

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

**Coordination between Natural Gas and Electricity
Markets**

Docket No. AD12-12-000

**COMMENTS OF PJM INTERCONNECTION, L.L.C.
IN RESPONSE TO DIRECTED QUESTIONS**

In response to the directed questions posed by the Federal Energy Regulatory Commission (“FERC” or the “Commission”) on June 4, 2013, requesting responses in this proceeding, PJM Interconnection, L.L.C. (“PJM”) respectfully submits these comments and answers.

- 1. Many ISO/RTOs have ongoing stakeholder processes looking at various issues associated with gas-electric coordination issues. What are the specific recommendations emerging that can be implemented quickly (e.g., by January 2014), for example, without requiring expensive and time-consuming software changes, while stakeholders are evaluating longer-term solutions? Please explain whether these require tariff changes.**

Response: Due to the overall amount and diverse nature of PJM’s capacity resources, the extent of the existing natural gas and electric infrastructure, and the abundance of shale gas resources within our footprint, PJM is in a better position than RTOs in other regions to handle the growing reliance on natural gas to generate electricity. Additionally, PJM’s energy and capacity market structures provide specific design elements to provide incentives for generators to perform when obligated.

Despite these geographic and market structure features, PJM has taken the initiative to form a Gas Electric Senior Task Force (“Task Force”) in order to proactively explore, identify and prioritize gas-electric issues in our region (the Task Force Charter is re-stated following this paragraph). The Task Force has held three meetings so far, which have, as an initial matter,

focused on educating stakeholders on the natural gas – electric systems interface. At this time, the Task Force has not developed specific recommendations, short- or long-term.

Gas Electric Senior Task Force Charter:

Mission

The Markets and Reliability Committee (MRC) approved the creation of the Gas Electric Senior Task Force (GESTF) on March 28, 2013 to identify and examine potential issues associated with the increased dependency of the PJM bulk power system on the natural gas system. The GESTF will be mindful of related efforts with other PJM stakeholder initiatives.

Group Objectives

Specifically, the Gas Electric Senior Task Force stakeholder group will conduct the following key work activities and produce the stated deliverables as described in the Issue Charge:

1. Provide education in order to identify, if any, gas-electric coordination issues.
2. Prioritization of identified gas electric issues
3. Once prioritized, provide specific problem statements for each issue and seek approval from the Markets and Reliability Committee.
4. If the problem statements are approved and assigned to the GESTF, the group will continue work to develop potential solutions to those issues.

Expected Deliverables

The Gas Electric Senior Task Force will provide a prioritized list of potential issues and problem statements for those issues that the GESTF recommends to be addressed.

Expected Duration of Work

The work of this group is expected to last through the integration of a significant amount of new gas-fired generating capacity, which presently is forecasted through the 2016/2017 delivery year.

As to future initiatives where FERC involvement may be appropriate, PJM does believe it is beneficial to share Day-Ahead Market results with pipeline operators in our footprint to aid the pipeline operator in creating a plan for the operating day. The Commission could facilitate the sharing of sensitive market and operational information by declaring that open communications and sharing of such information between gas and electric system operators is acceptable at all times under the established Codes of Conduct, so long as applicable confidentiality requirements are upheld.

2. **Some of the challenges associated with gas-electric coordination occur when gas-fired generators are asked to obtain gas supply and pipeline transportation capacity, or additional gas supply and pipeline transportation capacity, on short notice or outside of the normal day-ahead nomination cycles. Is your ISO/RTO exploring ways to improve the day-ahead scheduling process to better reflect the expected real-time generation requirements? Are there “best practices” in this area that each ISO/RTO should be considering? ISO-NE recently implemented changes to its day-ahead schedule to better align the gas and electric trading days. Is your ISO/RTO considering similar modification for bidding and clearing in the day-ahead market?**

Response: PJM is exploring ways to improve the day-ahead scheduling process. At the most recent meeting of the Gas-Electric Senior Task Force, the merits of moving both the electric and gas schedules in conjunction were discussed. An example was provided that moved the electric day-ahead market ahead by 2 hours so that offers are due at 10 am and electric awards are announced at 1 pm, in conjunction with moving the gas timely nomination cycle back 2 hours, so that the electric awards are known 1.5 hours before the timely gas nominations are due. This proposed would reduce the gas risk of generators by providing more operational certainty to procure firm gas contracts. Ideas such as this should be evaluated now so future gas-electric coordination issues are averted.

