

July 23, 2014

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Docket No. EL-14-22
Compliance Filing**

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) submits this filing to demonstrate why it does not need to change the timing of its day-ahead market close and publication of market results, notwithstanding the Commission's adoption of changes to scheduling practices of interstate natural gas pipelines in Order No. 809.¹ The CAISO's current day-ahead scheduling process provides sufficient opportunity for gas-fired resources to secure natural gas and pipeline transportation services. No evidence reflects that under normal conditions natural gas-fired resources participating in the CAISO markets cannot obtain gas transportation service to support their day-ahead electric schedules. Based on stakeholder feedback, the CAISO believes that maintaining the current timing for day-ahead market close and publication of market results is more reliable, more efficient, and less disruptive than the alternative of moving the timing of this process to earlier in the day. For these reasons, there is no need to adjust the timing for the close of the CAISO's day-ahead market and publication of market results.

I. Background

In March 2014, the Commission issued three orders proposing interrelated actions to address natural gas and electric industry coordination issues. The first order was a notice of proposed rulemaking to amend Commission regulations relating to the scheduling of transportation service on interstate natural gas pipelines. Among these

¹ *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities*, 151 FERC ¶ 61,049 (Order No. 809) (2015).

changes was a proposal to start the first day-ahead gas nomination opportunity for pipeline scheduling, the timely nomination cycle, at 1:00 p.m. Central Time (CT) to allow electric utilities to finalize their scheduling before natural gas-fired resources make gas purchase arrangements and submit nomination requests for natural gas transportation service to gas pipelines. The second order initiated proceedings pursuant to section 206 of the Federal Power Act to ensure that organized markets implement reciprocal changes, if needed, to their day-ahead market and reliability unit commitment processes.² The third order initiated a show cause proceeding pursuant to the Natural Gas Act to require interstate natural gas pipelines to provide a place on their internet websites for customers to post offers to purchase, as well as sell, released pipeline capacity.³

On April 16, 2015, the Commission adopted a final rule – Order No. 809 –that revises the Commission’s regulations relating to the scheduling of transportation service on interstate natural gas pipelines. As part of Order No. 809, the Commission modified the timely nomination cycle from 11:30 a.m. CT to 1:00 p.m. CT.⁴ Under the section 206 proceedings referenced above, each independent system operator and regional transmission operator must: (1) adjust the time at which it posts the results of its day-ahead energy market and reliability unit commitment process (or equivalent) to a time that is sufficiently in advance of the timely and evening nomination cycles to allow natural gas-fired resources to procure natural gas supply and pipeline transportation capacity to serve their obligations; or (2) show cause why such changes are not necessary.

Table A identifies the timing of the current CAISO day-ahead market close and publication of market results as well as the timing of the day-ahead gas transportation nomination cycles under current practices and as proposed upon implementation of Order No. 809. As reflected in Table A, the CAISO’s current day ahead energy market closes at 10:00 a.m. Pacific Time (PT) (*i.e.* 12:00 p.m. CT) and the CAISO publishes its market results at 1:00 p.m. PT (*i.e.* 2 p.m. CT).⁵ This three-hour period is necessary to conduct the market processes that result in day-ahead energy schedules and ancillary services awards as well as residual unit commitment awards.⁶ The CAISO issues its

² *California Independent System Operator Corp., et al*, order initiating investigation into ISO/RTO scheduling practices and establishing paper hearing procedures, 146 FERC ¶ 61,202 (2014) (Section 206 Order).

³ *Posting of Offers to Purchase Capacity*, order to show cause, 146 FERC ¶ 61,203 (2014).

⁴ Order No. 809 at P 87.

⁵ See CAISO tariff section 6.5.3.1.7. CAISO tariff section 31.6.1 provides the CAISO with authority to implement a waiver of the timing requirements of the day-ahead market based on enumerated criteria.

