**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 – October 21, 2022

**DATE:** October 31, 2022

Dear Gas-Electric Harmonization Forum Participants,

A Gas-Electric Harmonization (GEH) Forum meeting was held on October 21, 2022 at 9:00 AM Central. Mr. Gee 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/geh102122recording.mp4>

The chat log from the meeting has been posted on the NAESB GEH Forum webpage: <https://naesb.org/pdf4/geh102122chat.docx>

| **Notes from the October 21, 2022 NAESB Gas-Electric Harmonization Forum Meeting** | |
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| **Administrative:** | Mr. Booe welcomed the participants to the meeting. He noted that although Ms. Tierney would be unable to attend the meeting due to a prior conflict, she had participated in the planning process.  Mr. Booe reminded the participants of the NAESB Antitrust and Other Meeting Policies.  Mr. Booe explained that during the meeting, all attendees are welcome to make comments but that due to time constraints, queue preference will be given to those participants that submitted written comments or requested the opportunity to provide comments prior to the meeting. He encouraged the attendees to make use of the meeting chat function and indicated that the chat log will be made available on the NAESB website following the conclusion of the meeting.  Mr. Booe stated that the NAESB office is working with NAESB and GEH Forum leadership to schedule meetings for next year and that a 2023 meeting calendar will be posted once available. |
| **Opening Remarks** | Mr. Booe asked if Mr. Desselle, Ms. Crockett, Mr. Gee, or Mr. Wood if they had any opening remarks.  Mr. Desselle thanked those participants that submitted written comments for the meeting, noting that the written comments help drive discussion during the meeting. Ms. Crockett agreed and indicated that a number of the comments propose suggestions for solutions.  Mr. Gee stated that thus far, the GEH Forum participants have identified several areas to potentially address and reminded the participants that the earlier in the process issues are discovered, the better situated the forum will be to identify potential solutions.  Mr. Wood noted that during the FERC Open Session on October 20, 2022, the Commission released its [2022 – 2023 Winter Assessment Report](https://www.ferc.gov/media/report-2022-2023-winter-assessment) and that the job of the electric and natural gas industry, on behalf of the citizens it serves, is to plan for the extreme. He reminded the participants that the task charged by FERC and NERC to the forum is to address gas-electric interdependency issues and identify concrete actions to increase the reliability of the natural gas infrastructure system to support the bulk electric system. Mr. Wood encouraged the attendees to continue to submit written comments and be active participants during the meeting. |
| **Continued Discussion on Items from Category 3** | Mr. Booe stated that the participants would begin the meeting by continuing discussions from the September 23, 2022 meeting with the remaining [comments](https://naesb.org/pdf4/geh102122w4.docx) for Item 3.c.  **3.c**: Which entity has authority, and under what circumstances, to take emergency actions to give critical electric generating units pipeline transportation priority second only to residential heating load, during cold weather events in which natural gas supply and transportation is limited but demand is high  American Public Gas Association (APGA)  Ms. Lanai stated that reliability and affordability are critical for the utilities represented by APGA and that their members have invested significant time and money to ensure adequate infrastructure and fuel availability. She noted that APGA members contract for firm natural gas, often at a premium, to ensure that they can provide fuel during peak loads to all of their customers. Ms. Lanai indicated that shifting prioritization of natural gas could abrogate these contractual agreements and that there is not an entity with the overarching authority to take such action. She stated that municipal gas utilities are responsible for maintaining safe and reliable service to all customers and that residential heating is not the only critical load served by municipal gas utilities, noting that some utilities supply natural gas to critical infrastructure facilities such hospitals, community heating centers, and other important gas-fired resources. Ms. Lanai stated that new technologies such as self-powered furnaces or furnaces paired with a battery back-up mean that residential customers are not necessarily reliant on electricity to power a gas furnace to heat their homes. She concluded by noting that some community owned systems were developed to exclusively serve commercial or industrial customers, and that re-prioritizing the delivery of firm natural gas to these facilities could cause significant operational issues as well as a risk to safety. Ms. Lanai recommended that the forum discussions focus on ways to incentivize customers to procure the necessary amount of fuel ahead of emergency situations.  