



Gas-Electric Coordination Quarterly Report to the Commission

Docket No. AD12-12-000
June 20, 2013

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Slide 1



**Gas-Electric Coordination
Quarterly Update**

Docket No. AD12-12

Item No: A-4
June 20, 2013

Good morning Mr. Chairman and Commissioners. This presentation satisfies the second Quarterly Update on Gas-Electric Coordination Activities, as directed by the Commission in its November 15, 2012 order in Docket No. AD12-12.



This presentation captures events during the period March 2013 to June 2013.

We will provide an overview of two of the Commission's initiatives - the April 25 Gas-Electric Scheduling Technical Conference and the May 16 special Commission Meeting, highlight national and regional efforts on natural gas and electric coordination, and briefly summarize relevant applications that have come before the Commission and the Commission's disposition.



April 25 Scheduling Technical Conference

- Natural Gas Operating Day Start Time Problematic for Some Regions
- Mismatch Between Day-Ahead Electric Commitments and the Timely Gas Cycle
- Additional Standard Natural Gas Pipeline Nomination Opportunities

At the April 25 technical conference, Commission members, Commission staff, and a broad cross section of natural gas and electric industry representatives discussed issues related to scheduling practices in the gas and electric industries.

Following an initial presentation by Commission staff, the morning roundtable explored whether there is a need to better align gas and electric schedules and, if so, how that should be accomplished.

The afternoon roundtable explored the potential for modifications to natural gas scheduling, as well as services already provided by some pipelines, marketers and capacity release markets that could be expanded to provide additional use of existing infrastructure.

From staff's perspective, the issues raised at the April conference were familiar and included concerns in some regions. In no particular order, we heard from some system operators that changing the timing of the gas day to encompass the two electric peaks would improve electric operations. While pipeline representatives expressed willingness to consider moving the gas day earlier, some producers cautioned that moving the start of the gas day to the middle of the night presented safety concerns in terms of making well and pipeline adjustments. Other representatives noted that moving the gas operating day would impose additional personnel costs for operations conducted outside normal business hours.

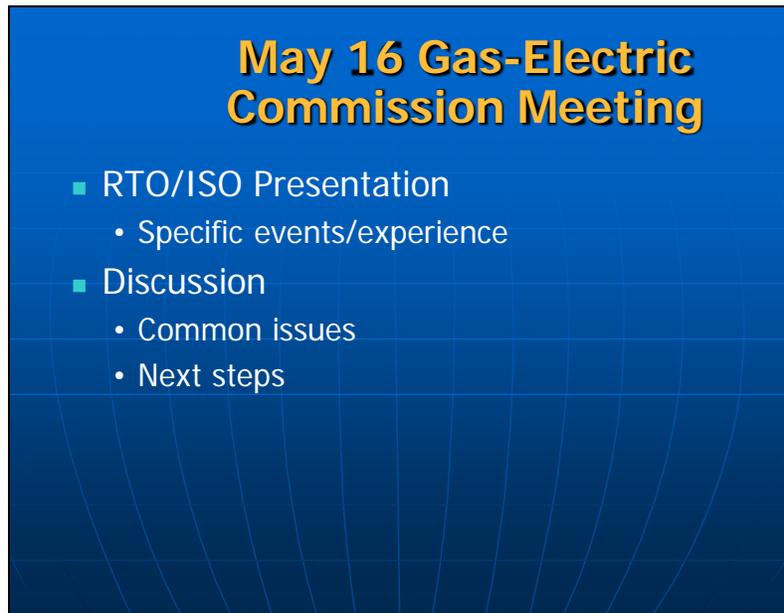
On the issue of aligning gas and electric scheduling, we heard some panelists express interest in moving the timely nomination cycle to later in the day to allow gas-fired generators to have improved weather and load forecasts when scheduling gas. Other panelists suggested that the electric markets should post day-ahead commitments earlier to allow gas-fired generators to nominate the volumes of gas needed during the timely cycle.

On the issue of pipeline flexibility, reactions were mixed. A number of conference panelists, including some RTOs, requested additional intra-day nomination opportunities be standardized to provide opportunities for gas-fired generators to respond to real-time changes in electric load. While many of the pipeline representatives stated general support for the creation of additional nomination cycles, others, because of operational concerns, cautioned against requiring hourly nominations. Producer

representatives cautioned that adding intra-day nomination opportunities may affect the capacity release market and the service priority for interruptible transportation.