⁶ See generally CAISO tariff section 31.

day-ahead market awards and completes its residual unit commitment process well in advance of the evening nomination cycle for natural gas transportation service. This meets the Commission's expectation that the CAISO complete its reliability unit commitment procedures by a time sufficiently prior to the evening nomination cycle to permit natural gas-fired resources to acquire transportation capacity they require to meet that commitment.⁷

Table A – Timing of Existing and Proposed Day-Ahead Market Processes

Market Process	Current	Upon Order No. 809 Implementation
Close of CAISO Day-Ahead Market	10:00 a.m. PT	10:00 a.m. PT
Publication of CAISO Market Results	1:00 p.m. PT	1:00 p.m. PT
Gas Timely Nomination Cycle	9:30 a.m. PT	11:00 a.m. PT
Gas Evening Nomination Cycle	4:00 p.m. PT	4:00 p.m. PT

II. Argument

The CAISO's current day-ahead scheduling process provides sufficient opportunity for gas-fired generators to procure natural gas supply and secure natural gas pipeline transportation services under normal operating conditions. No evidence suggests otherwise. In addition, the CAISO's current day-ahead scheduling process supports reliable operations and market efficiency. Changing the timing of this process to occur earlier in the day will in fact create a less reliable and less efficient market process and will also create disruptions to market participant and CAISO business practices. For these reasons, the Commission should find that the CAISO need not change the timing of its current day ahead scheduling close and publication of market results.

A. Current practices in the West and California generally support reliable access to natural gas supply and transportation

Natural gas-fired resources serving load in the CAISO balancing authority area generally have access to gas supply and gas transportation services from both interstate and intrastate pipelines.⁸ According to the 2014 California Gas Report,

⁷ Section 206 Order at P 18.

⁸ 2014 California Gas Report, Prepared by the California Gas and Electric Utilities at 4-5.

natural gas utilities, interstate pipelines, and in-state natural gas storage facilities have sufficiently increased their delivery and receipt capacity to meet natural gas demand growth.⁹

As explained in CAISO's fuel assurance report filed with the Commission earlier this year, two intrastate gas pipeline companies serve the majority of California's natural gas demand.¹⁰ Pacific Gas and Electric Company (PG&E) and Southern California Gas Company (SoCal Gas) plan their intrastate pipelines based on specific reliability-based design criteria set by the California Public Utilities Commission rather than in response to firm contract demand. Similar to the electric sector, both companies expand their gas systems to meet "1-in-10 year" demand under dry hydro conditions.¹¹ Each company has additional requirements to maintain slack capacity on the system and planning criteria to address more severe scenarios.¹² PG&E has informed the CAISO that its storage resources and pipelines can supply 40 percent more supply than PG&E has forecasted for its gas system on an abnormal peak day.¹³

Scheduling practices in the West also benefit customers. For example, electric generator customers can elect to take transportation service under firm or interruptible options or negotiate products with gas marketers.¹⁴ In addition monthly balancing is available on some pipelines.¹⁵ These mechanisms, among others, provide natural gas-fired resources with flexibility to draw on transportation services backed by natural gas pipeline and storage systems.

http://www.pge.com/pipeline_resources/pdf/library/regulatory/downloads/cgr14.pdf

⁹ *Id.* at 10, *citing* the California Energy Commission list of natural gas projects on its website, which tracks both completed projects and projects under development or in the proposal stage:
<http://www.energyalmanac.ca.gov/naturalgas/index.html>.

¹⁰ See Report of the CAISO submitted in Commission dockets Ad13-7 and AD14-8 dated February 18, 2015 at 6. <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13775148>

¹¹ Energy and Environmental Economics, Inc., *Natural Gas Infrastructure Adequacy in the Western Interconnection: An Electric System Perspective, Phase 1 Report*, March 2014 at 54-56.
https://www.ethree.com/documents/E3_WIEB_Report_3-17-2014.pdf

¹² *Id.*

¹³ Comments of PG&E on CAISO Bidding Rules Enhancements Initiative dated May 28, 2015 at 3.
http://www.caiso.com/Documents/PGEComments_FERCOrderNo809.pdf

¹⁴ Energy and Environmental Economics, Inc., *Natural Gas Infrastructure Adequacy in the Western Interconnection: An Electric System Perspective, Phase 1 Report*, March 2014 at 47-49, 54-56.

