

146 FERC ¶ 61,202
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Cheryl A. LaFleur, Acting Chairman;
Philip D. Moeller, John R. Norris,
and Tony Clark.

California Independent System Operator Corporation	Docket Nos. EL14-22-000
ISO New England Inc.	EL14-23-000
PJM Interconnection, LLC	EL14-24-000
Midcontinent Independent System Operator, Inc.	EL14-25-000
New York Independent System Operator, Inc.	EL14-26-000
Southwest Power Pool, Inc.	EL14-27-000

ORDER INITIATING INVESTIGATION INTO ISO AND RTO SCHEDULING
PRACTICES AND ESTABLISHING PAPER HEARING PROCEDURES

(Issued March 20, 2014)

1. In this order, and in two contemporaneous actions,¹ the Commission is proposing interrelated actions to address certain natural gas and electric industry coordination challenges that arise, in part, from increased reliance on natural gas for electricity generation. The Commission's proposals focus primarily on the scheduling practices of interstate natural gas pipelines and electric transmission operators. The reforms proposed in this order and the two contemporaneous orders build upon the comments made during Commission staff technical conferences and in comments filed in Docket No. AD12-12-000.

2. In the contemporaneous Notice of Proposed Rulemaking (NOPR) in Docket No. RM14-2-000, the Commission is proposing, as relevant here, revisions to its regulations to better coordinate the scheduling of natural gas and electricity markets in light of increased reliance on natural gas for electricity generation. Many of the proposed

¹ *Coordination of the Scheduling Process of Interstate Natural Gas Pipelines and Public Utilities*, 146 FERC ¶ 61,201 (2014) (NOPR); *Posting of Offers to Purchase Capacity*, 146 FERC ¶ 61,203 (2014).

reforms are designed to better coordinate the timeframe for scheduling interstate natural gas transportation capacity with the organized electricity markets operated by independent system operators (ISOs) and regional transmission organizations (RTOs). In this order, the Commission establishes proceedings pursuant to section 206 of the Federal Power Act (FPA)² to ensure that each ISO's and RTO's scheduling, particularly its day-ahead scheduling practices, correlate with any revisions to the natural gas scheduling practices ultimately adopted by the Commission in Docket No. RM14-2-000.

I. Background

3. In the NOPR, the Commission provides a detailed background discussing the scheduling practices of both the interstate natural gas pipeline and electric industries, as well as the comments received in the Docket No. AD12-12-000 proceeding. We provide a brief background here to put the above-captioned section 206 proceedings in context.

4. Since 1996, the Commission has incorporated into its regulations a set of nationwide timelines developed by the North American Energy Standards Board (NAESB) that the industry and the Commission have determined will efficiently schedule natural gas transactions across interconnecting pipelines.³ The standardized nomination period has resulted in a complementary standard timeframe in which parties acquire natural gas supplies. The Commission meanwhile has accepted regional variation in the development of scheduling practices in electricity markets.

5. Reliance on natural gas as a fuel for electric generation has steadily increased in recent years with the increased domestic production of natural gas. This trend is expected to continue into the future, resulting in greater interdependence between the natural gas and electric industries. Several events over the last few years, such as the Southwest Cold Weather Event in February 2011,⁴ and the recent extreme and sustained

² 16 U.S.C. § 824e (2012).

³ NAESB is a consensus standards organization and is accredited by the American National Standards Institute (ANSI) as an accredited standards organization which ensures that it complies with ANSI's requirements that its procedures are open to materially affected parties and that the standards represent a reasonable consensus of the industry without domination by any single interest or interest category.

⁴ FERC/NERC, *Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011* (2011), available at <http://www.ferc.gov/legal/staff-reports/08-16-11-report.pdf>.

cold weather events in the eastern U.S. in January 2014,⁵ show the crucial interconnection between natural gas pipelines and electric transmission operators and underscore the need for improvements in the coordination of natural gas and electricity markets.

6. As relevant here, the differences between the nationwide natural gas scheduling timeline and the regional organized electricity market scheduling timelines can create complications for interstate natural gas pipelines and electric transmission operators in coordinating the scheduling of the two industries. During the Commission staff technical conferences, and in the accompanying stakeholder comments filed in Docket No. AD12-12-000, many parties identified a need to ensure coordination of gas and electric scheduling, particularly with ISOs and RTOs, to help ensure reliable, cost-effective, and efficient natural gas and electric service.

