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August 16, 2021

**TO:** NAESB Board Gas Electric Harmonization

**FROM:** Rae McQuade, NAESB President & Jonathan Booe, Executive Vice President & CAO

**RE:** NAESB Gas-Electric Coordination Efforts – **Identified Policy & Issues Considerations Work Paper**

During the July 28, 2021 NAESB Gas-Electric Harmonization Committee meeting, the Co-chairs requested that a work paper be developed that provides the policy considerations and other issues that have been identified by NAESB in previous gas and electric market coordination efforts undertaken by the Committee and subsequently provided to the Commission. The tables below provide the identified policy considerations, the FERC responses, and subsequent NAESB actions. They are organized by the following NAESB efforts:

1. NAESB Gas and Electric Interdependency Report (2006)
2. NAESB Report in Response to the National Petroleum Council Study (2011)
3. NAESB Response to FERC Notice of Proposed Rulemaking, Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities (2014)
4. NAESB Response to FERC Order No. 809 (2017)

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| **1.)** | **NAESB Gas and Electric Interdependency Report (2006)** |
|  | **Policy Considerations Identified**  | **FERC Response** | **NAESB Action** |
|  | **a.** | In the development of standards to support Capacity Release pricing on an index for those pipelines that have the FERC authority to enter into negotiated rates and discount capacity on an index basis, removal of the pricing cap (maximum tariff rate) may make it more attractive for firm gas transportation holders to release the capacity to others.  | FERC Order No. 698 ¶ 55-57“The Commission’s regulations permit releasing shippers to use price indices or other formula rates on all pipelines, regardless of whether the pipeline has included a provision allowing the use of indices as part of its discounting provisions, so long as the prices are less than maximum rate in the pipeline’s tariff. Section 284.8(b) of the Commission’s regulations states that “firm shippers must be permitted to release their capacity, in whole or in part, without restrictions on the terms or conditions for release,” and section 284.8(e) mandates that such a release may not be “over the maximum rate.”  | Standards Adopted (see work paper) |
|  | **b.** | The addition of an additional intraday nomination cycle with bumping rights may provide more flexibility to shippers, including power generators, with firm transportation rights such that they can nominate for natural gas supporting their market clearing times. | FERC Order No. 698 ¶ 69“As we stated in the NOPR, the Commission has recognized the interest of interruptible shippers in achieving business certainty by making the last intra-day nomination opportunity one in which firm nominations do not bump interruptible nominations. However, within the confines of current Commission policy, NAESB should actively consider whether changes to existing intra-day schedules would benefit all shippers, and provide better provide for coordination between gas and electric scheduling. In addition, the NAESB nomination timeline establishes only the minimum requirement to which pipelines must adhere. We fully expect that individual pipelines supporting gas-fired generators will be considering the addition of other intra-day nomination opportunities that would be of benefit to their shippers.” | Standards not Adopted in Response |
|  | **c.** | Allowing pipelines to shift gas for primary firm transportation within a pipeline path without having to re-offer as secondary firm transportation service would provide customers with the flexibility to adjust their schedules with changing market conditions without losing their original transportation priority. | FERC Order No. 698 ¶ 63“The Commission is not modifying its requirement for within-the-path scheduling as adopted in Order No. 637. The example posited by NAESB appears consistent with the within-the-path scheduling concept and with pipeline proposals that have been accepted. It would not be appropriate for the Commission here to try to provide generic clarification to cover all possible proposals by pipelines for according flexibility to shippers. These proposals will have to be judged on an individual basis. In addition, NAESB can consider through its consensus process possible standards for according increased receipt and delivery point flexibility.” | Standards Adopted (see work paper) |
|  | **d.** | Requiring gas-fired generators that offer into the day-ahead market for firm power obligations to have the corresponding commercial arrangements for fuel supply to fulfill the needed obligations. | FERC NOPR October 25, 2006 ¶ 27“The NAESB report raised the issue of whether to develop standards regarding the appropriate commercial relationships that generators must have in bidding into day ahead markets, so that they have the appropriate gas commercial arrangements to fulfill the needed obligations. Some of the objections to such an effort, NAESB notes, are that it would interfere with company’s risk management strategies, and that reliability issues should be addressed by NERC. We agree that business practice standards requiring, for instance, that gas-fired generators have firm gas supply or gas transportation contracts would go beyond the scope of business practices.” | Standards not Adopted in Response |
