**via posting**

**TO:** NAESB Gas-Electric Harmonization (GEH) Forum Participants and Interested Industry Parties

**FROM:** Caroline Trum, NAESB Staff, Director Wholesale Electric Quadrant

**RE:** Staff Notes from theNAESB Gas-Electric Harmonization Forum Meeting – May 17, 2023

**DATE:** May 19, 2023

Dear NAESB Gas-Electric Harmonization Forum Participants,

A NAESB Gas-Electric Harmonization (GEH) Forum meeting was held on May 17, 2023 at 1:00 PM Central. Mr. Gee, Ms. Tierney, and Mr. Wood presided over the meeting. The notes below reflect the NAESB staff summary of the meeting.

A recording of the meeting has been posted on the NAESB GEH Forum webpage: <https://naesb.org/recordings/geh051723recording.mp4>

The chat log from the meeting has been posted on the NAESB GEH Forum webpage: <https://naesb.org/pdf4/geh051723chat.docx>

| **Notes from the May 17, 2023 NAESB Gas-Electric Harmonization Forum Meeting** | |
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| **Administrative** | Mr. Booe welcomed the participants and provided the antitrust guidance. He stated that during the meeting, the participants will be discussing the April 28, 2023 Survey and respondents will be offered an opportunity to comment on their responses.  Mr. Booe stated that the dates for the next meetings have been established as June 15, June 29, and July 13 but that the times for these meetings are still being finalized. Mr. Booe stated that in preparation for these meetings, GEH Forum leadership is planning to review the entirety of the GEH Forum record to identify proposals that have been made over the course of the process and formulate recommendations. He noted that these recommendations will be presented to forum participants for discussion and feedback, and at the conclusion of the process, the participants will have an opportunity to vote on the final recommendations that will be included in the report to FERC and NERC.  Mr. Gee thanked the participants who have participated throughout the effort and responded to the industry surveys. He noted the importance of the work being conducted by the forum and indicated that FERC Chairman Phillips has mentioned the activities of the forum at recent speaking engagements. |
| **Review Results of April 28, 2023 Survey** | Mr. Booe stated that the survey responses received have been compiled into a work paper for the meeting and that it has been updated since its original posting to incorporate all submitted survey responses. He indicated that the review will be by topic: (1) firm supply and/or transportation or dual fuel capability requirements; (2) infrastructure and permitting; (3) LNG; (4) emergency actions; (5) resource adequacy and accreditation; (6) fuel switching; (7) storage infrastructure; and (8) load forecasting.  *Questions Addressing Firm Supply and/or Transportation or Dual Fuel Capability*  Natural Gas Supply Association (NGSA)  Mr. Booe asked Ms. Jagtiani to comment on NGSA’s survey responses. Ms. Jagtiani stated the most important issue for the GEH Forum to address is to identify mechanisms that will allow natural gas-fired generators to secure reliable services and adequately recover costs, which is the lynchpin to needed expansions of natural gas infrastructure. She stressed the importance of taking concrete actions that will help to ensure reliability in the both the near-term and long-term future.  American Electric Power (AEP)  Mr. Booe asked Ms. Daley to comment on AEP’s survey responses. Ms. Daley stated that in analyzing anticipated natural gas transportation and supply needs, natural gas-fired generators must balance reliability considerations with consumer costs. She expressed support for market exploration of new products or services that can support reliability, such as the utilization of natural gas storage. Ms. Daley noted that while there are some regions in which additional natural gas pipeline capacity may be needed, there also needs to be assurances that there are adequate natural gas supplies to meet demand, especially during critical weather events. She stated that one primary issue which should be prioritized in the immediate future is to ensure that the RTO/ISO processes for reliability unit commitments result in awards prior to the start of the natural gas nomination cycle so natural gas-fired generators can have advanced notice and adequate time to make the necessary fuel arrangements ahead of critical events.  PJM  Mr. Booe asked Mr. Fitzpatrick to comment on PJM’s survey responses. Mr. Fitzpatrick stated that one critical issue currently being addressed by PJM’s Resource Adequacy Senior Task Force and through PJM’s Critical Issue Fast Path process is the rapid retirement of thermal generator resources as compared to the entry of newer, intermittent resources. He explained that to ensure there are adequate natural gas-fired generators with the correct fuel supplies, PJM is exploring capacity accreditation mechanisms. Mr. Fitzpatrick noted that there are several natural gas pipelines within the PJM footprint that are fully subscribed from a firm perspective and that any incentives to obtain firm natural gas supply and transportation could drive further growth of the natural gas infrastructure.  