¹⁵ See e.g. PG&E gas pipeline imbalance options at the following website:
http://www.pge.com/pipeline/library/doing_business/bal_act/index.page

In December 2014 and January 2015, in response to an information request from the Commission's Office of Energy Policy and Innovation, the CAISO conducted a search of its outage records to identify instances in which a natural gas-fired resource operator had notified CAISO system operations that its resource was unavailable to run or had to reduce their output (*i.e.*, de-rate). Among other questions, the information request asked whether during 2013 and 2014, any natural gas-fired resource had taken an outage or de-rate between the hours of 3:00 a.m. and 9:00 a.m. CT as a result of having exhausted its daily nomination of natural gas transportation service. Based on this search, the CAISO did not discover any records that reflected that a resource operator had notified the CAISO that it had to take an outage or a de-rate during the hours of 3:00 a.m. and 9:00 a.m. CT because the resource had exhausted its daily nomination of natural gas transportation service.¹⁶

For purposes of this filing, the CAISO extended this search to other hours of the operating day. For calendar years 2013 and 2014, the CAISO has no record of a resource operator informing the CAISO of an outage or de-rate as a result of its resource exhausting its daily nomination of natural gas transportation service. In addition, for calendar years 2013 and 2014, the CAISO has no record of a resource operator informing the CAISO of an outage or de-rate as a result of its inability to secure gas pipeline transportation services in the day-ahead timeframe, except in the case of a planned or forced outage of the pipeline facilities serving its resource.¹⁷

The CAISO's day-ahead market processes occur after the close of the current natural gas day-ahead timely nomination cycle. The CAISO understands that reserving natural gas transportation is not a pressing concern for all market participants.¹⁸ After the CAISO issues day-ahead market and residual unit commitment awards, natural gas-fired resources have sufficient time to secure any incremental gas transportation service

¹⁶ Response of the California Independent System Operator Corporation to Data Request in RM14-2 dated January 14, 2015 at 4. <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13736565>

¹⁷ Earlier this summer, natural gas-fired resources in southern California did experience capacity constraints because of a natural gas line out of service. On June 30 and July 1, 2015, the CAISO experienced high loads and low imports causing the CAISO to dispatch natural gas-fired resources in the Los Angeles basin. As a result of the pipeline outage, SoCal Gas curtailed natural gas supply to several of these resources. These curtailments required the CAISO to dispatch plants in Northern California to reduce the gas burn in Southern California. The CAISO does not, however, believe that this isolated incident justifies changing the timing of its day-ahead market structure but instead underscores the need to continue to refine outage coordination activities with natural gas pipelines.

¹⁸ See *e.g.* Comments of Northern California Power Agency (NCPA) on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 2. http://www.caiso.com/Documents/NCPAComments_FERCOrderNo809.pdf

to support their schedules through the evening nomination cycle as well as intra-day nomination cycles.¹⁹

B. The CAISO's existing day-ahead electric market timeline enhances reliability by accommodating the use of more up-to-date load and resource forecasts as well as a mechanism to address sudden gas price spikes.

The CAISO's day-ahead market clears bid-in demand with bid-in supply. Maintaining the current day-ahead market timeframe enhances reliability by allowing scheduling coordinators to use a more accurate load forecast closer to the trade date, in order to bid their demand. In addition, large load serving entities in the CAISO's balancing authority that also schedule supply into the CAISO markets have explained that moving the day-ahead market process to earlier in the day may result in less accurate supply forecasts. For example, weather data and other information necessary to create load, hydro-electric, and variable energy resource forecasts may not be available to market participants or may be less accurate earlier in the day.²⁰ Load serving entities have explained that since their bidding processes have long lead times, forecasts may even need to be developed the night before the day-ahead market run, further reducing accuracy.²¹ One CAISO load serving entity has estimated that an earlier day-ahead market close could result in an additional load forecast error of 0.50 percent during a summer peak period – translating into 225 MW of capacity needs at an additional procurement cost of \$3.9 million during summer months.²² Another CAISO load serving entity has explained that load and variable energy resource forecast errors drive high prices in the real-time and asserts these errors could cost upwards of \$50 million annually.²³ Based on comments received, some scheduling coordinators may

¹⁹ See e.g. Comments of NRG Energy, Inc. on CAISO Bidding Rules Enhancements Initiative dated May 6, 2015 at 1. http://www.aiso.com/Documents/NRGComments_FERCOrderNo_809.pdf

²⁰ Comments of NCPA on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 2.