7. Misalignment between scheduling of the natural gas and electric industries occurs in two respects. First, the gas and electric operating days do not align. The natural gas operating day begins and ends at 9:00 a.m. central clock time (CCT)⁶ and the electric operating day typically begins and ends at 12:00 a.m. local time. Therefore, gas-fired generators committed across a single electric operating day must schedule gas transportation across two natural gas operating days. Gas-fired generators must submit one daily schedule to the pipeline to cover the period from 12:00 a.m. local time to 9:00 a.m. CCT and a second schedule to cover the period from 9:00 a.m. CCT to 12:00 a.m. local time. In addition, once those schedules are determined, gas-fired

⁵ The widespread record low temperatures during January 2014 resulted in coincident record peak demand for natural gas throughout the Midwest, Northeast, Mid-Atlantic, and Southeast regions leading to constrained pipeline capacity and high natural gas prices. In addition, in February 2014, arctic temperatures limited the availability of natural gas to supply New Mexico and Southern California, leading the California Independent System Operator Corporation to issue a system alert and a request for consumers to reduce power demand around the system. The California Independent System Operator Corporation invoked increasingly stringent measures throughout the day to move generation off natural gas, reduce demand, and maintain sufficient supply to meet firm load. *See* FERC Staff Presentation “Recent Weather Impacts on the Bulk Power System” (Jan. 16, 2014), *available at* <http://www.ferc.gov/CalendarFiles/20140116102908-A-4-Presentation.pdf>.

⁶ CCT adjusts for daylight savings time and corresponds to the Central Time Zone of the United States. All times in NAESB standards are linked to CCT. The gas operating day is contained in NAESB Wholesale Gas Quadrant Version 2.0 Standard 1.3.1 and incorporated into the Commission’s regulations.

generators must rely upon the intra-day nomination cycles to change nominations within an electric operating day. In their comments, the ISOs and RTOs identified this mismatch in operating days as a potential factor in gas-fired generation depleting its available gas supply for a day during the electric morning peak period. In the NOPR in Docket No. RM14-2-000, the Commission is proposing a revision to the natural gas operating day in order to better synchronize these markets.

8. Second, and most relevant to the above-captioned proceedings, the day-ahead scheduling timelines in the organized electricity markets do not align with those in the natural gas market. The standardized natural gas scheduling system includes four nomination cycles: two day-ahead nominations, the Timely Nomination Cycle at 11:30 a.m. CCT and the Evening Nomination Cycle at 6:00 p.m. CCT, and two Intra-Day cycles during the natural gas operating day. The Timely Nomination Cycle is the most liquid time to acquire both natural gas supply and transportation capacity. During that cycle, all of a natural gas pipeline's scheduling nomination priorities are in effect: firm primary nominations have priority over firm secondary nominations, and firm secondary point nominations have priority over interruptible transportation. Under Commission policy and pipeline tariffs, once firm transportation is scheduled, it cannot be displaced, or bumped, by another firm nomination for that gas day.⁷

⁷ See 18 C.F.R. § 284.12(b)(1)(i)(A) (2013) (“A pipeline must give scheduling priority to an intra-day nomination submitted by a firm shipper over nominated and scheduled volumes for interruptible shippers. When an interruptible shipper's scheduled volumes are to be reduced as a result of an intra-day nomination by a firm shipper, the interruptible shipper must be provided with advance notice of such reduction and must be notified whether penalties will apply on the day its volumes are reduced.”); *Standards for Business Practices of Interstate Natural Gas Pipelines*, Order No. 587-G, FERC Stats. & Regs. ¶ 31,062, at 30,672 (1998). This means that in the later nomination cycles a primary firm nomination cannot bump an already scheduled secondary firm nomination. Because the NOPR proposes to specify when interruptible shippers' scheduled quantities may be reduced, the Commission in the NOPR is also proposing to remove language in 18 C.F.R. § 284.12(b)(1)(i)(A) that requires pipelines to give scheduling priority to firm shippers over scheduled volumes for interruptible shippers. See NOPR, 146 FERC ¶ 61,201 at P 68 n.92.