Supporters of the no-bump rule note that the no-bump rule allows interruptible shippers to use pipeline capacity when firm shippers do not, which increases pipeline utilization rates and lowers costs to all shippers. However, a few panelists argued that the no-bump rule devalues firm service, creates an artificial barrier to firm service, and allows generators to rely on interruptible services rather firm.

Finally, conference participants generally agreed that the Commission's capacity release program is working well. However, some stated that more flexibility in the capacity release rules could benefit the industry such as allowing longer short-term (up to one year) releases of pre-arranged deals at market-based prices. A number of representatives stated that it would be beneficial to be able to post offers to purchase released capacity.



May 16 Gas-Electric Commission Meeting

- RTO/ISO Presentation
 - Specific events/experience
- Discussion
 - Common issues
 - Next steps

As required by its November order, on May 16, 2013 a special Commission meeting on gas-electric coordination was held. representatives from each RTO and ISO, including ERCOT, shared their experiences from the winter and spring and described the progress made in refining existing practices to provide better coordination between the natural gas and electric industries and ensure adequate fuel supplies. The RTOs and ISOs addressed natural gas transportation concerns that emerged during the winter heating season, and identified fuel-related generator outages that occurred during the winter and spring. Both NYISO and ISO-NE noted that they faced operational challenges in January and February.

In the case of NYISO, operational issues stemmed from fuel related de-rates, underestimated peak load, and scheduled imports under-performing. NYISO took operational action to call internal generators and solicit updated gas, oil, and hydro supplies for peak hour generation. NYISO also scheduled and committed two reliability dual-fuel steam units, and one oil steam unit during the week of January 21.

According to ISO-NE, more than 6,000 MW of gas and oil-fired generating capacity in ISO-NE became unavailable on February 8 and February 9, 2013, either because of storm-related outages or because of a failure to obtain fuel. The RTO needed to bring on additional generation to secure the system, but more than a half dozen generators informed the RTO that they could not get gas.

ERCOT noted during the presentation there is appropriate coordination with natural gas suppliers and pipelines in their region; and there are no significant concerns going into the 2013 summer season.

More generally, representatives from each RTO and ISO discussed common issues including growing dependence on gas-fired generation, as well as the need to improve situational awareness, address when communications are allowed, and consider market rule changes.



At the national level, there continued to be significant activity. On May 22, the North American Electric Reliability Corporation (NERC) released its Phase II special assessment on natural gas and electric power interdependency. It focuses on vulnerabilities that can affect bulk power system reliability.

As part of that assessment, NERC recommends incorporating fuel availability into national and regional reliability assessments using a probabilistic approach where appropriate, increasing system operators' awareness of fuel arrangements in their areas, and enhancements to the Generator Availability Data System to allow improved trending of generator outages caused by fuel issues.

The NERC assessment also recommends increased coordination and sharing of operational planning information through formalized communication. Next steps include identifying how risk assessments are performed in different regions and using this information to develop recommendations for a uniform seasonal and long-term reliability assessment process for consideration by the NERC Planning Committee.

Staff also continued to monitor the efforts of other national trade organizations such as the North American Energy Standards Board (NAESB), American Gas Association (AGA), Edison Electric Institute (EEI), and the Interstate Natural Gas Association of America (INGAA).

NAESB is examining cyber security standards to ensure increased integration of natural gas and electric systems does not increase cyber security vulnerabilities.

Other national associations continue, both through the trade association and via individual members, to outreach with the RTOs and ISOs. Many of the mentioned trade associations' individual members continue to also be involved in the regional working group efforts and, in some instances, proceedings before the Commission.

Congress was also active, convening a hearing and a Senate Forum. On May 9, 2013, a Congressional hearing focused on challenges arising from increased interdependence of the natural gas and electricity

sectors, and potential impacts on reliability resulting from the operational differences between the natural gas and electricity sectors, among others.

Key issues discussed at the May 9 hearing included the need for new natural gas pipeline infrastructure as well as storage facilities to meet the nation's growing reliance on gas-fired generation, and whether to require firm contracts to support their construction. Also discussed was potential reform of wholesale electric market rules to allow generators to recover the costs associated with ensuring electric reliability and the proper utilization of pipeline capacity. Lastly, participants noted that the gas-electric challenge varies by region and thus argued a regional approach is preferable to a top-down federal solution.

Participants included INGAA, the Electric Power Supply Association (EPSA), and a representative from the Industrial Energy Consumers of America (IECA) testified during the hearing.

On May 14, 2013, the Senate Energy and Natural Resources Committee held a full committee forum entitled "Infrastructure, Transportation, Research and Innovation." The May 14 forum focused on issues regarding the growing demand for natural gas for power generation, the need for additional pipeline capacity in New England, and cost recovery associated with ensuring electric reliability. Gas and electric industry participants such as ISO-NE, INGAA, and CenterPoint Energy shared their perspectives on natural gas issues. The forum explored the future applications of natural gas and how future demand for natural gas will be met.