Mr. Wood asked if there were any instances of outside parties making attempts to modify existing contracts or restructure how municipal gas utilities operate. Ms. Lanai responded that she could speak to the APGA members regarding the contract issue but indicated that shifting priorities for natural gas delivery will directly impact existing contracts for firm service. She stated that APGA members are open to considerations regarding improvements to business operations but noted that municipal utilities are bound by obligations to engage in long-term planning for the communities they serve. Mr. Desselle stated that some in the industry have been discussing potential changes to force majeure language of the NAESB Base Contract for the Sale and Purchase of Natural Gas.  Process Gas Consumers, American Forest and Paper Association, and the Industrial Energy Consumers of America (AIP)  Ms. Chambers stated that to ensure adequate supplies of natural gas, industrial customers often engage in long-term planning, including contracting for a firm supply of natural gas even if the capacity will not always be needed. She explained that contracting for firm natural gas is an expense these customers incur to help guarantee the safety of their workers and that the products they produce, such as steel, medical supplies, and building supplies are available for consumers. Ms. Chambers expressed concern that reprioritizing natural gas supplies will interfere with private, contractual relationships but noted that entities represented by AIP are willing to develop solutions that would allow for unused capacity to be provided back to the market, on a voluntary basis, so long as these entities are able to adequately recoup expenses, such as replacing supply and contract reservation charges. She noted that unexpected curtailments of natural gas supply to industrial consumers represents a risk to human safety and could cause irreparable damage to machinery. Ms. Chambers indicated there should be mechanisms in place to ensure gas-fired power generators are properly incentivized to obtain firm service and that there is adequate infrastructure to deliver the natural gas.  Mr. Wood asked if there are any particular areas around infrastructure that present challenges for those represented by AIP. Ms. Chambers responded that obtaining new capacity is difficult in a number of regions, such as New England and the Mid-Atlantic, especially as more consumers that had contracted for interruptible capacity in the past are now seeking firm capacity. She indicated that the entities represented by AIP are supportive of developing new infrastructure where necessary to properly serve load.  Texas Competitive Power Advocates  Ms. Richmond stated the twelve entities represented by Texas Competitive Power Advocates operate within the ERCOT footprint which are responsible for a majority of the natural gas generation within the market and are supplied mostly by intrastate pipelines. She explained that within the state of Texas, the Texas Railroad Commission and the Texas Legislature have the authority to issue curtailment prioritizations and that during Winter Storm Uri, an emergency order was issued that elevated the priority of delivery for natural gas generation priority to just below human needs. Ms. Richmond explained that while the prioritization was helpful, there were a number of natural gas generation units that received force majeure notices, including several days prior to the weather event. She also indicated that, at times, accessing firm transportation and natural gas storage can be difficult for those participating in the intrastate pipeline system. Ms. Richmond suggested that the market could benefit from greater transparency regarding firm contracting practices as well as the circumstances that can create a force majeure situation. She noted that the [comments](https://naesb.org/pdf4/geh102122w4.docx) provided by Texas Competitive Power Advocates include recommendations to increase transparency.  Ms. Richmond stated that the Texas Railroad Commission recently issued a permanent rule regarding prioritization in emergency situations. She explained that although natural-gas fired power plants remain second behind critical human needs, the categories of facilities included as part of the definition for critical human needs was expanded, meaning that during the next critical event, natural-gas fired power plants may be lower in prioritization than during Winter Storm Uri. Ms. Richmond suggested that it may be helpful to develop standards or best practices regarding natural gas prioritization tiers, including the classes of consumers that should be considered as part of critical human needs. She stated that Texas Competitive Power Advocates would like to collaborate with the natural gas industry on potential solutions for solving these issues and to develop a more efficient market design that works for all consumers.  Mr. Wood suggested that it may be helpful to consider how other states with large intrastate pipeline systems address these issues. Ms. Richmond agreed, noting that while Texas is unique in that its intrastate pipeline system is approximately three times greater than any other, possible solutions could be identified from reviewing practices in other states.  