Table 1: NAESB Gas Nomination Cycles⁸

<u>Nomination Cycle</u>	<u>Nomination Deadline (CCT)</u>	<u>Notification of Schedule</u>	<u>Nomination Effective (CCT)</u>	<u>Bumping of IT</u>
Timely	11:30 a.m.	4:30 p.m.	9:00 a.m. Next Day	N/A
Evening	6:00 p.m.	10:00 p.m.	9:00 a.m. Next Day	Yes
Intra-Day 1	10:00 a.m.	2:00 p.m.	5:00 p.m. Current Day	Yes
Intra-Day 2	5:00 p.m.	9:00 p.m.	9:00 p.m. Current Day	No

9. In most organized electricity markets, gas-fired electric generators do not know if they are going to be dispatched until after the ISO or RTO processes their bids and determines if they are the most efficient units to run on a particular day. Table 2 -- ISO/RTO Day-Ahead Scheduling, below, summarizes the day-ahead scheduling process used by each ISO and RTO. If the ISO or RTO does not provide gas-fired generators with their schedules prior to the Timely Nomination Cycle for the applicable natural gas operating day, then the generator will not be able to obtain natural gas supply and transportation capacity during the time period when these markets are the most liquid. While during some periods of the year interstate natural gas pipelines might have available capacity to provide transportation service to gas-fired generators, during periods when pipelines are constrained, the ability of these generators to arrange transportation service when the market is most liquid might be critical to these gas-fired generators' ability to provide reliable service.

10. After the day-ahead electric dispatch schedule is set, the ISOs and RTOs also conduct reliability assessments to determine whether they believe they have sufficient generation committed to meet expected load for the following electric operating day. If the day-ahead electric dispatch schedule does not appear adequate to meet load, the ISO or RTO might schedule additional units to start up to be ready in case of need during real time. Each ISO and RTO establishes its own timing for the day-ahead schedule and reliability unit commitment. As with the Timely Nomination Cycle, if the ISOs and RTOs do not announce commitments of these generators prior to the Evening

⁸ See *id.* P 16.

Nomination Cycle, those generators might have difficulty obtaining natural gas at reasonable prices and scheduling transportation service using only the Intra-Day cycles.

Table 2 -- ISO/RTO Day-Ahead Scheduling

<u>ISO/RTO</u>	<u>Bid Submission (CCT)</u>	<u>Successful Bids (CCT)</u>	<u>Notification of Reliability Unit Assessment (CCT)</u>
California Independent System Operator Corporation	12:00 p.m.	3:00 p.m.	3:00 p.m.
ISO New England Inc.	9:00 a.m.	12:30 p.m.	4:00 p.m.
PJM Interconnection, LLC	11:00 a.m.	3:00 p.m.	5:00 p.m.
Midcontinent Independent System Operator, Inc.	10:00 a.m.	2:00 p.m.	7:00 p.m.
New York Independent System Operator, Inc.	4:00 a.m.	10:00 a.m.	10:00 a.m.
Southwest Power Pool, Inc.	11:00 a.m.	4:00 p.m.	8:00 p.m.

11. As demonstrated by Table 2, all ISOs and RTOs (with the exception of the New York Independent System Operator, Inc.) publicize successful economic dispatch bids *after* the nomination deadline for the Timely Nomination Cycle for day-ahead natural gas nominations, 11:30 a.m. CCT. Similarly, the Midcontinent Independent System Operator, Inc. and the Southwest Power Pool, Inc. publicize successful initial reliability unit commitments after the nomination deadline for the Evening Nomination Cycle for day-ahead natural gas nominations, 6:00 p.m. CCT.

12. In the NOPR in Docket No. RM14-2-000, the Commission proposes revisions to the standardized schedule set by NAESB and incorporated by reference into the Commission's regulations. In particular, the Commission, based in part on comments by ISOs and RTOs in Docket No. AD12-12-000, is proposing to move the first natural gas nomination period, the Timely Nomination Cycle, from its current 11:30 a.m. CCT to 1:00 p.m. CCT. The Commission proposes this change in order to provide the ISOs and RTOs with additional time in which to post results of their day-ahead markets so that gas-fired generators will know their day-ahead commitments for the following electric

operating day in time to submit nominations for pipeline capacity during the most liquid nomination cycle.