The following slides provide an update on regional initiatives and are based on staff outreach and monitoring the regional gas-electric coordination task force meetings

We start with New England. Efforts in New England continue to be led by the New England States Committee on Electricity (NESCOE) Gas-Electric Focus Group. The most recent Focus Group monthly communication meetings focused on evaluating last winter's challenges and identifying short-term solutions for next winter.

Three proposals to ensure adequate fuel supplies for gas-fired and dual gas/oil-fired generators next winter have been discussed. First is ISO-NE's proposal to create a regional energy inventory of 4.2 million barrels of oil equivalent. The plan would rely on oil-fired units, dual-fuel generators and a winter demand response (DR) program, and allow the ISO to dispatch a minimum of 4,000 MW of oil-fired generation in the event of an emergency that forced natural gas supply reductions. The supplemental supply obligation would run from December 2013 to February 2014. They are also considering two alternative proposals. One has been put forward by Repsol, based on its Canadian Canaport LNG terminal, and another by GDF Suez, based on its Everett, Massachusetts LNG terminal, to ensure the availability of LNG peaking services during the upcoming winter. According to the Focus Group, in order for the LNG options to be viable with sufficient time to secure LNG cargoes, ISO-NE would need to issue a request for proposal by the end of August in order to receive Commission approval prior to the winter season.

NESCOE has also formed natural gas and electric markets subcommittees to examine existing market issues in the region. The subcommittees are continuing to investigate a common information platform to better employ communication systems to enhance opportunities to buy, sell, nominate, and schedule natural gas supply during the less liquid time of the gas markets.

In addition, Black & Veatch presented its findings from the Phase II of a multi-phase New England pipeline capacity study. The Phase II analysis reviewed historical natural gas demand and provided an outlook for growth of natural gas by sector over the next 15 years. Phase II also estimated costs for infrastructure options.

Phase III of the Black & Veatch report is planned for completion in September 2013 and will update infrastructure cost estimates and provide recommended natural gas infrastructure and electric solutions for the region.

In addition, ISO-NE continues to coordinate with stakeholders through the Electric /Gas Operations Committee meetings. During the latest March meeting, the Committee discussed gas and electric post-winter operations, scheduled 2013 maintenance, and system updates.



Turning to the Mid-Atlantic, progress continues on the Eastern Interconnection Planning Collaborative (EIPC) Study involving ISO-NE, NYISO, PJM, MISO, Ontario IESO and TVA. The study introduced last quarter focuses on a multi-regional natural gas/electric analysis of major interstate, intrastate, and local natural gas infrastructure serving the Eastern Interconnection. Recently AGA has been asked to participate to provide a local distribution company perspective.

The primary objectives are to develop a baseline of the electric and natural gas systems; evaluate the adequacy of the regional gas systems to supply gas-fired generation needs over a 5-10-year horizon; identify contingencies on the natural gas system that could adversely affect the electric system and vice versa; and, review the benefits and costs of dual-fuel capability compared with securing firm gas transportation. The final documents for a request for proposal are being completed, with stakeholder outreach planned for June and a final RFP to be issued by mid-July. Final work is scheduled to be completed by May 2015.

NYISO staff continues its efforts through the Electric-Gas Coordination Working Group. Their working group reviewed gas-fired generation operating status during the Martin Luther King Jr. holiday cold snap. Key takeaways include: need for balancing services on the gas pipelines; need to improve management of gas supply contracts including more detailed knowledge about how gas system alerts, OFOs, meter restrictions, and balancing agreements impact generator availability; and to promote sharing of generator schedules with pipelines. Additionally, the NYISO requested short-term outlook "static" study conducted by Levitan & Associates is nearing completion.

PJM held its first meeting of a newly formed Gas Electric Senior Task Force on April 30, 2013. During the meeting the task force began creating a work plan including a charter and discussed gas electric issues. Their mission is to focus on the exploration and prioritization of gas-electric issues that are not already being addressed by other PJM market and financial groups. The task force expects to be active over the next three to four years.



In the Midwest, MISO's Electric-Natural Gas Coordination Task Force continues to meet monthly. The Task Force initiated studies pertaining to coordinated operations, the misalignment of gas and electric operating days, resource adequacy, and ensuring reliability through market signals. The Task Force continues to discuss MISO's resource adequacy construct and began initial discussions of criteria for the potential designation of critical generators. In addition, the Task Force announced Phase III of the MISO gas-electric infrastructure interdependency analysis. Phase III will examine the potential impact specific natural gas delivery failures may have on electric reliability. The study is expected to be completed by 2014.