Mr. Gee stated that in past meetings, PJM has offered comments regarding the need for increased natural gas pipeline transparency, including information on available capacity and noted that PJM has also provided comments identifying that the Argonne National Laboratory NGInsight as a potential tool by which the industry could aggregate and synthesize natural gas pipeline data. He asked if PJM is utilizing this tool. Mr. Fitzpatrick responded that several years ago, the ISO/RTO Council (IRC) Electric-Gas Task Force was provided access to an Argonne National Laboratory pilot application, NGInsight but that PJM is not currently utilizing the application. He explained that, at the time, the primary focus of NGInsight was to aggregate natural gas pipeline critical notices and that as PJM already has a tool to perform this function, there was not an advantage to pursuing further use of the tool. Mr. Fitzpatrick indicated that there was some discussion of expanding functionality to include aggregated capacity release information but that he was unaware of the current status of tool development.  Mr. Gee noted that throughout the GEH Forum record, there have been a number of comments from multiple participants regarding the need for greater transparency into natural gas pipeline operations and ways to better aggregate or synthesize natural gas pipeline data so as to increase usability of that information for natural gas end users. He suggested that if there are already industry efforts underway to address this area, then it may be a more efficient, reasonable approach to identify these efforts in the final report as opposed to developing a recommendation for action. Mr. Fitzgerald stated that PJM is not opposed to pursuing a solution such as the Argonne National Laboratory NGInsight if the tool has the increased functionality that is needed. Mr. Knowland expressed agreement, noting that in past discussions with Argonne National Laboratory about the tool, there was an indication that there may be a consideration of expanded functionality, such as AI/machine learning features that could help to categorize and prioritize critical notices.  Mr. Gee suggested that it may be helpful to get feedback from Argonne National Laboratory as to the current status of the project and if additional functionalities for the tool are available. Mr. Booe indicated that NAESB has been in communications with Argonne National Laboratory and can reach out.  MISO  Mr. Booe asked Ms. Welch to comment on MISO’s survey responses. Ms. Welch stated that within the MISO footprint, the majority of utilities are vertically integrated, meaning that state regulators are the primary authority in establishing resource adequacy requirements and cost recovery mechanisms. She explained that while there are some generator cost recovery mechanisms that can be leveraged through the ISO/RTO markets, state regulators play an important role by making determinations about the number of generation units needed within its jurisdiction and firm fuel and transportation requirements for those units as well as authorizing rate mechanisms such as fuel adjustment clauses. Ms. Welch stated that MISO has taken actions meant to encourage natural gas-fired generators to obtain firm supply and transportation, such as a seasonal auction construct that, in awarding capacity, takes into consideration a generator’s ability to provide power on the most recent peak day.  Ms. Tierney asked if MISO has any visibility as to the extent that state regulators within its footprint may be evaluating rate making changes that would allow firm fuel costs to be recovered as part of retail rates. Ms. Welch indicated that she could not provide any specific information at this time but noted that MISO regularly hosts meetings with the Organization of MISO States (OMS), with the most recent meeting including discussions on resource adequacy. Ms. Tierney noted that it would be helpful to understand any state regulatory conversations in this area. Ms. Welch indicated that she would follow-up with any additional information.  Mr. Gee highlighted the importance of state regulatory involvement in the GEH Forum process, especially as the forum moves forward into the recommendation phase. He suggested that while there has been participation from individual state commissioners and state commission staff, it may also be beneficial to reach out to the executive directors of the state commission regional organizations.  *Questions Addressing Infrastructure and Permitting*  Natural Gas Supply Association (NGSA)  Mr. Booe asked Ms. Jagtiani to comment on NGSA’s survey responses. Ms. Jagtiani stated there are a number of judicial reforms as well as legislative proposals, such as to the National Environmental Policy Act (NEPA) and Section 401 of the Clean Water Act, that are opportunities to support improvements to the permitting process. She stated that one important area to highlight is the need for regulatory certainty for project developers which relates to FERC policies. Ms. Jagtiani suggested that the draft proposals to FERC’s certificate policies that are still pending before the Commission have introduced level of uncertainty and recommended that these policies be rescinded.  