Mr. Gee stated that additional transparency has been a common suggestion during forum discussions as well as within the submitted comments. He noted that a number of natural gas industry representatives have been participating in the GEH Forum and may be able to provide expertise as well as collaborate on potential solutions. Mr. Gee suggested that it may be helpful to also have insights from the Texas Railroad Commission and asked that NAESB staff continue outreach.  Mr. Desselle noted that earlier this year, NAESB considered a request for standards development proposing standards to enhance commercial communications during extreme weather events. He indicated that while a consensus could not be reached on this particular standards development effort, through discussions there was identification of other areas that may benefit from new or modified NAESB Business Practice Standards to increase transparency and augment coordination.  Mr. Wood commented that one legal solution could be to consider expanding the applicability of transparency requirements mandated by the FERC to include Hinshaw Pipelines and intrastate pipelines subject to FERC jurisdiction under section 311(a)(2) of the Natural Gas Policy Act (NGPA).  MISO  Ms. Welch stated that as the GEH Forum is addressing difficult but important topics to ensure the reliability and resiliency of the nation’s energy infrastructure, the industry may benefit from additional time to provide written comments. Mr. Booe responded that GEH Forum leadership have structured the meetings and comment periods in an effort to balance the directive from the FERC and NERC that NAESB expediate forum activities while still providing the industry the ability to comment and participate in a meaningful way. He expressed appreciation to the participants in working with the timing constraints and that in scheduling future meetings, NAESB and GEH Forum leadership will try to accommodate additional time for industry feedback as much as possible.  Ms. Welch stated that NAESB is a valuable forum for developing industry standards and business practices but that it will be important for any resulting actions to be undertaken by those with jurisdictional authority over the natural gas and electric industries. |
| **Discussion on Comments Submitted in Response to October 3, 2022 Request** | Mr. Booe stated that based on discussions during the previous meeting, GEH Forum leadership developed a series of questions to gather further industry input on potential roadblocks and solutions. He indicated that all [responses](https://naesb.org/pdf4/geh102122w3.docx) received by the NAESB office were compiled into a singular document and posted for the meeting.  Mr. Booe stated that queue preference would be provided to those participants that provided written comments and indicated the desire to speak to those comments and that time permitting, other participants would be able to provide comments.  **Question 1**: Please provide general comments and recommendations for the forum attendees to consider that provide practical solutions for lack of natural gas pipeline capacity during periods of unanticipated demand when building additional infrastructure is not possible or timely.  Interstate Natural Gas Association of American (INGAA)  Mr. Smith stated that in response to earlier discussion regarding transparency, interstate natural gas pipelines are required to adhere to the open-access, non-discriminatory policies mandated by the FERC as well as communication protocols developed by NAESB. He explained that those participating in the wholesale natural gas market frequently coordinate with their counterparts in the wholesale electric market and would be willing to lend expertise to determine if any practices could be of benefit to those operating within intrastate markets.  Mr. Smith explained that in regards to Question 1 specifically, special circumstance rules, as opposed to uniform solutions, can be disruptive to the natural gas market. He noted that short-term redirections of natural gas could result in long-term devaluation of contracts for firm transportation and stated the importance of ensuring that any solutions do not adversely impact the valuable coordination communications that currently existing between ISOs/RTOs, shippers, and natural gas pipelines. Mr. Smith commented that as there is a growing commonality of unanticipated spikes in demand for natural gas, there is a risk that rules intended for use only during extreme circumstances will become commonplace. He indicated that any short-term solutions should not come at the expense of developing long-term plans, explaining that the primary challenge is the need for additional natural gas infrastructure.  Mr. Wood asked if the move towards decarbonization is impacting infrastructure investments by natural gas pipelines. Mr. Smith responded that INGAA and its members view natural gas as critical for the fuel mix and that this is reflected in long-term planning. He indicated that hesitancy regarding building out additional natural gas infrastructure may stem from uncertainties in the planning and permitting processes, including the timeline for these processes.  