For its own part, PJM has a mechanism whereby generators may switch schedules to reflect higher, in-day fuel costs when requested by PJM to operate outside of the initially

established day-ahead schedule¹. Allowing the generator to reflect its increased fuel procurement cost both allows the PJM operator to evaluate the economics of continuing to run the generator versus other potential resources, and also allows the generator to recoup any such additional cost through the PJM settlement processes if the PJM operator elects to continue operating the unit at the higher cost. Further, the higher cost is also reflected in the calculation of Locational Marginal Prices such that the increased fuel costs are transparent to the rest of the market. PJM is amenable to modifying its day-ahead market to better coordinate with the gas system, and intends to address this issue in the Gas-Electric Senior Task Force.

3. What are the specific concerns that your region has for this coming winter? Are there specific actions the Commission can take to help address those concerns?

Response: PJM has performed a reliability assessment for winter 2013/14 and did not find that overall gas supply and deliverability will impact PJM's winter weekly reserve margin. PJM's winter installed reserve margin has historically been approximately 45%, which is above the weekly winter target of approximately 29%. Thus, at the present, there are a fair amount of capacity resources available in the winter to address contingencies. As such, PJM's concern during the winter is more focused on the potential for local impacts due to weather-related generator fuel unavailability, such as: natural gas pipeline capacity constraints due to cold temperature related heating use; lack of oil inventory due to storm related delivery interruptions, or; freezing coal piles. PJM may employ market mechanisms such as shortage pricing in real-time operation along with demand response as a way to manage extremely tight conditions

4. There has been some discussion about shifting the start of the gas operating day ahead of the electric morning ramp. Would such a change improve gas-electric coordination in your region?

¹ PJM Manual 11: Energy & Ancillary Services Market Operations; Attachment C: PJM Procedure for Cost Reimbursement

Response: Shifting the start of the gas operating day ahead of the electric morning ramp, to, for example: 6am to 6am EPT could, potentially, be helpful, because the peak electric period would no longer split the gas day. More importantly, as discussed earlier, shifting the timing of timely gas nominations to occur after the close of the organized electric markets would help ensure that proper gas transportation arrangements are made. Such a change would encourage the use of firm transportation service by power generators, which would send the proper signals to expand the gas pipeline system.

5. Are gas system contingencies included in your ISO/RTO system planning? If so, what are they, how were they selected and how often are they updated?

Response: Gas system contingencies are a generator availability issue, and as such, gas system contingencies that result in generator outages (unavailability) are reflected in forced outage rate calculations, which reduce generator availability for system planning purposes. PJM does not, per se, forecast gas system contingencies as part of our routine planning analyses. However, PJM is looking to ramp up its capabilities in this area. Moreover, PJM is the Lead Principle Investigator in commissioning a DOE-sponsored study through the Eastern Interconnection Planning Collaborative (“EIPC”). The EIPC study will evaluate the impact of gas system contingencies on the electric transmission system. PJM and the other study participants have crafted several complementary regional and inter-regional stakeholder processes which are designed to provide input into the EIPC analysis. Representatives of both pipelines and local distribution companies have been invited to participate in this multi-regional effort. Based on the results of this study, and the recently issued North American Electric Reliability Corporation report “2013 Special Reliability Assessment: Increasing Dependence on Natural Gas for Electric Power,” PJM will evaluate the need to consider gas system contingencies as part of our routine planning analyses.

6. **What specific steps is your region taking to improve situational awareness of local conditions, such as planned or unplanned maintenance of natural gas pipelines? Are these steps on track to be implemented before the next winter heating season? What actions should the Commission consider taking to facilitate improvements in this area?**

Response: PJM has established a call list between major pipelines in the PJM area so that any operational situations can be discussed between back office operations people on both sides without interrupting the activities of the on-shift system operators. In regard to sharing of sensitive information, please refer to PJM's response to question 1 above. PJM also utilizes an application (<https://gaspipe.pjm.com/gaspipe/pages/dashboard.jsf>) which maps pipeline notices to impacted units to help improve situational awareness.

COMMUNICATIONS

The following individuals are designated for inclusion on the official service list in this proceeding and for receipt of any communication regarding this filing:

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CONCLUSION

PJM looks forward to continuing to work with its stakeholders, the EIPC community and the Commission and state commissions on these important matters. PJM also is available to serve as a resource to the Commission as it further investigates this matter.

Respectfully submitted,



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