13. In addition, in the NOPR in Docket No. RM14-2-000, the Commission also proposes to modify the intra-day nomination timeline so that, in addition to the Timely and Evening Cycles, shippers will have four intraday nomination opportunities to reschedule gas rather than the existing two. While the Commission is proposing certain revisions to its regulations, we also will be providing the industry, through NAESB, with a 180-day period to consider or to modify these proposals if the industry can reach consensus on standards that better fit with industry practice. The Commission's proposed revisions are summarized below.

Table 3 -- Proposed Nomination Schedule⁹

<u>Nomination Cycle</u>	<u>Nomination Deadline (CCT)</u>	<u>Notification of Schedule</u>	<u>Nomination Effective (CCT)</u>	<u>Bumping of IT</u>
Timely	1:00 p.m.	4:30 p.m.	4:00 a.m. Next Day	N/A
Evening	6:00 p.m.	10:00 p.m.	4:00 a.m. Next Day	Yes
Intra-Day 1	8:00 a.m.	11:00 a.m.	12:00 p.m. Current Day	Yes
Intra-Day 2	10:30 a.m.	2:00 p.m.	4:00 p.m. Current Day	Yes
Intra-Day 3	4:00 p.m.	6:00 p.m.	7:00 p.m. Current Day	Yes
Intra-Day 4	7:00 p.m.	9:00 p.m.	9:00 p.m. Current Day	No

II. Discussion

14. As discussed in the NOPR in Docket No. RM14-2-000, the Commission is concerned about the lack of synchronization between the day-ahead scheduling practices of interstate natural gas pipelines and electricity markets. ISOs and RTOs noted in the technical conferences held in Docket No. AD12-12-000 that the misalignment between their day-ahead schedules and those of the natural gas industry can create difficulties in ensuring reliable service to their customers, might result in less cost-effective and efficient scheduling of gas-fired electric generators, and might result in less cost-effective use of resources. Because of the importance of these issues, the Commission in the NOPR in Docket No. RM14-2-000 proposes a revision to the Timely Nomination Cycle for the natural gas industry so that the ISOs and RTOs will have additional time to schedule their day-ahead markets prior to the most liquid times for gas-fired generation to

⁹ See NOPR, 146 FERC ¶ 61,201 at P 64.

obtain natural gas supply and transportation capacity. While the Commission in the NOPR encourages the ISOs and RTOs to participate in the NAESB process described above, we find it necessary to open the above-captioned investigations to ensure that the ISOs and RTOs implement reciprocal changes, if needed, to their posted day-ahead market and reliability unit commitment results to ensure that day-ahead and reliability schedules are known prior to the applicable natural gas nomination deadlines. Ninety days after the publication of a Final Rule in Docket No. RM14-2-000, the above-captioned ISOs and RTOs are required either to propose tariff revisions to coordinate their day-ahead markets with any changes adopted in the rulemaking in Docket No. RM14-2-000 or to show cause why their existing scheduling practices need not be changed. Other entities will then have an opportunity to comment on the filings.

15. Under the current scheduling timelines, a gas-fired generator in an ISO or RTO market that completes its scheduling after the Timely Nomination Cycle must decide whether (a) to line-up supply and nominate interstate natural gas pipeline transportation during the Timely Nomination Cycle without knowing whether the gas-fired generator's electric energy bid will subsequently clear the energy market; or (b) to wait to see whether its bid clears the energy market, and then line-up fuel supply and natural gas pipeline transportation in a later nomination cycle. If a generator acquires natural gas and transportation prior to learning whether it is dispatched, it runs the risk of having to dispose of its natural gas supply and interstate natural gas pipeline transportation capacity during the less liquid Evening or Intra-Day nomination periods.¹⁰ However, if the generator first waits to see if its bid clears the day-ahead market, it must try to acquire natural gas and transportation during the less liquid Evening or intra-day gas transportation nomination cycles. In this event, the generator runs the risk of potentially not being able to find transportation capacity if the pipeline is fully scheduled.