|  | **e.** | Modifying the requirement for organized electric markets to allow markets to clear in sufficient time to nominate within the existing gas nomination timelines would enhance the ability of power producers to meet their delivery obligations in a cost-effective manner. | FERC NOPR October 25, 2006 ¶ 25-26“The Commission agrees that these are serious issues, particularly during periods of coincident peak use in the electric and gas industries. RTOs and ISOs frequently consider gas-fired generation to be necessary to maintain reliability. Yet, especially during periods when both electricity and gas are in short supply, gas-fired generators may have difficulty buying gas and transportation, because the RTOs’ and ISOs’ scheduling process does not match the gas process. Moreover, if the gas-fired generator does submit bids into the RTO/ISO market based on current gas prices, those prices may change significantly during periods with volatile gas prices by the time the RTO or ISO calls upon the generator to run.Because of the serious repercussions on the electric market of these problems, the Commission is concurrently opening section 206 proceedings to examine the RTO and ISO scheduling processes during emergency conditions. These proceedings are intended to ensure that the RTOs and ISOs have procedures in place during emergencies to permit better synchronization of their markets with the gas market and to ensure that generators making appropriate bids into the RTO and ISO markets are able to recover their prudently incurred costs.” | Standards not Adopted in Response |
| **2.)** | **GEH Report in Response to National Petroleum Council (2012)** |
|  | **Policy Considerations Identified**  | **FERC Response** | **NAESB Action** |
|  | **a.** | Significant differences in both natural gas and electric markets day-of service and day-ahead scheduling procedures create the gaps in the clearing of gas and electricity markets and may require policy recommendations aimed at synchronizing the clearing times and the energy delivery day for both markets. | FERC did not specifically respond to the policy issues identified in the report | The NAESB Board of Directors adopted three provisional [WGQ](https://naesb.org/pdf4/bd120612a3.docx) & [WEQ](https://naesb.org/pdf4/bd120612a2.docx) annual plan items |
|  | **b.** | Recognizing that market design issues are regional and may be most appropriately addressed by the ISOs and RTOs directly, the economics surrounding the use and cost recovery for firm and interruptible capacity, including who holds and pays for the gas pipeline capacity needed to back up renewables or to serve normal electric load requirements is a core issue for both the day of and the day-ahead markets. | FERC did not specifically respond to the policy issues identified in the report | The NAESB Board of Directors adopted three provisional [WGQ](https://naesb.org/pdf4/bd120612a3.docx) & [WEQ](https://naesb.org/pdf4/bd120612a2.docx) annual plan items  |
|  | **c.** | State curtailment policies impact both natural gas and electric markets, and it should be recommended to policy makers that a review of those policies may be helpful to ensure that policies do not inadvertently lead to interruption of service, depending on the priorities outlined in the state curtailment policies. More structured communications and availability of information for decision making in stress conditions could also require an examination that would lead to possible policy changes and standards changes to support the movement of natural gas to electric generation.  | FERC did not specifically respond to the policy issues identified in the report | The NAESB Board of Directors adopted three provisional [WGQ](https://naesb.org/pdf4/bd120612a3.docx) & [WEQ](https://naesb.org/pdf4/bd120612a2.docx) annual plan items  |
|  | **d.** | The increasing interdependency of the natural gas and electric markets will require more timely information to enhance market operability. Mechanisms (standards, rules, tools and products) should be in place to provide the confidentiality required to ensure competitive markets and to prevent unintended anti-competitive behavior. Adequate security measures will be needed to ensure the protection and integrity of the information made available, including restricting receipt of some information. | FERC did not specifically respond to the policy issues identified in the report | The NAESB Board of Directors adopted three provisional [WGQ](https://naesb.org/pdf4/bd120612a3.docx) & [WEQ](https://naesb.org/pdf4/bd120612a2.docx) annual plan items  |
| **3.** | **Responses to FERC Notice of Proposed Rulemaking, Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities (2014)** |
|  | **Policy Considerations Identified**  | **FERC Response** | **NAESB Action** |
|  | **a.** | In response to the NOPR proposal to “move the start of the Gas Day from 9:00 am CCT to 4:00 am CCT,” the NAESB Gas Electric Harmonization Forum could not find consensus on an alternative to the proposed start of the Gas Day, but supported making appropriate changes to the standards that reflect the Commission’s final order.  | FERC Order No. 809 April 16, 2015 ¶ 69“While the Commission declines to take action in this proceeding to change the start of the Gas Day on a nation-wide basis, we note that since the issuance of the NOPR in March 2014 both ISO-NE and PJM (the two regions that appear to be of the most concern) have recently undertaken operational and market actions to address the availability and performance of generators, included gas-fired generators, in their footprints. Beyond these measures, ISO-NE argues that the New England region needs its generating resources and other entities to make investments in firm fuel supplies and transportation, maintenance of on-site fuel inventory, and dual fuel capability.126 ISONE states that it is implementing the Pay-for-Performance proposal accepted by the Commission to provide incentives for these investments. Similarly, PJM is focusing on long-term procedural improvements in a recent Commission filing proposing a series of tariff reforms to ensure that resources committed as capacity to meet PJM’s reliability needs are obligated to deliver energy and reserves when called upon. These and other regional efforts to address generator performance may result in natural gas-fired generators and other market participants in these regions taking actions to alleviate some of the electric industry fuel supply concerns underlying the Gas Day proposal in the NOPR. In addition, the Commission is taking a range of actions in this Final Rule, as discussed below, to better coordinate the scheduling of the natural gas and wholesale electricity markets as well as to provide additional scheduling flexibility to all shippers on interstate natural gas pipelines.” | Standards Adopted (see work paper) |
