

Comments on CAISO-Gas Company Coordination

NRG agrees with the CAISO’s observation that summer operations have gone better than expected due to (1) milder than expected weather; (2) improved communication between the CAISO and the gas company and, especially (3) the implementation of the low OFO structure in December 2015.

However, while CAISO-gas company communication may have improved over the summer, NRG perceives that opportunities for further improvement in CAISO-gas company coordination remain. Generators are almost certain to be negatively affected by any failure for the CAISO and gas company to fully coordinate. Moreover, the CAISO must recognize that actions the CAISO takes unilaterally may, and likely will, have negative consequences for a generator’s gas procurement activities and costs.

Comments on Mitigation Measures

Mitigation Measure	CAISO Proposal	NRG Comment
Reserving internal transfer capacity on paths into Southern California	Retire	To ensure that that the CAISO’s use of real-time contingency analysis to allow flows on Path 26 to exceed the Path 26 limit in real-time does not become yet one more way in which CAISO operators take actions to subjectively and opaquely affect market results, the use of this method must be exercised in a transparent way and in accordance with criteria defined in advance.
Enforcing gas constraint for either capacity (day-ahead) or imbalance (real-time) limitations. <ul style="list-style-type: none"> • Apply local market power mitigation when constraint is enforced • Suspend convergence bidding if implementation of this measure creates systematic DA-RT differences that convergence bidding could not converge 	Extend & refine	The CAISO should provide additional information as to why it has not used the FERC-approved gas constraint to manage gas limitations but resorted to exceptional dispatch instead. Bids should not be mitigated unless the potential to exercise market power can be clearly demonstrated. Given that suspending convergence bidding could leave market participants without a tool to hedge real-time price risk, should the CAISO deem it necessary to suspend convergence bidding, the CAISO must (1) present a clear case backed up by evidence that it is necessary to suspend convergence bidding; and (2) identify clear criteria for the restoration of convergence bidding
Publish Two-Day-Ahead RUC scheduling	Extend	No comment.

Mitigation Measure	CAISO Proposal	NRG Comment
Improve DA gas price index by using an approximation of the next day gas index	Extend	As a near-term measure, NRG supports the CAISO improving the gas price indices used as mitigation measures in its market. NRG also encourages the CAISO to investigate and implement longer-term measures that allow market participants to reflect their own gas costs and risks in their market bids.
Adjust the real-time gas price index to include a scalar	Extend, re-evaluate the scalar levels	Modifying the scalars based on conditions seen over the summer may not provide scalars that would be optimized for winter conditions.
Include in the after-the-fact cost recovery the opportunity to seek recovery of energy costs above the mitigated price	Extend, clarify that cost recovery is extended to any default energy bid type	NRG supports.
Department of Market Monitoring Recommendations		
Permanently extend the measure to improve the DA gas price index using an approximation of the next-day gas price published the morning of the day-ahead market		NRG supports this as an interim measure and looks forward to the CAISO moving beyond the use of static caps tied to index prices for mitigation of market power.
Extend the scalars for incremental energy and commitment costs but be prepared to lower both		No comment
Extend after-the-fact recovery of gas costs, but provide more clarification and detail to improve usefulness		NRG strongly supports the CAISO clarifying what information is required to support efforts to seek after-the-fact cost recovery at FERC.
Clarify that Aliso Canyon-related exceptional dispatches for incremental energy are subject to mitigation		<p>NRG has two comments on this matter:</p> <p>First, NRG urges the CAISO to manage Aliso Canyon-related gas limitations using the market-based tools (i.e., the gas constraint) that FERC authorized the CAISO to use rather than using exceptional dispatch.</p> <p>Second, mitigation should only be applied where the ability to exercise market power can be clearly demonstrated. If the</p>

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		incremental exceptional dispatches are issued to resources outside of the Aliso Canyon-affected area due to gas supply limitations in the Aliso Canyon-affected area – the rebuttable presumption should be that the pool of available resources is fully competitive and market power cannot be exercised.
Design mitigation of Aliso Canyon-related decremental exceptional dispatches		DMM should provide additional information, including: (1) Has DMM observed the exercise of market power related to Aliso Canyon-related decremental exceptional dispatches? (2) Why is the CAISO using decremental exceptional dispatches and not using the FERC-approved gas constraint to limit gas burn in the affected area?