Natural Gas Supply Association (NGSA)  Ms. Jagtiani stated that just-in-time procurement practices are not a sustainable solution and that of greater benefit would be solutions to ensure adequate natural gas infrastructure. She explained that a diverse portfolio is another method for customers to help ensure reliable natural gas supply and that there are a number of existing natural gas service options that can be contracted for, such as no notice service, storage, and call options, so long as there is adequate infrastructure to support market needs. Ms. Jagtiani indicated that the utilization of duel-fuel sources as well as on-site liquified natural gas (LNG) can also help power generators reliant upon natural gas to meet their just-in-time requirements. She stated that as the issues facing natural-gas fired generation customers are unique, it would be useful to hear from these entities about specific obstacles they face regarding reliable fuel procurement.  Ms. Jagtiani suggested that some broad recommendations the forum may want to consider include exploring the development of new market services, such as those that place higher value on ramping and frequency to ensure reliability as well as multi-day clearing to provide generators with additional advanced notice regarding weather events. She stated that there may also be a benefit in holding educational sessions regarding the existing natural gas market products that are available to natural gas-fired generators and having ISOs/RTOs conduct studies to ensure their markets have adequate gas infrastructure to meet fuel needs.  Mr. Wood asked if there would be a benefit from the development of additional infrastructure to support expanded natural gas storage. Ms. Jagtiani responded that this is an area which it would be helpful to solicit feedback directly from gas-fired power generation customers as building such infrastructure will require significant planning and use commitments.  Mr. Gee expressed thanks for the list of suggestions provided by NGSA in its written comments and welcomed input from natural gas-fired generators regarding the proposals. He clarified that forum efforts are intended to produce long-term solutions to solve the issues facing the country but that short-term measures may be necessary while those solutions are being deployed.  Joint Comments by MISO, PJM, and Southwest Power Pool (SPP)  Mr. Phillips stated that from an ISO/RTO perspective, while a main concern is the availability of capacity on natural gas pipelines, during Winter Storm Uri, the problems faced by some entities were a supply issue rather than one of capacity. He suggested that there could be benefit in exploring optionality to purchasing natural gas beyond the firm/interruptible binary such as the use of storage, enhancing bilateral markets to release unused firm capacity by commercial and industrial customers, and increasing line-pack within the natural gas pipelines during times of anticipated critical weather events. Mr. Phillips noted that requirements to purchase 24/7 firm capacity can be overburdensome to power generators as the ability to recover costs from firm gas contracts is specific to the requirements established by the open access transmission tariff (OATT) for each ISO/RTO. He expressed agreement with earlier commenters about the need to consider the potential establishment of prioritization best practices for obtaining firm natural gas during times of critical operations.  Mr. Wood stated that it may be helpful to know if there are contracting issues specifically faced by peaking gas-fired power plants that make it difficult to obtain natural gas. He noted that there may be a need for additional harmonization regarding the natural gas and electric market structures, indicating that bidding and contracting practices between the markets could be aligned in a more efficient manner.  Mr. Gee asked how electric generation needs should be prioritized in comparison to human need. Mr. Phillips responded that electric generation may need to be on par with human need as interruptions to fuel supply represent a challenge for maintaining the reliability of the electric grid.  Additional Comments  Mr. Booe asked if there were any additional comments regarding Question 1.  Ms. Chambers stated ISOs/RTOs may benefit from a revision in forecasting processes, especially regarding needs ahead of critical weather events. She suggested that it may be helpful to develop best practices to provide additional guidance on managing unanticipated demand. Mr. Desselle stated that ISOs/RTOs do have existing forecasting practices and mandated forecasting requirements that must be followed but noted that there may be an opportunity to provide additional transparency in these areas.  **Question 2**: Please provide general comments and recommendations for the forum attendees to consider that provide practical solutions for syncing deadlines between gas and electric markets when there is unanticipated demand for gas-fired power generation that may not support existing deadlines, without penalizing the existing market participants.  