|  | **b.** | In response to the NOPR proposal to “move the start of the first day-ahead gas nomination opportunity for pipeline scheduling (Timely Nomination Cycle) from the current 11:30 am CCT to 1:00 pm CCT,” the NAESB Gas Electric Harmonization Forum came to consensus in support of the proposal offered in the NOPR | FERC Order No. 809 April 16, 2015 ¶ 87“The Commission is amending its regulations at Part 284 to incorporate by reference NAESB’s revised standards, which provide that the nomination deadline for the Timely Nomination Cycle shall be 1:00 p.m. CCT, with notice to shippers of scheduled quantities at 5:00 p.m. CCT, and the nomination deadline for the Evening Nomination Cycle shall remain at 6:00 p.m. CCT, with notice to shippers of scheduled quantities at 9:00 p.m. CCT. These changes, along with being generally consistent with the NOPR’s proposed 1:00 p.m. CCT start time for the Timely Nomination Cycle, are supported by the vast majority of the commenters, from both the gas and electric industries, including commenters that do not generally support NAESB’s revised intraday nomination timeline. NAESB’s revised 1:00 p.m. CCT start time for the Timely Nomination Cycle, like the NOPR’s proposed 1:00 p.m. CCT start time, will provide generators more time to acquire natural gas supply and pipeline transportation after learning their electric dispatch obligations, provided changes are made to the ISO and RTO scheduling processes. NAESB’s proposal to provide notice of scheduled quantities at 5:00 p.m. also enables gas industry participants to complete the Timely Nomination Cycle by the end of the business day, while still providing sufficient time for the nomination, confirmation and scheduling process.” | Standards Adopted (see work paper) |
|  | **c.** | In response to the NOPR proposal to “modify the current intraday nomination timeline to provide four intraday nomination cycles, instead of the existing two, to provide greater flexibility to all pipeline shippers,” the NAESB Gas Electric Harmonization Forum recommended three intraday nomination opportunities with deadlines for Intraday 1, Intraday 2 and Intraday 3 occurring at 10:00 am CCT (bump), 2:30 pm CCT (bump) and 7:00 pm CCT (no bump), respectively.  | FERC Order No. 809 April 16, 2015 ¶ 104“The Commission is amending its regulations at Part 284 to incorporate by reference NAESB’s revised standards, which provide three intraday nomination cycles. Adoption of these standards will provide natural gas-fired generators, as well as other pipeline shippers, with increased scheduling flexibility. While the Intraday 1 Nomination Cycle will continue to start at 10:00 a.m. CCT, pipelines will issue scheduled quantities at 1:00 p.m. CCT, one hour earlier than under the currently effective standards, and gas flow will begin at 2:00 p.m. CCT, three hours earlier than under the currently effective standards. The new bumpable Intraday 2 Nomination Cycle will start at 2:30 p.m. CCT, four and a half hours after the single bumpable intraday nomination opportunity provided by the existing Intraday 1 Nomination Cycle, with pipelines issuing scheduled quantities at 5:30 p.m. CCT, and gas flow beginning at 6:00 p.m. CCT. By adding an additional bumpable nomination cycle later in the day, firm shippers will have greater opportunity to utilize the intraday schedules to reflect load and weather changes consistent with the higher priority of their service. The later time for the bumpable nomination will help shippers in the west, in particular, by allowing them to reflect later changes in weather forecasts into their nominations. The new no-bump Intraday 3 Nomination Cycle will start at 7:00 p.m. CCT, two hours later than the current no-bump Intraday 2 Nomination Cycle, with gas flow beginning at 10:00 p.m. CCT, one hour later than under the current no-bump Intraday 2 Nomination Cycle. The later no-bump nomination cycle will give firm shippers a further opportunity to adjust their nominations consistent with their needs, while also providing certainty to interruptible transactions, so shippers and pipelines can plan for flows during the Gas Day.” | Standards Adopted (see work paper) |
| **4.** |  **NAESB Response to FERC Order No. 809 (2017)** |
|  | **Policy Considerations Identified**  | **FERC Response** | **NAESB Action** |
|  | **a.** | In response to FERC Order No. 809 request 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,” the Gas Electric Harmonization Forum identified 58 considerations and issues that should be considered before recommending specific action. These 58 items and tangentially related standards requests that were submitted contemporaneously resulted in the development of 8 2016 WGQ Annual Plan Items included below.* 2016 WGQ Annual Plan Item 3(b)(i)/2016 WEQ Annual Plan Item 7.b.i: 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
* 2016 WGQ Annual Plan Item 3(b)(ii)/2016 WEQ Annual Plan Item 7.b.ii: GEH Forum Issue 25 – Communication protocols with LDCs, gas generator operators and natural gas marketing companies
* 2016 WGQ Annual Plan Item 3(b)(iii)/2016 WEQ Annual Plan Item 7.b.iii: GEH Forum Issue 26 – Improve efficiency of critical information sharing (related to issues 22 and 25),
* 2016 WGQ Annual Plan Item 3(b)(iv)/2016 WEQ Annual Plan Item 7.b.iv: 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, and
* 2016 WGQ Annual Plan Item 3(b)(v)/2016 WEQ Annual Plan Item 7.b.v: 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.
* 2016 WGQ Annual Plan Item 3(c)(i)/R16003: (Submitted by Skipping Stone and Environmental Defense Fund, Inc. on March 28, 2016) 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)
* 2016 WGQ Annual Plan Item 3(c)(ii)/R16004: (Submitted by FIS Global on May 3, 2016) 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,”
* 2016 WGQ Annual Plan Item 3(c)(iii)/R16007: (Submitted by FIS Global on May 11, 2016) 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 service is supported by the TSP