Comments of Southern California Edison (SCE) on CAISO Bidding Rules Enhancements Initiative dated May 11, 2015 at 4.
http://www.aiso.com/Documents/SCEComments_FERCOrderNo_809.pdf

Comments of San Diego Gas & Electric (SDG&E) on CAISO Bidding Rules Enhancements Initiative dated May 6, 2015 at 1.
http://www.aiso.com/Documents/SDGECComments_FERCOrderNo_809.pdf

²¹ Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 11, 2015 at 4.
Comments of NCPA on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 2.

²² Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 4-5.
http://www.aiso.com/Documents/SCEComments_FERCOrderNo809.pdf

²³ Comments of PG&E on CAISO Bidding Rules Enhancements Initiative dated May 28, 2015 at 7.
http://www.aiso.com/Documents/PGECComments_FERCOrderNo809.pdf

even be reluctant to schedule variable energy resources into the day-ahead market if they need to do so before obtaining what they consider to be an accurate day-ahead production forecast.²⁴

Scheduling coordinators bid natural gas-fired resources into the CAISO market, especially fast-start resources, to fill the gap between demand and renewable and base load supply.²⁵ If CAISO scheduling coordinators experience reduced accuracy in forecasting their load, hydro-electric supply, or variable energy resource output, this will create more variation in how to position natural gas-fired resources between the day-ahead timeframe and in real-time, thereby also increasing gas volume uncertainty.²⁶ CAISO day-ahead market awards do not always guarantee gas volume certainty, but if bid-in demand and forecasts for hydro-electric and variable energy resource supply suffer from reduced accuracy there will be greater variability in the real-time commitment for medium, short, and fast-start natural gas-fired resources.²⁷ As variable energy resource levels in the CAISO balancing authority continue to increase, the importance of accurate production forecasts to inform bid-in supply will become all the more important.

As noted in Order No. 809, the CAISO balancing authority experienced natural gas pricing and supply issues in February 2014.²⁸ Moving the day-ahead market close and market results publication to earlier in the day, however, will not directly address these issues and may undermine the CAISO's current practices to help mitigate anomalous market outcomes resulting from sudden natural gas price spikes. The gas-related event of February 6, 2014 occurred as a result of low gas supply rather than a lack of transportation capacity.²⁹ On that day, natural gas prices increased three-fold from approximately \$7/MMBtu the previous day to over \$20/MMBtu at some of the western trading hubs. This increase in prices reflected a shortage of natural gas, triggered by cold weather, as opposed to pipeline constraints. The CAISO is addressing the electric market pricing related issues associated with this event through several stakeholder initiative efforts. One measure the CAISO has adopted allows the

²⁴ Comments of SDG&E on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 4. http://www.aiso.com/Documents/SDGEComments_FERCOrderNo809.pdf

²⁵ Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 11, 2015 at 3.

²⁶ Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 4-5.

²⁷ Comments of SDG&E on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 4.

²⁸ Order No. 809 at P 9, fn 13.

²⁹ See CAISO Technical Bulletin – Gas Events and Market Results of February 6, 2014. http://www.aiso.com/Documents/TechnicalBulletinGasEvents_MarketResults_Feb6_2014.pdf

CAISO to complete its day-ahead market run using a gas price published on the morning of the day-ahead market run, rather than the prior evening's calculated gas price index, in the event of a significant price spike.³⁰ This measure allows the CAISO to update its gas price index in its market solution when price spikes occur rapidly. As a result, the CAISO's market solution reflects a more reliable unit commitment because the commitment will more closely reflect actual fuel costs. Moving the day-ahead market process to earlier in the day would likely eliminate the possibility of using this measure if the CAISO completes its day-ahead market run before the gas price index reflecting a significant gas price spike is available. In this event, the CAISO's market results will reflect the prior day's gas price forecast, which may be significantly different than actual conditions. As a result, day-ahead schedules would not reflect actual operating conditions, thereby causing greater repositioning of the resource fleet in the real-time market.