Separately, the Organization of MISO states (OMS) conducted a survey of its members to determine the use of firm gas contracts. This bears importance given the role of state public utility commissions in allowing cost recovery of firm gas contracts in MISO's mostly traditionally regulated footprint.

SPP has established a Gas-Electric Coordination Task Force. The Task Force is developing coordinated communication plans for use during gas supply events, and identifying any single-point-of-failure concerns in the SPP region.

ERCOT is working with the Texas Pipeline Association (TPA) and the Texas Railroad Commission (RRC) to incorporate the location of significant gas facilities into the ERCOT electric network model. This will facilitate ERCOT's study of the potential impact of electric outages on pipelines and pipeline outages on generators. ERCOT will use this information for visualization purposes, training simulations, and operations.

In 2014, ERCOT plans to develop a model that would allow ERCOT to identify single points of failure on the gas supply system that would remove multiple generation resources from service. A secondary objective will be to identify the probability of common mode gas supply system interruptions to quantify the risk to the ERCOT system.

A number of informal contacts have occurred in the second quarter between ERCOT and gas industry representatives through the Texas Energy Reliability Council to keep current and share information on

gas and electric supply and scheduling issues. ERCOT suggests that there are no significant concerns going into the summer 2013 season given the unique position in a gas producing state with typically ample supplies and extensive pipeline capacity.



The West has a number of subregional natural gas-electric coordination initiatives.

The Western Gas-Electric Regional Assessment Task Force launched by State-Provincial Steering Committee (SPSC) issued an RFP for its Western Natural Gas - Electric and System Flexibility Assessment; responses are due first week of July 2013. The study will explore 1) adequacy of the natural gas infrastructure to meet the long-term needs of the electric industry in the Western Interconnection; and 2) short-term adequacy of natural gas operational flexibility to meet the Western Interconnect's operational flexibility needs with increasing integration of renewables.

During the second quarter of 2013 the WECC Joint Guidance Committee discussed the recent FERC technical conferences and NERC Phase II report. Additionally, the Department of Homeland Security & FEMA conducted a successful Natural Gas-Electric Emergency Exercise during April examining emergency protocols in place during an energy disruption scenario. For the first time, the emergency exercise included electric and gas utilities, and WECC representatives. WECC is likely to hold a follow-up Natural Gas-Electric conference later in 2013.

ColumbiaGrid's Gas-Electric Interdependencies Study Team finalized its I-5 corridor study investigating electric transmission system reliability issues associated with a hypothetical limitation of gas supply to electric generators. The final study conclusions reaffirmed preliminary findings that the electric transmission system performed acceptably under this "what if" gas curtailment scenario. ColumbiaGrid has no further efforts planned beyond following activities in the regions and nationally.

In the Pacific Northwest, natural gas pipelines and electric utilities continue to discuss enhanced communications and coordination through the Power and Natural Gas Planning Task Force meetings, during which the task force explores and addresses policy, planning, and reliability challenges. As part of the Northwest Mutual Assistance Agreement, a collaborative Emergency Planning Committee formed to discuss winter preparedness. The group met on June 12, 2013 to discuss how the group would function in an emergency situation and to learn how the new communications package will work.

The California ISO continues to participate in discussions with the Western Electric Industry Leaders Group in connection with that organization's contribution to the Western Interstate Energy Board gas infrastructure assessment. The ISO anticipates providing ongoing input into these discussions to describe projected flexibility needs on its system to integrate variable energy resources. The California ISO is also conferring with other ISO/RTOs to explore best practices in communicating with natural gas pipelines and coordinating electric system and natural gas pipeline operations.

The California ISO continues to coordinate outage schedules with natural gas pipelines that serve participating generators within the ISO's balancing authority area. In addition, the ISO is discussing other natural gas-electric issues with these pipelines to ensure effective communications occur and sufficient scheduling flexibility exists on both systems.

A new gas-electric task force was created in the Southwest, the Desert Southwest Task Force, with its initial meeting held on May 23. During the initial meeting, stakeholders provided an overview of gas-electric coordination issues and began discussion of how to best identify immediate issues in the Southwest and the next steps. Some of the key issues identified during the group discussion included increasing access to intraday firm gas transportation rights, revisiting the no bump rule, addressing weekend and holiday scheduling, pipeline infrastructure development, and misalignment of gas and electric days. The Task Force plans to meet monthly.