All related recommendations either recommended “no action” or did not receive the requisite support for adoption.  | Correspondence from Chairman Bay to NAESB – October 18, 2016“Since February 2012, the Commission has focused on issues related to natural gas-electric interdependencies in order to identify areas for improved coordination. The Commission has engaged with both industries as part of its effort to address these challenges. In March of 2014 the Commission issued a Proposed Rule to improve the divergent interstate natural gas pipeline and wholesale electric utility scheduling practices and to address concerns regarding the flexible and efficient use of pipeline capacity by natural gas-fired generators and other shippers. The Commission, in Order No. 809, revised its regulations to incorporate by reference modified North American Energy Standards Board (NAESB) Wholesale Gas Quadrant Business Practice Standards, which revised the standard nomination timeline for interstate natural gas pipelines. However, the Commission requested that the "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." I appreciate the time and effort that NAESB and stakeholders from a broad range of interest groups have invested to date in the endeavor to address the Commission's request. Also, I am pleased to see that NAESB is beginning to work on developing an approach that would, to some degree, streamline the confirmation process. However, I am disappointed that the gas and electric industries were not able to develop consensus standards that would allow for faster and more frequent scheduling opportunities. I believe the development of standards to support electronic nominations and confirmations across interstate natural gas pipelines could achieve greater efficiency, provide additional scheduling flexibility for all-natural gas pipeline shippers and ultimately allow for additional intraday nomination opportunities. The existing operational limitations, including the manual processes utilized by many pipelines for processing nominations, may affect the ability of the gas industry to add additional standard nomination cycles applicable to all shippers. I am concerned that given the time required to implement new standards, the industry may not be positioned to avoid potential operational constraints in the future. I believe that it is reasonable for interstate natural gas pipelines to set minimum requirements to support computerized nomination, scheduling, and confirmation processes. In the past, when the need for such standardization was apparent, NAESB and its stakeholders were able to develop a core set of business practice standards in a short amount of time. I believe the same effort is needed now. I believe it may be more efficient for the industry to develop these standards through the consensus procedures of NAESB than for the Commission to set up its own procedures to try to accomplish this goal. I want to reiterate my thanks to NAESB and to the gas and electric industry segments for the time and effort required to engage in standards development. I encourage NAESB to complete by March 31, 2017 the development of standards or modification to existing standards as needed to support the request of the Commission and to provide opportunities for faster and more frequent scheduling.”Correspondence from Commissioner LaFleur to NAESB – April 12, 2017Thank you for your March 30, 2017 report to the Commission concerning the North American Energy Standards Board's (NAESB's) efforts to respond to the Commission's request in Order No. 809 that the "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." 1 I understand from your report that the recommendations for additional standards and/or modification of existing standards to address the Commission's request did not garner the requisite support in NAESB's Wholesale Gas Quadrant.I appreciate NAESB's efforts and would like to thank all the stakeholders that have invested their time and effort in the endeavor to address the Commission's request. Even though consensus could not be achieved to develop standards, I believe the record developed and the discussions among the industry members will assist the Commission in its considerations, as well as help inform continuing industry-initiated efforts to improve the integration of the gas and electric industries, an issue of critical importance to both industries. I also appreciate NAESB' s continued willingness to support the Commission's gas-electric harmonization effort and its willingness to address any additional Commission requests, but I am not requesting any further efforts, at this time, to respond to the Commission's request in Order No. 809.  | Standards not Adopted in Response |