C. The CAISO's existing-day ahead electric market timeline advances market efficiency

The CAISO's current day-ahead electric scheduling timeline provides natural gas price certainty for CAISO market participants. This certainty increases the likelihood that bids for energy from natural gas-fired resources accurately reflect the cost of fuel. Scheduling coordinators have estimated that potential inefficiencies from less accurate forecasting could amount to millions of dollars annually.³¹ The current day-ahead market timeline also allows for more load, hydro-electric, and variable energy resource forecasting accuracy, which results in better alignment between day-ahead with real-time market results.

One of the most significant benefits to the timing of the CAISO's existing day-ahead market process is gas price certainty. Scheduling coordinators can secure their gas supply needs in advance of submitting economic bids into the CAISO day-ahead market. According to market participants, the most liquid gas trading period occurs

³⁰ CAISO tariff section 39.7.1.1.1.3(b), which reads:

If a daily gas price reported by the Intercontinental Exchange on the morning of the Day-Ahead Market run exceeds one hundred twenty-five (125) percent of any natural gas price index calculated for the Day-Ahead Market between 19:00 and 22:00 Pacific Time on the preceding day, the CAISO will utilize the gas price reported by the Intercontinental Exchange in all CAISO cost formulas and market processes for that day's Day Ahead Market that would normally utilize the natural gas price index calculated pursuant to this Section 39.7.1.1.1.3.

³¹ Comments of PG&E on CAISO Bidding Rules Enhancements Initiative dated May 28, 2015 at 7.
Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 4-5.

daily between 5:30 a.m. Pacific Time and 7:00 a.m. Pacific Time.³² Market participants have informed the CAISO that the most liquid natural gas trading will likely continue to occur during these hours regardless of any change in the timely nomination cycle.³³ If, however, the CAISO moves the day-ahead market process to earlier in the day so that it can publish market results in advance of the new gas timely nomination cycle, the CAISO will need to close the day-ahead market to bids sometime around 7 a.m. PT in order to complete its market runs, obtain a feasible day ahead solution based on bid-in demand, and complete its residual unit commitment process.

According to some CAISO scheduling coordinators, their entire bid formulation process requires approximately four to five hours.³⁴ During this time, scheduling coordinators process inputs such as gas prices, forecasts, imports, and other bilateral transactions through models to produce economic bids and demand that they submit to the CAISO's day-ahead market scheduling systems. Scheduling coordinators argue that the current day-ahead market close at 10:00 a.m. PT requires that the bid formulation process start no later than 5:00 a.m. or 6:00 a.m. PT. They assert that this process permits them to incorporate the final gas price resulting from morning gas trades into their bid models. If the CAISO moves its day-ahead market process to earlier in the day in order to publish market results before the new timely nomination cycle close, some scheduling coordinators may lose gas price certainty because of the additional time needed to incorporate gas prices into bids. Instead, these scheduling coordinators may need to forecast the gas price the night before or at least before actual morning gas trading begins to ensure there is enough time to run their bid formulation processes. This approach could add a risk premium on top of the gas price

³² Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 11, 2015 at 3.

Comments of WPTF on CAISO Bidding Rules Enhancements Initiative dated May 7, 2015 at 1. http://www.aiso.com/Documents/WPTFComments_FERCOrderNo_809.pdf

Comments of Shell Energy North America on CAISO Bidding Rules Enhancements Initiative dated May 6, 2015 at 1. http://www.aiso.com/Documents/ShellEnergyComments_FERCOrderNo_809.pdf

³³ Comments of CalPeak Power, LLC and Malaga Power LLC on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 2. http://www.aiso.com/Documents/CalPeak_MalagaComments_FERCOrderNo809.pdf

Comments of PG&E on CAISO Bidding Rules Enhancements Initiative dated May 7, 2015 at 2. <http://www.aiso.com/Documents/PGEComments-FERCOrder809.pdf>

Comments of San Diego Gas & Electric on CAISO Bidding Rules Enhancements Initiative dated May 6, 2015 at 2. http://www.aiso.com/Documents/SDGECComments_FERCOrderNo_809.pdf

³⁴ Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 4. Comment of NCPA on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 1.

forecast to account for additional gas price uncertainty. As a result, changing the close of the day-ahead market to earlier in the day (e.g., 7:00 a.m. PT) may decrease market efficiency by not reflecting actual production costs.³⁵ Based on a \$0.05/MMBtu risk premium, PG&E estimates annual financial impacts that could exceed \$200 million.³⁶ Using the same risk premium and a more conservative heat rate for natural gas-fired resources, SCE estimates an increased cost of approximately \$80 million annually.³⁷ No stakeholders provided data to reflect an offsetting financial benefit to CAISO ratepayers that would result from moving the day ahead market process to earlier in the day.