Other questions

- What are the factors that go into deciding to enforce a gas constraint?

NRG encourages the CAISO to define clear criteria for when to use – or not use – the gas constraint.

- How should gas limitations be shaped (flat across the day, load forecast, what)?

The shape should be based on whatever drives the burn over the relevant time horizon.

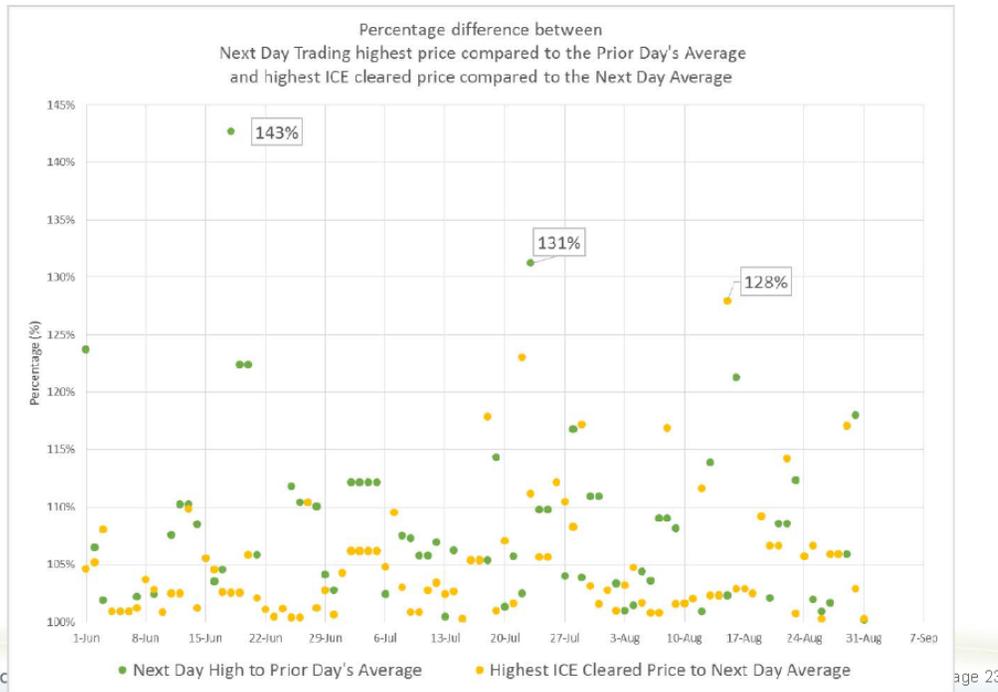
- What should the penalty factor be for relaxing the gas constraint?

The penalty factor for relaxing the gas constraint should be the same as the penalty factor for relaxing a transmission constraint. In both cases, relaxing a constraint amounts to temporarily ignoring a constraint that has been put in place to maintain the reliability of the affected physical transmission system.

- Should the gas burn data reported to the gas company be provided to Scheduling Coordinators?

