Services	None	None	*A

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Participant Roster - Sorted by Last Name

First Name	Last Name	Company	Quadrant	Segment	NAESB Member
RJ	Thornbury	The Energy Authority, Inc.	WGQ	Services	N
Sue	Tierney	Analysis Group, Inc.	None	None	*A
Michael	Tita	Federal Energy Regulatory Commission (FERC)	None	None	**G
Ronald G.	Tomlinson	Dominion Transmission, Inc.	WGQ	Pipeline	Y
Roy	True	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	WEQ	Mrkt/Brk	Y
Caroline	Trum	North American Energy Standards Board	----	-----	Staff
John	Ulloa	Pacific Gas and Electric Company (PG&E)	WEQ	Generation	N
Brad	Van Dyke	Tallgrass Operations, LLC	WGQ	Pipeline	Y
Kim	Van Pelt	Texas Gas Transmission	WGQ	Pipeline	N
Glenn	Vaughan	Enbridge (U.S.) Inc.	WGQ	Pipeline	Y
Jill	Vaughan	CSR, Transcriber	None	None	N
Deborah	Waugh	Williams - Discovery	WGQ	Pipeline	N
Janelle	Weatherford	Enbridge (U.S.) Inc.	WGQ	Pipeline	Y
Thomas	Webb	Enbridge (U.S.) Inc.	WGQ	Pipeline	Y
Maya	Weber	Platts	None	None	***P
David	Webster	Macquarie Energy LLC	WGQ	Services	Y
Brian J.	Wiese	MidAmerican Energy Company	WGQ	LDC	N
Vickie	Wonder	Northern Natural Gas	WGQ	Pipeline	N
Charles	Yeung	Southwest Power Pool	WEQ	IGO	Y
Kathy	York	Tennessee Valley Authority	WEQ	Mrkt/Brk	Y
Christopher	Young	Exelon Corporation	WGQ	End User	N
Randy	Young	Gulf South Pipeline Company	WGQ	Pipeline	N

*A = Advisory Council Member

**G = Governmental Participant

***P = Press Participant

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 (Board Report - Appendix C: GEH Forum Distribution List)

SORT BY PARTICIPANT LAST NAME
 As of March 24, 2016

Adams, Denise	ONEOK Partners	Benson, Marty	Intermountain Gas Company
Agrawal, Rakesh	Blackstone Technology Group, Inc.	Bergles, Susan	American Gas Association
Albrecht, Matt	Chevron Natural Gas	Betancourt, Ramona	ETC Tiger Pipeline LLC
Allenback, Peggi	MidAmerican Energy Company	Billiot, Scott	Oglethorpe Power Corp.
Allred, Dave	NWP Marketing Services	Bishop, Cary M.	Greenwood Commissioners of Public Works (CPW)
Almquist, Karl	Tallgrass Operations, LLC	Bivens, Carrie	Electric Reliability Council of Texas, Inc. (ERCOT)
Anderson, Bruce	New England Power Generators Association, Inc.	Blasiak, James L.	Washington Gas Light Company
Anderson, John	Electricity Consumers Resource Council (ELCON)	Bleiweis, Bruce	DC Energy
Anderson, Mark	Paiute Pipeline Company	Bloodworth, Michelle	MISO
Anderson, Pam	Perkins Coie LLP	Bocangel, Na	Colorado Springs Utilities
Anker, Alisha	Prairie Power, Inc.	Boehme, John	Central Valley Gas Storage, LLC
Anthony, Susan	Electric Reliability Council of Texas, Inc. (ERCOT)	Bogdan, Candace	Liberty Utilities (Midstates Natural Gas) Corp.
Armato, John	Pacific Gas and Electric Company (PGE)	Booe, Jonathan	North American Energy Standards Board
Aslam, Omar	Federal Energy Regulatory Commission (FERC)	Borkovich, Paul	Southern California Gas Company
Bagot, Nance	The Electric Power Supply Association (EPSA)	Bormack, Mitchell	TRC Solutions
Bailey, Trevante	Dominion Transmission, Inc.	Boswell, William	North American Energy Standards Board
Bailey, Vicky	BHMM Energy Services, LLC	Boucher, Jennifer	The Berkshire Gas Company
Baird-Forristall, Caroline	MidAmerican Energy Company	Bougner, Mike	Xcel Energy
Baker, John	Open Access Technology International, Inc.	Bouillon, Brad	California Independent System Operator Corp.
Barbieri, Amanda	Ameren Missouri	Bourgeois, Y.J.	Anadarko Energy Services Company
Bartley, J.	Accenture, LLC	Bowling, Michael	Tucson Electric Power Company
Bartoszek, Stacy	NJR Energy Services Company	Bowman, Erica	America's Natural Gas Alliance (ANGA)
Barua, Rajnish	National Regulatory Research Institute (NRRI)	Bradbury, Debbie	Trunkline Gas Company
Batra, Sharat	Los Angeles Department of Water and Power	Braun, Christine	FortisBC Huntingdon Inc.
Battams, Ahuva Z.	Van Ness Feldman LLP	Bray, Walter	Arizona Electric Power Cooperative, Inc.
Baumgart, Julie A.	Wisconsin Public Service	Breden, Dan	Prairie Power, Inc.
Baxter, James	Oglethorpe Power Corp.	Breezeel, Phillip	Prairie Power, Inc.
Bear, John	ISO/RTO Council (IRC)	Broderick, Kyle	Portland General Electric Company
Beck, Elizabeth	Vectren Corporation	Brodeur, Sue	Unitil
Begley, Mark	Northern Natural Gas	Brooks, Kelly	J. Aron & Company (Goldman, Sachs & Co.
Bell, John S.	Kansas Corporation Commission	Brooks, Kelly R.	WBI Energy Transmission, Inc.
Bellairs, David A.	Metropolitan Utilities District of Omaha	Brown, Richard	PJM Interconnection, LLC
Bellville, Nathan T.	South Mississippi Electric Power Association (SMEPA)	Brownell, Stanley	PJM Interconnection, LLC
Benoit, Wayne	Boardwalk Pipeline Partners, LP	Broyles, John	New York ISO
		Bruechner, Paul	Okaloosa Gas District
		Bruns, Joe	Cedar Falls Utilities

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Bryson, Michael	PJM Interconnection, LLC	Colombo, Craig	Dominion Resources
Buccigross, Jim	8760 Inc.	Colussy, Peter	Xcel Energy
Buckner, Dan	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	Conneely, Joe	Granite State Gas Transmission System
Burgess, Tom	North American Electric Reliability Corporation (NERC)	Connor, Pete	American Gas Association
Burke, Lynn M	Columbia Gas of Ohio, Inc.	Conte, Tony	National Fuel Gas Supply Corporation
Burks, J. Cade	Big Data Energy Services	Cook, Chuck	Chevron Natural Gas
Burroughs, Michaela	American Gas Association	Cooper, Chris	Dauphin Island Gathering Partners
Busch, James (Jim)	BP West Coast Products	Copeland, Karen	Municipal Gas Authority of Georgia
Butcher, Angie	Michigan Public Service Commission	Cordts, Margaret	NorthWestern Energy
Butler, James	NiSource Inc.	Corritore, Janet	Tenaska
Butler, Scott	Consolidated Edison Co of New York, Inc.	Costello, Chuck	Blackstone Technology Group, Inc.
Caffery, David	PSEG Energy Resources & Trade LLC	Crabtree, David	TECO/Peoples Gas System
Calhoun, John Anthony	Santee Cooper	Crawford, Ernie	Public Service Company of New Mexico
Callager, Montie	Targa Resources Inc.	Crockett, Valerie	Tennessee Valley Authority
Callan, William A.	ISO New England, Inc.	Cross, Lorraine	Cross & Company, P.L.L.C.
Campoli, Greg	New York ISO	Crowley, Colin	Puget Sound Energy, Inc.
Capilla, Leslie	Arizona Public Service Company	Cryslar, Dan	Latitude Technologies, Inc.
Cardone, Ernie	New York ISO	Culp, Jodi	Black Hills Energy
Carlson, Tom	Arizona Public Service Company	Culpepper, Les	The Southeast Alabama Gas District
Carmouche, Evelyn	Shell Energy North America (US), L.P.	Cymes, Jim	Steckman Ridge
Carrette, Jeffrey	Total Gas and Power North America Inc.	Czigler, Frank	Public Service Electric and Gas Company
Carriere, Jay	Berkshire Hathaway Energy Company	DaFonte, F. Chico	Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities
Casey, Bill	Portland General Electric Company	Dahlberg, Lynn	Williams – Northwest Pipeline
Casey, Joe	East Tennessee Natural Gas, L.L.C	Daly, Kelly A.	Stinson Leonard Street LLP
Casey, Melissa	Williams – Transco	Dandridge, Michelle M.	Southern California Gas Company
Cashin, Jack	The Electric Power Supply Association (EPSA)	Danner, George	Coalition of Energy Technology Firms
Cather, Brenda	Anadarko Energy Services Company	Dauer, Jim	NRG Energy, Inc.
Chambers, Andrea	Ballard Spahr LLP	Davis, Dale	Williams
Chang, Ibtissam	Southern California Gas Company	Davis, Noy S.	New England LDCs
Chang, Stacy	NV Energy	Davis, Rae	Dominion Carolina Gas Transmission, LLC
Chapel, Douglas	Consumers Energy Company	Davydov, Alexander	Total Gas and Power North America Inc.
Charles-Joseph, Debbie	New York State Electric and Gas Corporation	DeAnna, Jeffrey	NJR Energy Services
Christian, Ron	Vectren Corporation	DeBoissiere, Alex	The United Illuminating Company
Clausen, Brad	Entergy Services, Inc.	DeBruin, Martin	Liberty Utilities (New England Natural Gas Company) Corp.
Cockrell, Jessica L.	Federal Energy Regulatory Commission (FERC)	DeCoursey, Erica	New Mexico Gas Company
Cocks, Michael	Bonneville Power Administration	Demman, Laura K.	Northern Natural Gas
		Dempsey, Jerry H.	Open Access Technology International, Inc.

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Denton, Rhonda	BP Energy	Feemster, Bryan	City Utilities of Springfield, Missouri
Derryberry, Richard	Xcel Energy	Fernandez, Anna	Federal Energy Regulatory Commission (FERC)
Desselle, Michael	Southwest Power Pool	Ferreira, Kathy	New Jersey Natural Gas Company
Devers, Janice	Maritimes & Northeast Pipeline, L.L.C. – US	Field, Douglas	Southern Star Central Gas Pipeline, Inc.
Dewar, Mark	Puget Sound Energy	Fields, Brian	Calpine Energy Services, LP
Diamond, Michael	Van Ness Feldman LLP	Filer, Leslie	Avista Corporation
Dibble, Jay	Calpine Energy Services, LP	Finklea, Edward	Northwest Industrial Gas Users
Dickens, Dwayne	UNS Electric	Fitzpatrick, Brian	PJM Interconnection, LLC
Dillavou, Jay H.	MidAmerican Energy Company	Flynn, Kevin	ISO New England, Inc.
Dininger, Dennis	Indianapolis Power & Light Company (IPL)	Foley, Kevin	Puget Sound Energy, Inc.
Dinkins, Phaedra	Williams	Follmer, Annette	USG Corporation
Djukic, Stacy	Northern Indiana Public Service Company	Forshaw, Brian	Connecticut Municipal Electric Energy Cooperative
Donahue, Bill	Puget Sound Energy, Inc.	Fort, Jim	The Energy Authority, Inc.
Dorr, Justin	Avista Corporation	Foss, Michelle	University of Texas
Downey, Carrie	Imperial Irrigation District	Fossum, Drew	Tenaska Energy, Inc.
Draemer, Mary	Energy Transfer Equity, L.P.	Foster, Danielle	Shell Energy North America (Canada)
Dragulescu, Adrian	Exelon Generation Company, LLC	Foutch, Jeffrey	Peregrine Midstream Partners LLC
Dreskin, Joan	Interstate Natural Gas Association of America (INGAA)	Freitas, Christopher	US Department of Energy
Durbin, Marty	America's Natural Gas Alliance (ANGA)	Frey, Michael	Municipal Gas Authority of Georgia
Durocher, Jeremy	MCP Operating, LLC	Friedman, Randy	Northwest Natural
Ege, Katie	Great River Energy	Fuentes, Daryll	USG Corporation
Ehly, Katie	America's Natural Gas Alliance (ANGA)	Fuerst, Gary	FirstEnergy Service Co.
Elder, Catherine M.	Aspen Environmental Group	Fulton, Brian	USN Gas Inc.
Elgie, Tom	Powerex Corp.	Furino, Robert S.	Unitil
Ellis, John	Semprea Utilities	Gagliardi, Kristine	Columbia Gulf Transmission
Ellis, Sam	Southwest Power Pool	Gallagher, William	Vermont Public Power Supply Authority
Ellsworth, Bruce	New York State Reliability Council	Garcia, Clarissa	Goldman, Sachs & Co. J. Aron & Co.
Ellzey, Jay	Chevron Natural Gas	Gardner, Wayne	WE Gardner Company LLC
Engels, William	Los Angeles Department of Water & Power	Garner, David	Puget Sound Energy, Inc.
Eoff, Cameron T.	Associated Electric Cooperative Inc.	Gary, Tina	Portland General Electric Company
Epstein, Max	Potomac Economics	Gee, Bob	Gee Strategies Group, LLC
Ethier, Robert	ISO New England, Inc.	Gee, Dennis	Pacific Gas and Electric Company (PGE)
Evans, Bruce	PacifiCorp	George, Simi Rose	Environmental Defense Fund
Evey, Tamara	Ameren Services Company	Gerrish, Tim	Florida Power & Light
Eynon, Patrick	American Services Company	Ghormley, Joseph	Southwest Power Pool
Fan, Chris	Pacific Gas and Electric Company (PGE)	Gibson, Tom	Columbia Gas of Maryland
Faust, Tina	Questar Gas Company	Gilbert, Steve	Northern Natural Gas