Interstate Natural Gas Association of American (INGAA)  Mr. Smith indicated that it may be helpful to explore modifications in electric market design to allow power generators to access the natural gas market during periods of greater liquidity. He explained that as a number of power generators contract for interruptible service, current practices mean that these customers are often seeking natural gas during peak nominating periods when the majority of capacity is already spoken for by those with firm transportation rights. Mr. Smith suggested that the benefits of this solution could be augmented if coupled with incentives for natural gas-fired generators to obtain firm natural gas transportation rights.  Mr. Wood asked that, beyond obtaining firm natural gas contracts, if there were other timeline or coordination issues between natural gas pipelines and natural-gas fired generators that should be addressed. Mr. Smith responded that even with incentives for power generators to seek firm natural gas, the market still faces issues with adequate storage and pipeline capacity. Mr. Wood asked if there are issues faced by natural gas-fired generators in obtaining natural gas to meet peak obligations. Mr. Smith explained that natural gas-fired generators needing to increase their fuel supply at a quick rate seek often non-ratable flow products. He stated that this can conflict with the design of natural gas pipelines, which are intended to meet peak demand by firm shippers, meaning that the natural gas pipeline may not always have excess capacity to allow non-ratable flow or other services. Mr. Smith noted that this problem may be exacerbated by an increased reliability on renewable resources that can be dependent upon natural gas as a backup fuel source.  Natural Gas Supply Association (NGSA)  Ms. Jagtiani noted that like power generators, industrial customers and LDCs also face issues around non-uniform hourly flow needs for natural gas which they address through obtaining firm transportation rights. She stated that some natural gas pipelines do offer specific peaking services for power generators but that additional natural gas pipeline infrastructure would be required to expand these types of services. Ms. Jagtiani indicated that modifying the natural gas day to include additional intraday nominating periods can be helpful but only if there are also robust price signals within the electric market to incentivize firm gas contracting practices and adequate participation. She explained that pipeline capacity is usually fully awarded during the timely cycle, so often capacity is not available during later nomination cycles. Ms. Jagtiani stated that maintaining flow assurance is a top priority for natural gas producers and marketers, meaning that natural gas is often not reserved in large quantities for unexpected needs beyond specific contractual agreements and storage.  Joint Comments by MISO, PJM, and Southwest Power Pool (SPP)  Mr. Phillips stated that greater flexibility in procuring natural gas could be realized through additional timely nominating cycles, including hourly nominations, that would allow power generators to acquire natural gas during times when the fuel is actually needed to meet peak electric demand obligations. He explained that while forecasting can be beneficial in assessing fuel needs, often times demand cannot be known until the start of the operating day. Mr. Phillips stated that a robust secondary market could also help in this area, including a standard method of posting, transacting, and facilitating these types of transfers. Ms. McQuade asked if there are issues in obtaining natural gas supply over the weekend. Mr. Phillips responded that while the market exists, that market is often not very liquid.  Mr. Glazer stated there needs to be additional discussions regarding transparency in the prioritization for firm natural gas customers as well as secondary markets, including capacity release.  Dominion  Mr. Oberleitner stated that long-term solutions are important but in the interim, there may be additional steps that can be taken by the wholesale electric industry to improve load forecasting and fuel procurement practices, especially in advance of anticipated critical weather events. Mr. Hinson stated that in [slides](https://naesb.org/pdf4/geh102122w3.docx) provided as part of its comments, Dominion provides examples of how the electric industry can make adjustments to load forecasting, such as planning for additional contingencies, that will provide a higher price signal ahead of critical periods and incentive generators to acquire additional fuel.  Mr. Gee asked that Dominion provide additional explanations of this concept and suggested that this is an area the forum explore as part of future discussions.  Additional Comments  Mr. Booe asked if there any additional comments.  Ms. Chambers stated that while cost is a factor in planning, the potential impact to human life that can be caused by outages is also an important consideration.  Ms. Phillips stated that there would be a benefit in exploring if additional transparency can be provided regarding the release of reserve capacity by LDCs through enhanced communications between LDCs and the ISOs/RTOs. She explained that advanced notice and communications regarding the potential availability of next-day capacity would better assist power generators in planning. Mr. Agen noted that LDCs may not be aware until real-time what capacity will be available as they must meet contractual obligations but indicated support for exploring if there are ways to provide additional transparency around capacity release.  **Question 3**: Please provide general comments and recommendations for the forum attendees to consider that provide practical solutions for addressing any information limitations that could provide the data needed to ameliorate some of the problems seen in Storm Uri.  Joint Comments by MISO, PJM, and Southwest Power Pool (SPP)  Mr. Phillips stated that as Mr. Desselle previously indicated, SPP submitted a request for standards development to NAESB proposing increase coordination and communication between the markets during periods of extreme weather. He explained that while this effort resulted in no action being taken, there may be future opportunities around further standardization for critical notices issued by natural gas pipelines. Mr. Phillips suggested that greater uniformity and consistency in these types of regarding critical notices, such as the inclusion of locational information and a more detailed explanation of why a notice was issued, will enhance the ability of the electric industry to interpret and act in response. He suggested that it may also be beneficial to implement a tiered system for critical notices to indicate the level of severity as well as create an emergency alert system.  Additional Comments  Mr. Booe asked if there any additional comments.  Ms. Phillips noted that issues vary by regions and that overly broad solutions may serve as more of a hindrance than a benefit. She supported exploring if there are solutions to provide additional transparency that can serve to increase efficiencies as well as if there are new, more flexible natural gas market products or services that could be made available to power generation customers.  Mr. Gulen stated that from a market perspective, there will always be a benefit to the availability of additional data and greater transparency. He stated that collaboration and information sharing between the natural gas and electric power industries by critical stakeholders during times of critical events is also important to ensuring coordination.  Ms. Jagtiani indicated that greater regional operator awareness of performance risk and contractual commitments would be beneficial. She also noted that some ISOs/RTOs provide aggregates of the information from natural gas pipeline electronic bulletin boards and that this may be a best practice others should consider implementing.  **Question 4**: Please provide other general comments and recommendations for the forum attendees to consider related to the topics identified for the October 21 meeting  Mr. Booe asked if there were any participants that wanted to speak to Question 4.  Mr. Schoene reiterated that the new prioritization rule enacted by the Texas Railroad Commission places natural gas-fired power generators second, next to human needs. He noted that this is the same level priority provided to these entities during Winter Storm Uri. Ms. Richmond responded that the category of entities qualifying as human needs has been expanded and volunteered to provide additional information regarding the new rule. |
| **Next Steps and Other Business** | Mr. Booe stated that a [reference document](https://naesb.org/pdf4/geh_reference_documentation_list.docx) has been created and posted to the NAESB GEH Forum page of the NAESB website. He indicated that the list will be updated as new documents are provided to NAESB.  Mr. Booe noted that the next meeting of the GEH Forum will be November 8, 2022 and that an agenda for the meeting should be made available by October 24, 2022. He asked if there were any closing remarks.  Mr. Gee stated that discussions during the meeting identified a number of areas for potential collaboration as well as topics upon which more information is needed. He suggested that more feedback would be helpful to close any identified knowledge gaps.  Mr. Wood thanked those for their comments and contributes during the meeting. He reminded the participants that FERC and NERC have designed NAESB as the appropriate forum to address Recommendation #7 of the FERC, NERC and Regional Entity Staff Report and that the forum is an opportunity to identify issues and develop solutions that result in improved integration of the natural gas and electric markets to better serve the country.  Ms. McQuade stated that the meeting chat log and recording would be posted as soon as available. |
| **Adjourn:** | The meeting was adjourned at 12:02 PM Central. |
| **Work Papers Provided for the Meeting:** | **Meeting Related Documents:**   * Announcement: <https://naesb.org/pdf4/geh102122a.docx> * Agenda: <https://naesb.org/pdf4/geh102122ra.docx> * Antitrust Guidance and Other Meeting Policies: <http://www.naesb.org/misc/antitrust_guidance.doc>   **Meeting Materials**   * GE Forum Survey: <https://naesb.org/pdf4/geh102122w1.docx> * GE Forum Survey Responses – October 10, 2022: <https://naesb.org/pdf4/geh102122w3.docx> * Updated GE Forum Survey Responses – September 14, 2022: <https://naesb.org/pdf4/geh102122w4.docx> |
| **Attendees:** | Please see the posted participant attendance record:<https://naesb.org/pdf4/geh102122a2.docx> |