In addition to natural gas price certainty, stakeholders also enter into western bilateral power trades in the morning hours to balance their supply needs. This trading occurs at approximately the same time as the most liquid natural gas trading between 5:30 a.m. PT and 7:00 a.m. PT.³⁸ One CAISO load serving entity claims that if the CAISO's day-ahead market closes before scheduling coordinators can efficiently procure and schedule imports, the day-ahead market prices may increase.³⁹

As explained by CAISO scheduling coordinators, forecasting demand, hydro-electric resources and variable energy resources takes considerable time. These forecasting processes may not be complete if the CAISO were to close its day-ahead market earlier in the morning in order to run its market processes and publish results before the close of the natural gas timely nomination cycle. Inaccurate bid-in demand can exacerbate market inefficiencies as can the failure to schedule hydro-electric or variable energy resource in the day-ahead time frame. To the extent the CAISO's day-ahead market does not reflect accurate forecasts of demand or supply, there is an increased likelihood that the market will experience a financial cost from the need for the CAISO to secure additional capacity through the residual unit commitment process or to reposition resources in real-time.

³⁵ Electricity trading in the West also occurs early in the morning and the opportunity to secure imports in the day-ahead timeframe is important for CAISO load serving entities to optimize their bilateral procurement.

³⁶ Comments of PG&E on CAISO Bidding Rules Enhancements Initiative dated May 28, 2015 at 4-5.

³⁷ Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 5.

³⁸ Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 11, 2015 at 4.

Comments of WPTF on CAISO Bidding Rules Enhancements Initiative dated May 7, 2015 at 4.
http://www.caiso.com/Documents/WPTFComments_FERCOrderNo_809.pdf

³⁹ Comments of SCE on CAISO Bidding Rules Enhancements Initiative dated May 11, 2015 at 4.

D. The CAISO's existing day-ahead electric market processes accommodate scheduling coordinators' operational and business practices

Moving the day-ahead market close to earlier in the day would necessitate business process and staffing changes that could negatively affect some market participants' operations. Given the time required for formulating bids as discussed in section C of this filing, market participants would need to alter the hours of their day-ahead schedulers unless they decided to submit all of their bids the day before the day-ahead market closes. These market participants have argued that they would lose coordination between their day-ahead market schedulers and the procurement staff of their organizations.⁴⁰

The CAISO's own analysis has identified similar operational and staffing changes associated with moving to an earlier day-ahead market close. For example, CAISO staff engaged in forecasting activities who support the day-ahead market process currently iterate load forecasts with operations staff. The CAISO uses load models and independent weather forecasts to help forecast demand. Once it has developed this forecast, there is time before the current day-ahead market close to discuss this demand forecast with operations staff. By moving the day ahead process to early in the day, the CAISO staff overseeing demand forecasting would lose their opportunity to consult with operations staff before including its demand forecast into the day-ahead market and residual unit commitment process.

As referenced in section B of this filing, moving the CAISO's day-head market process to earlier in the day would also impact several other business practices. Approved by the Commission on December 30, 2014, the newly implemented manual gas price spike adjustment mechanism relies on the Intercontinental Exchange (ICE) index that ICE currently publishes at approximately 10:00 a.m. Pacific Time.⁴¹ This manual process is one of the mechanisms the CAISO adopted so that the day-ahead market results reflect significant gas price increases. The CAISO would no longer be able to use this index to update the day-ahead market run before it publishes market results in the event a significant gas spike occurs. Instead, the CAISO would need to develop another mechanism to incorporate sudden gas price spikes such as re-running the day-ahead market later in the day.

In addition, the CAISO has also proposed a resource adequacy rule that would require scheduling coordinators to identify replacement resources by 8:00 a.m. Pacific Time for the next day.⁴² Closing the day-ahead market earlier in the day (e.g. 7:00 a.m.