Ms. Jagtiani stated that in regards to consumer cost impacts of new infrastructure buildout, the costs for new natural gas infrastructure can by offset by the lower prices paid by consumers during constrained periods. She indicated that sufficient natural gas infrastructure provides increased flexibility for the electric market to meet demand, providing a form of insurance to help ensure electric reliability. Ms. Jagtiani noted that this insurance provided by natural gas infrastructure adds value and that ISOs/RTOs and regulators may need to find creative ways to support needed infrastructure projects.  Mr. Gee stated that in working towards the development of a final report, there are likely to be topics for which the GEH Forum can identify specific recommendations for action, such as through additional standardization, or policy consideration, but that there may be other areas in which it would be more appropriate to convey the nature of the discussion rather than formulate detailed recommendations. Ms. Jagtiani noted that adequate infrastructure is a fundamental hurdle that must be overcome to address a number of the proposals that have been made throughout the GEH Forum process. She expressed support for a final report that will reflect the important role infrastructure plays in ensuring future reliability, which could include suggestions for regulators and legislators adopt policies to better promote infrastructure development.  American Electric Power (AEP)  Mr. Booe asked Ms. Daley to comment on AEP’s survey responses. Ms. Daley stated that while AEP does not have any additional comments beyond its survey responses, May 17, 2023 is the last day of the comment period for the FERC NOPR *Applications for Permits to Site Interstate Electric Transmission Facilities.*  Interstate Natural Gas Association of America (INGAA)  Mr. Booe asked Mr. Smith to comment on INGAA’s survey responses. Mr. Smith expressed agreement with Ms. Jagtiani’s statements regarding the importance of infrastructure and permitting reform. He explained while there may be limitations on the specific actions that can be recommended in these areas, the GEH Forum has a history of addressing gas-electric coordination issues along with the recognized expertise to do so. Mr. Smith suggested that there would be value in the final report from the GEH Forum identifying natural gas infrastructure as an issue to be addressed and acknowledging that steps to facilitate infrastructure development will be helpful.  Mr. Desselle stated that the GEH Forum record contains a significant number of comments regarding the need for additional infrastructure. He noted that while this will likely require long-term solutions to address, such as permitting reform and cost allocation considerations, there have also been issues discussed as part of the GEH Forum record for which short-term solutions have been identified.  American Gas Association (AGA)  Mr. Booe asked Mr. Agen to comment on AGA’s survey responses. Mr. Agen stated that AGA would be in support of a final report that acknowledged the critical role of infrastructure in providing future reliability and highlighted any areas that could be addressed by federal or state regulators to streamline the infrastructure buildout process.  Reliable Energy Analytics (REA)  Mr. Booe asked Mr. Brooks to comment on REA’s survey responses. Mr. Brooks stated that recently, NARUC issued a set of recommendations that addressed coordination between regulators during energy emergencies. He observed that this may be an opportunity to engage with state regulators on this topic.  *Questions Addressing LNG*  No additional comments on survey responses were offered for this topic.  *Questions Addressing Emergency Actions*  Natural Gas Supply Association (NGSA)  Mr. Booe asked Ms. Jagtiani to comment on NGSA’s survey responses. Ms. Jagtiani stated that LDCs already have plans in place to prioritize human needs and that state regulators with the authority to reallocate gas during an emergency should exercise such powers with caution as to not cause any unintended consequences. She noted that regular use of the power to reallocate gas supplies may serve to discourage natural gas-fired generators from obtaining firm supply and transportation contracts.  Southwest Power Pool (SPP)  Mr. Booe asked Mr. Phillips to comment on SPP’s survey responses. Mr. Phillips stated that SPP’s comments do not make a specific proposal but rather indicate that general guidance regarding human needs for natural gas prioritization could be of benefit. He asked if there is a way to identify the ultimate end use of natural gas or some mechanism that could signal if the natural gas is being used to fulfill human needs. Ms. Tierney stated that unlike in the electric market, it can be difficult to identify and isolate the natural gas that is serving critical needs due to the realities of co-mingling and the fact that there may be multiple end-uses behind a single shipper. Mr. Smith agreed, stating that from an interstate perspective, natural gas pipelines can identify the parties to a transaction but that the receiving party may be an entity such as a marketer that is then distributing the gas to the ultimate end user. He explained that for this reason, any guidance regarding prioritization of natural gas sold on the interstate market could likely not be helpful.  *Questions Addressing Resource Adequacy and Accreditation*  Southwest Power Pool (SPP)  Mr. Booe asked Mr. Phillips to comment on SPP’s survey responses. Mr. Phillips stated that SPP is engaged in activities with several stakeholder groups to discuss fuel security as part of resource adequacy but that resource adequacy requirements will need to be addressed by each ISO/RTO individually to tailor solutions for its footprint. He indicated that SPP has an advisory group of state commissioners that advises on issues related to resource adequacy and that SPP is supportive of additional market products, such as those that could incentivize firm fuel and allow generators to recover costs for providing fast ramping services.  Reliable Energy Analytics (REA)  Mr. Booe asked Mr. Brooks to comment on REA’s survey responses. Mr. Brooks stated that there is evidence that generators are willing to make long-term capacity commitments if properly compensated and suggested that the current cost recovery mechanisms should be modified in order to provide adequate compensation.  Generation Power  Mr. Booe asked Mr. Pena to comment on Generation Power’s survey responses. Mr. Pena asked if consideration is being given as part of resource adequacy to functionalities that can be provided by newer generation technologies. Mr. Fitzpatrick responded that PJM’s Resource Adequacy Senior Task Force is considering proposals for all resource types but that PJM’s comments have been limited to natural gas-fired generators as this specific type of generating unit is the focus of the GEH Forum.  Mr. Pena noted the important national security role of certain industrial areas, such as the Houston Ship Channel, and suggested that there should be mandates to protect these areas during critical energy events. Mr. Gee responded that the GEH Forum may not be the correct venue to address this issue and suggested more traction on this topic may be gained by directly engaging with regulators.  Natural Gas Supply Association (NGSA)  Mr. Booe asked Ms. Jagtiani to comment on NGSA’s survey responses. Ms. Jagtiani expressed the importance of the utilization of a multi-day ahead commitment process for the electric markets in advance of critical weather events as a way to provide additional certainty to natural gas-fired generators which will allow them to seek fuel arrangements prior to the start of a potential critical event. She suggested that this also be paired with a cost recovery mechanism that would allow generators to recoup the associated costs of obtaining fuel for these events.  Interstate Natural Gas Association of America (INGAA)  Mr. Booe asked Mr. Smith to comment on INGAA’s survey responses. Mr. Smith expressed support for mechanisms that will provide generators with dispatch certainty and the ability to recover costs versus those that penalize generator non-performance.  *Questions Addressing Fuel Switching*  No additional comments on survey responses were offered for this topic.  *Questions Addressing Storage Infrastructure*  PJM  Mr. Booe asked Mr. Glazer to comment on PJM’s survey responses. Mr. Glazer stated that PJM is supportive of greater utilization of natural gas storage as a tool to protect against supply shortfalls and is considering resource accreditation requirements that would promote natural gas storage. He expressed interest in forum participants providing feedback, especially natural gas market participants such as LDCs, on steps that could be taken to more efficiently utilize existing natural gas storage resources as well as incentivize new natural gas storage infrastructure.  Mr. Gee asked if PJM had considered mechanisms that could socialize costs for natural gas storage across its footprint as opposed to the direct assignment of costs. Mr. Glazer stated that the current proposal under consideration at PJM would be that generation units with a storage component would receive a higher level of accreditation within the capacity market. He explained that the costs associated with storage would result in these units having a higher capacity market bid which would essentially serve as a market method to spread costs.  Ms. Chambers stated that some reports have shown that the use of market-area LNG storage capacity within the Pacific Northwest played a critical role in Winter Storm Elliott and encouraged steps that would increase storage utilization.  Mr. Agen stated there is a benefit to both the development of new natural gas storage behind-the-city-gate that can be shared by both LDCs and natural gas-fired generators as well as steps that could result in the sharing of existing storage resources. He noted that one challenge to this may be the amount of fuel needed by a natural gas-fired generator to meet ramping needs, which could be significantly greater than the needs of an LDC and exceed current LDC storage facility capacity.  