Regular discussions continue in the Southeast to ensure adequate coordination between the natural gas and electric industry. SERC has continued to have monthly meetings with natural gas pipelines. Southern Company indicated increased access to 3 Bcf of gas storage in April to accommodate gas-fired generation running more frequently and the need to manage the generation consumption with their usage of the pipelines.

Relevant Natural Gas Filings

Region	Pipeline	Capacity/Initiative	Docket No.
Southeast	Gulf South Pipeline Company	Capacity expansion ~ 510,500 Dth/d	CP13-96
Southeast	Gulf Crossing Pipeline Company	Capacity expansion ~ 750,000 Dth/d	CP13-64
Midwest	Sierrita Gas Pipeline	Capacity expansion ~ 200,846 Dth/d	CP13-73, CP13-74
West	El Paso Natural Gas Company	Capacity expansion ~ 90,000 Dth/d	CP13-112
Southeast	East Tennessee Natural Gas	Additional Nomination opportunities	RP13-676
Southeast	Saltville Gas Storage	Additional Nomination opportunities	RP13-677
Midwest/ Central	Trailblazer Pipeline	Additional Nomination opportunities	RP13-240

Our last area to cover is applications that have been filed with the Commission. Pipelines continued to file applications to expand pipeline capacity and increase operational flexibility.

Gulf South, Gulf Crossing Pipeline Company and Sierrita Gas Pipeline proposed to construct facilities to provide new or expanded firm transportation service to electric power generators. The Gulf South project is to serve markets in Southeast United States and Florida, the Gulf Crossing expansion is proposed to meet the increasing demand for electricity in the expanding market area of north central Texas, while Sierrita’s facilities are being proposed in order to provide natural gas transportation capacity to the international border that will allow natural gas deliveries to electric power generation facilities in Mexico that will be converted from heavy fuel oil operation to natural gas operation. Approximately 1.6 Bcf per day in overall design capacity is being added to the Southeast, the Midwest, and the West. These cases are still pending.

Earlier this month, El Paso Natural Gas Company was approved to construct and operate facilities in order to provide increased pressure to meet minimum delivery pressure requirements at a new electrical power generating facility in the State of Sonora, Mexico.

In addition, several interstate natural gas pipelines made filings to provide increased service flexibility. The changes are designed to allow shippers additional nomination opportunities beyond the four standard NAESB nomination cycles. The Trailblazer pipeline case is still pending.

Relevant Electric Filings

Entity	Filing Initiative	Docket No.
New England Power Generators Association	A 206 complaint regarding interpretation of ISO-NE's tariff.	EL13-66
ISO-NE and New England Power Pool	Earlier clearing of the Day-Ahead Energy Market and earlier completion of the initial Reserve Adequacy Analysis process	ER13-895
Dominion Energy Marketing	Recover over \$336,095 in fuel costs as well as regulatory costs	ER13-1291

On this slide, staff has highlighted filings made by the electric industry to address increasing reliance on natural gas-fueled generators.

On May 17, 2013, [in Docket No. EL13-66], New England Power Generators Association submitted a section 206 complaint asserting that ISO-NE issued a new interpretation of its tariff that requires all capacity resources to secure firm fuel around the clock, regardless of the likelihood that such resource will be called upon to run and regardless of fuel availability or price. ISO-NE's response was filed on June 6, 2013.

On April 24, 2013, [in Docket No. ER13-895], effective on May 23, 2013, the Commission approved NEPOOL's proposed tariff revisions to modify New England's market rules to provide for earlier clearing of the Day-Ahead Energy Market and earlier completion of the initial Reserve Adequacy Analysis process. This revision shifted the time market participants are informed of day-ahead market commitments from 4:00pm to 1:30pm.

On April 15, 2013, [in Docket No. ER13-1291], Dominion Energy Marketing, Inc. filed a request to the Commission, under Section 205 of the Federal Power Act ("FPA"), seeking recovery of \$336,095 in fuel costs (and for regulatory costs) for its Manchester Street Station Units under ISO-NE's Constrained Area Mitigation and Reliability Commitment Mitigation processes. The Commission issued an order on June 14, 2013 granting Dominion's request for fuel cost recovery, plus reasonable regulatory costs incurred in connection with this filing, subject to a compliance filing detailing the actual regulatory costs.

Staff's next quarterly report is due in October. Staff will continue regular outreach with national and regional entities and with regulated entities regarding their efforts on gas-electric coordination. This concludes today's presentation of the second Quarterly Update on Gas-Electric Coordination Activities. We are available to answer any questions you may have.