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Gill, Paul	Sea Robin Pipeline company, LLC	Hanson, Kevin	Electric Reliability Council of Texas, Inc. (ERCOT)
Gillingham, Rick	Hoosier Energy Rural Electric Cooperative, Inc.	Hardy, Dave	Tri-State Generation and Transmission Association, Inc.
Ginnetti, Jim	EquiPower Resources Corp	Hargett, Chris	Consolidated Edison Co of New York, Inc.
Ginsberg, Susan	Independent Petroleum Association of America (IPAA)	Harrel, Scott	Oglethorpe Power Corp.
Glazebrook, Sherri	Tennessee Gas Pipeline Company, L.L.C.	Harshbarger, Bob	Puget Sound Energy, Inc.
Glazer, Craig	PJM Interconnection, LLC	Hart, Anita	NV Energy
Glines, Brent	Golden Spread Electric Cooperative	Hartigan, Ann	Unitil Service Corporation
Glover, Gloria	TECO/Peoples Gas System	Hartsoe, Joseph	American Electric Power Service Corp.
Goddard, Aaron	Columbia Gas of Maryland	Hathaway, Dave	Wisconsin Public Service
Gold, Amy	Shell Energy North America (US) L.P.	Helm, M. Gary	PJM Interconnection, LLC
Gold, Casey	Natural Gas Supply Association (NGSA)	Hendrzak, Chantal	PJM Interconnection, LLC
Goldbeck, Glenn	Pacific Gas and Electric Company (PGE)	Henry, Mike	Emera Energy
Goldenberg, Mike	Federal Energy Regulatory Commission (FERC)	Hensley II, Ronnie C.	Southern Star Central Gas Pipeline, Inc.
Goodman, Craig	National Energy Marketers Association (NEM)	Hicken, Jeff	Alliant Energy
Gottspomer, Lindsay	AGL Resources Inc.	Hild, Jeffrey	Xcel Energy
Gracey, Mark	Kinder Morgan Inc	Hill, Audrea	PSC Nitrogen Fertilizer, L.P.
Grassi, Bob	PPL Services Corporation	Hill, Sherry	TransCanada PipeLines Ltd.
Gray, Bob	Arizona Corporation Commission	Hiller, Roy	Southern Company Services, Inc.
Gray, Dax	Utah Associated Municipal Power Systems (UAMPTS)	Hoffee, Micki	Northern Natural Gas
Gray, Kevin	Southern Star Central Gas Pipeline, Inc.	Hogge, Rachel	Dominion Transmission, Inc.
Grimard, Wraye	Peoples Gas System, a Division of Tampa Electric	Holmes, Brad	Fayetteville Express Pipeline
Grooms, Craig	Buckeye Power	Horn, Jennifer	JEA
Gross, Blake	American Electric Power	Horne, Glenda	Santee Cooper
Gross, Jerry H.	Questar Pipeline Company	Horner, Jason	Portland General Electric Company
Gross, Stanley	El Paso Electric	Horton, Brenda	Kern River Gas Transmission
Grover, Scott	Southern Company Services, Inc.	Horton, Rob	Hoosier Energy Rural Electric Cooperative, Inc.
Guderian, Brandon	Devon Gas Services L.P.	Hughes, John	Electricity Consumers Resource Council (ELCON)
Gwilliam, Tom	Iroquois Gas Transmission System	Ishikawa, Richard	Southern California Gas Company
Haas, Paul	El Paso Natural Gas Company, L.L.C.	Jaffe, Samara	National Grid
Haines, Phil	Puget Sound Energy	Jagtiani, Patricia	Natural Gas Supply Association (NGSA)
Hale, Kenneth J.	City Utilities of Springfield, Missouri	Janssen, Bonnie	Michigan Public Service Commission
Halpin, Francis J.	Bonneville Power Administration	Jaskolski, Steven	TransCanada US Pipelines / ANR Pipeline Company
Hammer, Mark	Puget Sound Energy, Inc.	Jones, Dan	Duke Energy Corporation
Hanchey, Jeannette	PXD	Jones, Kim	NCUC
Hanser, Erik	Michigan Public Service Commission	Jones, Paul	Salt River Project Agricultural Improvement & Power District

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Joosten, John	Kern River Gas Transmission Company	Lee, Michael	Federal Energy Regulatory Commission (FERC)
Jordan, Deena	Regency Energy Partners LP	Leesman, Katie	Process Gas Consumers Group (Ballard Spahr LLP rep)
Joseph, Kelli	New York ISO	Lehman, Richard	Salt River Project Agricultural Improvement & Power District
Joyce, Patrick	Black Hills Corporation	Lennon, Rose	Washington Gas Light Company
Kahle, Dick	Lincoln Electric System	Leuschen, Sam	PPA Natural Gas Storage, LLC
Kasha, Priscila Castillo	Los Angeles Department of Water and Power	Liang-Nicol, Cecilia	Monongahela Power Company
Katz, Andrew	NSTAR	Linder, Sorana	Crossroads Pipeline
Kelley, Rod	Bonneville Power Administration	Lobdell, Julie	Municipal gas Authority of Georgia
Kennedy, Andrew	TECO/ Peoples Gas System	Locke, Michael	JEA
Kennedy, Mariah	Puget Sound Energy, Inc.	Love, Paul	Natural Gas Pipeline Company of America LLC
Keogh, Miles	National Association of Regulatory Utility Commissioners (NARUC)	Luck, Rodney	Los Angeles Department of Water and Power
Kerr, Paul	Shell Energy North America (Canada)	Luner, Jared M.	Xcel Energy
Kerrigan, Lily	Wright & Talisman, P.C.	Lyser, Shelly	Consolidated Edison Co of New York, Inc.
Kijowski, Drake R.	PSEG Energy Resources and Trade LLC	Maestas, Steve	Public Service Company Of New Mexico
King, Gordon	Okaloosa Gas District	Maffa, Paul	Liberty Utilities (Peach State Natural Gas) Corp.
Kinser, Glenn	TOTAL Gas & Power North America, Inc.	Magruder, Kathleen	BP Energy Company
Kisluk, Eileen Wilson	PAA Natural Gas Storage	Maguire, James	Direct Energy Business, LLC
Knight, Jim	Metropolitan Utilities District	Malcolm, Shelby	Open Access Technology International, Inc.
Koch, Kent E.	Columbia Gas of Kentucky	Mallett, Elizabeth	North American Energy Standards Board
Kott, Robert	California ISO	Mancuso, Melanie	FirstEnergy Utilities
Koza, Frank	PJM Interconnection, LLC	Manning, James	North Carolina Electric Membership Corporation
Kramer, Bernard	DTE Gas Company	Markovich, Kevin	NorthWestern Energy
Kruse, Richard	Algonquin Gas Transmission, LLC	Martin, Beth	WEC Energy Group
Kupczyk, Debbie	National Fuel Gas Supply Corporation	Martin, Tim	Wolverine Power Supply Cooperative
Kvam, Michele	Puget Sound Energy, Inc.	Marton, David	FirstEnergy
Lacy, Catharine M.	Dominion Resources Services, Inc.	Mata, Antelmo	Williams - Transco
Lambert, Earl	EnCORE	Matthews, Jennifer	Southern Star Central Gas Pipeline, Inc.
Lander, Gregory	Skipping Stone, LLC	Maust, Keith	Piedmont Natural Gas
Lane, Bryan	FortisBC Energy, Inc.	Mayette, Joe	United States Gypsum Company
Langel, Gina	Omaha Public Power District	McAnally, Robert	Northwest Natural
Langston, Mike	Energy Transfer Equity, L.P.	McBroom, Melissa	ONEOK Partners GP LLC
Lasa, Dulce	Southern California Gas Company	McCluskey, Willis	Salt River Project Agricultural Improvement & Power District
Lauby, Mark	North American Electric Reliability Corporation (NERC)	McCord, Steve	Columbia Gas Transmission Corporation
Laval, Stuart	Duke Energy Corporation	McCord, Tom	The Energy Authority, Inc.
Lavarco, William	NextEra Energy Power Marketing, LLC		
Leatherland, Nancy	Enbridge (U.S.) Inc.		
Lee, Amy	Northwest Natural		

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McCoy, Matt	SouthernStar Central Gas Pipeline	Mucci, Ron	ONEOK
McDermott, Mike	Pacific Gas and Electric Company (PGE)	Munson, Sylvia	FIS
McGeeney, Chris	Associated Electric Cooperative Inc.	Murphy, Erin	Environmental Defense Fund, Inc.
McLafferty, Dan	Pacific Gas and Electric Company (PGE)	Murphy, Kyle	Latitude Technologies, Inc.
McNamara, Missy	Columbia Gas Transmission, LLC	Musich, Beth	Southern California Gas Company
McNevin, John	EnCORE	Mysore, Sunil	Latitude Technologies, Inc.
McQuade, Rae	North American Energy Standards Board	Nance, Peter	ICF International
Meehan, James H.	FirstEnergy Corporation	Neph, Sherry	ONEOK Partners GP LLC
Melvin, Jasmin	Platts	Newson, Rebecca	Shell Energy North America (US), L.P.
Mendoza, Michelle	Piedmont Natural Gas	Nichols, Marshall	National Petroleum Council
Meriwether, Tom	Targa Resources	Nicolay, Christi	Macquarie Energy LLC
Metz, Cary	Enable Energy Resources, LLC	Nielsen, Janie	Kern River Gas Transmission Company
Metzker, Amber L.	Xcel Energy	Nilsson, David	Power Costs, Inc. (PCI)
Millar, Debra	Columbia Gas of Pennsylvania	Nishimuta, Lisa	ONEOK
Millard, Ryan	Portland General Electric Company	Nolte, Bill	Sunflower Electric Power Corporation
Miller, Mary Kay	Northern Natural Gas	Norton, Chris	American Municipal Power, Inc.
Miller, Megan	Spectra Energy Corp	Novak, Mike	National Fuel Gas Distribution Corporation
Miller, Rebecca	Dominion Transmission, Inc.	Nowak, Gene	Kinder Morgan Inc
Miller, William T.	American Public Gas Association (APGA)	O'Bryan, Wayne	Big Rivers Electric Corporation
Mills, Ron	Latitude Technologies, Inc.	O'Hara, Chris	NRG Energy, Inc.
Miyaji, Wendell	Comverge	Oberski, Louis	Dominion Resources Services, Inc.
Mohre, David	National Rural Electric Cooperative Association (NRECA)	Oelker, Linn C.	LG&E and KU Services Company
Monteith, Sherri	American Electric Power Service Corp.	Ogg, Joelle	DC Energy
Moore, Wayne	Southern Company Services, Inc.	Olenick, John	Southwest Gas Corporation
Moreno, Richard	Energy Transfer	Olling, Kevin	Midland Cogeneration Venture LP
Morgan, Doug	United Utility Group	Omey, Samantha	ExxonMobil Corporation / XTO Energy Inc.
Morris, Alex	Pacific Gas and Electric Company (PGE)	Orr, Bryant	Oglethorpe Power Corp.
Morris, Art	Florida Power & Light	Osborne, Sheree	Puget Sound Energy, Inc.
Morrison, Andrew	MarkWest Energy Partners, L.P.	Owens, David	Edison Electric Institute (EEI)
Morrison, Scott	American Public Gas Association (APGA)	Pace, Dawnell	Williams – Northwest Pipeline, LLC
Morrissey, Tomas	Pacific Northwest Utilities Conference Committee	Padilla, Eleanor	Arizona Public Service Company
Morrow, Mark C.	UGI Corporation	Page, Carly	Natural Gas Supply Association (NGSA)
Mosemann, Bob	Anadarko Energy Services Company	Palmer, Debra Ann	New England LDCs
Mosley, Scott	SouthStar Energy Services, LLC	Parikh, Lopa	Edison Electric Institute (EEI)
Mott, Michael	Northwest Natural	Parker, Randy E.	ExxonMobil Gas and Power Marketing Company (a division of ExxonMobil Corporation)
Mountford, Ann	Pacific Gas and Electric Company (PGE)	Patrick, Marguerite (Becky)	Infinite Energy
Moura, John	North American Electric Reliability Corporation (NERC)		

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Patterson, Delia	American Public Power Association (APPA)	Reese, Benjamin J.	PAA Natural Gas Storage
Patton, Gail	Targa Resources	Reid, Jack	Seminole Electric Cooperative, Inc.
Pauley, Bob	Indiana Commission	Reid, John D.	PAA Natural Gas Storage
Pedersen, Norman	Hanna and Morton LLP	Reitz, David	National Fuel Gas Supply Corporation
Pederson, Blake	Tucson Electric Power Company	Renshaw, Kevin	Southern Star Central Gas Pipeline, Inc.
Penner, Audrey	Manitoba Hydro	Retherford, Angila	Vectren Corporation
Pennock, Lori-Lynn	Salt River Project Agricultural Improvement & Power District	Rhyno, Wendy	Alliance Pipeline
Peoples, John	Duquesne Light	Richman, Ginger	NJR Energy Services Company
Percell, Cynthia	Red Willow Production Company owned by the Southern Ute Indian Tribe	Rikard, Clay	Southern Company Services, Inc.
Peress, N. Jonathan	Conservation Law Foundation	Rivers, Cynthia	Florida Gas Transmission, LLC
Pergola, Perry M.	Vectren Corporation	Rivers, Cynthia	Fitchburg Gas & Electric Light Company
Perry, Sheldan	Open Access Technology International, Inc.	Robbins, Chris	Intermountain Gas Company
Persekian, Joe	USG Corporation	Roberts, Emily	Gill Ranch Storage Company
Peschka, Terri	Portland General Electric Company	Robinson, Dennis	ISO New England, Inc.
Petersen, Don	Pacific Gas and Electric Company (PGE)	Rogers, Sara	ONEOK
Pettinato, Robert	Los Angeles Department of Water and Power	Roth, Tom	Roth Energy Company
Philips, Marjorie	Direct Energy Business, LLC	Rudd, Douglas	New Jersey Natural Gas Company
Phillips, Joshua	Southwest Power Pool	Rudiak, John	New England LDCs
Pierson, Damonica	Shell Exploration and Production Company	Rudolphi, Matthew R.	South Mississippi Electric Power Association (SMEPA)
Pleasant, Rochelle	Total	Ruperto, Melinda	MidAmerican Energy Company
Plumaj, Joshua	Columbia Gulf Transmission	Russ, Mike	National Fuel Gas Supply Corporation
Poli, Patricia	Michigan Public Service Commission	Russell, Chelsea	Superior Water, Light and Power
Pollard, Joseph	TransCanada US Pipelines	Russo, Chris	Sequent Energy Management, L.P.
Pranaitis, Mark	The Southern Connecticut Gas Company	Ryu, Heejin	Exelon Generation
Precht, Phil	Baltimore Gas & Electric Company	Sahba, Shahriar	Open Access Technology International, Inc.
Price, Kent E.	Salt River Project Agricultural Improvement & Power District	Saini, Ishwar	Macquarie Energy LLC
Price, Valerie	Enable Gas Transmission	Salese, Steve	Direct Energy Business, LLC
Pyle-Liberto, Buffy	Exelon Corporation	Salisbury, Chad	Santee Cooper
Pyles, Adam	CenterPoint Energy Services	Sanchez, Andy	Southwestern Energy Company
Pysh, Tom	Northern Indiana Public Service Company	Santa, Don	The Interstate Natural Gas Association of America (INGAA)
Rager, Denise	North American Energy Standards Board	Santman, Ken	Avista Corporation
Ramsey, Brad	National Association of Regulatory Utility Commissioners (NARUC)	Santos, Manuel	Open Access Technology International, Inc.
Raval, Deepak	NiSource Inc.	Sappenfield, Keith	Environmental Resources Management
Razack, Abdul	Nevada Power	Schafer, Anita M.	Duke Energy Corporation
Reeping, Robert	FirstEnergy Utilities	Schmitt, Jeff	PJM Interconnection, LLC
		Schoene, Ben	ConocoPhillips Company
		Schryver, Dave	American Public Gas Association (APGA)

