

Minutes

Electric Gas Working Group Meeting

May 22 -23, 2019

API 200 Massachusetts Avenue NW,
Washington, D.C.

Attendees: The following participants were in attendance: **From registration**

Thomas Coleman recited the NERC Anti-trust Compliance Guidelines and the meeting was called to order.

Agenda Items Michelle Thiry provided an overview of the scope and the tasks at hand. She emphasized the importance of staying on task and not going down too many rabbit holes. The approach will be to provide industry guidance on how to incorporate fuel security into Planning. Michelle provided some background on the significance of a guideline underscoring that although a guideline is not enforceable it is highly encouraged to be adhered to and successful implementation of a guideline is the precursor as to whether a standard will ultimately be drafted or if the guideline itself suffices. Michelle anecdotally provided background on her career at Entergy spanning prior to Open Access of the pipelines. Post Open Access the industry has seen changes that have provided additional elements of fuel assurance and security. End use markets are able to acquire myriad products to provide fuel assurance which include call options, delivered fuel, bundled firm or non-firm transportation, along with many other products and tools that pipelines and marketers provide that allow for flexibility as well as the ability to hedge against risks and provide the ability to secure supplies for peak requirements. Michelle additionally provided some insight for planning purposes on pipelines security and ability to react to events that may occur on a pipeline in a particular area which can protect the occurrence of cascading throughout the pipeline. Michelle provided an additional overview of what items the EGWG will work on in addition to the compilation of a NERC guideline. Some of those activities may include the compilation of educational materials and other recommendations to improve communication as well as efficiency between the electric and gas - industries.

The meeting consisted of tables broken down by participants of similar industry backgrounds. Therefore, ISO and RTOs were grouped at one table, Gas industry trade organizations at another, the EGWG leadership at another etcetera. Michelle Thiry and Daniel Farmer from Entergy called on each of the present RTO and ISOs to provide a brief background of what they are presently doing to address fuel assurance and where they see potential gaps, studies they have conducted, and possible paths forward.

1. ISO/RTO Overviews

- a. PJM provided the first overview of their area. PJM has been conducting a series of fuel security studies focusing on how to model contingencies. PJM focused on various sensitivity analyses and modeled single and multiple pipeline failures.
- b. ISO New England discussed their reliance on natural gas with over 50% of their peak hour being met through gas fired generation. New England suffers from lack of fuel security and having a secondary priority to LDC's. Most new infrastructure in New England has been natural gas, however, the infrastructure has not kept up with this growth. There are only 5 major pipelines that serve New England with no new projections for incremental deliverability. New England also relies on LNG in order to meet their peak requirements with additional uncertainty around LNG shipments and the dependence on those. ISO New England has conducted an Operational Fuel Security Analysis as a result of the lack of fuel security in the region. ISO New England's prospective approach is to handle through the markets through 1. Trying to look 7 days ahead and creating a multi-day market and 2. Coordinating with gas pipelines as New England views itself as the tail of the dog being at the end of most major pipeline systems. ISO New England acknowledges that either their resource mix needs to change or there needs to be better mechanisms in place to price fuel.
- c. NYISO
John Stevenson spoke about a fuel and energy security study which is underway in NYISO. They are looking at a 2023/2024 timeframe for the study assumptions. With 2 of 6 nuclear units retiring and the continuation of coal retirements NYISO has fuel security concerns. The study will also model a 17 day severe cold weather event.
- d. MISO – Lynn Hecker discussed the relatively advantageous position that MISO has in relation to other markets. MISO has many pipelines serving the area with no major reliability risks. MISO has employed a generation survey to understand dual fuel and pipeline characteristics as well as firm versus non-firm arrangements. From a planning perspective MISO incorporates disruption into all pipeline studies. They are looking at ways to identify plausible contingencies into their models but acknowledge that they have a major challenge in data transparency with gas pipelines. For operations MISO states that reserve margins are getting much tighter and that recent max gen events (capacity shortages) have occurred primarily in the shoulder months. MISO believes better modeling needs to be employed. Additionally, MISO also has reliability concerns as like New England they have many generators that are secondary to LDCs serving residential customers.
- e. ERCOT – ERCOT has very tight reserve margins and like most other areas is experiencing significant coal retirements. The area has significant growth in renewables with major additions in both wind and solar. Gas is critical for summer peaking, although Texas has the advantage of ample supply and delivery mechanisms. ERCOT endorses additional coordination with the gas industry and pipelines and believes that their modeling should incorporate what types of generators add risk to the system. ERCOT has also established a working group to facilitate data sharing and coordination.

- f. SPP – SPP has significant risks as a result of the large critical mass of renewables in their system. They sometimes reach 50-60% wind during off-peak times. They have to quickly replace wind when wind subsides and natural gas is largely used as the quick start replacement in terms of MWs. Quick start is also location dependent

At the end of these overviews Michelle Thiry discussed the critical importance of understanding root cause – is it fuel security or unit outages?