16. We recognize that gas-fired generators face commercial business decisions that inform whether they prefer to bid into the day-ahead electricity markets before or after they have secured their gas supply and transportation needs and that there are also differences of opinion as to whether electric scheduling should be completed prior to the

¹⁰ *See, e.g.*, Equipower Resources Corp. Comments, Docket No. AD12-12-000, at 3-4 (filed Mar. 30, 2012) (a generator that purchases capacity and gas during the timely cycle and is not dispatched “is forced to sell excess volumes or purchase the volume it is short in the intraday market. But the intraday market is highly illiquid and sometimes nonexistent, resulting in the generator (1) being exposed to imbalance penalties on the pipeline if it cannot find a market for excess gas; (2) being unable to operate its generator at expected output; (3) having to purchase additional supplies at a premium; or (4) having to sell excess supply at a discount.”).

submission of interstate natural gas pipeline transportation nominations. Nonetheless, we believe that moving the Timely Nominations Cycle later, from 11:30 a.m. to 1:00 p.m. CCT, should allow electric transmission operators to complete their scheduling sufficiently prior to the Timely Nomination Cycle to permit gas-fired generators to acquire natural gas and pipeline capacity when the market for natural gas is more liquid. Moving the Timely Nomination Cycle later than the current 11:30 a.m. CCT deadline, along with examining whether the ISOs and RTOs should modify their day-ahead market processes, could expand the options available to gas-fired generators. Currently, gas-fired generators in some regions are not provided the opportunity to buy natural gas and to arrange natural gas transportation at a time when they know the results of the day-ahead electricity market and when the natural gas markets are most liquid. Gas-fired generators, therefore, must either procure natural gas supply and transportation prior to knowing whether they were committed or after the close of the Timely Nomination Cycle, when the natural gas supply and transportation markets are less liquid. Under our proposal in the NOPR, combined with appropriate changes in the timing of electricity market scheduling practices, gas-fired generators would have the option of arranging natural gas supply and transportation at the Timely Nomination Cycle knowing the results of the day-ahead electricity market. In particular, this would forward the objective of minimizing situations in which gas-fired generators, particularly those that opt to procure natural gas supply and transportation after the day-ahead electricity market results are posted, are unable to procure sufficient resources to fulfill their electricity market commitments and to contribute to reliable system operation.

17. Furthermore, as discussed above, a gas-fired generator's inability to know whether its bid in the day-ahead market has been selected prior to the deadline for the Timely Nomination Cycle might lead to instances in which gas-fired generators must sell off excess natural gas supply, procure more expensive natural gas supply, de-rate, or burn more expensive fuels. We are concerned that any of these scenarios could result in increased electricity costs and a shift away from the least-cost mix of supply resources as determined by the ISO's or RTO's day-ahead dispatch and unit commitment. These circumstances could pass on higher costs to wholesale customers. On the other hand, if gas-fired generators know whether they were committed in the day-ahead electricity market prior to the Timely Nomination Cycle, these generators might have a greater opportunity to procure natural gas transportation in the Timely Nomination Cycle—when there is the greatest opportunity to procure pipeline capacity. This, in turn, could reduce the potential for gas-fired generators to engage in costly actions that raise real-time energy market prices. Thus, electricity market outcomes might better reflect expected operating costs if gas-fired generators were provided with day-ahead market results prior to the Timely Nomination Cycle.

18. Similar issues animate our concern with the timing of most of the ISOs' and RTOs' reliability unit commitment processes.¹¹ When units are committed during these processes, they are obligated to obtain natural gas supply and transportation capacity sufficient to cover their start-up and minimum run obligations, as well as to deliver energy the next day if needed. The most liquid period for such generators to acquire natural gas supply and transportation capacity is during the Evening Nomination Cycle. After the Evening Nomination Cycle, the next time at which gas-fired generators can acquire natural gas and nominate transportation is the Intra-Day 1 cycle at 10:00 a.m. CCT, the next day. Moreover, even under the Commission's proposed revision to the Intra-Day 1 cycle, such a nomination would not become effective until 12:00 p.m. CCT, which means the generator might have secured no valid natural gas nomination for the morning load increase. Also, by waiting for the Intra-Day 1 cycle to nominate, generators will lose the ability to use one third of the quantity of transportation capacity they have acquired.¹² ISOs and RTOs therefore should ensure that their reliability unit commitment procedures are completed by a time sufficiently prior to the Evening Nomination Cycle to permit gas-fired generators to acquire the natural gas supply and transportation capacity they require to meet that commitment.