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Schubert, Eric	BP America Production Company	Suga, Glenn	Sierra Pacific Power Company
Scott, Eric	Avista Corporation	Szubielski, Will	Emera Energy Services, Inc.
Sellers-Vaughn, Mark	Cascade Natural Gas Corporation	Tardy, Ryan	Sierra Pacific LDC
Selsmeyer, Patrick J.	Integrus Energy Services, Inc.	Tarpey, Steve	BP West Coast Products
Shah, Jayana	New Jersey Natural Gas Company	Tatum, Ed	Old Dominion Electric Coop
Shahidehpour, Mohammad	Eastern Interconnection States Planning Council (EISPC) -IIT	Taylor, Brandon	Puget Sound Energy
Sharp, Donnie	City of Huntsville d/b/a Huntsville Utilities	Taylor, Kenny	Dominion Carolina Gas Transmission, LLC
Sharp, Steve	Arkansas Electric Cooperative Corporation (AECC)	Tennyson, John	City Utilities of Springfield, Missouri
Shields, Justin	UNS Electric	Theobald, David	Omaha Public Power District
Shiple, Don	Southwest Power Pool	Thomas, Sharon	National Association of Regulatory Utility Commissioners (NARUC)
Shoemaker, Mike	FortisBC Energy Inc.	Thomason, Veronica	North American Energy Standards Board
Short, Tag	MISO	Thompson, Michael J.	Wright & Talisman, P.C.
Shumway, Neal	Tenaska Marketing Ventures	Thoms, Eric	MISO
Silberstein, Pam	National Rural Electric Cooperative Association (NRECA)	Thorn, Terence (Terry)	KEMA Gas Consulting Services
Simon, Timothy	TAS Strategies	Thornbury, RJ	The Energy Authority, Inc.
Simpkins, Lisa	Exelon Generation Company, LLC	Tierney, Sue	Analysis Group, Inc.
Simpson, Carleton	Unitil Energy Systems	Tilbury, Joshua	New Mexico Gas Company
Singh, Harry	Goldman, Sachs & Co.	Tingler, Teri	ONEOK
Sissom, Jeff	APGA/MLGW	Tita, Michael	Federal Energy Regulatory Commission (FERC)
Sixkiller, Heather	Portland General Electric Company	Toledano, Donna	Colorado Springs Utilities
Skelton, Kathryn	Noble Energy, Inc.	Tomlinson, Ronald G.	Dominion Transmission, Inc.
Skiba, Ed	MISO	Trent, Dan	Associated Electric Cooperative Inc.
Smead, Rick	RBN Energy LLC	True, Roy	ACES
Smith, Chris	Puget Sound Energy, Inc.	Trum, Caroline	North American Energy Standards Board
Smith, Jim	Municipal Energy Resources Corporation	Tulchinsky, Don	Columbia Gas of Massachusetts
Smith, Richard	Golden Pass Products LLC	Tweed, Caitlin	Bracewell & Giuliani LLP
Snider, Wade	Brazos Electric Cooperative	Twiggs, Thane Thomas	Castleton commodities Merchant Trading L.P.
Snow, Robert V.	Federal Energy Regulatory Commission (FERC)	Ulloa, John	Pacific Gas and Electric Company (PGE)
Soreng, Erik	PacifiCorp	Ulmer, Andrew	California Independent System Operator Corp.
Spangler, Leigh	Latitude Technologies, Inc.	Van Dyke, Brad	Tallgrass Operations, LLC
Sterrett, Joe	Tallgrass Operations, LLC	Van Pelt, Gregory	California Independent System Operator Corp.
Stone, Carolyn	Cascade Natural Gas Corporation	Van Pelt, Kim	Boardwalk Pipeline Partners, LP
Stuchell, Jeff	FirstEnergy Solutions	Van Schaack, Phil	MISO
Stultz, Mark	BP America Production Company	Vance, Kevin	Shell Oil Products US
Sturm, John	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	Vannoy, Kevin	MISO
Stutzman, Rain	NRG Energy, Inc.	Vaughan, Glenn	Enbridge (U.S.) Inc.

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Vesuvio, Vincent	Infinite Energy	Yildirok, Val	Portland General Electric Company
Vidas, Harry	Eastern Interconnection States Planning Council (EISPC) -ICFI	Yoho, Lisa	BG Energy Holdings Limited
Vu, Mia	Pacific Gas and Electric Company (PGE)	York, Kathy	Tennessee Valley Authority
Wagner, Tom	Entergy Nuclear Power Marketing, LLC	Young, Christopher	Exelon Corporation
Wah, Pauline C.	Southern California Gas Company	Young, Randy	Boardwalk Pipeline Partners, LP
Walker, Wesley	Dominion Resources Services, Inc.	Zenner, Courtney	BG Group
Walsh, Lisa	Encana Oil and Gas		
Washington, Kathy	Transwestern Pipeline		
Wateland, Dale	CenterPoint Energy Services		
Watson, Kimberly	Golden Triangle Storage, Inc.		
Waugh, Deborah	Williams – Discovery Gas Transmission		
Weatherford, Janelle	Enbridge (U.S.) Inc.		
Weaver, Alonzo	Memphis Light, Gas & Water Division		
Webb, Thomas	Enbridge (U.S.) Inc.		
Weber, Maya	Platts		
Webster, David	Macquarie Energy LLC		
Weidner, James	Northern Natural Gas		
Weinber, Bob	South Mississippi Electric Power Association (SMEPA)		
Wetter, Kari	Wabash Valley Power Association, Inc.		
Whiting, Joh	Intermountain Gas Company		
Wiese, Brian J.	MidAmerican Energy Company		
Wiggins, Dena	Natural Gas Supply Association (NGSA)		
Wilkins, Jimmy	North Carolina Electric Membership Corporation		
Williams, Richard	Midcontinent Express Pipeline LLC		
Willins, Steve	U.S. Energy Services, Inc.		
Willis, Troy	Georgia Transmission Corporation		
Wingo, Mike	Carolina Gas Transmission Corporation		
Wisersky, Megan	Madison Gas & Electric Company		
Wonder, Vickie	Northern Natural Gas		
Wood, JT	Southern Company Services, Inc.		
Woosley, Stephen	Columbia Gas of Virginia		
Word, Garrett	TransCanada US Pipelines		
Worthington, Kerry	Eastern Interconnection States Planning Council (EISPC)		
Wozniak, Caroline	Federal Energy Regulatory Commission (FERC)		
Wyntjes, Sherry	Chevron Natural Gas		
Yeung, Charles	Southwest Power Pool		

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Buccigross, Jim	8760 Inc.	Elder, Catherine M.	Aspen Environmental Group
Bartley, J.	Accenture, LLC	Eoff, Cameron T.	Associated Electric Cooperative Inc.
True, Roy	ACES	McGeeney, Chris	Associated Electric Cooperative Inc.
Gottspomer, Lindsay	AGL Resources Inc.	Trent, Dan	Associated Electric Cooperative Inc.
Kruse, Richard	Algonquin Gas Transmission, LLC	Dorr, Justin	Avista Corporation
Buckner, Dan	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	Filer, Leslie	Avista Corporation
Sturm, John	Alliance for Cooperative Energy Services Power Marketing LLC (ACES)	Santman, Ken	Avista Corporation
Rhyno, Wendy	Alliance Pipeline	Scott, Eric	Avista Corporation
Hicken, Jeff	Alliant Energy	Chambers, Andrea	Ballard Spahr LLP
Barbieri, Amanda	Ameren Missouri	Precht, Phil	Baltimore Gas & Electric Company
Evey, Tamara	Ameren Services Company	Carriere, Jay	Berkshire Hathaway Energy Company
Bowman, Erica	America's Natural Gas Alliance (ANGA)	Yoho, Lisa	BG Energy Holdings Limited
Durbin, Marty	America's Natural Gas Alliance (ANGA)	Zenner, Courtney	BG Group
Ehly, Katie	America's Natural Gas Alliance (ANGA)	Bailey, Vicky	BHMM Energy Services, LLC
Gross, Blake	American Electric Power	Burks, J. Cade	Big Data Energy Services
Hartsoe, Joseph	American Electric Power Service Corp.	O'Bryan, Wayne	Big Rivers Electric Corporation
Monteith, Sherri	American Electric Power Service Corp.	Joyce, Patrick	Black Hills Corporation
Bergles, Susan	American Gas Association	Culp, Jodi	Black Hills Energy
Burroughs, Michaela	American Gas Association	Agrawal, Rakesh	Blackstone Technology Group, Inc.
Connor, Pete	American Gas Association	Costello, Chuck	Blackstone Technology Group, Inc.
Norton, Chris	American Municipal Power, Inc.	Benoit, Wayne	Boardwalk Pipeline Partners, LP
Miller, William T.	American Public Gas Association (APGA)	Van Pelt, Kim	Boardwalk Pipeline Partners, LP
Morrison, Scott	American Public Gas Association (APGA)	Young, Randy	Boardwalk Pipeline Partners, LP
Schryver, Dave	American Public Gas Association (APGA)	Cocks, Michael	Bonneville Power Administration
Patterson, Delia	American Public Power Association (APPA)	Halpin, Francis J.	Bonneville Power Administration
Eynon, Patrick	American Services Company	Kelley, Rod	Bonneville Power Administration
Bourgeois, Y.J.	Anadarko Energy Services Company	Stultz, Mark	BP America Production Company
Cather, Brenda	Anadarko Energy Services Company	Schubert, Eric	BP America Production Company
Mosemann, Bob	Anadarko Energy Services Company	Denton, Rhonda	BP Energy
Tierney, Sue	Analysis Group, Inc.	Magruder, Kathleen	BP Energy Company
Sissom, Jeff	APGA/MLGW	Busch, James (Jim)	BP West Coast Products
Gray, Bob	Arizona Corporation Commission	Tarpey, Steve	BP West Coast Products
Bray, Walter	Arizona Electric Power Cooperative, Inc.	Tweed, Caitlin	Bracewell & Giuliani LLP
Capilla, Leslie	Arizona Public Service Company	Snider, Wade	Brazos Electric Cooperative
Carlson, Tom	Arizona Public Service Company	Grooms, Craig	Buckeye Power
Padilla, Eleanor	Arizona Public Service Company	Bouillon, Brad	California Independent System Operator Corp.
Sharp, Steve	Arkansas Electric Cooperative Corporation (AECC)	Ulmer, Andrew	California Independent System Operator Corp.
		Van Pelt, Gregory	California Independent System Operator Corp.

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Kott, Robert	California ISO	Hargett, Chris	Consolidated Edison Co of New York, Inc.
Dibble, Jay	Calpine Energy Services, LP	Lyser, Shelly	Consolidated Edison Co of New York, Inc.
Fields, Brian	Calpine Energy Services, LP	Chapel, Douglas	Consumers Energy Company
Wingo, Mike	Carolina Gas Transmission Corporation	Cross, Lorraine	Cross & Company, P.L.L.C.
Sellers-Vaughn, Mark	Cascade Natural Gas Corporation	Linder, Sorana	Crossroads Pipeline
Stone, Carolyn	Cascade Natural Gas Corporation	Cooper, Chris	Dauphin Island Gathering Partners
Twiggs, Thane Thomas	Castleton commodities Merchant Trading L.P.	Bleiweis, Bruce	DC Energy
Bruns, Joe	Cedar Falls Utilities	Ogg, Joelle	DC Energy
Pyles, Adam	CenterPoint Energy Services	Guderian, Brandon	Devon Gas Services L.P.
Wateland, Dale	CenterPoint Energy Services	Maguire, James	Direct Energy Business, LLC
Boehme, John	Central Valley Gas Storage, LLC	Philips, Marjorie	Direct Energy Business, LLC
Albrecht, Matt	Chevron Natural Gas	Salese, Steve	Direct Energy Business, LLC
Cook, Chuck	Chevron Natural Gas	Davis, Rae	Dominion Carolina Gas Transmission, LLC
Ellzey, Jay	Chevron Natural Gas	Taylor, Kenny	Dominion Carolina Gas Transmission, LLC
Wyntjes, Sherry	Chevron Natural Gas	Colombo, Craig	Dominion Resources
Sharp, Donnie	City of Huntsville d/b/a Huntsville Utilities	Lacy, Catharine M.	Dominion Resources Services, Inc.
Feemster, Bryan	City Utilities of Springfield, Missouri	Oberski, Louis	Dominion Resources Services, Inc.
Hale, Kenneth J.	City Utilities of Springfield, Missouri	Walker, Wesley	Dominion Resources Services, Inc.
Tennyson, John	City Utilities of Springfield, Missouri	Bailey, Trevante	Dominion Transmission, Inc.
Danner, George	Coalition of Energy Technology Firms	Hogge, Rachel	Dominion Transmission, Inc.
Bocangel, Na	Colorado Springs Utilities	Miller, Rebecca	Dominion Transmission, Inc.
Toledano, Donna	Colorado Springs Utilities	Tomlinson, Ronald G.	Dominion Transmission, Inc.
Koch, Kent E.	Columbia Gas of Kentucky	Kramer, Bernard	DTE Gas Company
Gibson, Tom	Columbia Gas of Maryland	Jones, Dan	Duke Energy Corporation
Goddard, Aaron	Columbia Gas of Maryland	Laval, Stuart	Duke Energy Corporation
Tulchinsky, Don	Columbia Gas of Massachusetts	Schafer, Anita M.	Duke Energy Corporation
Burke, Lynn M	Columbia Gas of Ohio, Inc.	Peoples, John	Duquesne Light
Millar, Debra	Columbia Gas of Pennsylvania	Casey, Joe	East Tennessee Natural Gas, L.L.C
Woosley, Stephen	Columbia Gas of Virginia	Worthington, Kerry	Eastern Interconnection States Planning Council (EISPC)
McCord, Steve	Columbia Gas Transmission Corporation	Vidas, Harry	Eastern Interconnection States Planning Council (EISPC) -ICFI
McNamara, Missy	Columbia Gas Transmission, LLC	Shahidehpour, Mohammad	Eastern Interconnection States Planning Council (EISPC) -IIT
Gagliardi, Kristine	Columbia Gulf Transmission	Owens, David	Edison Electric Institute (EEI)
Plumaj, Joshua	Columbia Gulf Transmission	Parikh, Lopa	Edison Electric Institute (EEI)
Miyaji, Wendell	Comverge	Gross, Stanley	El Paso Electric
Forshaw, Brian	Connecticut Municipal Electric Energy Cooperative	Haas, Paul	El Paso Natural Gas Company, L.L.C.
Schoene, Ben	ConocoPhillips Company	Anthony, Susan	Electric Reliability Council of Texas, Inc. (ERCOT)
Peress, N. Jonathan	Conservation Law Foundation	Bivens, Carrie	Electric Reliability Council of Texas, Inc.
Butler, Scott	Consolidated Edison Co of New York, Inc.		