⁴⁰ Comments of PG&E on CAISO Bidding Rules Enhancements Initiative dated May 28, 2015 at 7.

⁴¹ *California Independent System Operator Corp.*, 149 FERC ¶ 61,284, Order Accepting Proposed Tariff Revisions and Directing Informational Filing (2014).

⁴² See Section 9.2.1 of addendum to draft final proposal attached to CAISO transmittal letter dated

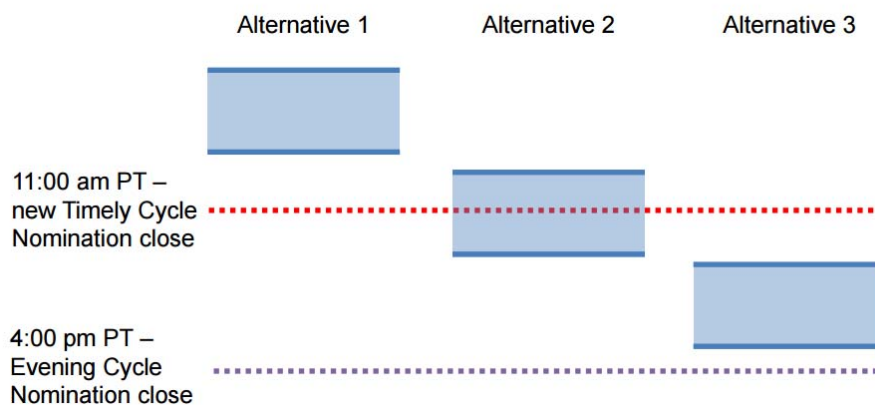
Pacific Time) will necessitate an earlier replacement deadline making it more difficult to replace resource adequacy capacity subject to an outage for the next operating day.⁴³

Lastly, the CAISO coordinates with external balancing authority areas to exchange outage information before the current day-ahead market close time. The CAISO would need to ensure that these external entities can engage in the same level of information exchange with an earlier market close.⁴⁴ To the extent these balancing authority areas do not elect to change the timing of this work, the CAISO would need to run the day-ahead market without the benefit of this information potentially resulting in reduced situational awareness.

III. Stakeholder process

After the issuance of Order No. 809, the CAISO requested feedback from stakeholders on proposed alternatives for the timing of the day-ahead electric market process.⁴⁵ The CAISO issued a proposal, held conference calls and accepted two rounds of stakeholder comments on this matter. As reflected in Diagram A, the CAISO proposed three alternatives for stakeholder discussion.

Diagram A – Alternatives for the CAISO Day-Ahead Market Process



May 29, 2015 in Commission Docket ER15-1825 proposing in part to change the deadline for requesting day-ahead substitution for resource adequacy capacity from 6:00 AM to 8:00 AM to allow additional time for participants to submit additional resource capacity in the instance of a forced outage.

⁴³ Comments of SDG&E on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 3.

⁴⁴ See e.g. Comments of SD&E on CAISO Bidding Rules Enhancements dated May 6, 2015 at 1 -2.

⁴⁵ More information about this process is available on the web page for the CAISO the Bidding Rules Enhancements initiative:

<http://www.caiso.com/informed/Pages/StakeholderProcesses/BiddingRulesEnhancements.aspx>

Alternative 1 would move the close of the day-ahead market and publication of day-ahead market results to earlier in the day, before the close of the new timely nomination cycle for scheduling gas transportation services at 11:00 a.m. PT. Alternative 2 would maintain the CAISO's current day-ahead market close time at 10:00 a.m. PT and market results publication at 1:00 p.m. PT. Alternative 3 would move the day-ahead market time close and market result publication times to later in the day, after the close of the new timely nomination cycle, but still before the evening nomination cycle for scheduling gas transportation services at 4:00 p.m. PT. The CAISO proposed this third alternative because currently the CAISO's day-ahead market closes after the timely nomination cycle. Stakeholders overwhelmingly recommended eliminating Alternative 3 because publication of market results late in the day would impinge on the opportunity for natural gas-fired resources to take advantage of the evening nomination cycle to secure transportation services and likely not leave enough time for the Western Electricity Coordinating Council's 3:00 p.m. PT tagging deadline or the notification of certain demand response programs.⁴⁶