Natural Gas Council – Matt Agen from AGA provided an overview of the Natural Gas Council and some of the key dynamics of the natural gas industry:

- The throughput for natural gas is comprised of 40% electric generation; 28% industrial; 16% residential; 11% commercial; and 1% for vehicles
- 75% of gas for electric generation flows on the interstate pipeline systems and 25% is served from intrastates and LDCs
- Natural gas is domestically produced. Shale production, horizontal drilling, and fracking have made North America natural gas independent with the US now being an exporter of natural gas
- Because natural gas largely moves underground through the pipeline systems it is not generally affected by weather as many other fuel types are
- Looped lines create redundancy for resilience
- Diverse storage and production dynamics provide versatility
- Line pack also provides flexibility – although not a panacea
- Because gas is compressible – throughput can be increased
- Priority is tied to contractual levels with Firm point to point being the “gold standard”
- 71% of natural gas flows under firm contracts with 16% interruptible and the remaining a hybrid of both
- 99.79% of FT contracts are fulfilled
- The natural gas system is able to run under manual operations providing a hedge against electronic break downs or cyber issues
- The TSA oversees safety including cyber threats
- Natural gas exceeds coal for electric generation with record consumption in 2018. Whereas electric generation is growing the residential and retail markets remain relatively flat due to energy efficiency
- The Natural Gas Council recommends more coordination as well as collaborating with ISO/RTOs on their studies

- Order 809 provide for changes in the gas day and the addition of 2 extra nomination cycles

MISO provided some anecdotal detail of the January cold wave and how their planning and operations dealt with record cold temperatures of -31 degrees F in the northern reaches of their territory. On January 28th the load was 70.4 GWs with a LMP of \$25.5 and an import level of 7.1 GWs and gas prices of \$3.13/MMBtu. By January 30th the load was 76.7 GWs and an LMP of \$108.00 and \$7.42/MMBtu gas prices and 14 GWs imported from PJM and SPP. This scenario underscored the importance of successful planning and operations coordination. There was firm supply that did not get delivered underscoring that reliance on market signals alone will not be adequate.

2. Brian Evans Mongeon PC Discussion

Brian provided a synopsis of the EGWG and the direction that the Planning Committee has received from the NERC Board of Trustees.

3. Thomas Coleman – NERC Overture

Thomas Coleman added to Brian’s remarks and emphasized the importance of this guideline and the timeliness trying to meet the group’s stated October deadline. It will be important to include all fuels in the guideline with a particular emphasis on fuel assurance. The guideline may define fuel assurance and then provide guidelines for consistency of modeling and analysis. It will be important as well to address mitigation as well in the guideline.

4. EGWG Group Discussions

The EGWG split into break out groups to discuss key topics and report back to the larger group so that further direction can be discerned for the purpose of the guideline draft.

- a. Discuss the current scope of the EGWG – The PC will oversee the development of a new Reliability Guide that focuses on including fuel assurance and fuel disruption risk into BPS planning studies. The PC will form a task force to convene subject matter experts and establish the goals and deliverables of the creation of a new guide. – The discussion among the break out groups was to keep the scope intact. It will be presented at the upcoming Planning Committee Meeting for approval.
- b. What best describes the purpose and overall considerations of the Reliability Guideline? Are there considerations we need to add/remove/edit? - The discussion included that the concept of corrective action plans should be removed as a guideline does not have any mandatory provisions. Although this language should be removed it is important that a plan for assessing and analyzing be a part of the guideline. Additionally the consensus was that the guideline should include “fuel assurance principles”. The guideline should also include that analysis should also incorporate man-made threats including cyber threats and vulnerabilities.
- c. What are additional considerations to include in the Fuel Supply Primer section? Consider how we may arrange the different sections to flow most efficiently. – It was agreed that this section would be best worked on outside of the break out groups. NERC has agreed to set up an extranet site where multiple authors will be able to add, edit, and modify the guideline as it is being developed.

- d. What should be included in an ideal fuel disruption risk analysis? How can we best design a framework that can be applied across all regions that is still useful and valuable? Consider how we may arrange the different sections to flow most efficiently. – The consensus for this break out was that the guideline should include a common framework – for example PJM and MISO use similar methods looking at sensitivities. There should be coordination for performance criteria, planning time frames, and the types of analysis and associated tools.

Next Steps:

The EGWG will post its meeting calendar on the NERC website under the EGWG. The face to face meetings will most likely continue to not have a call-in number so that it does not take away from the progress during the meeting and the helpfulness of having everyone face to face. The EGWG leadership will convene to recap the meeting and provide next steps for the remainder of the working group to begin to execute on the scope of the guideline. The scope will be brought for approval at the NERC Planning Committee Meeting on June 5th, 2019.