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	(ERCOT)	Cockrell, Jessica L.	Federal Energy Regulatory Commission (FERC)
Hanson, Kevin	Electric Reliability Council of Texas, Inc. (ERCOT)	Fernandez, Anna	Federal Energy Regulatory Commission (FERC)
Anderson, John	Electricity Consumers Resource Council (ELCON)	Goldenberg, Mike	Federal Energy Regulatory Commission (FERC)
Hughes, John	Electricity Consumers Resource Council (ELCON)	Lee, Michael	Federal Energy Regulatory Commission (FERC)
Henry, Mike	Emera Energy	Snow, Robert V.	Federal Energy Regulatory Commission (FERC)
Szubielski, Will	Emera Energy Services, Inc.	Tita, Michael	Federal Energy Regulatory Commission (FERC)
Metz, Cary	Enable Energy Resources, LLC	Wozniak, Caroline	Federal Energy Regulatory Commission (FERC)
Price, Valerie	Enable Gas Transmission	Marton, David	FirstEnergy
Leatherland, Nancy	Enbridge (U.S.) Inc.	Meehan, James H.	FirstEnergy Corporation
Vaughan, Glenn	Enbridge (U.S.) Inc.	Fuerst, Gary	FirstEnergy Service Co.
Weatherford, Janelle	Enbridge (U.S.) Inc.	Stuchell, Jeff	FirstEnergy Solutions
Webb, Thomas	Enbridge (U.S.) Inc.	Mancuso, Melanie	FirstEnergy Utilities
Walsh, Lisa	Encana Oil and Gas	Reeping, Robert	FirstEnergy Utilities
Lambert, Earl	EnCORE	Munson, Sylvia	FIS
McNevin, John	EnCORE	Rivers, Cynthia	Fitchburg Gas & Electric Light Company
Moreno, Richard	Energy Transfer	Rivers, Cynthia	Florida Gas Transmission, LLC
Draemer, Mary	Energy Transfer Equity, L.P.	Gerrish, Tim	Florida Power & Light
Langston, Mike	Energy Transfer Equity, L.P.	Morris, Art	Florida Power & Light
Wagner, Tom	Entergy Nuclear Power Marketing, LLC	Shoemaker, Mike	FortisBC Energy Inc.
Clausen, Brad	Entergy Services, Inc.	Lane, Bryan	FortisBC Energy, Inc.
George, Simi Rose	Environmental Defense Fund	Braun, Christine	FortisBC Huntingdon Inc.
Murphy, Erin	Environmental Defense Fund, Inc.	Gee, Bob	Gee Strategies Group, LLC
Sappenfield, Keith	Environmental Resources Management	Willis, Troy	Georgia Transmission Corporation
Ginnetti, Jim	EquiPower Resources Corp	Roberts, Emily	Gill Ranch Storage Company
Betancourt, Ramona	ETC Tiger Pipeline LLC	Smith, Richard	Golden Pass Products LLC
Pyle-Liberto, Buffy	Exelon Corporation	Glines, Brent	Golden Spread Electric Cooperative
Young, Christopher	Exelon Corporation	Watson, Kimberly	Golden Triangle Storage, Inc.
Ryu, Heejin	Exelon Generation	Singh, Harry	Goldman, Sachs & Co.
Dragulescu, Adrian	Exelon Generation Company, LLC	Garcia, Clarissa	Goldman, Sachs & Co. J. Aron & Co.
Simpkins, Lisa	Exelon Generation Company, LLC	Conneely, Joe	Granite State Gas Transmission System
Omey, Samantha	ExxonMobil Corporation / XTO Energy Inc.	Ege, Katie	Great River Energy
Parker, Randy E.	ExxonMobil Gas and Power Marketing Company (a division of ExxonMobil Corporation)	Bishop, Cary M.	Greenwood Commissioners of Public Works (CPW)
Holmes, Brad	Fayetteville Express Pipeline	Pedersen, Norman	Hanna and Morton LLP
Aslam, Omar	Federal Energy Regulatory Commission (FERC)	Gillingham, Rick	Hoosier Energy Rural Electric Cooperative, Inc.

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Horton, Rob	Hoosier Energy Rural Electric Cooperative, Inc.	Bogdan, Candace	Liberty Utilities (Midstates Natural Gas) Corp.
Nance, Peter	ICF International	DeBruin, Martin	Liberty Utilities (New England Natural Gas Company) Corp.
Downey, Carrie	Imperial Irrigation District	Maffa, Paul	Liberty Utilities (Peach State Natural Gas) Corp.
Ginsberg, Susan	Independent Petroleum Association of America (IPAA)	Kahle, Dick	Lincoln Electric System
Pauley, Bob	Indiana Commission	Engels, William	Los Angeles Department of Water & Power
Dininger, Dennis	Indianapolis Power & Light Company (IPL)	Batra, Sharat	Los Angeles Department of Water and Power
Patrick, Marguerite (Becky)	Infinite Energy	Kasha, Priscila Castillo	Los Angeles Department of Water and Power
Vesuvio, Vincent	Infinite Energy	Luck, Rodney	Los Angeles Department of Water and Power
Selsmeyer, Patrick J.	Integrus Energy Services, Inc.	Pettinato, Robert	Los Angeles Department of Water and Power
Benson, Marty	Intermountain Gas Company	Nicolay, Christi	Macquarie Energy LLC
Robbins, Chris	Intermountain Gas Company	Saini, Ishwar	Macquarie Energy LLC
Whiting, Joh	Intermountain Gas Company	Webster, David	Macquarie Energy LLC
Dreskin, Joan	Interstate Natural Gas Association of America (INGAA)	Wisersky, Megan	Madison Gas & Electric Company
Gwilliam, Tom	Iroquois Gas Transmission System	Penner, Audrey	Manitoba Hydro
Callan, William A.	ISO New England, Inc.	Devers, Janice	Maritimes & Northeast Pipeline, L.L.C. – US
Ethier, Robert	ISO New England, Inc.	Morrison, Andrew	MarkWest Energy Partners, L.P.
Flynn, Kevin	ISO New England, Inc.	Durocher, Jeremy	MCP Operating, LLC
Robinson, Dennis	ISO New England, Inc.	Weaver, Alonzo	Memphis Light, Gas & Water Division
Bear, John	ISO/RTO Council (IRC)	Knight, Jim	Metropolitan Utilities District
Brooks, Kelly	J. Aron & Company (Goldman, Sachs & Co.	Bellairs, David A.	Metropolitan Utilities District of Omaha
Horn, Jennifer	JEA	Butcher, Angie	Michigan Public Service Commission
Locke, Michael	JEA	Hanser, Erik	Michigan Public Service Commission
Bell, John S.	Kansas Corporation Commission	Janssen, Bonnie	Michigan Public Service Commission
Thorn, Terence (Terry)	KEMA Gas Consulting Services	Poli, Patricia	Michigan Public Service Commission
Horton, Brenda	Kern River Gas Transmission	Allenback, Peggi	MidAmerican Energy Company
Joosten, John	Kern River Gas Transmission Company	Baird-Forristall, Caroline	MidAmerican Energy Company
Nielsen, Janie	Kern River Gas Transmission Company	Dillavou, Jay H.	MidAmerican Energy Company
Gracey, Mark	Kinder Morgan Inc	Ruperto, Melinda	MidAmerican Energy Company
Nowak, Gene	Kinder Morgan Inc	Wiese, Brian J.	MidAmerican Energy Company
Crysler, Dan	Latitude Technologies, Inc.	Williams, Richard	Midcontinent Express Pipeline LLC
Mills, Ron	Latitude Technologies, Inc.	Olling, Kevin	Midland Cogeneration Venture LP
Murphy, Kyle	Latitude Technologies, Inc.	Bloodworth, Michelle	MISO
Mysore, Sunil	Latitude Technologies, Inc.	Short, Tag	MISO
Spangler, Leigh	Latitude Technologies, Inc.	Skiba, Ed	MISO
Oelker, Linn C.	LG&E and KU Services Company	Thoms, Eric	MISO
DaFonte, F. Chico	Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities		

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Van Schaack, Phil	MISO	Shah, Jayana	New Jersey Natural Gas Company
Vannoy, Kevin	MISO	DeCoursey, Erica	New Mexico Gas Company
Liang-Nicol, Cecilia	Monongahela Power Company	Tilbury, Joshua	New Mexico Gas Company
Smith, Jim	Municipal Energy Resources Corporation	Broyles, John	New York ISO
Copeland, Karen	Municipal Gas Authority of Georgia	Campoli, Greg	New York ISO
Frey, Michael	Municipal Gas Authority of Georgia	Cardone, Ernie	New York ISO
Lobdell, Julie	Municipal gas Authority of Georgia	Joseph, Kelli	New York ISO
Keogh, Miles	National Association of Regulatory Utility Commissioners (NARUC)	Charles-Joseph, Debbie	New York State Electric and Gas Corporation
Ramsey, Brad	National Association of Regulatory Utility Commissioners (NARUC)	Ellsworth, Bruce	New York State Reliability Council
Thomas, Sharon	National Association of Regulatory Utility Commissioners (NARUC)	Lavarco, William	NextEra Energy Power Marketing, LLC
Goodman, Craig	National Energy Marketers Association (NEM)	Butler, James	NiSource Inc.
Novak, Mike	National Fuel Gas Distribution Corporation	Raval, Deepak	NiSource Inc.
Conte, Tony	National Fuel Gas Supply Corporation	DeAnna, Jeffrey	NJR Energy Services
Kupczyk, Debbie	National Fuel Gas Supply Corporation	Bartoszek, Stacy	NJR Energy Services Company
Reitz, David	National Fuel Gas Supply Corporation	Richman, Ginger	NJR Energy Services Company
Russ, Mike	National Fuel Gas Supply Corporation	Skelton, Kathryn	Noble Energy, Inc.
Jaffe, Samara	National Grid	Burgess, Tom	North American Electric Reliability Corporation (NERC)
Nichols, Marshall	National Petroleum Council	Lauby, Mark	North American Electric Reliability Corporation (NERC)
Barua, Rajnish	National Regulatory Research Institute (NRRRI)	Moura, John	North American Electric Reliability Corporation (NERC)
Mohre, David	National Rural Electric Cooperative Association (NRECA)	Booe, Jonathan	North American Energy Standards Board
Silberstein, Pam	National Rural Electric Cooperative Association (NRECA)	Boswell, William	North American Energy Standards Board
Love, Paul	Natural Gas Pipeline Company of America LLC	Mallett, Elizabeth	North American Energy Standards Board
Gold, Casey	Natural Gas Supply Association (NGSA)	McQuade, Rae	North American Energy Standards Board
Jagtiani, Patricia	Natural Gas Supply Association (NGSA)	Rager, Denise	North American Energy Standards Board
Page, Carly	Natural Gas Supply Association (NGSA)	Thomason, Veronica	North American Energy Standards Board
Wiggins, Dena	Natural Gas Supply Association (NGSA)	Trum, Caroline	North American Energy Standards Board
Jones, Kim	NCUC	Manning, James	North Carolina Electric Membership Corporation
Razack, Abdul	Nevada Power	Wilkins, Jimmy	North Carolina Electric Membership Corporation
Davis, Noy S.	New England LDCs	Djukic, Stacy	Northern Indiana Public Service Company
Palmer, Debra Ann	New England LDCs	Pysh, Tom	Northern Indiana Public Service Company
Rudiak, John	New England LDCs	Begley, Mark	Northern Natural Gas
Anderson, Bruce	New England Power Generators Association, Inc.	Demman, Laura K.	Northern Natural Gas
Ferreira, Kathy	New Jersey Natural Gas Company	Gilbert, Steve	Northern Natural Gas
Rudd, Douglas	New Jersey Natural Gas Company	Hoffee, Micki	Northern Natural Gas
		Miller, Mary Kay	Northern Natural Gas
		Weidner, James	Northern Natural Gas