19. Accordingly, in light of our concerns stated above, we institute section 206 proceedings with respect to each ISO and RTO that will examine whether the ISO's or RTO's day-ahead scheduling is just and reasonable. Ninety days after publication of a Final Rule in Docket No. RM14-2-000 in the *Federal Register*, each ISO and RTO is required (1) to make a filing that proposes tariff changes to adjust the time at which the results of its day-ahead energy market and reliability unit commitment process (or equivalent) are posted to a time that is sufficiently in advance of the Timely and Evening Nomination Cycles, respectively, to allow gas-fired generators to procure natural gas supply and pipeline transportation capacity to serve their obligations,¹³ or (2) to show

¹¹ We acknowledge that the New York Independent System Operator, Inc. announces its reliability unit commitments at the same time that it publicizes successful day-ahead bids, 10:00 a.m. CCT, which is before both the Timely and Evening Nomination Cycles.

¹² As discussed earlier, gas nominations are for daily quantities and the amount that can be nominated during the Intra-Day cycles are pro-rated based on the time elapsed prior to the effective time of the nomination.

¹³ Should an ISO or RTO propose tariff changes in response to this order, the ISO or RTO may propose these changes as a tariff filing pursuant to section 205 of the FPA by filing the changes under filing type 10 in eTariff or as a *pro forma* tariff revision in the instant dockets.

cause why such changes are not necessary. In their responses, each ISO and RTO must explain how its proposed scheduling modifications are sufficient for gas-fired generators to secure natural gas pipeline capacity prior to the Timely and Evening Nomination Cycles.¹⁴

20. Pursuant to section 206(b) of the FPA, the Commission must establish a refund effective date that is no earlier than the publication of notice of the Commission's intent to institute a proceeding, and no later than five (5) months after the publication date.¹⁵ The Commission establishes a refund effective date as of the date of this order; however, the Commission does not expect to order refunds. The Commission is also required by section 206 to indicate when it expects to issue a final order. The Commission expects to issue a final order in this section 206 investigation within 90 days of the filings required under this order.

The Commission orders:

(A) Pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Energy Regulatory Commission by section 402(a) of the Department of Energy Organization Act and by the Federal Power Act, particularly section 206 thereof, and pursuant to the Commission's Rules of Practice and Procedure and the regulations under the Federal Power Act (18 C.F.R., Chapter I), public hearings shall be held in the dockets referenced in the caption of this order.

(B) The ISOs and RTOs listed in the caption must make the filing as discussed in the body of the order no later than 90 days after publication in the *Federal Register* of a Final Rule revising the gas day in Docket No. RM14-2-000.

¹⁴ We recognize that operational challenges can also occur when ISOs and RTOs require generators to ramp up or down to meet real-time changes in load in ways that may not correspond with natural gas pipeline scheduling opportunities. While pipelines, using line pack and storage, have some flexibility to provide for reasonable variances in natural gas usage, large unscheduled changes in natural gas usage by a gas-fired generator can have implications for the ability of pipelines to assure reliable delivery of natural gas to downstream customers, particularly when the pipelines are capacity-constrained. In the NOPR, we propose additional intra-day nominations to help shippers readjust their scheduling to reflect changes in demand. In addition, we encourage RTOs and ISOs to consider whether other market reforms would be appropriate.

¹⁵ 16 U.S.C. § 824e(b) (2012).

(C) Any interested persons desiring to be heard in the proceedings in each of the captioned dockets should file a notice of intervention or motion listing each docket in which they wish to intervene with the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426, in accordance with Rule 214 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.214) within 21 days of the date of this order.

(D) The Secretary is directed to publish a notice of this section 206 proceeding in the *Federal Register*.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.