Stakeholders representing both load and gas-fired resources supply strongly advocated that the CAISO adopt Alternative 2, *i.e.* propose no change to the timing of its day-ahead market process. Some stakeholders representing natural gas-fired resources voiced support for Alternative 1 on the grounds that natural gas pricing in the real-time market is a significant concern.⁴⁷ These stakeholders, however presented no evidence to demonstrate how changing the day-ahead market close and market results publication times to before the timely nomination cycle would mitigate this concern. For example, stakeholders representing peaking facilities argued that changing the timing of the CAISO day-ahead market runs so that they occur between 7:00 a.m. to 10:00 a.m. PT will make it possible for resources to know whether their units have been scheduled to run before the timely nomination deadline allow resources and their natural gas suppliers to make both purchasing decisions and delivery arrangements earlier in the day. While true, these stakeholders presented no empirical evidence that that they currently cannot secure natural gas or delivery arrangements after the close of the CAISO's day-ahead market.

Another stakeholder recommended the CAISO move its day-ahead market process to earlier in the day after the completion of morning gas trading but also reduce the amount of time the CAISO takes to complete its day-ahead market runs so that the CAISO could publish results in advance of the gas timely nomination process. The CAISO, however, does not believe it can consistently complete its day-ahead market runs and residual unit commitment process in less than three hours. The day-ahead market consists of a sequence of processes that determine hourly market clearing

⁴⁶ Comments of PG&E on CAISO Bidding Rules Enhancements Initiative dated May 7, 2015 at 4.

⁴⁷ See *e.g.* Comments of CalPeak Power, LLC and Malaga Power LLC on CAISO Bidding Rules Enhancements Initiative dated May 27, 2015 at 4.

prices for energy (including physical and virtual bids) and ancillary services, as well as the incremental procurement in the residual unit commitment while also mitigating bids to address non-competitive constraints.⁴⁸ These processes are co-optimized to produce day-ahead schedules at least cost while meeting local reliability needs.

The CAISO presented its compliance proposal to its Governing Board on July 16, 2015.⁴⁹ At that meeting, PG&E, SCE and Calpine Corporation voiced support for the CAISO's proposal to maintain its currently day-ahead market process timeline. No stakeholder recommended a different approach at that meeting.

IV. Communications

Correspondence and other communications regarding this filing should be directed to:

Andrew Ulmer
Director, Federal Regulatory Affairs
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (202) 239-3947
Fax: (916) 608-7222
E-mail: aulmer@caiso.com

V. Conclusion

The CAISO's current day-ahead scheduling process provides sufficient opportunity for gas-fired generators to secure natural gas and pipeline transportation services. Under normal conditions natural gas-fired resources participating in the CAISO markets can obtain gas transportation service to support their day-ahead electric schedules. Moreover, maintaining the current timing for day-ahead market close and publication of market results is more reliable, more efficient, and less disruptive than the alternative of moving the timing of this process to earlier in the day so that it is completed before the gas timely nomination cycle occurs. For these reasons, the

⁴⁸ See generally, CAISO tariff section 31 and CAISO Business Practice Manual for Market Operation at section 2.3.1, which describe various steps of the day-ahead market process. http://bpmcm.caiso.com/BPM%20Document%20Library/Market%20Operations/BPM_for_Market%20Operations_V44_clean.doc

⁴⁹ Briefing materials presented to the CAISO Governing Board are available at the following website: <http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=36B16032-56B3-4F84-B930-8909FD3FF8AB>

The Honorable Kimberly D. Bose

July 23, 2015

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Commission should find that the CAISO need not modify the timing of CAISO's current day-ahead scheduling close and publication of market results.

Respectfully submitted,

By: /s/ Andrew Ulmer

Roger E. Collanton

General Counsel

Anthony Ivancovich

Deputy General Counsel

Andrew Ulmer

Director, Federal Regulatory Affairs

California Independent System

Operator Corporation

250 Outcropping Way

Folsom, CA 95630

Tel: (202) 239-3947

Fax: (916) 608-7222

aulmer@caiso.com

Counsel for the California Independent System
Operator Corporation

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service lists in the above-referenced proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 23rd day of July 2015.

/s/ Anna Pascuzzo
Anna Pascuzzo