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Wonder, Vickie	Northern Natural Gas	Reid, John D.	PAA Natural Gas Storage
Finklea, Edward	Northwest Industrial Gas Users	Armato, John	Pacific Gas and Electric Company (PGE)
Friedman, Randy	Northwest Natural	Fan, Chris	Pacific Gas and Electric Company (PGE)
Lee, Amy	Northwest Natural	Gee, Dennis	Pacific Gas and Electric Company (PGE)
McAnally, Robert	Northwest Natural	Goldbeck, Glenn	Pacific Gas and Electric Company (PGE)
Mott, Michael	Northwest Natural	McDermott, Mike	Pacific Gas and Electric Company (PGE)
Cordts, Margaret	NorthWestern Energy	McLafferty, Dan	Pacific Gas and Electric Company (PGE)
Markovich, Kevin	NorthWestern Energy	Morris, Alex	Pacific Gas and Electric Company (PGE)
Dauer, Jim	NRG Energy, Inc.	Mountford, Ann	Pacific Gas and Electric Company (PGE)
O'Hara, Chris	NRG Energy, Inc.	Petersen, Don	Pacific Gas and Electric Company (PGE)
Stutzman, Rain	NRG Energy, Inc.	Ulloa, John	Pacific Gas and Electric Company (PGE)
Katz, Andrew	NSTAR	Vu, Mia	Pacific Gas and Electric Company (PGE)
Chang, Stacy	NV Energy	Morrissey, Tomas	Pacific Northwest Utilities Conference Committee
Hart, Anita	NV Energy	Evans, Bruce	PacifiCorp
Allred, Dave	NWP Marketing Services	Soreng, Erik	PacifiCorp
Baxter, James	Oglethorpe Power Corp.	Anderson, Mark	Paiute Pipeline Company
Billiot, Scott	Oglethorpe Power Corp.	Grimard, Wraye	Peoples Gas System, a Division of Tampa Electric
Harrel, Scott	Oglethorpe Power Corp.	Foutch, Jeffrey	Peregrine Midstream Partners LLC
Orr, Bryant	Oglethorpe Power Corp.	Anderson, Pam	Perkins Coie LLP
Bruechner, Paul	Okaloosa Gas District	Maust, Keith	Piedmont Natural Gas
King, Gordon	Okaloosa Gas District	Mendoza, Michelle	Piedmont Natural Gas
Tatum, Ed	Old Dominion Electric Coop	Brown, Richard	PJM Interconnection, LLC
Langel, Gina	Omaha Public Power District	Brownell, Stanley	PJM Interconnection, LLC
Theobald, David	Omaha Public Power District	Bryson, Michael	PJM Interconnection, LLC
Mucci, Ron	ONEOK	Fitzpatrick, Brian	PJM Interconnection, LLC
Nishimuta, Lisa	ONEOK	Glazer, Craig	PJM Interconnection, LLC
Rogers, Sara	ONEOK	Helm, M. Gary	PJM Interconnection, LLC
Tingler, Teri	ONEOK	Hendrzak, Chantal	PJM Interconnection, LLC
Adams, Denise	ONEOK Partners	Koza, Frank	PJM Interconnection, LLC
McBroom, Melissa	ONEOK Partners GP LLC	Schmitt, Jeff	PJM Interconnection, LLC
Neph, Sherry	ONEOK Partners GP LLC	Melvin, Jasmin	Platts
Baker, John	Open Access Technology International, Inc.	Weber, Maya	Platts
Dempsey, Jerry H.	Open Access Technology International, Inc.	Broderick, Kyle	Portland General Electric Company
Malcolm, Shelby	Open Access Technology International, Inc.	Casey, Bill	Portland General Electric Company
Perry, Sheldan	Open Access Technology International, Inc.	Gary, Tina	Portland General Electric Company
Sahba, Shahriar	Open Access Technology International, Inc.	Horner, Jason	Portland General Electric Company
Santos, Manuel	Open Access Technology International, Inc.	Millard, Ryan	Portland General Electric Company
Kisluk, Eileen Wilson	PAA Natural Gas Storage	Peschka, Terri	Portland General Electric Company
Reese, Benjamin J.	PAA Natural Gas Storage		

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Sixkiller, Heather	Portland General Electric Company	Lehman, Richard	Salt River Project Agricultural Improvement & Power District
Yildirok, Val	Portland General Electric Company	McCluskey, Willis	Salt River Project Agricultural Improvement & Power District
Epstein, Max	Potomac Economics	Pennock, Lori-Lynn	Salt River Project Agricultural Improvement & Power District
Nilsson, David	Power Costs, Inc. (PCI)	Price, Kent E.	Salt River Project Agricultural Improvement & Power District
Elgie, Tom	Powerex Corp.	Calhoun, John Anthony	Santee Cooper
Leuschen, Sam	PPA Natural Gas Storage, LLC	Horne, Glenda	Santee Cooper
Grassi, Bob	PPL Services Corporation	Salisbury, Chad	Santee Cooper
Anker, Alisha	Prairie Power, Inc.	Gill, Paul	Sea Robin Pipeline company, LLC
Breden, Dan	Prairie Power, Inc.	Reid, Jack	Seminole Electric Cooperative, Inc.
Breezeel, Phillip	Prairie Power, Inc.	Ellis, John	Sempra Utilities
Leesman, Katie	Process Gas Consumers Group (Ballard Spahr LLP rep)	Russo, Chris	Sequent Energy Management, L.P.
Hill, Audrea	PSC Nitrogen Fertilizer, L.P.	Carmouche, Evelyn	Shell Energy NOrt America (US), L.P.
Caffery, David	PSEG Energy Resources & Trade LLC	Foster, Danielle	Shell Energy North America (Canada)
Kijowski, Drake R.	PSEG Energy Resources and Trade LLC	Kerr, Paul	Shell Energy North America (Canada)
Crawford, Ernie	Public Service Company of New Mexico	Gold, Amy	Shell Energy North America (US) L.P.
Maestas, Steve	Public Service Company Of New Mexico	Newson, Rebecca	Shell Energy North America (US), L.P.
Czigler, Frank	Public Service Electric and Gas Company	Pierson, Damonica	Shell Exploration and Production Company
Dewar, Mark	Puget Sound Energy	Vance, Kevin	Shell Oil Products US
Haines, Phil	Puget Sound Energy	Tardy, Ryan	Sierra Pacific LDC
Taylor, Brandon	Puget Sound Energy	Suga, Glenn	Sierra Pacific Power Company
Crowley, Colin	Puget Sound Energy, Inc.	Lander, Gregory	Skipping Stone, LLC
Donahue, Bill	Puget Sound Energy, Inc.	Bellville, Nathan T.	South Mississippi Electric Power Association (SMEPA)
Foley, Kevin	Puget Sound Energy, Inc.	Rudolphi, Matthew R.	South Mississippi Electric Power Association (SMEPA)
Garner, David	Puget Sound Energy, Inc.	Weinber, Bob	South Mississippi Electric Power Association (SMEPA)
Hammer, Mark	Puget Sound Energy, Inc.	Borkovich, Paul	Southern California Gas Company
Harshbarger, Bob	Puget Sound Energy, Inc.	Chang, Ibtissam	Southern California Gas Company
Kennedy, Mariah	Puget Sound Energy, Inc.	Dandridge, Michelle M.	Southern California Gas Company
Kvam, Michele	Puget Sound Energy, Inc.	Ishikawa, Richard	Southern California Gas Company
Osborne, Sheree	Puget Sound Energy, Inc.	Lasa, Dulce	Southern California Gas Company
Smith, Chris	Puget Sound Energy, Inc.	Musich, Beth	Southern California Gas Company
Hanchey, Jeannette	PXD	Wah, Pauline C.	Southern California Gas Company
Faust, Tina	Questar Gas Company	Grover, Scott	Southern Company Services, Inc.
Gross, Jerry H.	Questar Pipeline Company	Hiller, Roy	Southern Company Services, Inc.
Smead, Rick	RBN Energy LLC	Moore, Wayne	Southern Company Services, Inc.
Percell, Cynthia	Red Willow Production Company owned by the Southern Ute Indian Tribe	Rikard, Clay	Southern Company Services, Inc.
Jordan, Deena	Regency Energy Partners LP	Wood, JT	Southern Company Services, Inc.
Roth, Tom	Roth Energy Company		
Jones, Paul	Salt River Project Agricultural Improvement & Power District		

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Field, Douglas	Southern Star Central Gas Pipeline, Inc.	Cashin, Jack	The Electric Power Supply Association (EPSA)
Gray, Kevin	Southern Star Central Gas Pipeline, Inc.	Fort, Jim	The Energy Authority, Inc.
Hensley II, Ronnie C.	Southern Star Central Gas Pipeline, Inc.	McCord, Tom	The Energy Authority, Inc.
Matthews, Jennifer	Southern Star Central Gas Pipeline, Inc.	Thornbury, RJ	The Energy Authority, Inc.
Renshaw, Kevin	Southern Star Central Gas Pipeline, Inc.	Santa, Don	The Interstate Natural Gas Association of America (INGAA)
McCoy, Matt	SouthernStar Central Gas Pipeline	Culpepper, Les	The Southeast Alabama Gas District
Mosley, Scott	SouthStar Energy Services, LLC	Pranaitis, Mark	The Southern Connecticut Gas Company
Olenick, John	Southwest Gas Corporation	DeBoissiere, Alex	The United Illuminating Company
Desselle, Michael	Southwest Power Pool	Pleasant, Rochelle	Total
Ellis, Sam	Southwest Power Pool	Kinser, Glenn	TOTAL Gas & Power North America, Inc.
Ghormley, Joseph	Southwest Power Pool	Carrette, Jeffrey	Total Gas and Power North America Inc.
Phillips, Joshua	Southwest Power Pool	Davydov, Alexander	Total Gas and Power North America Inc.
Shiple, Don	Southwest Power Pool	Hill, Sherry	TransCanada PipeLines Ltd.
Yeung, Charles	Southwest Power Pool	Pollard, Joseph	TransCanada US Pipelines
Sanchez, Andy	Southwestern Energy Company	Word, Garrett	TransCanada US Pipelines
Miller, Megan	Spectra Energy Corp	Jaskolski, Steven	TransCanada US Pipelines / ANR Pipeline Company
Cymes, Jim	Steckman Ridge	Washington, Kathy	Transwestern Pipeline
Daly, Kelly A.	Stinson Leonard Street LLP	Bormack, Mitchell	TRC Solutions
Nolte, Bill	Sunflower Electric Power Corporation	Hardy, Dave	Tri-State Generation and Transmission Association, Inc.
Russell, Chelsea	Superior Water, Light and Power	Bradbury, Debbie	Trunkline Gas Company
Almquist, Karl	Tallgrass Operations, LLC	Bowling, Michael	Tucson Electric Power Company
Sterrett, Joe	Tallgrass Operations, LLC	Pederson, Blake	Tucson Electric Power Company
Van Dyke, Brad	Tallgrass Operations, LLC	Willins, Steve	U.S. Energy Services, Inc.
Meriwether, Tom	Targa Resources	Morrow, Mark C.	UGI Corporation
Patton, Gail	Targa Resources	Mayette, Joe	United States Gypsum Company
Callager, Montie	Targa Resources Inc.	Morgan, Doug	United Utility Group
Simon, Timothy	TAS Strategies	Brodeur, Sue	Unitil
Kennedy, Andrew	TECO/ Peoples Gas System	Furino, Robert S.	Unitil
Crabtree, David	TECO/Peoples Gas System	Simpson, Carleton	Unitil Energy Systems
Glover, Gloria	TECO/Peoples Gas System	Hartigan, Ann	Unitil Service Corporation
Corritore, Janet	Tenaska	Foss, Michelle	University of Texas
Fossum, Drew	Tenaska Energy, Inc.	Dickens, Dwayne	UNS Electric
Shumway, Neal	Tenaska Marketing Ventures	Shields, Justin	UNS Electric
Glazebrook, Sherri	Tennessee Gas Pipeline Company, L.L.C.	Freitas, Christopher	US Department of Energy
Crockett, Valerie	Tennessee Valley Authority	Follmer, Annette	USG Corporation
York, Kathy	Tennessee Valley Authority	Fuentes, Daryll	USG Corporation
Boucher, Jennifer	The Berkshire Gas Company	Persekian, Joe	USG Corporation
Bagot, Nance	The Electric Power Supply Association (EPSA)		

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
(Board Report - Appendix C: GEH Forum Distribution List)

NAESB GAS-ELECTRIC HARMONIZATION FORUM DISTRIBUTION LIST
SORT BY COMPANY NAME

As of March 24, 2016

Fulton, Brian	USN Gas Inc.
Gray, Dax	Utah Associated Municipal Power Systems (UAMPTS)
Battams, Ahuva Z.	Van Ness Feldman LLP
Diamond, Michael	Van Ness Feldman LLP
Beck, Elizabeth	Vectren Corporation
Christian, Ron	Vectren Corporation
Pergola, Perry M.	Vectren Corporation
Retherford, Angila	Vectren Corporation
Gallagher, William	Vermont Public Power Supply Authority
Wetter, Kari	Wabash Valley Power Association, Inc.
Blasiak, James L.	Washington Gas Light Company
Lennon, Rose	Washington Gas Light Company
Brooks, Kelly R.	WBI Energy Transmission, Inc.
Gardner, Wayne	WE Gardner Company LLC
Martin, Beth	WEC Energy Group
Davis, Dale	Williams
Dinkins, Phaedra	Williams
Waugh, Deborah	Williams – Discovery Gas Transmission
Dahlberg, Lynn	Williams – Northwest Pipeline
Pace, Dawnell	Williams – Northwest Pipeline, LLC
Mata, Antelmo	Williams - Transco
Casey, Melissa	Williams – Transco
Baumgart, Julie A.	Wisconsin Public Service
Hathaway, Dave	Wisconsin Public Service
Martin, Tim	Wolverine Power Supply Cooperative
Kerrigan, Lily	Wright & Talisman, P.C.
Thompson, Michael J.	Wright & Talisman, P.C.
Bougner, Mike	Xcel Energy
Colussy, Peter	Xcel Energy
Derryberry, Richard	Xcel Energy
Hild, Jeffrey	Xcel Energy
Luner, Jared M.	Xcel Energy
Metzker, Amber L.	Xcel Energy

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
 (Board Report - Appendix D: Presentations and Comments)