Mr. Brooks noted that there may be geographical barriers that prevent the construction of new natural gas storage infrastructure in certain regions and that this is the reason why LNG and LNG storage is important for New England. Mr. Knowland stated that there are projects under development within New England that would create facilities capable of pulling natural gas directly from the pipeline, liquifying the gas, storing the LNG, and then vaporizing the LNG to inject back into the pipeline. Mr. Smead stated that LDCs in New England have been utilizing LNG for a number of years but that scaling such processes to meet the much larger fuel needs of a natural gas-fired generator may be challenging. He explained that regassification of LNG can also result in the re-vaporized gas not meeting natural gas quality standards.  Mr. Smead commented that a challenge in using underground natural gas storage to meet the ramping needs of natural gas-fired generators is that often, these facilities are not located near generators, meaning that the natural gas must be transported via natural gas pipeline. He explained that for this reason, the utilization of natural gas storage can be limited by the availability of natural gas transportation. Mr. Smead stated while direct utilization of natural gas storage for ramping is not practical, greater natural gas storage capabilities can be used to increase line pack which in turn can be used to provide additional no-notice natural gas services that can be used to meet natural gas-fired generator ramping needs.  *Questions Addressing Load Forecasting*  No additional comments on survey responses were offered for this topic.  Mr. Booe asked if there were any additional comments from participants.  Ms. Bagot stated that Key Recommendation 7 identified three broad categories for the GEH Forum to discuss and explained that through the GEH Forum process, participants have recognized that there are a number of areas within those categories that should be addressed. She explained that although some issues, such as infrastructure, will require mid-to-longer term solutions or multiple steps to ensure long-term future reliability, there are also areas with short-term solutions that can increase near-term future reliability, such as increased industry communications, access to needed information requirements, and greater situation awareness. Ms. Bagot proposed that it would beneficial for the final report to identify actions in these areas that may be of immediate value for regulators, ISOs/RTOs, and industry to address. Mr. Desselle agreed, stating that the GEH Forum record demonstrates that there are shorter-term solutions that should be brought forth for consideration by the GEH Forum and highlighted in a final report as well as longer-term issues that need to be acknowledged. Mr. Smead expressed agreement, noting that Winter Storm Elliott demonstrated the important need for ISOs/RTOs to have accurate, real-time information regarding the natural gas system. |
| **Next Steps & Other Business** | Mr. Gee stated that at the next few GEH Forum meetings will be critical as the participants will be utilizing the NAESB voting process to identify recommendations for industry standards development or policy considerations for inclusion in the final report. He encouraged those at the meeting to continue to participate and reach out to industry colleagues as well. Ms. Tierney expressed appreciation for those that have contributed to the process and remarked on the constructive collaboration that has taken place throughout the GEH Forum.  Mr. Desselle stated that the industry is at a critical juncture and that it is imperative for natural gas and electric market participants to be constructive in identifying steps that can taken to improve coordination and strengthen reliability. Mr. Gee agreed, stating that the industry should work to address issues it can through industry processes, such as standards development, and seek input from state and federal regulators on areas where policy decisions are needed. He noted that if the industry is not proactive in collaboratively solving these issues, then there may be regulatory action in these areas.  Mr. Booe noted that, per meeting discussion, NAESB will reach out to representatives of Argonne National Laboratories as well as the executive directors of state organizational leadership. He stated that a meeting announcement will be distributed shortly for the June 15 GEH Forum Meeting that will include the meeting times. |
| **Adjourn:** | The meeting was adjourned at 3:21 PM Central. |
| **Work Papers Provided for the Meeting:** | **Meeting Related Documents**   * Announcement and Agenda: * Antitrust Guidance and Other Meeting Policies: <http://www.naesb.org/misc/antitrust_guidance.doc>   **Meeting Materials**   * GEH Forum Survey: <https://naesb.org/pdf4/geh051723w1.docx> * GEH Forum Survey Responses – May 12, 2023: <https://naesb.org/pdf4/geh051723w2.docx> * Updated GEH Forum Survey Responses – May 22, 2023: <https://www.naesb.org/pdf4/geh051723a3.docx> |
| **Attendees:** | Please see the posted participant attendance record:<https://www.naesb.org/pdf4/geh051723a2.docx> |