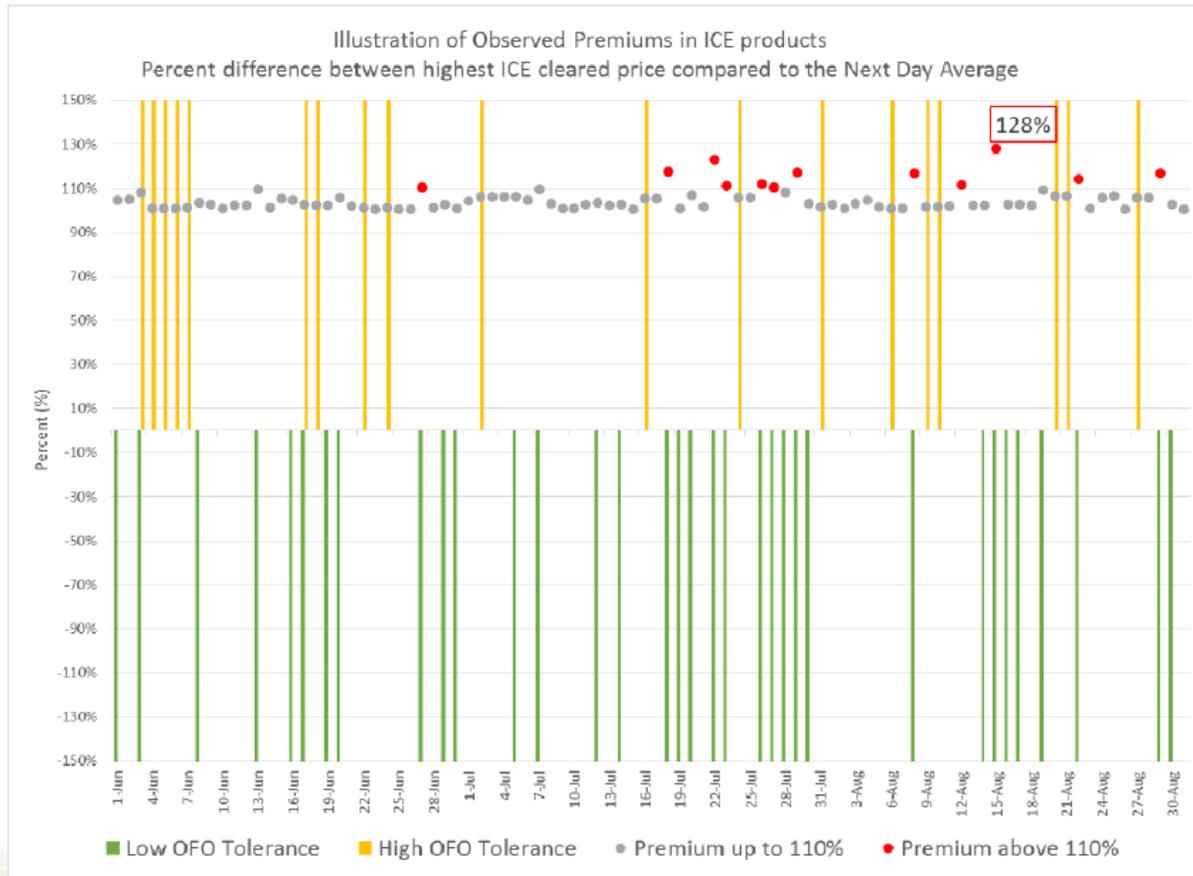
Yes.

ISO benefits evaluation provided by improved DAM GPI and scaled RTM GPI shows improved DAM GPI is still needed and scalar levels used in RTM GPI are sufficient



NRG comment: NRG agrees that, as long as the CAISO uses a gas index price to set caps on the levels of commitment cost bids or default energy bids, the CAISO should seek to use the most relevant and up-to-date gas price index, including in real-time. NRG also agrees that, based on the experience from Summer 2016, the 75% scalar used in the real-time market for commitment cost caps and default energy bids has been sufficient. However, given that past performance does not always reliably capture the range of possible future results, the CAISO should be ready to adjust the scalar based on conditions observed at the time.

When OFOs called, ISO observed highest price across ICE products less than 130% of ICE's next day index



This graph – in which movement in the same-day market correlates reasonably well with the declaration of low OFOs – suggests that market participants are aware of the OFOs and are likely “baking in” the expected OFO charges into their bids and offers for same-day gas.