Appendix D – Presentations and Comments		
Date	Request for Presentations	Presentations and Comments
January 12, 2016	NAESB GEH Request for Presentations: https://www.naesb.org/pdf4/geh012516w1.doc	Presentations Due February 1, 2016 Presentations: NAESB WGQ Pipeline Segment: https://www.naesb.org/pdf4/geh021816w1.pdf PJM: https://www.naesb.org/pdf4/geh021816w2.pdf ACES Power: https://www.naesb.org/pdf4/geh021816w3.pptx Fidelity National Information Services (FIS): https://www.naesb.org/pdf4/geh021816w4.pptx Fidelity National Information Services - Additional Notes and Comments including Examples: https://www.naesb.org/pdf4/geh021816w10.docx Skipping Stone: https://www.naesb.org/pdf4/geh021816w5.pptx Environmental Defense Fund (EDF): https://www.naesb.org/pdf4/geh021816w6.pptx Coalition of Energy Technology Firms: https://www.naesb.org/pdf4/geh021816w7.pptx Coalition of Energy Technology Firms, G. Danner: https://www.naesb.org/pdf4/geh021816w11.zip (Zip File Due to Size) OATI, Inc.: https://www.naesb.org/pdf4/geh021816w8.pptx OATI, Inc. – Addendum: https://www.naesb.org/pdf4/geh021816w9.pdf

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
 (Board Report - Appendix E: Meeting Notes, Work Papers, Comments and Transcripts)

Appendix E: Meeting Notes, Work Papers, Comments and Transcripts		
Date	Link to Agendas, Notes and Transcripts	Work Papers, Comments and Transcripts
January 25, 2016	GEH Forum Organizational & Informational Conference Call Agenda: https://www.naesb.org/pdf4/geh012516a.docx Meeting Notes: https://www.naesb.org/pdf4/geh012516notes.docx Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807	GEH Forum Request for Presentations - January 12, 2016: https://www.naesb.org/pdf4/geh012516w1.doc Timeline to Address 2016 WEQ Annual Plan Item 7.a & 2016 WGQ Annual Plan Item 3.a: https://www.naesb.org/pdf4/geh012516w2.doc Timeline to Address 2016 WEQ Annual Plan Item 7.a & 2016 WGQ Annual Plan Item 3.a - Updated January 19, 2016: https://www.naesb.org/pdf4/geh012516w3.doc
February 18-19, 2016	GEH Forum Meeting w/Web Conferencing, Houston, TX (Held at the Doubletree Downtown Hotel) Agenda: https://www.naesb.org/pdf4/geh021816a.docx Meeting Notes: https://www.naesb.org/pdf4/geh021816notes.docx Attachment – White Board Notes: https://www.naesb.org/pdf4/geh021816a1.docx Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807	Presentations: NAESB WGQ Pipeline Segment: https://www.naesb.org/pdf4/geh021816w1.pdf PJM: https://www.naesb.org/pdf4/geh021816w2.pdf ACES Power: https://www.naesb.org/pdf4/geh021816w3.pptx Fidelity National Information Services (FIS): https://www.naesb.org/pdf4/geh021816w4.pptx Fidelity National Information Services - Additional Notes and Comments including Examples: https://www.naesb.org/pdf4/geh021816w10.docx Skipping Stone: https://www.naesb.org/pdf4/geh021816w5.pptx Environmental Defense Fund (EDF): https://www.naesb.org/pdf4/geh021816w6.pptx Coalition of Energy Technology Firms: https://www.naesb.org/pdf4/geh021816w7.pptx Coalition of Energy Technology Firms, G. Danner: https://www.naesb.org/pdf4/geh021816w11.zip (Zip File Due to Size) OATI, Inc.: https://www.naesb.org/pdf4/geh021816w8.pptx OATI, Inc. – Addendum: https://www.naesb.org/pdf4/geh021816w9.pdf

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
 (Board Report - Appendix E: Meeting Notes, Work Papers, Comments and Transcripts)

Appendix E: Meeting Notes, Work Papers, Comments and Transcripts		
Date	Link to Agendas, Notes and Transcripts	Work Papers, Comments and Transcripts
March 7-8, 2016	<p>GEH Forum Meeting w/Web Conferencing, Houston, TX (Held at the Hilton Americas Hotel)</p> <p>Agenda: https://www.naesb.org/pdf4/geh030716a.docx</p> <p>Meeting Notes: https://www.naesb.org/pdf4/geh030716notes.docx</p> <p>Attachment – Comments on the February 18-19, 2016 White Board Notes: https://www.naesb.org/pdf4/geh030716a1.docx</p> <p>Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807</p>	<p>February 18-19, 2016 Meeting Notes, Comments from D. Davis, Williams: https://www.naesb.org/pdf4/geh030716w1.docx</p> <p>Comments from D. Nilsson, PowerCosts, Inc.: https://www.naesb.org/pdf4/geh030716w2.pdf</p> <p>Comments Submitted by AGA on GEH Forum Meeting February 18-19, 2016: https://www.naesb.org/pdf4/geh030716w3.pdf</p> <p>DRAFT Day 1 - Discussion Work Paper: https://www.naesb.org/pdf4/geh030716w4.docx</p> <p>Comments Submitted by OATI: https://www.naesb.org/pdf4/geh030716w5.pdf</p> <p>DRAFT Day 1 and Day 2 - Discussion Work Paper: https://www.naesb.org/pdf4/geh030716w6.docx</p>
March 21-22, 2016	<p>GEH Forum Meeting w/Web Conferencing, Houston, TX (Held at the Hilton Americas Hotel)</p> <p>Agenda: https://www.naesb.org/pdf4/geh032116a.docx</p> <p>Meeting Notes: <i>to be posted shortly</i></p> <p>Transcripts from the meeting can be ordered from: Jill Vaughan, CSR 1803 Rustic Oak Ln, Seabrook, Texas 77586 281-853-6807</p>	<p>Excel Spreadsheet of Categorized Issues: https://www.naesb.org/pdf4/geh032116w1.xlsx</p> <p>Word Formatted Tables of Categorized Issues: https://www.naesb.org/pdf4/geh032116w2.docx</p> <p>Comments Submitted by S. Munson (Excel Spreadsheet of Categorized Issues): https://www.naesb.org/pdf4/geh032116w3.xlsx</p> <p>Comments Submitted by S. Munson (Word Formatted Tables of Categorized Issues): https://www.naesb.org/pdf4/geh032116w4.docx</p> <p>Comments Submitted by The Pipelines (Excel Spreadsheet of Categorized Issues): https://www.naesb.org/pdf4/geh032116w5.xlsx</p> <p>Comments Submitted by D. Nilsson, PowerCosts, Inc.: https://www.naesb.org/pdf4/geh032116w6.pdf</p> <p>DRAFT Tables of Categorized Issues Work Paper (Day 1 - March 21): https://www.naesb.org/pdf4/geh032116w7.docx</p> <p>DRAFT Tables of Categorized Issues Work Paper (Days 1&2 - March 21-22): https://www.naesb.org/pdf4/geh032116w8.docx</p> <p>Comments Submitted by S. Morrison, American Public Gas Association: https://www.naesb.org/pdf4/geh032116w9.docx</p>

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
 (Board Report - Appendix F: Summary of Board Action in Response to FERC Order No. 809)

March 30, 2016

TO: Rae McQuade, President & COO
FROM: Jonathan Booe, Vice President & CAO
RE: NAESB Response to Paragraph 107 of FERC Order No. 809 on *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities* issued on April 16, 2015

Rae,

Please find below a summary of our activities to respond to the Commission’s request in Order 809.

2015-2016 ACTIVITIES RELATED TO FERC ORDER NO. 809

Date	Action	Selected Text / Comment
April 16, 2015	FERC Issues Order No. 809 [RM14-2-000]	¶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. <u>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.</u> Providing such an option would enable those entities that need greater scheduling flexibility to have their requests processed expeditiously.”
June 1, 2015	NAESB Board Working Session	The stated purpose of the meeting is to discuss changes to the NAESB annual plans for the wholesale gas and wholesale electric quadrants, specifically the inclusion of an item for the consideration of standards development for electronic scheduling – which was requested by FERC in Order No. 809.

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
 (Board Report - Appendix F: Summary of Board Action in Response to FERC Order No. 809)

2015-2016 ACTIVITIES RELATED TO FERC ORDER NO. 809

Date	Action	Selected Text / Comment
June 12, 2015	Notational ballot proposing changes to the 2015 WEQ/WGQ Annual Plans	<p>Based on discussion during the June 1 working session, the notational ballot presented two identical paths for addressing FERC Order No. 809 – the only variance being a 2015 or a 2016 start date for the items.</p> <p>“Do you support, initiating in XXXX, the creation, by the GEH Forum, of a standards development timeline and framework addressing electronic scheduling, which, once completed, would be forwarded to the NAESB Board of Directors for approval (Docket No. RM14-2-000)? The board approval would be required before any subsequent GEH Forum exploratory work could proceed. This will require a two-step approval of the board – (a) for the timeline, and subsequently (b) for a framework for standards development.”</p>
June 26, 2015	Results of notational ballot proposing changes to the 2015 WEQ/WGQ Annual Plans	<p>The proposed annual plan items offering a 2015 initiation date failed to gain simple majority support of the WGQ, but did garner simple majority support from the WEQ and RMQ. The proposed annual plan items offering a 2016 initiation date garnered super majority support of all three quadrants and was adopted.</p>
August 4, 2015	NAESB Report to FERC Concerning FERC Order No. 809	<p>NAESB submitted a report to the Commission that included minor corrections in support of the modifications to the nomination timeline and described the activities of the organization to respond to paragraph 107 of Order No. 809. The report included the minutes from June 1 board meeting, the results of the June 12 notational ballots and comments submitted and the modified 2015 WEQ and WGQ annual plans.</p>
September 3, 2015	NAESB Board Meeting	<p>During the meeting, the board adopted the 2015 WEQ and WGQ annual plans, including reaffirmation of items 3.b and 3.c of the WGQ plan and 9.a and 9.b of the WEQ plan.</p> <ul style="list-style-type: none"> • Review FERC Order No. 809 ¶ 107 issued in Docket No. RM14-2-000 regarding computerized scheduling and provide recommended direction concerning the development of standards or modifications to existing standards as needed to support the request of the Commission. The recommended direction will require two-step board approval, for both the timeline to be pursued and the framework for standards development Status: Not Started, and planning not to be started before 2016 • Resulting from the efforts of annual plan item 3(b), develop standards as needed and directed by the Board of Directors, which are specifically assigned to the WGQ. Status: Not Started, dependent on completion of item above

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
 (Board Report - Appendix F: Summary of Board Action in Response to FERC Order No. 809)

2015-2016 ACTIVITIES RELATED TO FERC ORDER NO. 809

Date	Action	Selected Text / Comment
September 17, 2015	FERC Order No. 809 Order on Rehearing	¶1 “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. 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 (DSPA) 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 DSPA’s 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. <u>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.</u> ”
November 5, 2015	NAESB Board Conference Call	In response to the September 17 Order on Rehearing, the Managing Committee and Chairman called a single topic conference call to discuss whether the work on the relevant WEQ and WGQ annual plan items should begin in 2015 or 2016, given the direction of the Commission provided in the September 17 Order on Rehearing. As quorum was not met, a vote to modify the annual plan items could not be taken; however, there was significant discussion on the timing and the process of the effort and the issuance of subsequent notational ballot was widely supported.
November 6, 2015	Notational ballot proposing changes to the 2015 WEQ/WGQ Annual Plans and proposed 2016 WEQ/WGQ Annual Plans	Based on discussion during the November 5 board working session, a notational ballot was distributed that proposed modifications to the 2015 and proposed 2016 WEQ and WGQ annual plans to reactivate the GEH Forum and set a 2016 completion date to recommend a timeline and a framework for standards development to the Board of Directors.

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
 (Board Report - Appendix F: Summary of Board Action in Response to FERC Order No. 809)

2015-2016 ACTIVITIES RELATED TO FERC ORDER NO. 809

Date	Action	Selected Text / Comment
November 13, 2015	Results of notational ballot proposing changes to the 2015 WEQ/WGQ Annual Plans and proposed 2016 WEQ/WGQ Annual Plans	<p>The proposed modifications to all four versions of the annual plans passed a simple majority vote of each quadrant.</p> <ul style="list-style-type: none"> • Review FERC Order No. 809 ¶ 107 issued in Docket No. RM14-2-000 regarding computerized scheduling and provide recommended direction concerning the development of standards or modifications to existing standards as needed to support the request of the Commission. The recommended direction will require two-step board approval, for both the timeline to be pursued and the framework for standards development Status: Not Started • Resulting from the efforts of annual plan item 3(b), develop standards as needed and directed by the Board of Directors, which are specifically assigned to the WGQ. Status: Not Started, dependent on completion of item above
December 10, 2015	NAESB Board Meeting	<p>During the meeting, the board adopted the 2016 WEQ and WGQ annual plans, including reaffirmation of items 3.a and 3.b of the WGQ plan and 7.a and 7.b of the WEQ plan.</p> <ul style="list-style-type: none"> • Review FERC Order No. 809 ¶ 107 issued in Docket No. RM14-2-000 regarding computerized scheduling and provide recommended direction concerning the development of standards or modifications to existing standards as needed to support the request of the Commission. The recommended direction will require two-step board approval, for both the timeline to be pursued and the framework for standards development Status: Not Started • Resulting from the efforts of annual plan item 3(b), develop standards as needed and directed by the Board of Directors, which are specifically assigned to the WGQ. Status: Not Started, dependent on completion of item above <p>The following additional clarifications concerning the annual plan items were adopted by the board and included as footnote in the annual plans.</p> <p>The steps for the GEH forum shall be:</p> <p>(5) Provide a forum for industry education from both the natural gas and electric industries regarding gas-electric coordination specific to computerized scheduling, and confirmations</p>

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
 (Board Report - Appendix F: Summary of Board Action in Response to FERC Order No. 809)

2015-2016 ACTIVITIES RELATED TO FERC ORDER NO. 809

Date	Action	Selected Text / Comment
		including a streamlined confirmation process, if necessary (FERC Order No. 809 Order on Rehearing, Docket No. RM14-2-001)
		(6) 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
		(7) Identify potential solutions to the issues identified in step 2
		(8) Identify potential schedules for standards development including status and progress reports to the board
December 22, 2015	NAESB Report to FERC Concerning FERC Order No. 809	NAESB submitted a report to the Commission that described the organization's activities since the August 4, 2015 status report.
January 12, 2016	NAESB GEH Forum Request for Presentations	At the request of the Forum co-chairs, Dr. Sue Tierney and Terry Thorn, the NAESB office distributed a request for presentations to be provided during the first face-to-face Forum meeting on February 18-19, 2016. Notice of intent to submit a presentation was requested by February 1, 2016 and presentations were requested by February 8, 2016. The Forum co-chairs requested that the all presentations respond directly to the request of the Commission in paragraph 107 of FERC Order No. 809 and that they focus on providing information to support (1) education on the current practices and processes in both the natural gas and electric industries regarding gas-electric coordination and computerized scheduling, (2) identification of issues related to computerized scheduling and (3) potential solutions to the issues identified.
January 25, 2016	NAESB GEH Forum Organizational Conference Call	The GEH Forum held an organizational conference call to review administrative items and the process the Forum will employ to respond to the annual plan items. This included a review of the schedule of meetings, the request for presentations, the purpose of the upcoming meetings, and the means for participation.
February 18-19, 2016	NAESB GEH Forum Meeting	The GEH Forum held its first face-to-face meeting to review and discuss the presentations submitted in response to the NAESB solicitation. In total 8 presentations were submitted by members of the WGQ pipeline segment, PJM, ACES Power, Fidelity National Information Services, Skipping Stone, Environmental Defense Fund, a coalition of energy technology firms, and OATI, Inc. During the meeting, presenters were given equal time to provide their presentations and answer any questions from the participants

Appendix H: GEH Forum Board Report, Presented to the Board of Directors on April 7, 2016
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2015-2016 ACTIVITIES RELATED TO FERC ORDER NO. 809

Date	Action	Selected Text / Comment
March 7-8, 2016	NAESB GEH Forum Meeting	<p>The GEH Forum held its second face-to-face meeting to discuss the presentations provided during the first meeting and review and modify a work paper containing a list of issues that were identified through the presentations. During the meeting the participants went through each of the issues identified in the work paper to provide clarity or additional information regarding the issue itself and considered them in the context of six categorizations developed by the co-chairs of the Forum. The six questions were as follows:</p> <ol style="list-style-type: none"> (1) Is a discussion of this issue within the scope of the Commission’s 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?” and “... natural gas and electric industries, through NAESB, begin considering the development of standards related to faster, computerized scheduling”? (2) Is it an issue that could be pursued where more uniformity or streamlining would meet the Commission’s request? Would it be economical and efficient to do so? Should consideration of this issue be postponed until we have more experience and a better understanding of the impact of changing the nominations timeline which is to be implemented April 1? (3) Is this an issue where a national standard is not helpful, and it best addressed by services individually tailored to customer’s needs and reflecting individual inherent operational requirements? Is this an issue (non FERC policy related) where something stands in the way of resolving it? Is this an operational issue or some other matter that falls outside of NAESB’s purview? (4) Other Miscellaneous Topics: Is this issue a topic where tools can be used to address the Commission’s request and uniformity is not helpful or is more detrimental than beneficial? (5) Is it an issue that NAESB cannot take action on in the absence of FERC taking prior action? Is this an issue where the Commission itself could consider addressing the issue (without presuming a conclusion that the Commission would actually decide to introduce policy changes, but still entertaining the possibility that additional action may be warranted after a full record is developed)? (6) This is factual point <p>The results of the exercise were posted to the Forum website after the meeting</p>

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2015-2016 ACTIVITIES RELATED TO FERC ORDER NO. 809

Date	Action	Selected Text / Comment
March 21-22, 2016	NAESB GEH Forum Meeting	<p>The GEH Forum held its third face-to-face meeting to continuing discussions concerning the list of issues captured and modified during the previous meeting and to discuss potential solutions to the issues. To facilitate discussion, the co-chairs provided a work paper putting all of the issues and the related information captured during the previous meeting into 12 categories. The following categories were identified.</p> <ol style="list-style-type: none"> (1) No-notice Service Offerings (2) Non-ratable Takes (3) Observations (4) Support for Multiple Versions of Standards (5) Levels of Confirmations (6) Additional Nomination Cycles (7) Scheduling Issues Surrounding Interconnects (8) Access to Scheduling During Non-business Hours (9) Communications (10) Inconsistencies in Electric-Industry Day-Ahead Markets (11) Data Issues, Data-Transfer Issues, Field Testing and Modeling (12) New Service Offerings <p>Each of the issues, as categorized, were reviewed, and the participants discussed whether the category assigned to each issue was correct. Additionally, the participants discussed whether any solutions to the issue were actionable by NAESB. This information was captured in the work paper. The participants requested that the NAESB office distribute a survey to garner the perspectives of the industry related to each of the issues captured and the six questions previously reviewed, but modified. The questions included in the survey were as follows:</p> <ol style="list-style-type: none"> (1a) Is this issue within the scope of the Commission's request and directly responsive to the Board's directive to the GEH Forum? (1b) Is this issue within the scope of NAESB's purview, without necessarily suggesting any action be taken by NAESB? (2a) Would pursuing this issue lead to more uniformity or streamlining that would meet the Commission's request and be directly responsive to the Board's directive to the GEH Forum? (2b) Can this issue be economically pursued? (2c) Is there a benefit to waiting until more experience has been gained after the April 1st 2016 implementation of the changes to the nomination timeline before pursuing this

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2015-2016 ACTIVITIES RELATED TO FERC ORDER NO. 809

Date	Action	Selected Text / Comment
March 24, 2016	GEH Forum Survey	<p>issue?</p> <p>(3) Do you concur that this issue would not benefit from a national standard due to one or more of the following reasons (non-FERC policy issue, operational issue, service issue, etc.)?</p> <p>(4) Do you concur that additional uniformity with respect to this issue may not be needed because this issue falls into a potential area where, for example, tools could be used to address the Commission's request?</p> <p>(5) Does this issue have policy implications that would require Commission direction before NAESB (or others) were to proceed further, or where there are other issues that stand in the way of moving forward at present?</p> <p>(6) Is this issue a statement of fact/observation?</p> <p>The GEH Forum Survey was distributed by the NAESB office to NAESB GEH Forum Distribution List, NAESB members and the Advisory Council and response were requested by March 31, 2016. The results of the survey will be compiled by the NAESB office and presented to the Board of Directors at a future meeting.</p>

NORTH AMERICAN ENERGY STANDARDS BOARD
2016 ANNUAL PLAN for the WHOLESALE ELECTRIC QUADRANT
Adopted by the Board of Directors June 21, 2016

Item Description	Completion ⁱ	Assignment ⁱⁱ
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) Develop, modify or delete business practices standards to support NERC activities related to NERC Time Error Correction (BAL-004-0) Status: Monitor	TBD	BPS
e) 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: Not Started	TBD	BPS/CISS
f) Develop, modify or delete business practices standards to support NERC activities related to NERC Inadvertent Interchange BAL-006 Status: Not Started	TBD	BPS
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. Status: Underway 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”		

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.

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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Item Description	Completion ⁱ	Assignment ⁱⁱ
i) Group 4: Preemption; Request No. R05019 (Part of Preemption and Competition)		
1) Short-Term Firm Preemption and Competition (OATT Section 13.2 and 14.2) Status: Started	2016	OASIS
2) Long-Term Rollover Rights Competition (OATT Section 2.2) Status: Started	2 nd Q, 2016	OASIS
ii) Group 6: 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 Status: Started	TBD	OASIS/BPS
2) Redispatch Cost Posting to allow for posting of third party offers of planning redispatch services. Status: Started	TBD	OASIS/BPS
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 (i) limiting transmission elements and (ii) available generation dispatch options that would allow acceptance of reservation request. Status: Started	TBD	OASIS/BPS
b) Requirements for OASIS to use data in the Electric Industry Registry (R12001) Status: Not Started	TBD	OASIS
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: Not Started	2016	Cybersecurity Subcommittee

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.

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.

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Item Description	Completion ⁱ	Assignment ⁱⁱ
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 the FERC related to cybersecurity. Status: Not Started	2016	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: Started	2016	OASIS
b) Create a new OASIS mechanism that allows for the merger of like reservations without the use of the resale mechanism (R09015) Status: Started	2016	OASIS
c) Improve transparency to allow customers to determine whether they have been treated in a non-discriminatory manner by posting of additional information on OASIS when service is denied (i.e. refused or declined) by customer(s) using new SAMTS process across multiple transmission systems to serve their NITS load on multiple systems. (R12006) Status: Started	TBD	OASIS/BPS
d) 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 Status: Started	2016	CISS
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	TBD	Joint WEQ/WGQ FERC Forms Subcommittee
7. Gas-Electric Coordination		
a) Review FERC Order No. 809 ¶ 107 issued in Docket No. RM14-2-000 ⁷ regarding computerized scheduling and provide recommended direction concerning the development of standards or modifications to existing standards as needed to support the request of the Commission ⁸ The recommended direction ⁹ will require board approval, for both the timeline to be pursued and the framework for standards development. ¹⁰ Status: Started	2016	Gas-Electric Harmonization Forum, NAESB Board of Directors, WEQ EC & WGQ EC

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

⁷ FERC Order No. 809 can be found through the following hyperlink: <https://www.ferc.gov/whats-new/comm-meet/2015/041615/M-1.pdf>

⁸ 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

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	Item Description	Completionⁱ	Assignmentⁱⁱ
b)	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 ¹¹ : <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	TBD	WEQ EC and related subcommittees
	2. Develop WEQ standards according to the recommendation of item 7b(i)1.	TBD	WEQ EC and related subcommittees
ii.	GEH Forum Issue 25 ¹² : <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	TBD	WEQ EC and related subcommittees
	2. Develop WEQ standards according to the recommendation of item 7b(ii)1.	TBD	WEQ EC and related subcommittees
iii.	GEH Forum Issue 26 ¹³ : <i>“Improve efficiency of critical information sharing (related to issues 22 and 25)</i>		

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.

⁹The 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

¹⁰FERC 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.¹⁰ 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)¹⁰ 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.

¹¹ The GEH Forum Issues may be found in the GEH Survey Addendum: https://www.naesb.org/pdf4/geh_report_addendum_041816_clean051316.docx

¹² *Id.*

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	Item Description	Completionⁱ	Assignmentⁱⁱ
	1. Consider and determine if WEQ standards are needed, and develop a recommendation and report to the Board of Directors	TBD	WEQ EC and related subcommittees
	2. Develop WEQ standards according to the recommendation of item 7b(iii)1.	TBD	WEQ EC and related subcommittees
iv.	GEH Forum Issue 33 ¹⁴ : <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 WEQ standards are needed, and develop a recommendation and report to the Board of Directors	TBD	WEQ EC and related subcommittees
	2. Develop WEQ standards according to the recommendation of item 7b(iv)1.	TBD	WEQ EC and related subcommittees
v.	GEH Forum Issue 36 ¹⁵ : <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 17¹⁶ 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	TBD	WEQ EC and related subcommittees
	2. Develop WEQ standards according to the recommendation of item 7b(v)1.	TBD	WEQ EC and related subcommittees
8.	Demand Response		
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 Status: Not Started	1 st Q, 2016	DSM-EE Subcommittee

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ 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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PROVISIONAL ITEMS

1. Optional Work to Extend Existing Standards

- a) Prepare recommendations for future path for TLR¹⁷ (Phase 2) in concert with NERC, which may include alternative congestion management procedures¹⁸. Work on this activity is dependent on completing 2016 WEQ Annual Plan 1.a (Parallel Flow Visualization/Mitigation for Reliability Coordinators in the Eastern Interconnection - Phase 1).
- b) Develop needed business practice standards for organization/company codes for NAESB standards – and address current issues on the use of DUNs numbers. Common code usage is linked to the transition of the Registry from NERC to NAESB.

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) Develop standards as needed in support of Variable Energy Resources (VERs) final order (RM10-11-000). ([NAESB Comments 3-2-11](#), [FERC NOPR RM10-11-000](#), [FERC Final Order No. 764](#), [Docket No. RM10-11-000](#)¹⁹)
 - d) 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.
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¹⁷ 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.

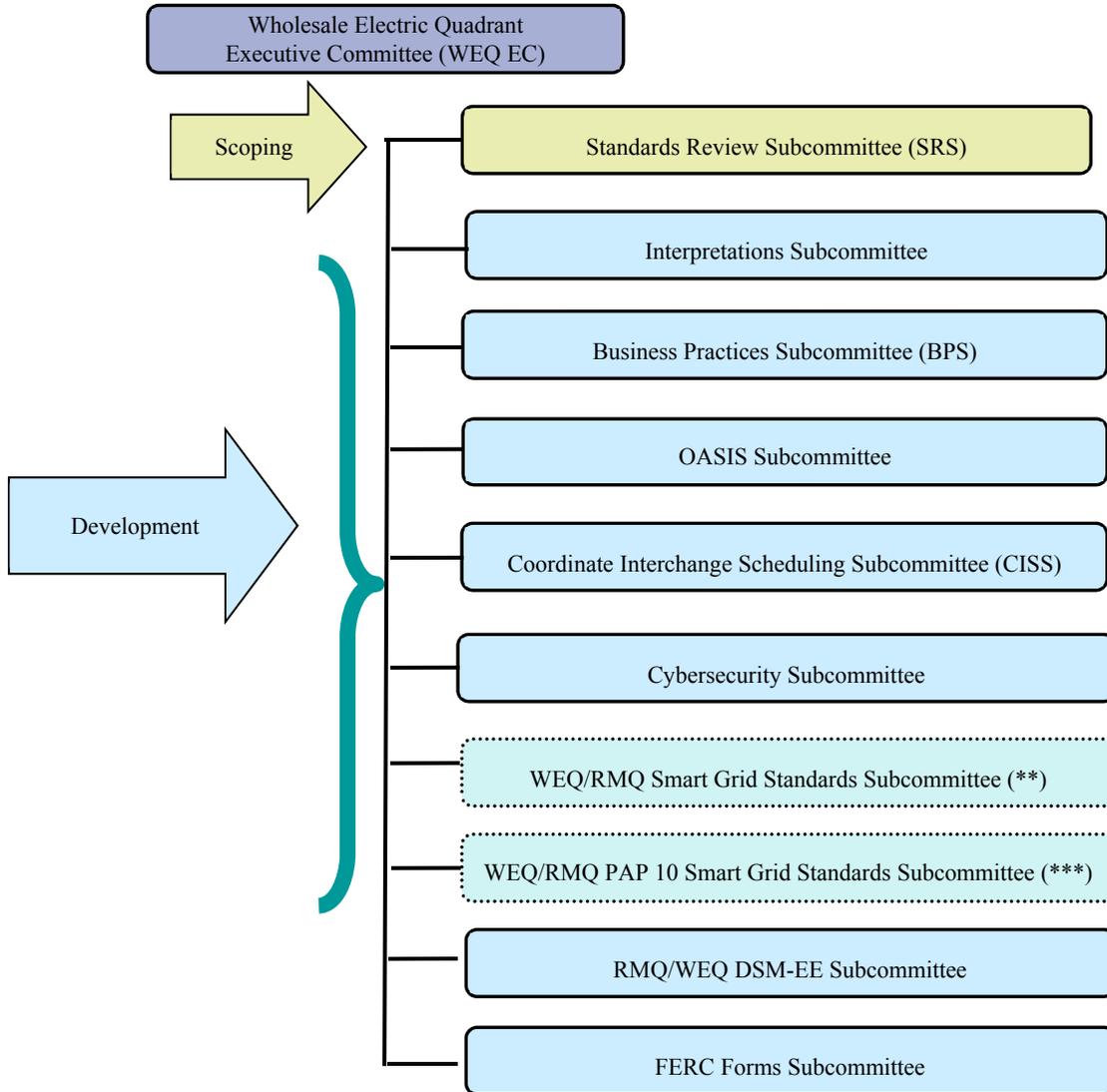
¹⁸ For additional information, please see comments submitted by PJM and Midwest ISO for this Annual Plan Item: http://www.naesb.org/pdf3/weq_aplan102907w1.pdf.

¹⁹ For FERC Final Order No. 764, Docket No. RM10-11-000, specifically paragraph nos. 146 and 182 should be reviewed:

146. The Commission concludes that an independent review of NERC standards and NAESB business practices is not necessary prior to the implementation of intra-hour scheduling. As noted by NERC, several entities currently offer intra-hour scheduling without any apparent conflict with Reliability Standards. NERC comments that it does not believe there are any existing standards that prohibit industry from implementing intra-hour scheduling, and no commenters have pointed to specific NAESB business practices that prevent industry from implementing intra-hour scheduling. The Commission therefore concludes that it is not necessary to delay adoption of the intra-hour scheduling requirements of this Final Rule pending further review of NERC Reliability Standards and NAESB business practices. To the extent industry believes it is beneficial to refine one or more existing NERC Reliability Standards or NAESB business practices to reflect intra-hour scheduling, stakeholders can use existing processes to pursue such refinements.

182. Some commenters request that the Commission standardize protocols for reporting meteorological or forced outage data required by this Final Rule. The Proposed Rule did not contain standard protocols for data reporting and, as a result, the merits of such a requirement have not been fully addressed in the record. Whether standardization of data communications would facilitate or hinder development of power production forecasting may implicate a variety of data and communications issues that would benefit from broad industry input through standards development processes such as those used by NAESB and other organizations.

WHOLESALE ELECTRIC QUADRANT EXECUTIVE COMMITTEE AND SUBCOMMITTEE STRUCTURE



Appendix I: NAESB 2016 Wholesale Electric Quadrant Annual Plan

NAESB WEQ EC and Active Subcommittee Leadership:

Executive Committee (EC): Kathy York (Chair) and Bob Harshbarger (Vice Chair)

Standards Review Subcommittee (SRS): Rebecca Berdahl

Interpretations Subcommittee: Ed Skiba

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

Open Access Same Time Information System (OASIS) Subcommittee: J.T. Wood, Alan Pritchard

Coordinate Interchange Scheduling Subcommittee (CISS): Bob Harshbarger, Joshua Phillips

Cybersecurity Subcommittee: Jim Buccigross

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

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 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 UCAlug, among others. 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 WEQ and RMQ ECs.

(***) The PAP 10 Smart Grid Standards Subcommittee is a joint group of the retail electric and wholesale electric quadrants with other standards development groups such as OASIS, UCAlug, 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 Strategic Steering Committee and the WEQ and RMQ ECs.

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Item Description	Completion ⁱ	Assignment ⁱⁱ
1. Update Standards Matrix Tool for Ease of Useⁱⁱⁱ		
a. Update the reference tool developed for Version 2.1 to reflect modifications applicable to Version 3.0 Status: Completed	1 st Q, 2016	IR/Technical
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	2016	EDM
3. Gas-Electric Coordination		
a. Review FERC Order No. 809 ¶ 107 issued in Docket No. RM14-2-000 ¹ regarding computerized scheduling and provide recommended direction concerning the development of standards or modifications to existing standards as needed to support the request of the Commission ² The recommended direction ³ will require two-step board approval, for both the timeline to be pursued and the framework for standards development. ⁴ Status: Underway	2016	Gas-Electric Harmonization Forum, NAESB Board of Directors, WEQ EC & WGQ EC

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

² 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.

³ The steps for the GEH forum shall be:

- (5) 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](#))
- (6) 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
- (7) Identify potential solutions to the issues identified in step 2
- (8) Identify potential schedules for standards development including status and progress reports to the board

⁴ 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.⁴ 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)⁴ 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.

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Item Description	Completion ⁱ	Assignment ⁱⁱ
b. Resulting from the efforts of annual plan item 3(a), develop standards as needed and directed by the Board of Directors, which are specifically assigned to the WGQ.		
i. GEH Forum Issue 22 ⁵ : <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	TBD	WGQ EC and related subcommittees
2. Develop WGQ standards according to the recommendation of item 3b(i)1.	TBD	WGQ EC and related subcommittees
ii. GEH Forum Issue 25 ⁶ : <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	TBD	WGQ EC and related subcommittees
2. Develop WGQ standards according to the recommendation of item 3b(ii)1.	TBD	WGQ EC and related subcommittees
iii. GEH Forum Issue 26 ⁷ : <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	TBD	WGQ EC and related subcommittees
2. Develop WGQ standards according to the recommendation of item 3b(iii)1.	TBD	WGQ EC and related subcommittees
iv. GEH Forum Issue 33 ⁸ : <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	TBD	WGQ EC and related subcommittees
2. Develop WGQ standards according to the recommendation of item 3b(iv)1.	TBD	WGQ EC and related subcommittees

⁵ The GEH Forum Issues may be found in the GEH Survey Addendum: https://www.naesb.org/pdf4/geh_report_addendum_041816_clean051316.docx

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

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	Item Description	Completionⁱ	Assignmentⁱⁱ
v.	GEH Forum Issue 36 ⁹ : <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 17¹⁰ 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	TBD	WGQ EC and related subcommittees
	2. Develop WGQ standards according to the recommendation of item 3b(v)1.	TBD	WGQ EC and related subcommittees
c.	Address standards development requests related to gas-electric harmonization		
	i. Develop business practices as needed to support R16003 and attachment: 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 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).	TBD	WGQ BPS
	ii. Develop business practices as needed to support R16004 : <i>“Update the NAESB 1.4.1 Nomination dataset to remove all non-necessary data elements and to evaluate the use of all Mutually Agreed and Business Conditional data elements for their continued relevance.”</i>	TBD	WGQ BPS
	iii. Develop business practices as needed to support R16007 : <i>“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.”</i>	TBD	WGQ BPS
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)¹¹			
a.	Develop business practices as needed to support electronic filing protocols for submittal of FERC Forms Status: Underway	TBD	Joint WEQ/WGQ FERC Forms Subcommittee

⁹ *Id.*

¹⁰ 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

¹¹ 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

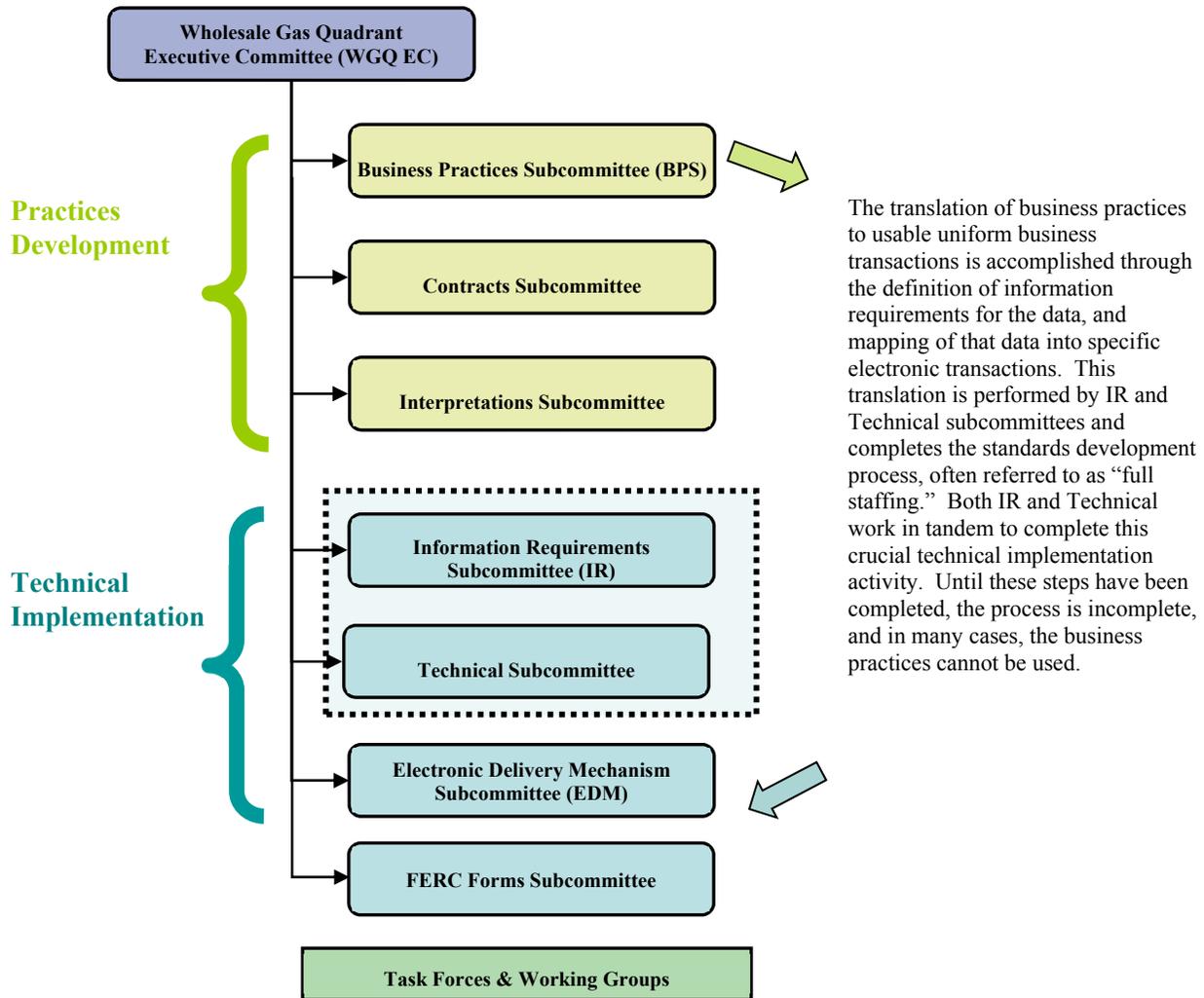
**NORTH AMERICAN ENERGY STANDARDS BOARD
 2016 Annual Plan for the Wholesale Gas Quadrant
 Adopted by the Board of Directors June 24, 2016**

Item Description	Completionⁱ	Assignmentⁱⁱ
5. Liquefied Natural Gas Master Agreement		
a. Consider and determine if a NAESB Liquefied Natural Gas (LNG) Master Agreement is needed Status: Not Started	2016	WGQ Contracts
b. Develop the LNG Master Agreement according to the analysis completed in item 6.a. Status: Not Started, dependent on completion 5(a)	TBD	WGQ Contracts
Program of Standards Maintenance & Fully Staffed Standards Work		
Business Practice Requests	Ongoing	Assigned by the EC ^{iv}
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 standards as needed in support of Variable Energy Resources (VERs) final order (RM10-11-000). (NAESB Comments 3-2-11 , FERC NOPR RM10-11-000 , FERC Final Order RM10-11-00012) In review of the NAESB standards, the Gas/Electric Operational Communications Standards may require changes, and other standards may be required or modified to support gas-electric coordination.		

¹² For FERC Final Order, Docket No. RM10-11-000, specifically paragraph nos. 146 and 182 should be reviewed:

146. The Commission concludes that an independent review of NERC standards and NAESB business practices is not necessary prior to the implementation of intra-hour scheduling. As noted by NERC, several entities currently offer intra-hour scheduling without any apparent conflict with Reliability Standards. NERC comments that it does not believe there are any existing standards that prohibit industry from implementing intra-hour scheduling, and no commenters have pointed to specific NAESB business practices that prevent industry from implementing intra-hour scheduling. The Commission therefore concludes that it is not necessary to delay adoption of the intra-hour scheduling requirements of this Final Rule pending further review of NERC Reliability Standards and NAESB business practices. To the extent industry believes it is beneficial to refine one or more existing NERC Reliability Standards or NAESB business practices to reflect intra-hour scheduling, stakeholders can use existing processes to pursue such refinements.

182. Some commenters request that the Commission standardize protocols for reporting meteorological or forced outage data required by this Final Rule. The Proposed Rule did not contain standard protocols for data reporting and, as a result, the merits of such a requirement have not been fully addressed in the record. Whether standardization of data communications would facilitate or hinder development of power production forecasting may implicate a variety of data and communications issues that would benefit from broad industry input through standards development processes such as those used by NAESB and other organizations.



NAESB 2016 WGQ EC and Subcommittee Leadership:

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

End Notes WEQ 2016 Annual Plan:

ⁱ 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.

ⁱⁱ The assignments are abbreviated. The abbreviations and sub-committee structure can be found at the end of the annual plan document.

End Notes, WGQ 2016 Annual Plan:

ⁱ Dates in the completion column are by end of the quarter for completion by the assigned committee. The dates do not necessarily mean that the standards are fully staffed to be implementable by the industry, and/or ratified by membership. If one item is completed earlier than planned, another item can begin earlier and possibly complete earlier than planned. There are no begin dates on the plan.

ⁱⁱ The assignments are abbreviated. The abbreviations and committee structure can be found at the end of the annual plan document.

ⁱⁱⁱ As implementation of business issues are presented to the Information Requirements Subcommittee and Technical Subcommittee, those issues will be given precedence over WGQ 2016 Annual Plan Item No. 1.

^{iv} The EC assigns maintenance of existing standards on a request-by-request basis.